

TTM 20274
TRAFFIC IMPACT ANALYSIS
VICTORVILLE, CALIFORNIA

OCTOBER 28, 2021

Prepared for:

Mr. Jonathon Siemsen
KB Home
36310 Inland Valley Drive
Wildomar, CA 92595

Prepared by:



Scott Sato, P.E.
4225 Oceanside Blvd., #354H
Oceanside, CA 92056
(760) 291-1400

TRAMES SOLUTIONS INC.

(0326-0001-03)

TABLE OF CONTENTS

| <u>SECTION</u> | <u>PAGE</u> |
|--|-------------|
| EXECUTIVE SUMMARY..... | ES-1 |
| 1.0 INTRODUCTION..... | 1 |
| A. Purpose of the TIA and Study Objectives | |
| B. Site Location and Study Area | |
| C. Development Project Identification | |
| 1. Project Size and Description | |
| 2. Existing Land Use | |
| 3. Proposed Land Use | |
| 4. Site Plan of Proposed Project | |
| 5. Proposed Project Opening Year | |
| 6. Proposed Project Phasing | |
| 2.0 TRAFFIC ANALYSIS METHODOLOGIES..... | 6 |
| A. Level of Service Definition | |
| B. City of Victorville Level of Service Criteria | |
| C. Intersection Operations Analysis Methodology | |
| 3.0 AREA CONDITIONS..... | 9 |
| A. Study Area Intersections | |
| B. Area Roadway System | |
| C. Existing (2019) Traffic Volumes | |
| D. Existing (2019) Delay and Level of Service | |
| 4.0 PROJECTED FUTURE TRAFFIC..... | 14 |
| A. Project Traffic | |
| 1. Ambient Growth Rate | |
| 2. Project Trip Generation | |
| 3. Project Trip Distribution and Assignment | |
| 4. Project Peak Hour Turning Movement Traffic | |
| B. Cumulative Traffic (Background) | |
| 1. Method of Projection | |
| 2. Total Background Peak Hour Turning Movement Volumes | |

TABLE OF CONTENTS (Continued)

| <u>SECTION</u> | <u>PAGE</u> |
|---|-------------|
| 5.0 TRAFFIC ANALYSIS | 30 |
| A. Opening Day Plus Ambient (ODA 2021) Conditions | |
| B. Opening Day Plus Ambient Plus Project (ODAP 2021) Conditions | |
| C. 10-Year Horizon (2029) Without Project Conditions | |
| D. 10-Year Horizon (2029) With Project Conditions | |
| 6.0 FINDINGS AND RECOMMENDATIONS | 36 |
| A. Traffic Impacts and Level of Service Analysis | |
| B. Circulation Recommendations | |
| 1. On-Site | |
| 2. Off-Site | |

LIST OF FIGURES

| <u>FIGURE</u> | <u>PAGE</u> |
|---|--------------------|
| 1-A Study Area..... | 3 |
| 1-B Site Plan | 4 |
| 3-A Intersection Traffic Controls and Geometrics..... | 10 |
| 3-B Existing (2019) AM Traffic Volumes..... | 11 |
| 3-C Existing (2019) PM Traffic Volumes..... | 12 |
| 4-A Project Trip Distribution..... | 17 |
| 4-B Project Trip Distribution – 10 Year Horizon | 1/ |
| 4-C Project Only AM Traffic Volumes | 20 |
| 4-D Project Only PM Traffic Volumes | 21 |
| 4-E Opening Day Plus Ambient (ODA 2021) AM Traffic Volumes..... | 22 |
| 4-F Opening Day Plus Ambient (ODA 2021) PM Traffic Volumes..... | 23 |
| 4-G Opening Day Plus Ambient Plus Project (ODAP 2021) AM Traffic Volumes | 24 |
| 4-H Opening Day Plus Ambient Plus Project (ODAP 2021) PM Traffic Volumes | 25 |
| 4-I 10 Year Horizon Without Project (2029) AM Traffic Volumes | 26 |
| 4-J 10 Year Horizon Without Project (2029) PM Traffic Volumes | 27 |
| 4-K 10 Year Horizon Plus Project (2029) AM Traffic Volumes..... | 28 |
| 4-L 10 Year Horizon Plus Project (2029) PM Traffic Volumes..... | 29 |

LIST OF TABLES

| <u>TABLE</u> | | <u>PAGE</u> |
|--------------|---|-------------|
| 1 | Project Trip Generation Rates | ES-2 |
| 2 | Project Trip Generation Summary | ES-3 |
| 3-1 | Intersection Analysis for Existing (2019) Conditions | 13 |
| 4-1 | Project Trip Generation Rates | 15 |
| 4-2 | Project Trip Generation Summary | 16 |
| 5-1 | Intersection Analysis for Opening Day Plus Ambient (ODA 2021) Conditions..... | 31 |
| 5-2 | Intersection Analysis for Opening Day Plus Ambient Plus Project (ODAP 2021) Conditions | 32 |
| 5-3 | Intersection Analysis for 10 Year Horizon Year (2029) Without Project Conditions | 33 |
| 5-4 | Intersection Analysis for 10 Year Horizon Year (2029) With Project Conditions | 34 |

LIST OF APPENDICES

| | |
|--|-----|
| Scoping Agreement | 3.1 |
| Traffic Count Worksheets | 3.2 |
| Existing (2019) Intersection Analysis Calculation Worksheets | 3.3 |
| Opening Day Plus Ambient (ODA 2021) Intersection Analysis Calculation Worksheets..... | 5.1 |
| Opening Day Plus Ambient Plus Project (ODAP 2021) Intersection Analysis Calculation Worksheets..... | 5.2 |
| Horizon Year (2029) With Project Intersection Analysis Calculation Worksheets..... | 5.4 |
| TRAFFIC SIGNAL WARRANT WORKSHEET | 5.5 |

TTM 20274 TRAFFIC IMPACT ANALYSIS

CITY OF VICTORVILLE, CALIFORNIA

EXECUTIVE SUMMARY

The purpose of this traffic impact analysis (TIA) is to evaluate the traffic impacts of the proposed TTM 20274 development. The project is proposed to be developed by 2021 with 168 single family residential units. The site is located on the northeast corner of Amethyst Road and Eucalyptus Street in the City of Victorville.

The number of vehicular trips generated by a project is typically determined from the trip rates included in the ITE **Trip Generation** manual (10th edition).

Table 1 shows the trip rates for single family residential units. The daily and peak hour trip generations for the proposed project are shown on Table 2. The proposed development is projected to generate a total of approximately 1,586 new trip-ends per day with 126 new vehicle trips per hour during the AM peak hour and 166 new vehicle trips per hour during the PM peak hour.

The traffic study has been conducted in accordance with the City of Victorville traffic study guidelines. These guidelines include the following conditions:

- **Existing (2019) Traffic**
- **Opening Day + Ambient Traffic (ODA 2021)**
- **Opening Day + Ambient + Project (ODAP 2021)**
- **Ten Year Horizon Year (2029) Without Project Conditions**
- **Ten Year Horizon Year (2029) With Project Conditions**

Based on the analysis conducted for the proposed project, no study area intersections were determined to have a direct significant impact due to the proposed project.

Project recommendations include:

- Provide stop sign control at the project driveways.
- On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.
- Verify that minimum sight distance is provided at the project driveways.
- Construct Amethyst Road between the northerly and southerly project boundaries at its ultimate half section width of 51 feet plus 12 feet past the crown to provide 2 lanes of travel.

TABLE 1**TRIP GENERATION RATES¹**

| LAND USE | ITE CODE | QUANTITY | UNITS ² | PEAK HOUR TRIP RATES | | | | | | DAILY |
|----------------------|----------|----------|--------------------|----------------------|------|-------|------|------|-------|-------|
| | | | | AM | | | PM | | | |
| | | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 210 | 168 | DU | 0.19 | 0.56 | 0.75 | 0.62 | 0.37 | 0.99 | 9.44 |

¹ Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 10th Edition, 2017.

² DU=Dwelling Units

TABLE 2

TRIP GENERATION SUMMARY

| LAND USE | QUANTITY | UNITS ¹ | PEAK HOUR | | | | | | DAILY |
|----------------------|----------|--------------------|-----------|-----|-------|-----|-----|-------|-------|
| | | | AM | | | PM | | | |
| | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 168 | DU | 32 | 94 | 126 | 104 | 62 | 166 | 1,586 |

¹ DU = Dwelling Units

TTM 20274 TRAFFIC IMPACT ANALYSIS

CITY OF VICTORVILLE, CALIFORNIA

1.0 INTRODUCTION

A. Purpose of the TIA and Study Objectives

The purpose of this traffic impact analysis (TIA) is to evaluate the traffic impacts of the proposed TTM 20274 development. The project is proposed to be developed with 168 single family residential dwelling units. The site is located on the northeast corner of Amethyst Road and Eucalyptus Street in the City of Victorville. The traffic study will be based on the San Bernardino Association of Governments (SANBAG) Congestion Management Program and Traffic Impact Analysis Guidelines criteria.

Study objectives include the following:

Existing (2019) Traffic. Existing traffic will be counted to determine current conditions. This constitutes the environmental setting for a CEQA analysis at the time that the hearing body reviews the project. Traffic count data shall be new or recent. In some cases, data up to one year old may be acceptable with the approval of the City of Victorville Engineering Department. Any exception to this must be requested prior to approval of the scoping agreement

Opening Day + Ambient (ODA 2021). Traffic conditions prior to the time that the proposed development is completed will be estimated by increasing the existing traffic counts by an appropriate growth rate to be provided by City of Victorville Engineering Department staff, projected to the year that the project is estimated to be completed. Traffic generated by other cumulative projects will then be added, and the impacts on the circulation system will be analyzed. This will be the basis for determining “no-project” conditions.

Opening Day + Ambient + Project (ODAP 2021). Traffic generated by the project will be added to the “No Project” conditions identified in Scenario 2. This scenario will identify the potential project impacts to the circulation system.

10 Year Horizon Year (2029) Without Project. The 10 year Horizon Year forecasts have been developed based on applying a 2% annual growth rate to the existing traffic volumes.

10 Year Horizon Year (2029) With Project. The project traffic has been added to the 10 Year Horizon Year traffic volumes to determine the potential long range impacts due to the project traffic.

B. Site Location and Study Area

The site is located on the northeast corner of Amethyst Road and Eucalyptus Street in the City of Victorville. Figure 1-A illustrates the site location and the traffic analysis study area.

In general, the study area shall include any intersection of Collector or higher classification street with another Collector roadway or higher classification street, at which the proposed project will add 50 or more peak hour trips. Per discussion with City Staff, the study area includes the following intersections:

| STUDY AREA INTERSECTIONS | |
|---------------------------------|---|
| 1. | Amethyst/Eucalyptus |
| 2. | Amargosa/Eucalyptus |
| 3. | Amargosa/Bear Valley Road |
| 4. | Amethyst/ Bear Valley Road |
| 5. | Amethyst/Sycamore – Future Intersection |

C. Development Project Identification

1. Project Size and Description

The TTM 20274 site is proposed to be developed by 2021. The following uses are proposed as indicated below:

- 168 single family residential units

2. Existing Land Use

The project site is currently vacant. Adjacent uses include the following:

- North – Vacant
- South – Vacant
- East – Vacant
- West – Vacant

3. Proposed Land Use

Proposed Land Use: Residential

4. Site Plan of Proposed Project

Figure 1-B illustrates the conceptual land use plan. As shown in Figure 1-B, the project is proposed to have two access driveways along Amethyst Road and an emergency access to Eucalyptus Road.

FIGURE 1-A STUDY AREA

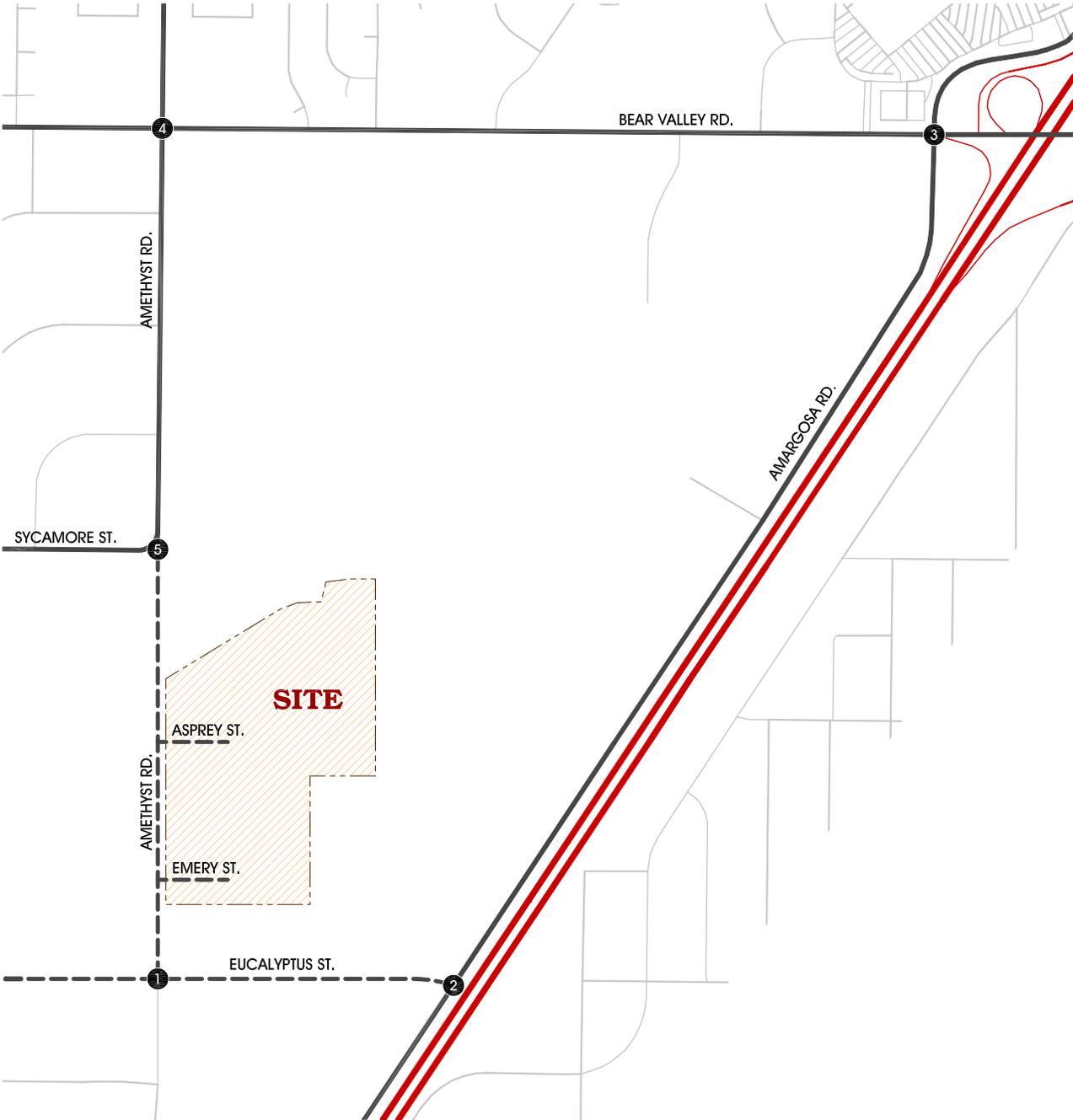
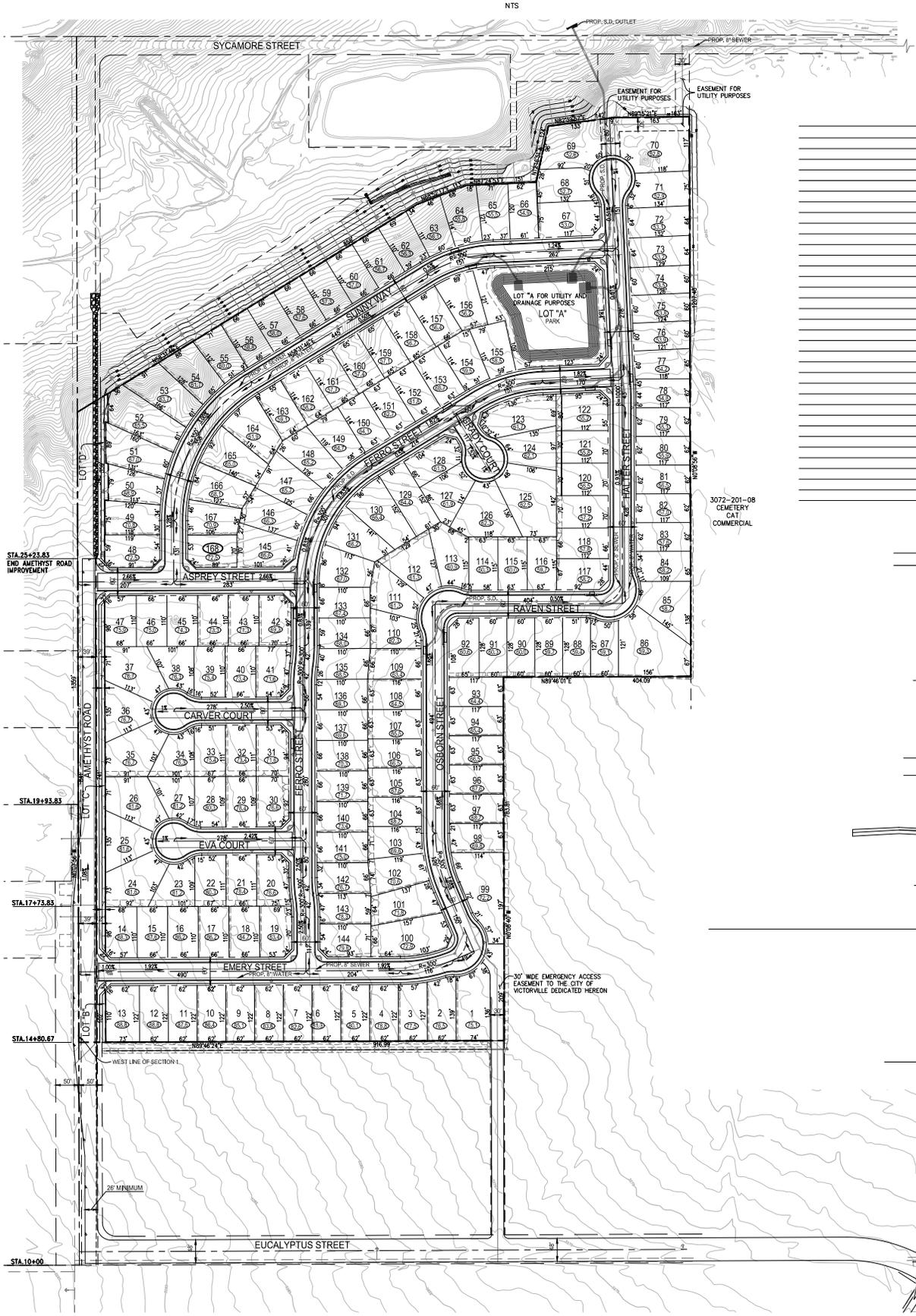


FIGURE 1-B SITE PLAN



3072-201-08
CEMETERY
CAT
COMMERCIAL

5. Proposed Project Opening Year

The proposed project is anticipated to be completed by 2021. Future traffic analysis has been based on a background (ambient) growth of 2% per year, along with traffic generated by other future developments in the surrounding area.

6. Proposed Project Phasing

The project is expected to be completed in a single phase. Therefore, all traffic recommendations included in this report have been assumed to be completed by 2021.

2.0 TRAFFIC ANALYSIS METHODOLOGIES

Traffic operations are quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an infrastructure facility (intersection) representing progressively worsening traffic conditions. This section presents the LOS definition, LOS criteria and methodologies for the Intersection Operations.

A. Level of Service Definition

The definitions of Level of Service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS "A": Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
- LOS "B": Free flow conditions, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS "A", but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
- LOS "C": The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.
- LOS "D": The ability to maneuver is restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
- LOS "E": Operations at or near capacity, an unstable level. Vehicles are operating with the minimum spacing for maintaining uniform flow.
- LOS "F": Forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

B. City of Victorville Level of Service Criteria

The City of Victorville General Plan has established Level of Service (LOS) “D” as the target along all City maintained intersections, roads and conventional state highways. Therefore, LOS “E” or “F” is considered unacceptable and requires improvements measures if the project causes significant impacts.

C. Intersection Operations Analysis Methodology

The City of Victorville requires the use of the Transportation Research Board - Highway Capacity Manual (HCM), 2016 Update, or most recent release. The HCM defines level of service as a qualitative measure, which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate Level of Service (LOS) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control.

The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The Levels of Service results in this study are determined using the HCM methodology.

For signalized intersections, average total delay per vehicle for the overall intersection is used to determine level of service.

The study area intersections which are stop sign controlled with stop control on the minor street only have been analyzed using the unsignalized intersection methodology of the HCM. For these intersections, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street. Using data collected describing the intersection configuration and traffic volumes at the study area locations; the level of service has been calculated. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle for the worst minor street movement(s).

For all way stop (AWS) controlled intersections, the ability of vehicles to enter the intersection is not controlled by the occurrence of gaps in the flow of the main street. The AWS controlled intersections have been evaluated using the HCM methodology for this type of multi-way stop controlled intersection configuration. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle.

The levels of service are defined for the various analysis methodologies as follows:

| LEVEL OF SERVICE | AVERAGE TOTAL DELAY PER VEHICLE (SECONDS) | |
|------------------|--|----------------|
| | SIGNALIZED | UNSIGNALIZED |
| A | 0 to 10.00 | 0 to 10.00 |
| B | 10.01 to 20.00 | 10.01 to 15.00 |
| C | 20.01 to 35.00 | 15.01 to 25.00 |
| D | 35.01 to 55.00 | 25.01 to 35.00 |
| E | 55.01 to 80.00 | 35.01 to 50.00 |
| F | 80.01 and up | 50.01 and up |

Peak hour factors (PHF), where known from existing traffic counts, have been used to assess intersection operations.

3.0 AREA CONDITIONS

A. Study Area Intersections

In general, the minimum area to be studied shall include any intersection of “Collector” or higher classification street, with “Collector” or higher classification streets, at which the proposed project could have a significant impact. The City of Victorville Engineering Department may require deviation from these requirements based on area conditions. Pursuant to the attached scoping agreement (see Appendix 3.1), and discussions with City of Victorville staff, the study area include the following intersections (shown previously on Figure 1-A):

| STUDY AREA INTERSECTIONS | |
|--------------------------|---|
| 1. | Amethyst/Eucalyptus |
| 2. | Amargosa/Eucalyptus |
| 3. | Amargosa/Bear Valley Road |
| 4. | Amethyst/ Bear Valley Road |
| 5. | Amethyst/Sycamore – Future Intersection |

B. Area Roadway System

Figure 3-A identifies the existing roadway conditions for study area roadways. The existing intersection traffic controls and geometrics are identified.

C. Existing (2019) Traffic Volumes

Existing intersection level of service calculations are based upon manual AM and PM peak hour turning movement counts made for Trames Solutions, Inc. in September 2019 while school was in session. Existing (2019) AM and PM peak hour intersection turning movement volumes are shown on Figures 3-B and 3-C. The traffic count worksheets are included in Appendix 3.2.

D. Existing (2019) Delay and Level of Service

The City of Victorville has established Level of Service (LOS) “D” as the maximum allowable threshold for the intersection operations. Therefore, LOS “E” or “F” is considered unacceptable and requires improvements measures.

The results of the existing conditions intersection analysis are summarized in Table 3-1. The existing condition operations analysis worksheets are provided in Appendix "3.3". As shown on Table 3-1, the study area intersections are currently operating at an acceptable level of service (LOS “D” or better) during the peak hours with the existing geometry and traffic controls.

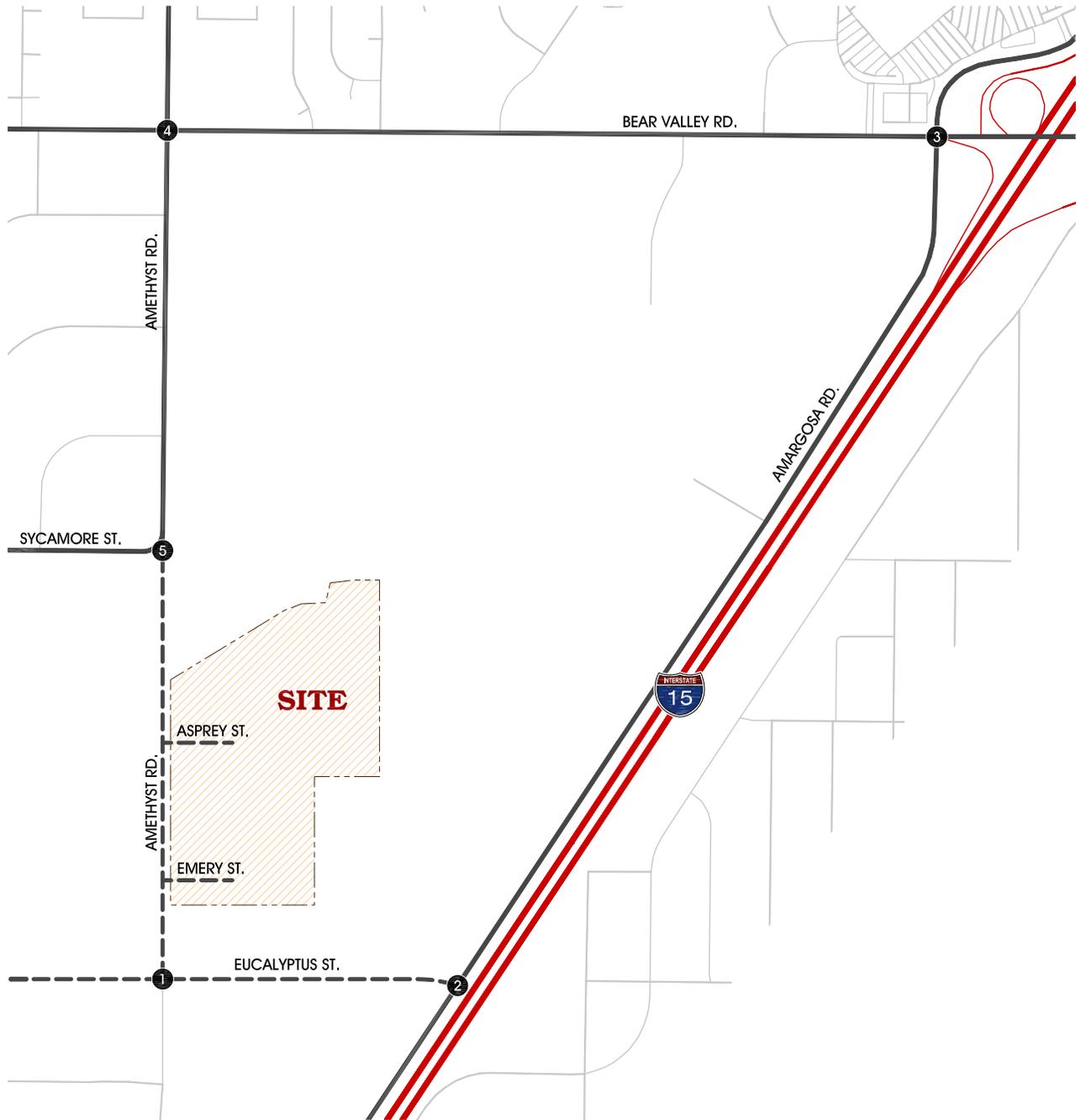
FIGURE 3-A INTERSECTION TRAFFIC CONTROLS AND GEOMETRICS



| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Auto Center Dr. (EW) |
|------------------------------------|------------------------------------|-------------------------------------|---|
| | | | |



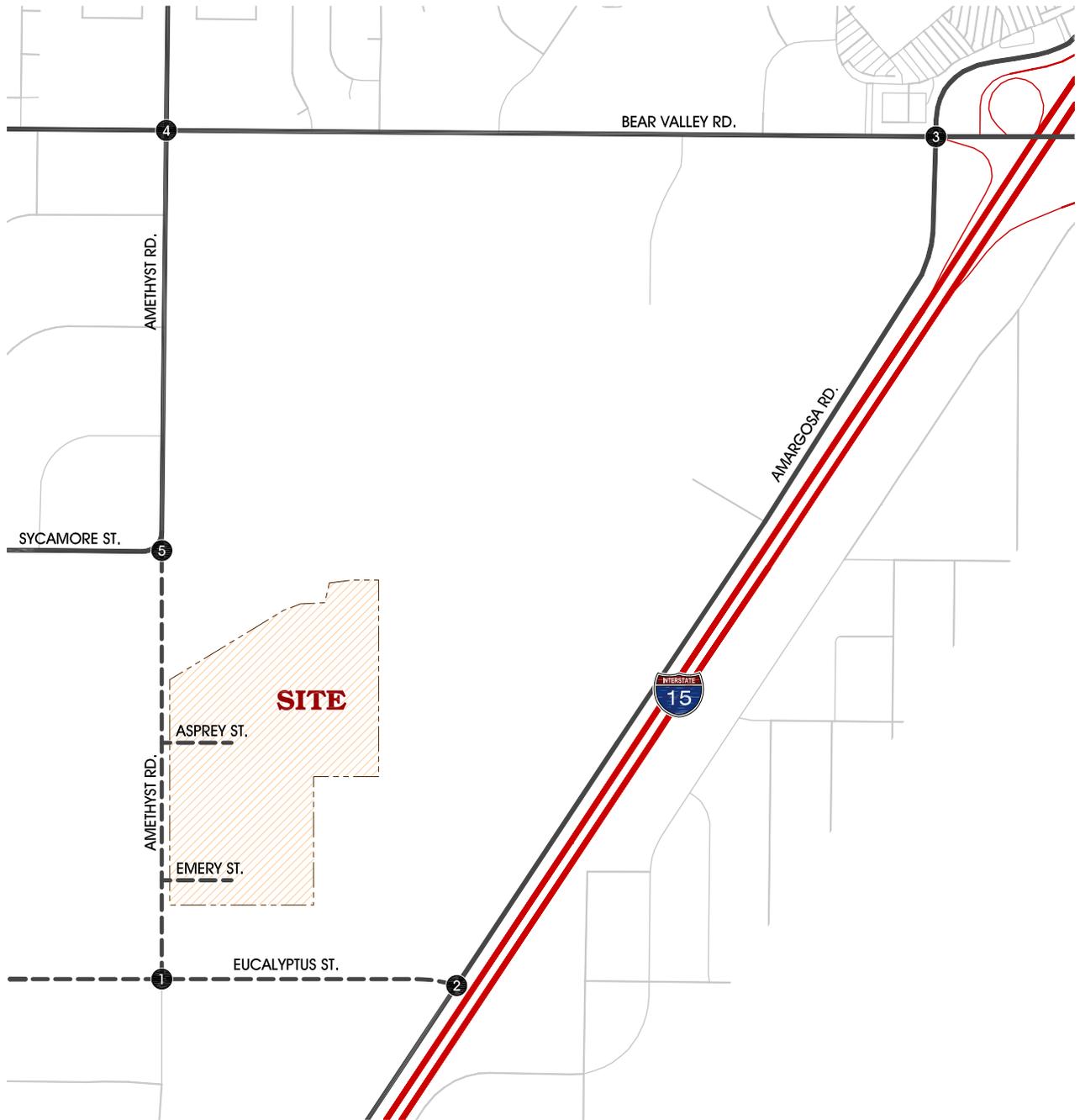
FIGURE 3-B EXISTING AM PEAK HOUR VOLUMES



| 1. Amethyst (NS) / Eucalyptus (EW) | | 2. Amargosa (NS) / Eucalyptus (EW) | | 3. Amargosa (NS) / Bear Valley (EW) | | 4. Amethyst (NS) / Bear Valley (EW) | |
|------------------------------------|----|------------------------------------|-----|-------------------------------------|------|-------------------------------------|------|
| ↓0 | ↑1 | ↓4 | ↑0 | ↓40 | ↑147 | ↓62 | ↑107 |
| →0 | ←2 | →203 | ←0 | →100 | ←912 | →48 | ←387 |
| ←2 | →0 | ←0 | →0 | ←102 | →169 | ←249 | →53 |
| 0 | 0 | 3 | 0 | 60 | 54 | 73 | 16 |
| 4 | 0 | 0 | 165 | 1134 | 65 | 878 | 49 |
| 0 | 2 | 0 | 0 | 96 | 178 | 3 | 141 |



FIGURE 3-C EXISTING (2019) PM PEAK HOUR VOLUMES



| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|--|--|---|--|
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>0</p> <p>1</p> <p>4</p> <p>0</p> </div> <div style="text-align: center;"> <p>0</p> <p>0</p> <p>0</p> <p>1</p> </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>6</p> <p>342</p> <p>0</p> <p>0</p> </div> <div style="text-align: center;"> <p>2</p> <p>0</p> <p>0</p> <p>0</p> </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>114</p> <p>282</p> <p>301</p> <p>99</p> <p>1070</p> <p>119</p> </div> <div style="text-align: center;"> <p>249</p> <p>1328</p> <p>260</p> <p>142</p> <p>172</p> <p>341</p> </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>96</p> <p>98</p> <p>259</p> <p>103</p> <p>711</p> <p>5</p> </div> <div style="text-align: center;"> <p>219</p> <p>900</p> <p>135</p> <p>54</p> <p>56</p> <p>138</p> </div> </div> |



TABLE 3-1

**INTERSECTION ANALYSIS FOR
EXISTING (2019) CONDITIONS**

| ID | Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service ³ | |
|----|------------------------------|------------------------------|--|---|----|------------|-----|---|-----------|---|---|-----------|---|----|-------------------------------|------|-------------------------------|----|
| | | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 | Amethyst Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 8.7 | 9.0 | A | A |
| 2 | Amargosa Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 11.9 | 15.6 | B | C |
| 3 | Amargosa Rd./Bear Valley Rd. | TS | 1 | 1 | 1> | 2 | 2 | 0 | 1 | 4 | 1 | 1 | 3 | 1> | 37.4 | 41.8 | D | D |
| 4 | Amethyst Rd./Bear Valley Rd. | TS | 1 | 2 | 0 | 1.5 | 1.5 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 35.4 | 44.4 | D | D |

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane;

>>= Free Right Turn; > = Right Turn Overlap; d = Defacto Right Turn Lane

³ Delay and level of service calculated using the following analysis software: Synchro 10

4.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area.

A. Project Traffic

1. Ambient Growth Rate

Some traffic volume increases on roadways can be attributed to vehicles originating outside of the study area. These types of trips either end up within the study area or pass-through onto an outside destination. Therefore, to account for these trips (termed “ambient growth”), a growth rate can be applied to existing traffic volumes. A 2% per year annual rate has been applied to the existing counts.

2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land use which has been planned for this development. For the purpose of this analysis, the following land use assumption is evaluated:

- 168 single family residential units

The amount of vehicular trips generated by a project is typically determined from the trip rates included in the ITE **Trip Generation** manual. The latest version (10th edition). Trip generation rates for the proposed development are driven by the number of residential units. The peak hour and daily trip rates shown in Table 4-1.

The daily and peak hour trip generations for the proposed project are shown on Table 4-2. The proposed development is projected to generate a total of approximately 1,586 new trip-ends per day with 126 new vehicle trips per hour during the AM peak hour and 166 new vehicle trips per hour during the PM peak hour.

3. Project Trip Distribution and Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. The project’s trip distribution patterns are based on the proximity of the project to the proposed driveway locations, the surrounding trip attractors, and the regional freeway interchanges. The opening day trip distribution patterns for the project are illustrated on Figure 4-A. For the 10- year horizon year, Amethyst Road is anticipated to be extended north to Sycamore Street. Therefore, Figure 4-B illustrates the anticipated trip distribution pattern with this new extension.

4. Project Peak Hour Turning Movement Traffic

TABLE 4-1

TRIP GENERATION RATES¹

| LAND USE | ITE CODE | QUANTITY | UNITS ² | PEAK HOUR TRIP RATES | | | | | | DAILY |
|----------------------|----------|----------|--------------------|----------------------|------|-------|------|------|-------|-------|
| | | | | AM | | | PM | | | |
| | | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 210 | 168 | DU | 0.19 | 0.56 | 0.75 | 0.62 | 0.37 | 0.99 | 9.44 |

¹ Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 10th Edition, 2017.

² DU=Dwelling Units

TABLE 4-2

TRIP GENERATION SUMMARY

| LAND USE | QUANTITY | UNITS ¹ | PEAK HOUR | | | | | | DAILY |
|----------------------|----------|--------------------|-----------|-----|-------|-----|-----|-------|-------|
| | | | AM | | | PM | | | |
| | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 168 | DU | 32 | 94 | 126 | 104 | 62 | 166 | 1,586 |
| Total | | | 32 | 94 | 126 | 104 | 62 | 166 | 1,586 |

¹ DU = Dwelling Units

FIGURE 4-A PROJECT TRIP DISTRIBUTION

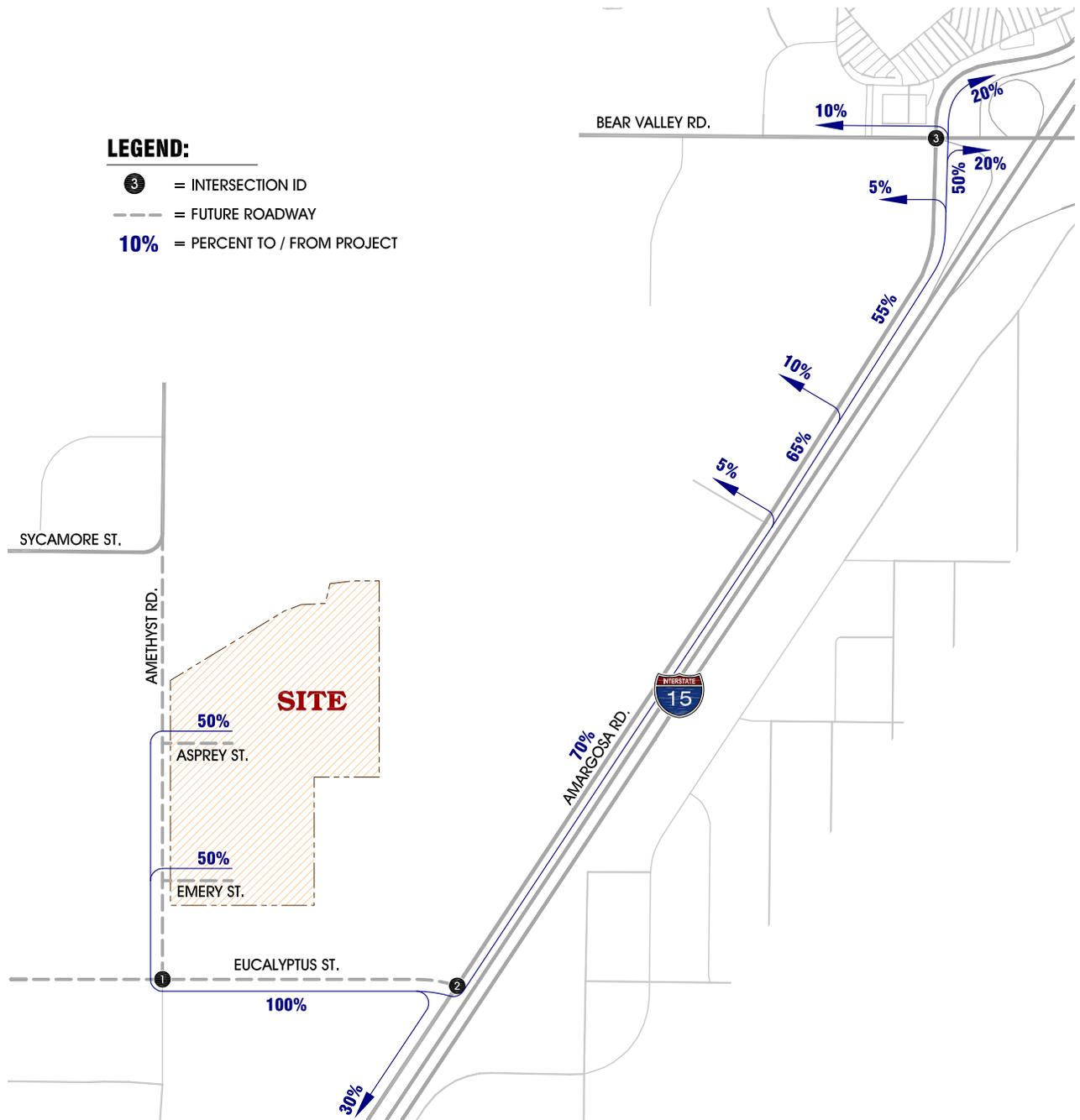
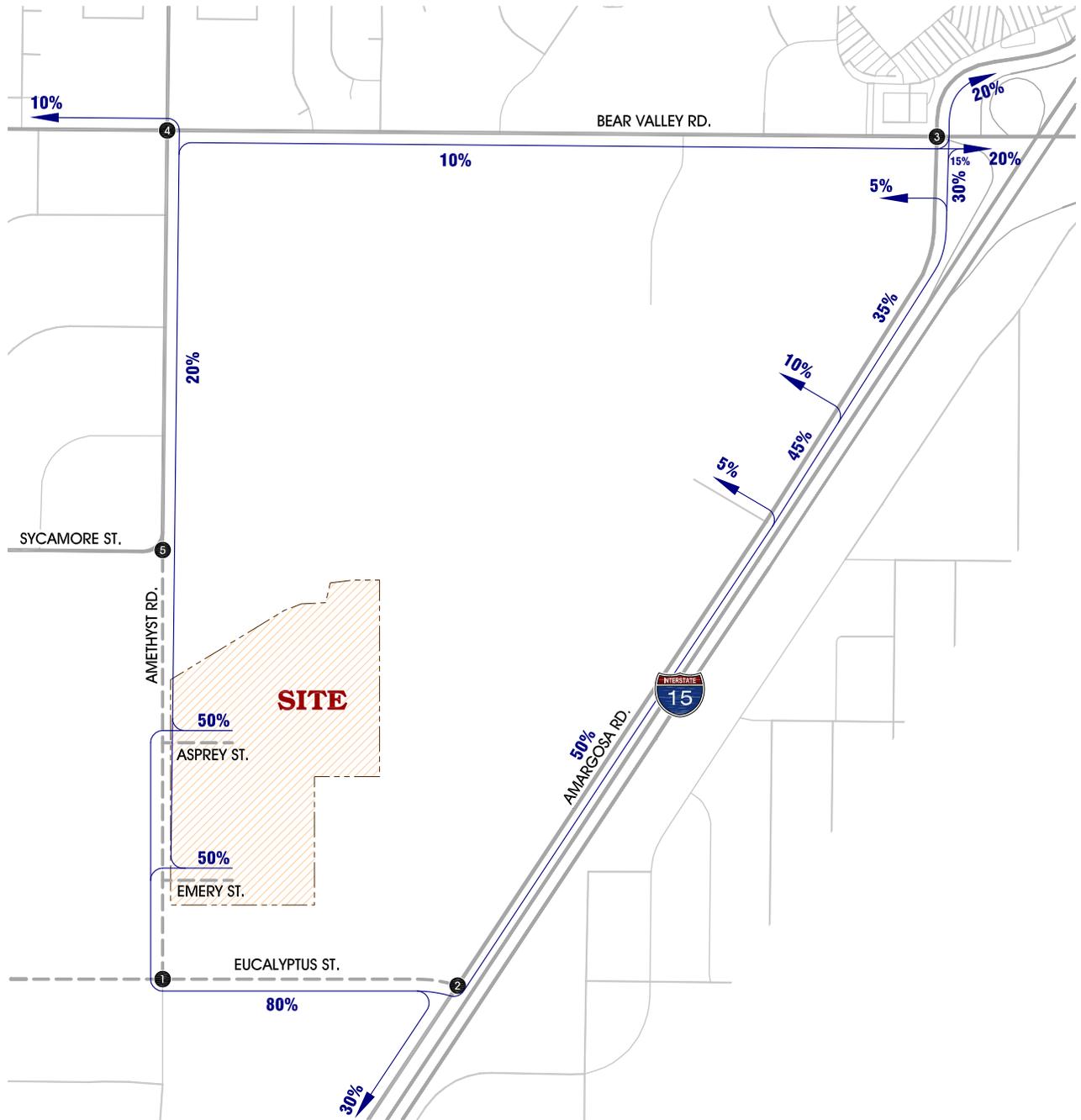


FIGURE 4-B PROJECT TRIP DISTRIBUTION (FUTURE 10-YR SCENARIO)



LEGEND:

- 5 = INTERSECTION ID
- = FUTURE ROADWAY
- 10%** = PERCENT TO / FROM PROJECT



The assignment of traffic from the site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, proposed arterial highway and local street systems, which would be in place by the time of initial occupancy of the site. Based on the identified project traffic generation and distribution, Project traffic volumes are shown on Figures 4-C and 4-D.

B. Cumulative Traffic (Background)

1. Method of Projection

To assess Opening Day Plus ambient plus cumulative plus project traffic conditions, project traffic is combined with existing traffic, area-wide growth and other future developments which are approved or being processed concurrently in the study area. Developments which are being processed concurrently in the study area have been provided by the City of Victorville staff. Based on the data provided by City staff, no projects generating a significant amount of trips were identified within a two mile radius from the project.

5. Total Background Peak Hour Turning Movement Volumes

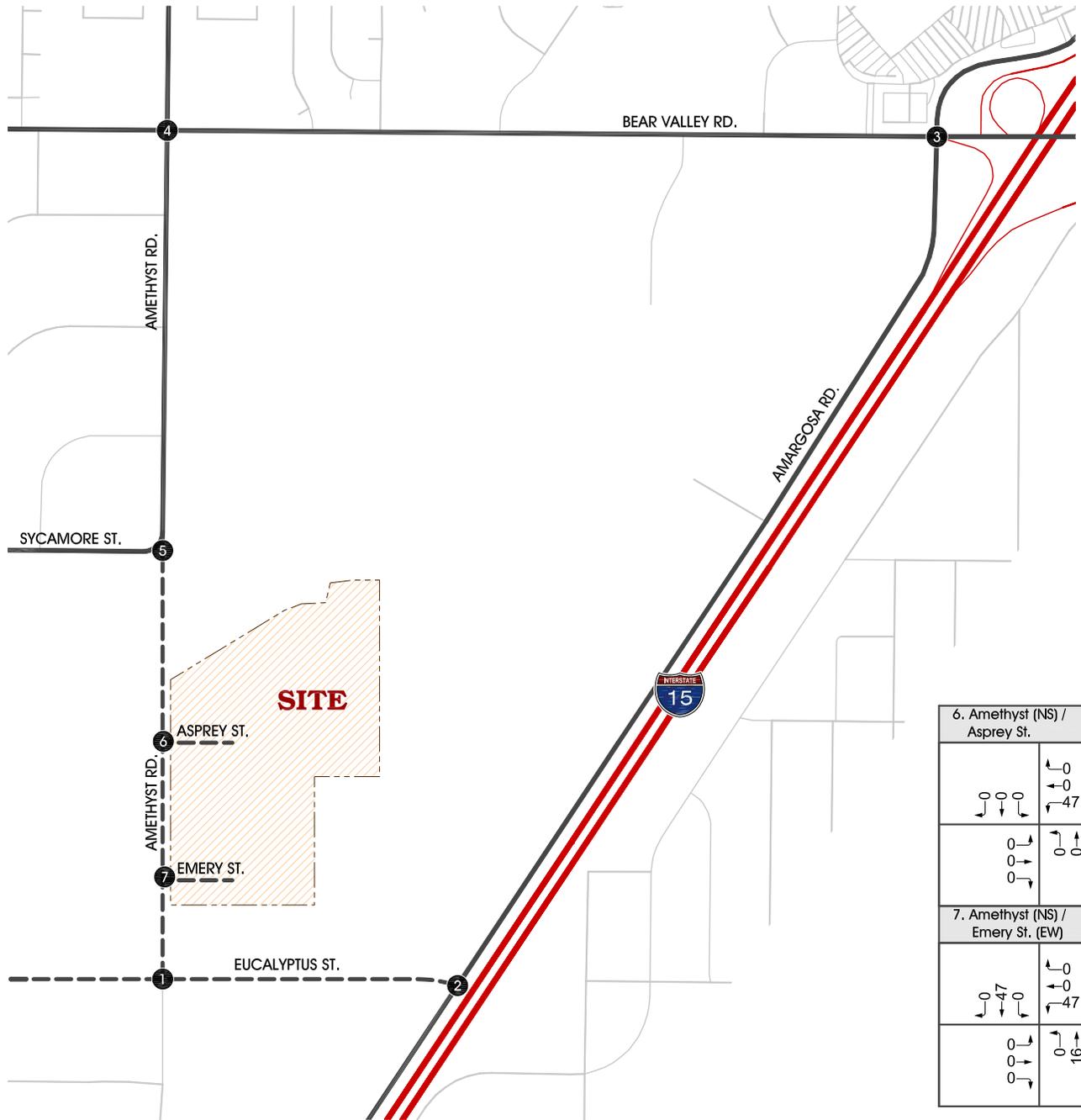
Opening Day plus Ambient (ODA 2021) traffic volumes are shown on Figures 4-E and 4-F.

Opening Day plus Ambient plus Project (ODAP 2021) traffic volumes are shown on Figures 4-G and 4-H.

Horizon Year (2019) Without Project Traffic Volumes are shown on Figures 4-I and 4-J. These forecasts were based on the adding the project traffic to the Horizon Year without Project traffic forecasts. The 10-year horizon year volumes were based on applying a 2% ambient growth rate for a 10-year timeframe.

10-Year Horizon Year (2029) With Project AM and PM peak hour intersection turning movement volumes are shown on Figures 4-K and 4-L.

FIGURE 4-C PROJECT ONLY AM PEAK HOUR VOLUMES

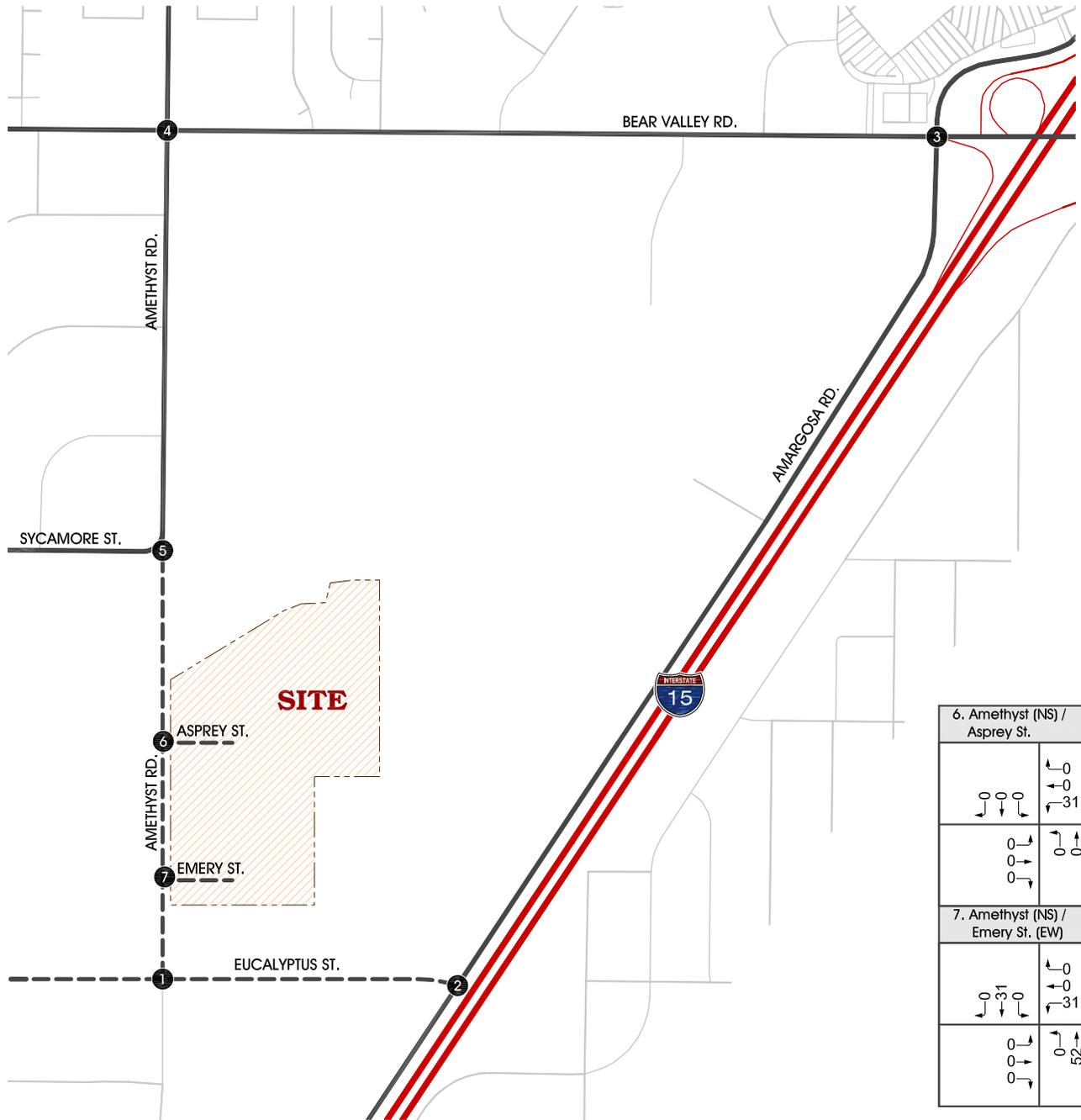


| 6. Amethyst (NS) / Asprey St. | |
|-----------------------------------|--|
| | |
| 7. Amethyst (NS) / Emery St. (EW) | |
| | |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| | | | |
| | | | |



FIGURE 4-D PROJECT ONLY PM PEAK HOUR VOLUMES

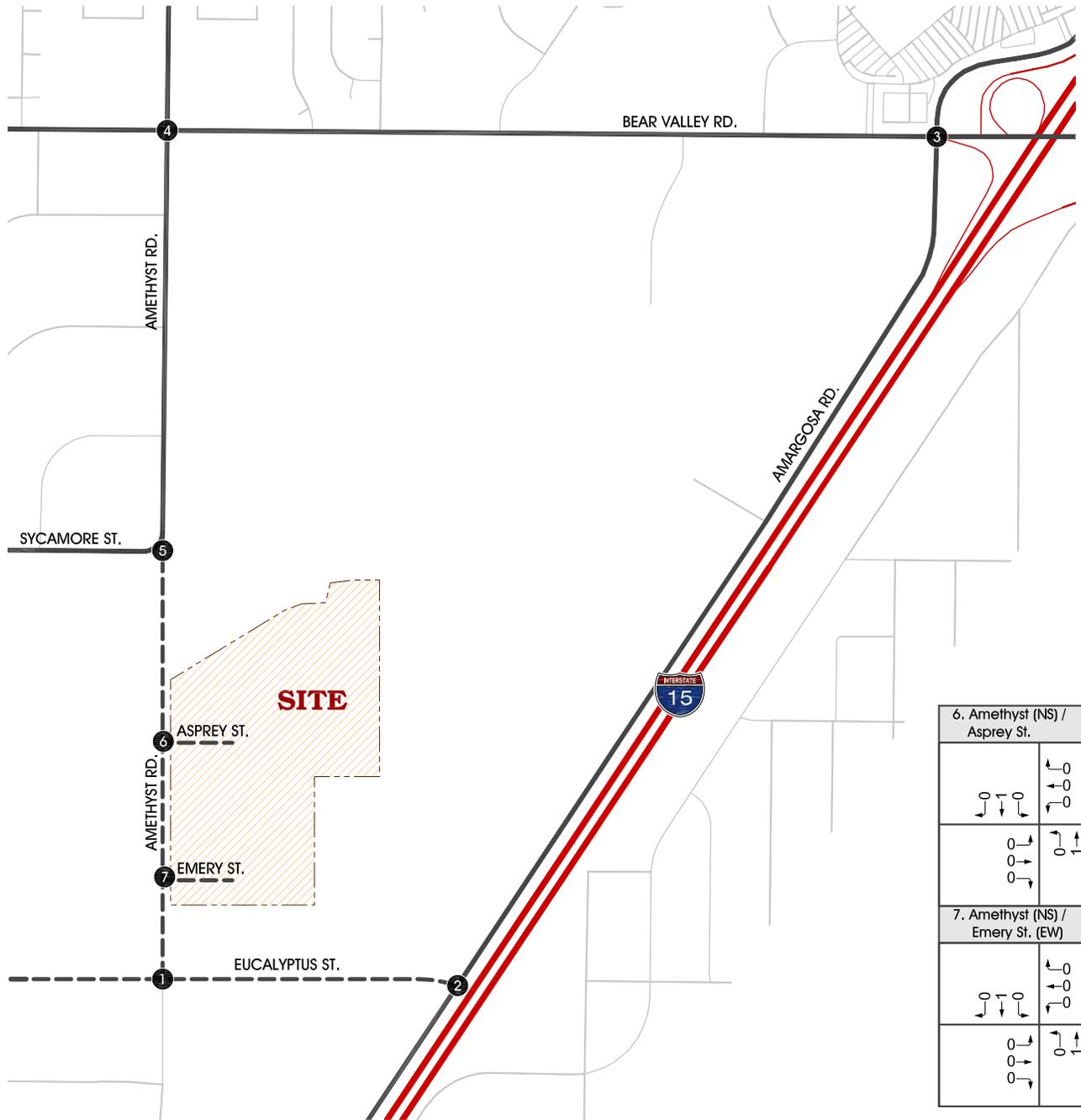


| 6. Amethyst (NS) / Asprey St. | |
|-----------------------------------|-----------------------------|
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 52 |
| 31 | |
| 7. Amethyst (NS) / Emery St. (EW) | |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 52 |
| 31 | |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| 0 ↓ 0 ↓ 0 ↓ | ↑ 104 ↑ 0 ↑ 0 | 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 6 |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 | 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 |
| 62 | 73 | 21 | 21 |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 43 ↑ 0 ↑ 19 | 0 ↓ 0 ↓ 0 ↓ | ↑ 10 ↑ 0 ↑ 0 |
| 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 | 0 ↓ 0 ↓ 0 ↓ | ↑ 0 ↑ 0 ↑ 0 |
| 0 | 31 | 6 | 12 |
| 0 | 0 | 12 | 12 |



FIGURE 4-E OPENING DAY PLUS AMBIENT AM PEAK HOUR VOLUMES

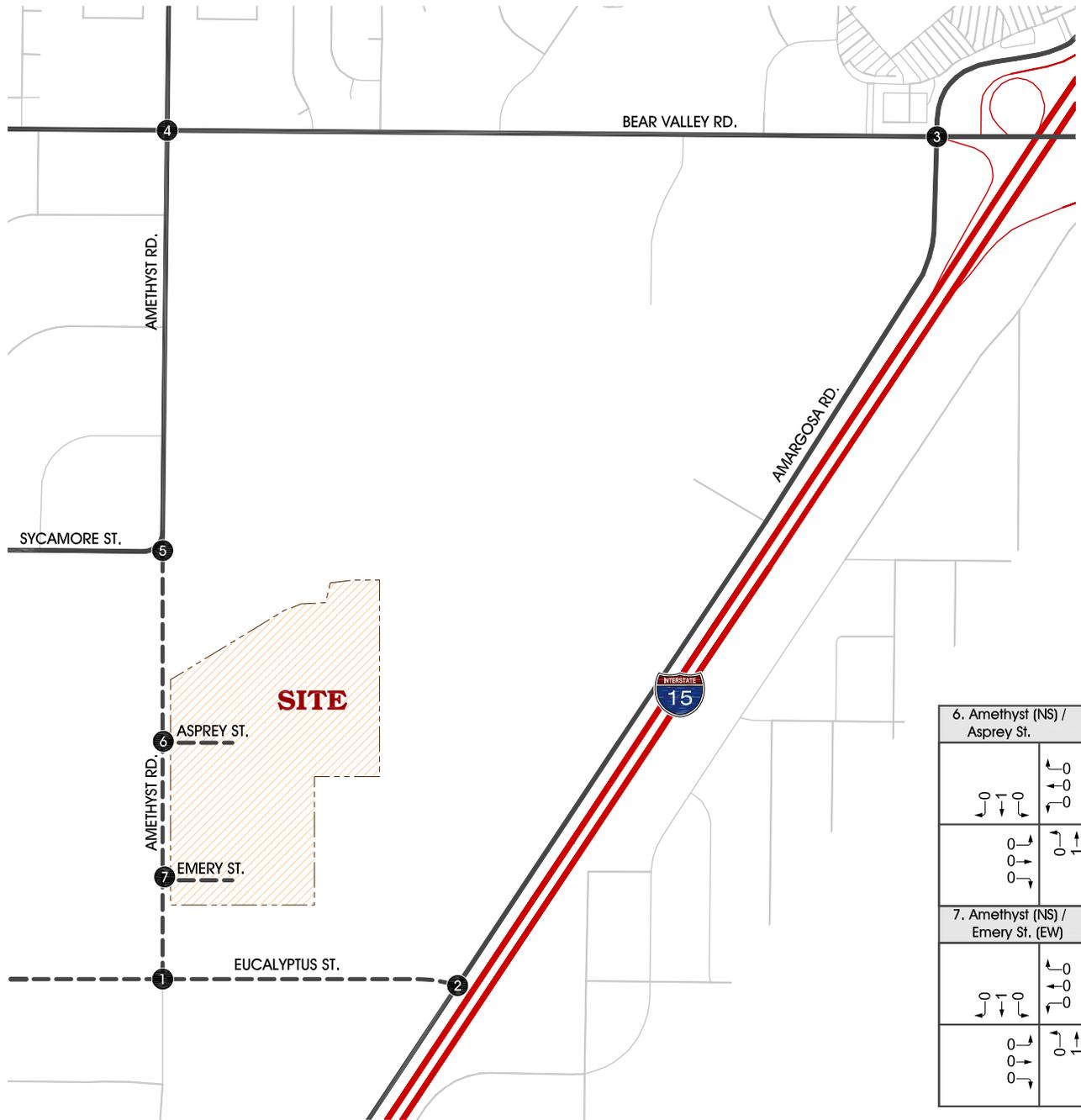


| 6. Amethyst (NS) / Asprey St. | |
|--------------------------------------|--|
| | |
| 7. Amethyst (NS) / Emery St. (EW) | |
| | |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|---------------------------------------|---------------------------------------|--|--|
| | | | |
| | | | |



FIGURE 4-F OPENING DAY PLUS AMBIENT PM PEAK HOUR VOLUMES

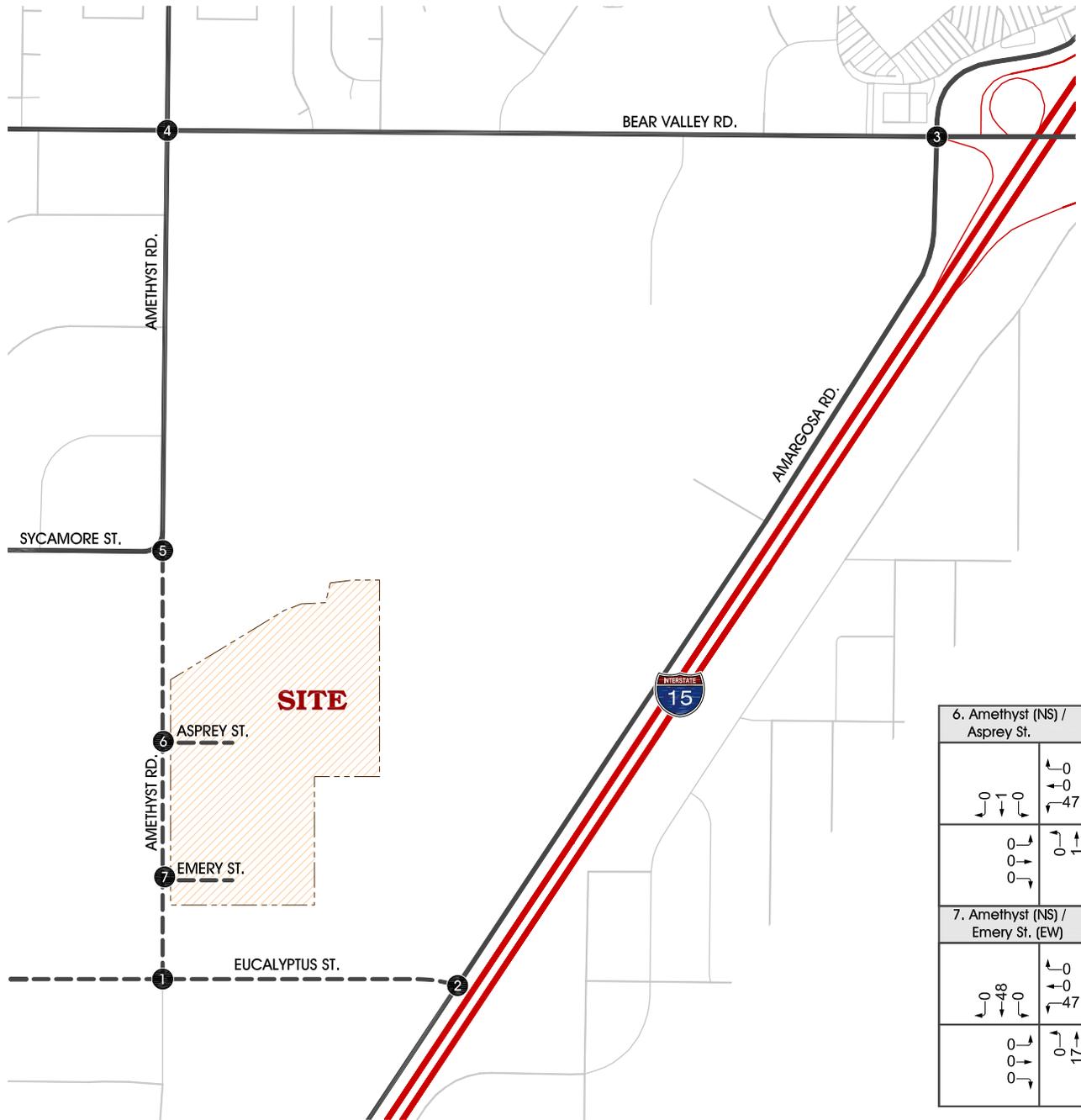


| 6. Amethyst (NS) / Asprey St. | |
|-----------------------------------|--|
| | |
| | |
| 7. Amethyst (NS) / Emery St. (EW) | |
| | |
| | |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| | | | |



FIGURE 4-G OPENING DAY (AMBIENT + PROJECT) AM PEAK HOUR

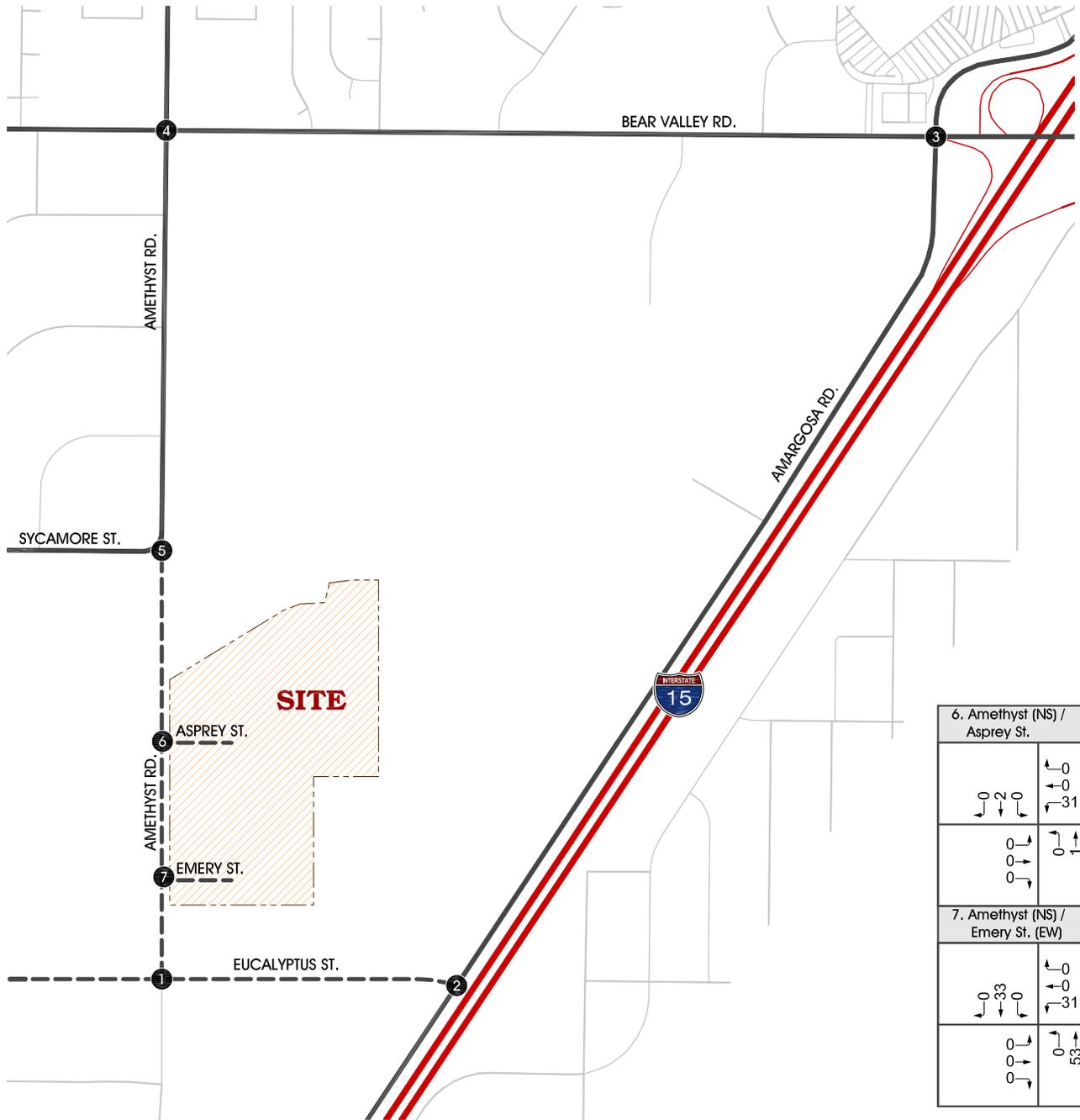


| 6. Amethyst (NS) / Asprey St. | |
|-----------------------------------|-------------------------|
| 0 ↓ 0 ↓ 0 | 0 ↑ 0 ↑ 0 |
| 0 ↑ 0 ↑ 0 | 0 ↓ 1 ↓ 16 |
| 7. Amethyst (NS) / Emery St. (EW) | |
| 0 ↓ 0 ↓ 0 | 0 ↑ 0 ↑ 0 |
| 0 ↑ 0 ↑ 0 | 0 ↓ 17 ↓ 16 |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| 0 ↓ 0 ↓ 0 | 26 ↓ 211 ↓ 0 | 42 ↓ 110 ↓ 106 | 64 ↓ 50 ↓ 259 |
| 0 ↑ 4 ↑ 0 | 69 ↑ 0 ↑ 28 | 62 ↑ 1179 ↑ 103 | 76 ↑ 916 ↑ 3 |
| 33 ↑ 2 ↑ 2 | 0 ↑ 0 ↑ 0 | 153 ↑ 948 ↑ 182 | 111 ↑ 411 ↑ 55 |
| 0 ↑ 0 ↑ 2 | 10 ↑ 172 ↑ 0 | 65 ↑ 87 ↑ 204 | 17 ↑ 51 ↑ 147 |



FIGURE 4-H OPENING DAY (AMBIENT+PROJECT) PM PEAK HOUR

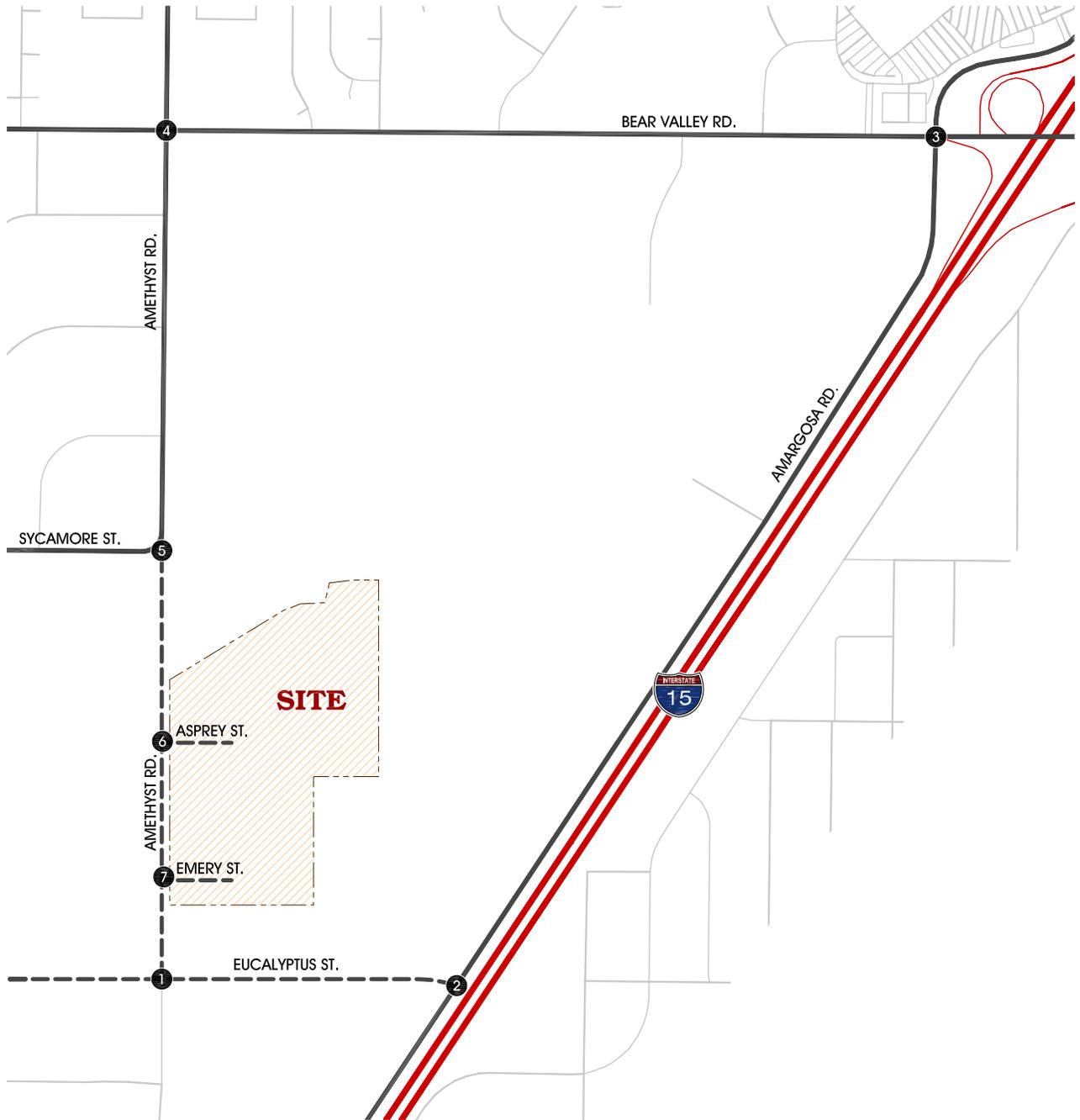


| 6. Amethyst (NS) / Asprey St. | |
|---|---|
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 2 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 0 \\ \leftarrow 3 \\ \leftarrow 1 \\ \leftarrow 0 \\ \leftarrow 0 \\ \leftarrow 52 \end{matrix}$ |
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 0 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 0 \\ \leftarrow 1 \\ \leftarrow 52 \end{matrix}$ |
| 7. Amethyst (NS) / Emery St. (EW) | |
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 33 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 0 \\ \leftarrow 3 \\ \leftarrow 1 \\ \leftarrow 0 \\ \leftarrow 0 \\ \leftarrow 52 \end{matrix}$ |
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 0 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 0 \\ \leftarrow 53 \\ \leftarrow 52 \end{matrix}$ |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) |
|---|---|---|---|
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 1 \\ \leftarrow 63 \end{matrix}$ | $\begin{matrix} \leftarrow 104 \\ \leftarrow 5 \\ \leftarrow 2 \end{matrix}$ | $\begin{matrix} \leftarrow 119 \\ \leftarrow 314 \\ \leftarrow 313 \end{matrix}$ | $\begin{matrix} \leftarrow 259 \\ \leftarrow 1381 \\ \leftarrow 291 \end{matrix}$ |
| $\begin{matrix} \leftarrow 1 \\ \leftarrow 4 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 45 \\ \leftarrow 0 \\ \leftarrow 19 \end{matrix}$ | $\begin{matrix} \leftarrow 103 \\ \leftarrow 1113 \\ \leftarrow 134 \end{matrix}$ | $\begin{matrix} \leftarrow 107 \\ \leftarrow 749 \\ \leftarrow 5 \end{matrix}$ |
| $\begin{matrix} \leftarrow 0 \\ \leftarrow 0 \\ \leftarrow 1 \end{matrix}$ | $\begin{matrix} \leftarrow 32 \\ \leftarrow 396 \\ \leftarrow 0 \end{matrix}$ | $\begin{matrix} \leftarrow 154 \\ \leftarrow 191 \\ \leftarrow 367 \end{matrix}$ | $\begin{matrix} \leftarrow 56 \\ \leftarrow 58 \\ \leftarrow 144 \end{matrix}$ |



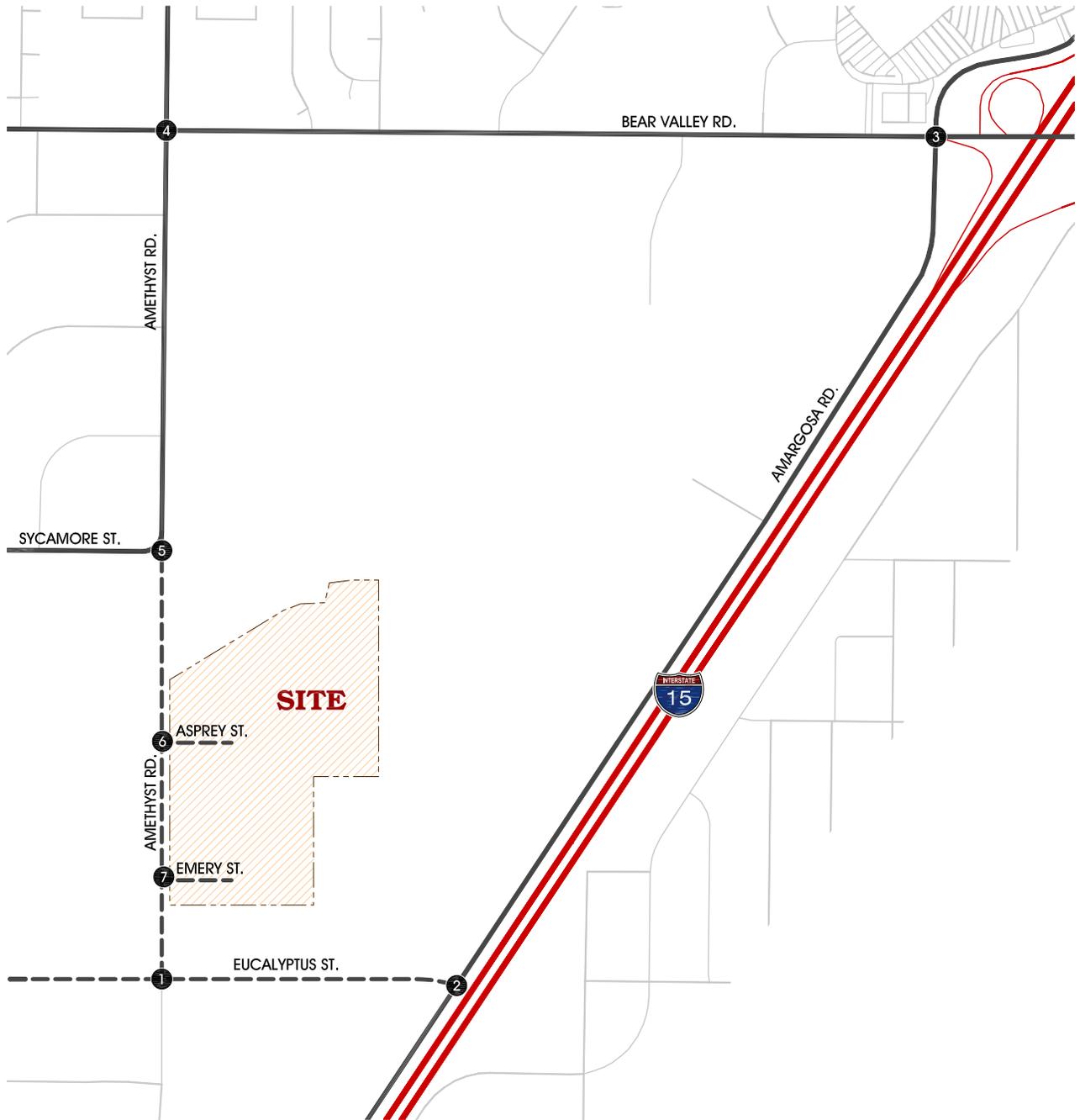
FIGURE 4-I 10 YEAR HORIZON WITHOUT PROJECT AM PEAK HOUR



| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) | 5. Amethyst (NS) / Sycamore |
|--|--|--|---|--|
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 0 ↓ 0 ↓ 1 </div> <div style="text-align: center;"> ↖ 1 ↖ 2 ↖ 2 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↖ 5 ↖ 247 ↖ 0 </div> <div style="text-align: center;"> ↖ 0 ↖ 0 ↖ 0 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↖ 49 ↖ 122 ↖ 124 </div> <div style="text-align: center;"> ↖ 179 ↖ 1112 ↖ 206 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↖ 76 ↖ 59 ↖ 304 </div> <div style="text-align: center;"> ↖ 130 ↖ 472 ↖ 65 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↖ 56 ↖ 0 ↖ 0 </div> <div style="text-align: center;"> ↖ 0 ↖ 0 ↖ 0 </div> </div> |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 0 ↓ 5 ↓ 0 </div> <div style="text-align: center;"> ↓ 0 ↓ 0 ↓ 2 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 4 ↓ 0 ↓ 0 </div> <div style="text-align: center;"> ↓ 0 ↓ 201 ↓ 0 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 73 ↓ 1382 ↓ 117 </div> <div style="text-align: center;"> ↓ 66 ↓ 79 ↓ 217 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 89 ↓ 1070 ↓ 4 </div> <div style="text-align: center;"> ↓ 20 ↓ 60 ↓ 172 </div> </div> | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> ↓ 179 ↓ 0 ↓ 0 </div> <div style="text-align: center;"> ↓ 0 ↓ 0 ↓ 0 </div> </div> |



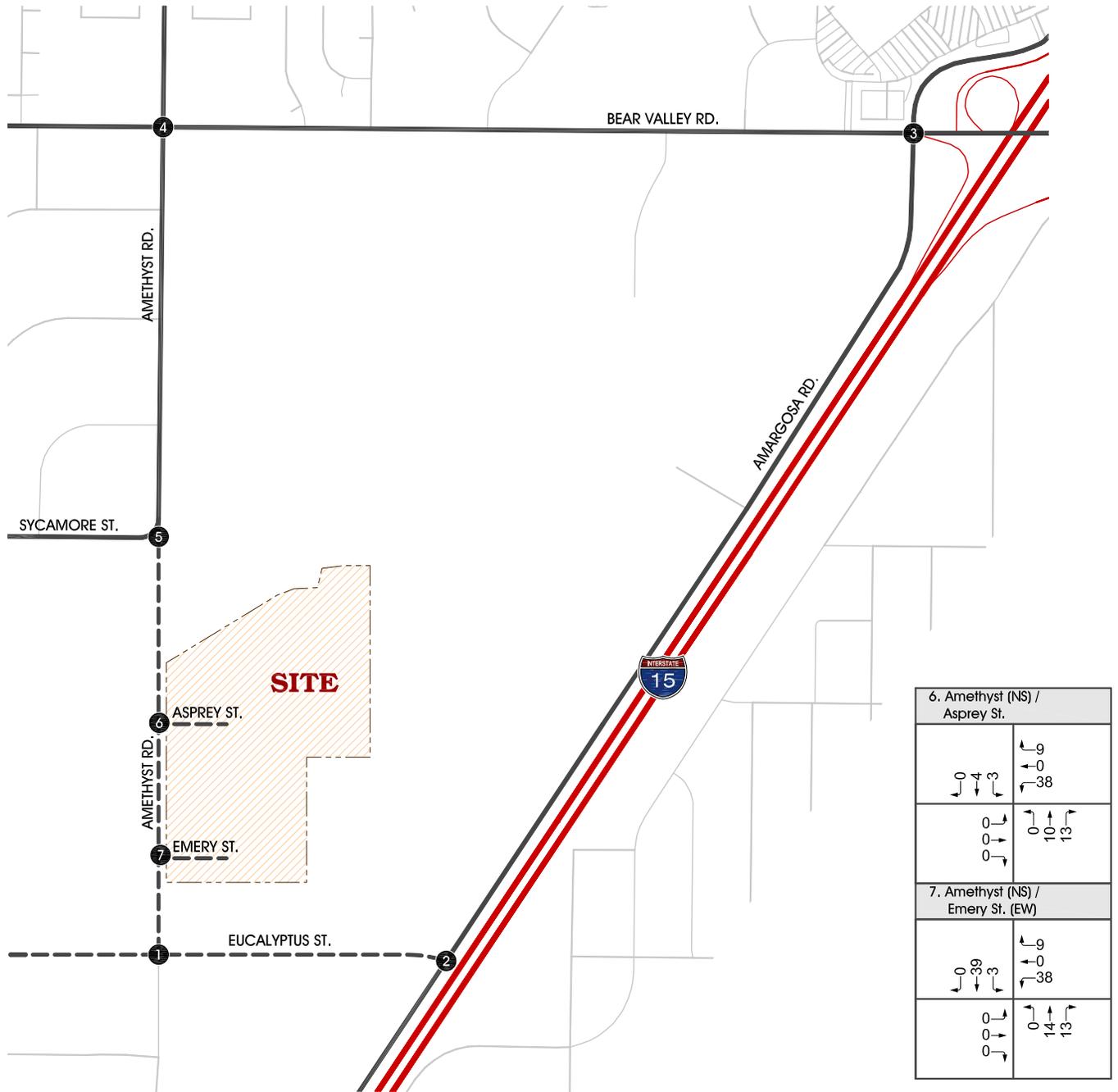
FIGURE 4-J 10 YEAR HORIZON WITHOUT PROJECT PM PEAK HOUR



| 1. Amethyst (NS) / Eucalyptus (EW) | | 2. Amargosa (NS) / Eucalyptus (EW) | | 3. Amargosa (NS) / Bear Valley (EW) | | 4. Amethyst (NS) / Bear Valley (EW) | | 5. Amethyst (NS) / Sycamore | |
|------------------------------------|----|------------------------------------|------|-------------------------------------|-------|-------------------------------------|-------|-----------------------------|----|
| ↓0 | ↑0 | ↓7 | ↑0 | ↓139 | ↑304 | ↓117 | ↑267 | ↓130 | ↑0 |
| ↓0 | ↑6 | ↓417 | ↑0 | ↓344 | ↑1619 | ↓119 | ↑1097 | ↓0 | ↑0 |
| ↓0 | ↑2 | ↓0 | ↑0 | ↓367 | ↑317 | ↓316 | ↑165 | ↓0 | ↑0 |
| ↓1 | ↑0 | ↓2 | ↑1 | ↓121 | ↑173 | ↓126 | ↑66 | ↓157 | ↑0 |
| ↓5 | ↑0 | ↓0 | ↑464 | ↓1304 | ↑210 | ↓867 | ↑68 | ↓0 | ↑0 |
| ↓0 | ↑1 | ↓0 | ↑0 | ↓145 | ↑416 | ↓6 | ↑168 | ↓0 | ↑0 |



FIGURE 4-K 10 YEAR HORIZON PLUS PROJECT AM PEAK HOUR

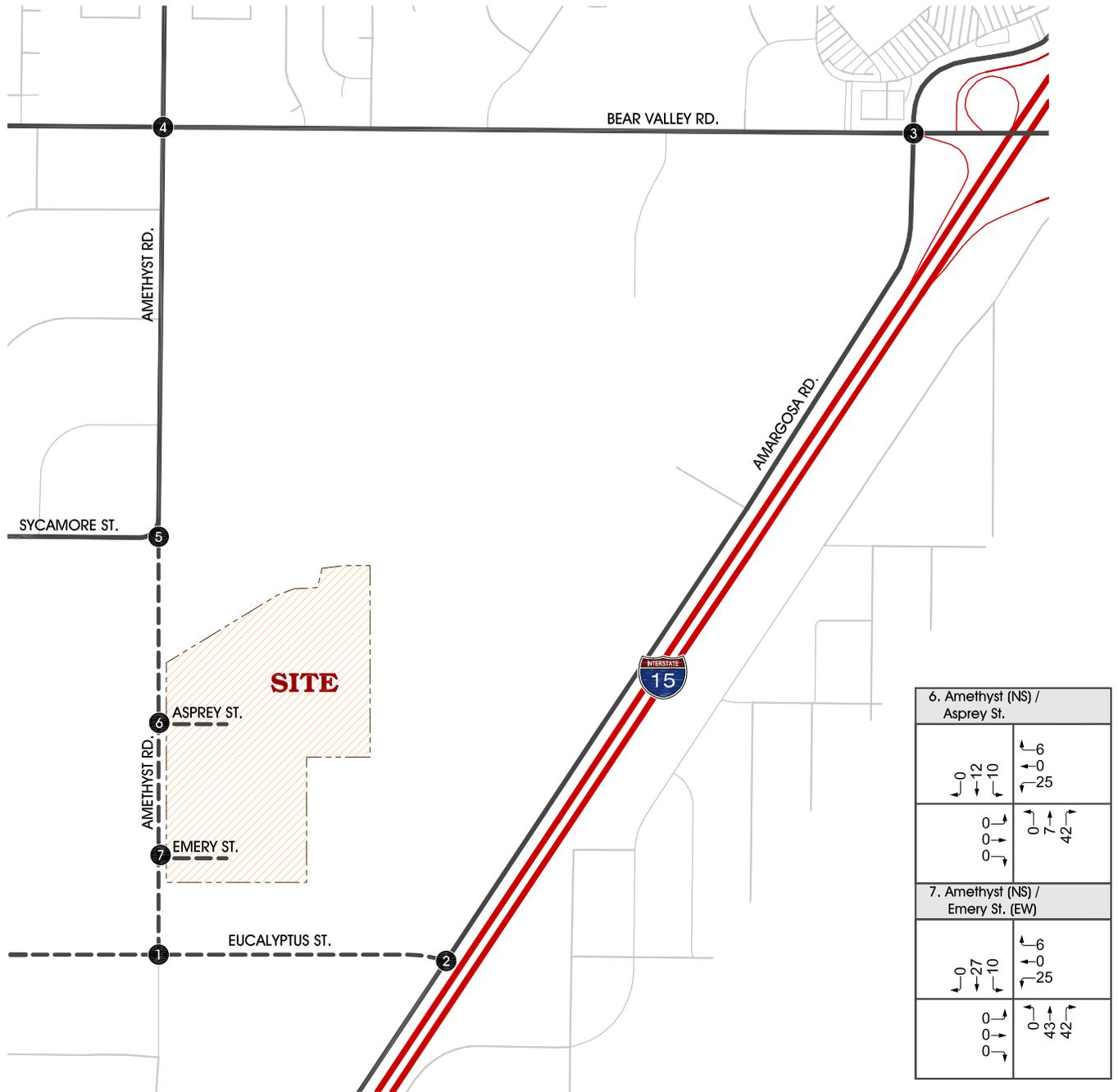


| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) | 5. Amethyst (NS) / Sycamore | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|-----|----|----|----|----|----|----|----|---|-----|----|------|----|----|----|----|----|-----|-----|----|------|-----|----|---|-----|------|------|-------|------|------|-----|-----|-------|-----|------|------|--|-----|------|-----|------|------|-----|-----|-----|-------|-----|----|------|---|-----|----|----|----|----|----|------|----|----|-----|----|----|
| <table border="0"> <tr><td>↓0</td><td>↑27</td></tr> <tr><td>↓0</td><td>↑2</td></tr> <tr><td>↓76</td><td>↑2</td></tr> <tr><td>↑0</td><td>↓0</td></tr> <tr><td>↑5</td><td>↓0</td></tr> <tr><td>↑0</td><td>↓2</td></tr> </table> | ↓0 | ↑27 | ↓0 | ↑2 | ↓76 | ↑2 | ↑0 | ↓0 | ↑5 | ↓0 | ↑0 | ↓2 | <table border="0"> <tr><td>↓21</td><td>↑0</td></tr> <tr><td>↓247</td><td>↑0</td></tr> <tr><td>↓0</td><td>↑0</td></tr> <tr><td>↑0</td><td>↓0</td></tr> <tr><td>↑51</td><td>↓10</td></tr> <tr><td>↑0</td><td>↓201</td></tr> <tr><td>↑28</td><td>↓0</td></tr> </table> | ↓21 | ↑0 | ↓247 | ↑0 | ↓0 | ↑0 | ↑0 | ↓0 | ↑51 | ↓10 | ↑0 | ↓201 | ↑28 | ↓0 | <table border="0"> <tr><td>↓51</td><td>↑179</td></tr> <tr><td>↓127</td><td>↑1114</td></tr> <tr><td>↓124</td><td>↑211</td></tr> <tr><td>↑78</td><td>↓66</td></tr> <tr><td>↑1387</td><td>↑93</td></tr> <tr><td>↑117</td><td>↑231</td></tr> </table> | ↓51 | ↑179 | ↓127 | ↑1114 | ↓124 | ↑211 | ↑78 | ↓66 | ↑1387 | ↑93 | ↑117 | ↑231 | <table border="0"> <tr><td>↓76</td><td>↑130</td></tr> <tr><td>↓59</td><td>↑472</td></tr> <tr><td>↓304</td><td>↑68</td></tr> <tr><td>↑89</td><td>↓29</td></tr> <tr><td>↑1070</td><td>↑60</td></tr> <tr><td>↑7</td><td>↑181</td></tr> </table> | ↓76 | ↑130 | ↓59 | ↑472 | ↓304 | ↑68 | ↑89 | ↓29 | ↑1070 | ↑60 | ↑7 | ↑181 | <table border="0"> <tr><td>↓56</td><td>↑0</td></tr> <tr><td>↓6</td><td>↑0</td></tr> <tr><td>↓0</td><td>↑0</td></tr> <tr><td>↑179</td><td>↓0</td></tr> <tr><td>↑0</td><td>↓19</td></tr> <tr><td>↑0</td><td>↓0</td></tr> </table> | ↓56 | ↑0 | ↓6 | ↑0 | ↓0 | ↑0 | ↑179 | ↓0 | ↑0 | ↓19 | ↑0 | ↓0 |
| ↓0 | ↑27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓76 | ↑2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑5 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓21 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓247 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑51 | ↓10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓201 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑28 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓51 | ↑179 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓127 | ↑1114 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓124 | ↑211 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑78 | ↓66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑1387 | ↑93 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑117 | ↑231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓76 | ↑130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓59 | ↑472 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓304 | ↑68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑89 | ↓29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑1070 | ↑60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑7 | ↑181 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓56 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓6 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑179 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 6. Amethyst (NS) / Asprey St. | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|----|----|----|----|----|----|----|-----|--|-----|--|-----|----|----|-----|----|-----|----|-----|
| <table border="0"> <tr><td>↓0</td><td>↑4</td></tr> <tr><td>↓4</td><td>↑3</td></tr> <tr><td>↓3</td><td>↑0</td></tr> <tr><td>↑0</td><td>↓9</td></tr> <tr><td>↑0</td><td>↓10</td></tr> <tr><td>↑0</td><td>↓13</td></tr> </table> | ↓0 | ↑4 | ↓4 | ↑3 | ↓3 | ↑0 | ↑0 | ↓9 | ↑0 | ↓10 | ↑0 | ↓13 | <table border="0"> <tr><td>↑38</td><td>↓0</td></tr> <tr><td>↓0</td><td>↑0</td></tr> <tr><td>↓0</td><td>↑10</td></tr> <tr><td>↓0</td><td>↑13</td></tr> </table> | ↑38 | ↓0 | ↓0 | ↑0 | ↓0 | ↑10 | ↓0 | ↑13 |
| ↓0 | ↑4 | | | | | | | | | | | | | | | | | | | | |
| ↓4 | ↑3 | | | | | | | | | | | | | | | | | | | | |
| ↓3 | ↑0 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓9 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓10 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓13 | | | | | | | | | | | | | | | | | | | | |
| ↑38 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑0 | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑10 | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑13 | | | | | | | | | | | | | | | | | | | | |
| 7. Amethyst (NS) / Emery St. (EW) | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr><td>↓0</td><td>↑39</td></tr> <tr><td>↓3</td><td>↑0</td></tr> <tr><td>↑0</td><td>↓0</td></tr> <tr><td>↑0</td><td>↓0</td></tr> <tr><td>↑0</td><td>↓0</td></tr> </table> | ↓0 | ↑39 | ↓3 | ↑0 | ↑0 | ↓0 | ↑0 | ↓0 | ↑0 | ↓0 | <table border="0"> <tr><td>↑9</td><td>↓0</td></tr> <tr><td>↑38</td><td>↓0</td></tr> <tr><td>↓0</td><td>↑14</td></tr> <tr><td>↓0</td><td>↑13</td></tr> </table> | ↑9 | ↓0 | ↑38 | ↓0 | ↓0 | ↑14 | ↓0 | ↑13 | | |
| ↓0 | ↑39 | | | | | | | | | | | | | | | | | | | | |
| ↓3 | ↑0 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↑0 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↑9 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↑38 | ↓0 | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑14 | | | | | | | | | | | | | | | | | | | | |
| ↓0 | ↑13 | | | | | | | | | | | | | | | | | | | | |



FIGURE 4-L 10 YEAR HORIZON PLUS PROJECT PM PEAK HOUR



| 6. Amethyst (NS) / Asprey St. | |
|-----------------------------------|---------------------|
| ↙ 0 ↘ 12 ↖ 10 | ↗ 6 ↘ 25 ↖ 0 |
| ↘ 0 ↙ 0 ↖ 0 | ↗ 0 ↘ 7 ↖ 42 |
| 7. Amethyst (NS) / Emery St. (EW) | |
| ↙ 0 ↘ 27 ↖ 10 | ↗ 6 ↘ 25 ↖ 0 |
| ↘ 0 ↙ 0 ↖ 0 | ↗ 0 ↘ 43 ↖ 42 |

| 1. Amethyst (NS) / Eucalyptus (EW) | 2. Amargosa (NS) / Eucalyptus (EW) | 3. Amargosa (NS) / Bear Valley (EW) | 4. Amethyst (NS) / Bear Valley (EW) | 5. Amethyst (NS) / Sycamore |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|
| ↙ 0 ↘ 1 ↖ 51 | ↙ 59 ↘ 417 ↖ 0 | ↙ 144 ↘ 360 ↖ 367 | ↙ 117 ↘ 119 ↖ 316 | ↙ 130 ↘ 21 ↖ 0 |
| ↗ 83 ↘ 6 ↖ 2 | ↗ 0 ↘ 0 ↖ 0 | ↗ 304 ↘ 1624 ↖ 333 | ↗ 267 ↘ 1097 ↖ 175 | ↗ 0 ↘ 0 ↖ 0 |
| ↗ 1 ↘ 5 ↖ 0 | ↗ 33 ↘ 0 ↖ 19 | ↗ 124 ↘ 1307 ↖ 145 | ↗ 126 ↘ 867 ↖ 16 | ↗ 0 ↘ 12 ↖ 0 |
| ↗ 0 ↘ 0 ↖ 1 | ↗ 32 ↘ 464 ↖ 0 | ↗ 173 ↘ 219 ↖ 425 | ↗ 72 ↘ 68 ↖ 174 | ↗ 0 ↘ 0 ↖ 0 |



5.0 TRAFFIC ANALYSIS

Peak hour intersection analysis has been performed at the study area intersections for ODA of the project scenarios and for projected future conditions. Improvements are recommended to satisfy the level of service requirements of the City of Victorville and if the following impacts are identified:

- 1) Any study intersection that is operating at LOS “A”, “B”, “C” or “D” for any study scenario without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS “E” or “F” shall mitigate the impact to bring the intersection back to as least LOS “D” .
- 2) Any study intersection that is operating at a LOS “E” or “F” for any study scenario without project traffic shall mitigate any impacts so as to bring the intersection back to the overall level of delay established prior to project traffic being added.

A. Opening Day Plus Ambient (ODA 2021) Conditions

The results of the ODA conditions intersection analysis are summarized in Table 5-1. The ODA conditions operations analysis worksheets are provided in Appendix "5.1". As shown on Table 5-1, the study area intersections are projected to continue to operate at an acceptable level of service (LOS “D” or better) during the peak hours with existing geometry and traffic controls.

B. Opening Day Plus Ambient plus Project (ODAP 2021) Conditions

The results of the ODAP conditions intersection analysis are summarized in Table 5-2. The ODAP conditions operations analysis worksheets are provided in Appendix "5.2". As shown on Table 5-4, the study area intersections are anticipated to continue to operate at an acceptable level of service (LOS “D” or better) during peak hours with existing geometry and traffic controls.

Traffic signal warrants have been conducted at the intersection of Amargosa/Eucalyptus for Opening Day Plus Ambient with project conditions. The future traffic volumes used for the signal warrant analysis was based on applying a factor of 12 to the PM Peak Hour volumes to estimate the future daily volumes at the intersection legs. Based on the evaluation, it does not appear that a traffic signal is warranted at this location. The traffic signal warrant worksheet is included in Appendix “5.5”.

C. 10-Year Horizon (2029) Without Project Conditions

The results of the 10-Year Horizon (2029) Without Project conditions intersection analysis are summarized in Table 5-3. The 10-Year Horizon (2029) Without Project conditions operations analysis worksheets are provided in Appendix "5.3". As shown on Table 5-3, the study intersections are projected to operate at an acceptable level of service (LOS “D” or better) during the peak hours with the existing geometry and traffic controls.

TABLE 5-1

**INTERSECTION ANALYSIS FOR
OPENING YEAR (2021) WITHOUT PROJECT CONDITIONS**

| ID | Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service ³ | |
|----|------------------------------|------------------------------|--|---|----|------------|-----|---|-----------|---|---|-----------|---|----|-------------------------------|------|-------------------------------|----|
| | | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 | Amethyst Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 8.7 | 9.0 | A | A |
| 2 | Amargosa Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 12.1 | 16.1 | B | C |
| 3 | Amargosa Rd./Bear Valley Rd. | TS | 1 | 1 | 1> | 2 | 2 | 0 | 1 | 4 | 1 | 1 | 3 | 1> | 38.1 | 42.3 | D | D |
| 4 | Amethyst Rd./Bear Valley Rd. | TS | 1 | 2 | 0 | 1.5 | 1.5 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 37.0 | 44.9 | D | D |

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane;

>>= Free Right Turn; > = Right Turn Overlap; d = Defacto Right Turn Lane

³ Delay and level of service calculated using the following analysis software: Synchro 10

TABLE 5-2

**INTERSECTION ANALYSIS FOR
OPENING YEAR (2021) WITH PROJECT CONDITIONS**

| ID | Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service ³ | |
|----|-------------------------------------|------------------------------|--|---|----|------------|-----|---|-----------|---|---|-----------|---|----|-------------------------------|------|-------------------------------|----|
| | | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 | Amethyst Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 11.9 | 10.7 | B | B |
| 2 | Amargosa Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 14.0 | 23.3 | B | C |
| 3 | Amargosa Rd./Bear Valley Rd. | TS | 1 | 1 | 1> | 2 | 2 | 0 | 1 | 4 | 1 | 1 | 3 | 1> | 39.0 | 43.1 | D | D |
| 4 | Amethyst Rd./Bear Valley Rd. | TS | 1 | 2 | 0 | 1.5 | 1.5 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 37.1 | 45.0 | D | D |
| 6 | Amethyst Rd./North Project Driveway | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8.8 | 8.8 | A | A |
| 7 | Amethyst Rd./South Project Driveway | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9.1 | 9.3 | A | A |

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane;

>>= Free Right Turn; > = Right Turn Overlap; d = Defacto Right Turn Lane

³ Delay and level of service calculated using the following analysis software: Synchro 10

TABLE 5-3

**INTERSECTION ANALYSIS FOR
10 YEAR HORIZON (2029) WITHOUT PROJECT CONDITIONS**

| ID | Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service ³ | |
|----|------------------------------|------------------------------|--|---|----|------------|-----|---|-----------|---|---|-----------|---|----|-------------------------------|------|-------------------------------|----|
| | | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 | Amethyst Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 8.7 | 9.1 | A | A |
| 2 | Amargosa Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13.0 | 18.6 | B | C |
| 3 | Amargosa Rd./Bear Valley Rd. | TS | 1 | 1 | 1> | 2 | 2 | 0 | 1 | 4 | 1 | 1 | 3 | 1> | 38.6 | 46.3 | D | D |
| 4 | Amethyst Rd./Bear Valley Rd. | TS | 1 | 2 | 0 | 1.5 | 1.5 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 45.0 | 50.3 | D | D |

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane;

>>= Free Right Turn; > = Right Turn Overlap; d = Defacto Right Turn Lane

³ Delay and level of service calculated using the following analysis software: Synchro 10

TABLE 5-4

**INTERSECTION ANALYSIS FOR
10 YEAR HORIZON (2029) WITH PROJECT CONDITIONS**

| ID | Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service ³ | |
|----|-------------------------------------|------------------------------|--|---|----|------------|-----|---|-----------|---|---|-----------|---|----|-------------------------------|------|-------------------------------|----|
| | | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 | Amethyst Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 9.8 | 10.2 | A | B |
| 2 | Amargosa Rd./Eucalyptus St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13.7 | 24.5 | B | C |
| 3 | Amargosa Rd./Bear Valley Rd. | TS | 1 | 1 | 1> | 2 | 2 | 0 | 1 | 4 | 1 | 1 | 3 | 1> | 44.2 | 47.0 | D | D |
| 4 | Amethyst Rd./Bear Valley Rd. | TS | 1 | 2 | 0 | 1.5 | 1.5 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 48.6 | 50.6 | D | D |
| 5 | Amethyst Rd./Sycamore St. | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10.1 | 10.3 | B | B |
| 6 | Amethyst Rd./North Project Driveway | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8.9 | 9.2 | A | A |
| 7 | Amethyst Rd./South Project Driveway | CSS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9.0 | 9.2 | A | A |

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane;

>>= Free Right Turn; > = Right Turn Overlap; d = Defacto Right Turn Lane

³ Delay and level of service calculated using the following analysis software: Synchro 10

D. 10-Year Horizon (2029) With Project Conditions

The results of the 10-Year Horizon (2029) With Project conditions intersection analysis are summarized in Table 5-4. The 10-Year Horizon (2029) With Project conditions operations analysis worksheets are provided in Appendix "5.4". As shown on Table 5-4, the study intersections are projected to operate at an acceptable level of service (LOS "D" or better) during the peak hours with the existing geometry and traffic controls.

Traffic signal warrants have been conducted at the intersection of Amargosa/Eucalyptus for 10-Year Horizon with project conditions. The future traffic volumes used for the signal warrant analysis was based on applying a factor of 12 to the PM Peak Hour volumes to estimate the future daily volumes at the intersection legs. Based on the evaluation, it does not appear that a traffic signal is warranted at this location. The traffic signal warrant worksheet is included in Appendix "5.5".

6.0 FINDINGS AND RECOMMENDATIONS

A. Traffic Impacts and Level of Service Analysis

For Existing (2019) conditions the study area intersections are operating at an acceptable level of service (LOS “D” or better) during the peak hours with existing geometry and traffic controls.

For ODA (2021) and ODAP (2021), the study area intersections are projected to operate at an acceptable level of service (LOS “D” or better) during the peak hours with the existing geometry and traffic controls.

For the 10-Year Horizon Year (2029) With and Without Project conditions, the study area intersections are projected to operate at an acceptable level of service (LOS “D” or better) during the peak hours with the existing geometry and traffic controls.

B. Circulation Recommendations

1. On-Site

Construction of on-site improvements shall occur in conjunction with adjacent project development activity or as needed for project access purposes.

The recommended on-site roadway improvements are described below.

- Provide stop sign control at the project driveways.
- On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.
- Verify that minimum sight distance is provided at the project driveways.
- Construct Amethyst Road between the northerly and southerly project boundaries at its ultimate half section width of 51 feet plus 12 feet past the crown to provide 2 lanes of travel.

2. Off-Site

- Construct Amethyst Road between the southerly project boundary and Eucalyptus Road to provide 2 lanes of travel.
- Contribute to the City’s Development Impact Fees (DIF)

APPENDIX 3.1

SCOPING AGREEMENT

September 16, 2019

Mr. Jonathon Siemsen
KB Home
36310 Inland Valley Drive
Wildomar, CA 92595

Subject: TTM 20274 Traffic Analysis (JN 0326-0001)

Dear Mr. Siemsen:

Trames Solutions Inc. is pleased to submit this traffic study scoping agreement for the proposed TTM 20274 project. It is our understanding that the project will consist of 168 single family residential dwelling units. The site is located on the northeast corner of Amethyst Road and Eucalyptus Street in the City of Victorville.

Project Description

The project will consist of 168 single family residential dwelling units. Figure A shows the site plan of the project. The site will provide access from Amethyst Road.

Trip Generation

The number of vehicular trips generated by a project is typically determined from the trip rates included in the ITE **Trip Generation** manual (10th edition).

Table 1 shows the trip rates for single family residential units. The daily and peak hour trip generations for the proposed project are shown on Table 2. The proposed development is projected to generate a total of approximately 1,586 new trip-ends per day with 126 new vehicle trips per hour during the AM peak hour and 166 new vehicle trips per hour during the PM peak hour.

Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site. The project's trip distribution patterns are based on the proximity to the surrounding uses

(employment bases, schools, commercial areas, etc.). Figures B and C illustrates the travel patterns to the adjacent roadway system.

Study Area Intersections

Based on the anticipated number of trips generated by the proposed project and the travel patterns, the following intersections are proposed to be analyzed (see Figure D):

1. Amethyst/Eucalyptus
2. Amargosa/Eucalyptus (including traffic signal warrants)
3. Amargosa/Bear Valley Road
4. Amethyst/ Bear Valley Road
5. Amethyst/Sycamore

Analysis Scenarios

The traffic study will be based on the San Bernardino Association of Governments (SANBAG) Congestion Management Program and Traffic Impact Analysis Guidelines criteria. The following scenarios will be included in the study:

- Existing Conditions
- Opening Day plus Ambient Growth (2% per year) plus Cumulative Projects
- Opening Day plus Ambient Growth (2% per year) plus Cumulative Projects plus Project
- 10 year horizon with and without the proposed project

Please let me know if these assumptions are acceptable or if you have any questions. I can be contacted directly at (949) 244-2436. Lastly, your assistance in providing the cumulative projects would be much appreciated.

Respectfully submitted,
Trames Solutions Inc.



Scott Sato, P.E.
Vice President

FIGURE A SITE PLAN

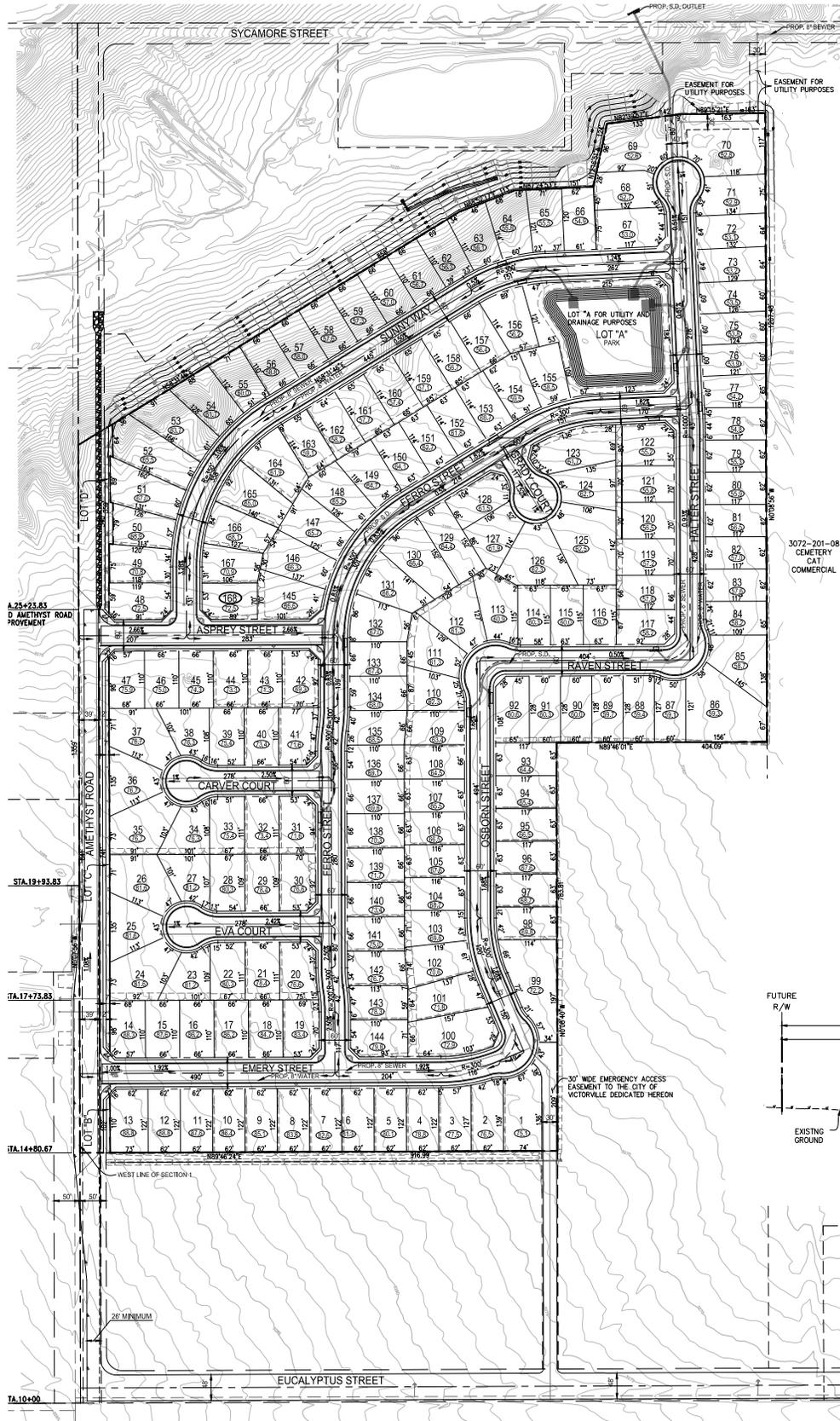


TABLE 1**TRIP GENERATION RATES¹**

| LAND USE | ITE CODE | QUANTITY | UNITS ² | PEAK HOUR TRIP RATES | | | | | | DAILY |
|----------------------|----------|----------|--------------------|----------------------|------|-------|------|------|-------|-------|
| | | | | AM | | | PM | | | |
| | | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 210 | 168 | DU | 0.19 | 0.56 | 0.75 | 0.62 | 0.37 | 0.99 | 9.44 |

¹ Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 10th Edition, 2017.

² DU=Dwelling Units

TABLE 2

TRIP GENERATION SUMMARY

| LAND USE | QUANTITY | UNITS ¹ | PEAK HOUR | | | | | | DAILY |
|----------------------|----------|--------------------|-----------|-----|-------|-----|-----|-------|-------|
| | | | AM | | | PM | | | |
| | | | IN | OUT | TOTAL | IN | OUT | TOTAL | |
| Single Fam. Detached | 168 | DU | 32 | 94 | 126 | 104 | 62 | 166 | 1,586 |

¹ DU = Dwelling Units

FIGURE B PROJECT TRIP DISTRIBUTION

LEGEND:

- 3 = INTERSECTION ID
- = FUTURE ROADWAY
- 10%** = PERCENT TO / FROM PROJECT

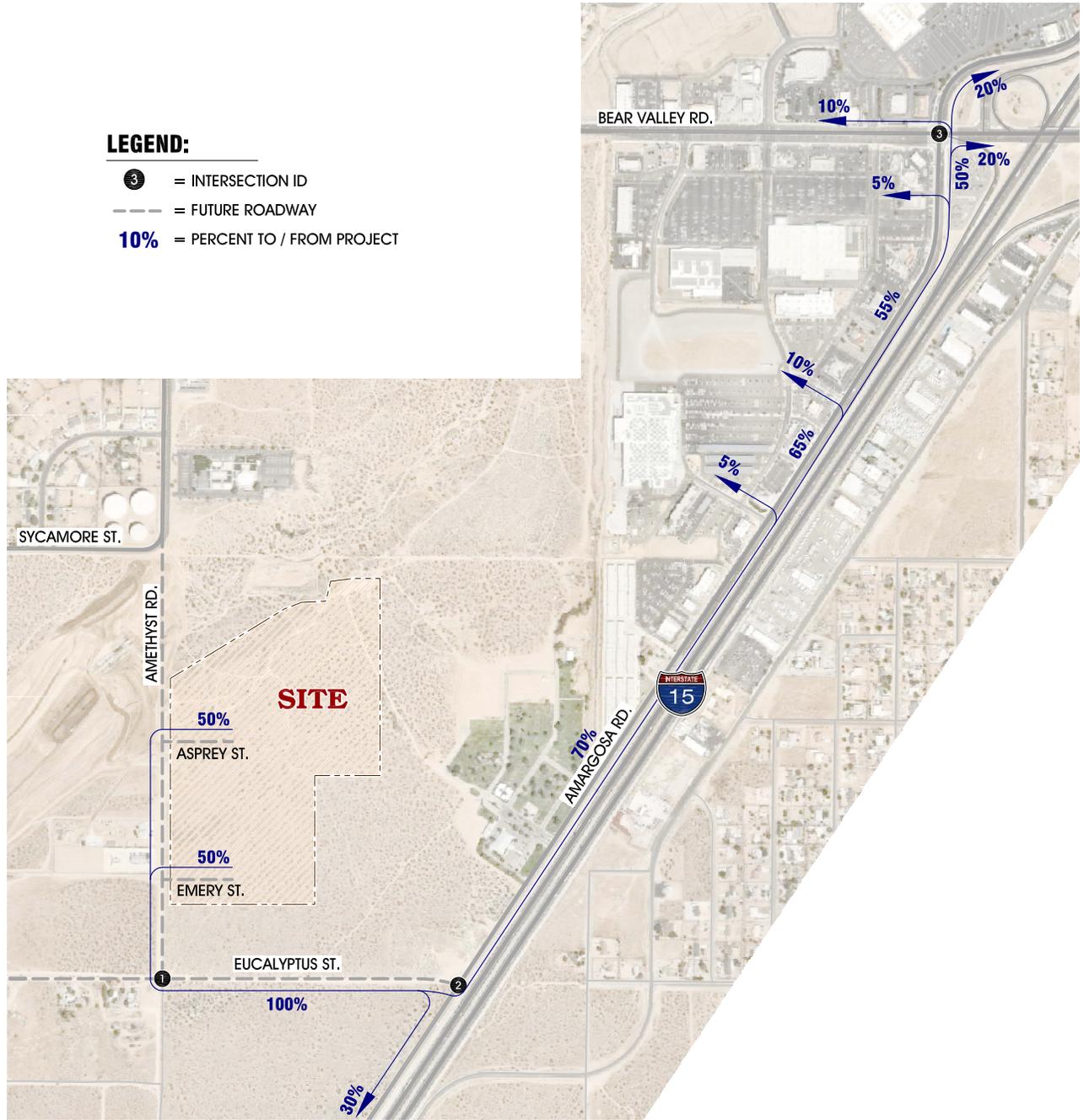


FIGURE C PROJECT TRIP DISTRIBUTION (FUTURE 10-YR SCENARIO)



LEGEND:

- 5 = INTERSECTION ID
- = FUTURE ROADWAY
- 10%** = PERCENT TO / FROM PROJECT



FIGURE D STUDY AREA



LEGEND:

- = INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY



APPENDIX 3.2

TRAFFIC COUNT WORKSHEETS

City of Victorville
 N/S: Amethyst Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 01_VIC_Amethyst_Eucalyptus AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

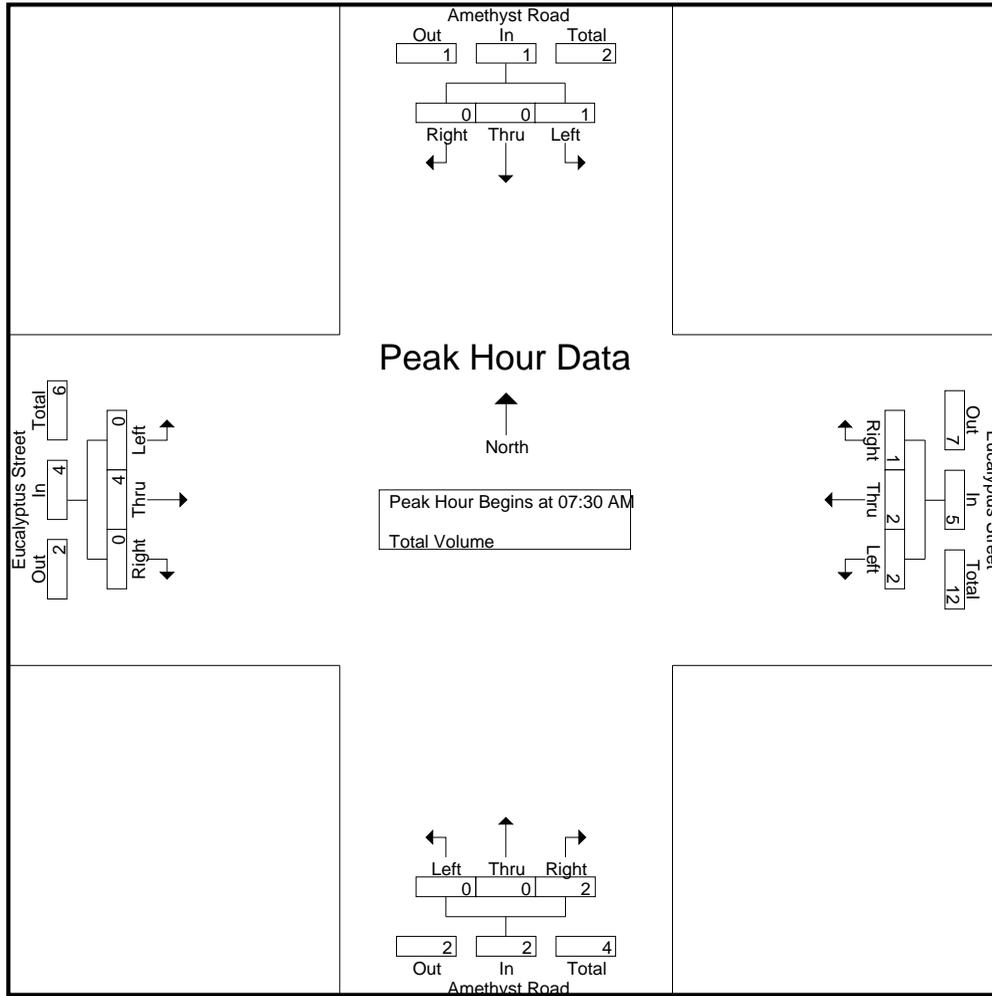
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Eucalyptus Street Westbound | | | | Amethyst Road Northbound | | | | Eucalyptus Street Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 4 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 |
| Total | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 5 | 0 | 0 | 1 | 1 | 0 | 4 | 0 | 4 | 11 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Total | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 6 |
| Grand Total | 1 | 0 | 0 | 1 | 3 | 4 | 1 | 8 | 0 | 0 | 2 | 2 | 0 | 6 | 0 | 6 | 17 |
| Apprch % | 100 | 0 | 0 | | 37.5 | 50 | 12.5 | | 0 | 0 | 100 | | 0 | 100 | 0 | | |
| Total % | 5.9 | 0 | 0 | 5.9 | 17.6 | 23.5 | 5.9 | 47.1 | 0 | 0 | 11.8 | 11.8 | 0 | 35.3 | 0 | 35.3 | |

| Start Time | Amethyst Road Southbound | | | | Eucalyptus Street Westbound | | | | Amethyst Road Northbound | | | | Eucalyptus Street Eastbound | | | | Int. Total |
|--|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | |
| 07:30 AM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 4 |
| 07:45 AM | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| Total Volume | 1 | 0 | 0 | 1 | 2 | 2 | 1 | 5 | 0 | 0 | 2 | 2 | 0 | 4 | 0 | 4 | 12 |
| % App. Total | 100 | 0 | 0 | | 40 | 40 | 20 | | 0 | 0 | 100 | | 0 | 100 | 0 | | |
| PHF | .250 | .000 | .000 | .250 | .500 | .250 | .250 | .313 | .000 | .000 | .500 | .500 | .000 | .500 | .000 | .500 | .600 |

City of Victorville
 N/S: Amethyst Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 01_VIC_Amethyst_Eucalyptus AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | 07:00 AM | | | | 07:15 AM | | | | 07:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| +30 mins. | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| +45 mins. | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| Total Volume | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 5 | 0 | 0 | 2 | 2 | 0 | 4 | 0 | 4 |
| % App. Total | 100 | 0 | 0 | 0 | 20 | 60 | 20 | 100 | 0 | 0 | 100 | 100 | 0 | 100 | 0 | 0 |
| PHF | .250 | .000 | .000 | .250 | .250 | .375 | .250 | .313 | .000 | .000 | .500 | .500 | .000 | .500 | .000 | .500 |

City of Victorville
 N/S: Amethyst Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 01_VIC_Amethyst_Eucalyptus PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

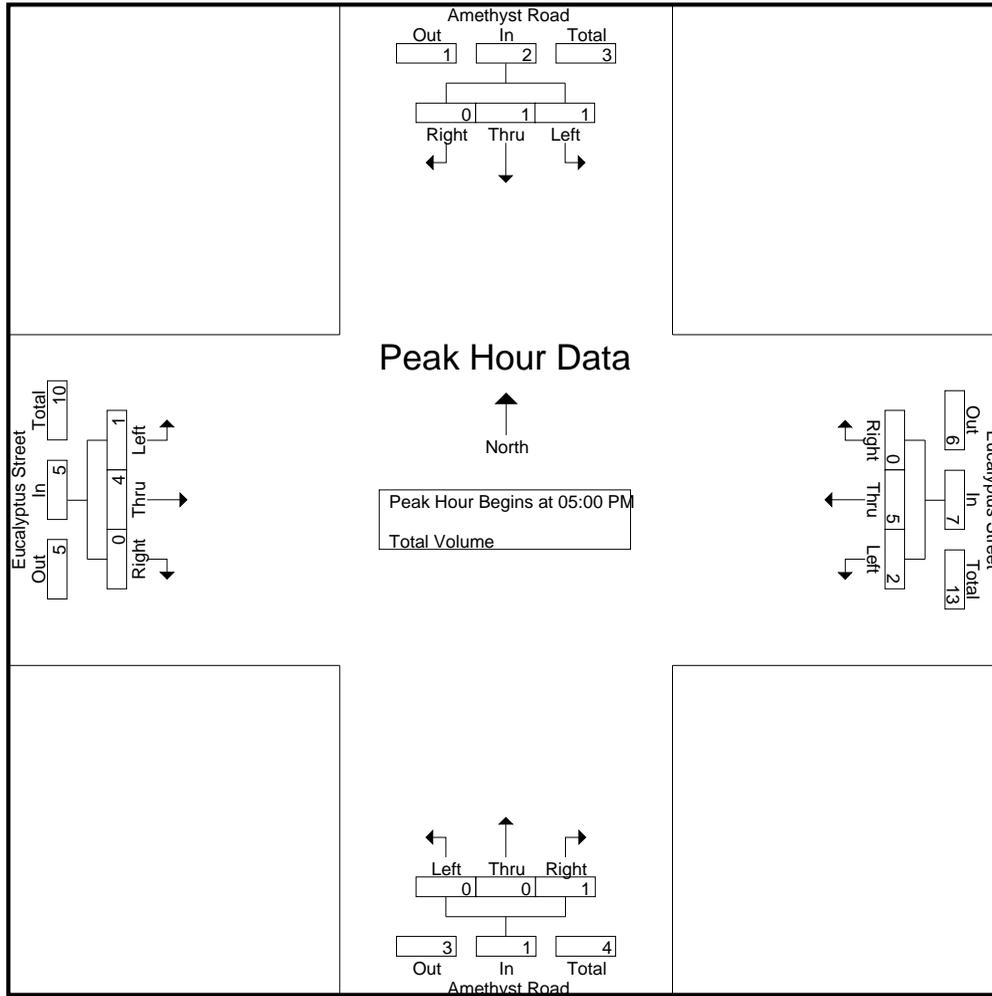
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Eucalyptus Street Westbound | | | | Amethyst Road Northbound | | | | Eucalyptus Street Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 4 |
| 04:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 8 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 3 | 12 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 05:30 PM | 1 | 0 | 0 | 1 | 1 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 9 |
| 05:45 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| Total | 1 | 1 | 0 | 2 | 2 | 5 | 0 | 7 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 5 | 15 |
| Grand Total | 1 | 1 | 0 | 2 | 3 | 12 | 0 | 15 | 0 | 1 | 1 | 2 | 1 | 7 | 0 | 8 | 27 |
| Apprch % | 50 | 50 | 0 | | 20 | 80 | 0 | | 0 | 50 | 50 | | 12.5 | 87.5 | 0 | | |
| Total % | 3.7 | 3.7 | 0 | 7.4 | 11.1 | 44.4 | 0 | 55.6 | 0 | 3.7 | 3.7 | 7.4 | 3.7 | 25.9 | 0 | 29.6 | |

| Start Time | Amethyst Road Southbound | | | | Eucalyptus Street Westbound | | | | Amethyst Road Northbound | | | | Eucalyptus Street Eastbound | | | | Int. Total |
|--|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|--------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 05:30 PM | 1 | 0 | 0 | 1 | 1 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 9 |
| 05:45 PM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| Total Volume | 1 | 1 | 0 | 2 | 2 | 5 | 0 | 7 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 5 | 15 |
| % App. Total | 50 | 50 | 0 | | 28.6 | 71.4 | 0 | | 0 | 0 | 100 | | 20 | 80 | 0 | | |
| PHF | .250 | .250 | .000 | .500 | .500 | .313 | .000 | .350 | .000 | .000 | .250 | .250 | .250 | .500 | .000 | .417 | .417 |

City of Victorville
 N/S: Amethyst Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 01_VIC_Amethyst_Eucalyptus PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 04:00 PM | | | | 04:30 PM | | | | 05:00 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| +30 mins. | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| +45 mins. | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| Total Volume | 1 | 1 | 0 | 2 | 1 | 7 | 0 | 8 | 0 | 1 | 1 | 2 | 1 | 4 | 0 | 5 |
| % App. Total | 50 | 50 | 0 | | 12.5 | 87.5 | 0 | | 0 | 50 | 50 | | 20 | 80 | 0 | |
| PHF | .250 | .250 | .000 | .500 | .250 | .583 | .000 | .667 | .000 | .250 | .250 | .500 | .250 | .500 | .000 | .417 |

City of Victorville
 N/S: Amargosa Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 02_VIC_Amargosa_Eucalyptus AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

Groups Printed- Total Volume

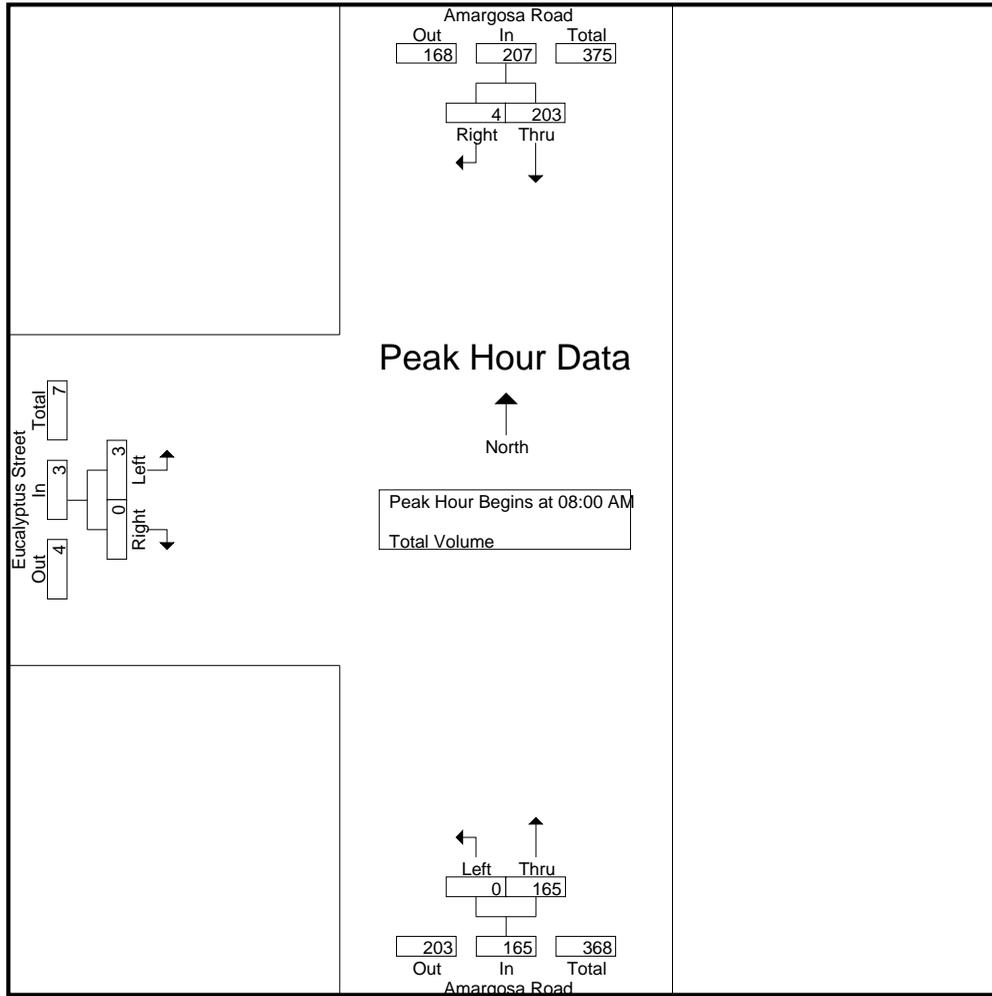
| Start Time | Amargosa Road Southbound | | | Amargosa Road Northbound | | | Eucalyptus Street Eastbound | | | Int. Total |
|--------------------|--------------------------|----------|------------|--------------------------|------------|------------|-----------------------------|----------|------------|------------|
| | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | |
| 07:00 AM | 26 | 1 | 27 | 0 | 32 | 32 | 1 | 0 | 1 | 60 |
| 07:15 AM | 21 | 0 | 21 | 0 | 31 | 31 | 0 | 0 | 0 | 52 |
| 07:30 AM | 17 | 0 | 17 | 0 | 28 | 28 | 1 | 2 | 3 | 48 |
| 07:45 AM | 33 | 3 | 36 | 0 | 34 | 34 | 1 | 0 | 1 | 71 |
| Total | 97 | 4 | 101 | 0 | 125 | 125 | 3 | 2 | 5 | 231 |
| 08:00 AM | 30 | 0 | 30 | 0 | 24 | 24 | 1 | 0 | 1 | 55 |
| 08:15 AM | 45 | 1 | 46 | 0 | 44 | 44 | 1 | 0 | 1 | 91 |
| 08:30 AM | 53 | 1 | 54 | 0 | 47 | 47 | 0 | 0 | 0 | 101 |
| 08:45 AM | 75 | 2 | 77 | 0 | 50 | 50 | 1 | 0 | 1 | 128 |
| Total | 203 | 4 | 207 | 0 | 165 | 165 | 3 | 0 | 3 | 375 |
| Grand Total | 300 | 8 | 308 | 0 | 290 | 290 | 6 | 2 | 8 | 606 |
| Apprch % | 97.4 | 2.6 | | 0 | 100 | | 75 | 25 | | |
| Total % | 49.5 | 1.3 | 50.8 | 0 | 47.9 | 47.9 | 1 | 0.3 | 1.3 | |

| Start Time | Amargosa Road Southbound | | | Amargosa Road Northbound | | | Eucalyptus Street Eastbound | | | Int. Total |
|---------------------|--------------------------|----------|------------|--------------------------|------------|------------|-----------------------------|----------|------------|------------|
| | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | |
| 08:00 AM | 30 | 0 | 30 | 0 | 24 | 24 | 1 | 0 | 1 | 55 |
| 08:15 AM | 45 | 1 | 46 | 0 | 44 | 44 | 1 | 0 | 1 | 91 |
| 08:30 AM | 53 | 1 | 54 | 0 | 47 | 47 | 0 | 0 | 0 | 101 |
| 08:45 AM | 75 | 2 | 77 | 0 | 50 | 50 | 1 | 0 | 1 | 128 |
| Total Volume | 203 | 4 | 207 | 0 | 165 | 165 | 3 | 0 | 3 | 375 |
| % App. Total | 98.1 | 1.9 | | 0 | 100 | | 100 | 0 | | |
| PHF | .677 | .500 | .672 | .000 | .825 | .825 | .750 | .000 | .750 | .732 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Victorville
 N/S: Amargosa Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 02_VIC_Amargosa_Eucalyptus AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

| | 08:00 AM | | | 08:00 AM | | | 07:30 AM | | |
|--------------|-----------|----------|-----------|----------|-----------|-----------|----------|------|------|
| +0 mins. | 30 | 0 | 30 | 0 | 24 | 24 | 1 | 2 | 3 |
| +15 mins. | 45 | 1 | 46 | 0 | 44 | 44 | 1 | 0 | 1 |
| +30 mins. | 53 | 1 | 54 | 0 | 47 | 47 | 1 | 0 | 1 |
| +45 mins. | 75 | 2 | 77 | 0 | 50 | 50 | 1 | 0 | 1 |
| Total Volume | 203 | 4 | 207 | 0 | 165 | 165 | 4 | 2 | 6 |
| % App. Total | 98.1 | 1.9 | | 0 | 100 | | 66.7 | 33.3 | |
| PHF | .677 | .500 | .672 | .000 | .825 | .825 | 1.000 | .250 | .500 |

City of Victorville
 N/S: Amargosa Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 02_VIC_Amargosa_Eucalyptus PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

Groups Printed- Total Volume

| Start Time | Amargosa Road Southbound | | | Amargosa Road Northbound | | | Eucalyptus Street Eastbound | | | Int. Total |
|-------------|--------------------------|-------|------------|--------------------------|------|------------|-----------------------------|-------|------------|------------|
| | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | |
| 04:00 PM | 96 | 0 | 96 | 2 | 82 | 84 | 1 | 0 | 1 | 181 |
| 04:15 PM | 88 | 3 | 91 | 0 | 84 | 84 | 1 | 0 | 1 | 176 |
| 04:30 PM | 84 | 1 | 85 | 1 | 92 | 93 | 1 | 0 | 1 | 179 |
| 04:45 PM | 79 | 1 | 80 | 0 | 115 | 115 | 0 | 0 | 0 | 195 |
| Total | 347 | 5 | 352 | 3 | 373 | 376 | 3 | 0 | 3 | 731 |
| 05:00 PM | 91 | 1 | 92 | 0 | 90 | 90 | 0 | 0 | 0 | 182 |
| 05:15 PM | 82 | 0 | 82 | 0 | 85 | 85 | 0 | 2 | 2 | 169 |
| 05:30 PM | 84 | 5 | 89 | 0 | 92 | 92 | 3 | 0 | 3 | 184 |
| 05:45 PM | 70 | 1 | 71 | 0 | 93 | 93 | 1 | 0 | 1 | 165 |
| Total | 327 | 7 | 334 | 0 | 360 | 360 | 4 | 2 | 6 | 700 |
| Grand Total | 674 | 12 | 686 | 3 | 733 | 736 | 7 | 2 | 9 | 1431 |
| Apprch % | 98.3 | 1.7 | | 0.4 | 99.6 | | 77.8 | 22.2 | | |
| Total % | 47.1 | 0.8 | 47.9 | 0.2 | 51.2 | 51.4 | 0.5 | 0.1 | 0.6 | |

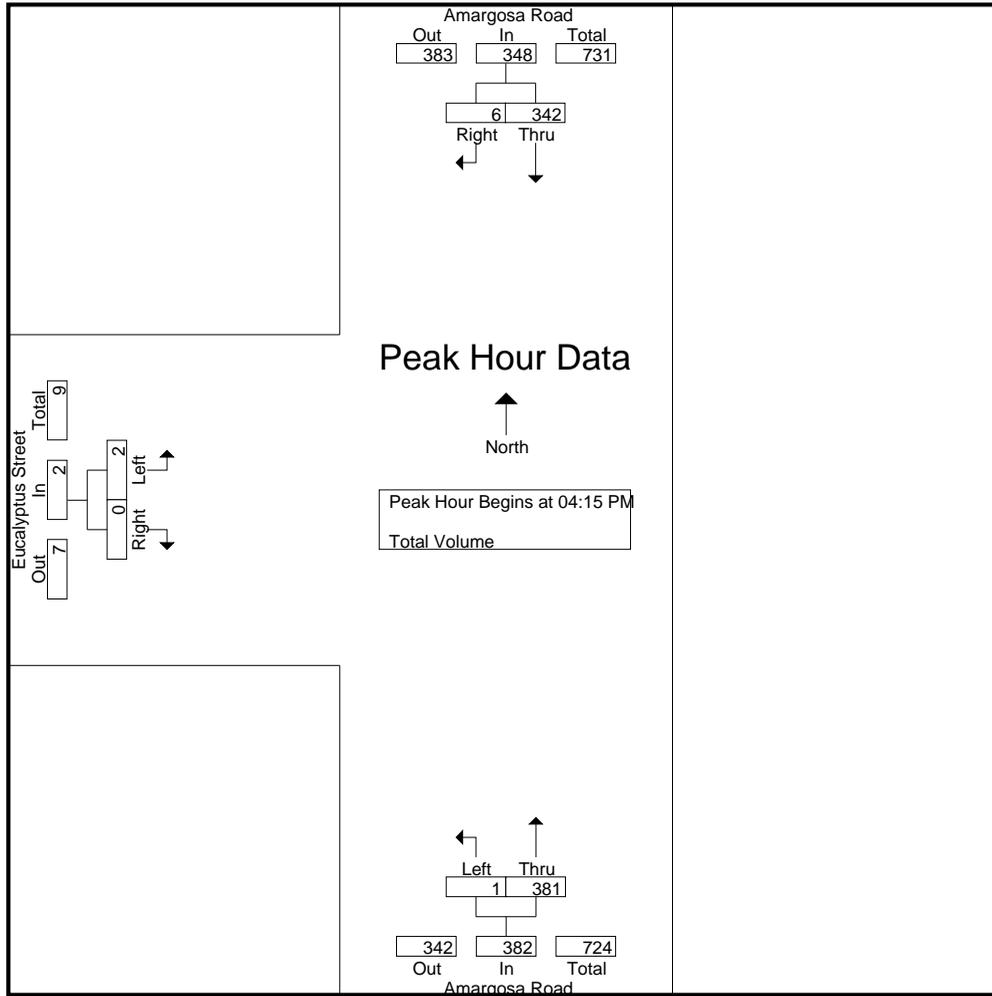
| Start Time | Amargosa Road Southbound | | | Amargosa Road Northbound | | | Eucalyptus Street Eastbound | | | Int. Total |
|--------------|--------------------------|-------|------------|--------------------------|------|------------|-----------------------------|-------|------------|------------|
| | Thru | Right | App. Total | Left | Thru | App. Total | Left | Right | App. Total | |
| 04:15 PM | 88 | 3 | 91 | 0 | 84 | 84 | 1 | 0 | 1 | 176 |
| 04:30 PM | 84 | 1 | 85 | 1 | 92 | 93 | 1 | 0 | 1 | 179 |
| 04:45 PM | 79 | 1 | 80 | 0 | 115 | 115 | 0 | 0 | 0 | 195 |
| 05:00 PM | 91 | 1 | 92 | 0 | 90 | 90 | 0 | 0 | 0 | 182 |
| Total Volume | 342 | 6 | 348 | 1 | 381 | 382 | 2 | 0 | 2 | 732 |
| % App. Total | 98.3 | 1.7 | | 0.3 | 99.7 | | 100 | 0 | | |
| PHF | .940 | .500 | .946 | .250 | .828 | .830 | .500 | .000 | .500 | .938 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:15 PM

City of Victorville
 N/S: Amargosa Road
 E/W: Eucalyptus Street
 Weather: Clear

File Name : 02_VIC_Amargosa_Eucalyptus PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | 04:30 PM | | | 05:00 PM | | |
|--------------|----------|------|------|----------|------|------|----------|------|------|
| +0 mins. | 96 | 0 | 96 | 1 | 92 | 93 | 0 | 0 | 0 |
| +15 mins. | 88 | 3 | 91 | 0 | 115 | 115 | 0 | 2 | 2 |
| +30 mins. | 84 | 1 | 85 | 0 | 90 | 90 | 3 | 0 | 3 |
| +45 mins. | 79 | 1 | 80 | 0 | 85 | 85 | 1 | 0 | 1 |
| Total Volume | 347 | 5 | 352 | 1 | 382 | 383 | 4 | 2 | 6 |
| % App. Total | 98.6 | 1.4 | | 0.3 | 99.7 | | 66.7 | 33.3 | |
| PHF | .904 | .417 | .917 | .250 | .830 | .833 | .333 | .250 | .500 |

City of Victorville
 N/S: Amargosa Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 03_VIC_Amargosa_Bear Valley AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

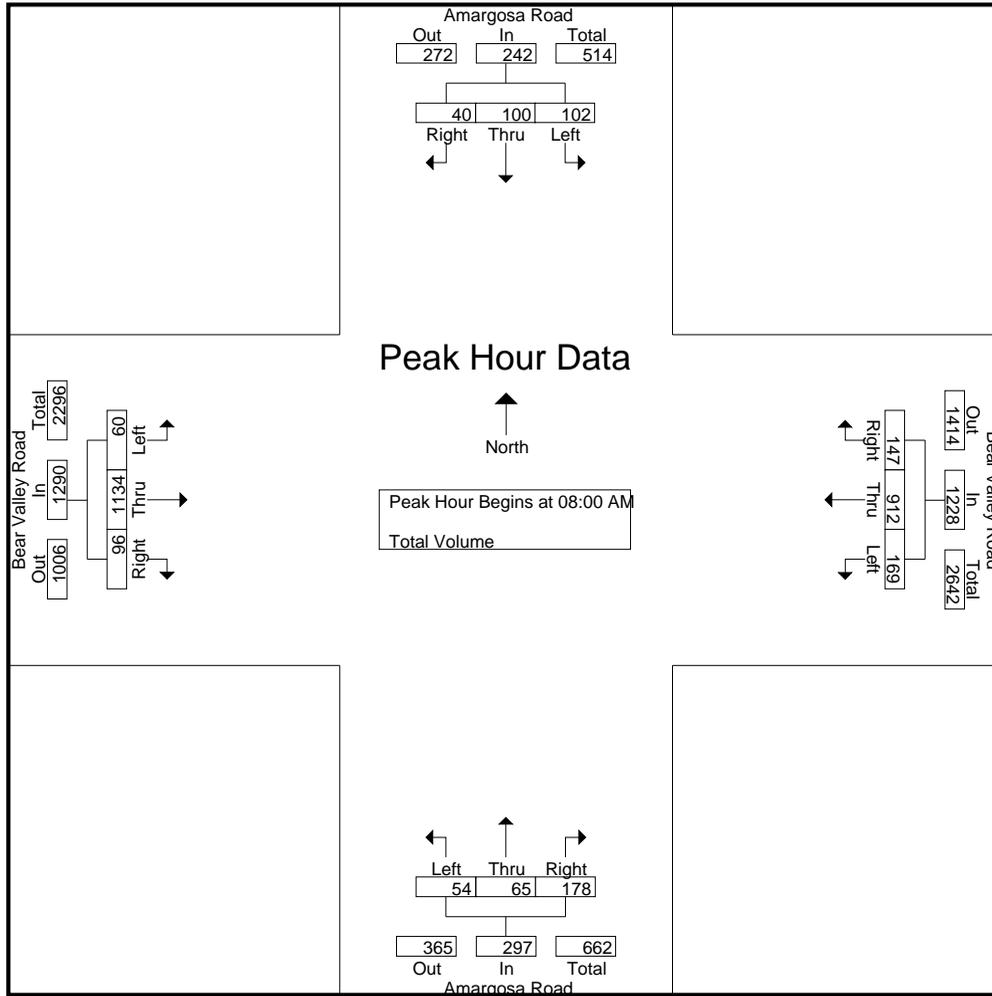
Groups Printed- Total Volume

| Start Time | Amargosa Road Southbound | | | | Bear Valley Road Westbound | | | | Amargosa Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 16 | 12 | 4 | 32 | 31 | 130 | 10 | 171 | 8 | 14 | 25 | 47 | 6 | 230 | 12 | 248 | 498 |
| 07:15 AM | 11 | 8 | 4 | 23 | 34 | 131 | 12 | 177 | 10 | 16 | 32 | 58 | 12 | 292 | 13 | 317 | 575 |
| 07:30 AM | 13 | 18 | 7 | 38 | 34 | 151 | 25 | 210 | 9 | 8 | 45 | 62 | 8 | 355 | 12 | 375 | 685 |
| 07:45 AM | 16 | 24 | 7 | 47 | 41 | 138 | 20 | 199 | 11 | 12 | 21 | 44 | 17 | 344 | 24 | 385 | 675 |
| Total | 56 | 62 | 22 | 140 | 140 | 550 | 67 | 757 | 38 | 50 | 123 | 211 | 43 | 1221 | 61 | 1325 | 2433 |
| 08:00 AM | 16 | 20 | 12 | 48 | 40 | 178 | 18 | 236 | 15 | 12 | 41 | 68 | 12 | 273 | 11 | 296 | 648 |
| 08:15 AM | 26 | 25 | 8 | 59 | 50 | 198 | 35 | 283 | 4 | 19 | 41 | 64 | 14 | 229 | 26 | 269 | 675 |
| 08:30 AM | 22 | 30 | 6 | 58 | 45 | 245 | 42 | 332 | 16 | 11 | 41 | 68 | 18 | 327 | 26 | 371 | 829 |
| 08:45 AM | 38 | 25 | 14 | 77 | 34 | 291 | 52 | 377 | 19 | 23 | 55 | 97 | 16 | 305 | 33 | 354 | 905 |
| Total | 102 | 100 | 40 | 242 | 169 | 912 | 147 | 1228 | 54 | 65 | 178 | 297 | 60 | 1134 | 96 | 1290 | 3057 |
| Grand Total | 158 | 162 | 62 | 382 | 309 | 1462 | 214 | 1985 | 92 | 115 | 301 | 508 | 103 | 2355 | 157 | 2615 | 5490 |
| Apprch % | 41.4 | 42.4 | 16.2 | | 15.6 | 73.7 | 10.8 | | 18.1 | 22.6 | 59.3 | | 3.9 | 90.1 | 6 | | |
| Total % | 2.9 | 3 | 1.1 | 7 | 5.6 | 26.6 | 3.9 | 36.2 | 1.7 | 2.1 | 5.5 | 9.3 | 1.9 | 42.9 | 2.9 | 47.6 | |

| Start Time | Amargosa Road Southbound | | | | Bear Valley Road Westbound | | | | Amargosa Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|--|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 AM | | | | | | | | | | | | | | | | | |
| 08:00 AM | 16 | 20 | 12 | 48 | 40 | 178 | 18 | 236 | 15 | 12 | 41 | 68 | 12 | 273 | 11 | 296 | 648 |
| 08:15 AM | 26 | 25 | 8 | 59 | 50 | 198 | 35 | 283 | 4 | 19 | 41 | 64 | 14 | 229 | 26 | 269 | 675 |
| 08:30 AM | 22 | 30 | 6 | 58 | 45 | 245 | 42 | 332 | 16 | 11 | 41 | 68 | 18 | 327 | 26 | 371 | 829 |
| 08:45 AM | 38 | 25 | 14 | 77 | 34 | 291 | 52 | 377 | 19 | 23 | 55 | 97 | 16 | 305 | 33 | 354 | 905 |
| Total Volume | 102 | 100 | 40 | 242 | 169 | 912 | 147 | 1228 | 54 | 65 | 178 | 297 | 60 | 1134 | 96 | 1290 | 3057 |
| % App. Total | 42.1 | 41.3 | 16.5 | | 13.8 | 74.3 | 12 | | 18.2 | 21.9 | 59.9 | | 4.7 | 87.9 | 7.4 | | |
| PHF | .671 | .833 | .714 | .786 | .845 | .784 | .707 | .814 | .711 | .707 | .809 | .765 | .833 | .867 | .727 | .869 | .844 |

City of Victorville
 N/S: Amargosa Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 03_VIC_Amargosa_Bear Valley AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 08:00 AM | | | | 08:00 AM | | | | 08:00 AM | | | | 07:15 AM | | | |
|--------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|
| +0 mins. | 16 | 20 | 12 | 48 | 40 | 178 | 18 | 236 | 15 | 12 | 41 | 68 | 12 | 292 | 13 | 317 |
| +15 mins. | 26 | 25 | 8 | 59 | 50 | 198 | 35 | 283 | 4 | 19 | 41 | 64 | 8 | 355 | 12 | 375 |
| +30 mins. | 22 | 30 | 6 | 58 | 45 | 245 | 42 | 332 | 16 | 11 | 41 | 68 | 17 | 344 | 24 | 385 |
| +45 mins. | 38 | 25 | 14 | 77 | 34 | 291 | 52 | 377 | 19 | 23 | 55 | 97 | 12 | 273 | 11 | 296 |
| Total Volume | 102 | 100 | 40 | 242 | 169 | 912 | 147 | 1228 | 54 | 65 | 178 | 297 | 49 | 1264 | 60 | 1373 |
| % App. Total | 42.1 | 41.3 | 16.5 | | 13.8 | 74.3 | 12 | | 18.2 | 21.9 | 59.9 | | 3.6 | 92.1 | 4.4 | |
| PHF | .671 | .833 | .714 | .786 | .845 | .784 | .707 | .814 | .711 | .707 | .809 | .765 | .721 | .890 | .625 | .892 |

City of Victorville
 N/S: Amargosa Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 03_VIC_Amargosa_Bear Valley PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

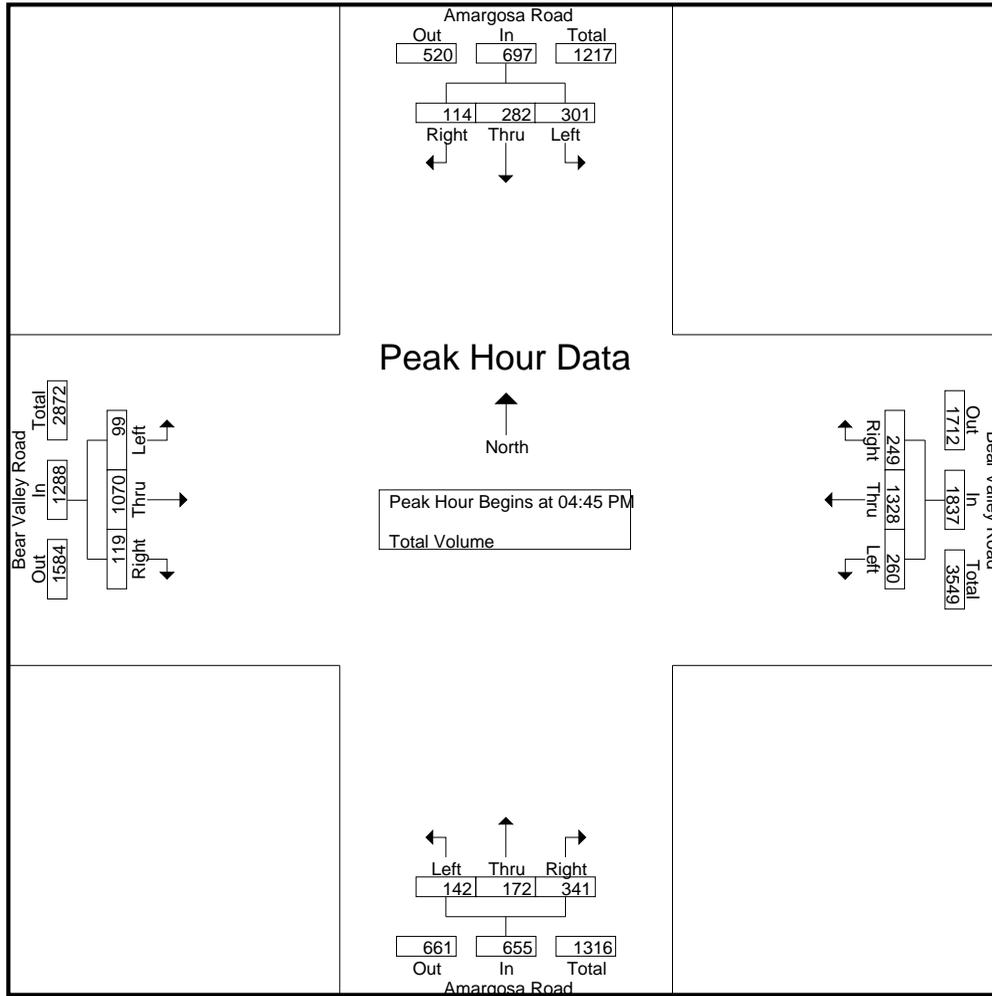
Groups Printed- Total Volume

| Start Time | Amargosa Road Southbound | | | | Bear Valley Road Westbound | | | | Amargosa Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 74 | 68 | 23 | 165 | 64 | 302 | 61 | 427 | 32 | 39 | 79 | 150 | 27 | 273 | 33 | 333 | 1075 |
| 04:15 PM | 94 | 66 | 26 | 186 | 65 | 303 | 82 | 450 | 28 | 41 | 78 | 147 | 19 | 261 | 35 | 315 | 1098 |
| 04:30 PM | 61 | 71 | 35 | 167 | 62 | 319 | 75 | 456 | 27 | 47 | 85 | 159 | 34 | 265 | 22 | 321 | 1103 |
| 04:45 PM | 69 | 57 | 23 | 149 | 67 | 318 | 66 | 451 | 38 | 44 | 94 | 176 | 26 | 269 | 28 | 323 | 1099 |
| Total | 298 | 262 | 107 | 667 | 258 | 1242 | 284 | 1784 | 125 | 171 | 336 | 632 | 106 | 1068 | 118 | 1292 | 4375 |
| 05:00 PM | 78 | 71 | 39 | 188 | 61 | 332 | 54 | 447 | 40 | 46 | 82 | 168 | 14 | 260 | 32 | 306 | 1109 |
| 05:15 PM | 87 | 77 | 32 | 196 | 64 | 346 | 66 | 476 | 35 | 39 | 89 | 163 | 30 | 269 | 28 | 327 | 1162 |
| 05:30 PM | 67 | 77 | 20 | 164 | 68 | 332 | 63 | 463 | 29 | 43 | 76 | 148 | 29 | 272 | 31 | 332 | 1107 |
| 05:45 PM | 73 | 67 | 26 | 166 | 66 | 306 | 67 | 439 | 32 | 47 | 87 | 166 | 24 | 257 | 28 | 309 | 1080 |
| Total | 305 | 292 | 117 | 714 | 259 | 1316 | 250 | 1825 | 136 | 175 | 334 | 645 | 97 | 1058 | 119 | 1274 | 4458 |
| Grand Total | 603 | 554 | 224 | 1381 | 517 | 2558 | 534 | 3609 | 261 | 346 | 670 | 1277 | 203 | 2126 | 237 | 2566 | 8833 |
| Apprch % | 43.7 | 40.1 | 16.2 | | 14.3 | 70.9 | 14.8 | | 20.4 | 27.1 | 52.5 | | 7.9 | 82.9 | 9.2 | | |
| Total % | 6.8 | 6.3 | 2.5 | 15.6 | 5.9 | 29 | 6 | 40.9 | 3 | 3.9 | 7.6 | 14.5 | 2.3 | 24.1 | 2.7 | 29.1 | |

| Start Time | Amargosa Road Southbound | | | | Bear Valley Road Westbound | | | | Amargosa Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|--|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|-------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:45 PM | | | | | | | | | | | | | | | | | |
| 04:45 PM | 69 | 57 | 23 | 149 | 67 | 318 | 66 | 451 | 38 | 44 | 94 | 176 | 26 | 269 | 28 | 323 | 1099 |
| 05:00 PM | 78 | 71 | 39 | 188 | 61 | 332 | 54 | 447 | 40 | 46 | 82 | 168 | 14 | 260 | 32 | 306 | 1109 |
| 05:15 PM | 87 | 77 | 32 | 196 | 64 | 346 | 66 | 476 | 35 | 39 | 89 | 163 | 30 | 269 | 28 | 327 | 1162 |
| 05:30 PM | 67 | 77 | 20 | 164 | 68 | 332 | 63 | 463 | 29 | 43 | 76 | 148 | 29 | 272 | 31 | 332 | 1107 |
| Total Volume | 301 | 282 | 114 | 697 | 260 | 1328 | 249 | 1837 | 142 | 172 | 341 | 655 | 99 | 1070 | 119 | 1288 | 4477 |
| % App. Total | 43.2 | 40.5 | 16.4 | | 14.2 | 72.3 | 13.6 | | 21.7 | 26.3 | 52.1 | | 7.7 | 83.1 | 9.2 | | |
| PHF | .865 | .916 | .731 | .889 | .956 | .960 | .943 | .965 | .888 | .935 | .907 | .930 | .825 | .983 | .930 | .970 | .963 |

City of Victorville
 N/S: Amargosa Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 03_VIC_Amargosa_Bear Valley PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 05:00 PM | | | | 04:45 PM | | | | 04:30 PM | | | | 04:00 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 78 | 71 | 39 | 188 | 67 | 318 | 66 | 451 | 27 | 47 | 85 | 159 | 27 | 273 | 33 | 333 |
| +15 mins. | 87 | 77 | 32 | 196 | 61 | 332 | 54 | 447 | 38 | 44 | 94 | 176 | 19 | 261 | 35 | 315 |
| +30 mins. | 67 | 77 | 20 | 164 | 64 | 346 | 66 | 476 | 40 | 46 | 82 | 168 | 34 | 265 | 22 | 321 |
| +45 mins. | 73 | 67 | 26 | 166 | 68 | 332 | 63 | 463 | 35 | 39 | 89 | 163 | 26 | 269 | 28 | 323 |
| Total Volume | 305 | 292 | 117 | 714 | 260 | 1328 | 249 | 1837 | 140 | 176 | 350 | 666 | 106 | 1068 | 118 | 1292 |
| % App. Total | 42.7 | 40.9 | 16.4 | | 14.2 | 72.3 | 13.6 | | 21 | 26.4 | 52.6 | | 8.2 | 82.7 | 9.1 | |
| PHF | .876 | .948 | .750 | .911 | .956 | .960 | .943 | .965 | .875 | .936 | .931 | .946 | .779 | .978 | .843 | .970 |

City of Victorville
 N/S: Amethyst Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 04_VIC_Amethyst_Bear Valley AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

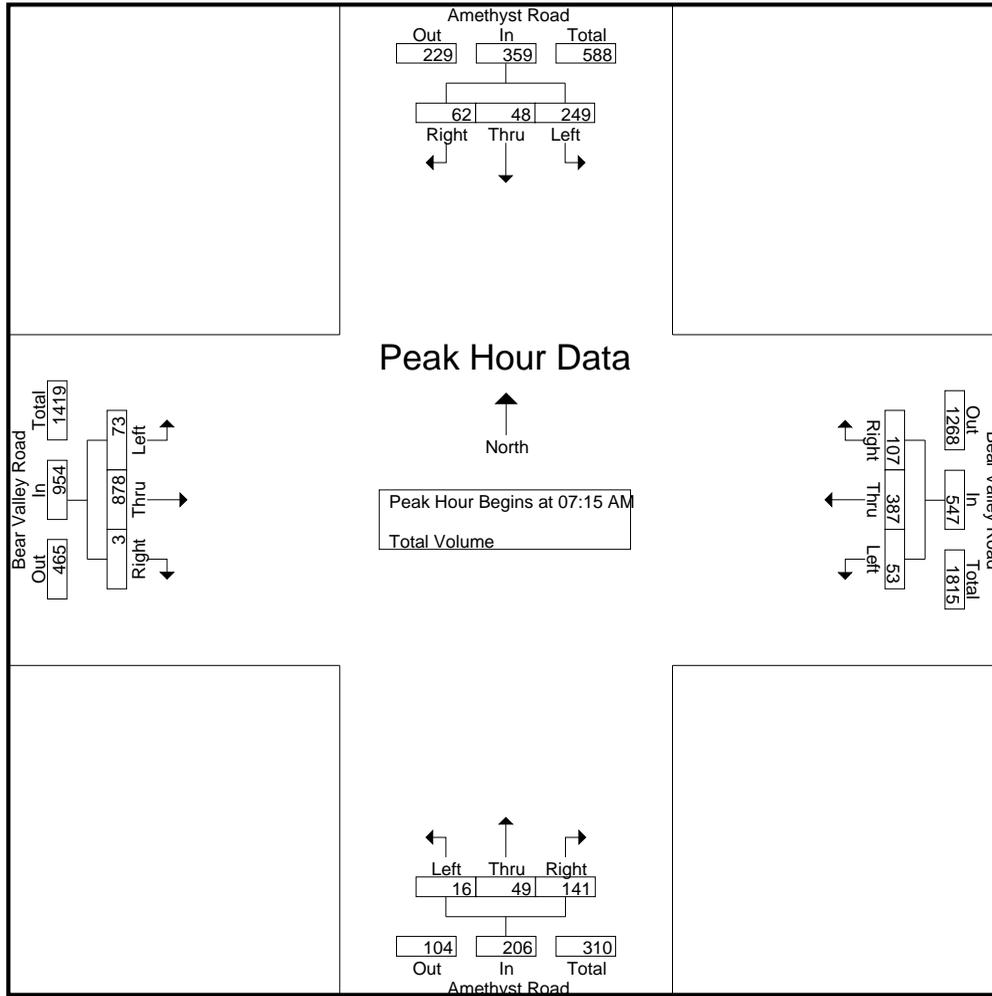
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Bear Valley Road Westbound | | | | Amethyst Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 59 | 15 | 21 | 95 | 17 | 82 | 23 | 122 | 2 | 9 | 35 | 46 | 20 | 158 | 0 | 178 | 441 |
| 07:15 AM | 59 | 11 | 15 | 85 | 14 | 95 | 23 | 132 | 1 | 11 | 32 | 44 | 17 | 207 | 2 | 226 | 487 |
| 07:30 AM | 66 | 12 | 24 | 102 | 14 | 109 | 22 | 145 | 2 | 15 | 47 | 64 | 18 | 246 | 0 | 264 | 575 |
| 07:45 AM | 70 | 15 | 7 | 92 | 13 | 90 | 29 | 132 | 4 | 11 | 36 | 51 | 16 | 243 | 1 | 260 | 535 |
| Total | 254 | 53 | 67 | 374 | 58 | 376 | 97 | 531 | 9 | 46 | 150 | 205 | 71 | 854 | 3 | 928 | 2038 |
| 08:00 AM | 54 | 10 | 16 | 80 | 12 | 93 | 33 | 138 | 9 | 12 | 26 | 47 | 22 | 182 | 0 | 204 | 469 |
| 08:15 AM | 54 | 10 | 20 | 84 | 15 | 102 | 30 | 147 | 3 | 13 | 24 | 40 | 22 | 167 | 1 | 190 | 461 |
| 08:30 AM | 68 | 23 | 10 | 101 | 14 | 94 | 16 | 124 | 3 | 8 | 33 | 44 | 16 | 189 | 2 | 207 | 476 |
| 08:45 AM | 49 | 17 | 8 | 74 | 15 | 113 | 24 | 152 | 5 | 9 | 32 | 46 | 14 | 183 | 3 | 200 | 472 |
| Total | 225 | 60 | 54 | 339 | 56 | 402 | 103 | 561 | 20 | 42 | 115 | 177 | 74 | 721 | 6 | 801 | 1878 |
| Grand Total | 479 | 113 | 121 | 713 | 114 | 778 | 200 | 1092 | 29 | 88 | 265 | 382 | 145 | 1575 | 9 | 1729 | 3916 |
| Apprch % | 67.2 | 15.8 | 17 | | 10.4 | 71.2 | 18.3 | | 7.6 | 23 | 69.4 | | 8.4 | 91.1 | 0.5 | | |
| Total % | 12.2 | 2.9 | 3.1 | 18.2 | 2.9 | 19.9 | 5.1 | 27.9 | 0.7 | 2.2 | 6.8 | 9.8 | 3.7 | 40.2 | 0.2 | 44.2 | |

| Start Time | Amethyst Road Southbound | | | | Bear Valley Road Westbound | | | | Amethyst Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|--|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|--------------------------|-----------|-----------|------------|----------------------------|------------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 59 | 11 | 15 | 85 | 14 | 95 | 23 | 132 | 1 | 11 | 32 | 44 | 17 | 207 | 2 | 226 | 487 |
| 07:30 AM | 66 | 12 | 24 | 102 | 14 | 109 | 22 | 145 | 2 | 15 | 47 | 64 | 18 | 246 | 0 | 264 | 575 |
| 07:45 AM | 70 | 15 | 7 | 92 | 13 | 90 | 29 | 132 | 4 | 11 | 36 | 51 | 16 | 243 | 1 | 260 | 535 |
| 08:00 AM | 54 | 10 | 16 | 80 | 12 | 93 | 33 | 138 | 9 | 12 | 26 | 47 | 22 | 182 | 0 | 204 | 469 |
| Total Volume | 249 | 48 | 62 | 359 | 53 | 387 | 107 | 547 | 16 | 49 | 141 | 206 | 73 | 878 | 3 | 954 | 2066 |
| % App. Total | 69.4 | 13.4 | 17.3 | | 9.7 | 70.7 | 19.6 | | 7.8 | 23.8 | 68.4 | | 7.7 | 92 | 0.3 | | |
| PHF | .889 | .800 | .646 | .880 | .946 | .888 | .811 | .943 | .444 | .817 | .750 | .805 | .830 | .892 | .375 | .903 | .898 |

City of Victorville
 N/S: Amethyst Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 04_VIC_Amethyst_Bear Valley AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | 07:30 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|--------------|-----------|------|-----------|------------|-----------|------------|-----------|------------|----------|-----------|-----------|-----------|-----------|------------|----------|------------|
| +0 mins. | 59 | 15 | 21 | 95 | 14 | 109 | 22 | 145 | 1 | 11 | 32 | 44 | 17 | 207 | 2 | 226 |
| +15 mins. | 59 | 11 | 15 | 85 | 13 | 90 | 29 | 132 | 2 | 15 | 47 | 64 | 18 | 246 | 0 | 264 |
| +30 mins. | 66 | 12 | 24 | 102 | 12 | 93 | 33 | 138 | 4 | 11 | 36 | 51 | 16 | 243 | 1 | 260 |
| +45 mins. | 70 | 15 | 7 | 92 | 15 | 102 | 30 | 147 | 9 | 12 | 26 | 47 | 22 | 182 | 0 | 204 |
| Total Volume | 254 | 53 | 67 | 374 | 54 | 394 | 114 | 562 | 16 | 49 | 141 | 206 | 73 | 878 | 3 | 954 |
| % App. Total | 67.9 | 14.2 | 17.9 | | 9.6 | 70.1 | 20.3 | | 7.8 | 23.8 | 68.4 | | 7.7 | 92 | 0.3 | |
| PHF | .907 | .883 | .698 | .917 | .900 | .904 | .864 | .956 | .444 | .817 | .750 | .805 | .830 | .892 | .375 | .903 |

City of Victorville
 N/S: Amethyst Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 04_VIC_Amethyst_Bear Valley PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

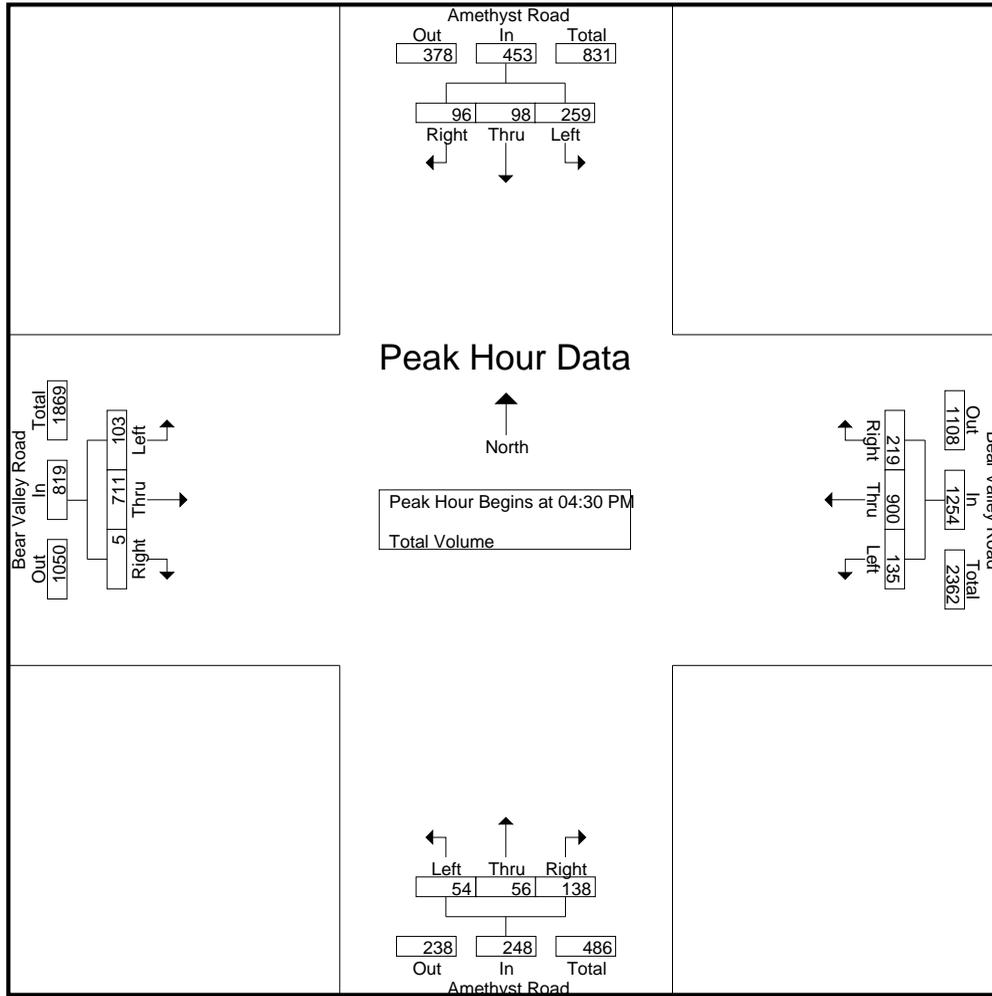
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Bear Valley Road Westbound | | | | Amethyst Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|--------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 74 | 27 | 11 | 112 | 29 | 219 | 54 | 302 | 10 | 13 | 23 | 46 | 26 | 159 | 1 | 186 | 646 |
| 04:15 PM | 56 | 21 | 20 | 97 | 33 | 205 | 56 | 294 | 5 | 11 | 23 | 39 | 28 | 180 | 1 | 209 | 639 |
| 04:30 PM | 68 | 20 | 22 | 110 | 31 | 211 | 53 | 295 | 12 | 14 | 40 | 66 | 24 | 179 | 3 | 206 | 677 |
| 04:45 PM | 67 | 25 | 31 | 123 | 25 | 210 | 52 | 287 | 20 | 13 | 30 | 63 | 27 | 183 | 0 | 210 | 683 |
| Total | 265 | 93 | 84 | 442 | 118 | 845 | 215 | 1178 | 47 | 51 | 116 | 214 | 105 | 701 | 5 | 811 | 2645 |
| 05:00 PM | 58 | 24 | 21 | 103 | 38 | 229 | 60 | 327 | 7 | 12 | 26 | 45 | 23 | 165 | 2 | 190 | 665 |
| 05:15 PM | 66 | 29 | 22 | 117 | 41 | 250 | 54 | 345 | 15 | 17 | 42 | 74 | 29 | 184 | 0 | 213 | 749 |
| 05:30 PM | 63 | 20 | 24 | 107 | 27 | 217 | 58 | 302 | 12 | 29 | 32 | 73 | 24 | 151 | 0 | 175 | 657 |
| 05:45 PM | 66 | 27 | 23 | 116 | 32 | 214 | 58 | 304 | 13 | 16 | 44 | 73 | 24 | 141 | 1 | 166 | 659 |
| Total | 253 | 100 | 90 | 443 | 138 | 910 | 230 | 1278 | 47 | 74 | 144 | 265 | 100 | 641 | 3 | 744 | 2730 |
| Grand Total | 518 | 193 | 174 | 885 | 256 | 1755 | 445 | 2456 | 94 | 125 | 260 | 479 | 205 | 1342 | 8 | 1555 | 5375 |
| Apprch % | 58.5 | 21.8 | 19.7 | | 10.4 | 71.5 | 18.1 | | 19.6 | 26.1 | 54.3 | | 13.2 | 86.3 | 0.5 | | |
| Total % | 9.6 | 3.6 | 3.2 | 16.5 | 4.8 | 32.7 | 8.3 | 45.7 | 1.7 | 2.3 | 4.8 | 8.9 | 3.8 | 25 | 0.1 | 28.9 | |

| Start Time | Amethyst Road Southbound | | | | Bear Valley Road Westbound | | | | Amethyst Road Northbound | | | | Bear Valley Road Eastbound | | | | Int. Total |
|--|--------------------------|-----------|-----------|------------|----------------------------|------------|-----------|------------|--------------------------|-----------|-----------|------------|----------------------------|------------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | | | | | |
| 04:30 PM | 68 | 20 | 22 | 110 | 31 | 211 | 53 | 295 | 12 | 14 | 40 | 66 | 24 | 179 | 3 | 206 | 677 |
| 04:45 PM | 67 | 25 | 31 | 123 | 25 | 210 | 52 | 287 | 20 | 13 | 30 | 63 | 27 | 183 | 0 | 210 | 683 |
| 05:00 PM | 58 | 24 | 21 | 103 | 38 | 229 | 60 | 327 | 7 | 12 | 26 | 45 | 23 | 165 | 2 | 190 | 665 |
| 05:15 PM | 66 | 29 | 22 | 117 | 41 | 250 | 54 | 345 | 15 | 17 | 42 | 74 | 29 | 184 | 0 | 213 | 749 |
| Total Volume | 259 | 98 | 96 | 453 | 135 | 900 | 219 | 1254 | 54 | 56 | 138 | 248 | 103 | 711 | 5 | 819 | 2774 |
| % App. Total | 57.2 | 21.6 | 21.2 | | 10.8 | 71.8 | 17.5 | | 21.8 | 22.6 | 55.6 | | 12.6 | 86.8 | 0.6 | | |
| PHF | .952 | .845 | .774 | .921 | .823 | .900 | .913 | .909 | .675 | .824 | .821 | .838 | .888 | .966 | .417 | .961 | .926 |

City of Victorville
 N/S: Amethyst Road
 E/W: Bear Valley Road
 Weather: Clear

File Name : 04_VIC_Amethyst_Bear Valley PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | | 05:00 PM | | | | 05:00 PM | | | | 04:30 PM | | | |
|--------------|-----------|-----------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|------------|----------|------------|
| +0 mins. | 68 | 20 | 22 | 110 | 38 | 229 | 60 | 327 | 7 | 12 | 26 | 45 | 24 | 179 | 3 | 206 |
| +15 mins. | 67 | 25 | 31 | 123 | 41 | 250 | 54 | 345 | 15 | 17 | 42 | 74 | 27 | 183 | 0 | 210 |
| +30 mins. | 58 | 24 | 21 | 103 | 27 | 217 | 58 | 302 | 12 | 29 | 32 | 73 | 23 | 165 | 2 | 190 |
| +45 mins. | 66 | 29 | 22 | 117 | 32 | 214 | 58 | 304 | 13 | 16 | 44 | 73 | 29 | 184 | 0 | 213 |
| Total Volume | 259 | 98 | 96 | 453 | 138 | 910 | 230 | 1278 | 47 | 74 | 144 | 265 | 103 | 711 | 5 | 819 |
| % App. Total | 57.2 | 21.6 | 21.2 | | 10.8 | 71.2 | 18 | | 17.7 | 27.9 | 54.3 | | 12.6 | 86.8 | 0.6 | |
| PHF | .952 | .845 | .774 | .921 | .841 | .910 | .958 | .926 | .783 | .638 | .818 | .895 | .888 | .966 | .417 | .961 |

City of Victorville
 N/S: Amethyst Road
 E/W: Sycamore Street
 Weather: Clear

File Name : 05_VIC_Amethyst_Sycamore AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

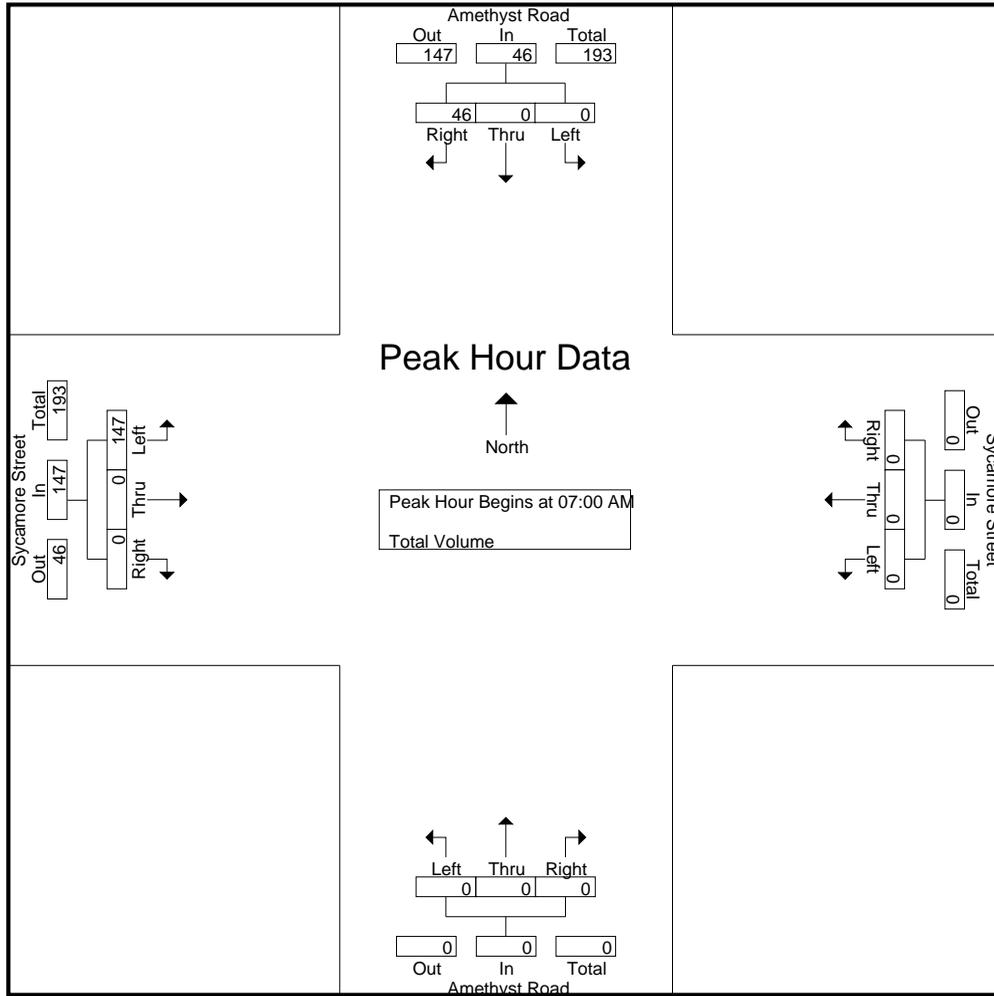
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Sycamore Street Westbound | | | | Amethyst Road Northbound | | | | Sycamore Street Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 0 | 0 | 18 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 31 | 49 |
| 07:15 AM | 0 | 0 | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 48 | 59 |
| 07:30 AM | 0 | 0 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 39 | 48 |
| 07:45 AM | 0 | 0 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 37 |
| Total | 0 | 0 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 0 | 147 | 193 |
| 08:00 AM | 0 | 0 | 12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 41 |
| 08:15 AM | 0 | 0 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 36 |
| 08:30 AM | 0 | 0 | 10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 26 | 36 |
| 08:45 AM | 0 | 0 | 10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 35 |
| Total | 0 | 0 | 41 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 0 | 107 | 148 |
| Grand Total | 0 | 0 | 87 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 254 | 0 | 0 | 254 | 341 |
| Apprch % | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | | |
| Total % | 0 | 0 | 25.5 | 25.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74.5 | 0 | 0 | 74.5 | |

| Start Time | Amethyst Road Southbound | | | | Sycamore Street Westbound | | | | Amethyst Road Northbound | | | | Sycamore Street Eastbound | | | | Int. Total |
|--|--------------------------|------|-------|------------|---------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:00 AM | | | | | | | | | | | | | | | | | |
| 07:00 AM | 0 | 0 | 18 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 31 | 49 |
| 07:15 AM | 0 | 0 | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 48 | 59 |
| 07:30 AM | 0 | 0 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 39 | 48 |
| 07:45 AM | 0 | 0 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 37 |
| Total Volume | 0 | 0 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 0 | 147 | 193 |
| % App. Total | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | | |
| PHF | .000 | .000 | .639 | .639 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .766 | .000 | .000 | .766 | .818 |

City of Victorville
 N/S: Amethyst Road
 E/W: Sycamore Street
 Weather: Clear

File Name : 05_VIC_Amethyst_Sycamore AM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | 07:00 AM | | | | 07:00 AM | | | | 07:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 0 | 0 | 18 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 31 |
| +15 mins. | 0 | 0 | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 48 |
| +30 mins. | 0 | 0 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 39 |
| +45 mins. | 0 | 0 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 |
| Total Volume | 0 | 0 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 0 | 147 |
| % App. Total | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | |
| PHF | .000 | .000 | .639 | .639 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .766 | .000 | .000 | .766 |

City of Victorville
 N/S: Amethyst Road
 E/W: Sycamore Street
 Weather: Clear

File Name : 05_VIC_Amethyst_Sycamore PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 1

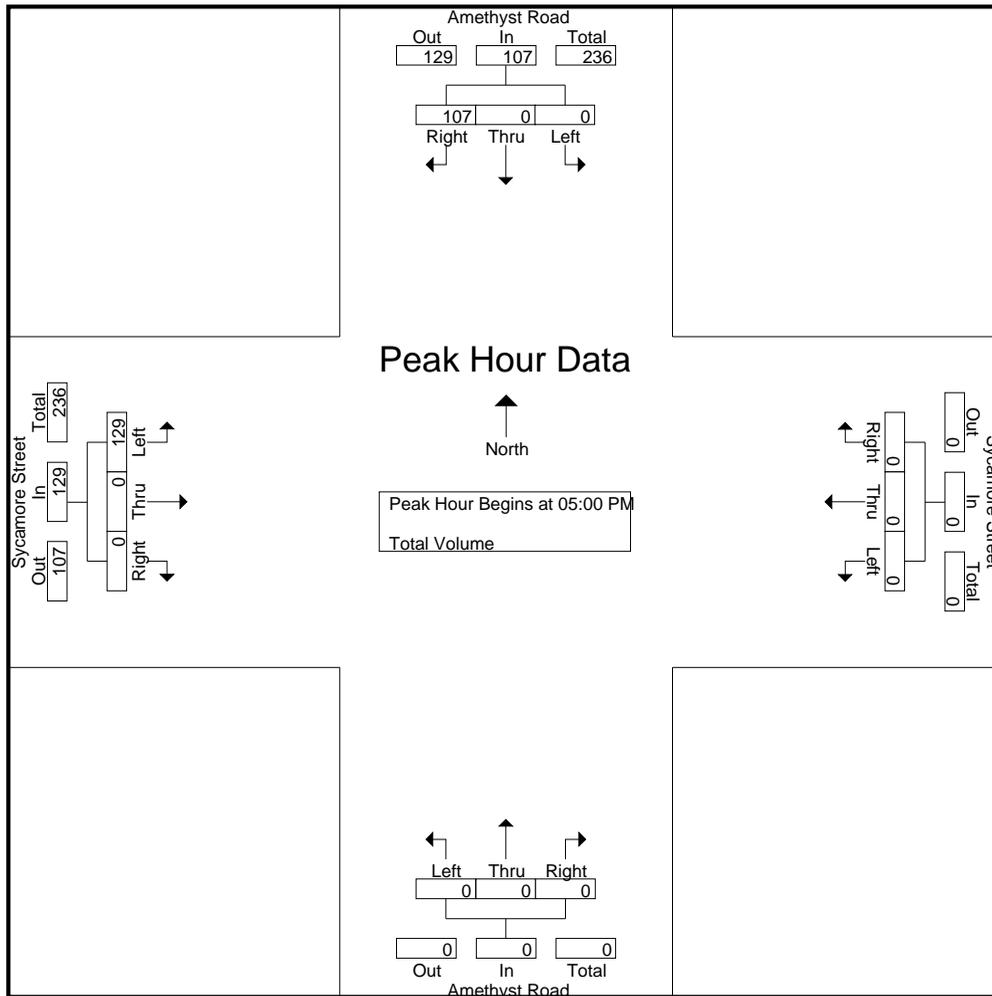
Groups Printed- Total Volume

| Start Time | Amethyst Road Southbound | | | | Sycamore Street Westbound | | | | Amethyst Road Northbound | | | | Sycamore Street Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 0 | 0 | 24 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 44 |
| 04:15 PM | 0 | 0 | 24 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 53 |
| 04:30 PM | 0 | 0 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 42 | 62 |
| 04:45 PM | 0 | 0 | 29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 26 | 55 |
| Total | 0 | 0 | 97 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 117 | 0 | 0 | 117 | 214 |
| 05:00 PM | 0 | 0 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 21 | 49 |
| 05:15 PM | 0 | 0 | 33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 62 |
| 05:30 PM | 0 | 0 | 17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 | 54 |
| 05:45 PM | 0 | 0 | 29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 42 | 71 |
| Total | 0 | 0 | 107 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 | 0 | 0 | 129 | 236 |
| Grand Total | 0 | 0 | 204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 246 | 0 | 0 | 246 | 450 |
| Apprch % | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | | |
| Total % | 0 | 0 | 45.3 | 45.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54.7 | 0 | 0 | 54.7 | |

| Start Time | Amethyst Road Southbound | | | | Sycamore Street Westbound | | | | Amethyst Road Northbound | | | | Sycamore Street Eastbound | | | | Int. Total |
|--|--------------------------|------|-----------|------------|---------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 05:00 PM | | | | | | | | | | | | | | | | | |
| 05:00 PM | 0 | 0 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 21 | 49 |
| 05:15 PM | 0 | 0 | 33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 62 |
| 05:30 PM | 0 | 0 | 17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 | 54 |
| 05:45 PM | 0 | 0 | 29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 42 | 71 |
| Total Volume | 0 | 0 | 107 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 | 0 | 0 | 129 | 236 |
| % App. Total | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | | |
| PHF | .000 | .000 | .811 | .811 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .768 | .000 | .000 | .768 | .831 |

City of Victorville
 N/S: Amethyst Road
 E/W: Sycamore Street
 Weather: Clear

File Name : 05_VIC_Amethyst_Sycamore PM
 Site Code : 20119635
 Start Date : 9/25/2019
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | | 04:00 PM | | | | 04:00 PM | | | | 05:00 PM | | | |
|--------------|----------|------|-----------|-----------|----------|------|------|------|----------|------|------|------|-----------|------|------|-----------|
| +0 mins. | 0 | 0 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 21 |
| +15 mins. | 0 | 0 | 29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 |
| +30 mins. | 0 | 0 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 |
| +45 mins. | 0 | 0 | 33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 42 |
| Total Volume | 0 | 0 | 110 | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 | 0 | 0 | 129 |
| % App. Total | 0 | 0 | 100 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 100 | 0 | 0 | |
| PHF | .000 | .000 | .833 | .833 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .768 | .000 | .000 | .768 |

APPENDIX 3.3

EXISTING (2019) CONDITIONS INTERSECTION ANALYSIS CALCULATION WORKSHEETS

01 - Existing AM.syn
1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 60 | 60 | 60 | 31 | 31 | 31 | 50 | 50 | 50 | 25 | 25 | 25 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 0 | 6 | 6 | 3 | 0 | 0 | 4 | 4 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 9 | 0 | 0 | 7 | 0 | 0 | 27 | 28 | 7 | 29 | 27 | 8 |
| Stage 1 | - | - | - | - | - | - | 7 | 7 | - | 20 | 20 | - |
| Stage 2 | - | - | - | - | - | - | 20 | 21 | - | 9 | 7 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1611 | - | - | 1614 | - | - | 983 | 865 | 1075 | 980 | 866 | 1074 |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 999 | 879 | - |
| Stage 2 | - | - | - | - | - | - | 999 | 878 | - | 1012 | 890 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1611 | - | - | 1614 | - | - | 980 | 862 | 1075 | 973 | 863 | 1074 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 980 | 862 | - | 973 | 863 | - |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 999 | 875 | - |
| Stage 2 | - | - | - | - | - | - | 995 | 874 | - | 1008 | 890 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 0 | | | 2.9 | | | 8.4 | | | 8.7 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1075 | 1611 | - | - | 1614 | - | - | 973 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 0 | - | - | 7.2 | 0 | - | 8.7 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

01 - Existing AM.syn
2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 3 | 0 | 0 | 165 | 203 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 165 | 203 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 75 | 75 | 83 | 83 | 67 | 67 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 199 | 303 | 6 |

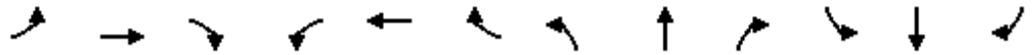
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 505 | 306 | 309 | 0 | - | 0 |
| Stage 1 | 306 | - | - | - | - | - |
| Stage 2 | 199 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 527 | 734 | 1252 | - | - | - |
| Stage 1 | 747 | - | - | - | - | - |
| Stage 2 | 835 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 527 | 734 | 1252 | - | - | - |
| Mov Cap-2 Maneuver | 527 | - | - | - | - | - |
| Stage 1 | 747 | - | - | - | - | - |
| Stage 2 | 835 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 11.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 1252 | - | 527 | - | - |
| HCM Lane V/C Ratio | - | - | 0.008 | - | - |
| HCM Control Delay (s) | 0 | - | 11.9 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 - Existing AM.syn
3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 60 | 1134 | 96 | 169 | 912 | 147 | 54 | 65 | 178 | 102 | 100 | 40 |
| Future Volume (veh/h) | 60 | 1134 | 96 | 169 | 912 | 147 | 54 | 65 | 178 | 102 | 100 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 1350 | 114 | 209 | 1126 | 181 | 70 | 84 | 231 | 129 | 127 | 51 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.81 | 0.81 | 0.81 | 0.77 | 0.77 | 0.77 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 1775 | 437 | 241 | 1837 | 656 | 90 | 720 | 825 | 186 | 975 | 374 |
| Arrive On Green | 0.05 | 0.28 | 0.28 | 0.14 | 0.36 | 0.36 | 0.05 | 0.39 | 0.39 | 0.05 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2510 | 964 |
| Grp Volume(v), veh/h | 71 | 1350 | 114 | 209 | 1126 | 181 | 70 | 84 | 231 | 129 | 88 | 90 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1697 |
| Q Serve(g_s), s | 4.7 | 23.1 | 6.7 | 13.8 | 21.7 | 9.1 | 4.7 | 3.5 | 9.8 | 4.4 | 3.8 | 4.1 |
| Cycle Q Clear(g_c), s | 4.7 | 23.1 | 6.7 | 13.8 | 21.7 | 9.1 | 4.7 | 3.5 | 9.8 | 4.4 | 3.8 | 4.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.57 |
| Lane Grp Cap(c), veh/h | 91 | 1775 | 437 | 241 | 1837 | 656 | 90 | 720 | 825 | 186 | 690 | 659 |
| V/C Ratio(X) | 0.78 | 0.76 | 0.26 | 0.87 | 0.61 | 0.28 | 0.78 | 0.12 | 0.28 | 0.69 | 0.13 | 0.14 |
| Avail Cap(c_a), veh/h | 186 | 2118 | 522 | 423 | 2362 | 818 | 186 | 720 | 825 | 331 | 690 | 659 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.3 | 39.8 | 33.9 | 50.8 | 31.5 | 23.3 | 56.3 | 23.8 | 16.2 | 55.8 | 23.6 | 23.7 |
| Incr Delay (d2), s/veh | 13.2 | 1.4 | 0.3 | 9.2 | 0.3 | 0.2 | 13.3 | 0.3 | 0.8 | 4.6 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 9.0 | 2.6 | 6.6 | 8.7 | 3.4 | 2.4 | 1.6 | 3.6 | 2.0 | 1.7 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.5 | 41.2 | 34.2 | 60.0 | 31.9 | 23.5 | 69.6 | 24.1 | 17.0 | 60.4 | 24.0 | 24.1 |
| LnGrp LOS | E | D | C | E | C | C | E | C | B | E | C | C |
| Approach Vol, veh/h | | 1535 | | | 1516 | | | 385 | | | 307 | |
| Approach Delay, s/veh | | 42.0 | | | 34.8 | | | 28.1 | | | 39.3 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.0 | 50.7 | 20.7 | 37.6 | 10.6 | 51.1 | 10.6 | 47.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 22.5 | 28.5 | 39.5 | 12.5 | 21.5 | 12.5 | 55.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.4 | 11.8 | 15.8 | 25.1 | 6.7 | 6.1 | 6.7 | 23.7 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.9 | 0.4 | 8.0 | 0.1 | 0.8 | 0.1 | 9.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 37.4 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

01 - Existing AM.syn
4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 73 | 878 | 3 | 53 | 387 | 107 | 16 | 49 | 141 | 249 | 48 | 62 |
| Future Volume (veh/h) | 73 | 878 | 3 | 53 | 387 | 107 | 16 | 49 | 141 | 249 | 48 | 62 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 81 | 976 | 3 | 56 | 412 | 114 | 20 | 60 | 174 | 283 | 55 | 70 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 105 | 1066 | 476 | 71 | 1000 | 446 | 419 | 418 | 372 | 356 | 355 | 317 |
| Arrive On Green | 0.06 | 0.30 | 0.30 | 0.04 | 0.28 | 0.28 | 0.23 | 0.23 | 0.23 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 81 | 976 | 3 | 56 | 412 | 114 | 20 | 60 | 174 | 283 | 55 | 70 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 3.6 | 21.2 | 0.1 | 2.5 | 7.5 | 4.5 | 0.7 | 2.1 | 7.5 | 12.1 | 2.0 | 3.0 |
| Cycle Q Clear(g_c), s | 3.6 | 21.2 | 0.1 | 2.5 | 7.5 | 4.5 | 0.7 | 2.1 | 7.5 | 12.1 | 2.0 | 3.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 105 | 1066 | 476 | 71 | 1000 | 446 | 419 | 418 | 372 | 356 | 355 | 317 |
| V/C Ratio(X) | 0.77 | 0.92 | 0.01 | 0.79 | 0.41 | 0.26 | 0.05 | 0.14 | 0.47 | 0.79 | 0.15 | 0.22 |
| Avail Cap(c_a), veh/h | 205 | 1088 | 485 | 100 | 1000 | 446 | 419 | 418 | 372 | 356 | 355 | 317 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.1 | 27.0 | 19.6 | 38.1 | 23.4 | 22.3 | 23.7 | 24.2 | 26.3 | 30.4 | 26.4 | 26.8 |
| Incr Delay (d2), s/veh | 11.4 | 11.7 | 0.0 | 23.1 | 0.3 | 0.3 | 0.2 | 0.7 | 4.2 | 16.6 | 0.9 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8 | 9.9 | 0.0 | 1.5 | 3.0 | 1.6 | 0.3 | 0.9 | 3.1 | 6.5 | 0.9 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.6 | 38.7 | 19.6 | 61.2 | 23.6 | 22.6 | 23.9 | 25.0 | 30.5 | 47.0 | 27.3 | 28.4 |
| LnGrp LOS | D | D | B | E | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 1060 | | | 582 | | | 254 | | | 408 | |
| Approach Delay, s/veh | | 39.4 | | | 27.0 | | | 28.6 | | | 41.2 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.3 | 7.7 | 28.5 | | 20.5 | 9.2 | 27.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.0 | 4.5 | 24.5 | | 16.0 | 9.2 | 19.8 | | | | |
| Max Q Clear Time (g_c+1), s | | 9.5 | 4.5 | 23.2 | | 14.1 | 5.6 | 9.5 | | | | |
| Green Ext Time (p_c), s | | 0.7 | 0.0 | 0.8 | | 0.3 | 0.0 | 2.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 35.4 | |
| HCM 6th LOS | | | | | | | | | | | D | |

01 - Existing PM.syn
1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Future Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 10 | 0 | 6 | 14 | 0 | 0 | 0 | 4 | 2 | 2 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 14 | 0 | 0 | 10 | 0 | 0 | 41 | 40 | 10 | 42 | 40 | 14 |
| Stage 1 | - | - | - | - | - | - | 14 | 14 | - | 26 | 26 | - |
| Stage 2 | - | - | - | - | - | - | 27 | 26 | - | 16 | 14 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1604 | - | - | 1610 | - | - | 963 | 852 | 1071 | 961 | 852 | 1066 |
| Stage 1 | - | - | - | - | - | - | 1006 | 884 | - | 992 | 874 | - |
| Stage 2 | - | - | - | - | - | - | 990 | 874 | - | 1004 | 884 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1604 | - | - | 1610 | - | - | 957 | 848 | 1071 | 953 | 848 | 1066 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 957 | 848 | - | 953 | 848 | - |
| Stage 1 | - | - | - | - | - | - | 1005 | 883 | - | 991 | 871 | - |
| Stage 2 | - | - | - | - | - | - | 984 | 871 | - | 999 | 883 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|----|--|--|
| HCM Control Delay, s | 1.4 | | | 2.1 | | | 8.4 | | | 9 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1071 | 1604 | - | - | 1610 | - | - | 897 |
| HCM Lane V/C Ratio | 0.004 | 0.001 | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 7.2 | 0 | - | 7.2 | 0 | - | 9 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

01 - Existing PM.syn
 2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 2 | 0 | 1 | 381 | 342 | 6 |
| Future Vol, veh/h | 2 | 0 | 1 | 381 | 342 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 1 | 459 | 360 | 6 |

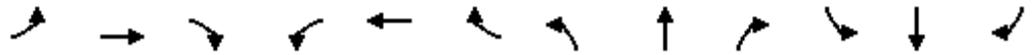
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 824 | 363 | 366 | 0 | - | 0 |
| Stage 1 | 363 | - | - | - | - | - |
| Stage 2 | 461 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 343 | 682 | 1193 | - | - | - |
| Stage 1 | 704 | - | - | - | - | - |
| Stage 2 | 635 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 343 | 682 | 1193 | - | - | - |
| Mov Cap-2 Maneuver | 343 | - | - | - | - | - |
| Stage 1 | 703 | - | - | - | - | - |
| Stage 2 | 635 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 15.6 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1193 | - | 343 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.012 | - | - |
| HCM Control Delay (s) | 8 | 0 | 15.6 | - | - |
| HCM Lane LOS | A | A | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 - Existing PM.syn
3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↙ | ↑↑↑ | ↗ | ↙ | ↑↑↑ | ↗ | ↙ | ↑ | ↗ | ↙↗ | ↑↗ | |
| Traffic Volume (veh/h) | 99 | 1070 | 119 | 260 | 1328 | 249 | 142 | 172 | 341 | 301 | 282 | 114 |
| Future Volume (veh/h) | 99 | 1070 | 119 | 260 | 1328 | 249 | 142 | 172 | 341 | 301 | 282 | 114 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 102 | 1103 | 123 | 268 | 1369 | 257 | 153 | 185 | 367 | 338 | 317 | 128 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 127 | 1471 | 362 | 300 | 1663 | 702 | 182 | 628 | 799 | 404 | 873 | 345 |
| Arrive On Green | 0.07 | 0.23 | 0.23 | 0.17 | 0.33 | 0.33 | 0.10 | 0.34 | 0.34 | 0.12 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2486 | 984 |
| Grp Volume(v), veh/h | 102 | 1103 | 123 | 268 | 1369 | 257 | 153 | 185 | 367 | 338 | 225 | 220 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 6.8 | 19.2 | 7.8 | 17.7 | 29.6 | 12.9 | 10.1 | 8.7 | 17.9 | 11.5 | 11.3 | 11.6 |
| Cycle Q Clear(g_c), s | 6.8 | 19.2 | 7.8 | 17.7 | 29.6 | 12.9 | 10.1 | 8.7 | 17.9 | 11.5 | 11.3 | 11.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 127 | 1471 | 362 | 300 | 1663 | 702 | 182 | 628 | 799 | 404 | 624 | 594 |
| V/C Ratio(X) | 0.80 | 0.75 | 0.34 | 0.89 | 0.82 | 0.37 | 0.84 | 0.29 | 0.46 | 0.84 | 0.36 | 0.37 |
| Avail Cap(c_a), veh/h | 200 | 1474 | 363 | 438 | 1851 | 760 | 276 | 628 | 799 | 533 | 624 | 594 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.9 | 43.1 | 38.7 | 48.8 | 37.3 | 22.2 | 52.9 | 29.4 | 19.2 | 51.9 | 28.9 | 29.1 |
| Incr Delay (d2), s/veh | 11.8 | 2.2 | 0.6 | 15.0 | 2.9 | 0.3 | 13.3 | 1.2 | 1.9 | 8.7 | 1.6 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 7.7 | 3.0 | 8.9 | 12.4 | 4.7 | 5.2 | 4.2 | 6.7 | 5.5 | 5.1 | 5.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.7 | 45.3 | 39.3 | 63.9 | 40.2 | 22.6 | 66.3 | 30.5 | 21.1 | 60.5 | 30.6 | 30.8 |
| LnGrp LOS | E | D | D | E | D | C | E | C | C | E | C | C |
| Approach Vol, veh/h | | 1328 | | | 1894 | | | 705 | | | 783 | |
| Approach Delay, s/veh | | 46.4 | | | 41.1 | | | 33.4 | | | 43.6 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 18.5 | 44.8 | 24.7 | 31.9 | 16.7 | 46.6 | 13.1 | 43.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 26.5 | 29.5 | 27.5 | 18.6 | 26.4 | 13.5 | 43.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.5 | 19.9 | 19.7 | 21.2 | 12.1 | 13.6 | 8.8 | 31.6 | | | | |
| Green Ext Time (p_c), s | 0.6 | 1.4 | 0.5 | 3.8 | 0.2 | 2.2 | 0.1 | 7.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 41.8 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

01 - Existing PM.syn
4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 103 | 711 | 5 | 135 | 900 | 219 | 54 | 56 | 138 | 259 | 98 | 96 |
| Future Volume (veh/h) | 103 | 711 | 5 | 135 | 900 | 219 | 54 | 56 | 138 | 259 | 98 | 96 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 107 | 741 | 5 | 148 | 989 | 241 | 64 | 67 | 164 | 282 | 107 | 104 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 132 | 1045 | 466 | 176 | 1133 | 505 | 391 | 390 | 348 | 423 | 424 | 374 |
| Arrive On Green | 0.07 | 0.29 | 0.29 | 0.10 | 0.32 | 0.32 | 0.22 | 0.22 | 0.22 | 0.24 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1787 | 1576 |
| Grp Volume(v), veh/h | 107 | 741 | 5 | 148 | 989 | 241 | 64 | 67 | 164 | 282 | 106 | 105 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1587 |
| Q Serve(g_s), s | 7.1 | 22.3 | 0.3 | 9.8 | 31.5 | 14.7 | 3.5 | 3.7 | 10.8 | 17.2 | 5.8 | 6.5 |
| Cycle Q Clear(g_c), s | 7.1 | 22.3 | 0.3 | 9.8 | 31.5 | 14.7 | 3.5 | 3.7 | 10.8 | 17.2 | 5.8 | 6.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Lane Grp Cap(c), veh/h | 132 | 1045 | 466 | 176 | 1133 | 505 | 391 | 390 | 348 | 423 | 422 | 377 |
| V/C Ratio(X) | 0.81 | 0.71 | 0.01 | 0.84 | 0.87 | 0.48 | 0.16 | 0.17 | 0.47 | 0.67 | 0.25 | 0.28 |
| Avail Cap(c_a), veh/h | 200 | 1119 | 499 | 270 | 1259 | 561 | 391 | 390 | 348 | 423 | 422 | 377 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.7 | 37.8 | 30.0 | 53.1 | 38.6 | 32.8 | 37.9 | 38.0 | 40.8 | 41.4 | 37.1 | 37.3 |
| Incr Delay (d2), s/veh | 13.3 | 1.9 | 0.0 | 13.1 | 6.5 | 0.7 | 0.9 | 1.0 | 4.5 | 8.1 | 1.4 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.6 | 9.7 | 0.1 | 4.9 | 14.3 | 5.6 | 1.6 | 1.7 | 4.6 | 8.3 | 2.7 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.0 | 39.7 | 30.0 | 66.2 | 45.1 | 33.5 | 38.8 | 39.0 | 45.3 | 49.5 | 38.5 | 39.2 |
| LnGrp LOS | E | D | C | E | D | C | D | D | D | D | D | D |
| Approach Vol, veh/h | | 853 | | | 1378 | | | 295 | | | 493 | |
| Approach Delay, s/veh | | 43.2 | | | 45.3 | | | 42.5 | | | 45.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.8 | 16.4 | 39.8 | | 33.0 | 13.4 | 42.8 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 18.2 | 37.8 | | 28.5 | 13.5 | 42.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.8 | 11.8 | 24.3 | | 19.2 | 9.1 | 33.5 | | | | |
| Green Ext Time (p_c), s | | 0.6 | 0.2 | 4.0 | | 1.4 | 0.1 | 4.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 44.4 | |
| HCM 6th LOS | | | | | | | | | | | D | |

APPENDIX 5.1

OPENING DAY PLUS AMBIENT (ODA 2021) CONDITIONS INTERSECTION ANALYSIS CALCULATION WORKSHEETS

01 - Opening Year No Project AM.syn
 1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 60 | 60 | 60 | 31 | 31 | 31 | 50 | 50 | 50 | 25 | 25 | 25 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 0 | 6 | 6 | 3 | 0 | 0 | 4 | 4 | 0 | 0 |

| Major/Minor | Major1 | | Major2 | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 9 | 0 | 0 | 7 | 0 | 0 | 27 | 28 | 7 | 29 | 27 | 8 |
| Stage 1 | - | - | - | - | - | - | 7 | 7 | - | 20 | 20 | - |
| Stage 2 | - | - | - | - | - | - | 20 | 21 | - | 9 | 7 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1611 | - | - | 1614 | - | - | 983 | 865 | 1075 | 980 | 866 | 1074 |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 999 | 879 | - |
| Stage 2 | - | - | - | - | - | - | 999 | 878 | - | 1012 | 890 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1611 | - | - | 1614 | - | - | 980 | 862 | 1075 | 973 | 863 | 1074 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 980 | 862 | - | 973 | 863 | - |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 999 | 875 | - |
| Stage 2 | - | - | - | - | - | - | 995 | 874 | - | 1008 | 890 | - |

| Approach | EB | WB | NB | SB |
|----------------------|----|-----|-----|-----|
| HCM Control Delay, s | 0 | 2.9 | 8.4 | 8.7 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1075 | 1611 | - | - | 1614 | - | - | 973 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 0 | - | - | 7.2 | 0 | - | 8.7 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

01 - Opening Year No Project AM.syn
 2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 3 | 0 | 0 | 172 | 211 | 4 |
| Future Vol, veh/h | 3 | 0 | 0 | 172 | 211 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 75 | 75 | 83 | 83 | 67 | 67 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 0 | 207 | 315 | 6 |

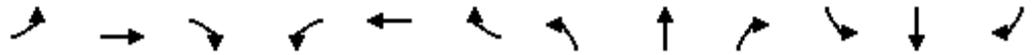
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 525 | 318 | 321 | 0 | - | 0 |
| Stage 1 | 318 | - | - | - | - | - |
| Stage 2 | 207 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 513 | 723 | 1239 | - | - | - |
| Stage 1 | 738 | - | - | - | - | - |
| Stage 2 | 828 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 513 | 723 | 1239 | - | - | - |
| Mov Cap-2 Maneuver | 513 | - | - | - | - | - |
| Stage 1 | 738 | - | - | - | - | - |
| Stage 2 | 828 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 12.1 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 1239 | - | 513 | - | - |
| HCM Lane V/C Ratio | - | - | 0.008 | - | - |
| HCM Control Delay (s) | 0 | - | 12.1 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 - Opening Year No Project AM.syn
3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↙ | ↑↑↑ | ↗ | ↙ | ↑↑↑ | ↗ | ↙ | ↑ | ↗ | ↙↗ | ↑↗ | |
| Traffic Volume (veh/h) | 62 | 1179 | 100 | 176 | 948 | 153 | 56 | 68 | 185 | 106 | 104 | 42 |
| Future Volume (veh/h) | 62 | 1179 | 100 | 176 | 948 | 153 | 56 | 68 | 185 | 106 | 104 | 42 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 74 | 1404 | 119 | 217 | 1170 | 189 | 73 | 88 | 240 | 134 | 132 | 53 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.81 | 0.81 | 0.81 | 0.77 | 0.77 | 0.77 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 95 | 1760 | 434 | 249 | 1840 | 659 | 94 | 713 | 826 | 191 | 963 | 370 |
| Arrive On Green | 0.05 | 0.27 | 0.27 | 0.14 | 0.36 | 0.36 | 0.05 | 0.38 | 0.38 | 0.06 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2509 | 964 |
| Grp Volume(v), veh/h | 74 | 1404 | 119 | 217 | 1170 | 189 | 73 | 88 | 240 | 134 | 92 | 93 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1697 |
| Q Serve(g_s), s | 4.9 | 24.3 | 7.1 | 14.3 | 22.8 | 9.5 | 4.9 | 3.7 | 10.3 | 4.6 | 4.0 | 4.3 |
| Cycle Q Clear(g_c), s | 4.9 | 24.3 | 7.1 | 14.3 | 22.8 | 9.5 | 4.9 | 3.7 | 10.3 | 4.6 | 4.0 | 4.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.57 |
| Lane Grp Cap(c), veh/h | 95 | 1760 | 434 | 249 | 1840 | 659 | 94 | 713 | 826 | 191 | 682 | 651 |
| V/C Ratio(X) | 0.78 | 0.80 | 0.27 | 0.87 | 0.64 | 0.29 | 0.78 | 0.12 | 0.29 | 0.70 | 0.13 | 0.14 |
| Avail Cap(c_a), veh/h | 186 | 1957 | 482 | 468 | 2362 | 821 | 186 | 713 | 826 | 302 | 682 | 651 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.1 | 40.5 | 34.2 | 50.5 | 31.8 | 23.3 | 56.2 | 24.1 | 16.2 | 55.7 | 24.0 | 24.1 |
| Incr Delay (d2), s/veh | 12.9 | 2.2 | 0.3 | 9.0 | 0.4 | 0.2 | 13.0 | 0.4 | 0.9 | 4.7 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 9.6 | 2.7 | 6.9 | 9.2 | 3.5 | 2.5 | 1.7 | 3.8 | 2.1 | 1.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.0 | 42.7 | 34.6 | 59.6 | 32.2 | 23.5 | 69.1 | 24.5 | 17.1 | 60.4 | 24.4 | 24.6 |
| LnGrp LOS | E | D | C | E | C | C | E | C | B | E | C | C |
| Approach Vol, veh/h | | 1597 | | | 1576 | | | 401 | | | 319 | |
| Approach Delay, s/veh | | 43.3 | | | 34.9 | | | 28.2 | | | 39.6 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.1 | 50.2 | 21.3 | 37.3 | 10.8 | 50.6 | 10.9 | 47.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 23.5 | 31.5 | 36.5 | 12.5 | 21.5 | 12.5 | 55.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 12.3 | 16.3 | 26.3 | 6.9 | 6.3 | 6.9 | 24.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 1.0 | 0.5 | 6.5 | 0.1 | 0.8 | 0.1 | 10.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 38.1 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

01 - Opening Year No Project AM.syn
 4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 76 | 913 | 3 | 55 | 402 | 111 | 17 | 51 | 147 | 259 | 50 | 64 |
| Future Volume (veh/h) | 76 | 913 | 3 | 55 | 402 | 111 | 17 | 51 | 147 | 259 | 50 | 64 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 84 | 1014 | 3 | 59 | 428 | 118 | 21 | 63 | 181 | 294 | 57 | 73 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 108 | 1084 | 483 | 75 | 1017 | 454 | 406 | 405 | 361 | 356 | 355 | 317 |
| Arrive On Green | 0.06 | 0.30 | 0.30 | 0.04 | 0.29 | 0.29 | 0.23 | 0.23 | 0.23 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 84 | 1014 | 3 | 59 | 428 | 118 | 21 | 63 | 181 | 294 | 57 | 73 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 3.7 | 22.2 | 0.1 | 2.6 | 7.8 | 4.6 | 0.7 | 2.3 | 8.0 | 12.7 | 2.1 | 3.1 |
| Cycle Q Clear(g_c), s | 3.7 | 22.2 | 0.1 | 2.6 | 7.8 | 4.6 | 0.7 | 2.3 | 8.0 | 12.7 | 2.1 | 3.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 108 | 1084 | 483 | 75 | 1017 | 454 | 406 | 405 | 361 | 356 | 355 | 317 |
| V/C Ratio(X) | 0.77 | 0.94 | 0.01 | 0.78 | 0.42 | 0.26 | 0.05 | 0.16 | 0.50 | 0.83 | 0.16 | 0.23 |
| Avail Cap(c_a), veh/h | 205 | 1088 | 485 | 100 | 1017 | 454 | 406 | 405 | 361 | 356 | 355 | 317 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.0 | 27.0 | 19.4 | 37.9 | 23.2 | 22.0 | 24.1 | 24.7 | 26.9 | 30.7 | 26.4 | 26.8 |
| Incr Delay (d2), s/veh | 11.1 | 14.4 | 0.0 | 24.7 | 0.3 | 0.3 | 0.2 | 0.8 | 4.9 | 19.2 | 1.0 | 1.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9 | 10.8 | 0.0 | 1.6 | 3.1 | 1.6 | 0.3 | 1.0 | 3.3 | 7.0 | 0.9 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.1 | 41.4 | 19.4 | 62.6 | 23.4 | 22.3 | 24.4 | 25.5 | 31.8 | 49.8 | 27.4 | 28.5 |
| LnGrp LOS | D | D | B | E | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 1101 | | | 605 | | | 265 | | | 424 | |
| Approach Delay, s/veh | | 41.9 | | | 27.0 | | | 29.7 | | | 43.2 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 22.7 | 7.9 | 28.9 | | 20.5 | 9.4 | 27.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.0 | 4.5 | 24.5 | | 16.0 | 9.2 | 19.8 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.0 | 4.6 | 24.2 | | 14.7 | 5.7 | 9.8 | | | | |
| Green Ext Time (p_c), s | | 0.8 | 0.0 | 0.2 | | 0.2 | 0.0 | 2.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 37.0 | |
| HCM 6th LOS | | | | | | | | | | | D | |

01 - Opening Year No Project PM.syn
 1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Future Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 10 | 0 | 6 | 14 | 0 | 0 | 0 | 4 | 2 | 2 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 14 | 0 | 0 | 10 | 0 | 0 | 41 | 40 | 10 | 42 | 40 | 14 |
| Stage 1 | - | - | - | - | - | - | 14 | 14 | - | 26 | 26 | - |
| Stage 2 | - | - | - | - | - | - | 27 | 26 | - | 16 | 14 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1604 | - | - | 1610 | - | - | 963 | 852 | 1071 | 961 | 852 | 1066 |
| Stage 1 | - | - | - | - | - | - | 1006 | 884 | - | 992 | 874 | - |
| Stage 2 | - | - | - | - | - | - | 990 | 874 | - | 1004 | 884 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1604 | - | - | 1610 | - | - | 957 | 848 | 1071 | 953 | 848 | 1066 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 957 | 848 | - | 953 | 848 | - |
| Stage 1 | - | - | - | - | - | - | 1005 | 883 | - | 991 | 871 | - |
| Stage 2 | - | - | - | - | - | - | 984 | 871 | - | 999 | 883 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|----|--|--|
| HCM Control Delay, s | 1.4 | | | 2.1 | | | 8.4 | | | 9 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1071 | 1604 | - | - | 1610 | - | - | 897 |
| HCM Lane V/C Ratio | 0.004 | 0.001 | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 7.2 | 0 | - | 7.2 | 0 | - | 9 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

01 - Opening Year No Project PM.syn
 2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 2 | 0 | 1 | 396 | 356 | 6 |
| Future Vol, veh/h | 2 | 0 | 1 | 396 | 356 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 1 | 477 | 375 | 6 |

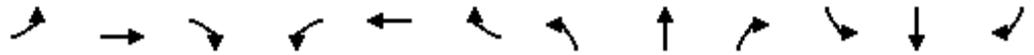
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 857 | 378 | 381 | 0 | - | 0 |
| Stage 1 | 378 | - | - | - | - | - |
| Stage 2 | 479 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 328 | 669 | 1177 | - | - | - |
| Stage 1 | 693 | - | - | - | - | - |
| Stage 2 | 623 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 328 | 669 | 1177 | - | - | - |
| Mov Cap-2 Maneuver | 328 | - | - | - | - | - |
| Stage 1 | 692 | - | - | - | - | - |
| Stage 2 | 623 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 16.1 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1177 | - | 328 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.012 | - | - |
| HCM Control Delay (s) | 8.1 | 0 | 16.1 | - | - |
| HCM Lane LOS | A | A | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 - Opening Year No Project PM.syn
 3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↘ | ↑↑↑ | ↗ | ↘ | ↑↑↑ | ↗ | ↘ | ↑ | ↗ | ↘↗ | ↑↗ | |
| Traffic Volume (veh/h) | 103 | 1113 | 124 | 270 | 1381 | 259 | 148 | 179 | 355 | 313 | 293 | 119 |
| Future Volume (veh/h) | 103 | 1113 | 124 | 270 | 1381 | 259 | 148 | 179 | 355 | 313 | 293 | 119 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 1147 | 128 | 278 | 1424 | 267 | 159 | 192 | 382 | 352 | 329 | 134 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 131 | 1500 | 369 | 310 | 1702 | 720 | 188 | 602 | 786 | 418 | 837 | 334 |
| Arrive On Green | 0.07 | 0.23 | 0.23 | 0.17 | 0.33 | 0.33 | 0.11 | 0.32 | 0.32 | 0.12 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2478 | 990 |
| Grp Volume(v), veh/h | 106 | 1147 | 128 | 278 | 1424 | 267 | 159 | 192 | 382 | 352 | 234 | 229 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1692 |
| Q Serve(g_s), s | 7.0 | 20.0 | 8.1 | 18.3 | 30.9 | 13.3 | 10.5 | 9.3 | 19.2 | 12.0 | 12.1 | 12.4 |
| Cycle Q Clear(g_c), s | 7.0 | 20.0 | 8.1 | 18.3 | 30.9 | 13.3 | 10.5 | 9.3 | 19.2 | 12.0 | 12.1 | 12.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.59 |
| Lane Grp Cap(c), veh/h | 131 | 1500 | 369 | 310 | 1702 | 720 | 188 | 602 | 786 | 418 | 600 | 571 |
| V/C Ratio(X) | 0.81 | 0.76 | 0.35 | 0.90 | 0.84 | 0.37 | 0.85 | 0.32 | 0.49 | 0.84 | 0.39 | 0.40 |
| Avail Cap(c_a), veh/h | 200 | 1500 | 369 | 438 | 1851 | 766 | 276 | 602 | 786 | 533 | 600 | 571 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.7 | 42.9 | 38.4 | 48.5 | 37.0 | 21.5 | 52.7 | 30.7 | 20.1 | 51.6 | 30.3 | 30.5 |
| Incr Delay (d2), s/veh | 13.0 | 2.4 | 0.6 | 16.1 | 3.3 | 0.3 | 14.6 | 1.4 | 2.1 | 9.5 | 1.9 | 2.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 8.0 | 3.2 | 9.4 | 13.0 | 4.8 | 5.5 | 4.5 | 7.2 | 5.7 | 5.5 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.8 | 45.4 | 38.9 | 64.6 | 40.3 | 21.8 | 67.3 | 32.1 | 22.2 | 61.1 | 32.2 | 32.5 |
| LnGrp LOS | E | D | D | E | D | C | E | C | C | E | C | C |
| Approach Vol, veh/h | | 1381 | | | 1969 | | | 733 | | | 815 | |
| Approach Delay, s/veh | | 46.5 | | | 41.2 | | | 34.6 | | | 44.8 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.0 | 43.2 | 25.4 | 32.5 | 17.2 | 45.0 | 13.3 | 44.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 26.5 | 29.5 | 27.5 | 18.6 | 26.4 | 13.5 | 43.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.0 | 21.2 | 20.3 | 22.0 | 12.5 | 14.4 | 9.0 | 32.9 | | | | |
| Green Ext Time (p_c), s | 0.5 | 1.3 | 0.5 | 3.5 | 0.2 | 2.2 | 0.1 | 7.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 42.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 107 | 739 | 5 | 140 | 936 | 228 | 56 | 58 | 144 | 269 | 102 | 100 |
| Future Volume (veh/h) | 107 | 739 | 5 | 140 | 936 | 228 | 56 | 58 | 144 | 269 | 102 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | | | No | | | No | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 111 | 770 | 5 | 154 | 1029 | 251 | 67 | 69 | 171 | 292 | 111 | 109 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 1071 | 478 | 183 | 1163 | 519 | 372 | 371 | 331 | 423 | 422 | 376 |
| Arrive On Green | 0.08 | 0.30 | 0.30 | 0.10 | 0.33 | 0.33 | 0.21 | 0.21 | 0.21 | 0.24 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 111 | 770 | 5 | 154 | 1029 | 251 | 67 | 69 | 171 | 292 | 111 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 7.4 | 23.2 | 0.3 | 10.2 | 32.9 | 15.2 | 3.7 | 3.8 | 11.5 | 17.9 | 6.1 | 6.8 |
| Cycle Q Clear(g_c), s | 7.4 | 23.2 | 0.3 | 10.2 | 32.9 | 15.2 | 3.7 | 3.8 | 11.5 | 17.9 | 6.1 | 6.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 1071 | 478 | 183 | 1163 | 519 | 372 | 371 | 331 | 423 | 422 | 376 |
| V/C Ratio(X) | 0.81 | 0.72 | 0.01 | 0.84 | 0.89 | 0.48 | 0.18 | 0.19 | 0.52 | 0.69 | 0.26 | 0.29 |
| Avail Cap(c_a), veh/h | 200 | 1119 | 499 | 270 | 1259 | 561 | 372 | 371 | 331 | 423 | 422 | 376 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.5 | 37.4 | 29.4 | 52.9 | 38.2 | 32.3 | 39.1 | 39.1 | 42.1 | 41.7 | 37.2 | 37.5 |
| Incr Delay (d2), s/veh | 14.6 | 2.2 | 0.0 | 14.4 | 7.4 | 0.7 | 1.1 | 1.1 | 5.7 | 8.9 | 1.5 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 10.1 | 0.1 | 5.2 | 15.0 | 5.8 | 1.7 | 1.8 | 4.9 | 8.7 | 2.8 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.1 | 39.5 | 29.4 | 67.3 | 45.7 | 33.0 | 40.1 | 40.2 | 47.8 | 50.6 | 38.7 | 39.4 |
| LnGrp LOS | E | D | C | E | D | C | D | D | D | D | D | D |
| Approach Vol, veh/h | 886 | | 1434 | | | | 307 | | 512 | | | |
| Approach Delay, s/veh | 43.2 | | 45.8 | | | | 44.4 | | 45.7 | | | |
| Approach LOS | D | | D | | | | D | | D | | | |
| Timer - Assigned Phs | 2 | | 3 | | 4 | | 6 | | 7 | | 8 | |
| Phs Duration (G+Y+Rc), s | 29.5 | | 16.8 | | 40.7 | | 33.0 | | 13.7 | | 43.8 | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | | 4.5 | | 4.5 | | 4.5 | | 4.5 | |
| Max Green Setting (Gmax), s | 17.5 | | 18.2 | | 37.8 | | 28.5 | | 13.5 | | 42.5 | |
| Max Q Clear Time (g_c+I1), s | 13.5 | | 12.2 | | 25.2 | | 19.9 | | 9.4 | | 34.9 | |
| Green Ext Time (p_c), s | 0.5 | | 0.2 | | 4.0 | | 1.4 | | 0.1 | | 4.4 | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | 44.9 | | | | | | | | | | | |
| HCM 6th LOS | D | | | | | | | | | | | |

APPENDIX 5.2

OPENING DAY PLUS AMBIENT PLUS PROJECT (ODAP 2021) CONDITIONS INTERSECTION ANALYSIS CALCULATION WORKSHEETS

01 - Opening Year With Project AM.syn
1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 33 | 0 | 0 | 2 | 95 | 0 | 0 |
| Future Vol, veh/h | 0 | 4 | 0 | 2 | 2 | 33 | 0 | 0 | 2 | 95 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 60 | 60 | 60 | 31 | 31 | 31 | 50 | 50 | 50 | 25 | 25 | 25 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 0 | 6 | 6 | 106 | 0 | 0 | 4 | 380 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 112 | 0 | 0 | 7 | 0 | 0 | 78 | 131 | 7 | 80 | 78 | 59 |
| Stage 1 | - | - | - | - | - | - | 7 | 7 | - | 71 | 71 | - |
| Stage 2 | - | - | - | - | - | - | 71 | 124 | - | 9 | 7 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1478 | - | - | 1614 | - | - | 911 | 760 | 1075 | 908 | 812 | 1007 |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 939 | 836 | - |
| Stage 2 | - | - | - | - | - | - | 939 | 793 | - | 1012 | 890 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1478 | - | - | 1614 | - | - | 908 | 757 | 1075 | 902 | 809 | 1007 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 908 | 757 | - | 902 | 809 | - |
| Stage 1 | - | - | - | - | - | - | 1015 | 890 | - | 939 | 833 | - |
| Stage 2 | - | - | - | - | - | - | 935 | 790 | - | 1008 | 890 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.4 | | | 8.4 | | | 11.9 | | |
| HCM LOS | | | | | | | A | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1075 | 1478 | - | - | 1614 | - | - | 902 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.004 | - | - | 0.421 |
| HCM Control Delay (s) | 8.4 | 0 | - | - | 7.2 | 0 | - | 11.9 |
| HCM Lane LOS | A | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 2.1 |

01 - Opening Year With Project AM.syn
 2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.7 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 69 | 28 | 10 | 172 | 211 | 26 |
| Future Vol, veh/h | 69 | 28 | 10 | 172 | 211 | 26 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 75 | 75 | 83 | 83 | 67 | 67 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 92 | 37 | 12 | 207 | 315 | 39 |

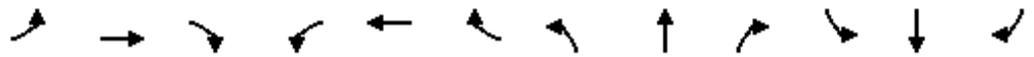
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 566 | 335 | 354 | 0 | - | 0 |
| Stage 1 | 335 | - | - | - | - | - |
| Stage 2 | 231 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 486 | 707 | 1205 | - | - | - |
| Stage 1 | 725 | - | - | - | - | - |
| Stage 2 | 807 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 481 | 707 | 1205 | - | - | - |
| Mov Cap-2 Maneuver | 481 | - | - | - | - | - |
| Stage 1 | 717 | - | - | - | - | - |
| Stage 2 | 807 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|----|-----|----|
| HCM Control Delay, s | 14 | 0.4 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 1205 | - | 530 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | 0.244 | - | - |
| HCM Control Delay (s) | 8 | 0 | 14 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 1 | - | - |

01 - Opening Year With Project AM.syn
 3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↘ | ↑↑↑ | ↗ | ↘ | ↑↑↑ | ↗ | ↘ | ↑ | ↗ | ↘↗ | ↑↗ | |
| Traffic Volume (veh/h) | 62 | 1179 | 103 | 182 | 948 | 153 | 65 | 87 | 204 | 106 | 110 | 42 |
| Future Volume (veh/h) | 62 | 1179 | 103 | 182 | 948 | 153 | 65 | 87 | 204 | 106 | 110 | 42 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 74 | 1404 | 123 | 225 | 1170 | 189 | 84 | 113 | 265 | 134 | 139 | 53 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.81 | 0.81 | 0.81 | 0.77 | 0.77 | 0.77 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 95 | 1685 | 415 | 258 | 1805 | 648 | 107 | 725 | 844 | 191 | 977 | 357 |
| Arrive On Green | 0.05 | 0.26 | 0.26 | 0.14 | 0.35 | 0.35 | 0.06 | 0.39 | 0.39 | 0.06 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2547 | 932 |
| Grp Volume(v), veh/h | 74 | 1404 | 123 | 225 | 1170 | 189 | 84 | 113 | 265 | 134 | 95 | 97 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1703 |
| Q Serve(g_s), s | 4.9 | 24.7 | 7.5 | 14.8 | 23.1 | 9.6 | 5.6 | 4.7 | 11.3 | 4.6 | 4.2 | 4.5 |
| Cycle Q Clear(g_c), s | 4.9 | 24.7 | 7.5 | 14.8 | 23.1 | 9.6 | 5.6 | 4.7 | 11.3 | 4.6 | 4.2 | 4.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.55 |
| Lane Grp Cap(c), veh/h | 95 | 1685 | 415 | 258 | 1805 | 648 | 107 | 725 | 844 | 191 | 681 | 653 |
| V/C Ratio(X) | 0.78 | 0.83 | 0.30 | 0.87 | 0.65 | 0.29 | 0.79 | 0.16 | 0.31 | 0.70 | 0.14 | 0.15 |
| Avail Cap(c_a), veh/h | 186 | 1796 | 442 | 512 | 2362 | 821 | 186 | 725 | 844 | 331 | 681 | 653 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.1 | 41.8 | 35.4 | 50.2 | 32.5 | 23.8 | 55.7 | 23.9 | 15.7 | 55.7 | 24.1 | 24.2 |
| Incr Delay (d2), s/veh | 12.9 | 3.4 | 0.4 | 8.9 | 0.4 | 0.2 | 12.0 | 0.5 | 1.0 | 4.6 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 9.9 | 2.9 | 7.1 | 9.3 | 3.6 | 2.9 | 2.2 | 4.1 | 2.1 | 1.9 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.0 | 45.2 | 35.8 | 59.1 | 32.9 | 24.0 | 67.7 | 24.4 | 16.7 | 60.3 | 24.5 | 24.7 |
| LnGrp LOS | E | D | D | E | C | C | E | C | B | E | C | C |
| Approach Vol, veh/h | | 1601 | | | 1584 | | | 462 | | | 326 | |
| Approach Delay, s/veh | | 45.5 | | | 35.6 | | | 27.9 | | | 39.3 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.1 | 51.0 | 21.9 | 35.9 | 11.7 | 50.5 | 10.9 | 46.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 22.5 | 34.5 | 33.5 | 12.5 | 21.5 | 12.5 | 55.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 13.3 | 16.8 | 26.7 | 7.6 | 6.5 | 6.9 | 25.1 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.1 | 0.6 | 4.7 | 0.1 | 0.9 | 0.1 | 10.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 39.0 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

01 - Opening Year With Project AM.syn
4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 76 | 916 | 3 | 55 | 411 | 111 | 17 | 51 | 147 | 259 | 50 | 64 |
| Future Volume (veh/h) | 76 | 916 | 3 | 55 | 411 | 111 | 17 | 51 | 147 | 259 | 50 | 64 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 84 | 1018 | 3 | 59 | 437 | 118 | 21 | 63 | 181 | 294 | 57 | 73 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 108 | 1085 | 484 | 75 | 1019 | 455 | 405 | 404 | 360 | 356 | 355 | 317 |
| Arrive On Green | 0.06 | 0.31 | 0.31 | 0.04 | 0.29 | 0.29 | 0.23 | 0.23 | 0.23 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 84 | 1018 | 3 | 59 | 437 | 118 | 21 | 63 | 181 | 294 | 57 | 73 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 3.7 | 22.3 | 0.1 | 2.6 | 8.0 | 4.6 | 0.7 | 2.3 | 8.0 | 12.7 | 2.1 | 3.1 |
| Cycle Q Clear(g_c), s | 3.7 | 22.3 | 0.1 | 2.6 | 8.0 | 4.6 | 0.7 | 2.3 | 8.0 | 12.7 | 2.1 | 3.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 108 | 1085 | 484 | 75 | 1019 | 455 | 405 | 404 | 360 | 356 | 355 | 317 |
| V/C Ratio(X) | 0.77 | 0.94 | 0.01 | 0.78 | 0.43 | 0.26 | 0.05 | 0.16 | 0.50 | 0.83 | 0.16 | 0.23 |
| Avail Cap(c_a), veh/h | 205 | 1088 | 485 | 100 | 1019 | 455 | 405 | 404 | 360 | 356 | 355 | 317 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.0 | 27.0 | 19.3 | 37.9 | 23.2 | 22.0 | 24.2 | 24.8 | 27.0 | 30.7 | 26.4 | 26.8 |
| Incr Delay (d2), s/veh | 11.1 | 14.7 | 0.0 | 24.7 | 0.3 | 0.3 | 0.2 | 0.8 | 4.9 | 19.2 | 1.0 | 1.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9 | 10.9 | 0.0 | 1.6 | 3.2 | 1.6 | 0.3 | 1.0 | 3.3 | 7.0 | 0.9 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.1 | 41.8 | 19.3 | 62.6 | 23.5 | 22.3 | 24.4 | 25.6 | 31.9 | 49.8 | 27.4 | 28.5 |
| LnGrp LOS | D | D | B | E | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 1105 | | | 614 | | | 265 | | | 424 | |
| Approach Delay, s/veh | | 42.2 | | | 27.0 | | | 29.8 | | | 43.2 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 22.7 | 7.9 | 28.9 | | 20.5 | 9.4 | 27.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.0 | 4.5 | 24.5 | | 16.0 | 9.2 | 19.8 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.0 | 4.6 | 24.3 | | 14.7 | 5.7 | 10.0 | | | | |
| Green Ext Time (p_c), s | | 0.8 | 0.0 | 0.1 | | 0.2 | 0.0 | 2.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 37.1 | |
| HCM 6th LOS | | | | | | | | | | | D | |

01 - Opening Year With Project AM.syn
 6: Amethyst & N. Project Driveway

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.4 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 47 | 0 | 1 | 16 | 0 | 1 |
| Future Vol, veh/h | 47 | 0 | 1 | 16 | 0 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 51 | 0 | 1 | 17 | 0 | 1 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 11 | 10 | 0 | 0 | - | - |
| Stage 1 | 10 | - | - | - | - | - |
| Stage 2 | 1 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 1009 | 1071 | - | - | 0 | - |
| Stage 1 | 1013 | - | - | - | 0 | - |
| Stage 2 | 1022 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 1009 | 1071 | - | - | - | - |
| Mov Cap-2 Maneuver | 1009 | - | - | - | - | - |
| Stage 1 | 1013 | - | - | - | - | - |
| Stage 2 | 1022 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 8.8 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|-----------------------|-----|----------|-----|
| Capacity (veh/h) | - | - 1009 | - |
| HCM Lane V/C Ratio | - | - 0.051 | - |
| HCM Control Delay (s) | - | - 8.8 | - |
| HCM Lane LOS | - | - A | - |
| HCM 95th %tile Q(veh) | - | - 0.2 | - |

01 - Opening Year With Project AM.syn
 7: Amethyst & S. Project Driveway

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.3 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 47 | 0 | 17 | 16 | 0 | 48 |
| Future Vol, veh/h | 47 | 0 | 17 | 16 | 0 | 48 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 51 | 0 | 18 | 17 | 0 | 52 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 79 | 27 | 0 | 0 | - | - |
| Stage 1 | 27 | - | - | - | - | - |
| Stage 2 | 52 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 924 | 1048 | - | - | 0 | - |
| Stage 1 | 996 | - | - | - | 0 | - |
| Stage 2 | 970 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 924 | 1048 | - | - | - | - |
| Mov Cap-2 Maneuver | 924 | - | - | - | - | - |
| Stage 1 | 996 | - | - | - | - | - |
| Stage 2 | 970 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.1 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|-----------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 924 |
| HCM Lane V/C Ratio | - | - | 0.055 |
| HCM Control Delay (s) | - | - | 9.1 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 |

01 - Opening Year With Project PM.syn
 1: Amethyst & Eucalyptus

10/16/2019

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 104 | 0 | 0 | 1 | 63 | 1 | 0 |
| Future Vol, veh/h | 1 | 4 | 0 | 2 | 5 | 104 | 0 | 0 | 1 | 63 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 10 | 0 | 6 | 14 | 297 | 0 | 0 | 4 | 126 | 2 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 311 | 0 | 0 | 10 | 0 | 0 | 190 | 337 | 10 | 191 | 189 | 163 |
| Stage 1 | - | - | - | - | - | - | 14 | 14 | - | 175 | 175 | - |
| Stage 2 | - | - | - | - | - | - | 176 | 323 | - | 16 | 14 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1249 | - | - | 1610 | - | - | 770 | 584 | 1071 | 769 | 706 | 882 |
| Stage 1 | - | - | - | - | - | - | 1006 | 884 | - | 827 | 754 | - |
| Stage 2 | - | - | - | - | - | - | 826 | 650 | - | 1004 | 884 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1249 | - | - | 1610 | - | - | 765 | 580 | 1071 | 762 | 701 | 882 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 765 | 580 | - | 762 | 701 | - |
| Stage 1 | - | - | - | - | - | - | 1004 | 882 | - | 825 | 750 | - |
| Stage 2 | - | - | - | - | - | - | 820 | 647 | - | 998 | 882 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 1.6 | | | 0.1 | | | 8.4 | | | 10.7 | | |
| HCM LOS | | | | | | | A | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1071 | 1249 | - | - | 1610 | - | - | 761 |
| HCM Lane V/C Ratio | 0.004 | 0.002 | - | - | 0.004 | - | - | 0.168 |
| HCM Control Delay (s) | 8.4 | 7.9 | 0 | - | 7.2 | 0 | - | 10.7 |
| HCM Lane LOS | A | A | A | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.6 |

01 - Opening Year With Project PM.syn
 2: Amargosa & Eucalyptus

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 45 | 19 | 32 | 396 | 356 | 79 |
| Future Vol, veh/h | 45 | 19 | 32 | 396 | 356 | 79 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 90 | 38 | 39 | 477 | 375 | 83 |

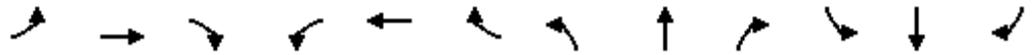
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 972 | 417 | 458 | 0 | - | 0 |
| Stage 1 | 417 | - | - | - | - | - |
| Stage 2 | 555 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 280 | 636 | 1103 | - | - | - |
| Stage 1 | 665 | - | - | - | - | - |
| Stage 2 | 575 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 267 | 636 | 1103 | - | - | - |
| Mov Cap-2 Maneuver | 267 | - | - | - | - | - |
| Stage 1 | 633 | - | - | - | - | - |
| Stage 2 | 575 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 23.3 | 0.6 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1103 | - | 323 | - | - |
| HCM Lane V/C Ratio | 0.035 | - | 0.396 | - | - |
| HCM Control Delay (s) | 8.4 | 0 | 23.3 | - | - |
| HCM Lane LOS | A | A | C | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 1.8 | - | - |

01 - Opening Year With Project PM.syn
3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 103 | 1113 | 134 | 291 | 1381 | 259 | 154 | 191 | 367 | 313 | 314 | 119 |
| Future Volume (veh/h) | 103 | 1113 | 134 | 291 | 1381 | 259 | 154 | 191 | 367 | 313 | 314 | 119 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 1147 | 138 | 300 | 1424 | 267 | 166 | 205 | 395 | 352 | 353 | 134 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 131 | 1422 | 350 | 331 | 1702 | 720 | 195 | 602 | 805 | 418 | 844 | 315 |
| Arrive On Green | 0.07 | 0.22 | 0.22 | 0.19 | 0.33 | 0.33 | 0.11 | 0.32 | 0.32 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2531 | 946 |
| Grp Volume(v), veh/h | 106 | 1147 | 138 | 300 | 1424 | 267 | 166 | 205 | 395 | 352 | 246 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1700 |
| Q Serve(g_s), s | 7.0 | 20.3 | 8.9 | 19.8 | 30.9 | 13.3 | 11.0 | 10.0 | 19.6 | 12.0 | 12.9 | 13.2 |
| Cycle Q Clear(g_c), s | 7.0 | 20.3 | 8.9 | 19.8 | 30.9 | 13.3 | 11.0 | 10.0 | 19.6 | 12.0 | 12.9 | 13.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.56 |
| Lane Grp Cap(c), veh/h | 131 | 1422 | 350 | 331 | 1702 | 720 | 195 | 602 | 805 | 418 | 593 | 567 |
| V/C Ratio(X) | 0.81 | 0.81 | 0.39 | 0.91 | 0.84 | 0.37 | 0.85 | 0.34 | 0.49 | 0.84 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h | 200 | 1474 | 363 | 438 | 1851 | 766 | 276 | 602 | 805 | 533 | 593 | 567 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.7 | 44.3 | 39.9 | 47.8 | 37.0 | 21.5 | 52.5 | 31.0 | 19.3 | 51.6 | 30.9 | 31.0 |
| Incr Delay (d2), s/veh | 13.0 | 3.3 | 0.7 | 18.4 | 3.3 | 0.3 | 16.0 | 1.5 | 2.1 | 9.5 | 2.1 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 8.2 | 3.5 | 10.3 | 13.0 | 4.8 | 5.8 | 4.8 | 7.3 | 5.7 | 5.9 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.8 | 47.6 | 40.6 | 66.2 | 40.3 | 21.8 | 68.5 | 32.5 | 21.5 | 61.1 | 33.1 | 33.4 |
| LnGrp LOS | E | D | D | E | D | C | E | C | C | E | C | C |
| Approach Vol, veh/h | | 1391 | | | 1991 | | | 766 | | | 839 | |
| Approach Delay, s/veh | | 48.5 | | | 41.7 | | | 34.6 | | | 44.9 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.0 | 43.2 | 26.8 | 31.0 | 17.6 | 44.5 | 13.3 | 44.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 26.5 | 29.5 | 27.5 | 18.6 | 26.4 | 13.5 | 43.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.0 | 21.6 | 21.8 | 22.3 | 13.0 | 15.2 | 9.0 | 32.9 | | | | |
| Green Ext Time (p_c), s | 0.5 | 1.3 | 0.5 | 3.3 | 0.2 | 2.3 | 0.1 | 7.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 43.1 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

01 - Opening Year With Project PM.syn
4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 107 | 749 | 5 | 140 | 942 | 228 | 56 | 58 | 144 | 269 | 102 | 100 |
| Future Volume (veh/h) | 107 | 749 | 5 | 140 | 942 | 228 | 56 | 58 | 144 | 269 | 102 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 111 | 780 | 5 | 154 | 1035 | 251 | 67 | 69 | 171 | 292 | 111 | 109 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 1075 | 480 | 183 | 1167 | 520 | 369 | 369 | 329 | 423 | 422 | 376 |
| Arrive On Green | 0.08 | 0.30 | 0.30 | 0.10 | 0.33 | 0.33 | 0.21 | 0.21 | 0.21 | 0.24 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 111 | 780 | 5 | 154 | 1035 | 251 | 67 | 69 | 171 | 292 | 111 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 7.4 | 23.5 | 0.3 | 10.2 | 33.1 | 15.2 | 3.7 | 3.8 | 11.5 | 17.9 | 6.1 | 6.8 |
| Cycle Q Clear(g_c), s | 7.4 | 23.5 | 0.3 | 10.2 | 33.1 | 15.2 | 3.7 | 3.8 | 11.5 | 17.9 | 6.1 | 6.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 1075 | 480 | 183 | 1167 | 520 | 369 | 369 | 329 | 423 | 422 | 376 |
| V/C Ratio(X) | 0.81 | 0.73 | 0.01 | 0.84 | 0.89 | 0.48 | 0.18 | 0.19 | 0.52 | 0.69 | 0.26 | 0.29 |
| Avail Cap(c_a), veh/h | 200 | 1119 | 499 | 270 | 1259 | 561 | 369 | 369 | 329 | 423 | 422 | 376 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.5 | 37.4 | 29.3 | 52.9 | 38.2 | 32.2 | 39.2 | 39.2 | 42.3 | 41.7 | 37.2 | 37.5 |
| Incr Delay (d2), s/veh | 14.6 | 2.3 | 0.0 | 14.4 | 7.6 | 0.7 | 1.1 | 1.1 | 5.8 | 8.9 | 1.5 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.8 | 10.3 | 0.1 | 5.2 | 15.1 | 5.8 | 1.7 | 1.8 | 5.0 | 8.7 | 2.8 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.1 | 39.7 | 29.3 | 67.3 | 45.8 | 32.9 | 40.2 | 40.3 | 48.0 | 50.6 | 38.7 | 39.4 |
| LnGrp LOS | E | D | C | E | D | C | D | D | D | D | D | D |
| Approach Vol, veh/h | | 896 | | | 1440 | | | 307 | | | 512 | |
| Approach Delay, s/veh | | 43.3 | | | 45.8 | | | 44.6 | | | 45.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.4 | 16.8 | 40.8 | | 33.0 | 13.7 | 43.9 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 18.2 | 37.8 | | 28.5 | 13.5 | 42.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 13.5 | 12.2 | 25.5 | | 19.9 | 9.4 | 35.1 | | | | |
| Green Ext Time (p_c), s | | 0.5 | 0.2 | 4.0 | | 1.4 | 0.1 | 4.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 45.0 | |
| HCM 6th LOS | | | | | | | | | | | D | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | Y | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 31 | 0 | 1 | 52 | 0 | 2 |
| Future Vol, veh/h | 31 | 0 | 1 | 52 | 0 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 34 | 0 | 1 | 57 | 0 | 2 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 32 | 30 | 0 | 0 | - | - |
| Stage 1 | 30 | - | - | - | - | - |
| Stage 2 | 2 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 982 | 1044 | - | - | 0 | - |
| Stage 1 | 993 | - | - | - | 0 | - |
| Stage 2 | 1021 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 982 | 1044 | - | - | - | - |
| Mov Cap-2 Maneuver | 982 | - | - | - | - | - |
| Stage 1 | 993 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 8.8 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|-----------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 982 |
| HCM Lane V/C Ratio | - | - | 0.034 |
| HCM Control Delay (s) | - | - | 8.8 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 |

01 - Opening Year With Project PM.syn
 7: Amethyst & S. Project Driveway

10/16/2019

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 31 | 0 | 53 | 52 | 0 | 33 |
| Future Vol, veh/h | 31 | 0 | 53 | 52 | 0 | 33 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 34 | 0 | 58 | 57 | 0 | 36 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 123 | 87 | 0 | 0 | - | - |
| Stage 1 | 87 | - | - | - | - | - |
| Stage 2 | 36 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 872 | 971 | - | - | 0 | - |
| Stage 1 | 936 | - | - | - | 0 | - |
| Stage 2 | 986 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 872 | 971 | - | - | - | - |
| Mov Cap-2 Maneuver | 872 | - | - | - | - | - |
| Stage 1 | 936 | - | - | - | - | - |
| Stage 2 | 986 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.3 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|-----------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 872 |
| HCM Lane V/C Ratio | - | - | 0.039 |
| HCM Control Delay (s) | - | - | 9.3 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 |

APPENDIX 5.3

HORIZON YEAR (2029) WITHOUT PROJECT CONDITIONS INTERSECTION ANALYSIS CALCULATION WORKSHEETS

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 5 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 60 | 60 | 60 | 31 | 31 | 31 | 50 | 50 | 50 | 25 | 25 | 25 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 8 | 0 | 6 | 6 | 3 | 0 | 0 | 4 | 4 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 9 | 0 | 0 | 8 | 0 | 0 | 28 | 29 | 8 | 30 | 28 | 8 |
| Stage 1 | - | - | - | - | - | - | 8 | 8 | - | 20 | 20 | - |
| Stage 2 | - | - | - | - | - | - | 20 | 21 | - | 10 | 8 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1611 | - | - | 1612 | - | - | 981 | 864 | 1074 | 979 | 865 | 1074 |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 999 | 879 | - |
| Stage 2 | - | - | - | - | - | - | 999 | 878 | - | 1011 | 889 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1611 | - | - | 1612 | - | - | 978 | 861 | 1074 | 972 | 862 | 1074 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 978 | 861 | - | 972 | 862 | - |
| Stage 1 | - | - | - | - | - | - | 1013 | 889 | - | 999 | 875 | - |
| Stage 2 | - | - | - | - | - | - | 995 | 874 | - | 1007 | 889 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 0 | | | 2.9 | | | 8.4 | | | 8.7 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1074 | 1611 | - | - | 1612 | - | - | 972 |
| HCM Lane V/C Ratio | 0.004 | - | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 0 | - | - | 7.2 | 0 | - | 8.7 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 4 | 0 | 0 | 201 | 247 | 5 |
| Future Vol, veh/h | 4 | 0 | 0 | 201 | 247 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 75 | 75 | 83 | 83 | 67 | 67 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 0 | 0 | 242 | 369 | 7 |

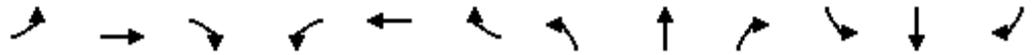
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 615 | 373 | 376 | 0 | - | 0 |
| Stage 1 | 373 | - | - | - | - | - |
| Stage 2 | 242 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 455 | 673 | 1182 | - | - | - |
| Stage 1 | 696 | - | - | - | - | - |
| Stage 2 | 798 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 455 | 673 | 1182 | - | - | - |
| Mov Cap-2 Maneuver | 455 | - | - | - | - | - |
| Stage 1 | 696 | - | - | - | - | - |
| Stage 2 | 798 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 13 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 1182 | - | 455 | - | - |
| HCM Lane V/C Ratio | - | - | 0.012 | - | - |
| HCM Control Delay (s) | 0 | - | 13 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 -AM 10 YR + No Project.syn
 3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 73 | 1382 | 117 | 206 | 1112 | 179 | 66 | 79 | 217 | 124 | 122 | 49 |
| Future Volume (veh/h) | 73 | 1382 | 117 | 206 | 1112 | 179 | 66 | 79 | 217 | 124 | 122 | 49 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 1645 | 139 | 254 | 1373 | 221 | 86 | 103 | 282 | 157 | 154 | 62 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.81 | 0.81 | 0.81 | 0.77 | 0.77 | 0.77 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 110 | 1897 | 467 | 287 | 2011 | 723 | 109 | 621 | 781 | 215 | 835 | 323 |
| Arrive On Green | 0.06 | 0.29 | 0.29 | 0.16 | 0.39 | 0.39 | 0.06 | 0.33 | 0.33 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2505 | 968 |
| Grp Volume(v), veh/h | 87 | 1645 | 139 | 254 | 1373 | 221 | 86 | 103 | 282 | 157 | 107 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1696 |
| Q Serve(g_s), s | 5.8 | 29.1 | 8.1 | 16.7 | 26.7 | 10.6 | 5.7 | 4.7 | 13.2 | 5.4 | 5.1 | 5.5 |
| Cycle Q Clear(g_c), s | 5.8 | 29.1 | 8.1 | 16.7 | 26.7 | 10.6 | 5.7 | 4.7 | 13.2 | 5.4 | 5.1 | 5.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.57 |
| Lane Grp Cap(c), veh/h | 110 | 1897 | 467 | 287 | 2011 | 723 | 109 | 621 | 781 | 215 | 592 | 565 |
| V/C Ratio(X) | 0.79 | 0.87 | 0.30 | 0.89 | 0.68 | 0.31 | 0.79 | 0.17 | 0.36 | 0.73 | 0.18 | 0.19 |
| Avail Cap(c_a), veh/h | 186 | 1957 | 482 | 468 | 2362 | 832 | 186 | 621 | 781 | 331 | 592 | 565 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.5 | 40.1 | 32.7 | 49.3 | 30.1 | 20.6 | 55.6 | 28.3 | 18.8 | 55.3 | 28.4 | 28.5 |
| Incr Delay (d2), s/veh | 11.9 | 4.3 | 0.4 | 11.4 | 0.7 | 0.2 | 11.9 | 0.6 | 1.3 | 4.7 | 0.7 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 11.7 | 3.1 | 8.2 | 10.7 | 3.8 | 2.9 | 2.2 | 4.9 | 2.5 | 2.3 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.4 | 44.4 | 33.1 | 60.6 | 30.8 | 20.9 | 67.5 | 28.9 | 20.1 | 59.9 | 29.1 | 29.3 |
| LnGrp LOS | E | D | C | E | C | C | E | C | C | E | C | C |
| Approach Vol, veh/h | | 1871 | | | 1848 | | | 471 | | | 373 | |
| Approach Delay, s/veh | | 44.7 | | | 33.7 | | | 30.7 | | | 42.1 | |
| Approach LOS | | D | | | C | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.0 | 44.3 | 23.8 | 39.9 | 11.8 | 44.5 | 11.9 | 51.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 22.5 | 31.5 | 36.5 | 12.5 | 21.5 | 12.5 | 55.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.4 | 15.2 | 18.7 | 31.1 | 7.7 | 7.5 | 7.8 | 28.7 | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.9 | 0.6 | 4.3 | 0.1 | 1.0 | 0.1 | 12.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 38.6 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

01 -AM 10 YR + No Project.syn
4: Amethyst & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 89 | 1070 | 4 | 65 | 472 | 130 | 20 | 60 | 172 | 304 | 59 | 76 |
| Future Volume (veh/h) | 89 | 1070 | 4 | 65 | 472 | 130 | 20 | 60 | 172 | 304 | 59 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 99 | 1189 | 4 | 69 | 502 | 138 | 25 | 74 | 212 | 345 | 67 | 86 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 1304 | 582 | 88 | 1234 | 550 | 319 | 319 | 284 | 453 | 452 | 403 |
| Arrive On Green | 0.07 | 0.37 | 0.37 | 0.05 | 0.35 | 0.35 | 0.18 | 0.18 | 0.18 | 0.25 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 99 | 1189 | 4 | 69 | 502 | 138 | 25 | 74 | 212 | 345 | 67 | 86 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 6.6 | 38.2 | 0.2 | 4.6 | 12.9 | 7.5 | 1.4 | 4.3 | 15.2 | 21.5 | 3.5 | 5.1 |
| Cycle Q Clear(g_c), s | 6.6 | 38.2 | 0.2 | 4.6 | 12.9 | 7.5 | 1.4 | 4.3 | 15.2 | 21.5 | 3.5 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 124 | 1304 | 582 | 88 | 1234 | 550 | 319 | 319 | 284 | 453 | 452 | 403 |
| V/C Ratio(X) | 0.80 | 0.91 | 0.01 | 0.78 | 0.41 | 0.25 | 0.08 | 0.23 | 0.75 | 0.76 | 0.15 | 0.21 |
| Avail Cap(c_a), veh/h | 197 | 1377 | 614 | 111 | 1234 | 550 | 319 | 319 | 284 | 453 | 452 | 403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.0 | 36.1 | 24.1 | 56.4 | 29.8 | 28.0 | 41.0 | 42.2 | 46.7 | 41.4 | 34.7 | 35.3 |
| Incr Delay (d2), s/veh | 11.3 | 9.1 | 0.0 | 23.8 | 0.2 | 0.2 | 0.5 | 1.7 | 16.3 | 11.5 | 0.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.3 | 17.5 | 0.1 | 2.6 | 5.4 | 2.8 | 0.7 | 2.0 | 7.2 | 10.7 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.4 | 45.2 | 24.1 | 80.2 | 30.0 | 28.2 | 41.5 | 43.9 | 62.9 | 52.9 | 35.4 | 36.5 |
| LnGrp LOS | E | D | C | F | C | C | D | D | E | D | D | D |
| Approach Vol, veh/h | | 1292 | | | 709 | | | 311 | | | 498 | |
| Approach Delay, s/veh | | 46.8 | | | 34.5 | | | 56.7 | | | 47.7 | |
| Approach LOS | | D | | | C | | | E | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 26.0 | 10.4 | 48.5 | | 35.0 | 12.8 | 46.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 7.5 | 46.5 | | 30.5 | 13.3 | 40.7 | | | | |
| Max Q Clear Time (g_c+I1), s | | 17.2 | 6.6 | 40.2 | | 23.5 | 8.6 | 14.9 | | | | |
| Green Ext Time (p_c), s | | 0.1 | 0.0 | 3.9 | | 1.1 | 0.1 | 3.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 45.0 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 179 | 0 | 0 | 0 | 0 | 56 |
| Future Vol, veh/h | 179 | 0 | 0 | 0 | 0 | 56 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 77 | 77 | 92 | 92 | 64 | 64 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 232 | 0 | 0 | 0 | 0 | 88 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 44 | 44 | 88 | 0 | - | 0 |
| Stage 1 | 44 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 967 | 1026 | 1508 | - | - | - |
| Stage 1 | 978 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 967 | 1026 | 1508 | - | - | - |
| Mov Cap-2 Maneuver | 967 | - | - | - | - | - |
| Stage 1 | 978 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.9 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|------|-----|-------|-------|-----|-----|
| Capacity (veh/h) | 1508 | - | 967 | - | - | - |
| HCM Lane V/C Ratio | - | - | 0.24 | - | - | - |
| HCM Control Delay (s) | 0 | - | 9.9 | 0 | - | - |
| HCM Lane LOS | A | - | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.9 | - | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 5 | 0 | 2 | 6 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Future Vol, veh/h | 1 | 5 | 0 | 2 | 6 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 12 | 0 | 6 | 17 | 0 | 0 | 0 | 4 | 2 | 2 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 17 | 0 | 0 | 12 | 0 | 0 | 46 | 45 | 12 | 47 | 45 | 17 |
| Stage 1 | - | - | - | - | - | - | 16 | 16 | - | 29 | 29 | - |
| Stage 2 | - | - | - | - | - | - | 30 | 29 | - | 18 | 16 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1600 | - | - | 1607 | - | - | 955 | 847 | 1069 | 954 | 847 | 1062 |
| Stage 1 | - | - | - | - | - | - | 1004 | 882 | - | 988 | 871 | - |
| Stage 2 | - | - | - | - | - | - | 987 | 871 | - | 1001 | 882 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1600 | - | - | 1607 | - | - | 949 | 843 | 1069 | 946 | 843 | 1062 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 949 | 843 | - | 946 | 843 | - |
| Stage 1 | - | - | - | - | - | - | 1003 | 881 | - | 987 | 868 | - |
| Stage 2 | - | - | - | - | - | - | 981 | 868 | - | 996 | 881 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 1.2 | | | 1.8 | | | 8.4 | | | 9.1 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1069 | 1600 | - | - | 1607 | - | - | 892 |
| HCM Lane V/C Ratio | 0.004 | 0.001 | - | - | 0.004 | - | - | 0.004 |
| HCM Control Delay (s) | 8.4 | 7.3 | 0 | - | 7.2 | 0 | - | 9.1 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 2 | 0 | 1 | 464 | 417 | 7 |
| Future Vol, veh/h | 2 | 0 | 1 | 464 | 417 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 0 | 1 | 559 | 439 | 7 |

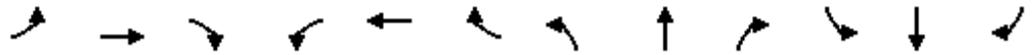
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1004 | 443 | 446 | 0 | - | 0 |
| Stage 1 | 443 | - | - | - | - | - |
| Stage 2 | 561 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 268 | 615 | 1114 | - | - | - |
| Stage 1 | 647 | - | - | - | - | - |
| Stage 2 | 571 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 268 | 615 | 1114 | - | - | - |
| Mov Cap-2 Maneuver | 268 | - | - | - | - | - |
| Stage 1 | 646 | - | - | - | - | - |
| Stage 2 | 571 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 18.6 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1114 | - | 268 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.015 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | 18.6 | - | - |
| HCM Lane LOS | A | A | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

01 -PM 10 YR + No Project.syn
3: Amargosa & Bear Valley

10/16/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 121 | 1304 | 145 | 317 | 1619 | 304 | 173 | 210 | 416 | 367 | 344 | 139 |
| Future Volume (veh/h) | 121 | 1304 | 145 | 317 | 1619 | 304 | 173 | 210 | 416 | 367 | 344 | 139 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 125 | 1344 | 149 | 327 | 1669 | 313 | 186 | 226 | 447 | 412 | 387 | 156 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 151 | 1554 | 383 | 357 | 1824 | 783 | 215 | 507 | 747 | 473 | 713 | 284 |
| Arrive On Green | 0.09 | 0.24 | 0.24 | 0.20 | 0.36 | 0.36 | 0.12 | 0.27 | 0.27 | 0.14 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2482 | 987 |
| Grp Volume(v), veh/h | 125 | 1344 | 149 | 327 | 1669 | 313 | 186 | 226 | 447 | 412 | 276 | 267 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 8.3 | 24.0 | 9.4 | 21.6 | 37.5 | 14.9 | 12.3 | 12.0 | 24.9 | 14.0 | 15.7 | 16.1 |
| Cycle Q Clear(g_c), s | 8.3 | 24.0 | 9.4 | 21.6 | 37.5 | 14.9 | 12.3 | 12.0 | 24.9 | 14.0 | 15.7 | 16.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 151 | 1554 | 383 | 357 | 1824 | 783 | 215 | 507 | 747 | 473 | 510 | 486 |
| V/C Ratio(X) | 0.83 | 0.86 | 0.39 | 0.91 | 0.92 | 0.40 | 0.87 | 0.45 | 0.60 | 0.87 | 0.54 | 0.55 |
| Avail Cap(c_a), veh/h | 200 | 1554 | 383 | 438 | 1851 | 792 | 276 | 507 | 747 | 533 | 510 | 486 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.0 | 43.6 | 38.1 | 47.0 | 36.8 | 19.1 | 51.8 | 36.3 | 23.3 | 50.7 | 36.1 | 36.2 |
| Incr Delay (d2), s/veh | 18.6 | 5.4 | 0.6 | 21.1 | 7.5 | 0.3 | 19.9 | 2.8 | 3.5 | 13.4 | 4.1 | 4.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 9.9 | 3.7 | 11.4 | 16.2 | 5.3 | 6.7 | 5.9 | 9.6 | 6.9 | 7.4 | 7.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.6 | 49.0 | 38.7 | 68.0 | 44.4 | 19.5 | 71.7 | 39.1 | 26.9 | 64.2 | 40.1 | 40.6 |
| LnGrp LOS | E | D | D | E | D | B | E | D | C | E | D | D |
| Approach Vol, veh/h | | 1618 | | | 2309 | | | 859 | | | 955 | |
| Approach Delay, s/veh | | 49.9 | | | 44.3 | | | 39.8 | | | 50.6 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 20.9 | 37.0 | 28.6 | 33.5 | 19.0 | 39.0 | 14.7 | 47.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 26.5 | 29.5 | 27.5 | 18.6 | 26.4 | 13.5 | 43.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 16.0 | 26.9 | 23.6 | 26.0 | 14.3 | 18.1 | 10.3 | 39.5 | | | | |
| Green Ext Time (p_c), s | 0.4 | 0.0 | 0.5 | 1.2 | 0.2 | 2.1 | 0.1 | 3.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 46.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 126 | 867 | 6 | 165 | 1097 | 267 | 66 | 68 | 168 | 316 | 119 | 117 |
| Future Volume (veh/h) | 126 | 867 | 6 | 165 | 1097 | 267 | 66 | 68 | 168 | 316 | 119 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 131 | 903 | 6 | 181 | 1205 | 293 | 79 | 81 | 200 | 343 | 129 | 127 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 1151 | 513 | 210 | 1255 | 560 | 305 | 304 | 271 | 423 | 422 | 376 |
| Arrive On Green | 0.09 | 0.32 | 0.32 | 0.12 | 0.35 | 0.35 | 0.17 | 0.17 | 0.17 | 0.24 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 131 | 903 | 6 | 181 | 1205 | 293 | 79 | 81 | 200 | 343 | 129 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 8.7 | 27.6 | 0.3 | 12.0 | 39.8 | 17.6 | 4.6 | 4.8 | 14.4 | 21.8 | 7.2 | 8.0 |
| Cycle Q Clear(g_c), s | 8.7 | 27.6 | 0.3 | 12.0 | 39.8 | 17.6 | 4.6 | 4.8 | 14.4 | 21.8 | 7.2 | 8.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 158 | 1151 | 513 | 210 | 1255 | 560 | 305 | 304 | 271 | 423 | 422 | 376 |
| V/C Ratio(X) | 0.83 | 0.78 | 0.01 | 0.86 | 0.96 | 0.52 | 0.26 | 0.27 | 0.74 | 0.81 | 0.31 | 0.34 |
| Avail Cap(c_a), veh/h | 200 | 1151 | 513 | 270 | 1259 | 561 | 305 | 304 | 271 | 423 | 422 | 376 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.8 | 36.8 | 27.5 | 52.0 | 38.0 | 30.8 | 43.2 | 43.2 | 47.2 | 43.2 | 37.6 | 37.9 |
| Incr Delay (d2), s/veh | 20.3 | 3.6 | 0.0 | 19.9 | 16.8 | 0.9 | 2.1 | 2.1 | 16.4 | 15.4 | 1.9 | 2.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.7 | 12.2 | 0.1 | 6.4 | 19.6 | 6.7 | 2.2 | 2.2 | 6.8 | 11.2 | 3.3 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.1 | 40.4 | 27.5 | 71.9 | 54.8 | 31.7 | 45.2 | 45.3 | 63.6 | 58.6 | 39.5 | 40.3 |
| LnGrp LOS | E | D | C | E | D | C | D | D | E | E | D | D |
| Approach Vol, veh/h | | 1040 | | | 1679 | | | 360 | | | 599 | |
| Approach Delay, s/veh | | 44.6 | | | 52.6 | | | 55.5 | | | 50.6 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 25.0 | 18.6 | 43.4 | | 33.0 | 15.1 | 46.9 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 18.2 | 37.8 | | 28.5 | 13.5 | 42.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.4 | 14.0 | 29.6 | | 23.8 | 10.7 | 41.8 | | | | |
| Green Ext Time (p_c), s | | 0.2 | 0.2 | 3.6 | | 1.1 | 0.1 | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 50.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

APPENDIX 5.4

HORIZON YEAR (2029) WITH PROJECT CONDITIONS INTERSECTION ANALYSIS CALCULATION WORKSHEETS

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 0 | 2 | 2 | 27 | 0 | 0 | 2 | 76 | 0 | 0 |
| Future Vol, veh/h | 0 | 5 | 0 | 2 | 2 | 27 | 0 | 0 | 2 | 76 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 12 | 0 | 6 | 6 | 77 | 0 | 0 | 8 | 152 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 83 | 0 | 0 | 12 | 0 | 0 | 69 | 107 | 12 | 73 | 69 | 45 |
| Stage 1 | - | - | - | - | - | - | 12 | 12 | - | 57 | 57 | - |
| Stage 2 | - | - | - | - | - | - | 57 | 95 | - | 16 | 12 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1514 | - | - | 1607 | - | - | 923 | 783 | 1069 | 918 | 822 | 1025 |
| Stage 1 | - | - | - | - | - | - | 1009 | 886 | - | 955 | 847 | - |
| Stage 2 | - | - | - | - | - | - | 955 | 816 | - | 1004 | 886 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1514 | - | - | 1607 | - | - | 920 | 780 | 1069 | 908 | 819 | 1025 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 920 | 780 | - | 908 | 819 | - |
| Stage 1 | - | - | - | - | - | - | 1009 | 886 | - | 955 | 844 | - |
| Stage 2 | - | - | - | - | - | - | 951 | 813 | - | 996 | 886 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 0 | | | 0.5 | | | 8.4 | | | 9.8 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1069 | 1514 | - | - | 1607 | - | - | 908 |
| HCM Lane V/C Ratio | 0.007 | - | - | - | 0.004 | - | - | 0.167 |
| HCM Control Delay (s) | 8.4 | 0 | - | - | 7.2 | 0 | - | 9.8 |
| HCM Lane LOS | A | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.6 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.3 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 51 | 28 | 10 | 201 | 247 | 21 |
| Future Vol, veh/h | 51 | 28 | 10 | 201 | 247 | 21 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 102 | 56 | 12 | 242 | 260 | 22 |

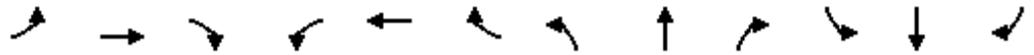
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 537 | 271 | 282 | 0 | - | 0 |
| Stage 1 | 271 | - | - | - | - | - |
| Stage 2 | 266 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 505 | 768 | 1280 | - | - | - |
| Stage 1 | 775 | - | - | - | - | - |
| Stage 2 | 779 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 499 | 768 | 1280 | - | - | - |
| Mov Cap-2 Maneuver | 499 | - | - | - | - | - |
| Stage 1 | 766 | - | - | - | - | - |
| Stage 2 | 779 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 13.7 | 0.4 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1280 | - | 570 | - | - |
| HCM Lane V/C Ratio | 0.009 | - | 0.277 | - | - |
| HCM Control Delay (s) | 7.8 | 0 | 13.7 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 1.1 | - | - |

01 -AM 10 YR + Project.syn
 3: Amargosa & Bear Valley

10/21/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 78 | 1387 | 117 | 211 | 1114 | 179 | 66 | 93 | 231 | 124 | 127 | 51 |
| Future Volume (veh/h) | 78 | 1387 | 117 | 211 | 1114 | 179 | 66 | 93 | 231 | 124 | 127 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 80 | 1430 | 121 | 218 | 1148 | 185 | 71 | 100 | 248 | 139 | 143 | 57 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 102 | 1525 | 376 | 250 | 1635 | 600 | 92 | 775 | 880 | 201 | 1059 | 405 |
| Arrive On Green | 0.06 | 0.24 | 0.24 | 0.14 | 0.32 | 0.32 | 0.05 | 0.41 | 0.41 | 0.06 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2514 | 961 |
| Grp Volume(v), veh/h | 80 | 1430 | 121 | 218 | 1148 | 185 | 71 | 100 | 248 | 139 | 99 | 101 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1697 |
| Q Serve(g_s), s | 5.3 | 26.2 | 7.6 | 14.4 | 23.7 | 9.9 | 4.7 | 4.0 | 9.9 | 4.7 | 4.1 | 4.4 |
| Cycle Q Clear(g_c), s | 5.3 | 26.2 | 7.6 | 14.4 | 23.7 | 9.9 | 4.7 | 4.0 | 9.9 | 4.7 | 4.1 | 4.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.57 |
| Lane Grp Cap(c), veh/h | 102 | 1525 | 376 | 250 | 1635 | 600 | 92 | 775 | 880 | 201 | 748 | 715 |
| V/C Ratio(X) | 0.78 | 0.94 | 0.32 | 0.87 | 0.70 | 0.31 | 0.77 | 0.13 | 0.28 | 0.69 | 0.13 | 0.14 |
| Avail Cap(c_a), veh/h | 186 | 1528 | 376 | 438 | 1936 | 693 | 260 | 775 | 880 | 533 | 748 | 715 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.8 | 44.9 | 37.8 | 50.5 | 35.8 | 26.3 | 56.2 | 21.7 | 14.1 | 55.5 | 21.3 | 21.4 |
| Incr Delay (d2), s/veh | 12.3 | 11.4 | 0.5 | 9.1 | 0.9 | 0.3 | 12.9 | 0.3 | 0.8 | 4.2 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 11.4 | 2.9 | 6.9 | 9.7 | 3.7 | 2.5 | 1.8 | 3.6 | 2.2 | 1.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.2 | 56.3 | 38.3 | 59.7 | 36.7 | 26.5 | 69.1 | 22.1 | 14.9 | 59.7 | 21.7 | 21.8 |
| LnGrp LOS | E | E | D | E | D | C | E | C | B | E | C | C |
| Approach Vol, veh/h | | 1631 | | | 1551 | | | 419 | | | 339 | |
| Approach Delay, s/veh | | 55.5 | | | 38.7 | | | 25.8 | | | 37.3 | |
| Approach LOS | | E | | | D | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.5 | 54.2 | 21.3 | 32.9 | 10.7 | 55.0 | 11.4 | 42.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 25.5 | 29.5 | 28.5 | 17.5 | 26.5 | 12.5 | 45.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 11.9 | 16.4 | 28.2 | 6.7 | 6.4 | 7.3 | 25.7 | | | | |
| Green Ext Time (p_c), s | 0.3 | 1.2 | 0.5 | 0.3 | 0.1 | 1.0 | 0.1 | 8.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 44.2 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

01 -AM 10 YR + Project.syn
4: Amethyst & Bear Valley

10/21/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 89 | 1070 | 7 | 68 | 472 | 130 | 29 | 60 | 181 | 304 | 59 | 76 |
| Future Volume (veh/h) | 89 | 1070 | 7 | 68 | 472 | 130 | 29 | 60 | 181 | 304 | 59 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 93 | 1115 | 7 | 75 | 519 | 143 | 35 | 71 | 215 | 330 | 64 | 83 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 117 | 1175 | 524 | 96 | 1134 | 506 | 421 | 420 | 374 | 408 | 407 | 363 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.05 | 0.32 | 0.32 | 0.24 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 93 | 1115 | 7 | 75 | 519 | 143 | 35 | 71 | 215 | 330 | 64 | 83 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 6.2 | 36.7 | 0.4 | 5.0 | 14.0 | 8.1 | 1.8 | 3.8 | 14.4 | 21.0 | 3.5 | 5.1 |
| Cycle Q Clear(g_c), s | 6.2 | 36.7 | 0.4 | 5.0 | 14.0 | 8.1 | 1.8 | 3.8 | 14.4 | 21.0 | 3.5 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 117 | 1175 | 524 | 96 | 1134 | 506 | 421 | 420 | 374 | 408 | 407 | 363 |
| V/C Ratio(X) | 0.80 | 0.95 | 0.01 | 0.78 | 0.46 | 0.28 | 0.08 | 0.17 | 0.57 | 0.81 | 0.16 | 0.23 |
| Avail Cap(c_a), veh/h | 171 | 1188 | 530 | 251 | 1347 | 601 | 421 | 420 | 374 | 408 | 407 | 363 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.3 | 39.2 | 27.0 | 56.0 | 32.6 | 30.6 | 35.7 | 36.5 | 40.5 | 43.8 | 37.0 | 37.6 |
| Incr Delay (d2), s/veh | 14.9 | 15.5 | 0.0 | 12.5 | 0.3 | 0.3 | 0.4 | 0.9 | 6.3 | 15.7 | 0.8 | 1.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.2 | 17.9 | 0.1 | 2.5 | 5.9 | 3.1 | 0.8 | 1.7 | 6.2 | 10.8 | 1.6 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.2 | 54.6 | 27.0 | 68.6 | 32.9 | 30.9 | 36.1 | 37.3 | 46.8 | 59.5 | 37.8 | 39.1 |
| LnGrp LOS | E | D | C | E | C | C | D | D | D | E | D | D |
| Approach Vol, veh/h | | 1215 | | | 737 | | | 321 | | | 477 | |
| Approach Delay, s/veh | | 55.7 | | | 36.1 | | | 43.5 | | | 53.0 | |
| Approach LOS | | E | | | D | | | D | | | D | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 32.8 | 11.0 | 44.2 | | 32.0 | 12.4 | 42.8 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 16.9 | 40.1 | | 27.5 | 11.5 | 45.5 | | | | |
| Max Q Clear Time (g_c+1I), s | | 16.4 | 7.0 | 38.7 | | 23.0 | 8.2 | 16.0 | | | | |
| Green Ext Time (p_c), s | | 0.2 | 0.1 | 0.9 | | 0.8 | 0.1 | 3.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 48.6 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 179 | 0 | 0 | 19 | 6 | 56 |
| Future Vol, veh/h | 179 | 0 | 0 | 19 | 6 | 56 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 77 | 77 | 92 | 92 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 232 | 0 | 0 | 21 | 7 | 69 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 63 | 42 | 76 | 0 | - | 0 |
| Stage 1 | 42 | - | - | - | - | - |
| Stage 2 | 21 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 943 | 1029 | 1523 | - | - | - |
| Stage 1 | 980 | - | - | - | - | - |
| Stage 2 | 1002 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 943 | 1029 | 1523 | - | - | - |
| Mov Cap-2 Maneuver | 943 | - | - | - | - | - |
| Stage 1 | 980 | - | - | - | - | - |
| Stage 2 | 1002 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 10.1 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|------|-----|-------|-------|-----|-----|
| Capacity (veh/h) | 1523 | - | 943 | - | - | - |
| HCM Lane V/C Ratio | - | - | 0.247 | - | - | - |
| HCM Control Delay (s) | 0 | - | 10.1 | 0 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 1 | - | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↘ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 38 | 9 | 10 | 13 | 3 | 4 |
| Future Vol, veh/h | 38 | 9 | 10 | 13 | 3 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 41 | 10 | 11 | 14 | 3 | 4 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 28 | 18 | 0 | 0 | 25 |
| Stage 1 | 18 | - | - | - | - |
| Stage 2 | 10 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 987 | 1061 | - | - | 1589 |
| Stage 1 | 1005 | - | - | - | - |
| Stage 2 | 1013 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 985 | 1061 | - | - | 1589 |
| Mov Cap-2 Maneuver | 985 | - | - | - | - |
| Stage 1 | 1003 | - | - | - | - |
| Stage 2 | 1013 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.8 | 0 | 3.1 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 999 | 1589 |
| HCM Lane V/C Ratio | - | - | 0.051 | 0.002 |
| HCM Control Delay (s) | - | - | 8.8 | 7.3 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.8 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 38 | 9 | 14 | 13 | 3 | 39 |
| Future Vol, veh/h | 38 | 9 | 14 | 13 | 3 | 39 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 41 | 10 | 15 | 14 | 3 | 42 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 70 | 22 | 0 | 0 | 29 |
| Stage 1 | 22 | - | - | - | - |
| Stage 2 | 48 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 934 | 1055 | - | - | 1584 |
| Stage 1 | 1001 | - | - | - | - |
| Stage 2 | 974 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 932 | 1055 | - | - | 1584 |
| Mov Cap-2 Maneuver | 932 | - | - | - | - |
| Stage 1 | 999 | - | - | - | - |
| Stage 2 | 974 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 9 | 0 | 0.5 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 953 | 1584 |
| HCM Lane V/C Ratio | - | - | 0.054 | 0.002 |
| HCM Control Delay (s) | - | - | 9 | 7.3 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 5 | 0 | 2 | 6 | 83 | 0 | 0 | 1 | 51 | 1 | 0 |
| Future Vol, veh/h | 1 | 5 | 0 | 2 | 6 | 83 | 0 | 0 | 1 | 51 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 42 | 42 | 42 | 35 | 35 | 35 | 25 | 25 | 25 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 12 | 0 | 6 | 17 | 237 | 0 | 0 | 4 | 102 | 2 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 254 | 0 | 0 | 12 | 0 | 0 | 165 | 282 | 12 | 166 | 164 | 136 |
| Stage 1 | - | - | - | - | - | - | 16 | 16 | - | 148 | 148 | - |
| Stage 2 | - | - | - | - | - | - | 149 | 266 | - | 18 | 16 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1311 | - | - | 1607 | - | - | 800 | 627 | 1069 | 798 | 729 | 913 |
| Stage 1 | - | - | - | - | - | - | 1004 | 882 | - | 855 | 775 | - |
| Stage 2 | - | - | - | - | - | - | 854 | 689 | - | 1001 | 882 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1311 | - | - | 1607 | - | - | 794 | 623 | 1069 | 792 | 725 | 913 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 794 | 623 | - | 792 | 725 | - |
| Stage 1 | - | - | - | - | - | - | 1002 | 880 | - | 853 | 772 | - |
| Stage 2 | - | - | - | - | - | - | 848 | 686 | - | 995 | 880 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 1.3 | | | 0.2 | | | 8.4 | | | 10.2 | | |
| HCM LOS | | | | | | | A | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1069 | 1311 | - | - | 1607 | - | - | 791 |
| HCM Lane V/C Ratio | 0.004 | 0.002 | - | - | 0.004 | - | - | 0.131 |
| HCM Control Delay (s) | 8.4 | 7.8 | 0 | - | 7.2 | 0 | - | 10.2 |
| HCM Lane LOS | A | A | A | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.5 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.4 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 33 | 19 | 32 | 464 | 417 | 59 |
| Future Vol, veh/h | 33 | 19 | 32 | 464 | 417 | 59 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 83 | 83 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 66 | 38 | 39 | 559 | 439 | 62 |

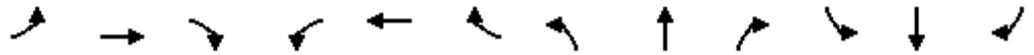
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1107 | 470 | 501 | 0 | - | 0 |
| Stage 1 | 470 | - | - | - | - | - |
| Stage 2 | 637 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 233 | 594 | 1063 | - | - | - |
| Stage 1 | 629 | - | - | - | - | - |
| Stage 2 | 527 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 221 | 594 | 1063 | - | - | - |
| Mov Cap-2 Maneuver | 221 | - | - | - | - | - |
| Stage 1 | 596 | - | - | - | - | - |
| Stage 2 | 527 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 24.5 | 0.5 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1063 | - | 287 | - | - |
| HCM Lane V/C Ratio | 0.036 | - | 0.362 | - | - |
| HCM Control Delay (s) | 8.5 | 0 | 24.5 | - | - |
| HCM Lane LOS | A | A | C | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 1.6 | - | - |

01 - PM 10 YR + Project.syn
 3: Amargosa & Bear Valley

10/21/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 124 | 1307 | 145 | 333 | 1624 | 304 | 173 | 219 | 425 | 367 | 360 | 144 |
| Future Volume (veh/h) | 124 | 1307 | 145 | 333 | 1624 | 304 | 173 | 219 | 425 | 367 | 360 | 144 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 128 | 1347 | 149 | 343 | 1674 | 313 | 186 | 235 | 457 | 412 | 404 | 162 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 154 | 1653 | 407 | 368 | 1925 | 815 | 171 | 467 | 723 | 473 | 722 | 286 |
| Arrive On Green | 0.09 | 0.26 | 0.26 | 0.21 | 0.38 | 0.38 | 0.10 | 0.25 | 0.25 | 0.14 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 6434 | 1585 | 1781 | 5106 | 1585 | 1781 | 1870 | 1585 | 3456 | 2485 | 985 |
| Grp Volume(v), veh/h | 128 | 1347 | 149 | 343 | 1674 | 313 | 186 | 235 | 457 | 412 | 287 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1609 | 1585 | 1781 | 1702 | 1585 | 1781 | 1870 | 1585 | 1728 | 1777 | 1693 |
| Q Serve(g_s), s | 8.5 | 23.6 | 9.3 | 22.7 | 36.5 | 14.4 | 11.5 | 12.9 | 26.4 | 14.0 | 16.4 | 16.8 |
| Cycle Q Clear(g_c), s | 8.5 | 23.6 | 9.3 | 22.7 | 36.5 | 14.4 | 11.5 | 12.9 | 26.4 | 14.0 | 16.4 | 16.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | 154 | 1653 | 407 | 368 | 1925 | 815 | 171 | 467 | 723 | 473 | 516 | 492 |
| V/C Ratio(X) | 0.83 | 0.81 | 0.37 | 0.93 | 0.87 | 0.38 | 1.09 | 0.50 | 0.63 | 0.87 | 0.56 | 0.57 |
| Avail Cap(c_a), veh/h | 186 | 1796 | 442 | 379 | 1979 | 831 | 171 | 467 | 723 | 533 | 516 | 492 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.9 | 41.9 | 36.6 | 46.8 | 34.6 | 17.7 | 54.3 | 38.7 | 24.9 | 50.7 | 36.0 | 36.1 |
| Incr Delay (d2), s/veh | 22.6 | 2.8 | 0.5 | 29.2 | 4.4 | 0.3 | 94.8 | 3.8 | 4.2 | 13.4 | 4.3 | 4.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.7 | 9.5 | 3.6 | 12.8 | 15.2 | 5.1 | 9.6 | 6.4 | 10.3 | 6.9 | 7.7 | 7.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.5 | 44.7 | 37.1 | 75.9 | 39.0 | 18.0 | 149.1 | 42.5 | 29.1 | 64.2 | 40.3 | 40.8 |
| LnGrp LOS | E | D | D | E | D | B | F | D | C | E | D | D |
| Approach Vol, veh/h | | 1624 | | | 2330 | | | 878 | | | 978 | |
| Approach Delay, s/veh | | 46.5 | | | 41.6 | | | 58.1 | | | 50.5 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 20.9 | 34.4 | 29.3 | 35.3 | 16.0 | 39.4 | 14.9 | 49.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.5 | 24.5 | 25.5 | 33.5 | 11.5 | 31.5 | 12.5 | 46.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 16.0 | 28.4 | 24.7 | 25.6 | 13.5 | 18.8 | 10.5 | 38.5 | | | | |
| Green Ext Time (p_c), s | 0.4 | 0.0 | 0.1 | 5.2 | 0.0 | 2.9 | 0.1 | 6.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 47.0 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |

01 - PM 10 YR + Project.syn
4: Amethyst & Bear Valley

10/21/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|-------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 126 | 867 | 16 | 175 | 1097 | 267 | 72 | 68 | 174 | 316 | 119 | 117 |
| Future Volume (veh/h) | 126 | 867 | 16 | 175 | 1097 | 267 | 72 | 68 | 174 | 316 | 119 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 131 | 903 | 17 | 192 | 1205 | 293 | 86 | 81 | 207 | 343 | 129 | 127 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 1182 | 527 | 222 | 1308 | 583 | 366 | 365 | 326 | 334 | 333 | 297 |
| Arrive On Green | 0.09 | 0.33 | 0.33 | 0.12 | 0.37 | 0.37 | 0.21 | 0.21 | 0.21 | 0.19 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Grp Volume(v), veh/h | 131 | 903 | 17 | 192 | 1205 | 293 | 86 | 81 | 207 | 343 | 129 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 8.7 | 27.3 | 0.9 | 12.7 | 38.9 | 17.2 | 4.8 | 4.6 | 14.3 | 22.5 | 7.6 | 8.5 |
| Cycle Q Clear(g_c), s | 8.7 | 27.3 | 0.9 | 12.7 | 38.9 | 17.2 | 4.8 | 4.6 | 14.3 | 22.5 | 7.6 | 8.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 159 | 1182 | 527 | 222 | 1308 | 583 | 366 | 365 | 326 | 334 | 333 | 297 |
| V/C Ratio(X) | 0.83 | 0.76 | 0.03 | 0.87 | 0.92 | 0.50 | 0.24 | 0.22 | 0.64 | 1.03 | 0.39 | 0.43 |
| Avail Cap(c_a), veh/h | 245 | 1188 | 530 | 325 | 1347 | 601 | 366 | 365 | 326 | 334 | 333 | 297 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.7 | 35.8 | 27.0 | 51.5 | 36.3 | 29.4 | 39.8 | 39.7 | 43.6 | 48.8 | 42.7 | 43.1 |
| Incr Delay (d2), s/veh | 12.6 | 3.0 | 0.0 | 15.0 | 10.4 | 0.7 | 1.5 | 1.4 | 9.1 | 56.3 | 3.4 | 4.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4 | 11.9 | 0.3 | 6.5 | 18.1 | 6.5 | 2.2 | 2.1 | 6.3 | 15.0 | 3.6 | 3.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.3 | 38.8 | 27.0 | 66.5 | 46.6 | 30.1 | 41.3 | 41.1 | 52.7 | 105.1 | 46.1 | 47.5 |
| LnGrp LOS | E | D | C | E | D | C | D | D | D | F | D | D |
| Approach Vol, veh/h | | 1051 | | | 1690 | | | 374 | | | 599 | |
| Approach Delay, s/veh | | 42.1 | | | 46.0 | | | 47.6 | | | 80.2 | |
| Approach LOS | | D | | | D | | | D | | | F | |
| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.2 | 19.4 | 44.4 | | 27.0 | 15.2 | 48.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 17.5 | 21.9 | 40.1 | | 22.5 | 16.5 | 45.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.3 | 14.7 | 29.3 | | 24.5 | 10.7 | 40.9 | | | | |
| Green Ext Time (p_c), s | | 0.2 | 0.3 | 4.4 | | 0.0 | 0.1 | 3.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 50.6 | |
| HCM 6th LOS | | | | | | | | | | | D | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 157 | 0 | 0 | 12 | 21 | 130 |
| Future Vol, veh/h | 157 | 0 | 0 | 12 | 21 | 130 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 77 | 77 | 92 | 92 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 204 | 0 | 0 | 13 | 26 | 160 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 119 | 106 | 186 | 0 | - | 0 |
| Stage 1 | 106 | - | - | - | - | - |
| Stage 2 | 13 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 877 | 948 | 1388 | - | - | - |
| Stage 1 | 918 | - | - | - | - | - |
| Stage 2 | 1010 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 877 | 948 | 1388 | - | - | - |
| Mov Cap-2 Maneuver | 877 | - | - | - | - | - |
| Stage 1 | 918 | - | - | - | - | - |
| Stage 2 | 1010 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 10.3 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|------|-----|-------|-------|-----|-----|
| Capacity (veh/h) | 1388 | - | 877 | - | - | - |
| HCM Lane V/C Ratio | - | - | 0.232 | - | - | - |
| HCM Control Delay (s) | 0 | - | 10.3 | 0 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.9 | - | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 25 | 6 | 7 | 42 | 10 | 12 |
| Future Vol, veh/h | 25 | 6 | 7 | 42 | 10 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 27 | 7 | 8 | 46 | 11 | 13 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 66 | 31 | 0 | 0 | 54 | 0 |
| Stage 1 | 31 | - | - | - | - | - |
| Stage 2 | 35 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 939 | 1043 | - | - | 1551 | - |
| Stage 1 | 992 | - | - | - | - | - |
| Stage 2 | 987 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | 932 | 1043 | - | - | 1551 | - |
| Mov Cap-2 Maneuver | 932 | - | - | - | - | - |
| Stage 1 | 985 | - | - | - | - | - |
| Stage 2 | 987 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.9 | 0 | 3.3 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 952 | 1551 |
| HCM Lane V/C Ratio | - | - | 0.035 | 0.007 |
| HCM Control Delay (s) | - | - | 8.9 | 7.3 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.3 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | W | | T | | | T |
| Traffic Vol, veh/h | 25 | 6 | 43 | 42 | 10 | 27 |
| Future Vol, veh/h | 25 | 6 | 43 | 42 | 10 | 27 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 27 | 7 | 47 | 46 | 11 | 29 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 121 | 70 | 0 | 0 | 93 |
| Stage 1 | 70 | - | - | - | - |
| Stage 2 | 51 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 874 | 993 | - | - | 1501 |
| Stage 1 | 953 | - | - | - | - |
| Stage 2 | 971 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 868 | 993 | - | - | 1501 |
| Mov Cap-2 Maneuver | 868 | - | - | - | - |
| Stage 1 | 946 | - | - | - | - |
| Stage 2 | 971 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.2 | 0 | 2 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 890 | 1501 |
| HCM Lane V/C Ratio | - | - | 0.038 | 0.007 |
| HCM Control Delay (s) | - | - | 9.2 | 7.4 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 |

APPENDIX 5.5

TRAFFIC SIGNAL WARRANT WORKSHEET

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | | |
|----------------------------------|-----------|------------|-----------|---------------------------------|----------------------|-----------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | <u>2021</u> | <u>WP</u> |
| Jurisdiction: <u>Victorville</u> | | | | CALC <u>SS</u> | DATE <u>10/28/19</u> | |
| Major Street: <u>Amargosa</u> | | | | CHK <u>SS</u> | DATE <u>10/28/19</u> | |
| Minor Street: <u>Eucalyptus</u> | | | | Critical Approach Speed (Major) | <u>45</u> mph | |
| | | | | Critical Approach Speed (Minor) | <u>45</u> mph | |

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes 1 lane

Major Street Future ADT = 10,356 vpd Minor Street Future ADT = 768 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); or **RURAL (R)**

In built up area of isolated community of < 10,000 population

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|----------------------|----------------------------------|--------------|---|--------------|
| | XX | EADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 10,356 | 1 768 | 8,000 | 5,600 * | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 10,356 | 1 768 | 12,000 | 8,400 * | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | 80% | | 80% | |
| | XX | | | | |
| No one condition satisfied, but following conditions fulfilled 80% of more | | | | | |
| | | <u>A</u> | <u>B</u> | | |
| | | 46% | 90% | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

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

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | | | |
|---|-------------------------------------|---------------|---------------|------|---------------------------------|----------------|--------------------------|
| | <u> </u> | <u> </u> | <u> </u> | | TRAFFIC CONDITIONS | 2029 | WP |
| | DIST | CO | RTE | PM | CALC <u>SS</u> | DATE | <u>10/22/19</u> |
| Jurisdiction: | <u>Victorville</u> | | | | CHK <u>SS</u> | DATE | <u>10/22/19</u> |
| Major Street: | <u>Amargosa</u> | | | | Critical Approach Speed (Major) | | <u>45</u> mph |
| Minor Street: | <u>Eucalyptus</u> | | | | Critical Approach Speed (Minor) | | <u>45</u> mph |
| Major Street Approach Lanes = | <u>1</u> | | | lane | Minor Street Approach Lanes | <u>1</u> lane | |
| Major Street Future ADT = | <u>11,664</u> | | | vpd | Minor Street Future ADT = | <u>624</u> vpd | |
| Speed limit or critical speed on major street traffic > 64 km/h (40 mph); | <input checked="" type="checkbox"/> | | | | | | √ |
| | or | | | | | | <input type="checkbox"/> |
| In built up area of isolated community of < 10,000 population | <input type="checkbox"/> | | | | | | RURAL (R) |

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements EADT | | | |
|--|----------------------|--|--------------|---|--------------|
| CONDITION A - Minimum Vehicular Volume | XX | | | | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | | | | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | Vehicles Per Day on Major Street (Total of Both Approaches) | | Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) | |
| <u>Major Street</u> | <u>Minor Street</u> | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| 1 11,664 | 1 624 | 8,000 | 5,600 * | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street (Total of Both Approaches) | | Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | | | | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| <u>Major Street</u> | <u>Minor Street</u> | 12,000 | 8,400 * | 1,200 | 850 |
| 1 11,664 | 1 624 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,600 | 1,120 |
| 2 + | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| 1 | 2 + | | | | |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | 80% | | 80% | |
| | XX | | | | |
| No one condition satisfied, but following conditions fulfilled 80% of more | | | | | |
| | <u>A</u> | | | | |
| | 37% | | | | |
| | <u>B</u> | | | | |
| | 73% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

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

THIS PAGE LEFT INTENTIONALLY BLANK