

TRACT MAP NO. 20454 TRAFFIC IMPACT ANALYSIS

City of Victorville

December 31, 2021



Traffic Engineering • Transportation Planning • Parking • Noise & Vibration
Air Quality • Global Climate Change • Health Risk Assessment

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prepared by

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Project No. 19449

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EXECUTIVE SUMMARY

The purpose of this study is to evaluate the potential for transportation impacts resulting from development of the proposed project in the context of the City of Victorville's discretionary authority for conformance with locally established operational standards. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms.

This study was prepared in consultation with City of Victorville staff and in accordance with the procedures and methodologies for assessing transportation impacts established by the City. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project. For compliance with California Environmental Quality Act (CEQA) requirements, an assessment of the project's impact in terms of vehicle miles traveled (VMT) is provided in a separate document (see *Tract Map No. 20454 Vehicle Miles Traveled Assessment*, Ganddini Group, Inc., December 31, 2021).

Project Description

The 30.2-acre project site is located at the southwest corner of Mesa View Drive and Nyack Road in the City of Victorville.

The currently vacant site is proposed to be developed with 110 single-family residential dwelling units. The project proposes three full access driveways to Balsam Road, and one full access to Winona Street. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2023.

Project Trips

The proposed project is forecast to generate 1,038 daily trips, including 78 trips during the AM peak hour and 103 trips during the PM peak hour.

Traffic Signal Warrants

Traffic signal warrants 1-3 are currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions. Therefore, installation of a traffic signal control is warranted at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) based on Existing conditions.

Levels of Service

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2023) Without and With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Opening Year (2023) Without and With Project conditions during the peak hours.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Future Year (2033) Without and With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Future Year (2033) Without and With Project conditions during the peak hours.

1. INTRODUCTION

This section describes the purpose of this study, the project description, and the general scope of the analysis. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering and planning.

This section describes the purpose of this traffic impact analysis, project location, proposed development, and study area.

PROJECT DESCRIPTION

The 30.2-acre project site is located at the southwest corner of Mesa View Drive and Nyack Road in the City of Victorville. Figure 1 shows the project location map.

The currently vacant site is proposed to be developed with 110 single-family residential dwelling units. The project proposes three full access driveways to Balsam Road, and one full access to Winona Street. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2023. Figure 2 illustrates the project site plan.

STUDY AREA

Based on the study intersections identified in the approved scoping agreement (see Appendix B), the study area consists of the following study intersections within the City of Victorville jurisdiction:

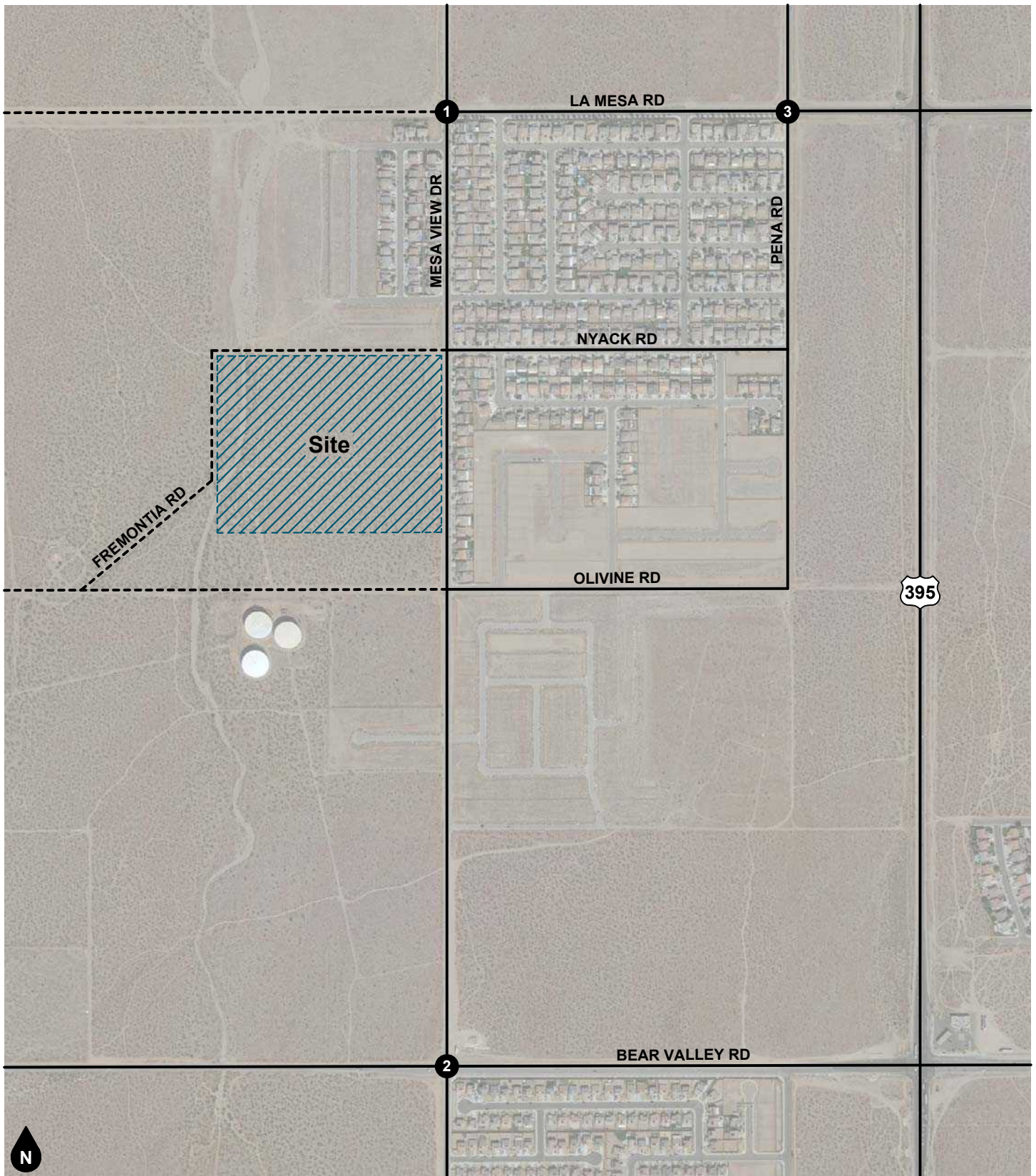
Study Intersections ¹	Jurisdiction
1. Mesa View Drive (NS) at La Mesa Road (EW)	City of Victorville
2. Mesa View Drive (NS) at Bear Valley Road (EW)	City of Victorville
3. Pena Road (NS) at La Mesa Road (EW)	City of Victorville

ANALYSIS SCENARIOS

The following scenarios are analyzed during typical weekday AM and PM peak hour conditions:

- Existing
- Opening Year (2023) Without Project
- Opening Year (2023) With Project
- Future Year (2033) Without Project
- Future Year (2033) With Project

¹ (NS) = north-south roadway; (EW) = east-west roadway; NB = Northbound



Legend

Study Intersection

Figure 1
Project Location Map

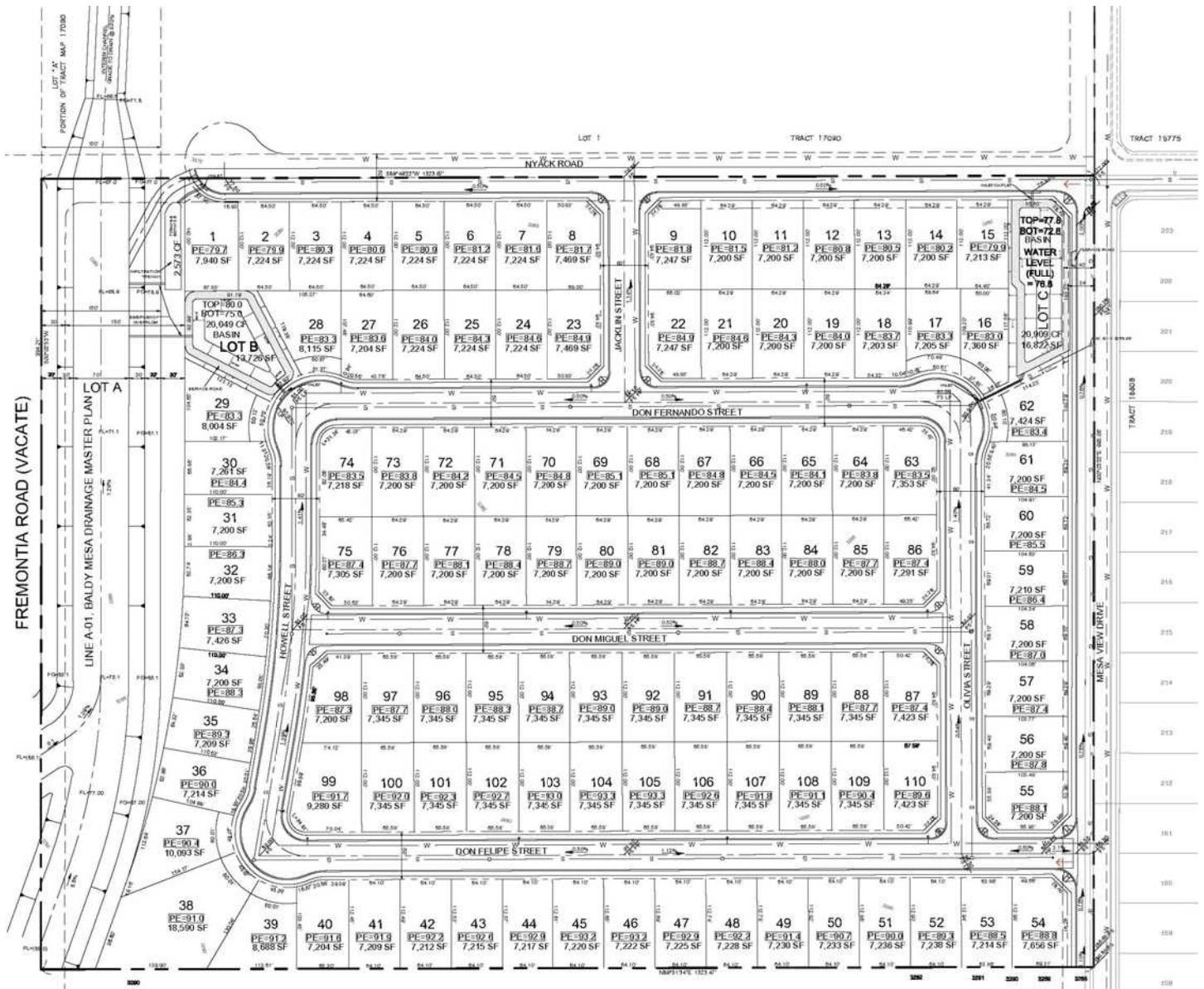


Figure 2
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies. This traffic impact analysis was conducted in accordance with the guidelines established within the City of Victorville *General Guidelines for Conducting Traffic Studies and Determination of Intersection Level of Service and Improvement Needs* (December 22, 2004), City of Victorville Resolution No. 20-010, and the San Bernardino County *Transportation Impact Study Guidelines* (July 9, 2019).

LEVEL OF SERVICE/GENERAL PLAN CONFORMANCE (NON-CEQA)

Intersection Delay Methodology

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the *Highway Capacity Manual* (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service (LOS). Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, *Highway Capacity Manual* (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

In accordance with Section 3.4.1 of the San Bernardino County *Transportation Impact Study Guidelines* (July 9, 2019), Existing and Opening Year (2023) conditions were analyzed using optimized signal timing, four seconds of lost time per critical phase, and a heavy vehicle factor of two percent. The following saturation flow rates were utilized:

- 1,800 vehicles per hour for exclusive thru and exclusive right turn lanes
- 1,700 vehicles per hour for exclusive left turn lanes
- 1,600 vehicles per hour for exclusive dual left turn lanes
- 1,500 vehicles per hour for exclusive triple left turn lanes

For cumulative and general plan buildout scenarios (Future Year 2033) a peak hour factor of 0.95 was used along with the following saturation flow rates:

- 1,900 vehicles per hour for exclusive thru and exclusive right turn lanes
- 1,800 vehicles per hour for exclusive double right turn lanes
- 1,800 vehicles per hour for exclusive left turn lanes
- 1,700 vehicles per hour for exclusive dual left turn lanes
- 1,600 vehicles per hour for exclusive triple left turn lanes

Intersection delay analysis was performed using the Vistro software.

Performance Standards

The City of Victorville has established LOS D or better as acceptable LOS for all intersections along the designated street and highway system in the City's General Plan Circulation Element.

Requirements for Improvements

A project is required to provide improvements or corrective measures to City of Victorville intersection deficiencies under the following conditions:

- If the project contributes measurable traffic to an intersection or roadway segment operating at LOS D or better or a volume-to-capacity ratio of 0.95 or lower for without project conditions, and the addition of project trips causes intersection LOS to degrade to LOS E or worse, or volume-to-capacity ratio to increase it greater than 0.95.
- If a project contributes measurable traffic to an intersection or roadway segment operating at a deficient LOS (LOS E or F) for without project conditions.

VEHICLE MILES TRAVELED METHODOLOGY (CEQA)

The methodology used to evaluate the impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Additional information and a project assessment is provided in the "Vehicle Miles Traveled" section presented later in this report.

3. EXISTING CONDITIONS

EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project site is provided by the I-15 Freeway located approximately 4 miles east of the project site. Key roadways providing local circulation include Mesa View Drive, Pena Road, La Mesa Road, Nyack Road, Olivine Road, and Bear Valley Road.

GENERAL PLAN CONTEXT

Figure 4 shows the City of Victorville General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Victorville standard roadway cross-sections are illustrated on Figure 5.

TRANSIT SERVICE

Figure 6 shows Existing public transit facilities and routes in the project vicinity. As shown on Figure 6, the study area is currently served by Victor Valley Transit Routes 21P and 21W along Bear Valley Road. A bus stop is located for these routes on Bear Valley Road east of U.S. Route 395.

BICYCLE FACILITIES

The City of Victorville Non-Motorized Transportation Plan is illustrated on Figure 7. This plan shows existing and proposed bike paths within the City of Victorville. Mesa View Drive is a proposed Class 2 Bike Lane.

EXISTING PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown on Figure 8. Sidewalks are provided on the east side of Mesa View Drive adjacent to the project site.

EXISTING ROADWAY VOLUMES

Existing peak hour traffic conditions are based upon AM and PM peak period intersection turning movement counts obtained in December 2021 during typical weekday conditions. The weekday AM peak period was counted between 7:00 AM and 9:00 AM and the weekday PM peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15 minute periods with the highest total volume when all movements are added together. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15 minute periods have the highest combined volume. Intersection turning movement count worksheets are provided in Appendix D.

Figure 9 and Figure 10 show the Existing AM and PM peak hour intersection turning movement volumes.

EXISTING LEVEL OF SERVICE

The intersection Levels of Service for Existing conditions have been calculated and are shown in Table 1. Detailed intersection Level of Service worksheets are provided in Appendix C.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

EXISTING TRAFFIC SIGNAL WARRANTS

The need for a traffic control signal at the currently unsignalized study intersections of Mesa View Drive at La Mesa Road (#1) and Mesa View Drive at Bear Valley Road (#2) have been evaluated using the California Department of Transportation eight-hour vehicular volume (Warrant 1), four-hour vehicular volume (Warrant 2), and peak hour traffic signal warrant criteria (Warrant 3) in accordance with the California Manual on Uniform Traffic Control Devices (2014, Revision 6). Traffic signal warrant analysis worksheets are provided in Appendix D.

The eight-hour traffic signal warrant (Warrant 1) is not currently satisfied at the unsignalized study intersection of Mesa View Drive at La Mesa Road (#1) for Existing conditions. The eight-hour traffic signal warrant (Warrant 1) is currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions.

The four-hour traffic signal warrant (Warrant 2) is not currently satisfied at the unsignalized study intersection of Mesa View Drive at La Mesa Road (#1) for Existing conditions. The four-hour traffic signal warrant (Warrant 2) is currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions.

The peak hour traffic signal warrant (Warrant 3) is not currently satisfied at the unsignalized study intersection of Mesa View Drive at La Mesa Road (#1) for Existing conditions. The peak hour traffic signal warrant (Warrant 3) is currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions.

Traffic signal warrants 1-3 are currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions. Therefore, installation of a traffic signal control is warranted at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) based on Existing conditions.

EXISTING ALL WAY STOP WARRANTS

The need for an all way stop control at the currently unsignalized study intersections of Mesa View Drive at La Mesa Road (#1) and Pena Road at La Mesa Road (#3) have been evaluated using the California Department of Transportation multi-way stop warrant in accordance with the California Manual on Uniform Traffic Control Devices (2014, Revision 6). All way stop warrant analysis worksheets are provided in Appendix D.

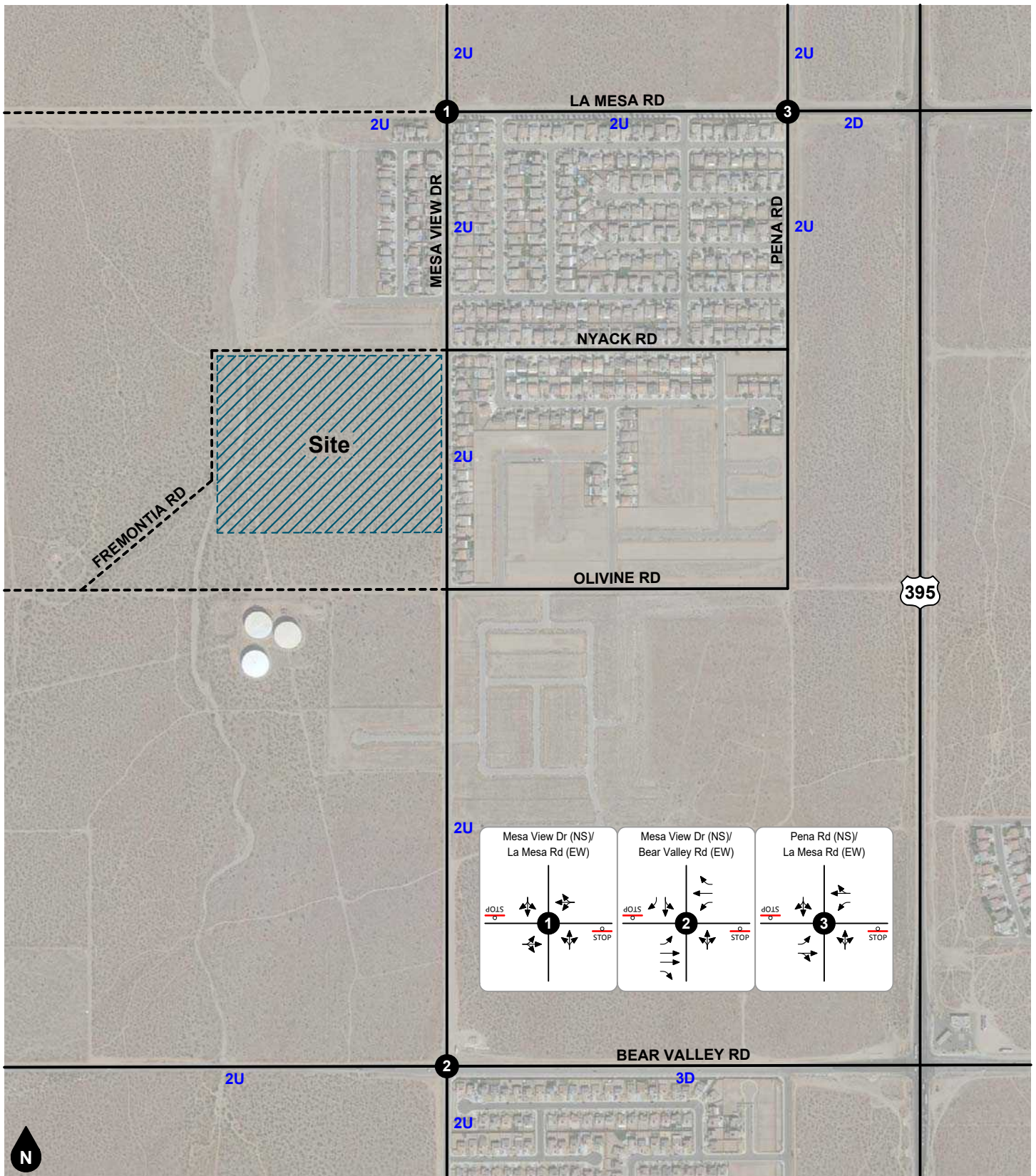
The multi-way stop warrant is not currently satisfied at the unsignalized study intersections of Mesa View Drive at La Mesa Road (#1) and Pena Road at La Mesa Road (#3) for Existing conditions.

Table 1
Existing Intersection Levels of Service

Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
		Delay ²	LOS ³	Delay ²	LOS ³
1. Mesa View Dr at La Mesa Rd	CSS	11.4	B	10.5	B
2. Mesa View Dr at Bear Valley Rd	CSS	22.5	C	34.8	D
3. Pena Rd at La Mesa Rd	CSS	11.2	B	10.3	B

Notes:

- (1) CSS = Cross Street Stop
- (2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.
- (3) LOS = Level of Service



Legend

- Stop Sign
- #D #Lane Divided Roadway
- #U #Lane Undivided Roadway
- Existing Lane

Figure 3
Existing Lane Geometry and Intersection Traffic Controls

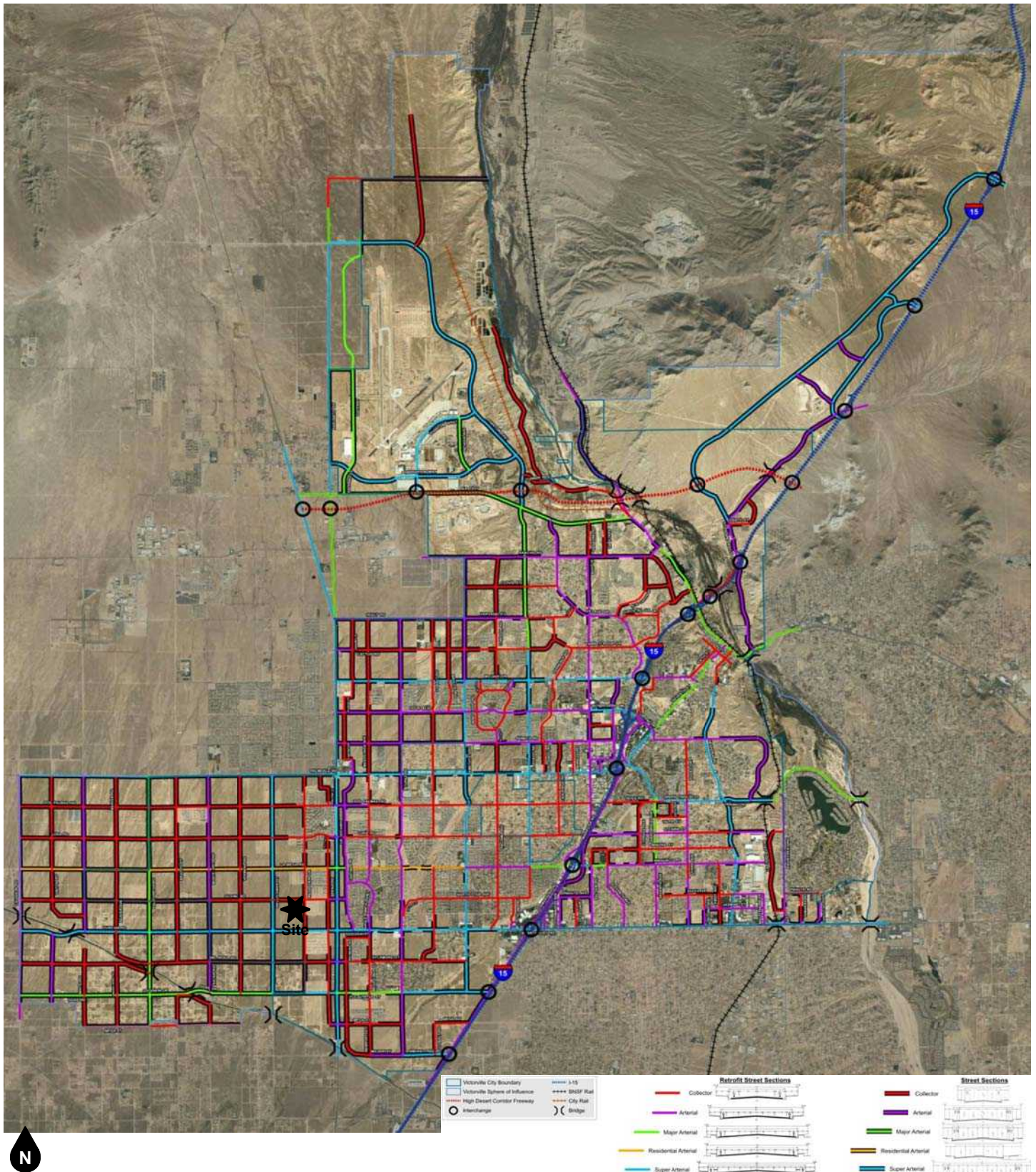
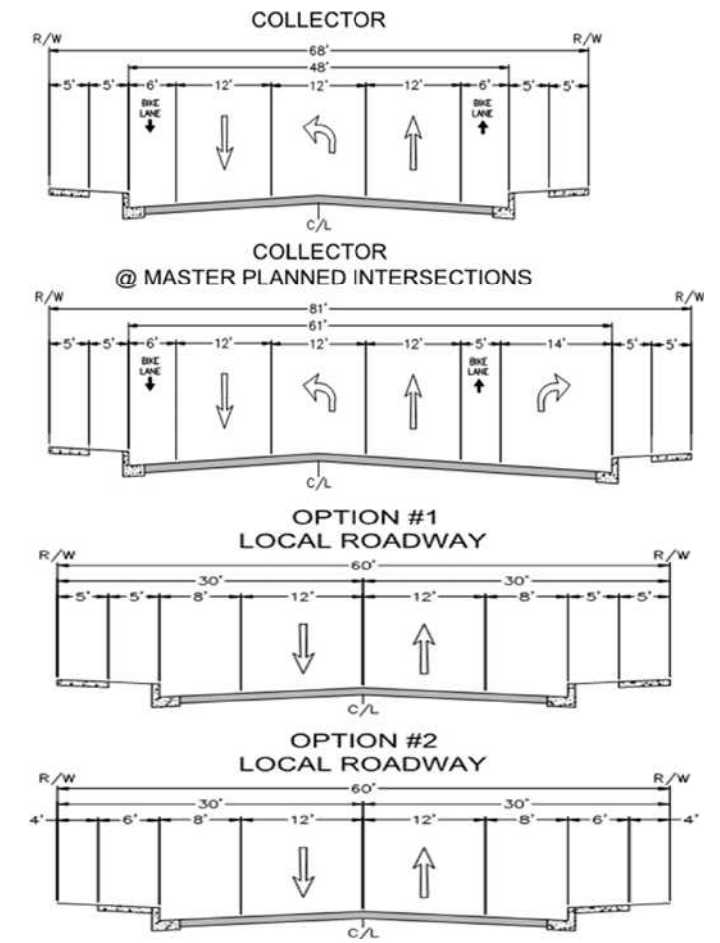
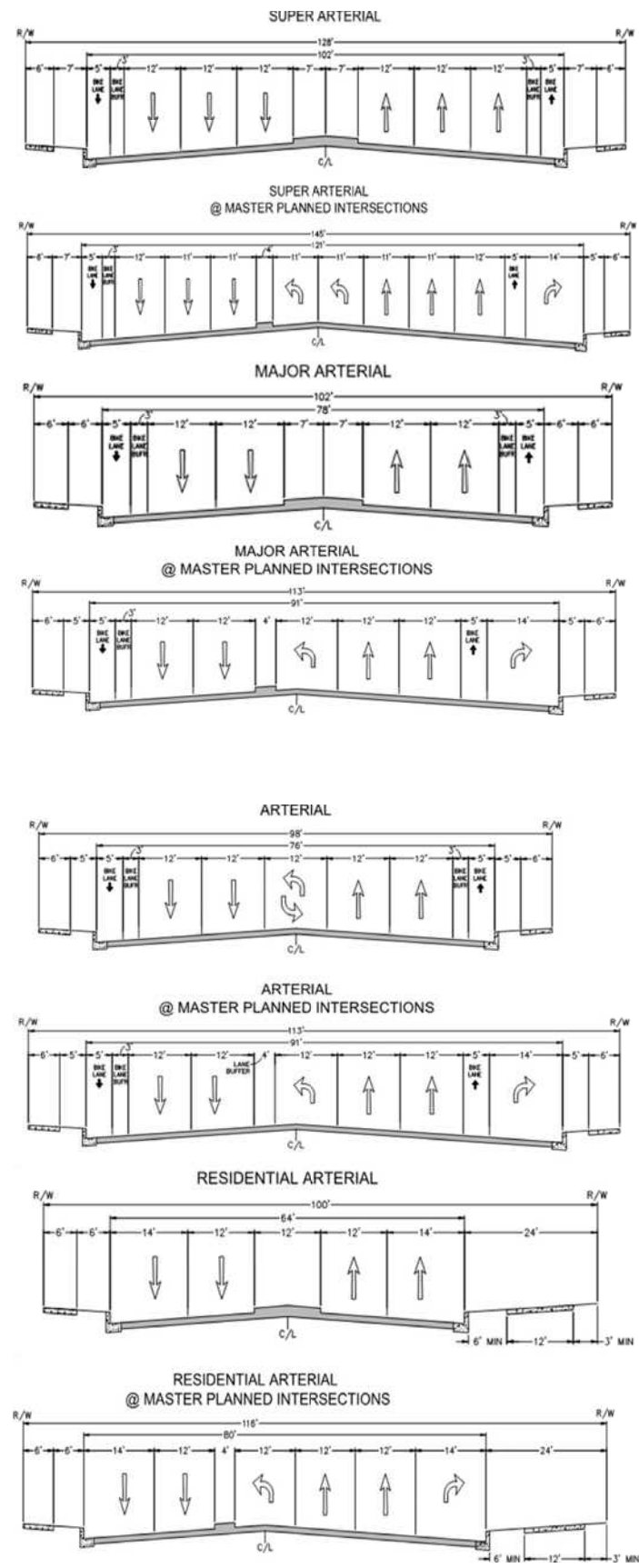
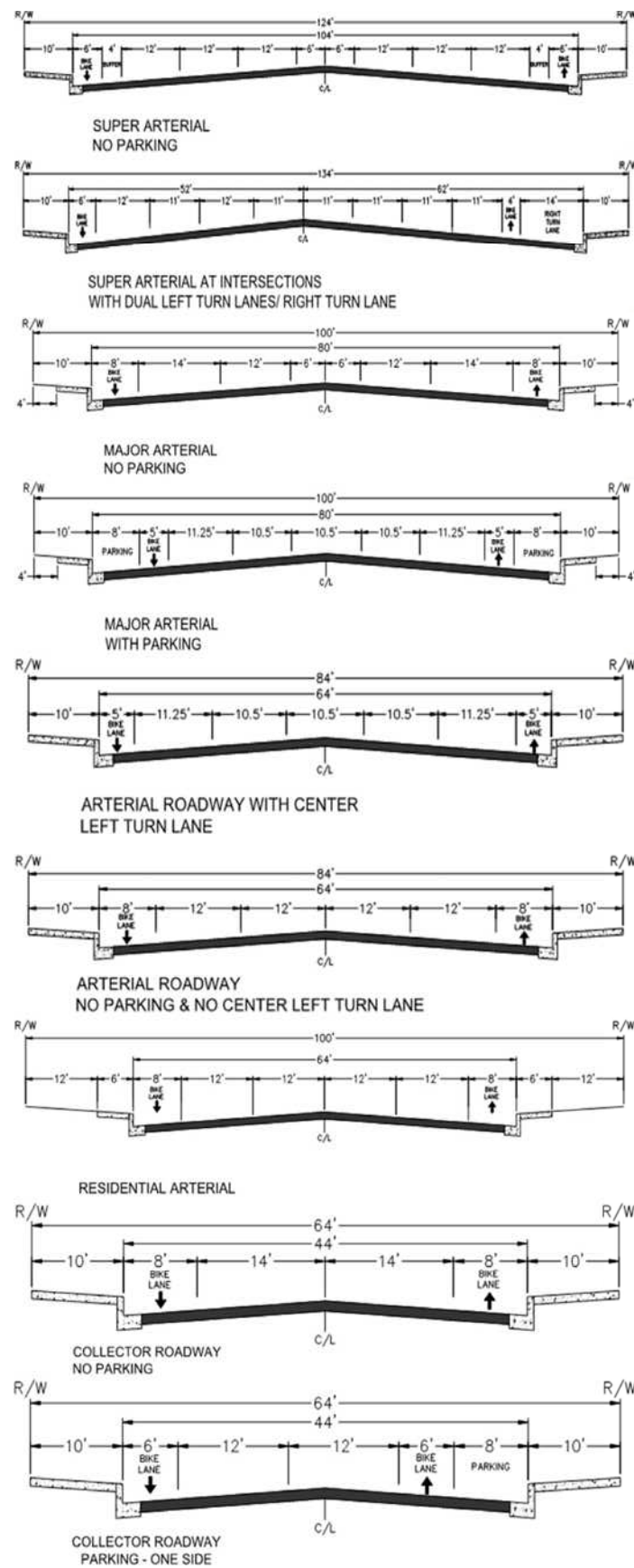


Figure 4
City of Victorville General Plan Circulation Element

Source: City of Victorville

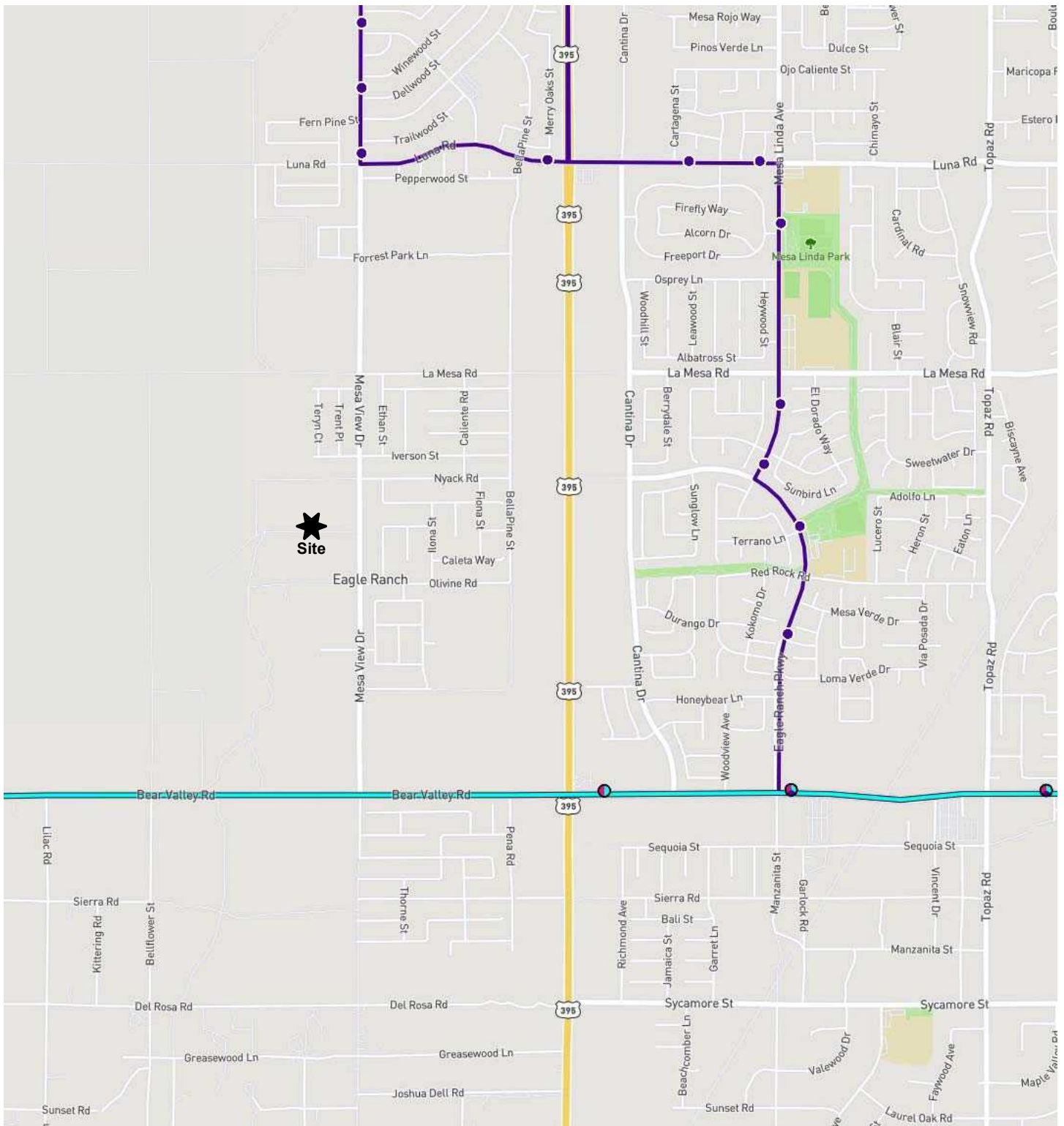


Source: City of Victorville



Figure 5
City of Victorville General Plan Roadway Cross-Sections

Tract Map No. 20454
Traffic Impact Analysis
19449



21P: Victor Valley Mall – Pinon Hills



54: Hwy 395-Palmdale - Victor Valley Mall

Figure 6
Victor Valley Transit Routes

Source: Victor Valley Transit



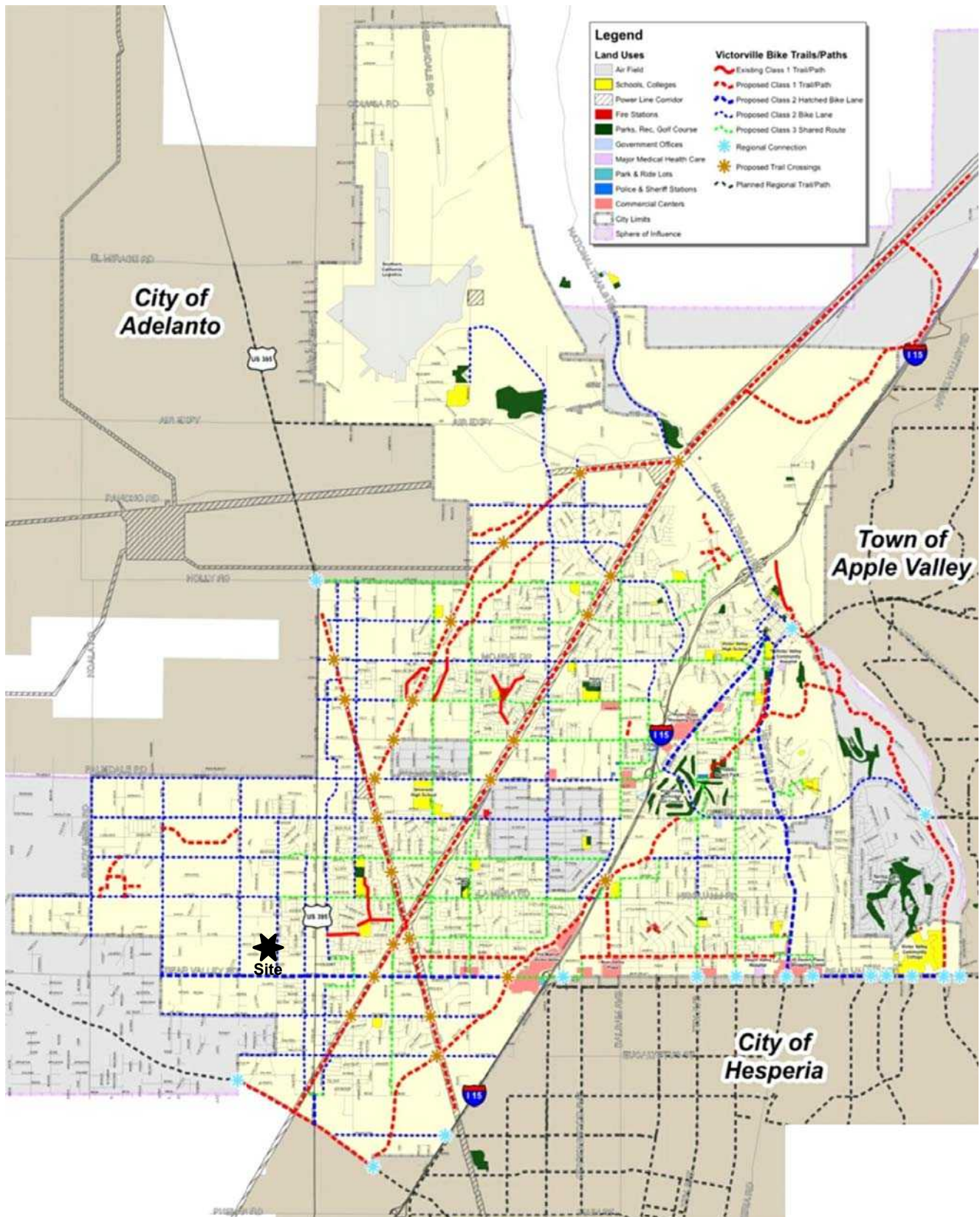
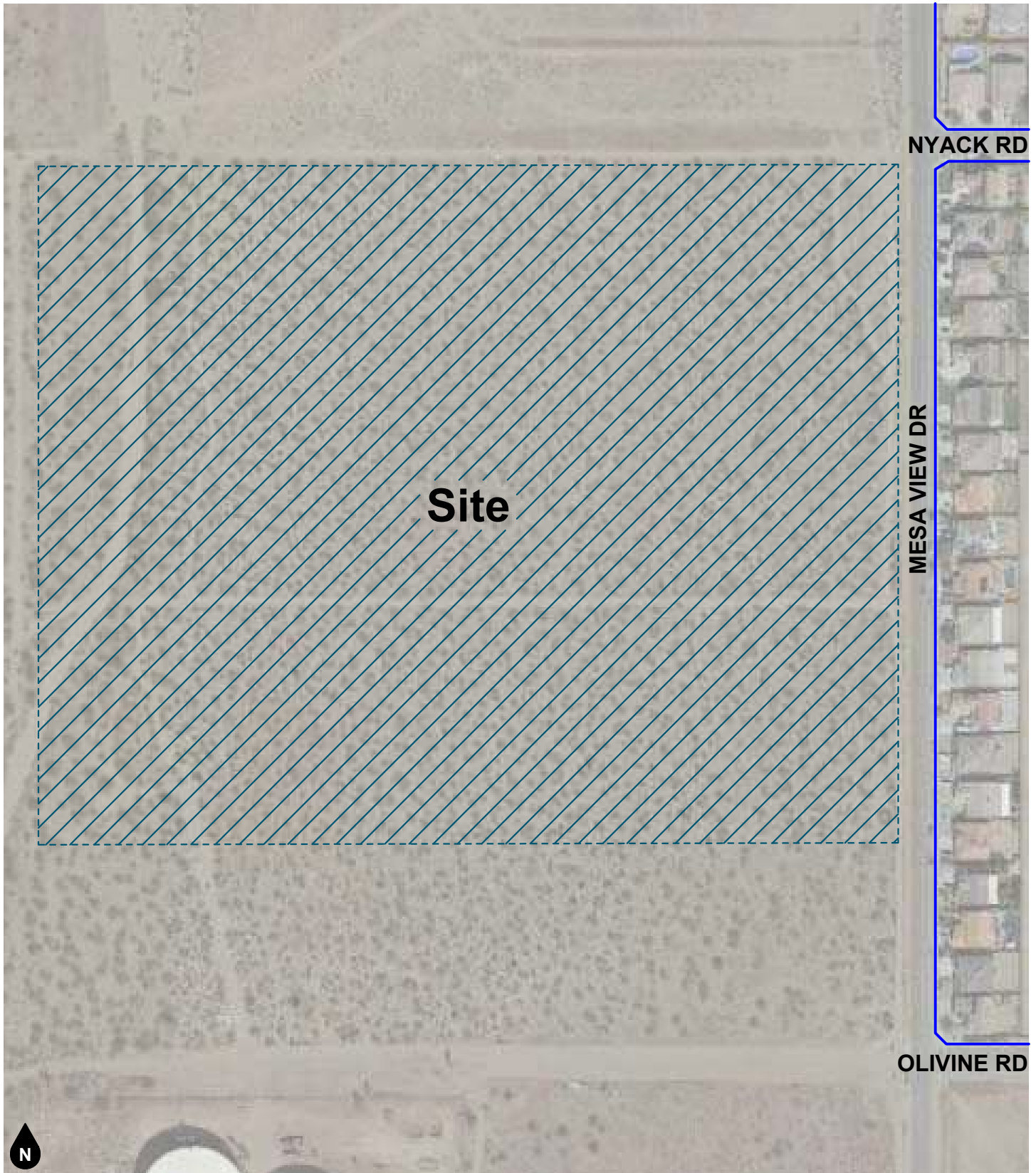


Figure 7
City of Victorville General Plan
Non-Motorized Transportation Plan Map

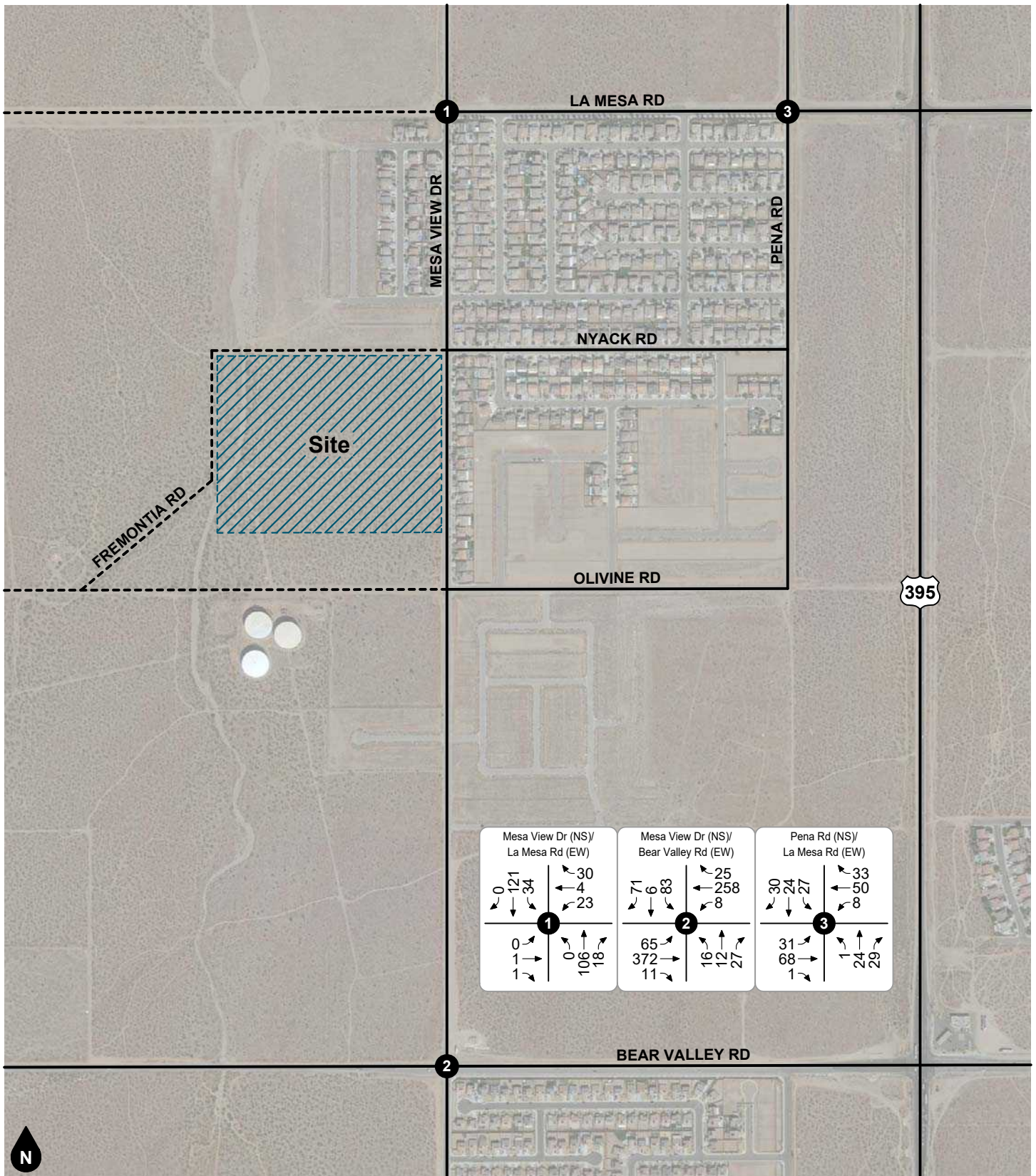
Source: City of Victorville



Legend

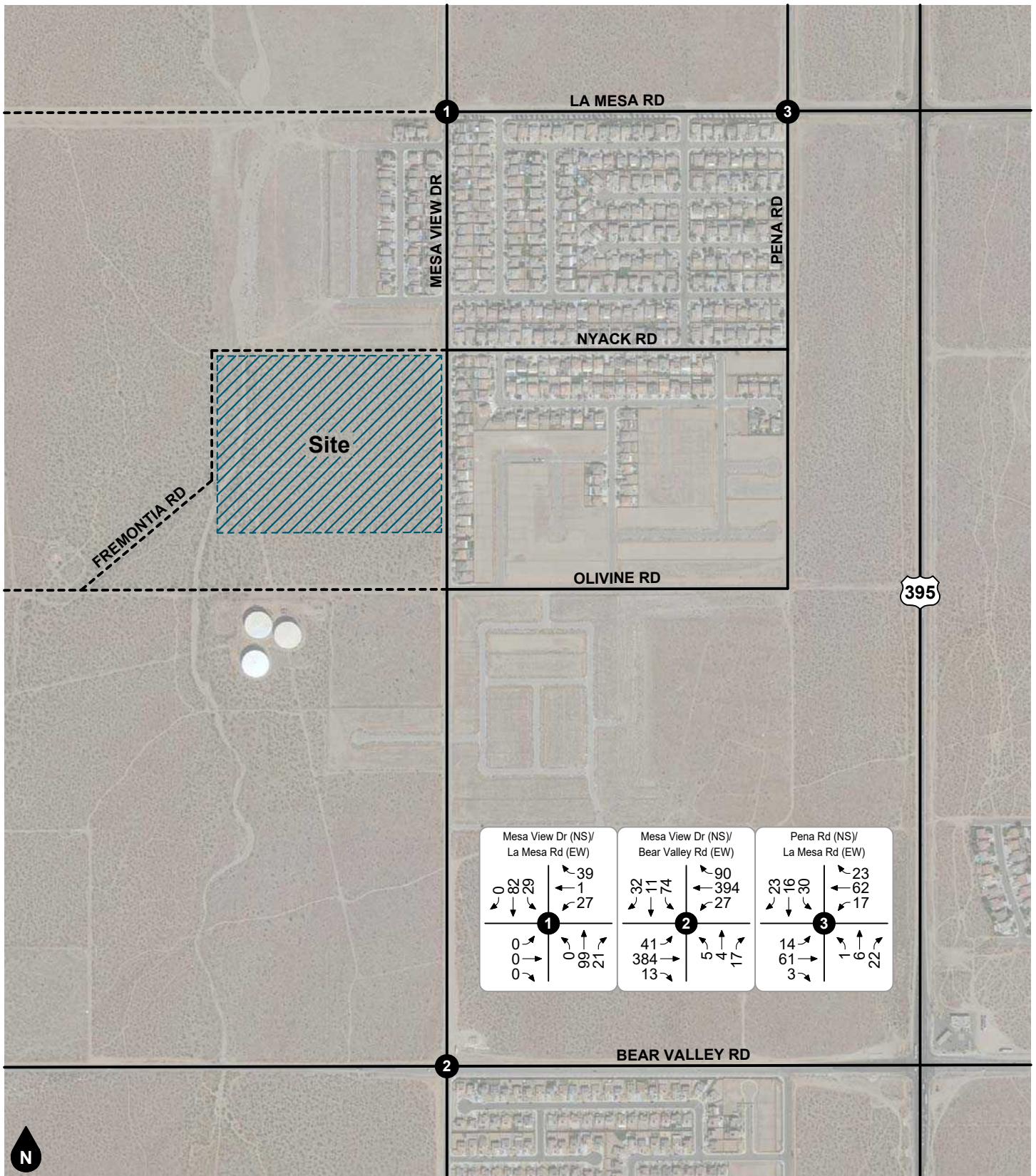
— Sidewalk

Figure 8
Existing Pedestrian Facilities



Mesa View Dr (NS) La Mesa Rd (EW)	Mesa View Dr (NS) Bear Valley Rd (EW)	Pena Rd (NS) La Mesa Rd (EW)
0 121 34 30 4 23 0 1 1 0 106 18	71 6 83 25 258 8 65 372 11 16 12 27	30 24 27 33 50 8 31 68 1 1 24 29

Figure 9
Existing AM Peak Hour Intersection Turning Movement Volumes



Legend
 # Study Intersection

Figure 10
 Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

PROJECT TRIP GENERATION

Table 2 shows the project trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Trip generation rates were determined for daily trips, AM peak hour inbound and outbound trips, and PM peak hour inbound and outbound trips for the proposed land use. The number of trips forecast to be generated by the proposed project are determined by multiplying the trip generation rates by the land use quantity.

As shown in Table 2, the proposed project is forecast to generate 1,038 daily trips, including 78 trips during the AM peak hour and 103 trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 11 shows the forecast directional distribution patterns for the project generated trips. The project trip distribution patterns were developed in consultation with City of Victorville staff and are based on review of existing volume data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

Project AM and PM peak hour intersection turning movement volumes expected from the project are depicted on Figure 12 and Figure 13, respectively.

Table 2
Project Trip Generation

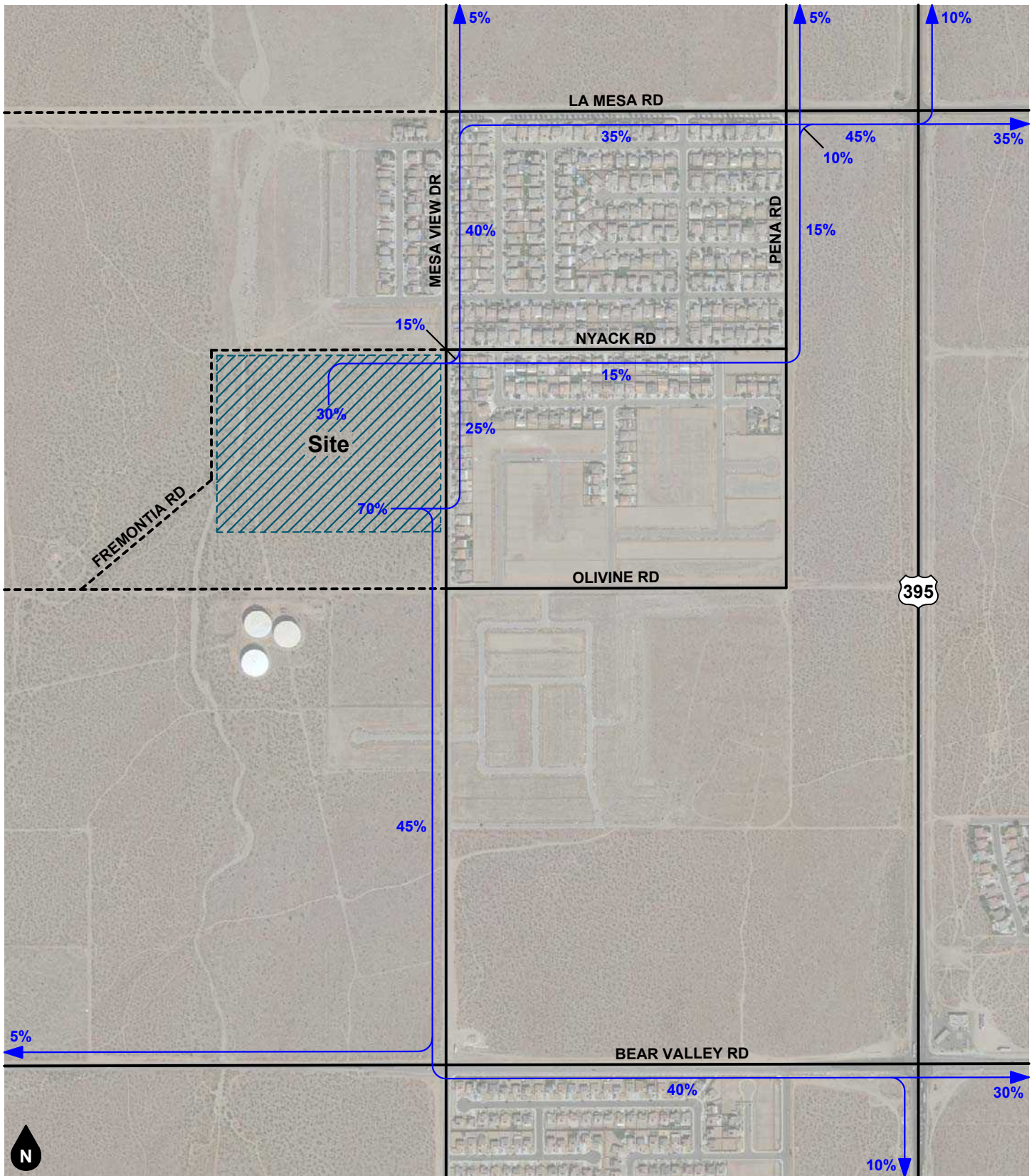
Trip Generation Rates									
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Single-Family Detached Housing	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43

Trips Generated									
Land Use	Quantity	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single-Family Detached Housing	110	DU	21	57	78	65	38	103	1,038

Notes:

1) Source: ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.

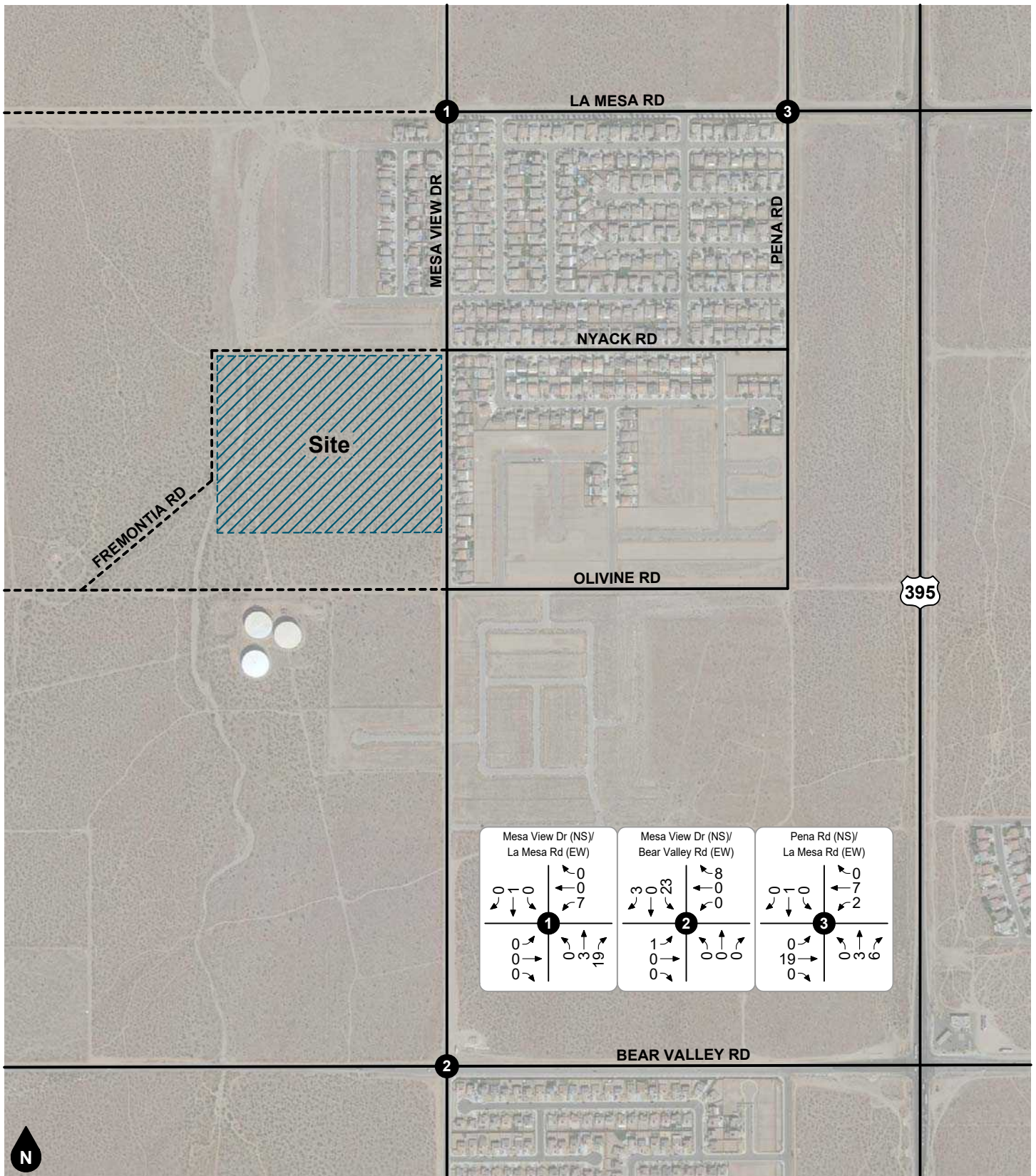
2) DU = Dwelling Units



Legend

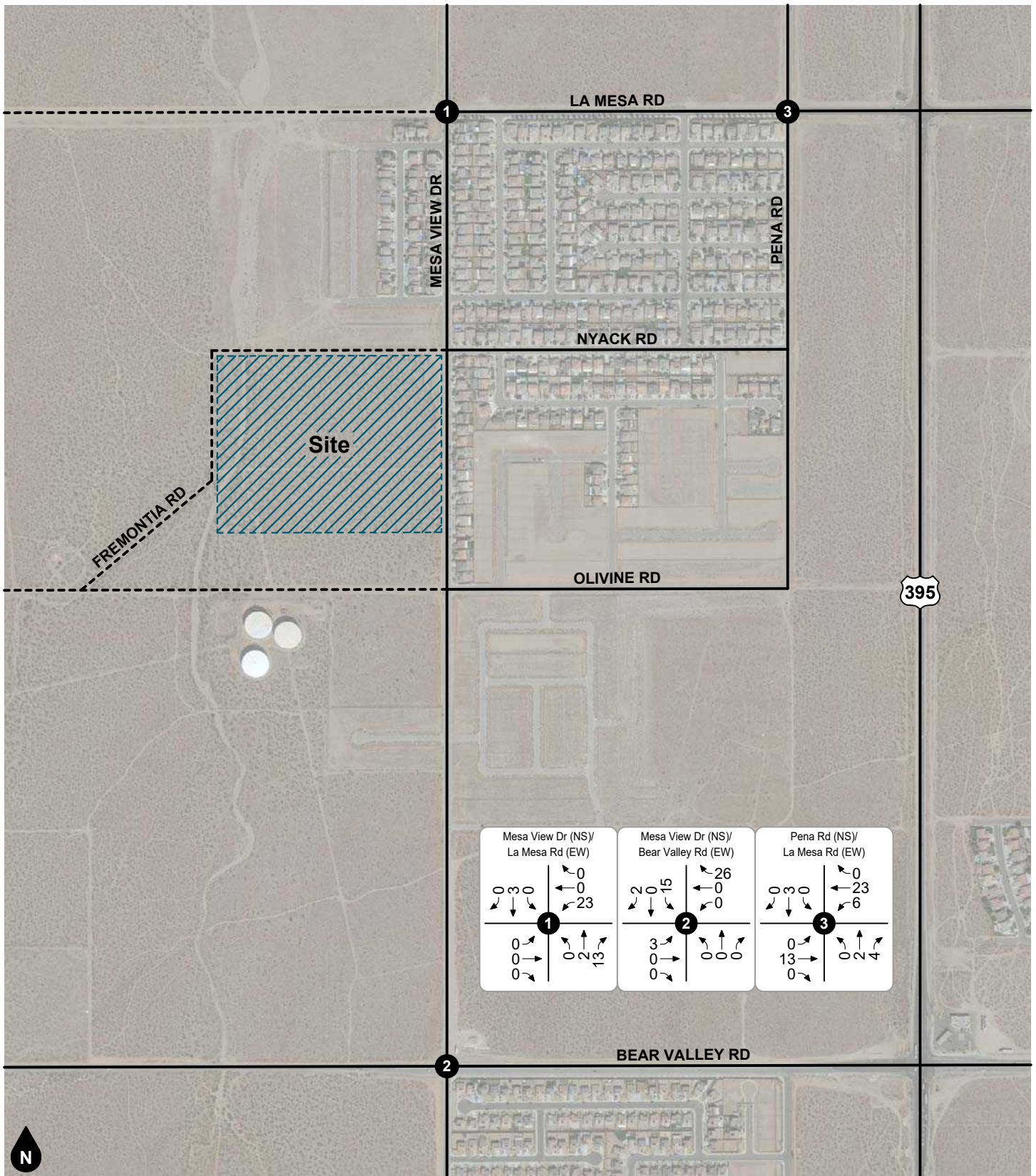
← 10% Percent To/From Project

Figure 11
Project Trip Distribution



Legend
 # Study Intersection

Figure 12
 Project AM Peak Hour Intersection Turning Movement Volumes



Legend
 # Study Intersection

Figure 13
Project PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

CUMULATIVE TRIPS

Ambient Growth Rate

To account for ambient growth on roadways, existing 2021 volumes were increased by a growth rate of two percent (2%) per year over two years for Opening Year (2023) conditions; this equates to a total growth factor of approximately 1.04. Existing 2021 volumes were increased by a growth rate of two percent (2%) per year over twelve years for Future Year (2033) conditions; this equates to a total growth factor of approximately 1.27. The ambient growth rate was conservatively applied to all movements at the study intersections.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Victorville was added to the study area. Table 3 shows the other development project list for projects anticipated to contribute appreciable trips to the study area intersections and Figure 14 exhibits the other development location map.

Figure 15 and Figure 16 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments.

ANALYSIS SCENARIO VOLUME FORECASTS

Opening Year (2023) Without Project

To develop Opening Year (2023) Without Project volume forecasts, existing volumes were combined with ambient growth and trips generated by other developments. Opening Year (2023) Without Project AM and PM peak hour intersection turning movement volumes are shown Figure 17 and Figure 18.

Opening Year (2023) With Project

Opening Year (2023) With Project volume forecasts were developed by adding project generated trips to the Opening Year (2023) Without Project forecast. Opening Year (2023) With Project AM and PM peak hour intersection turning movement volumes are shown on Figure 19 and Figure 20.

Future Year (2033) Without Project

To develop Future Year (2033) Without Project volume forecasts, Existing volumes were combined with ambient growth and trips generated by other developments. Future Year (2033) Without Project AM and PM peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22.

Future Year (2033) With Project

Future Year (2033) With Project volume forecasts were developed by adding project generated trips to the Future Year (2033) Without Project forecast. Future Year (2033) With Project AM and PM peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24.

Table 3
Other Development Trip Generation

Map ID	Project Name	Land Use	Quantity	Units ¹	Trips Generated ²						
					AM Peak Hour			PM Peak Hour			Daily
					In	Out	Total	In	Out	Total	
1	PLAN18-00039	Single-Family Detached Residential	195	DU	35	101	136	115	68	183	1,839
2	PLAN18-00051	Creation of Two Parcels from One Parcel	--	--	--	--	--	--	--	--	--
3	ADMN18-00080	Accessory Dwelling Unit	1	DU	--	--	--	--	--	--	--
4	PLAN19-00028	Single-Family Detached Residential	135	DU	25	70	95	80	47	127	1,273
5	ADMN19-00139	Single-Family Detached Residential	61	DU	11	32	43	36	21	57	575
6	ADMN20-00053	Single-Family Detached Residential	37	DU	7	19	26	22	13	35	349
7	ADMN20-00058	Front Yard Setback Deviation	--	--	--	--	--	--	--	--	--
8	PLAN21-00019	Commercial Project ³	--	--	--	--	--	--	--	--	--
9	ADMN21-00022	Single-Family Detached Residential	150	DU	27	78	105	89	52	141	1,415
10	ADMN21-00003	Single-Family Detached Residential	112	DU	20	58	78	66	39	105	1,056
11	ADMN21-00079	Single-Family Detached Residential	67	DU	12	35	47	40	23	63	632
12	ADMN21-00170	Single-Family Detached Residential	148	DU	27	77	104	88	51	139	1,396
Total					164	470	634	536	314	850	8,535

Notes: Notes:

(1) DU = Dwelling Units

(2) Based on trip generation rates from the Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021).

(3) Project has not been included for analysis since the current status for the project is that corrections are required, and a search of City Planning Commission/City Council meetings and agendas does not record the project as being under consideration.

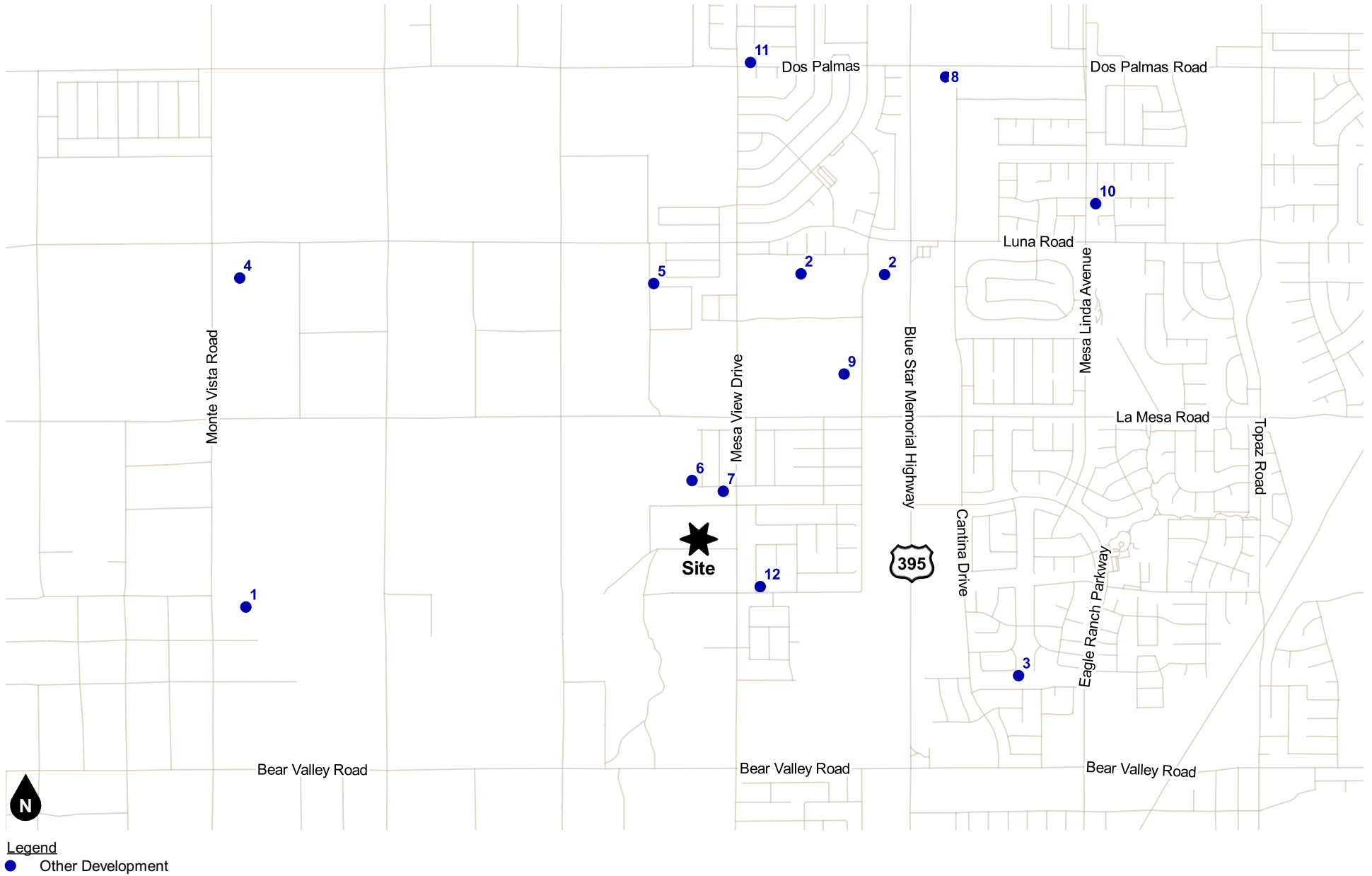
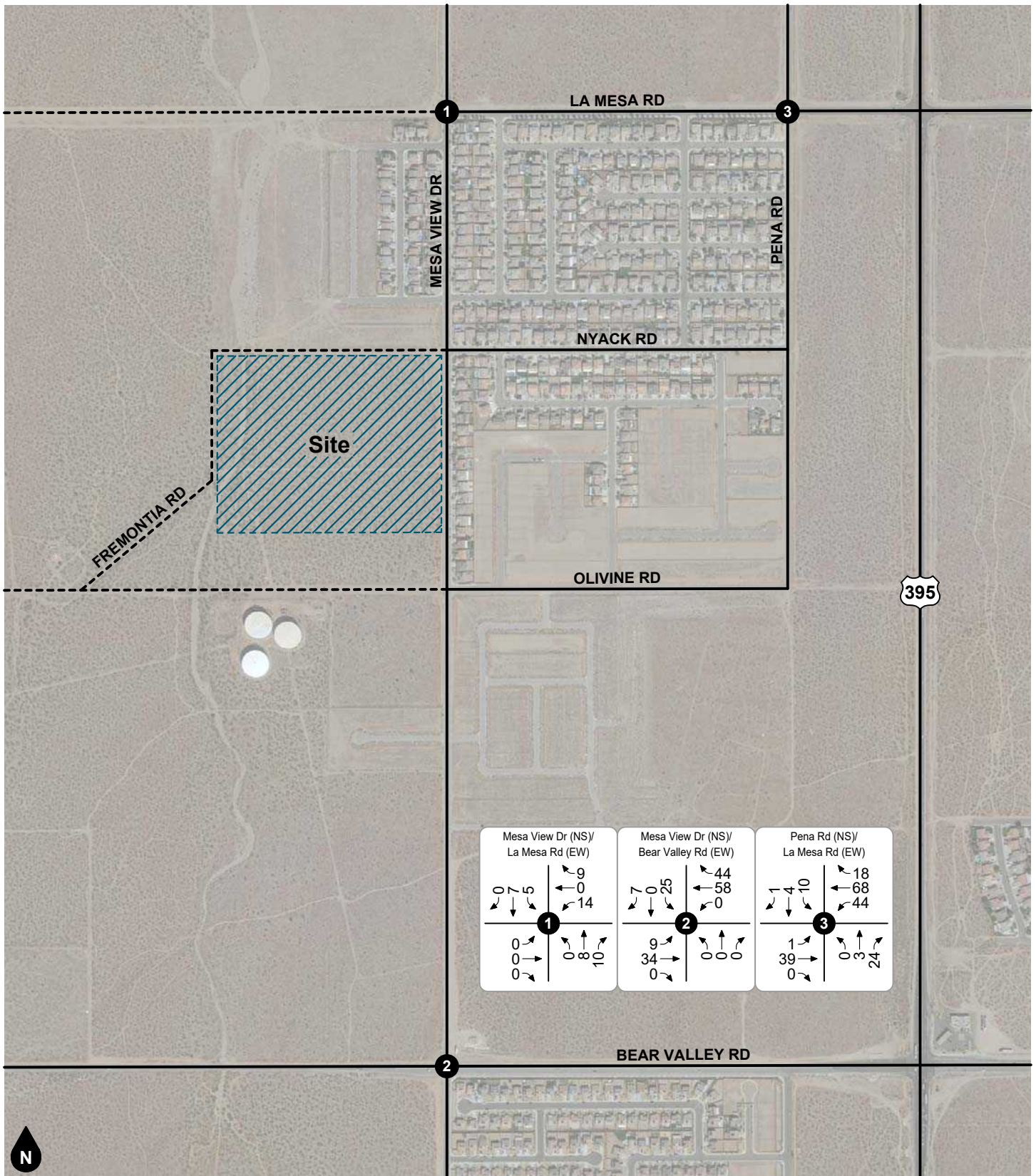
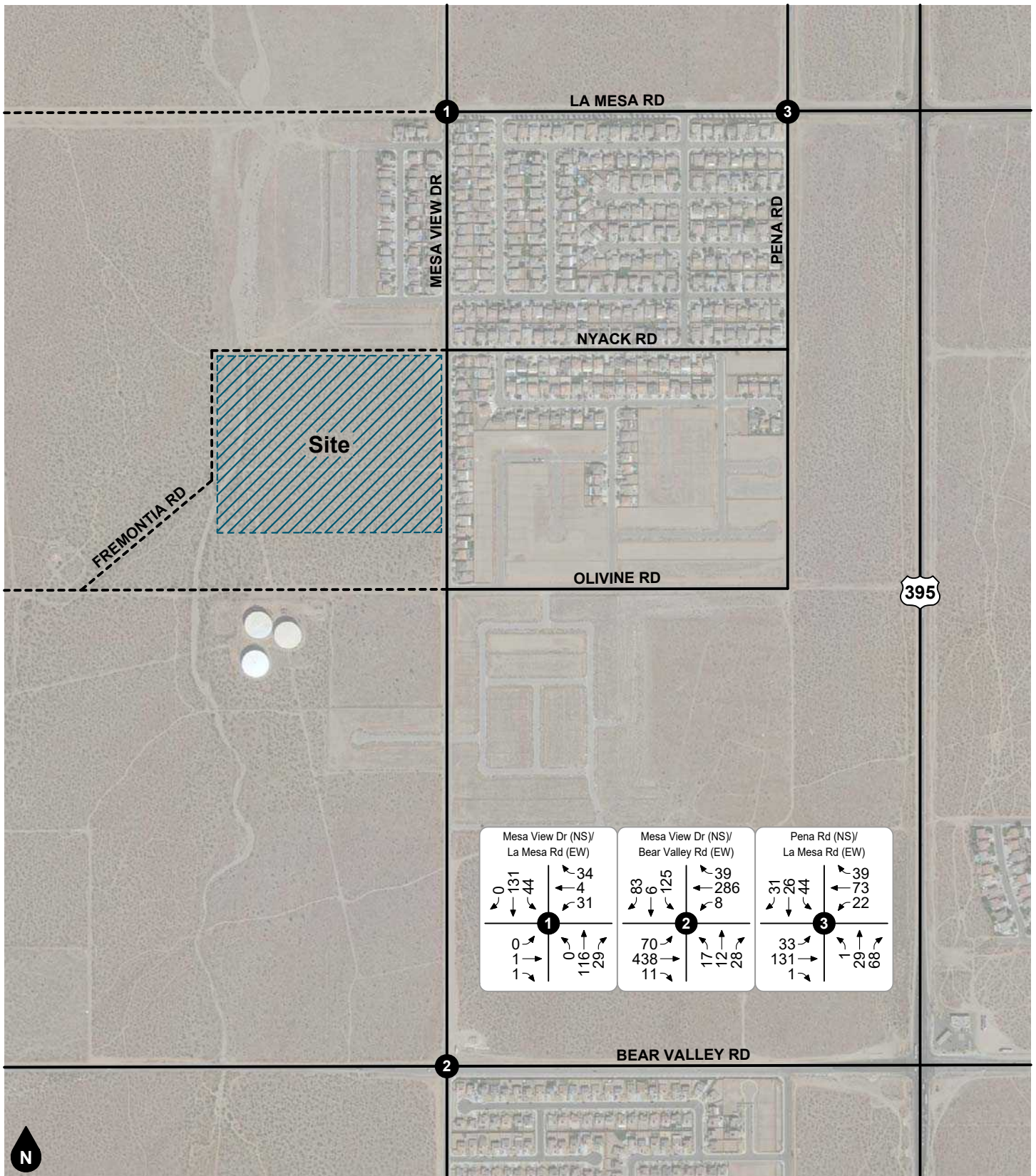


Figure 14
Other Development Location Map



Legend
 # Study Intersection

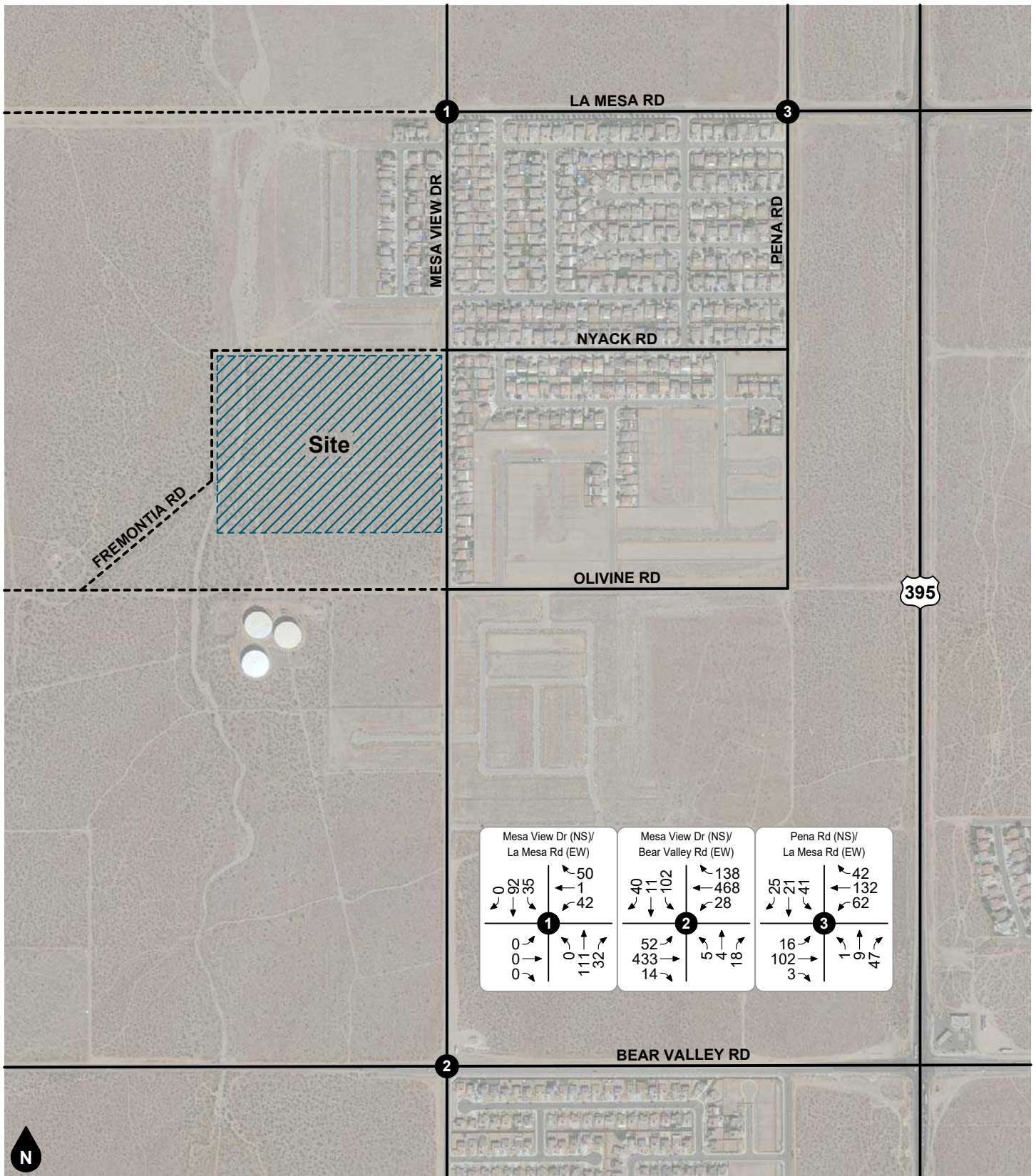
Figure 16
Other Development
PM Peak Hour Intersection Turning Movement Volumes



Legend

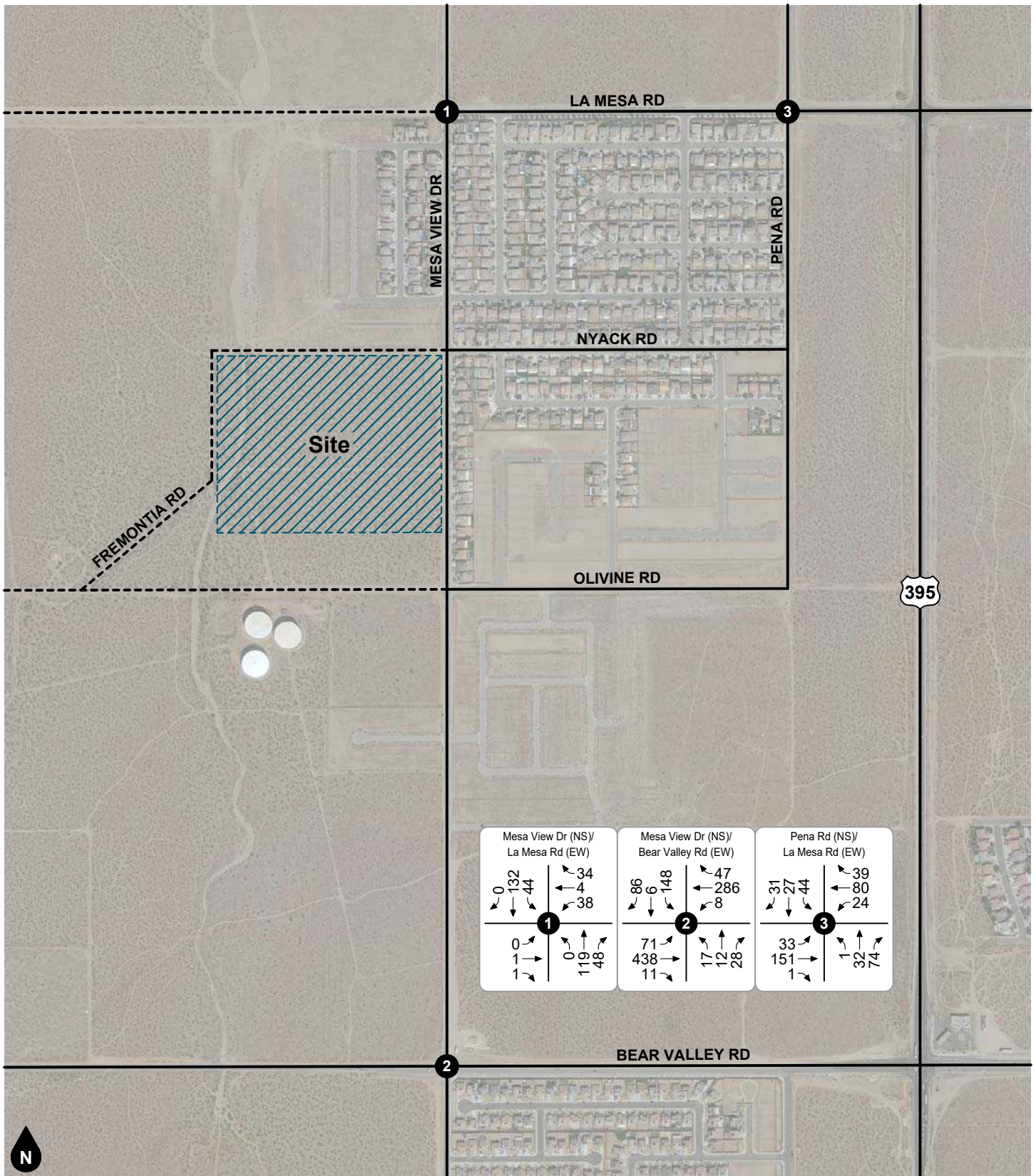
Study Intersection

Figure 17
Opening Year (2023) Without Project
AM Peak Hour Intersection Turning Movement Volumes



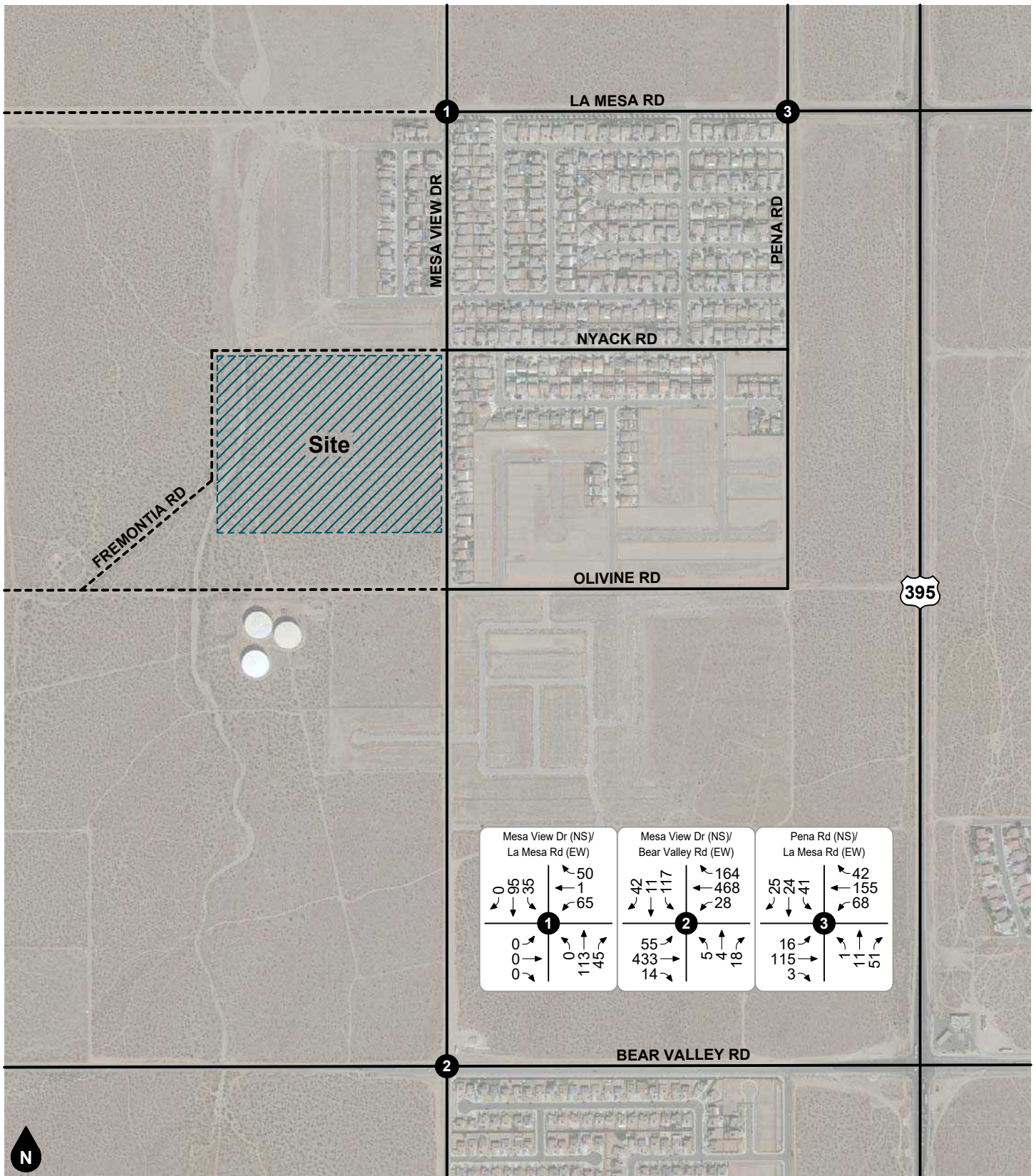
Legend
 # Study Intersection

Figure 18
 Opening Year (2023) Without Project
 PM Peak Hour Intersection Turning Movement Volumes



Legend
 # Study Intersection

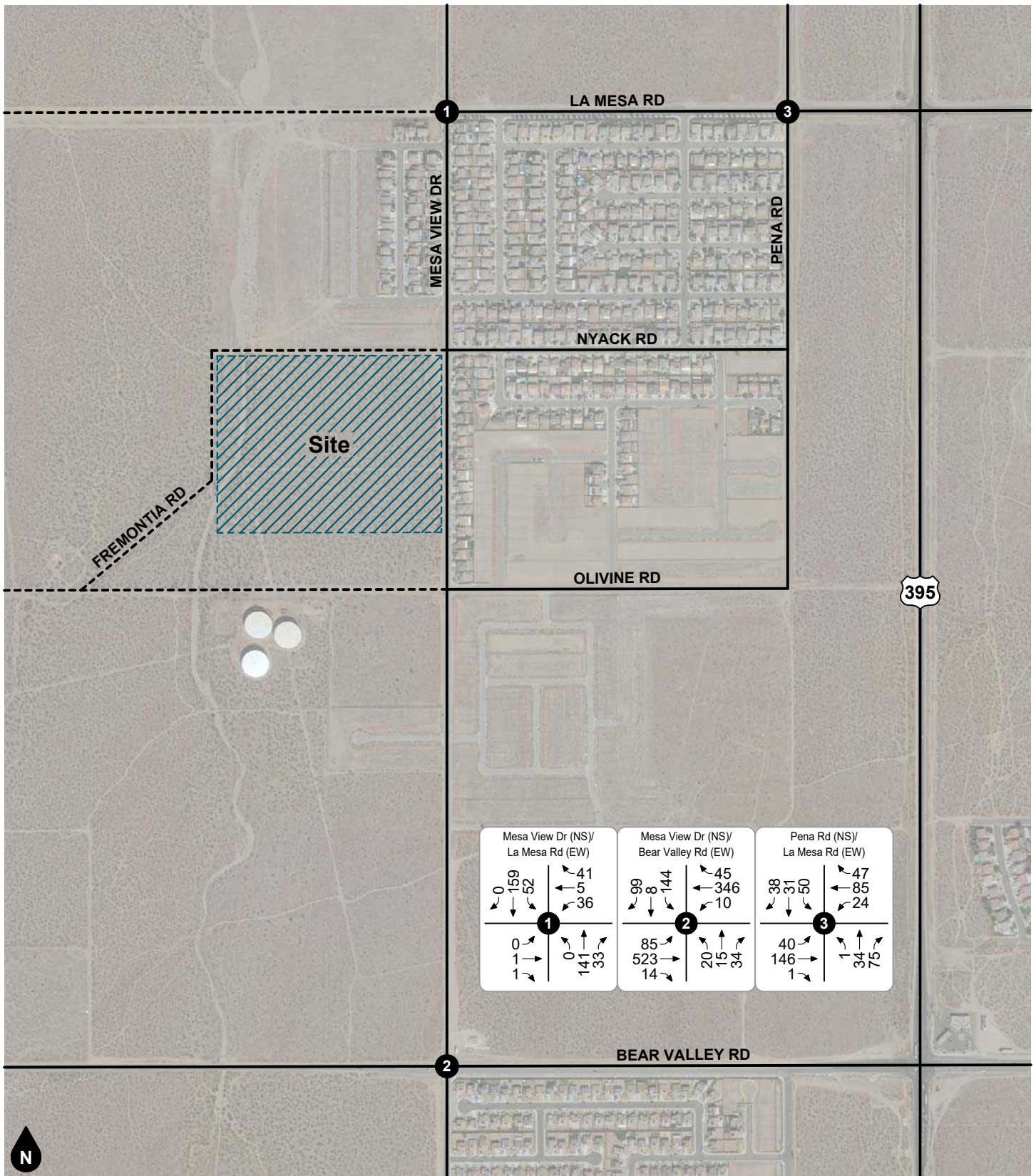
Figure 19
 Opening Year (2023) With Project
 AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

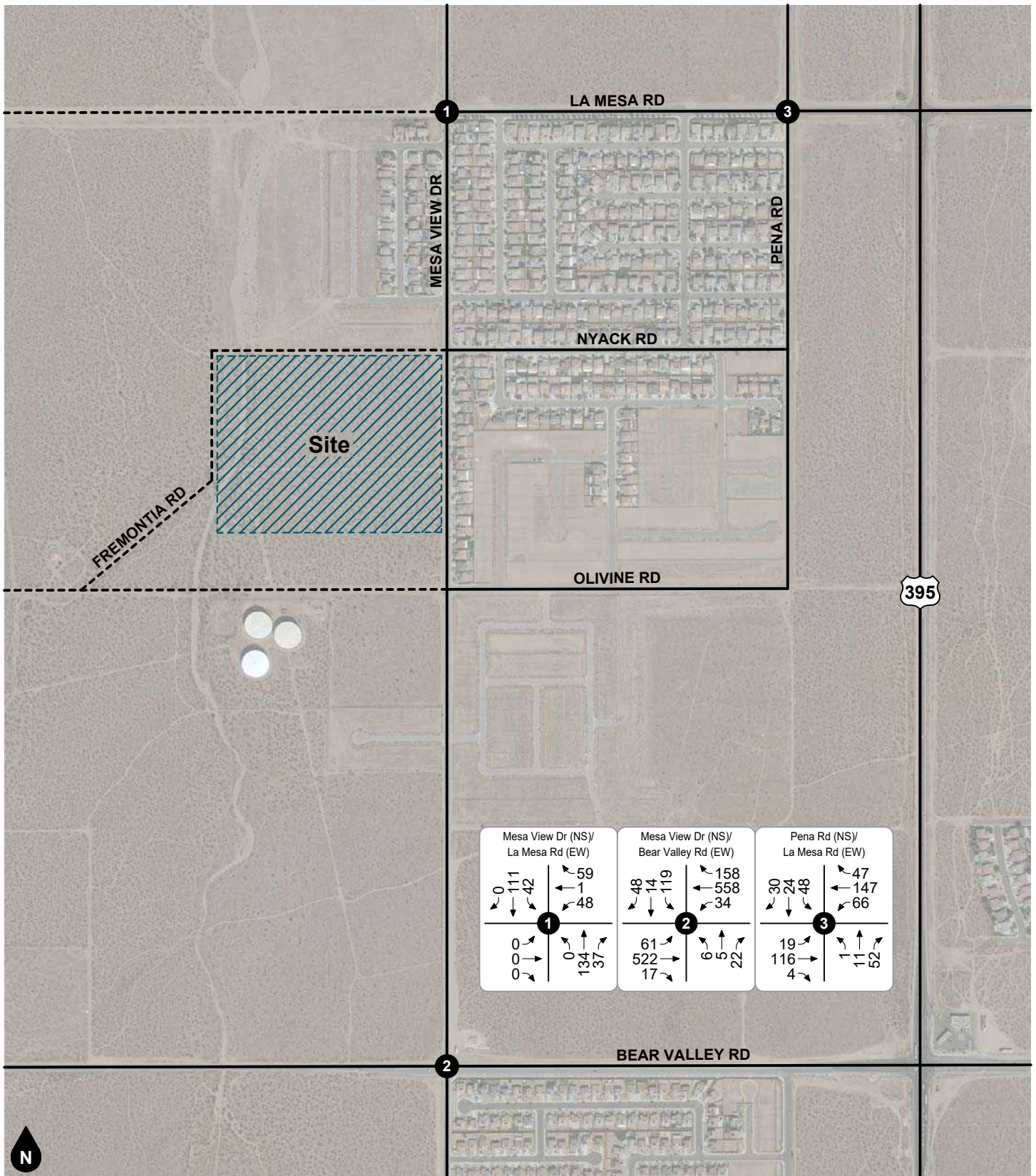
Figure 20
Opening Year (2023) With Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

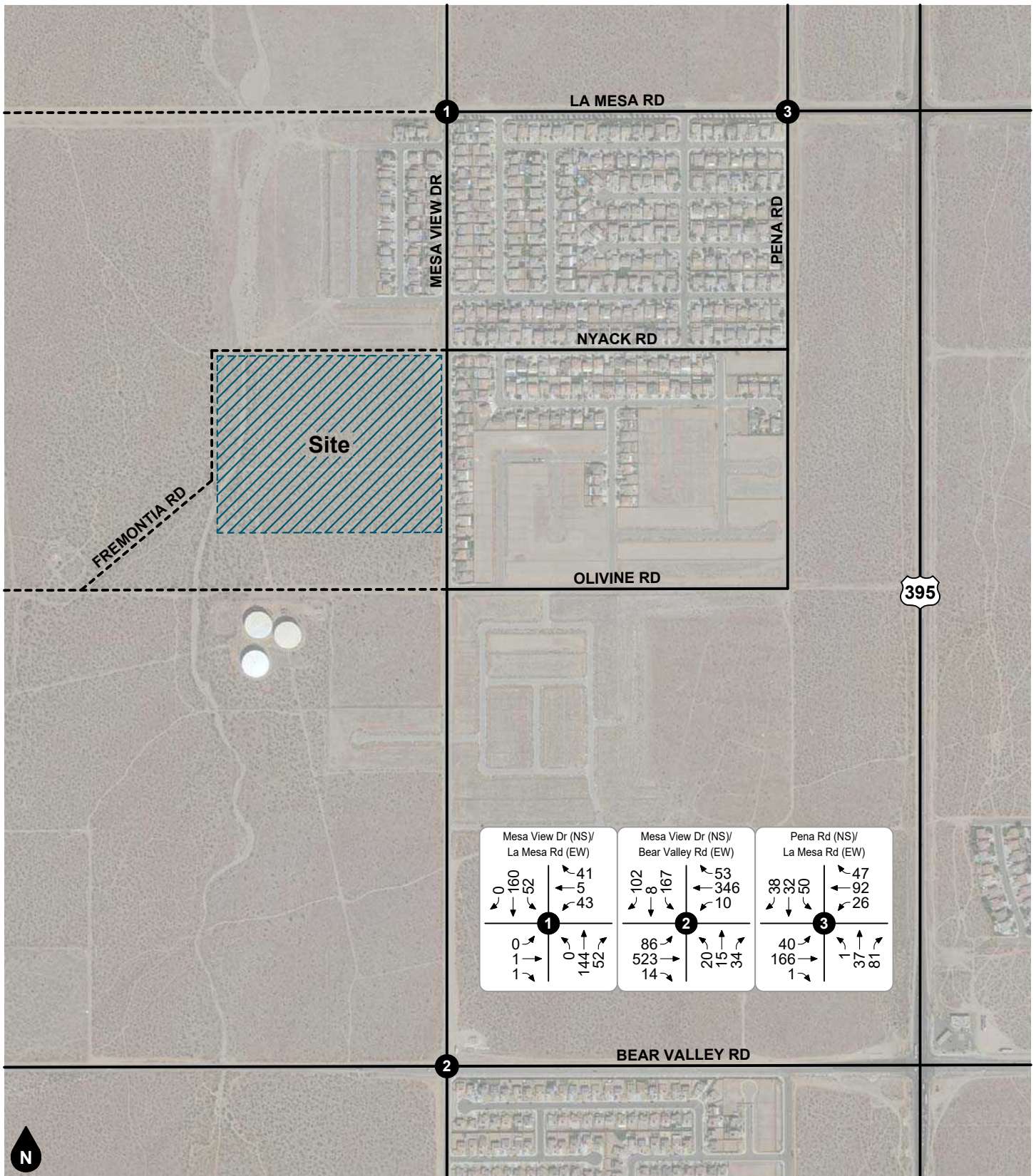
Figure 21
Future Year (2033) Without Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

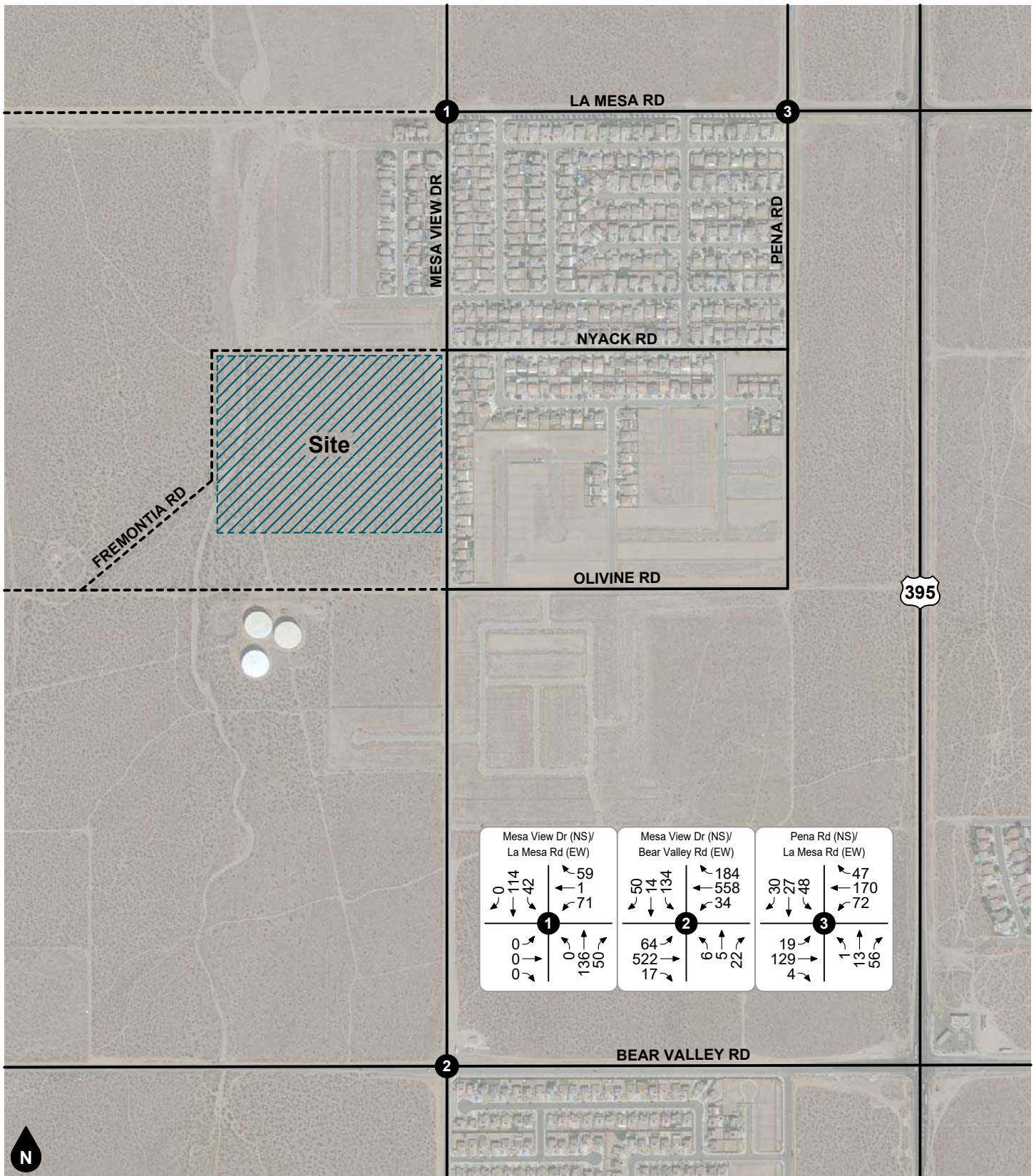
Figure 22
Future Year (2033) Without Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

Figure 23
Future Year (2033) With Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

Figure 24
Future Year (2033) With Project
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

OPENING YEAR (2023) WITHOUT PROJECT

The intersection Levels of Service for Opening Year (2023) Without Project conditions are shown in Table 4. As shown in Table 4, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2023) Without Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Opening Year (2023) Without Project conditions during the peak hours.

OPENING YEAR (2023) WITH PROJECT

The intersection Levels of Service for Opening Year (2023) With Project conditions are shown in Table 5. As shown in Table 5, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2023) With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Opening Year (2023) With Project conditions during the peak hours.

FUTURE YEAR (2033) WITHOUT PROJECT

The intersection Levels of Service for Future Year (2033) Without Project conditions are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Future Year (2033) Without Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Future Year (2033) Without Project conditions during the peak hours.

FUTURE YEAR (2033) WITH PROJECT

The intersection Levels of Service for Future Year (2033) With Project conditions are shown in Table 7. As shown in Table 7, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Future Year (2033) With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Future Year (2033) With Project conditions during the peak hours.

PROJECT FAIR SHARE CONTRIBUTION

The project fair share contributions have been calculated for the improvement location. The project fair share contribution is based on the proportion of project peak hour intersection turning movement volumes contributed to the improvement location relative to the total new peak hour intersection turning movement volumes forecast for Future Year (2033) With Project conditions.

Table 8 presents a summary of improvement cost and project cost shares at the Future Year (2033) With Project study intersection improvement location. The intersection fair share cost calculations are typically based on the higher of the peak hour traffic volumes. As shown in Table 8, the project's fair share percentages of identified impacted intersections are approximately 15.3% to 15.8%. The fair share calculations are intended only for the discussion purposes of this traffic impact analysis, and do not imply any legal responsibility or formula for contributions or mitigation.

Table 4
Opening Year (2023) Without Project Intersection Levels of Service

Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
		Delay ²	LOS ³	Delay ²	LOS ³
1. Mesa View Dr at La Mesa Rd	CSS	12.2	B	11.3	B
2. Mesa View Dr at Bear Valley Rd	CSS	48.0	E	91.8	F
- With Improvements	TS	11.9	B	9.2	A
3. Pena Rd at La Mesa Rd	CSS	14.8	B	13.4	B

Notes:

- (1) CSS = Cross Street Stop; TS = Traffic Signal
- (2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.
- (3) LOS = Level of Service

Table 5
Opening Year (2023) With Project Intersection Levels of Service

Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
		Delay ²	LOS ³	Delay ²	LOS ³
1. Mesa View Dr at La Mesa Rd	CSS	12.7	B	12.1	B
2. Mesa View Dr at Bear Valley Rd	CSS	68.1	E	125.2	F
- With Improvements	TS	12.4	B	9.6	A
3. Pena Rd at La Mesa Rd	CSS	15.9	B	14.4	B

Notes:

- (1) CSS = Cross Street Stop; TS = Traffic Signal
- (2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.
- (3) LOS = Level of Service

Table 6
Future Year (2033) Without Project Intersection Levels of Service

Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
		Delay ²	LOS ³	Delay ²	LOS ³
1. Mesa View Dr at La Mesa Rd	CSS	12.2	B	11.9	B
2. Mesa View Dr at Bear Valley Rd	CSS	99.9	F	183.0	F
- With Improvements	TS	12.0	B	9.3	A
3. Pena Rd at La Mesa Rd	CSS	13.6	B	14.2	B

Notes:

- (1) CSS = Cross Street Stop; TS = Traffic Signal
- (2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.
- (3) LOS = Level of Service

Table 7
Future Year (2033) With Project Intersection Levels of Service

Study Intersection	Traffic Control ¹	AM Peak Hour		PM Peak Hour	
		Delay ²	LOS ³	Delay ²	LOS ³
1. Mesa View Dr at La Mesa Rd	CSS	12.7	B	12.8	B
2. Mesa View Dr at Bear Valley Rd	CSS	68.1	F	235.5	F
- With Improvements	TS	12.4	B	9.7	A
3. Pena Rd at La Mesa Rd	CSS	15.9	C	15.3	C

Notes:

- (1) CSS = Cross Street Stop; TS = Traffic Signal
- (2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.
- (3) LOS = Level of Service

Table 8
Project Fair Share Contribution

Study Intersection	Peak Hour	Intersection Turning Movement Volumes				
		Existing	Future Year (2033) With Project	Project Trips	Total New Trips	Project Share of Total New Trips
2. Mesa View Dr at Bear Valley Rd	AM	954	1,378	35	221	15.8%
	PM	1,092	1,610	46	300	15.3%

7. SITE ACCESS AND CIRCULATION

This section includes a description of project improvements necessary to provide site access and an evaluation of site access and circulation.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project as project design features to provide project site access:

- Construct Nyack Road from Mesa View Drive to its westerly terminus as identified on the project site plan and approved by City of Victorville staff.
- Construct Jacklin Street (NS) at Nyack Road (EW) to provide one inbound lane and one outbound lane with northbound stop-control and the following lane configurations:
 - Northbound: one shared left/right turn lane
 - Eastbound: one shared through/right lane
 - Westbound: one shared left/through turn lane
- Construct Mesa View Drive (NS) at Don Felipe Street (EW) to provide one inbound lane and one outbound lane with eastbound stop-control and the following lane configurations:
 - Northbound: one shared left/through lane
 - Southbound: one shared through/right turn lane
 - Eastbound: one shared left/right turn lane

This analysis also assumes the project shall comply with the following conditions as part of the City of Victorville standard development review process:

- A construction work site traffic control plan shall comply with State standards set forth in the California Manual of Uniform Traffic Control Devices and shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. All construction related trips shall be restricted to off-peak hours to the extent possible.
- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards and to the satisfaction of the City of Victorville.
- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Victorville.
- Adequate off-street parking shall be provided to the satisfaction of City of Victorville.
- Adequate emergency vehicle access shall be provided to the satisfaction of the Victorville Fire Department.
- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable City of Victorville/California Department of Transportation sight distance standards.

8. CONCLUSIONS

This section summarizes the findings from the previous sections of this report.

PROJECT TRIPS

The proposed project is forecast to generate 1,038 daily trips, including 78 trips during the AM peak hour and 103 trips during the PM peak hour.

TRAFFIC SIGNAL WARRANTS

Traffic signal warrants 1-3 are currently satisfied at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) for Existing conditions. Therefore, installation of a traffic signal control is warranted at the unsignalized study intersection of Mesa View Drive at Bear Valley Road (#2) based on Existing conditions.

LEVELS OF SERVICE

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2023) Without and With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Opening Year (2023) Without and With Project conditions during the peak hours.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Future Year (2033) Without and With Project conditions, except for the following study area intersection that is projected to operate at unacceptable LOS during the peak hours:

- Mesa View Drive at Bear Valley Road – #2 (AM peak hour – LOS E, PM peak hour – LOS F)

With installation of a traffic signal at the Mesa View Drive at Bear Valley Road intersection, the study intersections are forecast to operate within acceptable Levels of Service for Future Year (2033) Without and With Project conditions during the peak hours.

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Traffic Signal and Multi-Way Stop Warrants
Appendix E Level of Service Worksheets

APPENDIX A

GLOSSARY

GLOSSARY OF TERMS

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
LOS	Level of Service
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CONTROL DELAY: The component of delay, typically expressed in seconds per vehicle, resulting from the type of traffic control at an intersection. Control delay is measured by comparison with the uncontrolled condition; it includes delay incurred by slowing down, stopping/waiting, and speeding up.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

CUL-DE-SAC: A local street open at one end only and with special provisions for turning around.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SHARED/RECIPROCAL PARKING AGREEMENT: A written binding document executed between property owners to provide a designated number of off-street parking stalls within a designated area to be available for specified businesses or land uses.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queueing to occur.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

SCOPING AGREEMENT



MEMORANDUM OF UNDERSTANDING

TO: Mr. Anwar Wagdy | CITY OF VICTORVILLE

FROM: Bryan Crawford | GANDDINI GROUP, INC.

DATE: November 11, 2021

SUBJECT: Tract Map No. 20454 Traffic Study Scope
19449

INTRODUCTION

The purpose of this scoping document is to outline the proposed traffic analysis parameters and assumptions for review/concurrence by City of Victorville staff.

PROJECT DESCRIPTION

Figure 1 shows the project location map. The 30.2-acre project site is located at the southwest corner of Mesa View Drive and Nyack Road in the City of Victorville.

The site plan is illustrated on Figure 2. The project site is currently vacant. The proposed project involves entitlements for a proposed tract map consisting of 110 numbered lots for future development of single-family residential use.

The project proposes three full accesses to Balsam Road, and one full access to Winona Street.

PROJECT TRIP GENERATION & DISTRIBUTION

Table 1 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). As shown in Table 1, the proposed project is forecast to generate approximately 1,038 daily trips, including 78 trips during the AM peak hour and 103 trips during the PM peak hour.

Figure 3 illustrates the forecast directional distribution patterns of project-generated trips.

STUDY AREA

The study area is proposed to consist of the following three (3) study intersections:

Study Intersections

1. Mesa View Drive (NS) at La Mesa Road (EW)
2. Mesa View Drive (NS) at Bear Valley Road (EW)
3. La Mesa Road (NS) at Pena Road (EW)

TRAFFIC COUNTS

New intersection turning movement counts will be collected at the study intersections during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) on a typical weekday (Tuesday, Wednesday, or Thursday).

ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing
- Opening Year (2023) Without Project
- Opening Year (2023) With Project
- Future Year (2033) Without Project
- Future Year (2033) With Project

ANALYSIS METHODOLOGY

To assess the performance of an intersection, the City of Victorville uses the intersection delay method based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service (LOS). Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection Level of Service analysis shall be performed using the Vistro software.

PERFORMANCE STANDARDS

City of Victorville

The City of Victorville has established LOS D or better as acceptable LOS for all intersections along the designated street and highway system in the City's General Plan Circulation Element.

OPERATIONAL THRESHOLDS

City of Victorville

City of Victorville intersection deficiencies would occur under the following conditions:

- If the project contributes measurable traffic to an intersection or roadway segment operating at LOS D or better or a volume-to-capacity ratio of 0.95 or lower for without project conditions, and the addition of project trips causes intersection LOS to degrade to LOS E or worse, or volume-to-capacity ratio to increase it greater than 0.95.
- If a project contributes measurable traffic to an intersection or roadway segment operating at a deficient LOS (LOS E or F) for without project conditions.

FORECASTING METHODOLOGY

To account for ambient growth, existing roadway volumes shall be increased by a growth rate of 2 percent (2%) per year over a two-year period for Opening Year (2023) conditions and a twelve-year period for Future Year (2033) conditions.

In addition, a list of pending and approved other development projects shall be requested from the City of Victorville. Trip forecasts for other development projects within the project study area shall be determined based on the Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021 and will be added to existing roadway volumes for the applicable analysis scenarios.

CONGESTION MANAGEMENT PROGRAM (CMP) ANALYSIS

State highway and CMP analysis guidelines are prescribed in Appendix B of the County of San Bernardino Congestion Management Program (2016 Update) (CMP), which state that a California Department of Transportation (Caltrans) or CMP analysis is required if the project is expected to contribute:

- 100 or more peak hour trips (two-way) to a freeway facility; or
- 50 or more peak hour trips to a CMP facility within another jurisdiction.

No CMP or Caltrans analysis is required if the project generates fewer than 100 peak hour trips.

Since the project is not forecast to contribute 100 peak hour trips to a freeway facility or 50 or more peak hour trips to a CMP facility, no further State highway or CMP analysis is required for the project.

TRAFFIC CONTROL WARRANT ANALYSIS

The intersections of Mesa View Drive at La Mesa Road and La Mesa Road at Pena Road will be analyzed for multi-way stop warrants based on the California Manual of Uniform Traffic Control Devices (CA MUTCD) standards.

The intersections of Mesa View Drive at La Mesa Road and Mesa View Drive at Bear Valley Road will be analyzed for traffic signal warrants based on the CA MUTCD 8-hour, 4-hour, peak hour, and daily planning warrants.

Additional traffic counts will be obtained at the necessary locations to conduct this traffic control warrant analysis.

VEHICLES MILES TRAVELED (VMT) ANALYSIS

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) [“Technical Advisory”] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

The June 16, 2020 City Council meeting adopted Resolution No. 20-010 which provided guidelines for VMT thresholds of significance for analyzing traffic impacts under CEQA. Exhibit 1 of this resolution provides project screening criteria which exempts projects from conducting a detailed VMT analysis. The project screening includes a land use type screening whereas a single-family residential project up to 136 dwelling units is screened out and not required to conduct a VMT analysis.

The proposed project consists of 110 single-family residential dwelling units. Since this is less than the 136 dwelling unit threshold for single-family residential projects, the proposed project is screened out and exempt from a VMT analysis.

CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact Bryan Crawford at (714) 795-3100 x 104.

Table 1
Project Trip Generation

Trip Generation Rates									
Land Use	Source ¹	Units ²	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Single-Family Detached Housing	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43

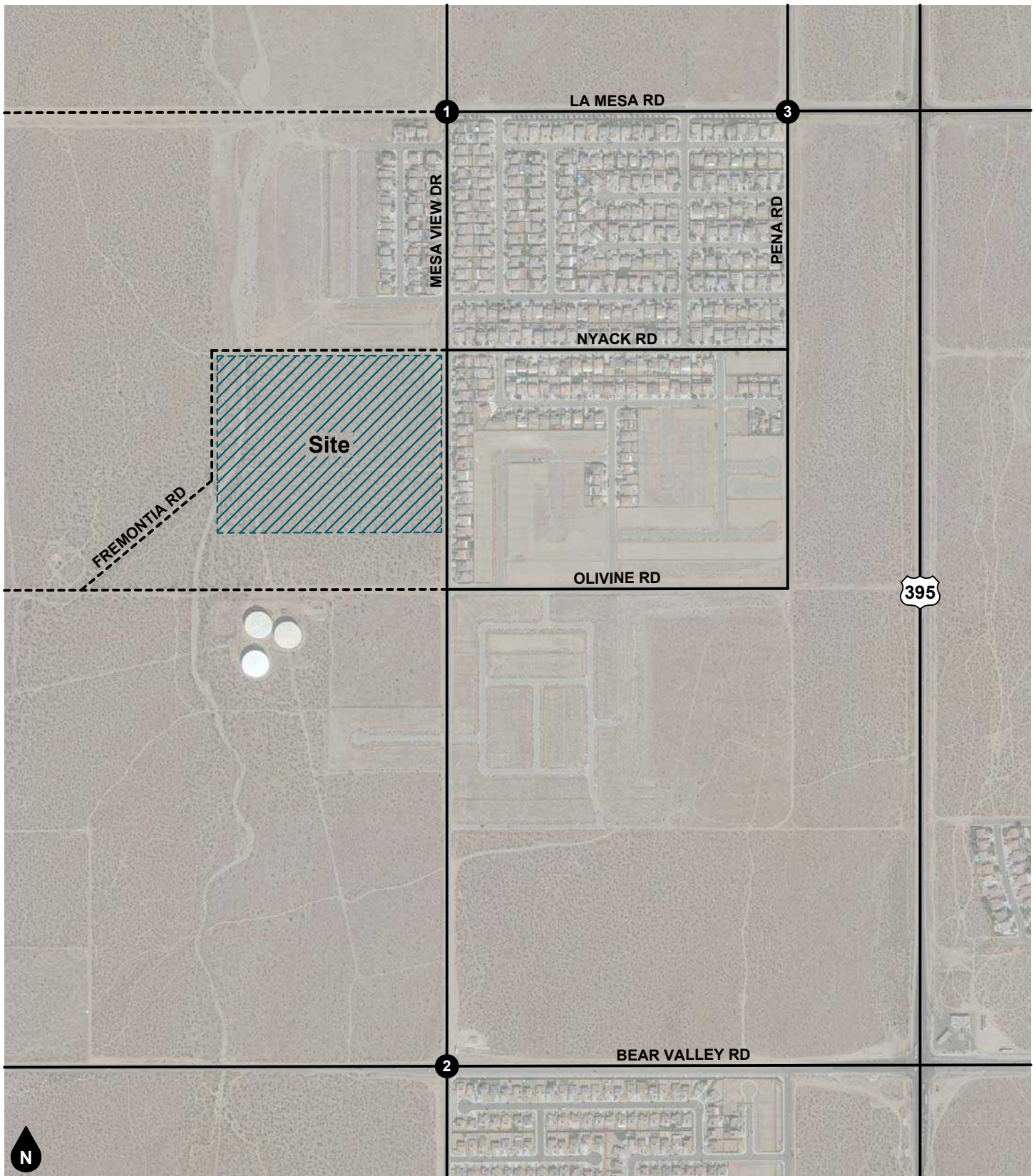
Trips Generated									
Land Use	Quantity	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single-Family Detached Housing	110	DU	21	57	78	65	38	103	1,038

Notes:

1) Sources:

ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.

2) DU = Dwelling Units



Legend

Study Intersection

Figure 1
Project Location Map

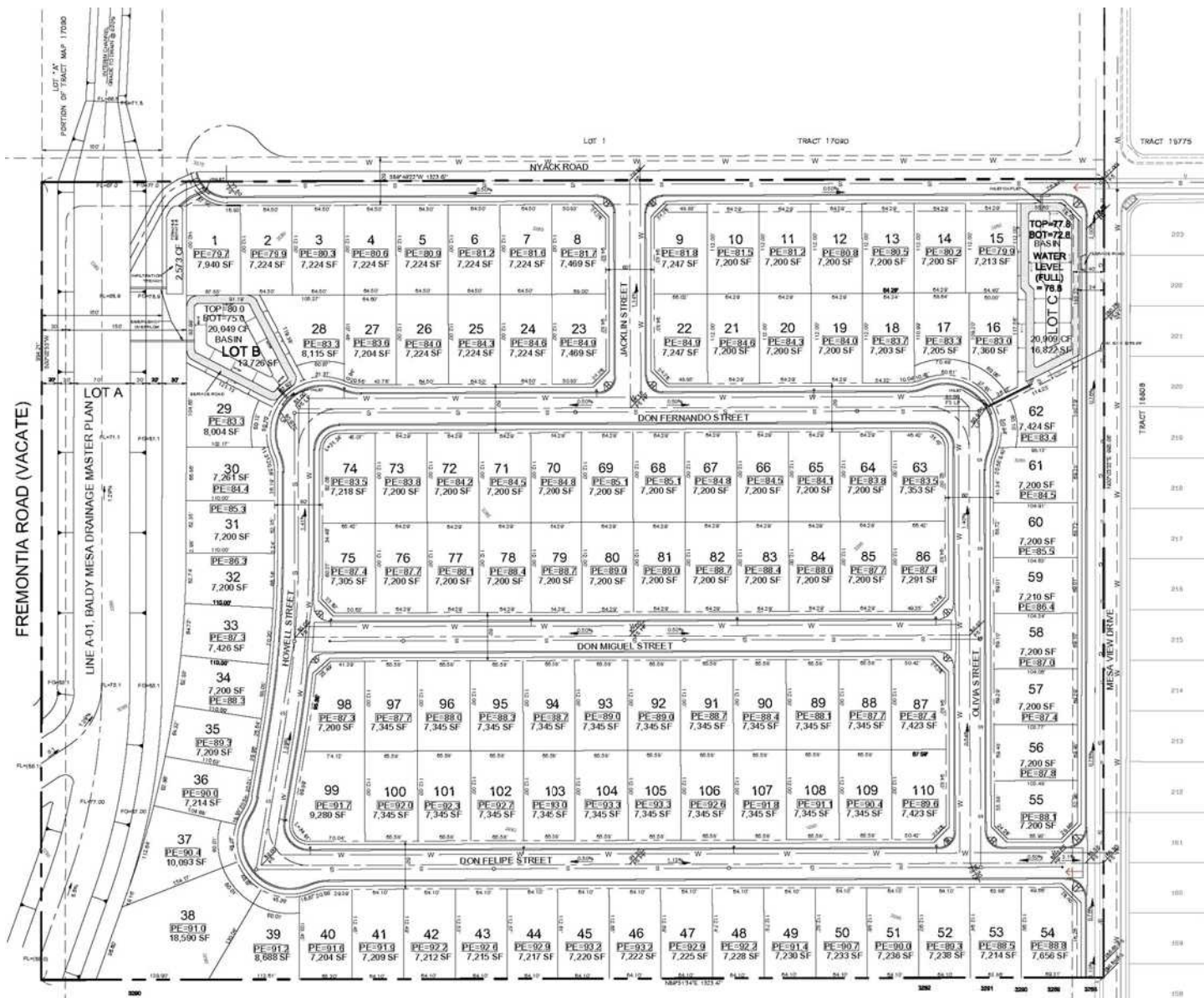
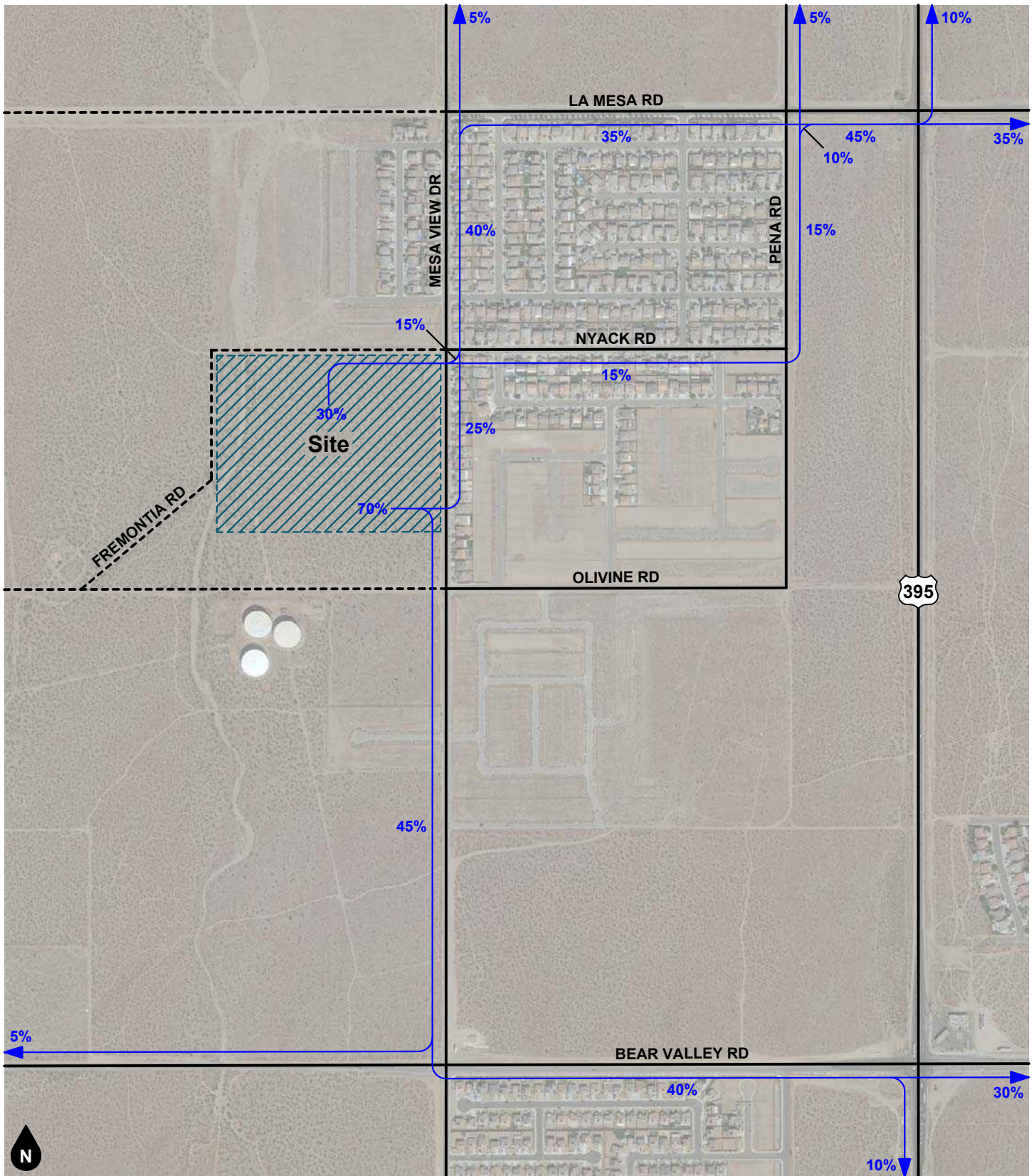


Figure 2
Site Plan



Legend

← 10% Percent To/From Project

Figure 3
Project Trip Distribution



Bryan Crawford <bryandavidcrawford@gmail.com>

Tract Map No. 20454 Scoping Agreement

2 messages

Bryan Crawford <bryan@ganddini.com>
To: Anwar Wagdy <awagdy@victorvilleca.gov>

Thu, Nov 11, 2021 at 2:11 PM

Anwar,

Attached is the scoping agreement for Tract Map No. 20454. The study intersections are based on comments you made regarding our initial proposal, provided to use by Greg Quan. We are planning on having the intersections counted next week since we can't count the following week. Please review and let me know if there are any questions/comments/revisions to be made to the scoping agreement, or if it is approved as constructed.

Also, we will be preparing a separate VMT screening analysis document. Thank you.

--

Bryan Crawford
Senior Transportation Planner

We've moved! Please note our new address.

GANDDINI GROUP, INC.

555 Parkcenter Drive, Suite 225

Santa Ana, CA 92705

o. 714 795 3100 x 104

c. 714 376 0224

ganddini.com

**19449sco_2021-1111.pdf**
977K

Anwar Wagdy <awagdy@victorvilleca.gov>
To: Bryan Crawford <bryan@ganddini.com>

Mon, Nov 22, 2021 at 3:32 PM

Hi Bryan,

Scoping agreement looks OK.

Thanks,

Anwar

From: Bryan Crawford <bryan@ganddini.com>
Sent: Thursday, November 11, 2021 12:12 PM
To: Anwar Wagdy <awagdy@victorvilleca.gov>
Subject: Tract Map No. 20454 Scoping Agreement

APPENDIX C

VOLUME COUNT WORKSHEETS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Dec 8, 21

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Victorville
Mesa View
La Mesa

PROJECT #:
LOCATION #:
CONTROL:

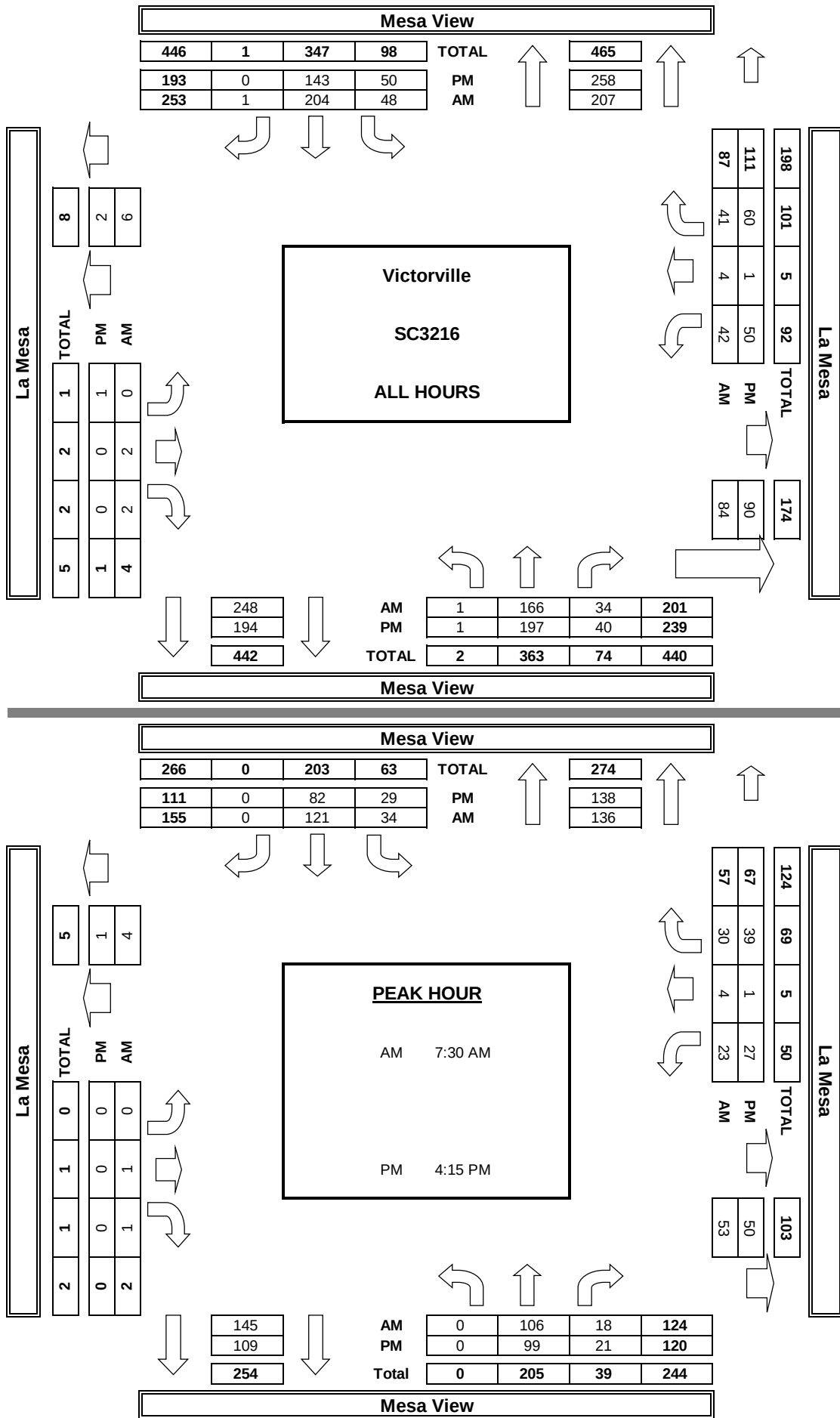
SC3216
1
STOP N/S

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mesa View			Mesa View			La Mesa			La Mesa			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

AM	7:00 AM	0	13	5	2	17	0	0	0	0	4	0	1	42
	7:15 AM	0	17	1	3	24	0	0	0	0	7	0	2	54
	7:30 AM	0	28	6	18	37	0	0	0	0	4	1	3	97
	7:45 AM	0	38	6	8	32	0	0	0	0	5	2	16	107
	8:00 AM	0	22	4	5	30	0	0	1	0	6	0	5	73
	8:15 AM	0	18	2	3	22	0	0	0	1	8	1	6	61
	8:30 AM	1	17	5	7	25	0	0	1	0	4	0	3	63
	8:45 AM	0	13	5	2	17	1	0	0	1	4	0	5	48
	VOLUMES	1	166	34	48	204	1	0	2	2	42	4	41	545
	APPROACH %	0%	83%	17%	19%	81%	0%	0%	50%	50%	48%	5%	47%	
	APP/DEPART	201	/	207	253	/	248	4	/	84	87	/	6	0
PM	BEGIN PEAK HR	7:30 AM												
	VOLUMES	0	106	18	34	121	0	0	1	1	23	4	30	338
	APPROACH %	0%	85%	15%	22%	78%	0%	0%	50%	50%	40%	7%	53%	
	PEAK HR FACTOR	0.705			0.705			0.500			0.620			0.790
	APP/DEPART	124	/	136	155	/	145	2	/	53	57	/	4	0
	4:00 PM	0	24	11	8	15	0	0	0	0	6	0	6	70
	4:15 PM	0	20	5	11	16	0	0	0	0	7	0	12	71
	4:30 PM	0	20	7	8	22	0	0	0	0	8	0	11	76
	4:45 PM	0	24	4	7	19	0	0	0	0	6	1	9	70
	5:00 PM	0	35	5	3	25	0	0	0	0	6	0	7	81
	5:15 PM	0	19	3	3	13	0	0	0	0	5	0	4	47
	5:30 PM	0	28	2	4	13	0	0	0	0	8	0	6	61
	5:45 PM	1	27	3	6	20	0	1	0	0	4	0	5	67
	VOLUMES	1	197	40	50	143	0	1	0	0	50	1	60	544
	APPROACH %	0%	82%	17%	26%	74%	0%	100%	0%	0%	45%	1%	54%	
	APP/DEPART	239	/	258	193	/	194	1	/	90	111	/	2	0
	BEGIN PEAK HR	4:15 PM												
	VOLUMES	0	99	21	29	82	0	0	0	0	27	1	39	298
	APPROACH %	0%	83%	18%	26%	74%	0%	0%	0%	0%	40%	1%	58%	
	PEAK HR FACTOR	0.750			0.925			0.000			0.882			0.920
	APP/DEPART	120	/	138	111	/	109	0	/	50	67	/	1	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Dec 8, 21

LOCATION: Victorville
NORTH & SOUTH: Mesa View
EAST & WEST: Bear Valley

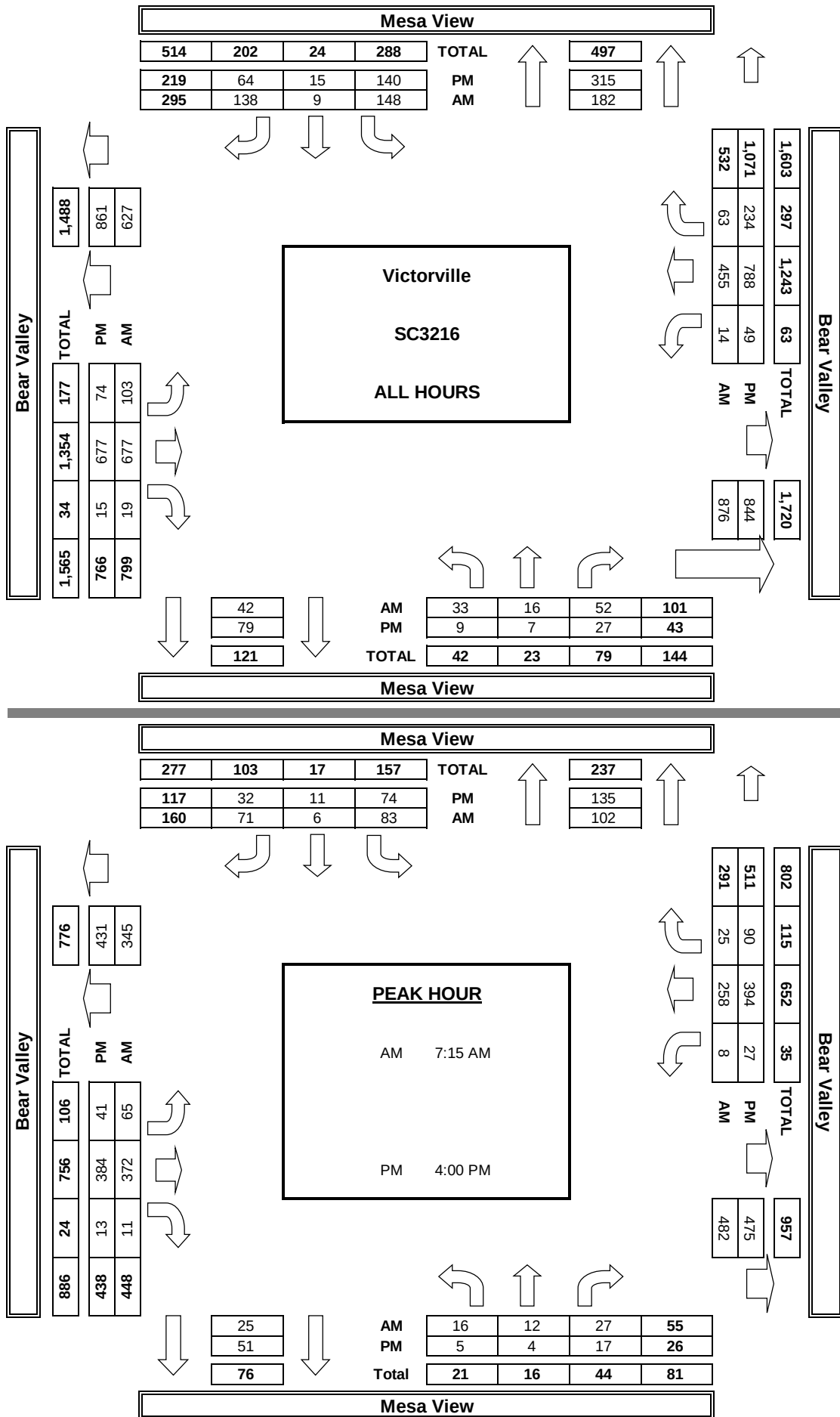
PROJECT #: SC3216
LOCATION #: 2
CONTROL: STOP N/S

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Mesa View			Mesa View			Bear Valley			Bear Valley			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	1	1	2	1	1	1	1	

AM	7:00 AM	2	1	6	22	0	8	10	72	2	1	57	8	189
	7:15 AM	4	3	7	19	1	17	9	76	3	2	60	5	206
	7:30 AM	6	3	6	27	0	26	17	94	0	2	78	10	269
	7:45 AM	2	2	7	17	2	14	18	107	4	2	75	6	256
	8:00 AM	4	4	7	20	3	14	21	95	4	2	45	4	223
	8:15 AM	5	2	10	18	2	18	4	80	1	0	43	13	196
	8:30 AM	7	0	5	15	1	23	10	69	4	2	49	6	191
	8:45 AM	3	1	4	10	0	18	14	84	1	3	48	11	197
	VOLUMES	33	16	52	148	9	138	103	677	19	14	455	63	1,727
	APPROACH %	33%	16%	51%	50%	3%	47%	13%	85%	2%	3%	86%	12%	
PM	APP/DEPART	101	/	182	295	/	42	799	/	876	532	/	627	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	16	12	27	83	6	71	65	372	11	8	258	25	954
	APPROACH %	29%	22%	49%	52%	4%	44%	15%	83%	2%	3%	89%	9%	
	PEAK HR FACTOR	0.917			0.755			0.868			0.808			0.887
	APP/DEPART	55	/	102	160	/	25	448	/	482	291	/	345	0
	4:00 PM	1	3	5	15	3	9	17	113	5	5	116	19	311
	4:15 PM	2	0	5	14	1	7	6	102	2	9	96	23	267
	4:30 PM	1	0	2	27	4	9	9	79	3	5	91	21	251
	4:45 PM	1	1	5	18	3	7	9	90	3	8	91	27	263
PM	5:00 PM	3	0	4	15	2	14	17	94	1	5	111	44	310
	5:15 PM	0	2	1	14	0	9	6	73	0	4	108	24	241
	5:30 PM	1	0	5	15	1	2	4	67	0	4	75	31	205
	5:45 PM	0	1	0	22	1	7	6	59	1	9	100	45	251
	VOLUMES	9	7	27	140	15	64	74	677	15	49	788	234	2,099
	APPROACH %	21%	16%	63%	64%	7%	29%	10%	88%	2%	5%	74%	22%	
	APP/DEPART	43	/	315	219	/	79	766	/	844	1,071	/	861	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	5	4	17	74	11	32	41	384	13	27	394	90	1,092
	APPROACH %	19%	15%	65%	63%	9%	27%	9%	88%	3%	5%	77%	18%	
	PEAK HR FACTOR	0.722			0.731			0.811			0.913			0.878
	APP/DEPART	26	/	135	117	/	51	438	/	475	511	/	431	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

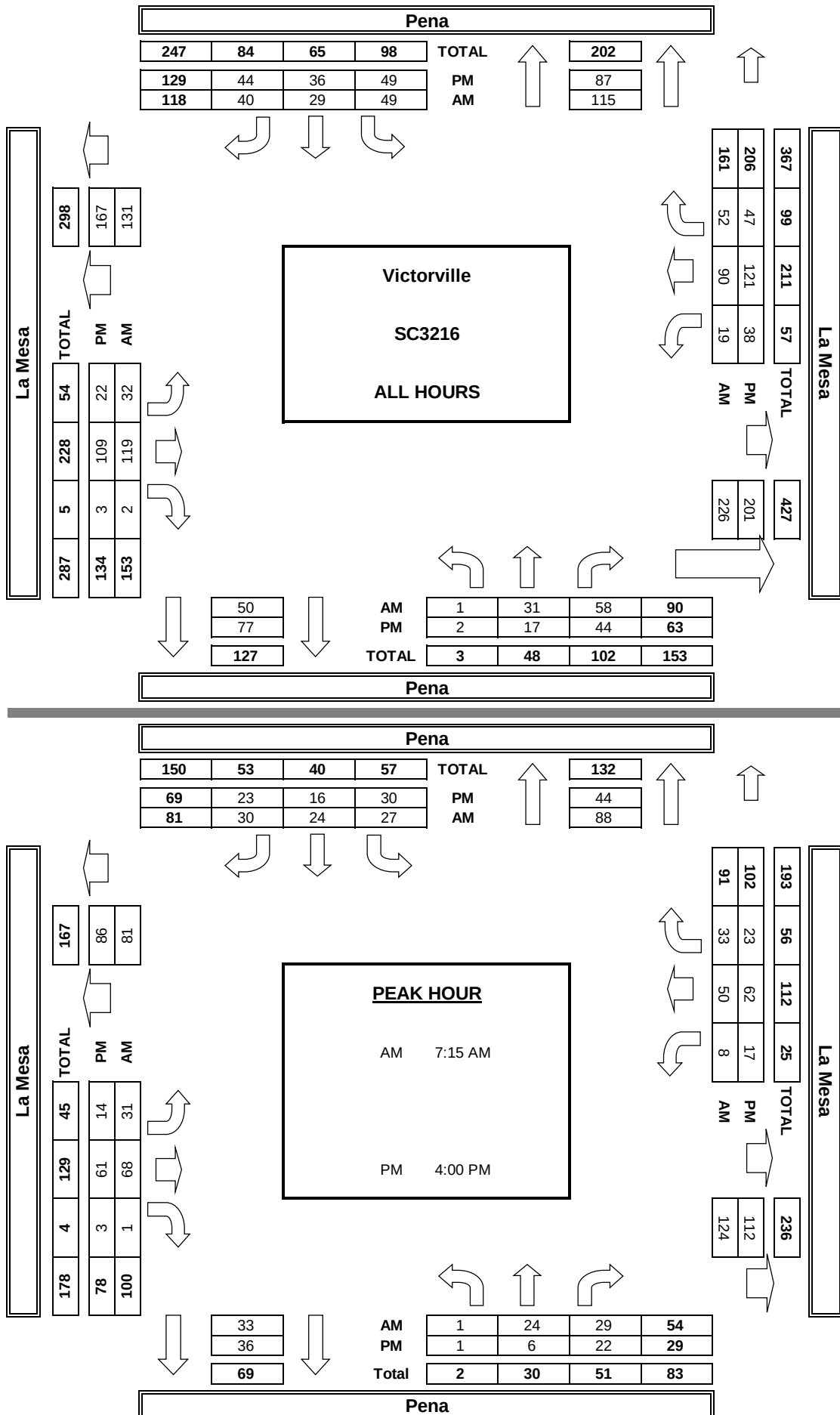
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 8, 21	LOCATION: NORTH & SOUTH: EAST & WEST:	Victorville Pena La Mesa	PROJECT #: LOCATION #: CONTROL:	SC3216 3 STOP N/S
NOTES:			AM PM MD OTHER OTHER	▲ ◀ W ▶ N S ▼ E ▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pena			Pena			La Mesa			La Mesa			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	1	1	0	1	1	0	

AM	7:00 AM	0	3	8	6	1	1	0	16	0	2	6	11	54
	7:15 AM	0	4	5	10	1	1	3	7	0	0	12	14	57
	7:30 AM	0	9	12	6	2	7	13	11	0	3	10	8	81
	7:45 AM	0	8	7	8	9	12	13	27	1	4	12	7	108
	8:00 AM	1	3	5	3	12	10	2	23	0	1	16	4	80
	8:15 AM	0	0	9	7	1	7	1	9	1	3	13	5	56
	8:30 AM	0	2	4	3	1	2	0	16	0	1	7	2	38
	8:45 AM	0	2	8	6	2	0	0	10	0	5	14	1	48
	VOLUMES	1	31	58	49	29	40	32	119	2	19	90	52	522
	APPROACH %	1%	34%	64%	42%	25%	34%	21%	78%	1%	12%	56%	32%	
	APP/DEPART	90	/	115	118	/	50	153	/	226	161	/	131	0
PM	BEGIN PEAK HR	7:15 AM												
	VOLUMES	1	24	29	27	24	30	31	68	1	8	50	33	326
	APPROACH %	2%	44%	54%	33%	30%	37%	31%	68%	1%	9%	55%	36%	
	PEAK HR FACTOR	0.643			0.698			0.610			0.875			0.755
	APP/DEPART	54	/	88	81	/	33	100	/	124	91	/	81	0
	4:00 PM	0	3	8	9	7	5	6	17	1	4	11	5	76
	4:15 PM	0	2	5	5	4	9	1	12	1	6	18	5	68
	4:30 PM	0	1	5	8	4	6	7	18	1	3	15	5	73
	4:45 PM	1	0	4	8	1	3	0	14	0	4	18	8	61
	5:00 PM	0	7	7	6	4	4	3	15	0	4	15	6	71
	5:15 PM	1	0	5	5	7	8	1	9	0	5	11	3	55
	5:30 PM	0	2	3	0	7	4	4	11	0	4	17	10	62
	5:45 PM	0	2	7	8	2	5	0	13	0	8	16	5	66
	VOLUMES	2	17	44	49	36	44	22	109	3	38	121	47	532
	APPROACH %	3%	27%	70%	38%	28%	34%	16%	81%	2%	18%	59%	23%	
	APP/DEPART	63	/	87	129	/	77	134	/	201	206	/	167	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	1	6	22	30	16	23	14	61	3	17	62	23	278
	APPROACH %	3%	21%	76%	43%	23%	33%	18%	78%	4%	17%	61%	23%	
	PEAK HR FACTOR	0.659			0.821			0.750			0.850			0.914
	APP/DEPART	29	/	44	69	/	36	78	/	112	102	/	86	0

AimTD LLC
TURNING MOVEMENT COUNTS



ADT3 Mesa View north of La Mesa.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period	NB		SB	
0:00	4		4		12:00	15		16	
0:15	3		0		12:15	15		19	
0:30	1		1		12:30	11		19	
0:45	2	10	3	8	12:45	19	60	17	71
1:00	2		7		13:00	19		28	
1:15	3		0		13:15	17		24	
1:30	2		3		13:30	14		22	
1:45	4	11	0	10	13:45	15	65	17	91
2:00	0		2		14:00	30		33	
2:15	3		2		14:15	32		20	
2:30	0		1		14:30	52		29	
2:45	5	8	5	10	14:45	29	143	46	128
3:00	1		3		15:00	30		28	
3:15	1		5		15:15	27		29	
3:30	0		3		15:30	23		29	
3:45	1	3	6	17	15:45	42	122	24	110
4:00	3		5		16:00	30		23	
4:15	2		14		16:15	32		27	
4:30	2		11		16:30	31		30	
4:45	4	11	15	45	16:45	33	126	26	106
5:00	7		20		17:00	42		28	
5:15	2		13		17:15	23		16	
5:30	0		22		17:30	34		17	
5:45	2	11	10	65	17:45	33	132	26	87
6:00	11		19		18:00	33		9	
6:15	7		27		18:15	30		18	
6:30	6		16		18:30	22		13	
6:45	14	38	22	84	18:45	24	109	12	52
7:00	14		19		19:00	21		8	
7:15	19		27		19:15	24		12	
7:30	31		55		19:30	16		8	
7:45	54	118	40	141	19:45	16	77	4	32
8:00	27		35		20:00	20		11	
8:15	24		25		20:15	24		8	
8:30	20		32		20:30	11		7	
8:45	18	89	20	112	20:45	14	69	10	36
9:00	23		32		21:00	14		8	
9:15	5		17		21:15	17		6	
9:30	14		18		21:30	13		10	
9:45	11	53	10	77	21:45	16	60	8	32
10:00	9		18		22:00	9		4	
10:15	8		18		22:15	10		5	
10:30	19		18		22:30	6		2	
10:45	13	49	23	77	22:45	5	30	2	13
11:00	8		19		23:00	6		0	
11:15	14		15		23:15	4		1	
11:30	22		16		23:30	7		6	
11:45	18	62	18	68	23:45	3	20	3	10
Total Vol.	463		714		1177	1013		768	1781
					Daily Totals				Combined
					NB	SB			
					1476	1482			
					2958				
AM					PM				
Split %	39.3%	60.7%	39.8%		56.9%	43.1%	60.2%		
Peak Hour	7:30	7:15	7:30		14:00	14:30	14:00		
Volume	136	157	291		143	132	271		
P.H.F.	0.63	0.71	0.77		0.80	0.72	0.84		

ADT1 Mesa View south of La Mesa.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	3		6			12:00	13		18		
0:15	2		0			12:15	18		22		
0:30	1		2			12:30	14		21		
0:45	1	7	2	10	17	12:45	19	64	19	80	144
1:00	3		7			13:00	16		29		
1:15	3		1			13:15	20		20		
1:30	0		3			13:30	15		24		
1:45	2	8	0	11	19	13:45	18	69	21	94	163
2:00	0		0			14:00	26		30		
2:15	3		2			14:15	29		22		
2:30	0		2			14:30	46		32		
2:45	2	5	6	10	15	14:45	29	130	56	140	270
3:00	1		2			15:00	31		38		
3:15	0		5			15:15	30		38		
3:30	0		3			15:30	19		30		
3:45	0	1	5	15	16	15:45	43	123	22	128	251
4:00	2		5			16:00	35		21		
4:15	4		14			16:15	25		23		
4:30	2		9			16:30	27		30		
4:45	4	12	14	42	54	16:45	28	115	25	99	214
5:00	4		18			17:00	40		31		
5:15	4		14			17:15	22		18		
5:30	2		17			17:30	31		22		
5:45	7	17	12	61	78	17:45	31	124	24	95	219
6:00	13		20			18:00	33		12		
6:15	9		34			18:15	23		18		
6:30	11		22			18:30	19		15		
6:45	16	49	25	101	150	18:45	20	95	16	61	156
7:00	18		21			19:00	19		11		
7:15	18		31			19:15	22		12		
7:30	34		41			19:30	15		8		
7:45	44	114	37	130	244	19:45	17	73	9	40	113
8:00	26		36			20:00	15		15		
8:15	20		31			20:15	19		7		
8:30	23		29			20:30	10		9		
8:45	18	87	22	118	205	20:45	10	54	10	41	95
9:00	26		27			21:00	11		6		
9:15	6		17			21:15	13		7		
9:30	13		12			21:30	14		12		
9:45	12	57	8	64	121	21:45	13	51	8	33	84
10:00	10		14			22:00	9		5		
10:15	12		11			22:15	8		8		
10:30	21		22			22:30	6		2		
10:45	18	61	20	67	128	22:45	5	28	3	18	46
11:00	7		19			23:00	5		2		
11:15	14		15			23:15	3		1		
11:30	24		16			23:30	4		3		
11:45	14	59	16	66	125	23:45	2	14	2	8	22
Total Vol.	477		695		1172		940		837		1777
							Daily Totals				
							NB		SB		Combined
							1417		1532		2949
AM						PM					
Split %	40.7%		59.3%		39.7%		52.9%		47.1%		60.3%
Peak Hour	7:30		7:15		7:30		14:30		14:30		14:30
Volume	124		145		269		136		164		300
P.H.F.	0.70		0.88		0.83		0.74		0.73		0.88

ADT9 Mesa View north of Bear Valley.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	3		3			12:00	13		27		
0:15	1		0			12:15	25		20		
0:30	1		2			12:30	20		22		
0:45	1	6	1	6	12	12:45	24	82	19	88	170
1:00	3		8			13:00	19		29		
1:15	5		4			13:15	31		19		
1:30	0		1			13:30	19		30		
1:45	4	12	2	15	27	13:45	23	92	31	109	201
2:00	2		1			14:00	23		26		
2:15	2		3			14:15	31		23		
2:30	0		2			14:30	47		33		
2:45	2	6	8	14	20	14:45	38	139	53	135	274
3:00	0		3			15:00	35		39		
3:15	1		5			15:15	47		41		
3:30	1		3			15:30	31		37		
3:45	1	3	11	22	25	15:45	56	169	22	139	308
4:00	3		7			16:00	39		27		
4:15	3		20			16:15	29		22		
4:30	3		16			16:30	30		40		
4:45	3	12	30	73	85	16:45	37	135	28	117	252
5:00	1		26			17:00	61		31		
5:15	1		24			17:15	32		23		
5:30	2		24			17:30	35		18		
5:45	5	9	27	101	110	17:45	52	180	30	102	282
6:00	13		24			18:00	34		20		
6:15	10		40			18:15	37		16		
6:30	6		31			18:30	30		17		
6:45	14	43	25	120	163	18:45	30	131	15	68	199
7:00	19		30			19:00	30		13		
7:15	17		37			19:15	32		15		
7:30	30		53			19:30	33		9		
7:45	26	92	33	153	245	19:45	24	119	8	45	164
8:00	29		37			20:00	34		11		
8:15	19		38			20:15	20		6		
8:30	17		39			20:30	19		8		
8:45	25	90	28	142	232	20:45	21	94	13	38	132
9:00	29		26			21:00	20		6		
9:15	12		26			21:15	19		5		
9:30	12		22			21:30	17		8		
9:45	10	63	12	86	149	21:45	19	75	8	27	102
10:00	6		8			22:00	13		3		
10:15	14		19			22:15	10		7		
10:30	18		27			22:30	8		1		
10:45	18	56	21	75	131	22:45	8	39	2	13	52
11:00	8		23			23:00	7		4		
11:15	11		18			23:15	9		4		
11:30	24		19			23:30	7		2		
11:45	15	58	21	81	139	23:45	5	28	2	12	40
Total Vol.	450		888		1338		1283		893		2176
						NB		SB		Daily Totals	
						1733		1781		Combined	
AM						PM					
Split %	33.6%		66.4%		38.1%	59.0%		41.0%		61.9%	
Peak Hour	7:30		7:30		7:30	17:00		14:45		14:30	
Volume	104		161		265	180		170		333	
P.H.F.	0.87		0.76		0.80	0.67		0.80		0.91	

ADT10 Mesa View south of Bear Valley.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period	NB		SB	
0:00	1		2		12:00	7		7	
0:15	1		2		12:15	6		8	
0:30	0		0		12:30	11		3	
0:45	0	2	0	4	6	12:45	8	32	6 24
1:00	2		2		13:00	3		6	
1:15	0		2		13:15	12		6	
1:30	1		0		13:30	5		7	
1:45	1	4	0	4	8	13:45	9	29	8 27
2:00	1		1		14:00	14		9	
2:15	3		1		14:15	8		13	
2:30	1		1		14:30	16		11	
2:45	2	7	0	3	10	14:45	12	50	13 46
3:00	0		0		15:00	7		14	
3:15	0		1		15:15	12		12	
3:30	0		0		15:30	2		7	
3:45	3	3	2	3	6	15:45	6	27	12 45
4:00	3		1		16:00	9		13	
4:15	2		0		16:15	7		12	
4:30	5		2		16:30	3		12	
4:45	2	12	0	3	15	16:45	7	26	14 51
5:00	3		1		17:00	7		8	
5:15	2		1		17:15	3		4	
5:30	8		1		17:30	6		5	
5:45	5	18	1	4	22	17:45	1	17	11 28
6:00	7		1		18:00	8		5	
6:15	6		3		18:15	3		10	
6:30	3		3		18:30	7		6	
6:45	5	21	5	12	33	18:45	5	23	7 28
7:00	9		3		19:00	3		7	
7:15	14		6		19:15	3		7	
7:30	15		2		19:30	2		4	
7:45	11	49	8	19	68	19:45	1	9	13 31
8:00	15		9		20:00	1		5	
8:15	17		3		20:15	0		5	
8:30	12		7		20:30	1		3	
8:45	8	52	4	23	75	20:45	2	4	3 16
9:00	4		5		21:00	2		8	
9:15	3		1		21:15	0		5	
9:30	5		2		21:30	2		4	
9:45	3	15	4	12	27	21:45	0	4	2 19
10:00	3		3		22:00	0		1	
10:15	6		6		22:15	4		2	
10:30	3		1		22:30	1		2	
10:45	5	17	6	16	33	22:45	0	5	1 6
11:00	9		3		23:00	2		4	
11:15	5		8		23:15	0		1	
11:30	9		9		23:30	1		1	
11:45	5	28	3	23	51	23:45	1	4	0 6
Total Vol.	228		126		354		230		327
					Daily Totals				557
					NB		SB		Combined
					458		453		911
AM					PM				
Split %	64.4%	35.6%	38.9%		41.3%	58.7%	61.1%		
Peak Hour	7:30	7:45	7:45		14:00	14:15	14:30		
Volume	58	27	82		50	51	97		
P.H.F.	0.85	0.75	0.85		0.84	0.91	0.90		

**SPEED La Mesa between Caliente and Ethan.
Eastbound**

Project# **SC3216**

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:15:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0.35%
12:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:45:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.18%
1:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:00:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0.35%
2:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.18%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:00:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0.35%
3:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:30:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.18%
3:45:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.18%
4:00:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.18%
4:15:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.35%
4:30:00 AM	0	0	0	0	1	0	0	1	1	0	0	0	0	0	3	0.53%
4:45:00 AM	0	0	0	0	0	0	1	2	1	0	0	0	0	0	4	0.70%
5:00:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.35%
5:15:00 AM	0	0	0	0	0	0	2	2	1	0	0	0	0	0	5	0.88%
5:30:00 AM	0	0	0	0	0	0	0	3	3	1	0	0	0	0	7	1.23%
5:45:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0.35%
6:00:00 AM	0	0	0	0	1	1	2	0	0	1	1	0	0	0	6	1.05%
6:15:00 AM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	5	0.88%
6:30:00 AM	0	0	0	0	0	0	1	2	1	1	0	0	0	0	5	0.88%
6:45:00 AM	0	2	2	0	0	0	4	1	1	3	0	0	0	0	13	2.28%
7:00:00 AM	0	0	0	1	0	2	3	1	2	0	0	0	0	0	9	1.58%
7:15:00 AM	0	0	0	0	0	0	1	2	0	2	0	0	0	0	5	0.88%
7:30:00 AM	0	0	0	0	2	3	4	1	3	0	0	0	0	0	13	2.28%
7:45:00 AM	0	0	0	1	0	1	4	3	0	0	0	0	0	0	9	1.58%
8:00:00 AM	0	0	0	0	0	1	3	2	2	0	0	0	0	0	8	1.40%
8:15:00 AM	0	0	1	0	1	0	2	1	0	1	0	0	0	0	6	1.05%
8:30:00 AM	0	0	0	0	1	3	3	2	1	1	0	0	0	0	11	1.93%
8:45:00 AM	0	0	0	0	0	1	3	2	0	0	0	0	0	0	6	1.05%
9:00:00 AM	0	0	0	0	0	2	2	3	1	0	1	0	0	0	9	1.58%
9:15:00 AM	0	0	0	1	1	1	3	1	0	1	0	0	0	0	8	1.40%
9:30:00 AM	0	0	0	0	0	0	4	1	2	0	0	0	0	0	7	1.23%
9:45:00 AM	0	0	0	0	1	3	3	3	0	0	0	0	0	0	10	1.75%
10:00:00 AM	0	0	0	0	0	3	5	4	2	0	0	0	0	0	14	2.46%
10:15:00 AM	0	0	0	1	2	3	2	3	4	0	0	0	0	0	15	2.63%
10:30:00 AM	0	0	0	0	3	2	2	1	1	0	0	0	0	0	9	1.58%
10:45:00 AM	0	0	0	1	0	3	2	2	0	1	0	0	0	0	9	1.58%
11:00:00 AM	0	0	0	0	1	2	2	1	2	0	0	0	0	0	8	1.40%
11:15:00 AM	0	0	0	0	0	2	3	3	2	1	0	0	0	0	11	1.93%
11:30:00 AM	0	0	0	0	0	2	2	3	1	0	0	0	0	0	8	1.40%
11:45:00 AM	0	0	0	0	1	1	3	1	2	0	0	0	0	0	8	1.40%
AM TOTAL	0	2	3	7	16	38	75	53	38	14	2	0	0	0	248	43.51%
PERCENTAGE	0.0%	0.8%	1.2%	2.8%	6.5%	15.3%	30.2%	21.4%	15.3%	5.6%	0.8%	0.0%	0.0%	0.0%		
CUMULATIVE	0	2	5	12	28	66	141	194	232	246	248	248	248	248		
PERCENTAGE	0.0%	0.8%	2.0%	4.8%	11.3%	26.6%	56.9%	78.2%	93.5%	99.2%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	33	Mean Speed Average	39
50th Percentile	40	10 MPH Pace Speed	36-45
85th Percentile	47	Number in Pace	141
95th Percentile	50	Percent in Pace	57%

**SPEED La Mesa between Caliente and Ethan.
Eastbound**

Project# SC3216

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 PM	0	0	0	0	0	1	1	3	1	1	0	0	0	0	7	1.23%
12:15:00 PM	0	0	0	1	0	3	3	4	2	0	0	0	0	0	13	2.28%
12:30:00 PM	0	0	0	0	1	2	4	1	0	1	0	0	0	0	9	1.58%
12:45:00 PM	0	0	0	1	0	2	2	2	1	0	0	0	0	0	8	1.40%
1:00:00 PM	0	0	0	0	0	3	3	2	1	0	0	0	0	0	9	1.58%
1:15:00 PM	0	0	0	0	0	1	4	3	0	0	0	0	0	0	8	1.40%
1:30:00 PM	0	0	0	0	1	1	1	2	1	1	0	0	0	0	7	1.23%
1:45:00 PM	0	0	0	0	2	2	1	4	1	1	1	0	0	0	12	2.11%
2:00:00 PM	0	0	0	1	0	0	2	5	0	0	1	0	0	0	9	1.58%
2:15:00 PM	0	0	0	0	1	1	1	2	1	0	0	0	0	0	6	1.05%
2:30:00 PM	0	0	0	0	1	3	1	2	1	0	0	0	0	0	8	1.40%
2:45:00 PM	0	0	0	0	2	3	2	3	2	0	0	0	0	0	12	2.11%
3:00:00 PM	0	0	0	0	1	0	3	2	1	1	0	0	0	0	8	1.40%
3:15:00 PM	0	0	1	1	2	0	1	2	1	0	0	0	0	0	8	1.40%
3:30:00 PM	0	0	0	0	0	2	2	4	2	0	0	0	0	0	10	1.75%
3:45:00 PM	0	0	0	0	0	2	1	4	0	0	0	0	0	0	7	1.23%
4:00:00 PM	0	0	0	0	1	2	2	2	2	0	0	0	0	0	9	1.58%
4:15:00 PM	0	0	0	3	1	1	0	1	1	0	0	0	0	0	7	1.23%
4:30:00 PM	0	0	1	3	2	7	4	2	0	0	0	0	0	0	19	3.33%
4:45:00 PM	0	0	0	0	2	0	1	3	2	1	1	0	0	0	10	1.75%
5:00:00 PM	0	0	0	0	0	0	1	2	2	1	0	0	0	0	6	1.05%
5:15:00 PM	0	0	0	0	2	2	0	3	0	0	0	0	0	0	7	1.23%
5:30:00 PM	0	0	0	2	0	1	3	2	1	0	0	0	0	0	9	1.58%
5:45:00 PM	0	0	1	0	0	1	2	4	2	1	0	0	0	0	11	1.93%
6:00:00 PM	0	0	0	0	2	0	0	3	0	1	0	0	0	0	6	1.05%
6:15:00 PM	0	0	0	0	0	1	2	2	3	0	0	0	0	0	8	1.40%
6:30:00 PM	0	0	0	0	0	0	3	4	1	1	2	0	0	0	11	1.93%
6:45:00 PM	0	0	0	1	0	2	2	0	1	0	0	0	0	0	6	1.05%
7:00:00 PM	0	1	0	1	1	3	0	2	0	0	0	0	0	0	8	1.40%
7:15:00 PM	0	0	0	0	0	2	2	4	0	1	0	0	0	0	9	1.58%
7:30:00 PM	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4	0.70%
7:45:00 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	3	0.53%
8:00:00 PM	0	0	0	0	0	1	0	2	0	1	0	0	0	0	4	0.70%
8:15:00 PM	0	0	0	0	0	1	0	2	2	0	0	0	0	0	5	0.88%
8:30:00 PM	0	0	0	0	0	0	1	1	1	2	0	0	0	0	5	0.88%
8:45:00 PM	0	0	0	0	0	2	0	2	2	0	0	0	0	0	6	1.05%
9:00:00 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0.35%
9:15:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.18%
9:30:00 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	0.35%
9:45:00 PM	0	0	0	1	0	1	0	0	1	1	0	0	0	0	4	0.70%
10:00:00 PM	0	0	0	0	0	0	0	3	0	1	0	0	0	0	4	0.70%
10:15:00 PM	0	0	0	0	0	0	3	1	0	1	1	0	0	0	6	1.05%
10:30:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.18%
10:45:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0.35%
11:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
11:15:00 PM	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	0.53%
11:30:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.18%
11:45:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0.35%
PM TOTAL	0	1	4	15	23	56	60	92	43	20	8	0	0	0	322	56.49%
PERCENTAGE	0.0%	0.3%	1.2%	4.7%	7.1%	17.4%	18.6%	28.6%	13.4%	6.2%	2.5%	0.0%	0.0%	0.0%		
CUMULATIVE	0	1	5	20	43	99	159	251	294	314	322	322	322	322		
PERCENTAGE	0.0%	0.3%	1.6%	6.2%	13.4%	30.7%	49.4%	78.0%	91.3%	97.5%	100.0%	100.0%	100.0%	100.0%		

15th Percentile	32	Mean Speed Average	40
50th Percentile	41	10 MPH Pace Speed	36-45
85th Percentile	47	Number in Pace	167
95th Percentile	52	Percent in Pace	52%

DAY TOTAL	0	3	7	22	39	94	135	145	81	34	10	0	0	0	570	
PERCENTAGE	0.0%	0.5%	1.2%	3.9%	6.8%	16.5%	23.7%	25.4%	14.2%	6.0%	1.8%	0.0%	0.0%	0.0%	570	100.00%
	0.0%	0.5%	1.8%	5.6%	12.5%	28.9%	52.6%	78.1%	92.3%	98.2%	100.0%	100.0%	100.0%	100.0%		
85th Percentile	47															

**SPEED La Mesa between Caliente and Ethan.
Westbound**

Project# SC3216

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.12%
12:15:00 AM	0	0	0	0	1	0	1	1	1	0	0	0	0	0	4	0.50%
12:30:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.12%
12:45:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0.25%
1:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.12%
1:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.12%
1:30:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.25%
1:45:00 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0.25%
2:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:15:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.12%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	1	2	1	0	0	0	0	0	0	4	0.50%
3:00:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.12%
3:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.12%
3:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:45:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.12%
4:00:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.25%
4:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:45:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0.25%
5:00:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0.25%
5:15:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.12%
5:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
5:45:00 AM	0	0	1	0	0	0	0	1	1	0	0	0	0	0	3	0.37%
6:00:00 AM	0	0	0	0	1	3	1	0	1	0	0	0	0	0	6	0.75%
6:15:00 AM	0	0	0	1	3	1	1	4	1	0	0	0	0	0	11	1.37%
6:30:00 AM	0	0	0	1	0	2	2	2	1	0	0	0	0	0	8	1.00%
6:45:00 AM	0	0	0	0	2	1	3	2	1	0	0	0	0	0	9	1.12%
7:00:00 AM	0	0	0	0	0	1	1	1	0	0	0	1	0	0	4	0.50%
7:15:00 AM	0	0	0	0	1	1	1	2	1	3	0	0	0	0	9	1.12%
7:30:00 AM	0	0	0	1	6	1	3	2	1	0	0	0	0	0	14	1.74%
7:45:00 AM	0	0	0	0	2	1	3	3	2	0	0	0	0	0	11	1.37%
8:00:00 AM	0	0	0	1	3	2	4	2	1	1	0	0	0	0	14	1.74%
8:15:00 AM	0	0	0	1	1	3	2	2	1	0	0	0	0	0	10	1.25%
8:30:00 AM	0	0	0	1	2	2	6	3	2	1	0	0	0	0	17	2.12%
8:45:00 AM	0	0	0	0	2	3	5	4	1	0	0	0	0	0	15	1.87%
9:00:00 AM	0	0	0	1	0	2	3	2	1	1	1	0	0	0	11	1.37%
9:15:00 AM	0	0	0	0	1	2	4	2	0	0	0	0	0	0	9	1.12%
9:30:00 AM	0	0	0	1	1	1	2	0	1	0	0	0	0	0	6	0.75%
9:45:00 AM	0	0	0	0	0	1	5	2	1	0	0	0	0	0	9	1.12%
10:00:00 AM	0	0	0	1	1	1	4	3	0	2	0	0	0	0	12	1.49%
10:15:00 AM	0	0	1	0	0	1	1	2	1	0	0	0	0	0	6	0.75%
10:30:00 AM	0	0	0	1	1	0	2	2	2	0	0	0	0	0	8	1.00%
10:45:00 AM	0	0	0	0	1	2	2	0	0	1	0	0	0	0	6	0.75%
11:00:00 AM	0	0	0	0	0	3	4	2	2	0	0	0	0	0	11	1.37%
11:15:00 AM	0	0	0	2	1	3	3	3	1	0	0	0	0	0	13	1.62%
11:30:00 AM	0	0	0	1	1	3	5	2	1	0	1	0	0	0	14	1.74%
11:45:00 AM	0	0	0	0	2	4	5	3	2	0	0	0	0	0	16	1.99%
AM TOTAL	0	0	2	13	34	49	80	56	33	10	3	1	0	0	281	34.99%
PERCENTAGE	0.0%	0.0%	0.7%	4.6%	12.1%	17.4%	28.5%	19.9%	11.7%	3.6%	1.1%	0.4%	0.0%	0.0%		
CUMULATIVE	0	0	2	15	49	98	178	234	267	277	280	281	281	281		
PERCENTAGE	0.0%	0.0%	0.7%	5.3%	17.4%	34.9%	63.3%	83.3%	95.0%	98.6%	99.6%	100.0%	100.0%	100.0%		

15th Percentile	31	Mean Speed Average	38
50th Percentile	38	10 MPH Pace Speed	33-42
85th Percentile	46	Number in Pace	148
95th Percentile	50	Percent in Pace	53%

**SPEED La Mesa between Caliente and Ethan.
Westbound**

Project#

SC3216

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 PM	0	0	0	1	2	2	2	4	1	0	0	0	0	0	12	1.49%
12:15:00 PM	0	0	0	0	2	1	3	1	0	0	0	0	0	0	7	0.87%
12:30:00 PM	0	0	0	0	0	2	3	2	2	0	0	0	0	0	9	1.12%
12:45:00 PM	0	0	0	2	1	3	4	2	0	0	0	0	0	0	12	1.49%
1:00:00 PM	0	0	0	0	0	2	5	2	3	1	0	0	0	0	13	1.62%
1:15:00 PM	0	0	0	0	0	3	3	1	2	0	0	0	0	0	9	1.12%
1:30:00 PM	0	0	0	0	0	1	2	4	1	0	0	0	0	0	8	1.00%
1:45:00 PM	0	0	0	0	1	2	5	3	1	1	0	0	0	0	13	1.62%
2:00:00 PM	0	0	0	0	2	3	4	5	3	0	0	0	0	0	17	2.12%
2:15:00 PM	0	0	0	1	2	2	5	3	1	1	0	0	0	0	15	1.87%
2:30:00 PM	0	0	0	0	2	3	7	3	4	1	0	0	0	0	20	2.49%
2:45:00 PM	0	0	0	1	3	6	6	4	1	1	1	0	0	0	23	2.86%
3:00:00 PM	0	0	1	2	3	3	5	3	2	2	0	0	0	0	21	2.62%
3:15:00 PM	0	0	0	0	0	3	5	3	2	3	0	0	0	0	16	1.99%
3:30:00 PM	0	0	0	1	0	1	4	2	2	2	0	0	0	0	12	1.49%
3:45:00 PM	0	0	0	1	1	3	5	3	1	1	1	0	0	0	16	1.99%
4:00:00 PM	0	0	0	2	1	4	3	1	1	1	0	0	0	0	13	1.62%
4:15:00 PM	0	0	1	4	1	5	6	2	1	0	0	0	0	0	20	2.49%
4:30:00 PM	0	0	0	0	0	3	5	2	1	0	1	0	0	0	12	1.49%
4:45:00 PM	0	0	0	1	1	2	5	6	3	0	0	0	0	0	18	2.24%
5:00:00 PM	0	0	0	0	0	3	7	1	1	1	0	0	0	0	13	1.62%
5:15:00 PM	0	0	0	0	1	1	5	3	2	2	0	0	0	0	14	1.74%
5:30:00 PM	0	0	0	1	0	2	7	6	1	2	0	0	0	0	19	2.37%
5:45:00 PM	0	0	0	0	0	4	10	4	0	1	0	1	0	0	20	2.49%
6:00:00 PM	0	0	0	1	1	1	4	5	2	0	0	0	0	0	14	1.74%
6:15:00 PM	0	0	0	1	1	2	5	2	1	1	0	0	0	0	13	1.62%
6:30:00 PM	0	0	0	0	0	6	7	3	1	0	0	0	0	0	17	2.12%
6:45:00 PM	0	0	0	1	0	6	2	1	0	0	0	0	0	0	10	1.25%
7:00:00 PM	0	0	0	0	0	1	1	2	3	0	0	0	0	0	7	0.87%
7:15:00 PM	0	0	0	1	1	1	3	0	1	0	0	0	0	0	7	0.87%
7:30:00 PM	0	0	0	0	2	2	1	1	2	1	0	0	0	0	9	1.12%
7:45:00 PM	0	0	0	0	0	3	2	1	1	1	1	0	0	0	9	1.12%
8:00:00 PM	0	0	0	0	0	1	2	4	0	1	0	0	0	0	8	1.00%
8:15:00 PM	0	0	0	0	1	2	4	0	1	0	0	0	0	0	8	1.00%
8:30:00 PM	0	0	0	0	1	1	2	2	2	0	0	0	0	0	8	1.00%
8:45:00 PM	0	0	0	0	0	2	3	3	3	1	0	0	0	0	12	1.49%
9:00:00 PM	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4	0.50%
9:15:00 PM	0	0	0	0	0	1	4	4	1	0	0	0	0	0	10	1.25%
9:30:00 PM	0	0	0	0	0	0	3	3	0	0	1	0	0	0	7	0.87%
9:45:00 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0.50%
10:00:00 PM	0	0	0	0	0	3	1	1	2	0	0	0	0	0	7	0.87%
10:15:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.12%
10:30:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	3	0.37%
10:45:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0.25%
11:00:00 PM	0	0	0	0	0	0	2	1	1	0	0	0	0	0	4	0.50%
11:15:00 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.25%
11:30:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.12%
11:45:00 PM	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3	0.37%
PM TOTAL	0	0	3	21	33	97	169	106	61	26	5	1	0	0	522	65.01%
PERCENTAGE	0.0%	0.0%	0.6%	4.0%	6.3%	18.6%	32.4%	20.3%	11.7%	5.0%	1.0%	0.2%	0.0%	0.0%		
CUMULATIVE	0	0	3	24	57	154	323	429	490	516	521	522	522	522		
PERCENTAGE	0.0%	0.0%	0.6%	4.6%	10.9%	29.5%	61.9%	82.2%	93.9%	98.9%	99.8%	100.0%	100.0%	100.0%		

15th Percentile	32	Mean Speed Average	39
50th Percentile	39	10 MPH Pace Speed	36-45
85th Percentile	46	Number in Pace	254
95th Percentile	51	Percent in Pace	49%

DAY TOTAL	0	0	5	34	67	146	249	162	94	36	8	2	0	0	803	
PERCENTAGE	0.0%	0.0%	0.6%	4.2%	8.3%	18.2%	31.0%	20.2%	11.7%	4.5%	1.0%	0.2%	0.0%	0.00%	803	100.00%
	0.0%	0.0%	0.6%	4.9%	13.2%	31.4%	62.4%	82.6%	94.3%	98.8%	99.8%	100.0%	100.0%	100.0%		
85th Percentile	46															

SPEED La Mesa between Caliente and Ethan. Combined

Project# SC3216

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.07%
12:15:00 AM	0	0	0	1	1	0	2	1	1	0	0	0	0	0	6	0.44%
12:30:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.07%
12:45:00 AM	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3	0.22%
1:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.07%
1:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
1:30:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.15%
1:45:00 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0.15%
2:00:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0.15%
2:15:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0.15%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	1	2	1	0	0	0	0	0	0	4	0.29%
3:00:00 AM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	0.22%
3:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
3:30:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
3:45:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.15%
4:00:00 AM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3	0.22%
4:15:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0.15%
4:30:00 AM	0	0	0	0	1	0	0	1	1	0	0	0	0	0	3	0.22%
4:45:00 AM	0	0	0	0	0	1	1	3	1	0	0	0	0	0	6	0.44%
5:00:00 AM	0	0	0	0	0	0	1	1	2	0	0	0	0	0	4	0.29%
5:15:00 AM	0	0	0	0	0	0	2	2	1	0	1	0	0	0	6	0.44%
5:30:00 AM	0	0	0	0	0	0	0	3	3	1	0	0	0	0	7	0.51%
5:45:00 AM	0	0	1	1	0	0	1	1	1	0	0	0	0	0	5	0.36%
6:00:00 AM	0	0	0	0	2	4	3	0	1	1	1	0	0	0	12	0.87%
6:15:00 AM	0	0	0	1	3	2	5	4	1	0	0	0	0	0	16	1.17%
6:30:00 AM	0	0	0	1	0	2	3	4	2	1	0	0	0	0	13	0.95%
6:45:00 AM	0	2	2	0	2	1	7	3	2	3	0	0	0	0	22	1.60%
7:00:00 AM	0	0	0	1	0	3	4	2	2	0	0	1	0	0	13	0.95%
7:15:00 AM	0	0	0	0	1	1	2	4	1	5	0	0	0	0	14	1.02%
7:30:00 AM	0	0	0	1	8	4	7	3	4	0	0	0	0	0	27	1.97%
7:45:00 AM	0	0	0	1	2	2	7	6	2	0	0	0	0	0	20	1.46%
8:00:00 AM	0	0	0	1	3	3	7	4	3	1	0	0	0	0	22	1.60%
8:15:00 AM	0	0	1	1	2	3	4	3	1	1	0	0	0	0	16	1.17%
8:30:00 AM	0	0	0	1	3	5	9	5	3	2	0	0	0	0	28	2.04%
8:45:00 AM	0	0	0	0	2	4	8	6	1	0	0	0	0	0	21	1.53%
9:00:00 AM	0	0	0	1	0	4	5	5	2	1	2	0	0	0	20	1.46%
9:15:00 AM	0	0	0	1	2	3	7	3	0	1	0	0	0	0	17	1.24%
9:30:00 AM	0	0	0	1	1	1	6	1	3	0	0	0	0	0	13	0.95%
9:45:00 AM	0	0	0	0	1	4	8	5	1	0	0	0	0	0	19	1.38%
10:00:00 AM	0	0	0	1	1	4	9	7	2	2	0	0	0	0	26	1.89%
10:15:00 AM	0	0	1	1	2	4	3	5	5	0	0	0	0	0	21	1.53%
10:30:00 AM	0	0	0	1	4	2	4	3	3	0	0	0	0	0	17	1.24%
10:45:00 AM	0	0	0	1	1	5	4	2	0	2	0	0	0	0	15	1.09%
11:00:00 AM	0	0	0	0	1	5	6	3	4	0	0	0	0	0	19	1.38%
11:15:00 AM	0	0	0	2	1	5	6	6	3	1	0	0	0	0	24	1.75%
11:30:00 AM	0	0	0	1	1	5	7	5	2	0	1	0	0	0	22	1.60%
11:45:00 AM	0	0	0	0	3	5	8	4	4	0	0	0	0	0	24	1.75%
AM TOTAL	0	2	5	20	50	87	155	109	71	24	5	1	0	0	529	38.53%
PERCENTAGE	0.0%	0.4%	0.9%	3.8%	9.5%	16.4%	29.3%	20.6%	13.4%	4.5%	0.9%	0.2%	0.0%	0.0%		
CUMULATIVE	0	2	7	27	77	164	319	428	499	523	528	529	529	529		
PERCENTAGE	0.0%	0.4%	1.3%	5.1%	14.6%	31.0%	60.3%	80.9%	94.3%	98.9%	99.8%	100.0%	100.0%	100.0%		

15th Percentile	31	Mean Speed Average	39
50th Percentile	39	10 MPH Pace Speed	36-45
85th Percentile	47	Number in Pace	255
95th Percentile	51	Percent in Pace	48%

SPEED La Mesa between Caliente and Ethan. Combined

Project# SC3216

Wednesday, December 08, 2021

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

Time	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	%VEHICLES
12:00:00 PM	0	0	0	1	2	3	3	7	2	1	0	0	0	0	19	1.38%
12:15:00 PM	0	0	0	1	2	4	6	5	2	0	0	0	0	0	20	1.46%
12:30:00 PM	0	0	0	0	1	4	7	3	2	1	0	0	0	0	18	1.31%
12:45:00 PM	0	0	0	3	1	5	6	4	1	0	0	0	0	0	20	1.46%
1:00:00 PM	0	0	0	0	0	5	8	4	4	1	0	0	0	0	22	1.60%
1:15:00 PM	0	0	0	0	0	4	7	4	2	0	0	0	0	0	17	1.24%
1:30:00 PM	0	0	0	0	1	2	3	6	2	1	0	0	0	0	15	1.09%
1:45:00 PM	0	0	0	0	3	4	6	7	2	2	1	0	0	0	25	1.82%
2:00:00 PM	0	0	0	1	2	3	6	10	3	0	1	0	0	0	26	1.89%
2:15:00 PM	0	0	0	1	3	3	6	5	2	1	0	0	0	0	21	1.53%
2:30:00 PM	0	0	0	0	3	6	8	5	5	1	0	0	0	0	28	2.04%
2:45:00 PM	0	0	0	1	5	9	8	7	3	1	1	0	0	0	35	2.55%
3:00:00 PM	0	0	1	2	4	3	8	5	3	3	0	0	0	0	29	2.11%
3:15:00 PM	0	0	1	1	2	3	6	5	3	3	0	0	0	0	24	1.75%
3:30:00 PM	0	0	0	1	0	3	6	6	4	2	0	0	0	0	22	1.60%
3:45:00 PM	0	0	0	1	1	5	6	7	1	1	1	0	0	0	23	1.68%
4:00:00 PM	0	0	0	2	2	6	5	3	3	1	0	0	0	0	22	1.60%
4:15:00 PM	0	0	1	7	2	6	6	3	2	0	0	0	0	0	27	1.97%
4:30:00 PM	0	0	1	3	2	10	9	4	1	0	1	0	0	0	31	2.26%
4:45:00 PM	0	0	0	1	3	2	6	9	5	1	1	0	0	0	28	2.04%
5:00:00 PM	0	0	0	0	0	3	8	3	3	2	0	0	0	0	19	1.38%
5:15:00 PM	0	0	0	0	3	3	5	6	2	2	0	0	0	0	21	1.53%
5:30:00 PM	0	0	0	3	0	3	10	8	2	2	0	0	0	0	28	2.04%
5:45:00 PM	0	0	1	0	0	5	12	8	2	2	0	1	0	0	31	2.26%
6:00:00 PM	0	0	0	1	3	1	4	8	2	1	0	0	0	0	20	1.46%
6:15:00 PM	0	0	0	1	1	3	7	4	4	1	0	0	0	0	21	1.53%
6:30:00 PM	0	0	0	0	0	6	10	7	2	1	2	0	0	0	28	2.04%
6:45:00 PM	0	0	0	2	0	8	4	1	1	0	0	0	0	0	16	1.17%
7:00:00 PM	0	1	0	1	1	4	1	4	3	0	0	0	0	0	15	1.09%
7:15:00 PM	0	0	0	1	1	3	5	4	1	1	0	0	0	0	16	1.17%
7:30:00 PM	0	0	0	0	2	2	1	1	5	2	0	0	0	0	13	0.95%
7:45:00 PM	0	0	0	0	0	3	2	2	1	2	2	0	0	0	12	0.87%
8:00:00 PM	0	0	0	0	0	2	2	6	0	2	0	0	0	0	12	0.87%
8:15:00 PM	0	0	0	0	1	3	4	2	3	0	0	0	0	0	13	0.95%
8:30:00 PM	0	0	0	0	1	1	3	3	3	2	0	0	0	0	13	0.95%
8:45:00 PM	0	0	0	0	0	4	3	5	5	1	0	0	0	0	18	1.31%
9:00:00 PM	0	0	0	0	1	2	1	1	1	0	0	0	0	0	6	0.44%
9:15:00 PM	0	0	0	0	0	1	5	4	1	0	0	0	0	0	11	0.80%
9:30:00 PM	0	0	1	0	0	0	3	3	0	1	1	0	0	0	9	0.66%
9:45:00 PM	0	0	0	1	0	1	2	0	3	1	0	0	0	0	8	0.58%
10:00:00 PM	0	0	0	0	0	3	1	4	2	1	0	0	0	0	11	0.80%
10:15:00 PM	0	0	0	0	0	0	3	2	0	1	1	0	0	0	7	0.51%
10:30:00 PM	0	0	0	0	1	0	2	0	1	0	0	0	0	0	4	0.29%
10:45:00 PM	0	0	1	0	0	0	1	1	1	0	0	0	0	0	4	0.29%
11:00:00 PM	0	0	0	0	0	0	2	1	1	0	0	0	0	0	4	0.29%
11:15:00 PM	0	0	0	0	1	1	1	0	2	0	0	0	0	0	5	0.36%
11:30:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0.15%
11:45:00 PM	0	0	0	0	0	1	1	1	0	1	1	0	0	0	5	0.36%
PM TOTAL	0	1	7	36	56	153	229	198	104	46	13	1	0	0	844	61.47%
PERCENTAGE	0.0%	0.1%	0.8%	4.3%	6.6%	18.1%	27.1%	23.5%	12.3%	5.5%	1.5%	0.1%	0.0%	0.0%		
CUMULATIVE	0	1	8	44	100	253	482	680	784	830	843	844	844	844		
PERCENTAGE	0.0%	0.1%	0.9%	5.2%	11.8%	30.0%	57.1%	80.6%	92.9%	98.3%	99.9%	100.0%	100.0%	100.0%		

15th Percentile	31	Mean Speed Average	39
50th Percentile	40	10 MPH Pace Speed	34-43
85th Percentile	48	Number in Pace	281
95th Percentile	53	Percent in Pace	33%

DAY TOTAL	0	3	12	56	106	240	384	307	175	70	18	2	0	0	1,373	
PERCENTAGE	0.0%	0.2%	0.9%	4.1%	7.7%	17.5%	28.0%	22.4%	12.7%	5.1%	1.3%	0.1%	0.0%	0.0%	1,373	100.00%
	0.0%	0.2%	1.1%	5.2%	12.9%	30.4%	58.3%	80.7%	93.4%	98.5%	99.9%	100.0%	100.0%	100.0%		
85th Percentile	48															

SPEED La Mesa between Caliente and Ethan.**AimTD 714 253 7888 cs@aimtd.com**

AM Period	EB		WB		PM Period		EB		WB			
0:00	0		1		12:00		7		12			
0:15	2		4		12:15		13		7			
0:30	0		1		12:30		9		9			
0:45	1	3	2	8	11	12:45	8	37	12	40	77	
1:00	0		1		13:00		9		13			
1:15	0		1		13:15		8		9			
1:30	0		2		13:30		7		8			
1:45	0	0	2	6	6	13:45	12	36	13	43	79	
2:00	2		0		14:00		9		17			
2:15	1		1		14:15		6		15			
2:30	0		0		14:30		8		20			
2:45	0	3	4	5	8	14:45	12	35	23	75	110	
3:00	2		1		15:00		8		21			
3:15	0		1		15:15		8		16			
3:30	1		0		15:30		10		12			
3:45	1	4	1	3	7	15:45	7	33	16	65	98	
4:00	1		2		16:00		9		13			
4:15	2		0		16:15		7		20			
4:30	3		0		16:30		19		12			
4:45	4	10	2	4	14	16:45	10	45	18	63	108	
5:00	2		2		17:00		6		13			
5:15	5		1		17:15		7		14			
5:30	7		0		17:30		9		19			
5:45	2	16	3	6	22	17:45	11	33	20	66	99	
6:00	6		6		18:00		6		14			
6:15	5		11		18:15		8		13			
6:30	5		8		18:30		11		17			
6:45	13	29	9	34	63	18:45	6	31	10	54	85	
7:00	9		4		19:00		8		7			
7:15	5		9		19:15		9		7			
7:30	13		14		19:30		4		9			
7:45	9	36	11	38	74	19:45	3	24	9	32	56	
8:00	8		14		20:00		4		8			
8:15	6		10		20:15		5		8			
8:30	11		17		20:30		5		8			
8:45	6	31	15	56	87	20:45	6	20	12	36	56	
9:00	9		11		21:00		2		4			
9:15	8		9		21:15		1		10			
9:30	7		6		21:30		2		7			
9:45	10	34	9	35	69	21:45	4	9	4	25	34	
10:00	14		12		22:00		4		7			
10:15	15		6		22:15		6		1			
10:30	9		8		22:30		1		3			
10:45	9	47	6	32	79	22:45	2	13	2	13	26	
11:00	8		11		23:00		0		4			
11:15	11		13		23:15		3		2			
11:30	8		14		23:30		1		1			
11:45	8	35	16	54	89	23:45	2	6	3	10	16	
Total Vol.	248		281		529			322		522		844

Daily Totals

EB	WB	Combined
570	803	1373

AM

Split %	46.9%	53.1%	38.5%
Peak Hour	9:45	8:00	11:00
Volume	48	56	89
P.H.F.	0.80	0.82	0.93

PM

38.2%	61.8%	61.5%
16:00	14:30	14:30
45	80	116
0.59	0.87	0.83

PREPARED BY: AimTD 714 253 7888 cs@aimtd.com

ADT5 La Mesa east of Pena.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB		PM Period		EB		WB		
0:00	1		6		12:00		16		21		
0:15	3		9		12:15		20		17		
0:30	1		3		12:30		23		16		
0:45	1	6	3	21	27	12:45	21	80	12	66	146
1:00	0		4		13:00		20		15		
1:15	1		2		13:15		32		16		
1:30	0		2		13:30		20		23		
1:45	2	3	3	11	14	13:45	16	88	28	82	170
2:00	3		3		14:00		30		29		
2:15	2		1		14:15		17		16		
2:30	0		0		14:30		23		30		
2:45	0	5	4	8	13	14:45	36	106	22	97	203
3:00	3		4		15:00		27		22		
3:15	5		2		15:15		27		30		
3:30	3		0		15:30		24		21		
3:45	6	17	1	7	24	15:45	35	113	21	94	207
4:00	7		6		16:00		34		20		
4:15	5		0		16:15		22		29		
4:30	8		0		16:30		30		23		
4:45	10	30	3	9	39	16:45	26	112	30	102	214
5:00	8		3		17:00		28		25		
5:15	15		4		17:15		19		19		
5:30	11		0		17:30		14		31		
5:45	9	43	5	12	55	17:45	28	89	29	104	193
6:00	17		13		18:00		17		22		
6:15	13		13		18:15		20		28		
6:30	18		18		18:30		11		21		
6:45	18	66	22	66	132	18:45	20	68	28	99	167
7:00	30		19		19:00		12		23		
7:15	22		26		19:15		9		17		
7:30	29		21		19:30		14		19		
7:45	42	123	23	89	212	19:45	8	43	21	80	123
8:00	31		21		20:00		5		13		
8:15	25		21		20:15		7		11		
8:30	23		10		20:30		13		14		
8:45	24	103	20	72	175	20:45	7	32	23	61	93
9:00	26		15		21:00		11		14		
9:15	17		14		21:15		8		17		
9:30	30		11		21:30		12		16		
9:45	23	96	17	57	153	21:45	6	37	16	63	100
10:00	28		11		22:00		2		8		
10:15	19		9		22:15		7		8		
10:30	15		20		22:30		5		7		
10:45	24	86	21	61	147	22:45	2	16	4	27	43
11:00	10		12		23:00		1		4		
11:15	30		13		23:15		5		6		
11:30	18		15		23:30		1		3		
11:45	27	85	17	57	142	23:45	2	9	5	18	27
Total Vol.	663		470		1133		793		893		1686

Daily Totals

EB

WB

Combined

1456

1363

2819

AM

PM

Split %	58.5%	41.5%	40.2%		47.0%	53.0%	59.8%
Peak Hour	7:30	7:15	7:15		15:45	17:30	14:30
Volume	127	91	215		121	110	217
P.H.F.	0.76	0.88	0.83		0.86	0.89	0.94

ADT4 Pena north of La Mesa.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period	NB		SB	
0:00	0		1		12:00	6		9	
0:15	2		1		12:15	14		10	
0:30	2		0		12:30	8		12	
0:45	1	5	0	2	7	12:45	4	32	13 44 76
1:00	1		0		13:00	4		14	
1:15	0		1		13:15	6		8	
1:30	0		0		13:30	14		9	
1:45	1	2	1	2	4	13:45	12	36	7 38 74
2:00	3		1		14:00	9		10	
2:15	0		0		14:15	10		13	
2:30	0		0		14:30	14		16	
2:45	0	3	0	1	4	14:45	19	52	48 87 139
3:00	2		0		15:00	14		31	
3:15	0		2		15:15	10		29	
3:30	0		0		15:30	9		18	
3:45	0	2	2	4	6	15:45	6	39	22 100 139
4:00	1		2		16:00	14		21	
4:15	1		1		16:15	8		18	
4:30	2		2		16:30	14		18	
4:45	2	6	2	7	13	16:45	8	44	12 69 113
5:00	2		4		17:00	16		14	
5:15	1		5		17:15	4		20	
5:30	1		2		17:30	16		11	
5:45	5	9	7	18	27	17:45	7	43	15 60 103
6:00	6		3		18:00	5		13	
6:15	6		7		18:15	6		11	
6:30	10		7		18:30	9		5	
6:45	16	38	3	20	58	18:45	10	30	6 35 65
7:00	14		8		19:00	10		6	
7:15	21		12		19:15	11		9	
7:30	30		15		19:30	8		0	
7:45	28	93	29	64	157	19:45	7	36	4 19 55
8:00	9		25		20:00	3		7	
8:15	6		15		20:15	4		6	
8:30	4		6		20:30	5		5	
8:45	3	22	8	54	76	20:45	8	20	7 25 45
9:00	6		7		21:00	4		2	
9:15	7		9		21:15	6		4	
9:30	4		9		21:30	1		4	
9:45	10	27	10	35	62	21:45	10	21	3 13 34
10:00	6		15		22:00	2		1	
10:15	6		5		22:15	2		3	
10:30	7		7		22:30	3		5	
10:45	12	31	6	33	64	22:45	1	8	0 9 17
11:00	5		10		23:00	0		1	
11:15	10		18		23:15	3		4	
11:30	5		9		23:30	4		1	
11:45	6	26	8	45	71	23:45	3	10	1 7 17
Total Vol.	264		285		549		371		506 877
					Daily Totals				
					NB		SB		Combined
					635		791		1426
AM					PM				
Split %	48.1%	51.9%	38.5%		42.3%	57.7%		61.5%	
Peak Hour	7:00	7:30	7:15		14:15	14:45		14:30	
Volume	93	84	169		57	126		181	
P.H.F.	0.78	0.72	0.74		0.82	0.66		0.68	

ADT6 Pena south of La Mesa.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	1		4			12:00	1		8		
0:15	2		5			12:15	10		7		
0:30	0		0			12:30	8		7		
0:45	1	4	0	9	13	12:45	8	27	6	28	55
1:00	0		0			13:00	5		2		
1:15	0		2			13:15	10		4		
1:30	0		0			13:30	6		8		
1:45	1	1	0	2	3	13:45	8	29	9	23	52
2:00	1		1			14:00	3		3		
2:15	1		0			14:15	7		5		
2:30	0		0			14:30	11		12		
2:45	0	2	0	1	3	14:45	16	37	22	42	79
3:00	1		0			15:00	9		12		
3:15	0		0			15:15	5		15		
3:30	0		0			15:30	7		9		
3:45	2	3	0	0	3	15:45	7	28	6	42	70
4:00	2		2			16:00	11		12		
4:15	1		0			16:15	7		11		
4:30	2		0			16:30	6		8		
4:45	5	10	1	3	13	16:45	5	29	5	36	65
5:00	3		0			17:00	14		8		
5:15	4		3			17:15	6		12		
5:30	0		0			17:30	5		11		
5:45	2	9	3	6	15	17:45	9	34	10	41	75
6:00	9		2			18:00	7		12		
6:15	4		1			18:15	4		5		
6:30	4		1			18:30	6		7		
6:45	5	22	0	4	26	18:45	13	30	7	31	61
7:00	11		3			19:00	5		12		
7:15	9		1			19:15	4		8		
7:30	21		5			19:30	4		4		
7:45	15	56	14	23	79	19:45	5	18	5	29	47
8:00	9		13			20:00	2		5		
8:15	9		5			20:15	4		4		
8:30	6		2			20:30	6		4		
8:45	10	34	7	27	61	20:45	3	15	15	28	43
9:00	6		3			21:00	4		4		
9:15	6		6			21:15	6		7		
9:30	10		4			21:30	3		10		
9:45	8	30	5	18	48	21:45	4	17	4	25	42
10:00	7		5			22:00	1		3		
10:15	3		4			22:15	3		2		
10:30	4		6			22:30	3		5		
10:45	9	23	1	16	39	22:45	1	8	1	11	19
11:00	5		11			23:00	0		0		
11:15	13		5			23:15	2		2		
11:30	6		8			23:30	2		0		
11:45	8	32	8	32	64	23:45	2	6	3	5	11
Total Vol.	226		141		367		278		341		619
							Daily Totals				
							NB		SB		Combined
							504		482		986
AM						PM					
Split %	61.6%		38.4%		37.2%		44.9%		55.1%		62.8%
Peak Hour	7:00		7:30		7:30		14:15		14:30		14:30
Volume	56		37		91		43		61		102
P.H.F.	0.67		0.66		0.78		0.78		0.69		0.67

ADT7 Bear Valley west of Mesa View.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB		PM Period		EB		WB		
0:00	8		15		12:00		72		61		
0:15	9		9		12:15		56		72		
0:30	11		11		12:30		55		78		
0:45	9	37	7	42	79	12:45	73	256	73	284	540
1:00	6		10		13:00		68		83		
1:15	2		5		13:15		82		81		
1:30	2		5		13:30		59		79		
1:45	7	17	6	26	43	13:45	84	293	89	332	625
2:00	9		8		14:00		79		99		
2:15	9		9		14:15		98		105		
2:30	5		3		14:30		109		149		
2:45	12	35	6	26	61	14:45	100	386	125	478	864
3:00	13		7		15:00		115		106		
3:15	14		10		15:15		148		126		
3:30	16		12		15:30		90		111		
3:45	28	71	18	47	118	15:45	144	497	94	437	934
4:00	31		11		16:00		135		126		
4:15	38		11		16:15		110		105		
4:30	47		13		16:30		91		101		
4:45	49	165	19	54	219	16:45	102	438	99	431	869
5:00	39		21		17:00		112		128		
5:15	44		30		17:15		79		117		
5:30	40		49		17:30		71		78		
5:45	41	164	53	153	317	17:45	66	328	107	430	758
6:00	46		50		18:00		70		111		
6:15	23		86		18:15		55		82		
6:30	65		75		18:30		42		93		
6:45	83	217	45	256	473	18:45	42	209	63	349	558
7:00	84		67		19:00		33		69		
7:15	88		81		19:15		39		71		
7:30	111		110		19:30		36		72		
7:45	129	412	91	349	761	19:45	56	164	73	285	449
8:00	120		63		20:00		44		71		
8:15	85		66		20:15		38		55		
8:30	83		79		20:30		27		57		
8:45	99	387	70	278	665	20:45	25	134	63	246	380
9:00	106		43		21:00		22		44		
9:15	81		43		21:15		30		41		
9:30	61		50		21:30		20		45		
9:45	74	322	46	182	504	21:45	15	87	34	164	251
10:00	58		35		22:00		17		34		
10:15	59		45		22:15		13		30		
10:30	76		62		22:30		10		18		
10:45	68	261	75	217	478	22:45	13	53	20	102	155
11:00	64		76		23:00		9		23		
11:15	74		57		23:15		11		20		
11:30	74		69		23:30		7		19		
11:45	82	294	57	259	553	23:45	6	33	16	78	111
Total Vol.	2382		1889		4271	2878		3616		6494	

Daily Totals

EB

WB

Combined

5260

5505

10765

AM

PM

Split %	55.8%	44.2%	39.7%		44.3%	55.7%	60.3%
Peak Hour	7:15	7:00	7:15		15:15	14:30	14:30
Volume	448	349	793		517	506	978
P.H.F.	0.87	0.79	0.90		0.87	0.85	0.89

ADT8 Bear Valley east of Mesa View.**Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB				WB				PM Period				EB				WB					
0:00	11				19				12:00				96				71					
0:15	10				12				12:15				67				90					
0:30	13				12				12:30				76				89					
0:45	9	43	7	50	93	12:45				85	324	88	338	662								
1:00	14				13				13:00				86				94					
1:15	5				11				13:15				95				100					
1:30	4				5				13:30				75				86					
1:45	10	33	10	39	72	13:45				98	354	94	374	728								
2:00	11				11				14:00				88				100					
2:15	13				10				14:15				91				111					
2:30	8				4				14:30				106				155					
2:45	23	55	9	34	89	14:45				111	396	122	488	884								
3:00	16				7				15:00				114				108					
3:15	19				12				15:15				147				131					
3:30	19				13				15:30				105				125					
3:45	39	93	18	50	143	15:45				131	497	121	485	982								
4:00	38				12				16:00				133				140					
4:15	58				12				16:15				121				128					
4:30	64				14				16:30				108				117					
4:45	79	239	20	58	297	16:45				113	475	126	511	986								
5:00	65				20				17:00				113				160					
5:15	67				29				17:15				88				136					
5:30	67				47				17:30				87				110					
5:45	59	258	45	141	399	17:45				81	369	154	560	929								
6:00	52				39				18:00				83				135					
6:15	38				68				18:15				64				119					
6:30	79				64				18:30				62				125					
6:45	94	263	45	216	479	18:45				50	259	88	467	726								
7:00	100				66				19:00				40				97					
7:15	102				67				19:15				48				101					
7:30	127				90				19:30				45				107					
7:45	131	460	83	306	766	19:45				54	187	99	404	591								
8:00	122				51				20:00				43				97					
8:15	108				56				20:15				42				78					
8:30	88				57				20:30				34				77					
8:45	98	416	62	226	642	20:45				30	149	77	329	478								
9:00	109				50				21:00				25				67					
9:15	102				48				21:15				31				61					
9:30	77				53				21:30				27				63					
9:45	81	369	52	203	572	21:45				17	100	49	240	340								
10:00	63				38				22:00				20				48					
10:15	68				49				22:15				18				36					
10:30	94				69				22:30				12				28					
10:45	75	300	80	236	536	22:45				13	63	27	139	202								
11:00	78				69				23:00				13				32					
11:15	82				61				23:15				11				26					
11:30	82				82				23:30				10				27					
11:45	102	344	69	281	625	23:45				8	42	20	105	147								
Total Vol.	2873				1840				4713				3215				4440				7655	
												Daily Totals										
												EB		WB		Combined						
												6088		6280		12368						
AM												PM										
Split %	61.0%				39.0%				38.1%				42.0%				58.0%				61.9%	
Peak Hour	7:30				11:45				7:15				15:15				17:00				15:15	
Volume	488				319				773				516				560				1033	
P.H.F.	0.93				0.89				0.89				0.88				0.88				0.93	

APPENDIX D

TRAFFIC SIGNAL AND MULTI-WAY STOP WARRANTS

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

<u>City of Victorville</u>	<u>Mesa View Dr at Bear Valley Rd</u>	Count Date: <u>12/8/2021</u>	
Jurisdiction	Intersection	Calc: <u>BC</u>	Date: <u>12/17/2021</u>
		Check: <u>GG</u>	Date: <u>12/17/2021</u>
Major St: <u>Warner Avenue</u>		Critical Approach Speed: <u>55</u>	mph
Minor St: <u>Brightwater Drive</u>		Critical Approach Speed: <u>25</u>	mph
Speed limit or critical speed on major street traffic > 40 mph ☒		}	RURAL (R)
or			
In built up area of isolated community of < 10,000 population ☐			
		☐	URBAN (U)

WARRANT 1 - Eight Hour Vehicular VolumeSATISFIED ☒ YES ☐ NO

(Condition A or Condition B or Combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume100% SATISFIED ☐ YES ☒ NO80% SATISFIED ☐ YES ☒ NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												Hour
	Urban	Rural	Urban	Rural	3:00 PM	4:00 PM	5:00 PM	2:00 PM	7:00 AM	6:00 PM	1:00 PM	8:00 AM	
	1		2 or More										
Both Approaches	500	350	600	420									
Major Street	(400)	(280)	(480)	(336)	982	949	888	874	718	676	667	613	
Highest Approach	150	105	200	140									
Minor Street	(120)	(84)	(160)	(112)	139	117	102	135	153	68	109	142	

Condition B - Interruption of Continuous Traffic100% SATISFIED ☒ YES ☐ NO80% SATISFIED ☒ YES ☐ NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												Hour
	Urban	Rural	Urban	Rural	3:00 PM	4:00 PM	5:00 PM	2:00 PM	7:00 AM	6:00 PM	1:00 PM	8:00 AM	
	1		2 or More										
Both Approaches	750	525	900	630									
Major Street	(600)	(420)	(720)	(504)	982	949	888	874	718	676	667	613	
Highest Approach	75	53	100	70									
Minor Street	(60)	(42)	(80)	(56)	139	117	102	135	153	68	109	142	

Combination of Conditions A & BSATISFIED ☐ YES ☒ NO

REQUIREMENT	CONDITION	X	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. Minimum Vehicular Volume		☐ YES ☒ NO
	AND, B. Interruption of Continuous Traffic	X	
AND, an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems			☐ YES ☒ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)**WARRANT 2 - Four Hour Vehicular Volume****SATISFIED*** ☒ YES ☐ NO

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	3:00 PM	2:00 PM	4:00 PM	7:00 AM	Hour
Both Approaches - Major Street	X		982	874	949	718	
Higher Approach - Minor Street	X		139	135	117	153	

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	☐ YES	☒ NO
<u>OR</u> , All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	☒ YES	☐ NO

WARRANT 3 - Peak Hour**SATISFIED** ☒ YES ☐ NO

(Part A or Part B must be satisfied)

PART A**SATISFIED** ☐ YES ☒ NO

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	☐ YES	☐ NO
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	☒ YES	☐ NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches	☒ YES	☐ NO

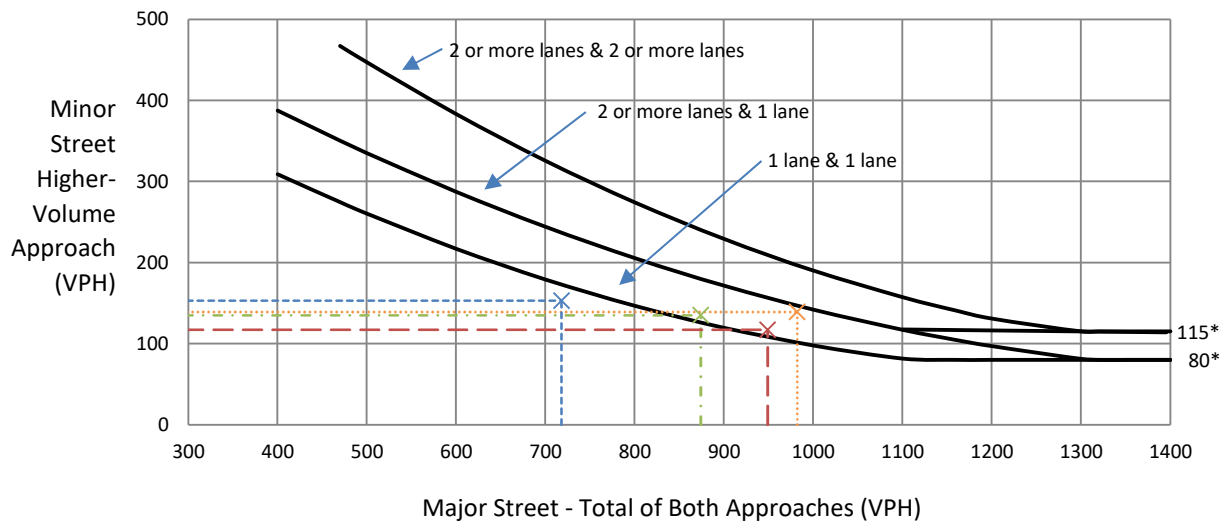
PART B**SATISFIED** ☒ YES ☐ NO

APPROACH LANES	One	2 or More	3:00 PM
Both Approaches - Major Street	X		982
Higher Approach - Minor Street	X		139

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	☐ YES	☒ NO
<u>OR</u> , The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	☒ YES	☐ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

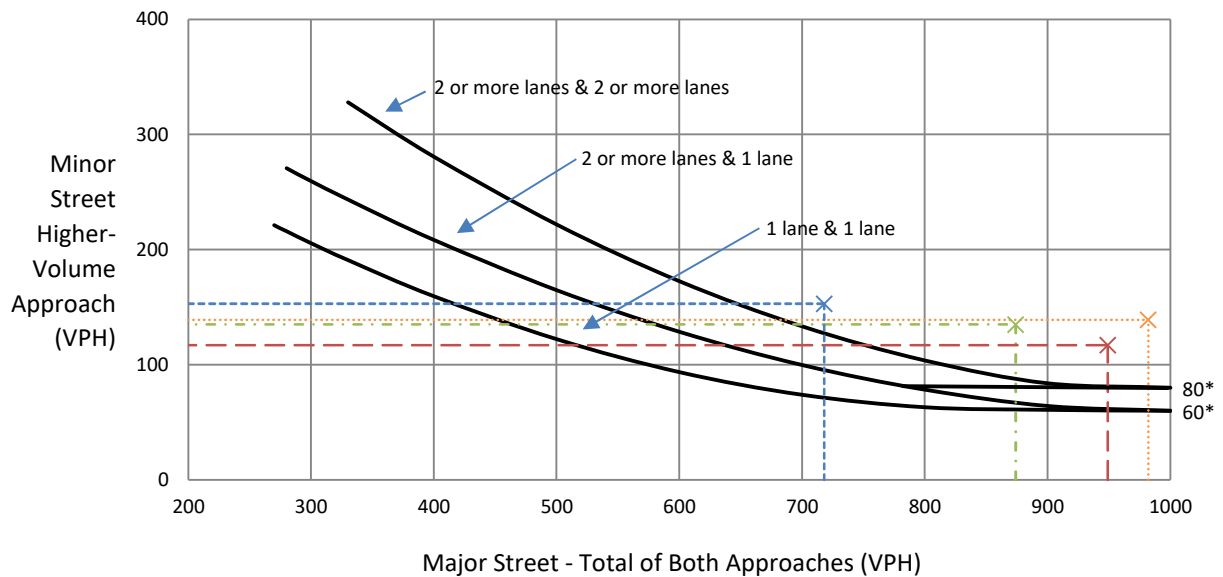


This figure is not applicable; see Figure 4C-2 below.

*Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

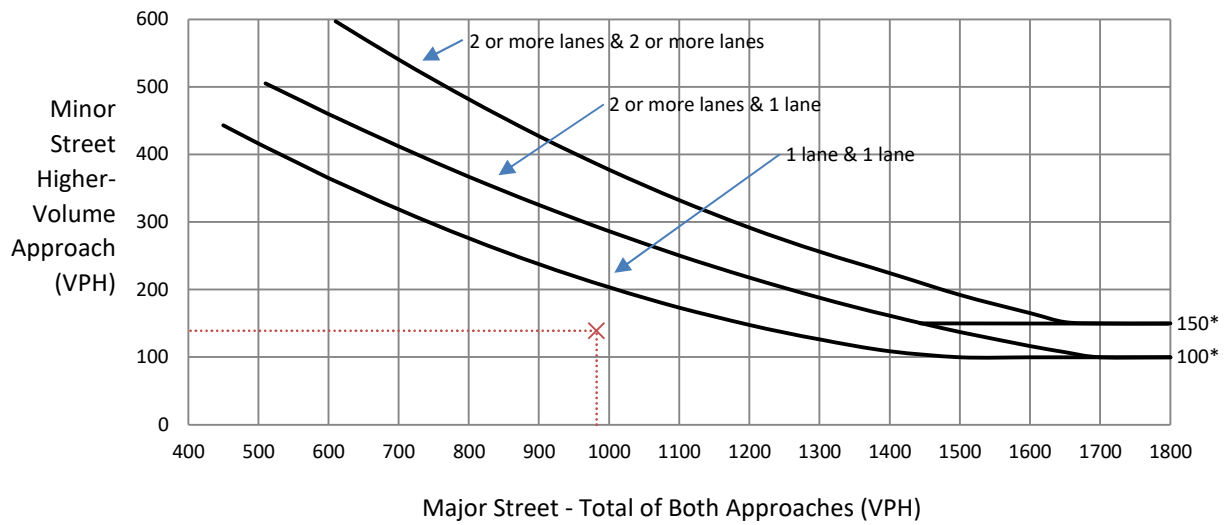
(Community less than 10,000 population or above 40 mph on the major street)



TRAFFIC SIGNAL WARRANT IS SATISFIED

*Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour Vehicular Volume

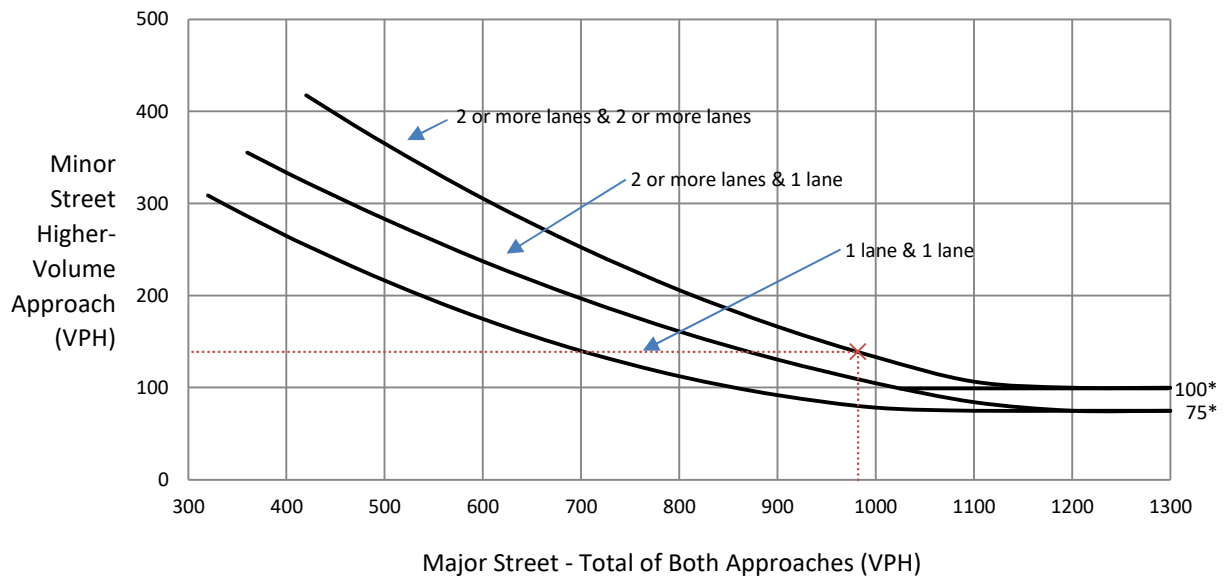


This figure is not applicable; see Figure 4C-4 below.

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

Figure 4C-4. Warrant 3, Peak Hour Vehicular Volume (70% Factor)

(Community less than 10,000 population or above 40 mph on the major street)



TRAFFIC SIGNAL WARRANT IS SATISFIED

*Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Multi-Way Stop Evaluation

Jurisdiction:	City of Victorville	Date:	12/17/2021		
Intersection:	Mesa View Dr at La Mesa Rd	By:	BC		
Major Street:	Mesa View Dr	Critical Speed:	45	8-Hr Average Volume:	187
Minor Street:	La Mesa Rd	Critical Speed:	45	8-Hr Average Volume:	58
		8-Hr Average Minor Street Pedestrians:	0		
		8-Hr Average Minor Street Bicycles:	0		
		Signal Warranted:	No		
		Crashes:	0		

	Required Conditions	Satisfied?	Yes	No
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CONDITION A (CA MUTCD Section 2B.07)

Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.		X
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CONDITION B (CA MUTCD Section 2B.07)

Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.		X
---	--	---

CONDITION C (CA MUTCD Section 2B.07)

		X
1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and		X
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but		X
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.	X	

CONDITION D (CA MUTCD Section 2B.07)

Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.		X
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Recommendation:

None.

Notes:

- (1) Data collected on: Wednesday, December 8, 2021.
 (2) Critical speed for La Mesa Road was measured at 45 miles per hour on December 8, 2021.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

<u>City of Victorville</u>	<u>Mesa View Dr at La Mesa Rd</u>	Count Date: <u>12/8/2021</u>	
Jurisdiction	Intersection	Calc: <u>BC</u>	Date: <u>12/17/2021</u>
		Check: <u>GG</u>	Date: <u>12/17/2021</u>
Major St: <u>Mesa View Dr</u>		Critical Approach Speed: <u>25</u> mph	
Minor St: <u>LA Mesa Rd</u>		Critical Approach Speed: <u>25</u> mph	
Speed limit or critical speed on major street traffic > 40 mph ☐		☐ } RURAL (R) ☒ } ☐ } URBAN (U)	
or			
In built up area of isolated community of < 10,000 population ☒			

WARRANT 1 - Eight Hour Vehicular VolumeSATISFIED ☐ YES ☒ NO

(Condition A or Condition B or Combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume100% SATISFIED ☐ YES ☒ NO80% SATISFIED ☐ YES ☒ NO

MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)					80% SATISFIED								100% SATISFIED		
					☐ YES								☐ NO		
					☐ YES								☒ NO		
		Urban	Rural	Urban	Rural										
APPROACH LANES	1		2 or More		2:00 PM	7:00 AM	3:00 PM	4:00 PM	5:00 PM	8:00 AM	1:00 PM	6:00 PM	Hour		
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	258	255	233	221	211	199	160	147			
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	75	38	65	63	66	56	43	54			

Condition B - Interruption of Continuous Traffic100% SATISFIED ☐ YES ☒ NO80% SATISFIED ☐ YES ☒ NO

		MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				80% SATISFIED								☐ YES	☒ NO
		Urban	Rural	Urban	Rural										
APPROACH LANES	1		2 or More		2:00 PM	7:00 AM	3:00 PM	4:00 PM	5:00 PM	8:00 AM	1:00 PM	6:00 PM	Hour		
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	258	255	233	221	211	199	160	147			
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	75	38	65	63	66	56	43	54			

Combination of Conditions A & BSATISFIED ☐ YES ☒ NO

REQUIREMENT	CONDITION	X	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. Minimum Vehicular Volume		☐ YES ☒ NO
	AND, B. Interruption of Continuous Traffic		
AND, an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems			☐ YES ☒ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)**WARRANT 2 - Four Hour Vehicular Volume****SATISFIED*** ☐ YES ☒ NO

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	2:00 PM	3:00 PM	5:00 PM	4:00 PM	Hour
Both Approaches - Major Street	X		258	233	211	221	
Higher Approach - Minor Street	X		75	65	66	63	

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	☐ YES	☒ NO
<u>OR</u> , All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	☐ YES	☒ NO

WARRANT 3 - Peak Hour**SATISFIED** ☐ YES ☒ NO

(Part A or Part B must be satisfied)

PART A**SATISFIED** ☐ YES ☒ NO

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	☐ YES	☐ NO
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	☐ YES	☒ NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches	☐ YES	☐ NO

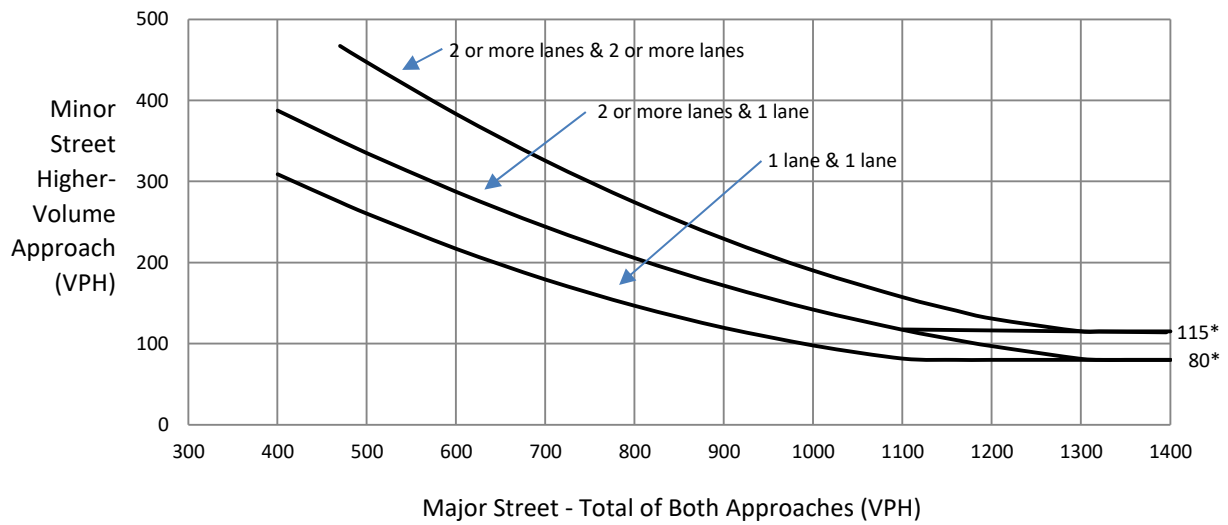
PART B**SATISFIED** ☐ YES ☒ NO

APPROACH LANES	One	2 or More	2:00 PM
Both Approaches - Major Street	X		258
Higher Approach - Minor Street	X		75

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	☐ YES	☒ NO
<u>OR</u> , The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	☐ YES	☒ NO

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

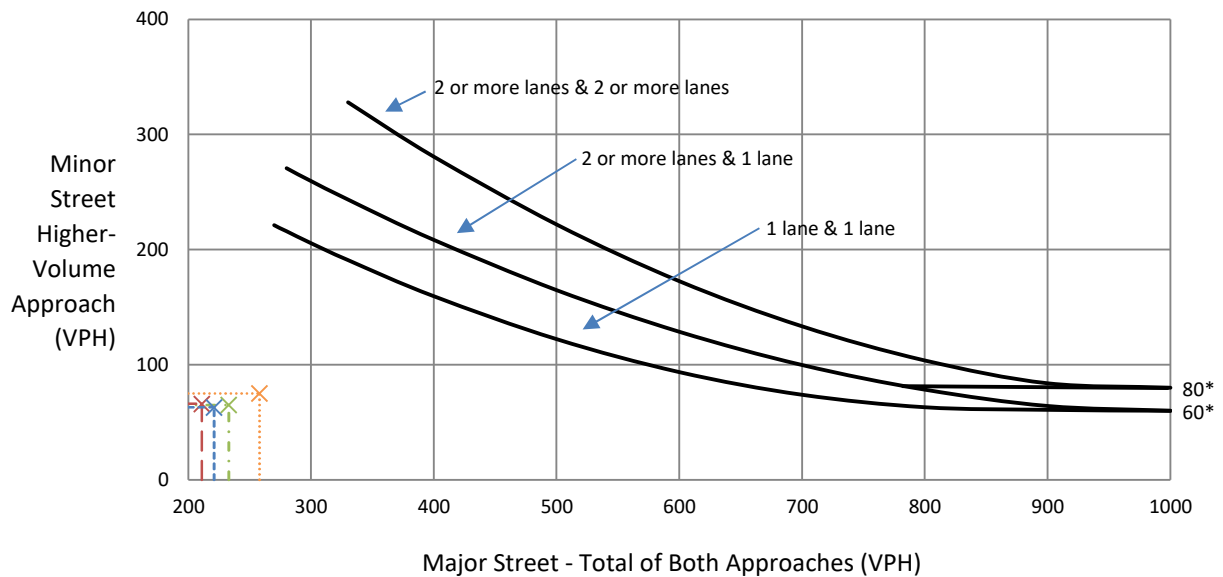


This figure is not applicable; see Figure 4C-2 below.

*Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

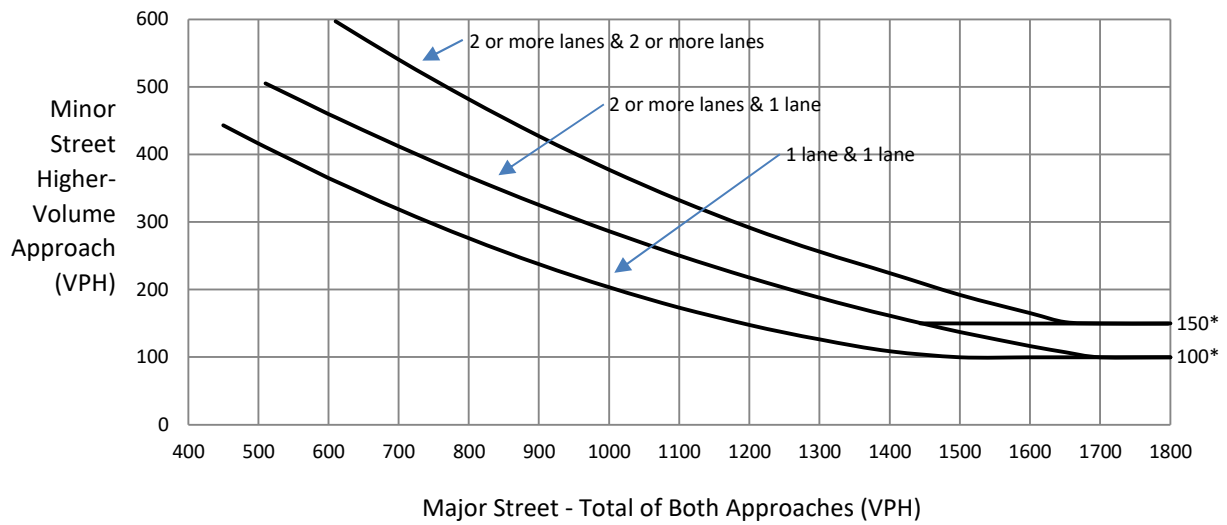
(Community less than 10,000 population or above 40 mph on the major street)



Traffic Signal Warrant Is NOT Satisfied

*Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour Vehicular Volume

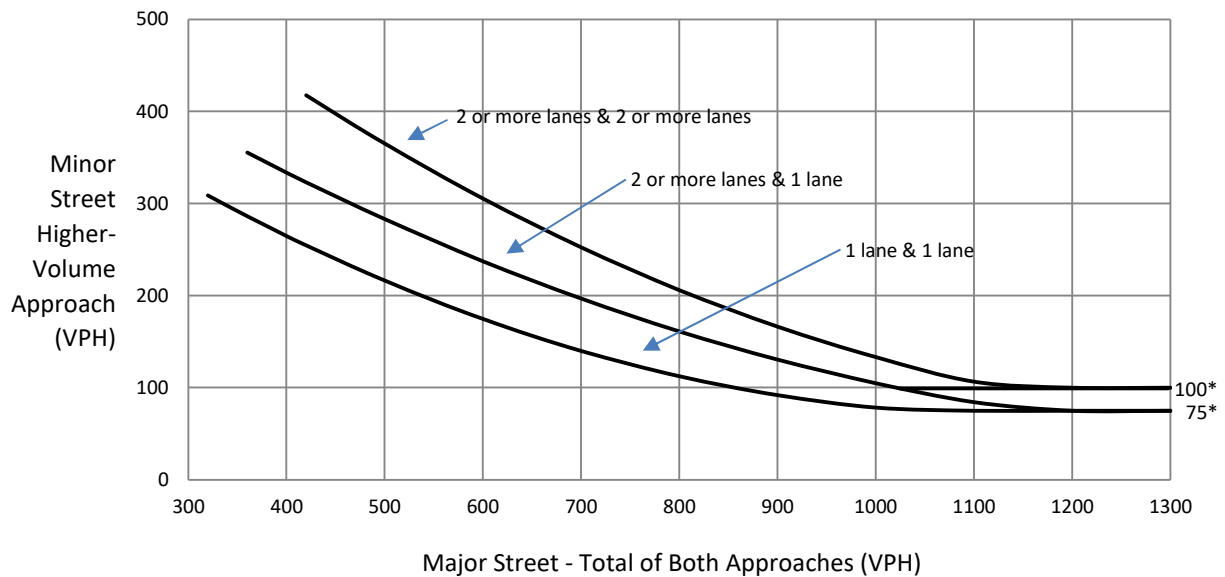


This figure is not applicable; see Figure 4C-4 below.

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

Figure 4C-4. Warrant 3, Peak Hour Vehicular Volume (70% Factor)

(Community less than 10,000 population or above 40 mph on the major street)



Traffic Signal Warrant Is NOT Satisfied

*Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Multi-Way Stop Evaluation

Jurisdiction:	City of Victorville	Date:	12/17/2021		
Intersection:	Pena Rd at La Mesa Rd	By:	BC		
Major Street:	Mesa View Dr	Critical Speed:	45	8-Hr Average Volume:	124
Minor Street:	Pena Rd	Critical Speed:	45	8-Hr Average Volume:	91
		8-Hr Average Minor Street Pedestrians:	0		
		8-Hr Average Minor Street Bicycles:	0		
		Signal Warranted:	No		
		Crashes:	0		

	Required Conditions	Satisfied?	Yes	No
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CONDITION A (CA MUTCD Section 2B.07)

Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.		X
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CONDITION B (CA MUTCD Section 2B.07)

Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.		X
---	--	---

CONDITION C (CA MUTCD Section 2B.07)

		X
1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and		X
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but		X
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.	X	

CONDITION D (CA MUTCD Section 2B.07)

Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.		X
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Recommendation:

None.

Notes:

- (1) Data collected on: Wednesday, December 8, 2021.
- (2) Critical speed for La Mesa Road was measured at 45 miles per hour on December 8, 2021.

APPENDIX E

LEVEL OF SERVICE WORKSHEETS

EXISTING

Intersection Level Of Service Report**Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.064

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	6	11	38	0	0	0	0	7	1	9
Total Analysis Volume [veh/h]	0	134	23	43	153	0	0	1	1	29	5	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.17	0.02	0.06	0.19	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	11.40	10.73	9.40	11.99	11.18	10.05	7.30	0.00	0.00	7.26	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.72	0.72	0.72	1.02	1.02	1.02	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	17.96	17.96	17.96	25.62	25.62	25.62	0.00	0.00	0.00	1.08	1.08	1.08
d_A, Approach Delay [s/veh]	10.54			11.36			0.00			2.93		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.58											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 32.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.409

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	8	23	2	20	18	105	3	2	73	7
Total Analysis Volume [veh/h]	18	14	30	94	7	80	73	419	12	9	291	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.05	0.05	0.41	0.03	0.11	0.06	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	25.08	21.44	13.22	32.15	30.08	10.39	8.08	0.00	0.00	8.22	0.00	0.00
Movement LOS	D	C	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.69	0.69	0.69	2.06	2.06	0.36	0.19	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.13	17.13	17.13	51.44	51.44	8.94	4.68	0.00	0.00	0.60	0.00	0.00
d_A, Approach Delay [s/veh]	18.52			22.45			1.17			0.23		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	5.47											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Peak Hour Factor	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	10	9	8	10	10	23	0	3	17	11
Total Analysis Volume [veh/h]	1	32	38	36	32	40	41	90	1	11	66	44
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.04	0.06	0.05	0.04	0.03	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.85	11.64	9.23	12.30	11.94	9.69	7.50	0.00	0.00	7.41	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.56	0.56	0.56	0.09	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.89	7.89	7.89	13.90	13.90	13.90	2.14	0.00	0.00	0.55	0.00	0.00
d_A, Approach Delay [s/veh]	10.35			11.23			2.33			0.67		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.41											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	6	8	22	0	0	0	0	7	0	11
Total Analysis Volume [veh/h]	0	108	23	32	89	0	0	0	0	29	1	42
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.02	0.05	0.11	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	10.54	10.49	9.16	10.94	10.39	9.28	7.30	0.00	0.00	7.26	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.57	0.57	0.57	0.55	0.55	0.55	0.00	0.00	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	14.26	14.26	14.26	13.87	13.87	13.87	0.00	0.00	0.00	1.27	1.27	1.27
d_A, Approach Delay [s/veh]	10.26			10.54			2.43			2.92		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.73											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 43.9
 Level Of Service: E
 Volume to Capacity (v/c): 0.458

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Peak Hour Factor	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	5	21	3	9	12	109	4	8	112	26
Total Analysis Volume [veh/h]	6	5	19	84	13	36	47	437	15	31	449	103
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.03	0.46	0.06	0.06	0.05	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	29.29	25.68	12.03	43.88	41.50	11.27	8.71	0.00	0.00	8.34	0.00	0.00
Movement LOS	D	D	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	2.63	2.63	0.19	0.15	0.00	0.00	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.91	7.91	7.91	65.86	65.86	4.69	3.63	0.00	0.00	2.16	0.00	0.00
d_A, Approach Delay [s/veh]	17.76			34.82			0.82			0.44		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	4.68											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Peak Hour Factor	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	6	8	4	6	4	17	1	5	17	6
Total Analysis Volume [veh/h]	1	7	24	33	18	25	15	67	3	19	68	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.05	0.03	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	10.51	10.65	8.77	10.77	10.95	9.21	7.42	0.00	0.00	7.38	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.11	0.33	0.33	0.33	0.03	0.00	0.00	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.82	2.82	2.82	8.36	8.36	8.36	0.76	0.00	0.00	0.94	0.00	0.00
d_A, Approach Delay [s/veh]	9.24			10.30			1.31			1.25		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.36											
Intersection LOS	B											

OPENING YEAR (2023) WITHOUT PROJECT

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	10	9	5	0	0	0	0	7	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	116	29	44	131	0	0	1	1	31	4	34
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	37	9	14	41	0	0	0	0	10	1	11
Total Analysis Volume [veh/h]	0	147	37	56	166	0	0	1	1	39	5	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.20	0.03	0.09	0.22	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	12.07	11.20	9.69	13.11	11.93	10.65	7.31	0.00	0.00	7.28	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.89	0.89	0.89	1.31	1.31	1.31	0.00	0.00	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	22.36	22.36	22.36	32.81	32.81	32.81	0.00	0.00	0.00	1.46	1.46	1.46
d_A, Approach Delay [s/veh]	10.90			12.23			0.00			3.26		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	10.11											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Two-way stop
HCM 6th Edition
15 minutes

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

71.8
F
0.756

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	9	2	51	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	12	28	125	6	83	70	438	11	8	286	39
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	8	35	2	23	20	123	3	2	81	11
Total Analysis Volume [veh/h]	19	14	32	141	7	94	79	494	12	9	322	44
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.07	0.06	0.76	0.03	0.13	0.07	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	31.55	25.92	15.38	71.77	68.54	10.76	8.23	0.00	0.00	8.43	0.00	0.00
Movement LOS	D	D	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.91	0.91	0.91	5.36	5.36	0.45	0.21	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	22.79	22.79	22.79	134.03	134.03	11.22	5.31	0.00	0.00	0.64	0.00	0.00
d_A, Approach Delay [s/veh]	22.37			47.98			1.11			0.20		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	10.88											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.151

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	38	16	1	0	1	60	0	14	21	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	29	68	44	26	31	33	131	1	22	73	39
Peak Hour Factor	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	23	15	9	10	11	43	0	7	24	13
Total Analysis Volume [veh/h]	1	38	90	58	34	41	44	174	1	29	97	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.10	0.15	0.07	0.04	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	14.56	13.91	10.34	16.94	15.04	11.46	7.59	0.00	0.00	7.62	0.00	0.00
Movement LOS	B	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.68	1.06	1.06	1.06	0.10	0.00	0.00	0.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.12	17.12	17.12	26.49	26.49	26.49	2.38	0.00	0.00	1.58	0.00	0.00
d_A, Approach Delay [s/veh]	11.43			14.76			1.53			1.24		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	6.06											
Intersection LOS	C											

Intersection Level Of Service Report**Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Two-way stop
HCM 6th Edition
15 minutes

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

12.0
B
0.061

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	10	5	7	0	0	0	0	14	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	111	32	35	92	0	0	0	0	42	1	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	9	10	25	0	0	0	0	11	0	14
Total Analysis Volume [veh/h]	0	121	35	38	100	0	0	0	0	46	1	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.17	0.03	0.06	0.13	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	11.32	11.13	9.46	11.95	11.03	9.66	7.32	0.00	0.00	7.28	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.74	0.74	0.74	0.72	0.72	0.72	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	18.54	18.54	18.54	17.91	17.91	17.91	0.00	0.00	0.00	1.99	1.99	1.99
d_A, Approach Delay [s/veh]	10.76			11.29			2.44			3.32		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.04											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	120.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	0	7	9	34	0	0	58	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	18	102	11	40	52	433	14	28	468	138
Peak Hour Factor	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	5	29	3	11	15	123	4	8	133	39
Total Analysis Volume [veh/h]	6	5	21	116	13	46	59	493	16	32	533	157
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.04	0.04	0.85	0.08	0.08	0.07	0.00	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	40.61	34.12	13.41	120.56	116.42	12.19	9.26	0.00	0.00	8.52	0.00	0.00
Movement LOS	E	D	B	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	6.36	6.36	0.27	0.21	0.00	0.00	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.99	10.99	10.99	159.07	159.07	6.86	5.22	0.00	0.00	2.34	0.00	0.00
d_A, Approach Delay [s/veh]	21.75			91.77			0.96			0.38		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	11.74											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	24	10	4	1	1	39	0	44	68	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	9	47	41	21	25	16	102	3	62	132	42
Peak Hour Factor	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	13	11	6	7	4	28	1	17	36	11
Total Analysis Volume [veh/h]	1	10	51	45	23	27	18	112	3	68	144	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.05	0.10	0.05	0.03	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	13.49	13.22	9.22	14.73	14.15	10.63	7.64	0.00	0.00	7.56	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.25	0.66	0.66	0.66	0.04	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.36	6.36	6.36	16.48	16.48	16.48	0.99	0.00	0.00	3.62	0.00	0.00
d_A, Approach Delay [s/veh]	9.93			13.43			1.03			1.99		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.64											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

11.9
B
0.387

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	9	2	51	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	12	28	125	6	83	70	438	11	8	286	39
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	8	35	2	23	20	123	3	2	81	11
Total Analysis Volume [veh/h]	19	14	32	141	7	94	79	494	12	9	322	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	29	0	0	20	0	0	11	0	0	11	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	8	8	36	36	36	36	36	36
g / C, Green / Cycle	0.08	0.13	0.13	0.60	0.60	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.06	0.07	0.15	0.01	0.01	0.18	0.03
s, saturation flow rate [veh/h]	1608	1691	1506	1058	3373	1506	903	1772	1506
c, Capacity [veh/h]	127	214	190	615	2008	896	562	1054	896
d1, Uniform Delay [s]	26.59	25.16	24.49	9.19	5.77	4.97	7.91	6.02	5.08
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.16	3.99	1.98	0.43	0.29	0.03	0.05	0.75	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.69	0.49	0.13	0.25	0.01	0.02	0.31	0.05
d, Delay for Lane Group [s/veh]	29.76	29.15	26.47	9.62	6.07	5.00	7.96	6.77	5.18
Lane Group LOS	C	C	C	A	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.97	2.17	1.30	0.49	0.87	0.04	0.05	1.29	0.15
50th-Percentile Queue Length [ft/ln]	24.34	54.31	32.53	12.16	21.67	0.99	1.22	32.17	3.72
95th-Percentile Queue Length [veh/ln]	1.75	3.91	2.34	0.88	1.56	0.07	0.09	2.32	0.27
95th-Percentile Queue Length [ft/ln]	43.82	97.77	58.55	21.89	39.00	1.78	2.20	57.91	6.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.76	29.76	29.76	29.15	29.15	26.47	9.62	6.07	5.00	7.96	6.77	5.18
Movement LOS	C	C	C	C	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	29.76			28.11			6.52			6.61		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	11.87											
Intersection LOS	B											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	833			533			233			233		
d_b, Bicycle Delay [s]	10.21			16.13			23.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.667			1.959			2.042			2.178		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

9.2
A
0.496

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	0	7	9	34	0	0	58	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	18	102	11	40	52	433	14	28	468	138
Peak Hour Factor	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	5	29	3	11	15	123	4	8	133	39
Total Analysis Volume [veh/h]	6	5	21	116	13	46	59	493	16	32	533	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	0	11	0	0	22	0	0	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	7	7	38	38	38	38	38	38
g / C, Green / Cycle	0.05	0.11	0.11	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.03	0.07	0.15	0.01	0.04	0.30	0.10
s, saturation flow rate [veh/h]	1574	1695	1506	871	3373	1506	904	1772	1506
c, Capacity [veh/h]	79	189	168	506	2156	963	610	1132	963
d1, Uniform Delay [s]	27.71	25.71	24.51	9.99	4.59	3.96	6.53	5.60	4.37
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	4.32	0.87	0.47	0.25	0.03	0.16	1.41	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.68	0.27	0.12	0.23	0.02	0.05	0.47	0.16
d, Delay for Lane Group [s/veh]	31.05	30.03	25.38	10.46	4.83	3.99	6.69	7.01	4.74
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	1.93	0.62	0.40	0.65	0.04	0.15	1.95	0.45
50th-Percentile Queue Length [ft/ln]	12.61	48.18	15.47	9.96	16.17	1.01	3.68	48.86	11.13
95th-Percentile Queue Length [veh/ln]	0.91	3.47	1.11	0.72	1.16	0.07	0.26	3.52	0.80
95th-Percentile Queue Length [ft/ln]	22.70	86.72	27.84	17.92	29.10	1.82	6.62	87.95	20.03

Movement, Approach, & Intersection Results

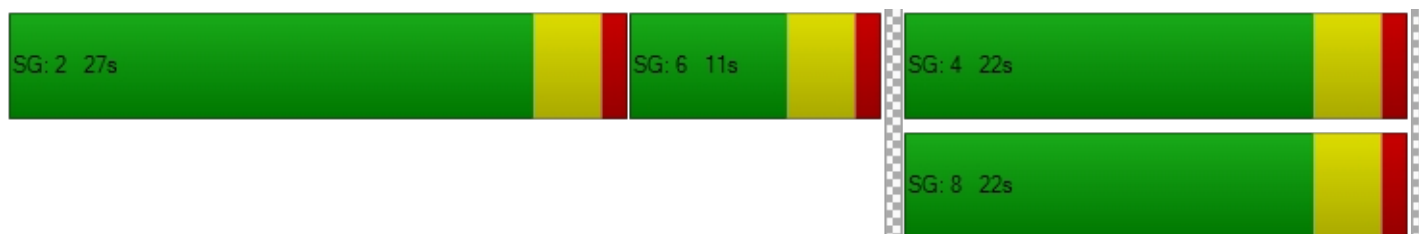
d_M, Delay for Movement [s/veh]	31.05	31.05	31.05	30.03	30.03	25.38	10.46	4.83	3.99	6.69	7.01	4.74
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	31.05			28.81			5.39			6.50		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	9.21											
Intersection LOS	A											
Intersection V/C	0.496											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	767			233			600			600		
d_b, Bicycle Delay [s]	11.41			23.41			14.70			14.70		
I_b,int, Bicycle LOS Score for Intersection	1.612			1.848			2.028			2.751		
Bicycle LOS	A			A			B			C		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2023) WITH PROJECT

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	29	9	6	0	0	0	0	14	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	119	48	44	132	0	0	1	1	38	4	34
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	38	15	14	42	0	0	0	0	12	1	11
Total Analysis Volume [veh/h]	0	151	61	56	167	0	0	1	1	48	5	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.06	0.10	0.22	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	12.56	11.60	9.94	13.91	12.35	10.93	7.31	0.00	0.00	7.29	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.07	1.07	1.07	1.41	1.41	1.41	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	26.68	26.68	26.68	35.20	35.20	35.20	0.00	0.00	0.00	1.80	1.80	1.80
d_A, Approach Delay [s/veh]	11.12			12.74			0.00			3.64		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	10.41											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	100.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	62	0	12	3	51	0	0	18	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	12	28	148	6	86	71	438	11	8	286	47
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	8	42	2	24	20	123	3	2	81	13
Total Analysis Volume [veh/h]	19	14	32	167	7	97	80	494	12	9	322	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.07	0.06	0.90	0.03	0.13	0.07	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	32.10	26.32	15.51	100.24	96.99	10.79	8.26	0.00	0.00	8.43	0.00	0.00
Movement LOS	D	D	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.93	0.93	0.93	7.32	7.32	0.47	0.22	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	23.18	23.18	23.18	182.99	182.99	11.63	5.43	0.00	0.00	0.64	0.00	0.00
d_A, Approach Delay [s/veh]	22.69			68.14			1.13			0.20		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	15.83											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			T			T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	44	16	2	0	1	80	0	16	28	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	32	74	44	27	31	33	151	1	24	80	39
Peak Hour Factor	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550	0.7550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	25	15	9	10	11	50	0	8	26	13
Total Analysis Volume [veh/h]	1	42	98	58	36	41	44	200	1	32	106	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.12	0.17	0.08	0.04	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	15.48	14.64	10.77	18.48	16.03	12.06	7.61	0.00	0.00	7.69	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.81	0.81	0.81	1.19	1.19	1.19	0.10	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.20	20.20	20.20	29.82	29.82	29.82	2.39	0.00	0.00	1.79	0.00	0.00
d_A, Approach Delay [s/veh]	11.96			15.88			1.37			1.29		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.20											
Intersection LOS	C											

Intersection Level Of Service Report**Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.069

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	23	5	10	0	0	0	0	37	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	113	45	35	95	0	0	0	0	65	1	50
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	31	12	10	26	0	0	0	0	18	0	14
Total Analysis Volume [veh/h]	0	123	49	38	103	0	0	0	0	71	1	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.18	0.05	0.07	0.15	0.00	0.00	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	12.16	11.82	9.74	13.07	11.76	9.98	7.32	0.00	0.00	7.32	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.88	0.88	0.88	0.83	0.83	0.83	0.00	0.00	0.00	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	22.08	22.08	22.08	20.65	20.65	20.65	0.00	0.00	0.00	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	11.23			12.11			2.44			4.12		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.48											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Two-way stop
HCM 6th Edition
15 minutes

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

162.7
F
0.992

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	40	0	9	12	34	0	0	58	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	18	117	11	42	55	433	14	28	468	164
Peak Hour Factor	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	5	33	3	12	16	123	4	8	133	47
Total Analysis Volume [veh/h]	6	5	21	133	13	48	63	493	16	32	533	187
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.04	0.04	0.99	0.08	0.09	0.07	0.00	0.00	0.03	0.01	0.00
d_M, Delay for Movement [s/veh]	42.45	35.96	13.59	162.67	158.40	12.22	9.40	0.00	0.00	8.52	0.00	0.00
Movement LOS	E	E	B	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.46	0.46	8.05	8.05	0.29	0.23	0.00	0.00	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.47	11.47	11.47	201.26	201.26	7.18	5.76	0.00	0.00	2.34	0.00	0.00
d_A, Approach Delay [s/veh]	22.50			125.16			1.04			0.36		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	16.69											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.113

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	28	10	7	1	1	52	0	50	91	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	11	51	41	24	25	16	115	3	68	155	42
Peak Hour Factor	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140	0.9140
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	14	11	7	7	4	31	1	19	42	11
Total Analysis Volume [veh/h]	1	12	56	45	26	27	18	126	3	74	170	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.11	0.06	0.03	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	14.39	13.91	9.38	15.99	15.11	11.16	7.69	0.00	0.00	7.60	0.00	0.00
Movement LOS	B	B	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.30	0.30	0.76	0.76	0.76	0.04	0.00	0.00	0.16	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.51	7.51	7.51	18.97	18.97	18.97	1.01	0.00	0.00	4.01	0.00	0.00
d_A, Approach Delay [s/veh]	10.24			14.43			0.94			1.94		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	4.67											
Intersection LOS	C											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

12.4
B
0.406

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	62	0	12	3	51	0	0	18	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	12	28	148	6	86	71	438	11	8	286	47
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	8	42	2	24	20	123	3	2	81	13
Total Analysis Volume [veh/h]	19	14	32	167	7	97	80	494	12	9	322	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	38	0	0	11	0	0	11	0	0	11	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	9	9	35	35	35	35	35	35
g / C, Green / Cycle	0.08	0.14	0.14	0.58	0.58	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.06	0.08	0.15	0.01	0.01	0.18	0.04
s, saturation flow rate [veh/h]	1608	1690	1506	1058	3373	1506	903	1772	1506
c, Capacity [veh/h]	127	242	215	593	1952	871	544	1025	871
d1, Uniform Delay [s]	26.59	24.64	23.62	9.91	6.26	5.38	8.52	6.53	5.53
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.16	4.02	1.48	0.47	0.31	0.03	0.06	0.80	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.72	0.45	0.13	0.25	0.01	0.02	0.31	0.06
d, Delay for Lane Group [s/veh]	29.76	28.66	25.10	10.39	6.57	5.41	8.58	7.33	5.67
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.97	2.53	1.30	0.53	0.95	0.04	0.05	1.40	0.20
50th-Percentile Queue Length [ft/ln]	24.34	63.29	32.43	13.14	23.74	1.08	1.30	35.11	4.91
95th-Percentile Queue Length [veh/ln]	1.75	4.56	2.33	0.95	1.71	0.08	0.09	2.53	0.35
95th-Percentile Queue Length [ft/ln]	43.82	113.92	58.37	23.64	42.73	1.94	2.34	63.20	8.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.76	29.76	29.76	28.66	28.66	25.10	10.39	6.57	5.41	8.58	7.33	5.67
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	29.76			27.39			7.07			7.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	12.43											
Intersection LOS	B											
Intersection V/C	0.406											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1133			233			233			233		
d_b, Bicycle Delay [s]	5.63			23.41			23.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.667			2.007			2.043			2.193		
Bicycle LOS	A			B			B			B		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

9.6
A
0.509

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	40	0	9	12	34	0	0	58	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	18	117	11	42	55	433	14	28	468	164
Peak Hour Factor	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	5	33	3	12	16	123	4	8	133	47
Total Analysis Volume [veh/h]	6	5	21	133	13	48	63	493	16	32	533	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	17	0	0	14	0	0	29	0	0	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	7	7	38	38	38	38	38	38
g / C, Green / Cycle	0.05	0.12	0.12	0.63	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.03	0.07	0.15	0.01	0.04	0.30	0.12
s, saturation flow rate [veh/h]	1574	1694	1506	871	3373	1506	904	1772	1506
c, Capacity [veh/h]	79	201	179	498	2131	951	603	1119	951
d1, Uniform Delay [s]	27.71	25.56	24.13	10.37	4.78	4.12	6.74	5.84	4.66
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	4.91	0.80	0.52	0.25	0.03	0.17	1.45	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.73	0.27	0.13	0.23	0.02	0.05	0.48	0.20
d, Delay for Lane Group [s/veh]	31.05	30.47	24.93	10.89	5.03	4.16	6.91	7.29	5.12
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	2.20	0.64	0.44	0.68	0.04	0.15	2.06	0.57
50th-Percentile Queue Length [ft/ln]	12.61	55.02	15.93	10.98	17.08	1.07	3.79	51.45	14.30
95th-Percentile Queue Length [veh/ln]	0.91	3.96	1.15	0.79	1.23	0.08	0.27	3.70	1.03
95th-Percentile Queue Length [ft/ln]	22.70	99.04	28.68	19.76	30.75	1.92	6.82	92.60	25.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.05	31.05	31.05	30.47	30.47	24.93	10.89	5.03	4.16	6.91	7.29	5.12
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	31.05			29.10			5.65			6.73		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	9.64											
Intersection LOS	A											
Intersection V/C	0.509											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	433			333			833			833		
d_b, Bicycle Delay [s]	18.41			20.83			10.21			10.21		
I_b,int, Bicycle LOS Score for Intersection	1.612			1.880			2.032			2.800		
Bicycle LOS	A			A			B			C		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



FUTURE YEAR (2033) WITHOUT PROJECT

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	10	9	5	0	0	0	0	7	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	141	33	52	159	0	0	1	1	36	5	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	37	9	14	42	0	0	0	0	9	1	11
Total Analysis Volume [veh/h]	0	148	35	55	167	0	0	1	1	38	5	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.20	0.03	0.09	0.22	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	12.05	11.18	9.68	13.05	11.89	10.63	7.31	0.00	0.00	7.28	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.89	0.89	0.89	1.30	1.30	1.30	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	22.22	22.22	22.22	32.59	32.59	32.59	0.00	0.00	0.00	1.70	1.70	1.70
d_A, Approach Delay [s/veh]	10.89			12.18			0.00			3.21		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	10.09											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	157.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.037

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	9	2	51	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	15	34	144	8	99	85	523	14	10	346	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	9	38	2	26	22	138	4	3	91	12
Total Analysis Volume [veh/h]	21	16	36	152	8	104	89	551	15	11	364	47
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.09	0.07	1.04	0.04	0.15	0.08	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	41.37	32.80	19.30	157.75	152.56	11.24	8.40	0.00	0.00	8.62	0.00	0.00
Movement LOS	E	D	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.35	1.35	1.35	8.52	8.52	0.54	0.25	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	33.77	33.77	33.77	213.08	213.08	13.42	6.29	0.00	0.00	0.83	0.00	0.00
d_A, Approach Delay [s/veh]	28.61			99.88			1.14			0.22		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	20.72											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			T			T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	38	16	1	0	1	60	0	14	21	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	34	75	50	31	38	40	146	1	24	85	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	20	13	8	10	11	38	0	6	22	12
Total Analysis Volume [veh/h]	1	36	79	53	33	40	42	154	1	25	89	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.09	0.12	0.06	0.04	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	13.74	13.24	10.03	15.45	14.02	10.82	7.56	0.00	0.00	7.57	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.58	0.58	0.58	0.89	0.89	0.89	0.09	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.53	14.53	14.53	22.24	22.24	22.24	2.24	0.00	0.00	1.34	0.00	0.00
d_A, Approach Delay [s/veh]	11.06			13.60			1.61			1.16		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.82											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	10	5	7	0	0	0	0	14	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	134	37	42	111	0	0	0	0	48	1	59
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	35	10	11	29	0	0	0	0	13	0	16
Total Analysis Volume [veh/h]	0	141	39	44	117	0	0	0	0	51	1	62
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.20	0.04	0.08	0.16	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	11.94	11.57	9.77	12.80	11.53	10.07	7.34	0.00	0.00	7.29	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.92	0.92	0.92	0.91	0.91	0.91	0.00	0.00	0.00	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	22.92	22.92	22.92	22.78	22.78	22.78	0.00	0.00	0.00	2.28	2.28	2.28
d_A, Approach Delay [s/veh]	11.18			11.88			2.45			3.26		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.44											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	245.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.151

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	0	7	9	34	0	0	58	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	22	119	14	48	61	522	17	34	558	158
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	6	31	4	13	16	137	4	9	147	42
Total Analysis Volume [veh/h]	6	5	23	125	15	51	64	549	18	36	587	166
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.05	0.04	1.15	0.11	0.10	0.07	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	52.23	41.46	15.02	245.69	239.52	12.85	9.54	0.00	0.00	8.72	0.00	0.00
Movement LOS	F	E	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.57	0.57	0.57	9.30	9.30	0.33	0.24	0.00	0.00	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.16	14.16	14.16	232.41	232.41	8.29	6.04	0.00	0.00	2.78	0.00	0.00
d_A, Approach Delay [s/veh]	25.48			183.03			0.97			0.40		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	22.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	24	10	4	1	1	39	0	44	68	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	11	52	48	24	30	19	116	4	66	147	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	14	13	6	8	5	31	1	17	39	12
Total Analysis Volume [veh/h]	1	12	55	51	25	32	20	122	4	69	155	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.12	0.06	0.04	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	14.10	13.64	9.34	15.68	14.91	11.14	7.67	0.00	0.00	7.59	0.00	0.00
Movement LOS	B	B	A	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	0.81	0.81	0.81	0.04	0.00	0.00	0.15	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.30	7.30	7.30	20.29	20.29	20.29	1.11	0.00	0.00	3.72	0.00	0.00
d_A, Approach Delay [s/veh]	10.17			14.16			1.05			1.92		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	4.87											
Intersection LOS	C											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	9	2	51	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	15	34	144	8	99	85	523	14	10	346	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	9	38	2	26	22	138	4	3	91	12
Total Analysis Volume [veh/h]	21	16	36	152	8	104	89	551	15	11	364	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	29	0	0	20	0	0	11	0	0	11	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	8	8	35	35	35	35	35	35
g / C, Green / Cycle	0.08	0.13	0.13	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.07	0.09	0.15	0.01	0.01	0.19	0.03
s, saturation flow rate [veh/h]	1698	1785	1589	1018	3560	1589	857	1870	1589
c, Capacity [veh/h]	142	232	206	577	2090	933	527	1098	933
d1, Uniform Delay [s]	26.38	25.03	24.38	9.98	6.07	5.18	8.39	6.37	5.29
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.84	3.66	1.90	0.57	0.31	0.03	0.07	0.81	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.69	0.50	0.15	0.26	0.02	0.02	0.33	0.05
d, Delay for Lane Group [s/veh]	29.22	28.68	26.28	10.54	6.38	5.21	8.46	7.18	5.39
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.08	2.32	1.43	0.59	1.02	0.05	0.06	1.54	0.16
50th-Percentile Queue Length [ft/ln]	26.92	58.07	35.77	14.81	25.48	1.28	1.58	38.41	4.12
95th-Percentile Queue Length [veh/ln]	1.94	4.18	2.58	1.07	1.83	0.09	0.11	2.77	0.30
95th-Percentile Queue Length [ft/ln]	48.46	104.53	64.39	26.67	45.86	2.31	2.85	69.14	7.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.22	29.22	29.22	28.68	28.68	26.28	10.54	6.38	5.21	8.46	7.18	5.39
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	29.22			27.74			6.92			7.02		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	11.99											
Intersection LOS	B											
Intersection V/C	0.409											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	833			533			233			233		
d_b, Bicycle Delay [s]	10.21			16.13			23.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.680			1.995			2.100			2.256		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

9.3
A
0.516

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	0	7	9	34	0	0	58	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	22	119	14	48	61	522	17	34	558	158
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	6	31	4	13	16	137	4	9	147	42
Total Analysis Volume [veh/h]	6	5	23	125	15	51	64	549	18	36	587	166
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	12	0	0	11	0	0	37	0	0	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	7	7	38	38	38	38	38	38
g / C, Green / Cycle	0.05	0.11	0.11	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.03	0.08	0.15	0.01	0.04	0.31	0.10
s, saturation flow rate [veh/h]	1657	1790	1589	829	3560	1589	858	1870	1589
c, Capacity [veh/h]	87	199	177	482	2267	1012	584	1191	1012
d1, Uniform Delay [s]	27.59	25.77	24.54	10.33	4.69	4.01	6.62	5.78	4.43
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.87	4.44	0.89	0.57	0.25	0.03	0.20	1.46	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.70	0.29	0.13	0.24	0.02	0.06	0.49	0.16
d, Delay for Lane Group [s/veh]	30.45	30.21	25.42	10.90	4.94	4.05	6.83	7.24	4.78
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.53	2.09	0.68	0.45	0.74	0.05	0.17	2.22	0.48
50th-Percentile Queue Length [ft/ln]	13.16	52.35	17.12	11.23	18.50	1.15	4.24	55.59	11.88
95th-Percentile Queue Length [veh/ln]	0.95	3.77	1.23	0.81	1.33	0.08	0.31	4.00	0.86
95th-Percentile Queue Length [ft/ln]	23.68	94.24	30.81	20.21	33.30	2.07	7.63	100.06	21.38

Movement, Approach, & Intersection Results

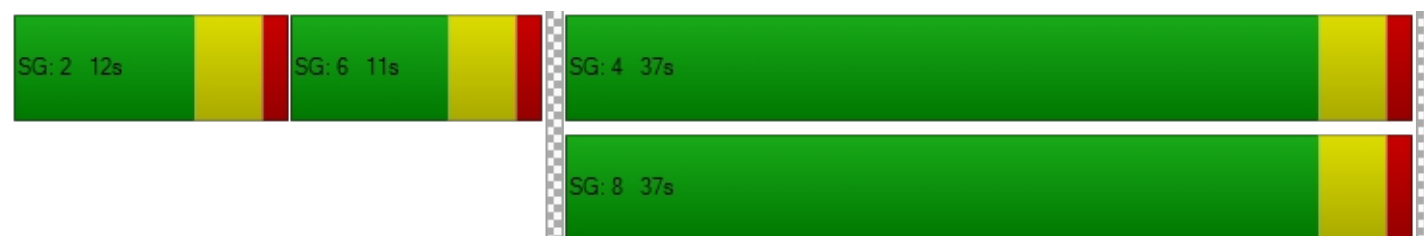
d_M, Delay for Movement [s/veh]	30.45	30.45	30.45	30.21	30.21	25.42	10.90	4.94	4.05	6.83	7.24	4.78
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	30.45			28.93			5.52			6.71		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	9.32											
Intersection LOS	A											
Intersection V/C	0.516											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	267			233			1100			1100		
d_b, Bicycle Delay [s]	22.53			23.41			6.08			6.08		
I_b,int, Bicycle LOS Score for Intersection	1.616			1.875			2.080			2.861		
Bicycle LOS	A			A			B			C		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



FUTURE YEAR (2033) WITH PROJECT

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	106	18	34	121	0	0	1	1	23	4	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	29	9	6	0	0	0	0	14	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	144	52	52	160	0	0	1	1	43	5	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	38	14	14	42	0	0	0	0	11	1	11
Total Analysis Volume [veh/h]	0	152	55	55	168	0	0	1	1	45	5	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.05	0.10	0.22	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	12.44	11.50	9.89	13.70	12.22	10.85	7.31	0.00	0.00	7.29	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.03	1.03	1.03	1.38	1.38	1.38	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	25.86	25.86	25.86	34.50	34.50	34.50	0.00	0.00	0.00	2.04	2.04	2.04
d_A, Approach Delay [s/veh]	11.07			12.58			0.00			3.53		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	10.33											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:	Two-way stop	Delay (sec / veh):	218.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.213

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	62	0	12	3	51	0	0	18	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	15	34	167	8	102	86	523	14	10	346	53
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	9	44	2	27	23	138	4	3	91	14
Total Analysis Volume [veh/h]	21	16	36	176	8	107	91	551	15	11	364	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.09	0.07	1.21	0.04	0.16	0.08	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	42.38	33.54	19.63	218.54	213.26	11.27	8.43	0.00	0.00	8.62	0.00	0.00
Movement LOS	E	D	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.38	1.38	1.38	10.97	10.97	0.55	0.26	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	34.56	34.56	34.56	274.35	274.35	13.87	6.50	0.00	0.00	0.83	0.00	0.00
d_A, Approach Delay [s/veh]	29.22			142.18			1.17			0.22		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	30.56											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.135

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	24	29	27	24	30	31	68	1	8	50	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	44	16	2	0	1	80	0	16	28	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	37	81	50	32	38	40	166	1	26	92	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	21	13	8	10	11	44	0	7	24	12
Total Analysis Volume [veh/h]	1	39	85	53	34	40	42	175	1	27	97	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.10	0.13	0.07	0.04	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	14.38	13.76	10.32	16.42	14.64	11.15	7.58	0.00	0.00	7.62	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.66	0.66	0.66	0.97	0.97	0.97	0.09	0.00	0.00	0.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	16.58	16.58	16.58	24.13	24.13	24.13	2.26	0.00	0.00	1.47	0.00	0.00
d_A, Approach Delay [s/veh]	11.42			14.29			1.46			1.19		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.86											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Mesa View Dr (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.086

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	99	21	29	82	0	0	0	0	27	1	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	23	5	10	0	0	0	0	37	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	136	50	42	114	0	0	0	0	71	1	59
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	36	13	11	30	0	0	0	0	19	0	16
Total Analysis Volume [veh/h]	0	143	53	44	120	0	0	0	0	75	1	62
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.05	0.09	0.18	0.00	0.00	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	12.87	12.32	10.12	14.07	12.36	10.50	7.34	0.00	0.00	7.33	0.00	0.00
Movement LOS	B	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.08	1.08	1.08	1.05	1.05	1.05	0.00	0.00	0.00	0.14	0.14	0.14
95th-Percentile Queue Length [ft/ln]	27.07	27.07	27.07	26.27	26.27	26.27	0.00	0.00	0.00	3.43	3.43	3.43
d_A, Approach Delay [s/veh]	11.73			12.82			2.45			3.98		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.94											
Intersection LOS	B											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Two-way stop
HCM 6th Edition
15 minutes

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

311.7
F
1.319

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	40	0	9	12	34	0	0	58	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	22	134	14	50	64	522	17	34	558	184
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	6	35	4	13	17	137	4	9	147	48
Total Analysis Volume [veh/h]	6	5	23	141	15	53	67	549	18	36	587	194
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.05	0.04	1.32	0.11	0.10	0.08	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	54.46	43.55	15.28	311.72	305.40	12.88	9.68	0.00	0.00	8.72	0.00	0.00
Movement LOS	F	E	C	F	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.59	0.59	11.14	11.14	0.35	0.26	0.00	0.00	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.74	14.74	14.74	278.59	278.59	8.65	6.51	0.00	0.00	2.78	0.00	0.00
d_A, Approach Delay [s/veh]	26.35			235.48			1.02			0.38		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	30.15											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Pena Rd (NS) at La Mesa Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.136

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	90.00	100.00	100.00	90.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	6	22	30	16	23	14	61	3	17	62	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	28	10	7	1	1	52	0	50	91	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	13	56	48	27	30	19	129	4	72	170	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	15	13	7	8	5	34	1	19	45	12
Total Analysis Volume [veh/h]	1	14	59	51	28	32	20	136	4	76	179	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.14	0.07	0.04	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	15.07	14.36	9.51	17.10	16.02	11.77	7.73	0.00	0.00	7.63	0.00	0.00
Movement LOS	C	B	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.34	0.93	0.93	0.93	0.05	0.00	0.00	0.17	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.46	8.46	8.46	23.34	23.34	23.34	1.14	0.00	0.00	4.16	0.00	0.00
d_A, Approach Delay [s/veh]	10.51			15.29			0.97			1.91		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	4.95											
Intersection LOS	C											

Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

12.0
B
0.409

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	16	12	27	83	6	71	65	372	11	8	258	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	9	2	51	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	15	34	144	8	99	85	523	14	10	346	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	9	38	2	26	22	138	4	3	91	12
Total Analysis Volume [veh/h]	21	16	36	152	8	104	89	551	15	11	364	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	29	0	0	20	0	0	11	0	0	11	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	8	8	35	35	35	35	35	35
g / C, Green / Cycle	0.08	0.13	0.13	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.07	0.09	0.15	0.01	0.01	0.19	0.03
s, saturation flow rate [veh/h]	1698	1785	1589	1018	3560	1589	857	1870	1589
c, Capacity [veh/h]	142	232	206	577	2090	933	527	1098	933
d1, Uniform Delay [s]	26.38	25.03	24.38	9.98	6.07	5.18	8.39	6.37	5.29
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.84	3.66	1.90	0.57	0.31	0.03	0.07	0.81	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.69	0.50	0.15	0.26	0.02	0.02	0.33	0.05
d, Delay for Lane Group [s/veh]	29.22	28.68	26.28	10.54	6.38	5.21	8.46	7.18	5.39
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.08	2.32	1.43	0.59	1.02	0.05	0.06	1.54	0.16
50th-Percentile Queue Length [ft/ln]	26.92	58.07	35.77	14.81	25.48	1.28	1.58	38.41	4.12
95th-Percentile Queue Length [veh/ln]	1.94	4.18	2.58	1.07	1.83	0.09	0.11	2.77	0.30
95th-Percentile Queue Length [ft/ln]	48.46	104.53	64.39	26.67	45.86	2.31	2.85	69.14	7.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.22	29.22	29.22	28.68	28.68	26.28	10.54	6.38	5.21	8.46	7.18	5.39
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	29.22			27.74			6.92			7.02		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	11.99											
Intersection LOS	B											
Intersection V/C	0.409											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	833			533			233			233		
d_b, Bicycle Delay [s]	10.21			16.13			23.41			23.41		
I_b,int, Bicycle LOS Score for Intersection	1.680			1.995			2.100			2.256		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report**Intersection 2: Mesa View Dr (NS) at Bear Valley Rd (EW)**

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

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

9.7
A
0.527

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00	225.00	100.00	100.00
Speed [mph]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	5	4	17	74	11	32	41	384	13	27	394	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	40	0	9	12	34	0	0	58	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	22	134	14	50	64	522	17	34	558	184
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	6	35	4	13	17	137	4	9	147	48
Total Analysis Volume [veh/h]	6	5	23	141	15	53	67	549	18	36	587	194
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	130	0	0	130	0	0	130	0	0	130	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	14	0	0	26	0	0	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	7	7	38	38	38	38	38	38
g / C, Green / Cycle	0.05	0.12	0.12	0.63	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.03	0.08	0.15	0.01	0.04	0.31	0.12
s, saturation flow rate [veh/h]	1657	1789	1589	829	3560	1589	858	1870	1589
c, Capacity [veh/h]	87	218	194	464	2231	996	569	1172	996
d1, Uniform Delay [s]	27.59	25.42	24.00	11.18	4.96	4.24	7.12	6.12	4.78
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.87	4.35	0.76	0.65	0.26	0.03	0.21	1.53	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.72	0.27	0.14	0.25	0.02	0.06	0.50	0.19
d, Delay for Lane Group [s/veh]	30.45	29.77	24.76	11.84	5.23	4.28	7.33	7.65	5.22
Lane Group LOS	C	C	C	B	A	A	A	A	A
Critical Lane Group	Yes	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.53	2.32	0.70	0.50	0.79	0.05	0.18	2.38	0.61
50th-Percentile Queue Length [ft/ln]	13.16	57.89	17.48	12.53	19.83	1.23	4.52	59.38	15.14
95th-Percentile Queue Length [veh/ln]	0.95	4.17	1.26	0.90	1.43	0.09	0.33	4.28	1.09
95th-Percentile Queue Length [ft/ln]	23.68	104.21	31.46	22.55	35.70	2.21	8.13	106.88	27.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.45	30.45	30.45	29.77	29.77	24.76	11.84	5.23	4.28	7.33	7.65	5.22
Movement LOS	C	C	C	C	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	30.45			28.50			5.90			7.06		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	9.74											
Intersection LOS	A											
Intersection V/C	0.527											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			333			733			733		
d_b, Bicycle Delay [s]	16.13			20.83			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	1.616			1.904			2.083			2.908		
Bicycle LOS	A			A			B			C		

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





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