Appendix L: Transportation Impact Analysis

Appendices

This page intentionally left blank.

Transportation Impact Analysis

San Bernardino County Policy Plan

Prepared for:



Updated March 27, 2019

OC15-0399

FEHR & PEERS

Table of Contents

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 15

2.1 Purpose of the TIS and Study Objective 15
2.2 Project Description 15
2.3 Study Area 16
2.4 Analysis Scenarios 20

3.0 METHODOLOGY AND IMPACT THRESHOLDS 29

3.1 Level of Service Criteria 29
3.2 Roadway and Intersection Criteria for County Policy Plan Consistency 31
3.3 VMT Thresholds 34
3.4 Traffic Volume Forecasting 35
3.5 Future Year Roadway Improvement Assumptions 35
4.0 Existing (2017) Conditions 39
4.1 Existing Roadway Network 39
4.2 Existing Transit Facilities 41
4.3 Existing Bicycle Facilities 41
4.4 Existing Airports 43
4.5 Existing Goods Movement Facilities 44
4.6 Existing Traffic Volumes and Lane Configurations 45
4.7 Intersection Operation Analysis 45
4.8 Roadway Segment Operation Analysis 45

5.0 FUTURE YEAR (2040) CONDITIONS 86
5.1 Future Roadway Network 86
5.2 Future Transit Facilities 86
5.3 Future Bicycle Facilities 86
5.4 Future Airports 87
5.5 Future Goods Movement Facilities 87
5.6 Intersection Operation Analysis 87
5.6 Roadway Segment Analysis 110

6.0 VEHICLE MILES TRAVELED (VMT) ANALYSIS 122
6.1 VMT Criteria 122
6.2 Project VMT Estimates 123

7.0 IMPACT ANALYSIS AND MITIGATION MEASURES 129
7.1 Traffic Operations Thresholds 130
7.2 Transit, Bicycle, and Pedestrian Facility Impacts 132
7.3 Impacts and Mitigation Measures 132

Appendices

Appendix A: Synchro 10 Reports

Appendix B: Counts

Appendix C: Existing Conditions Report

List of Figures

Figure ES-1A Current Roadway System - Desert Region....4
Figure ES-1B Current Roadway System - Mountain Region....5
Figure ES-1C Current Roadway System - Valley Region....6
Figure ES-2A Proposed Roadway System - Desert Region....7
Figure ES-2B Proposed Roadway System - Mountain Region....8
Figure ES-2C Proposed Roadway System -Valley Region....9
Figure ES-3A Proposed Changes to Roadway System - Desert Region....10
Figure ES-3B Proposed Changes to Roadway System - Mountain Region....11
Figure ES-3C Proposed Changes to Roadway System - Valley Region....12
Figure 1.1 Existing Roadway Designations – Desert Region....47
Figure 1.2 Existing Roadway Designations – Mountain Region....48
Figure 1.3 Existing Roadway Designations – Valley Region....49
Figure 2.1 Existing Transit Facilities – Desert Region....50
Figure 2.2 Existing Transit Facilities – Mountain Region....51
Figure 2.3 Existing Transit Facilities – Valley Region....52
Figure 3.1 Existing Bicycle Facilities – Desert Region....53
Figure 3.2 Existing Bicycle Facilities – Mountain Region....54
Figure 3.3 Existing Bicycle Facilities – Valley Region....55
Figure 4.1 Existing Airports – East Desert Region....56
Figure 4.2 Existing Airports – Mountain Region....57
Figure 4.3 Existing Airports – North Desert Region....58
Figure 4.4 Existing Airports – Valley Region....59

Figure 5.1 Existing Goods Movement Facilities – Desert Region....60
Figure 5.2 Existing Goods Movement Facilities – Mountain Region....61
Figure 5.3 Existing Goods Movement Facilities – Valley Region....62
Figure 6 Peak Hour Traffic Volumes and Lane Configurations – Existing (2017) Conditions....79
Figure 7.1 Study Locations and Existing Conditions Failing Study Locations – North Desert Region....82
Figure 7.2 Study Locations and Existing Conditions Failing Study Locations – East Desert Region....83
Figure 7.3 Study Locations and Existing Conditions Failing Study Locations – Mountain Region....84
Figure 7.4 Study Locations and Existing Conditions Failing Study Locations – Valley Region....85
Figure 8.1 Future Roadways – Desert Region....88
Figure 8.2 Future Roadways – Mountain Region....89
Figure 8.3 Future Roadways – Valley Region....90
Figure 9.1 Future Transit Facilities – East Desert Region....91
Figure 9.2 Future Transit Facilities – Mountain Region....92
Figure 9.3 Future Transit Facilities – North Desert Region....93
Figure 9.4 Future Transit Facilities – Valley Region....94
Figure 10.1 Future Bicycle Facilities – East Desert Region....95
Figure 10.2 Future Bicycle Facilities – Mountain Region....96
Figure 10.3 Future Bicycle Facilities – North Desert Region....97
Figure 10.4 Future Bicycle Facilities – Valley Region....98
Figure 11.1 Future Goods Movement Facilities – East Desert Region....99
Figure 11.2 Future Goods Movement Facilities – Mountain Region....100
Figure 11.3 Future Goods Movement Facilities – North Desert Region....101
Figure 11.4 Future Goods Movement Facilities – Valley Region....102
Figure 12 Peak Hour Traffic Volumes and Lane Configurations – Future Year....103

List of Tables

Table ES-1 County Intersections Requiring Improvement 2
Table ES-2 County Roadways Requiring Improvement 3
Table ES-3 New Development Generated VMT Summary 13
Table 1 Land Use Categories 22
Table 2 Policy Plan Projected Growth Estimates (2016 to 2040) 26
Table 3 Level of Service Definitions for Signalized Intersections 29
Table 4 Level of Service Criteria for Roadway Segments 32
Table 5 Assumed RTP Roadway Network Improvements 36
Table 6 Existing Conditions Intersection Assessment 63
Table 7 Existing Roadway Segment Assessment 66
Table 8 Future (Year 2040) Intersection Level of Service Assessment 106
Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment 111
Table 10 Recommended VMT Measurements by Project Type 122
Table 11 Project-Generated VMT Summary 125
Table 12 New Development Generated VMT Summary 127
Table 13 Cumulative Effect on VMT 128

1.0 Executive Summary

Proposed County Policy Plan

This impact assessment summarizes the transportation assessment completed for the San Bernardino County Policy Plan. This update incorporates land use assumptions and policies to guide the County forward into the future.

Scope of Study

The study evaluated 39 intersections and 153 roadway segments located throughout the County to identify potential needs at those locations. Additionally, consistent with recent state requirements, the study evaluated potential impacts related to vehicle miles of travel (VMT) associated with the project.

The study evaluated the Existing Condition and the Cumulative (2040) With Project Condition to identify potential impacts to the study locations. The current roadway system is shown in Figures ES-1A to 1C while the proposed roadway system (with all recommended improvements) is shown in Figures ES-2A to 2C.

Results

Key results are noted below:

Intersection Impacts:

Table ES-1 summarizes the study intersections that were identified as needing future additional capacity (beyond the capacity already programmed in the RTP/SCS) to support buildout of the County Policy Plan. To mitigate impacts to the study intersections and forecast an acceptable LOS, mitigation measures were identified including traffic signal installation and/or lane additions (at the Cherry Avenue/San Bernardino Avenue and Cedar Avenue/Slover Avenue intersections). These locations are shown on **Figures ES-3A to 3C**.

Table ES-1 County Intersections Requiring Improvement

ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Existing Control Type	Existing Conditions				Future Capacity Increase?	Future Conditions (including RTP)				AM Impact	PM Impact	Future Improvement (beyond RTP)
							AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour				
							LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay			
1	End Ave & Francis Ave	Valley	NA	Chino	-	All-Way Stop	B	14.0	B	11.2	Yes	F	83.3	F	158.7	Yes	Yes	Signalized Control
3	Cherry Ave & San Bernardino Ave	Valley	NA	Fontana	-	Signalized	D	37.1	D	40.2	No	E	77.4	E	62.8	Yes	Yes	Lane Additions[1]
4	Live Oak Ave & Arrow Route	Valley	NA	Fontana	-	Two-Way Stop	C	23.8	D	26.5	Yes	F	56.7	F	917.9	Yes	Yes	Signalized Control
5	Alder Ave & Santa Ana Ave	Valley	Bloomington	Rialto	-	All-Way Stop	F	67.1	B	13.5	Yes	F	119.3	F	123.4	Yes	Yes	Signalized Control
7	Cedar Ave & Slover Ave	Valley	Bloomington	Rialto	-	Signalized	C	23.5	C	31.0	Yes	E	78.7	E	70.2	Yes	Yes	Lane Additions[2]
18	Sheep Creek Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop	B	13.7	F	53.2	Yes	F	274.7	F	920.0	Yes	Yes	Signalized Control
19	Caughlin Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop	B	13.6	C	15.0	Yes	D	28.7	D	30.2	Yes	Yes	Signalized Control

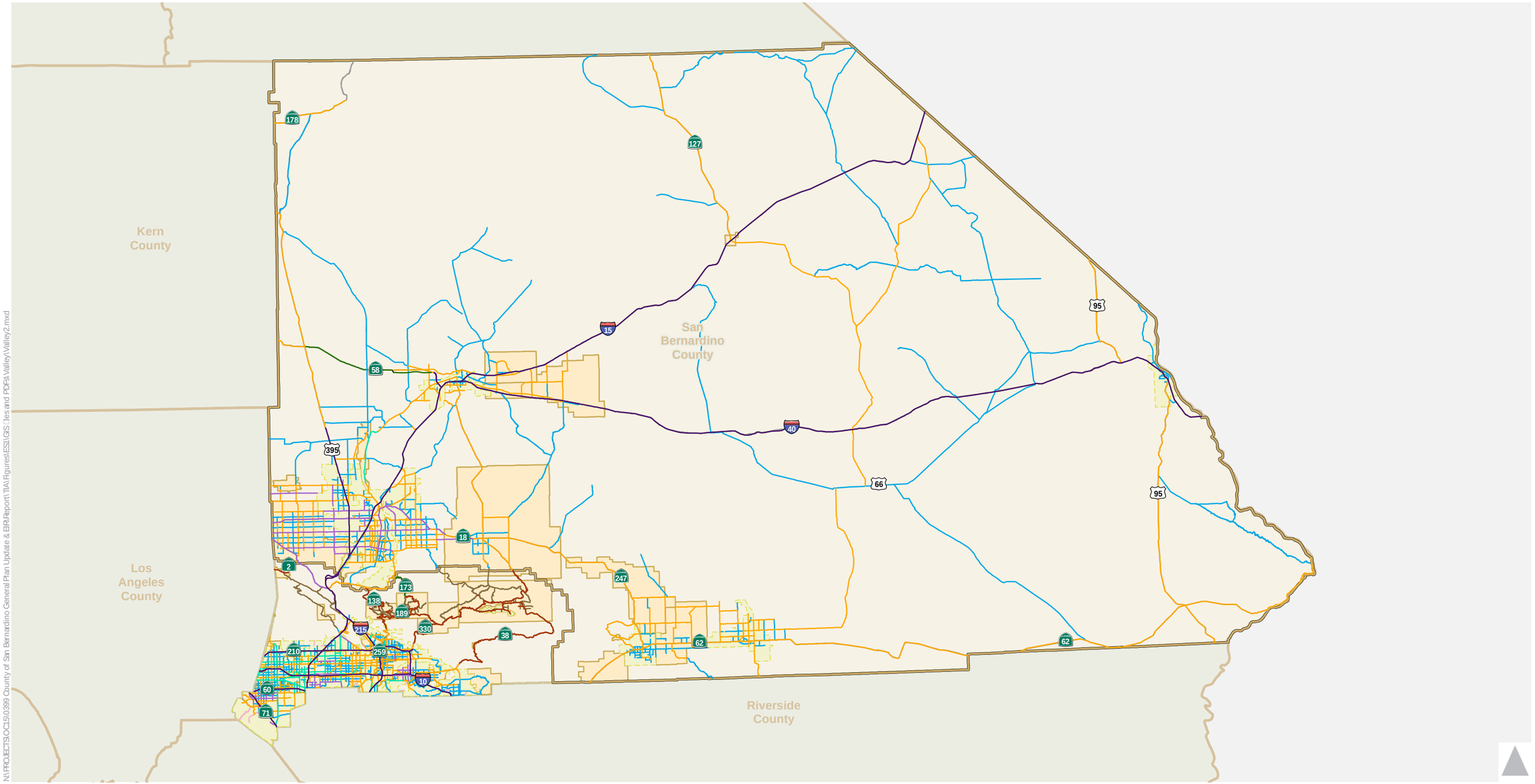
Notes:
1. Lane additions needed consisting of adding a second left-turn lane to all approaches.
2. Lane additions needed consisting of adding a second eastbound and northbound left-turn lane and an additional southbound through lane (with receiving lane).

Roadway Segment Impacts:

The following roadway segments were identified as needing future additional capacity (beyond the capacity already programmed in the RTP/SCS) to support buildout of the County Policy Plan. To mitigate roadway segment impacts to an acceptable LOS, modifications to the roadway facility type and/or modification in the planned number of travel lanes were identified. These modifications are presented on **Figures ES-3A to 3C**.

Table ES-2 County Roadways Requiring Improvement

Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Existing LOS	Future LOS (incl RTP)	Current/Planned Facility Type	Future Improvement (beyond RTP)
24	STATE HWY 138 WEST OF OASIS RD	North Desert	Phelan/Pinon Hills	NA	Yes	D	D	Major Arterial/ Major Hwy	Divided Facility
86	STATE HWY 173 EAST OF LAKES EDGE RD	Mountain	Lake Arrowhead	NA	-	E	E	Mountain Secondary Hwy	Mountain Major
90	NORTH BAY ROAD NORTH OF SH 189	Mountain	Lake Arrowhead	NA	-	E	E	Mountain Secondary Hwy	Mountain Major
99	LAKE DR WEST OF LAKE GREGORY DR	Mountain	Crest Forest	NA	-	F	F	Mountain Secondary Hwy	Mountain Major
115	CALIFORNIA ST NORTH OF HIGHLAND AVE	Valley	Muscoy	San Bernardino	-	E	E	Controlled/ Limited Access Collector	Major Arterial
118	MENTONE AVE WEST OF OPAL AVE	Valley	Mentone	Redlands	Yes	F	F	Major Arterial/ Major Hwy	Major Arterial

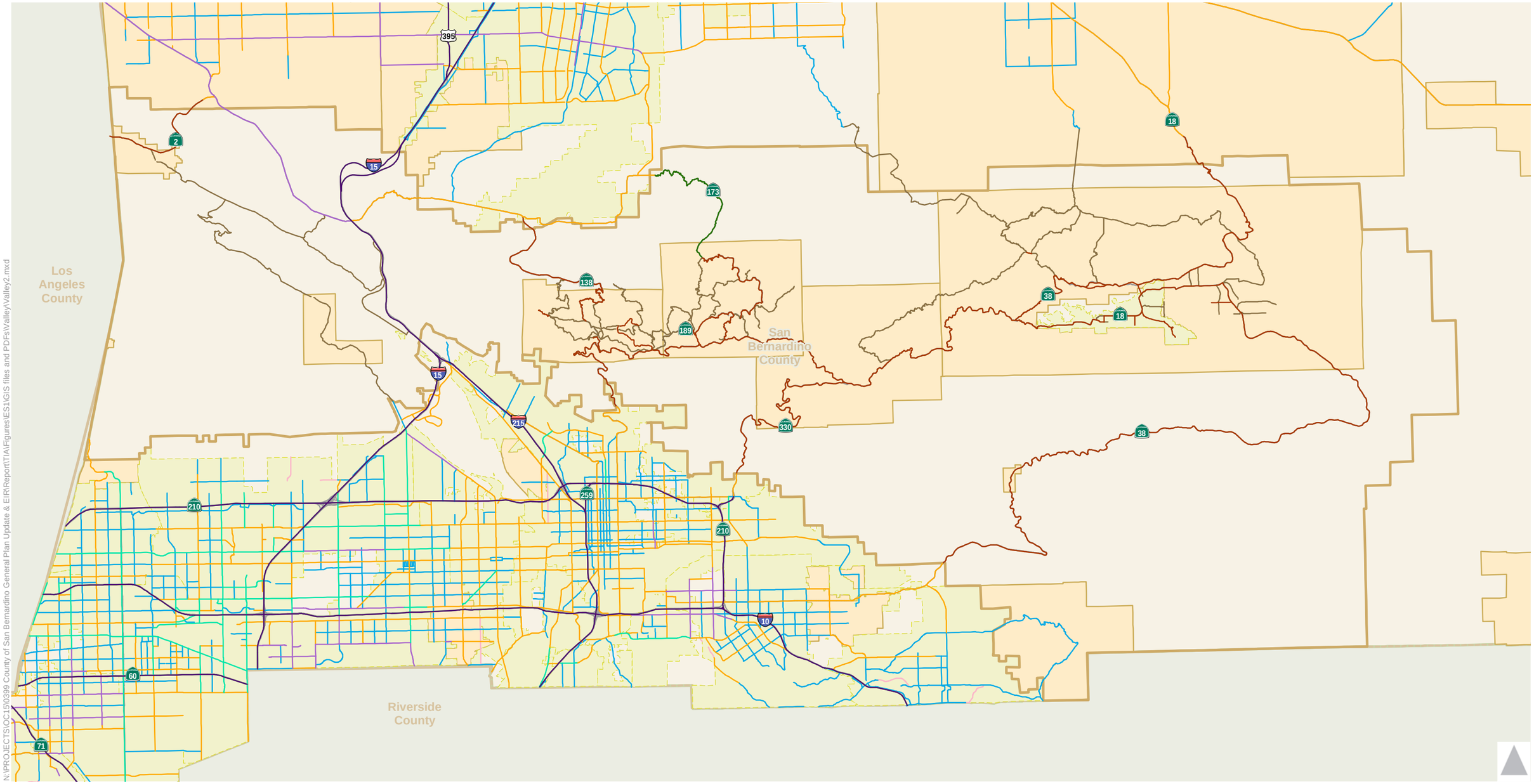


N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ESI\GIS Files and PDFs\Valley\Valley2.mxd

- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-1A

Existing Roadway Designations
Desert Region



N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

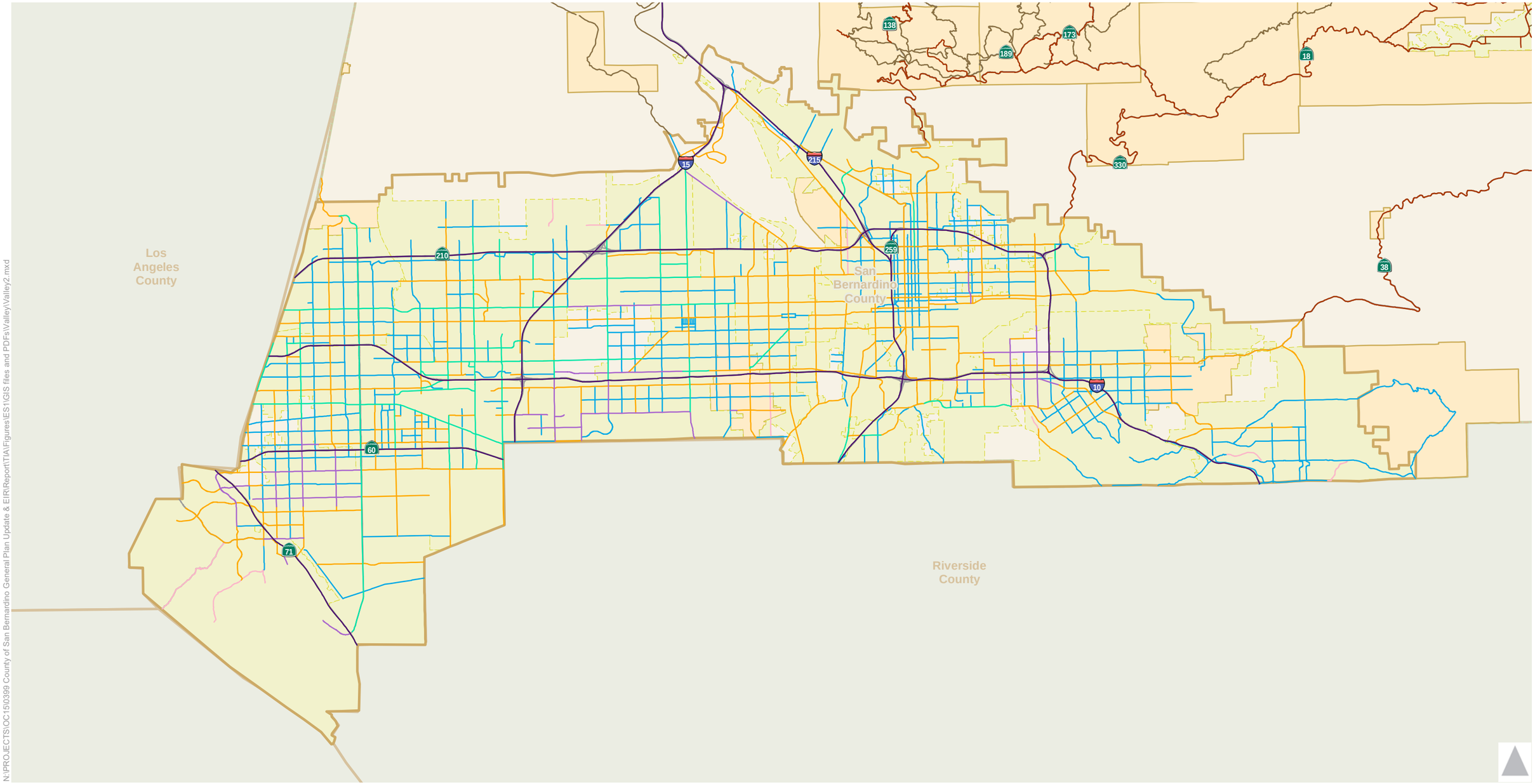
- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Mountain Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-1B

Existing Roadway Designations

Mountain Region

N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd



- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-1C

Existing Roadway Designations
Valley Region

N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

Kern County

San Bernardino County

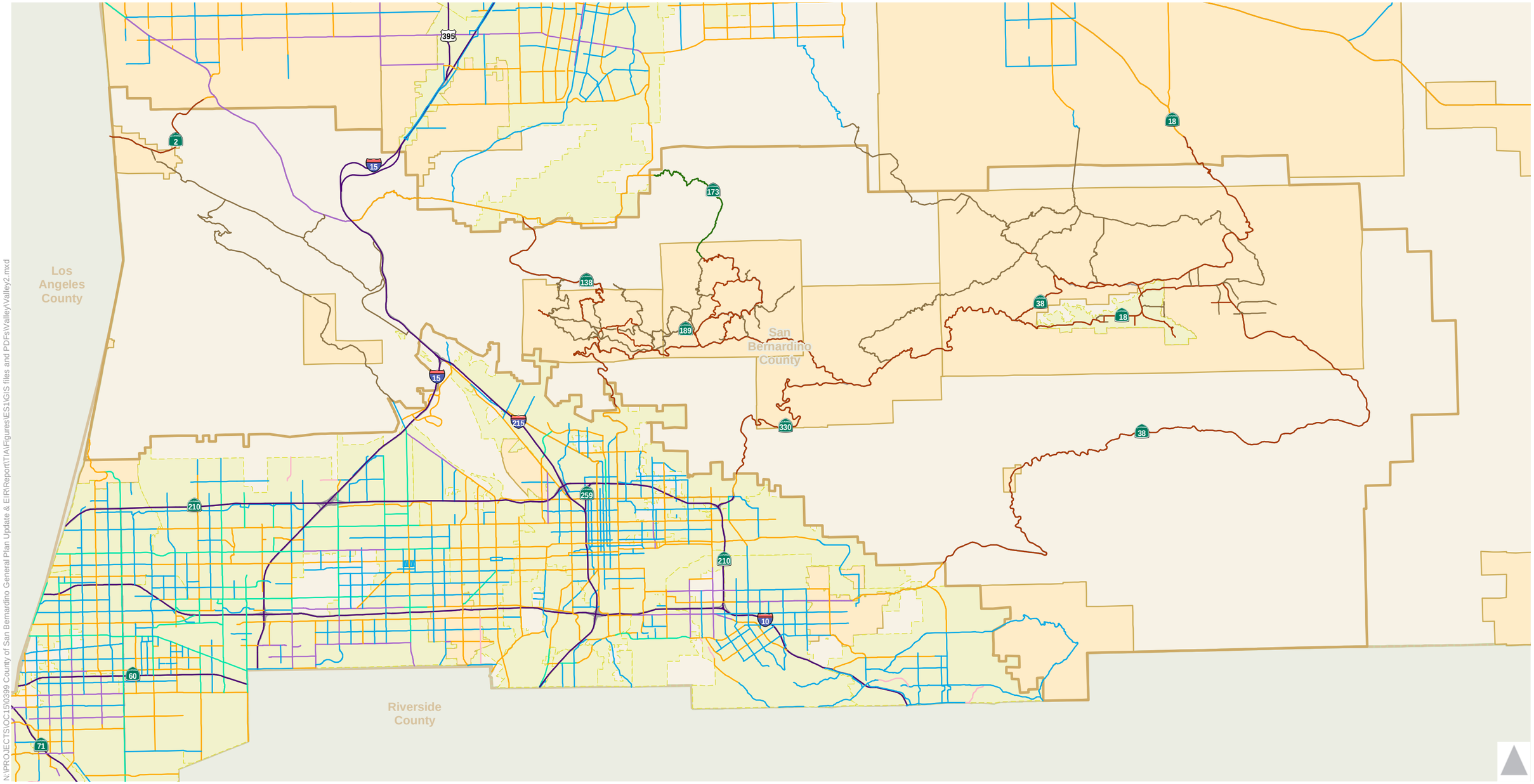
Los Angeles County

Riverside County

- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-2A

Proposed Roadway Designations
Desert Region

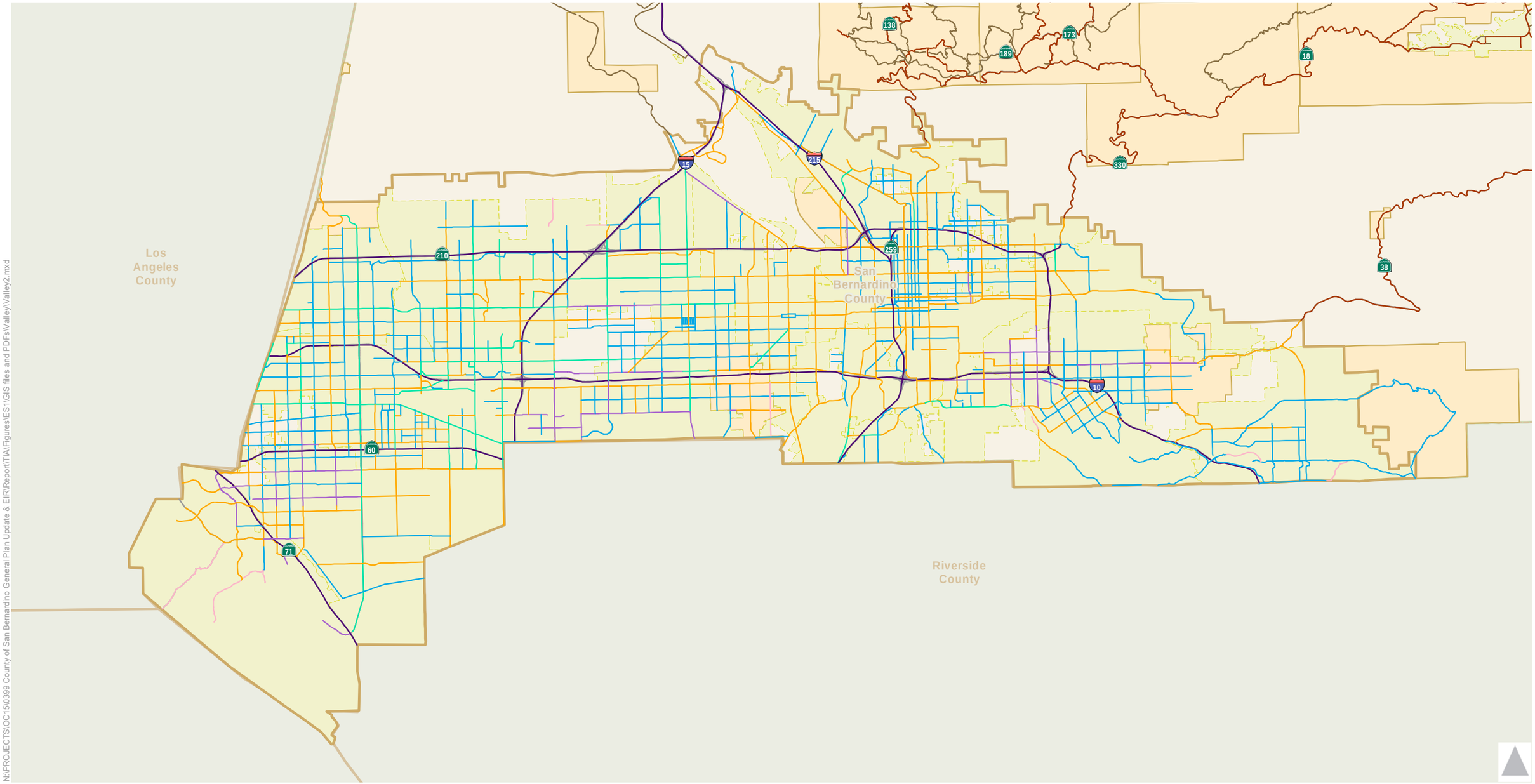


- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Mountain Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-2B

Proposed Roadway Designations
Mountain Region

N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

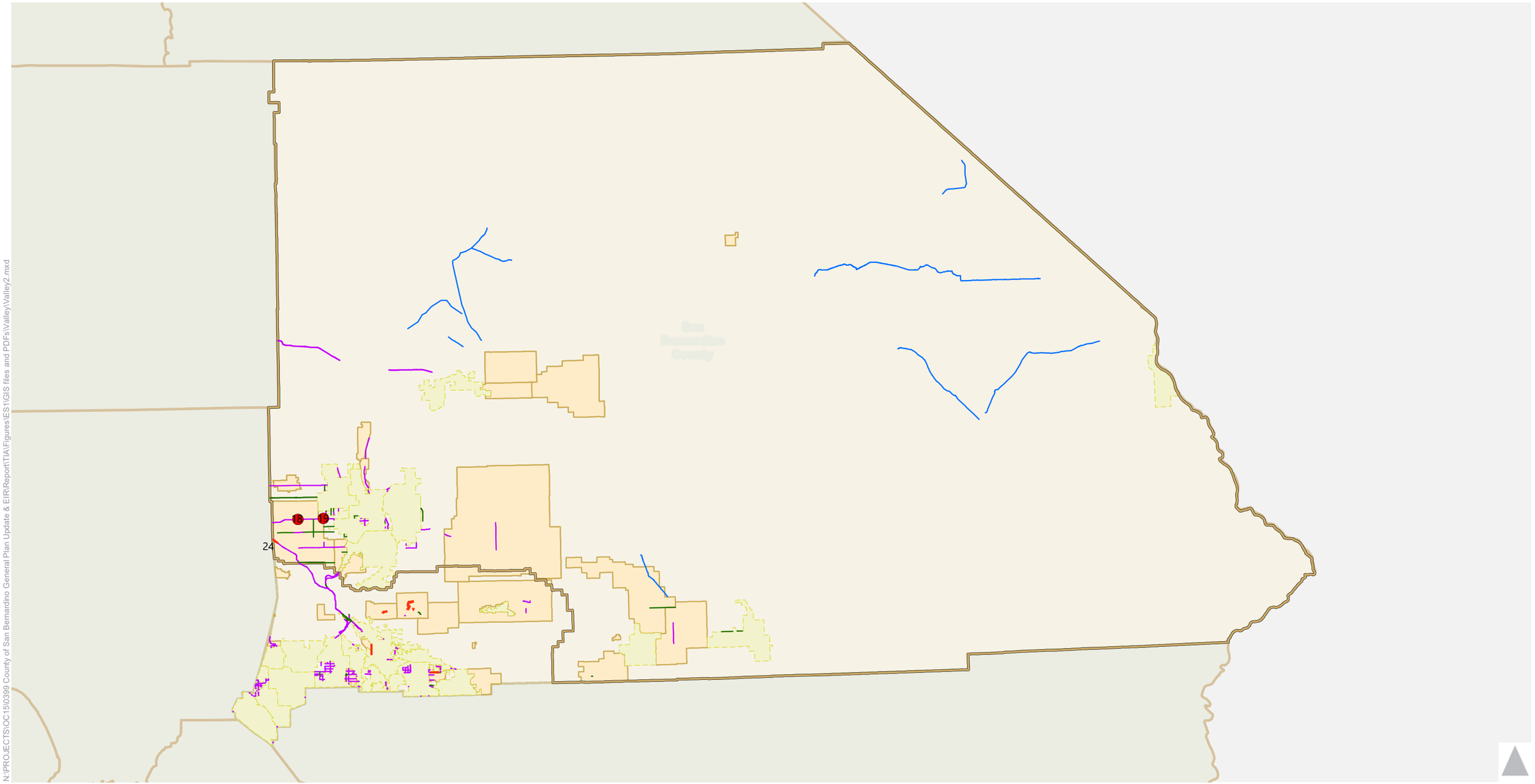


- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-2C

Proposed Roadway Designations
Valley Region

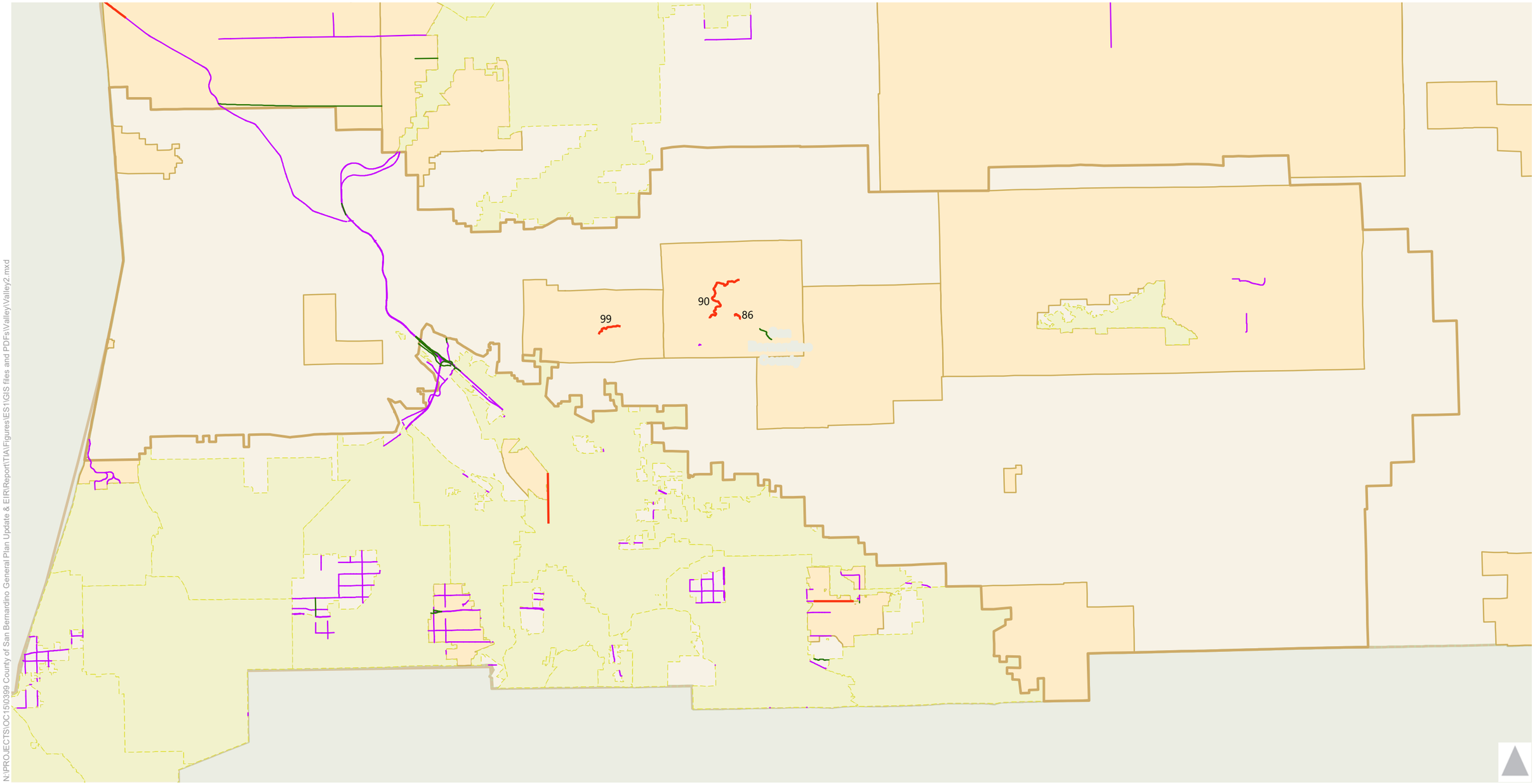
N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd



- Intersections Requiring Improvement
- Roadway Segments Needing Improvement
- RTP: New Facilities
- RTP: New Lanes/Widening
- Proposed Deletions
- Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

ES-3A

Proposed Changes to Roadway System
Desert Region



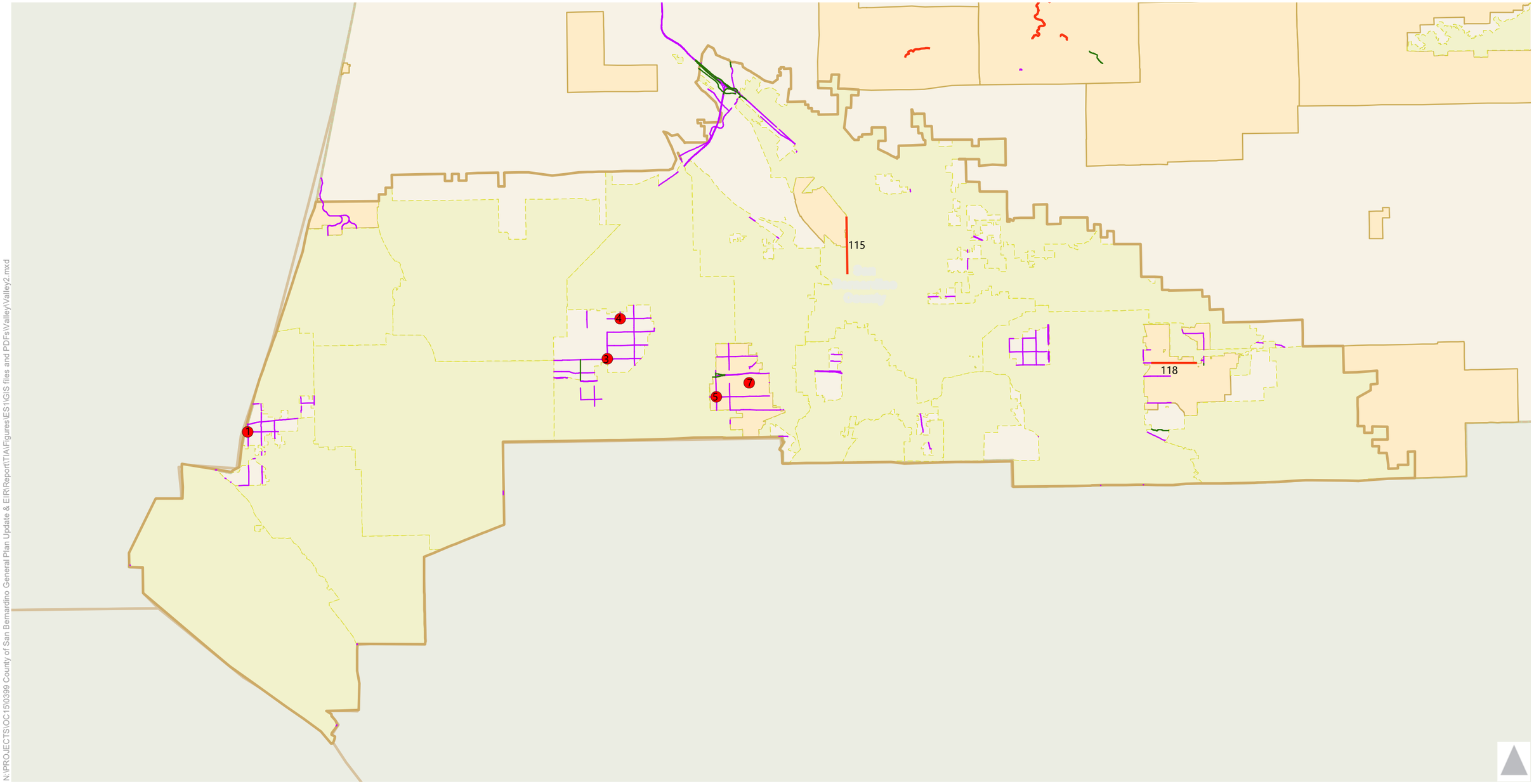
N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

Roadway Segments Needing Improvement
RTP: New Facilities
RTP: New Lanes/Widening

Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County
County Boundaries

ES-3B

Proposed Changes to Roadway System
Mountain Region



N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

Roadway Segments Needing Improvement

Intersections Needing Improvement

RTP: New Facilities

RTP: New Lanes/Widening

Valley Region

City Boundaries

Community Plan Boundaries

San Bernardino County

County Boundaries

ES-3C

Proposed Changes to Roadway System
Valley Region

VMT Assessment:

In addition to the capacity assessment summarized above, the County Policy Plan was evaluated to identify the project effect to vehicle miles traveled (VMT). The results are summarized in **Table ES-3** and indicated that VMT per service population in the unincorporated areas of the North Desert, East Desert, and Mountain regions exceeds the existing VMT per service population in those regions. Additionally, the County Policy Plan results in unincorporated VMT per service population that is 1% lower in the unincorporated Valley area compared to the existing VMT per service population in the incorporated Valley area.

The County Policy Plan's effect on VMT was also evaluated for the total county geography (combined incorporated and unincorporated areas). The results are summarized in **Table ES-4** indicated that implementation of the County Policy Plan would result in a VMT per service population reduction for the North Desert, East Desert, and Valley regions. Only the Mountain region would experience an increase in VMT per service population relative to the RTP/SCS. Additionally, from a countywide perspective, the County Policy Plan would reduce VMT per service population by 6% in total compared to the anticipated RTP/SCS.

Table ES-3 New Development Generated VMT Summary

VMT		VMT Target (4% Below Unincorporated Countywide Average)	New Development VMT (Estimated by the Change in Total VMT / Change in Population or Employment)
Residential VMT per Person			
Countywide	Unincorporated	19.7	30.7
North Desert	Unincorporated	19.7	37.4
East Desert	Unincorporated	19.7	22.2
Mountain	Unincorporated	19.7	43.1
Valley	Unincorporated	19.7	20.0
Employment VMT per Person			
Countywide	Unincorporated	23.1	19.2
North Desert	Unincorporated	23.1	18.5

Table ES-3 New Development Generated VMT Summary			
VMT		VMT Target (4% Below Unincorporated Countywide Average)	New Development VMT (Estimated by the Change in Total VMT / Change in Population or Employment)
East Desert	Unincorporated	23.1	86.4
Mountain	Unincorporated	23.1	34.7
Valley	Unincorporated	23.1	17.6

Table ES-4 VMT Forecasts RTP/SCS vs CWP			
VMT Per Service Population	2040 RTP/SCS	2040 County Policy Plan	Difference
North Desert	37.1	35.5	-4%
East Desert	37.3	34.1	-9%
Mountain	44.0	45.1	+3%
Valley	33.1	31.1	-6%
Countywide Total:	***34.4***	***32.5***	***-6%***

It should be noted that the VMT information is produced from the regional model and only accounts for the built environment variables that the regional model is sensitive to. Additional policies in the County Policy Plan supporting variables the model is not sensitive to (such as connectivity in neighborhoods, presence of bicycle and pedestrian facilities, and transportation demand management (TDM) measures) are not reflected in these estimates. As such, it is recommended that feasible TDM measures be required on future projects processed under the County Policy Plan.

2.0 Introduction

2.1 Purpose of the TIS and Study Objective

As part of the Environmental Impact Report (EIR), Fehr & Peers has completed a traffic assessment for the proposed 2018 San Bernardino County Policy Plan. While the County's current planning document is referred to as a "General Plan", the proposed planning document is referred to as a "Policy Plan" to reflect the broader policy coverage which includes general plan statutory requirements but also policy topics that reflect the County's role as a regional service provider.

This Traffic Impact Study (TIS) was developed based on the TIS requirements developed for the 2018 San Bernardino County Policy Plan and documented in the *Final County of San Bernardino Transportation Impact Study Guidelines Recommendations* memorandum (Fehr & Peers, February 13, 2018). It should be noted that the guidelines developed for the County were reviewed by multiple departments and are tailored toward project-level assessment for future development. As such, although this TIS is consistent with those guidelines, the nature of this project (County Policy Plan policies and a programmatic EIR) does require a slightly different approach when evaluating the project (for example, it is not realistic to assume full buildout of the County Policy Plan in a near-term planning scenario as the plan will require more than 20 years to implement).

This report summarizes the methodology, findings and conclusions of the analysis, including a discussion of mitigation strategies to maintain consistency with the Policy Plan goals and policies.

2.2 Project Description

The proposed San Bernardino County Policy Plan proposes changes in land use across the county, including residential, commercial, industrial, and mixed-use designations. This study evaluates the changes in traffic volumes and operations resulting from these land use changes. Land use designations are summarized in **Table 1**. A summary of land use changes in the County because of the Policy Plan are summarized in **Table 2**.

In addition to the Policy Plan land use, the project also includes transportation infrastructure consisting of roadways (including future roadways designated in the RTP/SCS and future roadway designations), transit facilities, bicycle facilities, and goods movement facilities. These future facilities are shown on Figures 8 through 11 later in this report. The Draft Transportation & Mobility Element also includes policies intended to accomplish key goals related to mobility, including implementation of future Roadway Capacity Improvements; Roadway Design Standards; Vehicle Miles Traveled; Complete Streets, Transit, and Active Transportation; Goods Movement; and Airports.

2.3 Study Area

The study area of this analysis includes intersections and roadway segments in and around unincorporated areas of San Bernardino County that are anticipated to be affected by the proposed County Policy Plan. The following lists define the study area:

Signalized Intersections:

1. End Ave & Francis Ave
2. Etiwanda Ave & Valley Blvd/Ontario Mills Pkwy
3. Cherry Ave & San Bernardino Ave
4. Live Oak Ave & Arrow Route
5. Alder Ave & Santa Ana Ave
6. Locust Ave & San Bernardino Ave
7. Cedar Ave & Slover Ave
8. Cedar Ave & Santa Ana Ave
9. Spruce Ave & Slover Ave
10. Entrance to Ranger Station & Lytle Creek Rd
11. Lytle Creek Rd & Glen Helen Pkwy
12. Vermont St & Ogden St
13. Vermont St & Blake St
14. Macy St & Blake St
15. Del Rosa Dr & Pacific St
16. Alabama St & San Bernardino Ave
17. Crafton Ave & Mentone Blvd
18. Sheep Creek Rd & Palmdale Rd
19. Caughlin Rd & Palmdale Rd
20. Oasis Rd & State Hwy 138
21. Beekley Rd & State Hwy 138
22. Sheep Creek Rd & Phelan Rd
23. Baldy Mesa Rd & Phelan Rd
24. Escondido Ave & Ranchero Rd
25. Lake Gregory Dr & Rim of the World Hwy
26. State Route 173 & Rim of the World Hwy

27. Lake Edge Rd & Village Rd
28. Live Oak Dr & City Creek Rd
29. Live Oak Dr & Rim of the World Hwy
30. Shore Dr & Big Bear Blvd
31. Division Dr & Big Bear Blvd
32. Greenway Dr & Big Bear Blvd
33. Barstow Rd & Rabbit Springs Rd
34. Barstow Rd & Old Woman Springs Rd
35. Juniper Ave & Pioneer Dr
36. Old Woman Springs Rd & Linn Rd
37. Avalon Ave & Aberdeen Dr
38. Sunfair Rd & Broadway
39. Death Valley Rd & Baker Blvd

Roadway Segments:

1. Trona Rd South of State Hwy 178
2. Fort Irwin Rd South of Starbright Rd
3. Fort Irwin Rd North of Yermo Cutoff
4. State Hwy 58 West of Hinkley Rd
5. Irwin Rd North of Old Hwy 58
6. Ghost Town Rd North of Yermo Rd
7. Yermo Rd West of Calico Rd
8. Daggett Yermo Rd North of Santa Fe St
9. National Trails Hwy East of Daggett Yermo Rd
10. National Trails Hwy East of Hinkley Rd
11. Wild Road
12. Indian Trail South of Wild Rd
13. Vista Rd East of Mountain Rd
14. Shadow Mountain Rd West of Silver Lakes Pkwy
15. National Trails Highway South of Vista
16. Stoddard Wells East of Central Rd
17. Dale Evans Pkwy
18. National Trails Hwy North of Polish Lane
19. National Trails Highway North of 1St
20. El Mirage Rd West of Linson St
21. Sheep Creek Rd South of El Mirage Rd
22. Palmdale Rd West of Sheep Creek Rd
23. Palmdale Rd West of Caughlin Rd
24. State Hwy 138 West of Oasis Rd
25. Phelan Rd East of Silver Rock Rd
26. Beekley Rd North of Phelan Rd
27. Johnson Rd North of Smoke Tree Rd
28. Phelan Rd East of Johnson Rd
29. Sunnyslope East of Sr 138
30. Sheep Creek Rd South of Nielson Rd

31. State Hwy 138 North of Angeles Crest Hwy
32. Baldy Mesa Road South Mesquite
33. Caliente Rd North of Ranchero
34. Lone Pine Canyon Rd South of Angeles Crest Hwy
35. Lytle Creek Canyon Rd South of Sycamore Dr
36. Cajon Blvd North of Kenwood Ave
37. Glen Helen Pkwy North of I-215
38. Lytle Creek Rd North of Devore Rd
39. Mountain Ave West of Euclid Ave
40. Mountain Ave North of 25Th St
41. Euclid Ave North of 25Th St
42. Arrow Rte West of Calabash Ave
43. Cherry Ave North of Merrill Ave
44. Merrill Ave East of Beech Ave
45. San Bernardino Ave West of Cherry Ave
46. Valley Blvd East of Commerce Dr
47. San Bernardino Ave East of Beech Ave
48. San Bernardino Ave West of Cedar Ave
49. Valley Blvd West of Locust Ave
50. Cedar Ave North of Bloomington Ave
51. Valley Blvd East of Cedar Ave
52. Cedar Ave North of Slover Ave
53. Slover Ave East of Locust Ave
54. Santa Ana Av West of Linden Ave
55. Jurupa Ave East of Locust Ave
56. Jurupa Ave West of Spruce Ave
57. Cedar Ave South of 11Th St
58. Barstow Rd North of Lucernce Valley Cutoff
59. Barstow Rd North of Northside Rd
60. Northside Rd East of Barstow Rd
61. Barstow Rd North of Rabbit Springs Rd
62. Rabbit Springs Rd East of State Hwy 18
63. Rabbit Springs Rd East of Barstow Rd
64. State Hwy 18 West of High Rd
65. Old Woman Springs Rd West of Midway Ave
66. Old Woman Springs Rd East of Camp Rock Rd
67. State Hwy 18 East of Barstow Rd
68. Camp Rock Rd South of Old Woman Springs Rd
69. State Highway 18 North of Shore Dr
70. Shay Rd East of Wiebe Rd
71. Greenspot Blvd South of Clark Ln
72. Shore Dr East of Holden Ave
73. Stanfield Cutoff South of N. Shore Drive
74. Shore Dr North of State Highway 18
75. Big Bear Blvd East of Shore Dr
76. State Highway 18 West of Shore Dr

77. State Highway 18 West of Green Valley Lake Rd
78. State Highway 18 East of Hilltop Blvd
79. State Route 18 North of Hilltop Blvd
80. City Creek Rd West of Live Oak Dr
81. Kuffel Canyon Rd North of Sh 18
82. Rim of The World Hwy West of Kuffel Canyon Rd
83. Arrowhead Villa Road North of Sh 18
84. Cottage Grove Rd North of Sh 18
85. State Hwy 173 West of Dolly Varden Dr
86. State Hwy 173 East of Lakes Edge Rd
87. State Hwy 173 S of Mountains Hospital Access Rd
88. State Highway 173 North of Bay Rd
89. Grass Valley Rd South of Peninsula Dr
90. North Bay Road North of Sh 189
91. Daley Canyon Rd South of State Hwy 189
92. Bear Springs Rd South of State Hwy 189
93. State Hwy 189 West of Bear Springs Rd
94. North Rd West of State Highway 189
95. State Highway 189 West of Pinecrest Rd
96. State Highway 18 East of Lake Gregory Dr
97. Lake Gregory Dr South of San Moritz Dr
98. San Moritz Dr East of Lake Gregory Dr
99. Lake Dr West of Lake Gregory Dr
100. State Highway 18 East of State Highway 138
101. State Highway 18 West of State Highway 138
102. State Highway 138 South of Vista Ln
103. State Highway 138 East of Old Mill Rd
104. Crest Forest Dr West of Ponderosa Dr
105. 3Rd Street West of Cajon
106. Ogden St East of Bronson St
107. Duffy St South of Ogden St
108. Macy Street South of Ogden St
109. State Street South of Cajon
110. June St South of Ogden St
111. Blake St West of Duffy St
112. Darby St West of Macy St
113. State St South of Blake St
114. Macy St South of Darby St
115. California St North of Highland Ave
116. Olive St West of Rancho Ave
117. Alabama Street South of San Bernardino
118. Mentone Ave West of Opal Ave
119. Opal Ave South of Nice Ave
120. Crafton Ave South of Colton Ave
121. 5Th Ave East of Walnut St
122. Sand Canyon East of Crafton

123. Garnet Street at Bridge
124. Mill Creek Rd East of Garnet Ave
125. Oak Glen Rd North of Chagall Rd
126. Oak Glen Rd South of Pisgah Peak Rd
127. Old Woman Springs Rd West of Grand View Rd
128. Old Woman Springs Rd North of Reche Rd
129. Reche Rd West of Belfield Blvd
130. Old Woman Springs Rd North of Pipes Canyon Rd
131. Pipes Canyon Rd East of Pioneertown Rd
132. Pioneertown Rd South of Pipes Canyon Rd
133. Twentynine Palms Hwy North of Highland Rd
134. Twentynine Palms Hwy North of West Dr
135. State Hwy 62 South of Senils Dr
136. Aberdeen Dr West of Avalon Ave
137. Avalon Ave North of Aberdeen Dr
138. Aberdeen Dr East of Yucca Mesa Rd
139. Border Ave North of Aberdeen Dr
140. Yucca Mesa Rd North of Barron Dr
141. La Contenta Rd North of Alta Loma Rd
142. Alta Loma Rd West of Olympic Rd
143. Twentynine Palms Highway West of Sunny Vista Rd
144. Twentynine Palms Highway West of Rice Ave
145. Quail Springs Rd South of Alta Loma Dr
146. Twentynine Palms Hwy East of Godwin Rd
147. Amboy Rd East of Godwin Rd
148. Amboy Rd South of National Trails Hwy
149. National Trails Hwy East of Amboy Rd
150. Essex Rd South of I-40
151. Goffs Road
152. Nipton Rd West of Morning Star Mine Rd
153. Kingston Rd South of Mesquite Valley Rd
154. National Trails Hwy West of Hector Rd
155. National Trails Hwy West of Newberry Rd
156. Needles Hwy North of River Rd
157. Parker Dam Road East of Hwy 62
158. Baker Blvd
159. Riverside Dr East of Reservoir St
160. Phillips West of Ramona

2.4 Analysis Scenarios

To identify potential significant project impacts, Fehr & Peers analyzed the following two scenarios.

- Existing Year (2016) Conditions – Existing counts were collected in October 2016, December 2016, and January 2017.

- Cumulative Buildout (2040) Conditions – Consists of forecasted traffic volumes to Year 2040 based on the growth and travel forecasts contained in the San Bernardino Transportation Analysis Model (SBTAM) and the land uses proposed by the County Policy Plan.

Table 1 Land Use Categories				
Land Use Category		**Density / Intensity Range**	**Primary Purpose**	**Description of Typical Uses[2]**
RESIDENTIAL LAND USES				
RL	**Rural Living**	1 unit per 2.5 acres max	▪ Allow for rural residential development set in expansive areas of open space that reinforce the rural lifestyle while preserving the county's natural areas ▪ Minimize development footprint and maximize undeveloped areas ▪ Allow for cluster-type development to provide and preserve open space	▪ Rural residential ▪ Small-scale, non-water-intensive, and incidental agricultural ▪ Public and quasi-public facilities such as parks, religious facilities, schools, sheriff's stations, and fire stations
VLDR	**Very Low Density Residential**	0 to 2 units per acre	▪ Allow for very low density residential uses when developed as single-family neighborhoods that can share common infrastructure, public facilities, and services	▪ Single-family residential uses ▪ Incidental agriculture ▪ Public and quasi-public facilities such as parks, religious facilities, schools, sheriff's stations, and fire stations
LDR	**Low Density Residential**	2 to 5 units per acre[1]	▪ Promote conventional suburban residential neighborhoods that support and are served by common infrastructure, public facilities, and services	▪ Single-family residential uses ▪ Public and quasi-public facilities such as parks, religious facilities, schools, sheriff's stations, and fire stations
MDR	**Medium Density Residential**	5 to 20 units per acre[1]	▪ Provide areas for a wide range of densities and housing types ▪ Promote efficient location of higher density residential development and neighborhoods in relation to infrastructure and transit systems, as well as employment opportunities, retail and service businesses, and community services and facilities	▪ Single-family and multiple residential uses (or any mix thereof) ▪ Public and quasi-public facilities such as parks, religious facilities, schools, sheriff's stations, and fire stations
EMPLOYMENT GENERATING LAND USES				

Table 1 Land Use Categories				
Land Use Category		**Density / Intensity Range**	**Primary Purpose**	**Description of Typical Uses[2]**
C	**Commercial**	0.75 FAR max 5 units per acre max	▪ Provide suitable locations for retail, office, and service commercial businesses that serve the needs of residents, regional markets, and visitors/tourists ▪ Provide employment opportunities for residents in the surrounding area ▪ Allow for a mix of commercial and lower density residential uses in rural areas (when residential is permitted in the underlying zoning district)	▪ Retail stores and personal services ▪ Office and professional services ▪ Lodging, recreation, and entertainment ▪ Heavy commercial with adequate buffering for surrounding residential uses ▪ In rural areas: agriculture and lower density residential
LI	**Limited Industrial**	0.50 FAR max	▪ Provide suitable locations for light or limited industrial activities where operations are totally enclosed in a structure and limited exterior storage is fully screened from public view ▪ Provide suitable locations for employee-intensive uses, such as research and development, technology centers, corporate offices, clean industry, and supporting retail uses ▪ Provide employment opportunities for residents in the surrounding area	▪ Light industrial and manufacturing ▪ Wholesale, warehouse, and distribution ▪ Transportation services ▪ Agricultural support services ▪ Neighborhood-scale and community-scale energy facilities
IGI	**General Industrial**	0.75 FAR max	▪ Provide suitable locations for general or heavy industrial activities where all or part of operations take place outside of enclosed structures, exterior storage is not fully screened from public view, or involve large equipment ▪ Provide areas for industrial activity that generates substantial odors, noise, vibration, or truck traffic ▪ Provide employment opportunities for residents in the surrounding area	▪ General or heavy industrial, manufacturing, and processing ▪ Recycling and salvage operations ▪ Wholesale, warehouse, and distribution, including rail facilities ▪ Mineral extraction and associated processing ▪ Transportation services ▪ Agricultural support services ▪ Neighborhood-, community-, and utility-scale energy facilities

Table 1 Land Use Categories				
Land Use Category		**Density / Intensity Range**	**Primary Purpose**	**Description of Typical Uses[2]**
PUBLIC AND SPECIAL LAND USES				
PF	**Public Facility**	n/a	▪ Provides areas for public and quasi-public uses and facilities to meet current and future needs ▪ Protect and ensure the continued operation of public facilities and systems during times of flooding, fire, or other hazardous events ▪ Prevent the loss of life or property caused by flooding by preserving areas and capacity to carry/discharge flood flow ▪ Protect floodways from encroachment by land uses that could be endangered during times of flooding; prohibit occupancy or encroachment of any improvement that would unduly affect the capacity of floodways	▪ Civic and educational buildings and facilities ▪ Utility systems, facilities, and corridors ▪ Neighborhood, community, and utility-scale energy facilities ▪ Channels, drainage areas, and other floodways ▪ Transportation corridors and facilities ▪ Cemeteries and landfills ▪ Commercial agriculture/grazing
RLM	**Resource/Land Management**	1 unit per 40 acres max	▪ Manage, preserve, and protect natural resources such as agricultural/grazing lands, watersheds, minerals, and wildlife habitat areas, as well as open space areas not otherwise protected or preserved ▪ Provide areas for military operations and training while minimizing impacts on and from surrounding civilian uses ▪ Allow for limited rural development while minimizing the expansion of development outside of existing communities	▪ Natural resource conservation, such as watersheds, habitat areas and corridors, wilderness study areas, and areas of critical environmental concern ▪ Mineral resource extraction and processing, commercial agriculture and grazing ▪ Military facilities, operations, and training areas ▪ Recreation areas ▪ Community-scale and utility-scale energy facilities ▪ Single family homes on very large parcels ▪ Limited and low density commercial development ▪ Tribal lands ▪ Lands under the control of the state or federal government

Table 1 Land Use Categories				
Land Use Category		**Density / Intensity Range**	**Primary Purpose**	**Description of Typical Uses[2]**
OS	**Open Space**	n/a	▪ Provide and preserve publicly-owned land for parks and open space ▪ Manage, preserve, and protect natural areas, habitats, and wildlife corridors	▪ Local, regional, and state parks and recreation areas ▪ National forests, monuments, parks, preserves, and wilderness areas ▪ Public facilities in an open space setting ▪ Privately-owned land may be treated as RLM designated lands, unless otherwise restricted by county, state, and/or federal regulations ▪ Mineral extraction, timbering, or similar activities as permitted by federal or state regulations
SD	**Special Development**	Without a Specific Plan: 4 units per acre max 0.25 FAR max With a Specific Plan: 30 units per acre max 2.0 FAR max	▪ Allow for a combination of residential, commercial, and/or manufacturing activities that maximizes the utilization of natural and human-generated resources ▪ Identify areas suitable for large-scale, master planned developments ▪ Promote cluster-type development to provide and preserve open space ▪ Allow for a mix of residential, commercial, and public/quasi-public uses in rural areas ▪ Facilitate joint planning efforts among adjacent land owners and jurisdictions	▪ Specific plans and master planned development ▪ Mixed use development in rural areas

Table 2 Policy Plan Projected Growth Estimates (2016 to 2040)					
Geography		**Population**	**Housing Units**	**Employment**	**Building SF[1]**
COUNTYWIDE					
San Bernardino	12,766,951	630,456	232,978	316,572	682,609,354
Incorporated	503,679 Ac.	580,776	217,622	304,026	663,211,453
Unincorporate	12,263,271	49,680	15,365	12,546	19,397,900
UNINCORPORATED[2,3,4]					
Valley[5]	**42,095 Ac.**	**24,893**	**7,978**	**11,541**	**18,387,448**
Bloomington CP		19,270	6,169	2,727	3,756,069
Mentone CP		323	108	501	271,603
Muscoy CP		449	154	715	384,787
San Antonio Heights CP		49	15	1	793
East Valley Area Plan		3,243	977	2,138	4,129,593
Chino SOI		141	51	109	300,031
Colton SOI		194	65	-	-
Fontana SOI		482	225	4,397	8,724,613
Loma Linda SOI		548	155	10	6,347
Montclair SOI		58	21	-	-
San Bernardino SOI		137	38	944	813,614
Other Unincorporated Areas		-	-	-	-
Mountain[6]	**528,027**	**2,355**	**702**	**202**	**162,356**
Bear Valley CP		650	199	62	49,052
Crest Forest CP		342	103	37	28,414
Hilltop CP		343	103	16	18,310
Lake Arrowhead CP		602	180	45	32,840
Lytle Creek CP		87	25	20	16,523
Mount Baldy CP		53	10	-	-
Oak Glen CP		191	56	4	2,451
Wrightwood CP		88	26	18	14,766
North Desert[7]	**9,642,978**	**21,073**	**6,281**	**725**	**783,047**
Baker CP		83	25	3	1,836
Daggett CP		83	25	9	7,025
El Mirage CP		84	26	3	1,605
Helendale CP		1,397	413	47	34,797
Lucerne Valley CP		531	158	28	20,314
Newberry Springs CP		205	62	29	22,894
Oak Hills CP		693	212	26	15,726

Oro Grande CP	83	26	20	16,100
Phelan/Pinon Hills CP	1,241	364	45	27,103
Yermo CP	88	26	20	16,614
Apple Valley SOI	16,280	4,841	483	613,380
Victorville SOI	107	42	5	1,884
Other Unincorporated Areas	198	60	6	3,769
East Desert [8] 2,050,172	**1,359**	**394**	**78**	**65,050**
Homestead Valley CP	355	105	12	7,220
Joshua Tree CP	827	238	53	39,970
Morongo Valley CP	177	52	14	17,859

Source: County of San Bernardino for unincorporated areas (2018); SCAG 2016 RTP/SCS Growth Forecast for incorporated jurisdictions, adjusted for growth in housing and population from 2012 to 2016 based on ACS population/housing estimates; and growth in employment from 2012 to 2015 based on the 2015 U.S. Census Bureau, LEHD Employment Statistics.

1. Building SF refers to projected square footage of non-residential structures.
2. For the purposes of this table, the unincorporated geography is divided into three areas: 1) community plans (CP): unincorporated areas in a Community Plan boundary, 2) spheres of influence (SOI): unincorporated areas in an incorporated city/town SOI, but not in a CP, and 3) other unincorporated areas that are not in a CP or incorporated SOI.
3. Overlap of Community Plan and SOI boundaries. Bear Valley: The Bear Valley CP includes the entire Big Bear Lake SOI; SOI growth is included in Bear Valley CP. Bloomington: Bloomington CP is primarily in Rialto SOI; small portion in Fontana SOI, CP growth not included in either SOI. Muscoy: The Muscoy CP is in the San Bernardino SOI. Oak Hills: The Oak Hills CP is in the Hesperia SOI. Oro Grande: A very small section of the Oro Grande CP is in the Victorville SOI. San Antonio Heights: The San Antonio Heights CP occupies the entire unincorporated Upland SOI.
4. Jurisdictions with limited or no unincorporated SOIs: Chino Hills, Grand Terrace, Highlands, Ontario, and Yucca Valley SOIs.
5. No growth is projected (outside of the CP boundaries) in the following Valley region SOIs: Chino Hills, Grand Terrace, Highland, Ontario, Rancho Cucamonga, Redlands, Rialto, Upland, and Yucaipa. No growth is projected in unincorporated areas of the Valley outside of a CP, SOI or Area Plan.
6. No growth is projected in the following Mountain region areas: Angeles Oaks CP, Big Bear Lake SOI, unincorporated areas outside of a CP or incorporated SOI.
7. No growth is projected in the following North and East Desert regions areas: Pioneertown CP, Adelanto SOI, Barstow SOI, Hesperia SOI, Needles SOI unincorporated areas outside of a Community Plan or Sphere of Influence; No growth is projected outside of the Community Plan boundaries in: Twentynine Palms SOI, Yucca Valley SOI.
8. No growth is projected in the following East Desert region areas: Pioneertown CP, areas outside CP boundaries in the Twentynine Palms SOI, or unincorporated areas outside a CP or SOI.

As previously noted, the County guidelines identify assessment of a potential Existing Plus Project Condition, Background Condition, Background Plus Project Condition, and Cumulative No Project Condition. However, since this is a County Policy Plan project (evaluating the policies of the County Policy Plan at a programmatic level), these scenarios have not been included since it is unreasonable to assume that a policy plan would be implemented in a near-term context and would not provide realistic information to the decision makers. Additionally, since the regional SBTAM model was utilized for the assessment, all reasonably foreseeable projects that are consistent with the Regional Transportation Plan/ Sustainable Communities Strategy are included under the Cumulative Condition.

3.0 Methodology and Impact Thresholds

This chapter discusses the analysis methodologies and assumptions used to evaluate traffic impacts based on the proposed County Policy Plan.

3.1 Level of Service Criteria

3.1.1 Intersection Analysis

Per the San Bernardino County Congestion Management Program Guidelines (2016), intersections within the County were evaluated using Highway Capacity Manual (HCM) 6th Edition Transportation Research Board (TRB) methodology. Intersections within Caltrans Right of Way were also evaluated using the HCM 6th Edition methodology.

The HCM Methodology estimates a quantitative delay at intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades are provided in **Table 3**.

Table 3 Level of Service Definitions for Signalized Intersections

LOS	Description	Signalized Delay (Seconds)	V/C Ratio
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0	<0.61
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	0.61 to 0.70
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	0.71 to 0.80
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	0.81 to 0.90
E	Operations with high delay values indicating poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	0.91 to 1.00

Table 3 Level of Service Definitions for Signalized Intersections			
LOS	**Description**	**Signalized Delay (Seconds)**	**V/C Ratio**
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	>1.00

Source:
1. *Highway Capacity Manual*, 6th Edition

Synchro 10 was used to perform the HCM 6th Edition level of service calculations for intersections under the jurisdiction of San Bernardino County with the following assumptions:

- Existing signal timing for Existing Conditions; Optimized signal timing for non-coordinated intersections for all other analysis scenarios
- For coordinated intersections, the existing coordination timing plan was obtained from the responsible agency
- Four (4) seconds of lost time per critical phase was assumed if signal timing data was not available
- Field-collected heavy vehicle factor if available; otherwise, 2% was assumed
- Field-collected peak hour factor (PHF) for existing and background conditions analyses; for cumulative assessment, 0.95 was assumed

Saturation flow rates were used based on actual field measurements of intersections if possible. Otherwise, the following saturation flow rates were used, consistent with the SBCTA CMP:

- For Existing and Background scenarios:
  - 1,800 vehicles per hour green per lane (vphgpl) for exclusive thru and exclusive right turn lanes
  - 1,700 vphgpl for exclusive left turn lanes
  - 1,600 vphgpl for exclusive dual left turn lanes
  - 1,500 vphgpl for exclusive triple left turn lanes
- For the Cumulative and County Policy Plan Build-Out scenarios:
  - 1,900 vphgpl for exclusive thru and exclusive right turn lanes
  - 1,800 vphgpl for exclusive double right turn lanes

- 1,800 vphgpl for exclusive left turn lanes
- 1,700 vphgpl for exclusive dual left turn lanes
- 1,600 vphgpl for exclusive triple left turn lanes

3.1.2 Roadway Analysis

Average Daily Traffic (ADT) defines roadway segment LOS. Roadway segments for Existing (2016) and Cumulative (2040) Years were analyzed utilizing the roadway segment LOS criteria based on the HCM. These traffic volume thresholds are shown in **Table 4**.

3.2 Roadway and Intersection Criteria for County Policy Plan Consistency

LOS significance criteria were employed by region to determine where the buildout scenario traffic causes traffic impacts to intersections within the study area. LOS C is the threshold of significance for the North Desert and East Desert regions of the County. LOS D is the threshold of significance for all other unincorporated areas of the county.

The following analysis was completed to verify consistency between the County Policy Plan proposed roadway network and Policy Plan goals and policies.

3.2.1 County of San Bernardino & Congestion Management Program

SBCTA has identified LOS E as the minimum acceptable standard on roadway segments and intersections designated within the Congestion Management Program. This is based on California Government Code Section 65089. (b) (1) of the San Bernardino County Congestion Management Plan (2007). Because the thresholds for acceptable operating conditions in the proposed County Policy Plan are LOS D or LOS C (e.g. more restrictive than the CMP LOS E policy), no further analysis was needed to determine where significant impacts occur under the CMP guidelines.

3.2.2 Intersections

Consistent with the acceptable LOS for the County sub-regions (North Desert, East Desert, Valley, and Mountain regions) as described in the proposed County Policy Plan, the proposed County Policy Plan buildout impacted:

Table 4 Level of Service Criteria for Roadway Segments					
Facility	**Lanes**	**Speed (mph)**	**LOS C**	**LOS D**	**LOS E**
Freeway	8	65	123,200	148,800	160,000
	6	65	92,400	111,600	120,000
	4	65	61,600	74,400	80,000
Divided Highway	6	55	72,000	81,000	100,000
	4	55	57,600	64,800	72,000
	2	55	28,800	32,400	36,000
Major Arterial / Major Highway	6	55	48,000	54,000	60,000
		45	31,900	54,000	54,300
		40	26,700	51,500	54,300
		35	21,500	48,900	54,300
	4	45	21,400	37,200	37,900
		40	18,000	35,300	37,900
		35	14,700	33,300	37,900
	2	45	10,700	18,600	19,000
		40	9,000	17,700	19,000
		35	7,400	16,700	19,000
Mountain Major Highway	4	45	20,300	35,300	36,000
		40	17,100	33,500	36,000
		35	14,000	31,600	36,000
	2	45	9,800	17,700	18,900

Table 4 Level of Service Criteria for Roadway Segments					
Facility	**Lanes**	**Speed (mph)**	**LOS C**	**LOS D**	**LOS E**
		40	8,400	16,600	18,900
		35	7,000	15,700	18,900
Controlled/Limited Access Collector	4	35	6,800	14,100	34,800
	2	35	3,400	7,000	17,400
Mountain Secondary Highway	4	35	6,000	10,500	23,300
	2	35	3,000	6,000	11,700

- Any signalized study intersection in the Valley or Mountain regions operating at an acceptable LOS D or better with existing traffic in which the addition of buildout traffic caused the intersection to degrade to an LOS E or F;
- Any signalized study intersection in the North Desert or East Desert regions operating at an LOS C or better with existing traffic in which the addition of buildout traffic caused the intersection to degrade to an LOS D, E, or F;
- Any signalized study intersection in the Valley or Mountain regions operating at LOS E or F with existing traffic where the addition of buildout traffic increased delay by 5.0 or more seconds; or
- Any signalized study intersection in the North Desert or East Desert regions that is operating at LOS D, E, or F with existing traffic where the addition of buildout traffic where the project increased delay by 5.0 or more seconds.

Consistent with the acceptable LOS for the County sub-regions as described in the proposed County Policy Plan, the proposed County Policy Plan buildout impacted an unsignalized intersection if the following points a) or both sections b) and c) occurred:

a) The addition of project related traffic caused the intersection to degrade from an LOS D or better to a LOS E or worse in the Valley and Mountain regions or from an LOS C or better to an LOS D or worse in the North Desert and East Desert regions.

OR

b) The project added 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at an LOS E or F in the Valley and Mountain regions or at an LOS D, E, or F in the North Desert or East Desert region (per Section 10.5.2 b))

AND

c) One or both of the following conditions are met:
   1) The project added ten (10) or more trips to any minor street approach
   2) The intersection met the peak hour traffic signal warrant after the addition of project traffic (per Section 10.5.2 c)).

3.2.1.2 Roadway Segments

Consistent with the acceptable LOS for the North Desert, East Desert, Valley, and Mountain regions as described in the proposed County Policy Plan, the proposed County Policy Plan impacted:

- Any study roadway segment in the Valley or Mountain regions that was operating at an LOS D or better in which the addition of buildout traffic caused the segment to degrade to an LOS E or F
- Any study roadway segment in the North Desert or East Desert regions that was operating at an LOS C or better without in which the addition of buildout traffic caused the segment to degrade to an LOS D, E, or F
- Any roadway segment that operated unacceptably in the existing scenario where the buildout scenario added traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05)

3.3 VMT Thresholds

Based on the County's guidelines, a VMT impact caused by the proposed County Policy Plan buildout was considered significant if the buildout VMT per service population in a sub-region (service population includes population plus employment in the County and is appropriate for the County Policy Plan as the County Policy Plan is truly a mixed-use project) was not at least four percent below the VMT per service population that is currently generated in the incorporated areas of the sub-region of the County. In addition to the project assessment of VMT, the

Cumulative effect of the project was assessed by comparing the sub-regional VMT per service population with the County Policy Plan to the sub-regional VMT per service population from the planned roadway network and land use from the SCAG RTP/SCS.

3.4 Traffic Volume Forecasting

3.4.1 San Bernardino Transportation Analysis Model (SBTAM)

San Bernardino County Transportation Analysis Model (SBTAM) is a regional model that is based on the traditional four-step sequential modeling methodology with "feedback loop" procedures to insure internal modeling consistency. The model incorporates multi-modal analytical capabilities to analyze the following modes of travel: local and express bus transit, urban rail, commuter rail, toll roads, carpools, truck traffic, as well as non-motorized transportation which includes pedestrian and bicycle trips. Regional transportation models, such as the SBTAM, use socioeconomic data to estimate trip generation, mode choice, as well as several submodels to address complex travel behavior and multi-modal transportation issues. The model responds to changes in land use types, household characteristics, transportation infrastructure, and travel costs such as transit fares, parking costs, tolls, and auto operating costs.

SBTAM Version 3.4 (constrained network) was used to develop the future traffic volume forecasts. Two model scenarios were utilized in the forecasting process: Base Year and Future Year as described below:

- Base Year Model – This scenario contains the Base Year (2012) land use and roadway network assumptions without any modifications by Fehr & Peers.
- Future Year Model – This scenario contains the Future Year (2040) land use and roadway network assumptions. The most recent information for transportation improvements included in the 2016 Regional Transportation Project Plan was used to update the roadway network.

3.5 Future Year Roadway Improvement Assumptions

The following intersection configuration improvements have been assumed based on the approved project list from the Regional Transportation Plan Sustainable Communities (2016). Additionally, the roadway network identified in the Transportation & Mobility Element of the County Policy Plan is assumed (shown on Figure 8). Some of these projects are under development by the County (highlighted), while others have yet to begin the process for improvement.

Table 5 Assumed RTP Roadway Network Improvements		
RTP/SCS Project ID	**RTP/SCS Project Description**	**RTP Completion Year**
4351	SR58 EXPRESSWAY-REALIGN AND WIDEN FROM 2-4 LANE EXPRESSWAY.	2016
4A07007	WIDEN DALE EVANS PKWY FROM THUNDERBIRD RD TO I-15 FROM 2 TO 4 LANES	2030
4A07020	SAFETY UPGRADES TO NATIONAL TRAILS HIGHWAY IN SAN BERNARDINO COUNTY	2020
4A01270	WIDEN EL MIRAGE RD FROM ADELANTO RD TO LA COUNTY LINE FROM 2 TO 4 LANES	2040
4A01900	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030
4A01900	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030
4A01278	WIDEN PHELAN RD FROM SHEEP CREEK RD TO BALDY MESA RD FROM 2 TO 6 LANES	2020
4A07125	WIDEN DEVORE RD FROM I-215 TO KENWOOD DR FROM 2 TO 4 LANES	2023
4A07024	WIDEN ARROW BLVD FROM HICKORY AV TO TOKAY AV FROM 2 TO 4 LANES	2020
200409, 4A07040	WIDEN CHERRY AVE FROM VALLEY BLVD TO FOOTHILL BLVD FROM 4 TO 6 LANES	2015 | 2020
4A07055	WIDEN MERRILL AVE FROM CHERRY AVE TO CITRUS AVE FROM 2 TO 4 LANES	2020
4A07109	WIDEN SAN BERNARDINO AVE FROM ETIWANDA AVE TO CHERRY AVE FROM 4 TO 6 LANES	2020
4A07218	WIDEN VALLEY BLVD FROM COMMERCE DR TO ALMOND AVE FROM 4/5 TO 6 LANES (3 LANES EACH DIRECTION)	2020
200835, 4A07072	SAN BERNARDINO AVE. FROM CHERRY AVE. TO FONTANA CITY LIMITS (LIME AVE.) (1.25 MILES)-WIDEN 2-4 LANES	2018
4A07079, 200823	WIDEN SAN BERNARDINO AVE FROM LAUREL AVE TO RIALTO CITY LIMITS FROM 2 TO 4 LANES	2023

Table 5 Assumed RTP Roadway Network Improvements		
RTP/SCS Project ID	**RTP/SCS Project Description**	**RTP Completion Year**
1830	I-10 AT CEDAR AVE. BETWEEN SLOVER AND VALLEY WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES	2019
201161, 4A01285	WIDEN SLOVER AVE FROM ALDER AVE TO CACTUS AVE FROM 2 TO 4 LANES	2025
4A07159	WIDEN SANTA ANA AVE FROM LOCUST AVE AVE TO CEDAR AVE FROM 2 TO 4 LANES	2023
4A07165	WIDEN JURUPA AVE FROM LOCUST AVE TO CEDAR AVE FROM 2 TO 4 LANES	2023
4A07111	WIDEN JURUPA AVE FROM CEDAR AVE TO LILAC AVE FROM 2 TO 4 LANES	2025
4A07197, 200822	WIDEN OLIVE ST FROM JACKSON AVE TO RANCHO AVE FROM 2 TO 4 LANES	2025
4A01262A, 200839, 4A01262B	WIDEN 5TH AVE FROM CRAFTON AVE TO WABASH AVE FROM 2 TO 4 LANES	2025
4A07314	WIDEN GARNET ST FROM SR-38 TO NEWPORT AVE FROM 2 TO 4 LANES	2035
4160015	WIDEN SR-62 FROM RIVERSIDE COUNTY LINE TO YUCCA VALLEY TOWN LIMITS FROM 4 TO 6 LANES	2030
4160015	WIDEN SR-62 FROM RIVERSIDE COUNTY LINE TO YUCCA VALLEY TOWN LIMITS FROM 4 TO 6 LANES	2030
4160015	WIDEN SR-62 FROM RIVERSIDE COUNTY LINE TO YUCCA VALLEY TOWN LIMITS FROM 4 TO 6 LANES	2030
SBD031152	RIVERSIDE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL WIDEN BRIDGE FROM 4 LANES TO 6 LANES	2021
4A07124	WIDEN PHILLIPS BLVD FROM ROSWELL AVE TO YORBA AVE FROM 2 TO 4 LANES	2025
4A07153	WIDEN SANTA ANA AVE FROM TAMARIND AVE TO LOCUST AVE FROM 2 TO 4 LANES	2030
20150010	SLOVER AVE PHASE II: TAMARIND AVE TO ALDER / LINDEN AVE TO CEDAR AVE; WIDEN 2-4 LNS	-

Table 5 Assumed RTP Roadway Network Improvements		
RTP/SCS Project ID	**RTP/SCS Project Description**	**RTP Completion Year**
4A07132	WIDEN SANTA ANA AVE FROM CEDAR AVE TO CACTUS AVE FROM 2 TO 4 LANES	2023
4A07036	WIDEN GLEN HELEN PKWY FROM LYTLE CREED RD TO I-15 FROM 2 TO 4 LANES	2023
4A01281	WIDEN SAN BERNARDINO AVE FROM ALABAMA ST TO CALIFORNIA ST FROM 2 TO 4 LANES	2025
4A01900	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030
4A01900	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030
4M07035	WIDEN SR-138 FROM SR-18 TO PHELAN RD FROM 2 TO 4 LANES (PHASE II)	2030
34011-34011	NEAR WRIGHTWOOD FROM PHELAN RD TO I-15 WIDEN FROM 2 TO 4 LANES WITH MEDIAN(EA3401U) (BRIDGE WIDENING IN FTIP ID 20150601)	2016
4A01278	WIDEN PHELAN RD FROM SHEEP CREEK RD TO BALDY MESA RD FROM 2 TO 6 LANES	2020
4A01278	WIDEN PHELAN RD FROM SHEEP CREEK RD TO BALDY MESA RD FROM 2 TO 6 LANES	2020
4A01025	WIDEN BIG BEAR BLVD FROM WEST BIG BEAR CITY LIMITS TO EAST BIG BEAR CITY LIMITS FROM 2 TO 4 LANES	2020
20130402	RESTRIPE EXISTING STRUCTURAL SECTION OF BAKER BLVD BETWEEN I-15 RAMPS AND SH 127 FROM 2 - 4 LANE CONFIGURATION IN CONJUNCTION WITH PROJECT TO REPLACE EXISTING 2 LANE BRIDGE 54CO127 WITH 4 LANE BRIDGE	2016

4.0 Existing (2017) Conditions

This chapter discusses the existing transportation conditions in the project study area. This discussion addresses the roadway, transit, bicycle, and pedestrian networks. An operational analysis of the study area intersections and roadway segments is also discussed.

4.1 Existing Roadway Network

Major regional facilities within the county include:

Interstate 15 (I-15), The most extensive stretch of interstate highway in the county. Access is provided starting in the densely populated southwestern edge of the county and ends to the Nevada border near the town of Primm, Nevada. The highway runs through the San Gabriel Mountains into the high desert region through major population centers of Victorville, Hesperia, Apple Valley, Barstow, etc. It runs north/south from the southwestern to the northeastern edge of the county lines. It consists of four lanes each direction in the population centers of the southwestern edge of the county and two lanes each way through the high desert region. Speed limits are 65 mph in urban southwestern county and 70 mph through the high desert to the Nevada border.

Interstate 215 (I-215), Also named as the Riverside/Barstow freeway. Begins at the southern tip of the city of San Bernardino and runs north/south to connect to Interstate 15 on the north side of San Bernardino at the base of the San Gabriel Mountains. Provides convenient access to downtown San Bernardino, as well as California State University, San Bernardino, and Glen Helen Regional Park at the northern end of the highway. The speed limit is 65 mph and ranges from three to five lanes in each direction.

Interstate 10 (I-10), Also known as the San Bernardino Highway or the Christopher Columbus Transcontinental Highway. Runs east/west starting in the city of Ontario on the western edge of the county. It continues east and ends at the eastern edge of the county near the city of Yucaipa. The highway provides San Bernardino County residents direct access to Los Angeles to the west, as well as Palm Springs and surrounding cities/towns to the east. The speed limit is 65 mph with four lanes in each direction.

Interstate 40 (I-40), This highway is the second of two east/west running interstate highways in the county. Also known as the Needles Highway, which only runs through the high desert region of the county. The western edge of the highway starts in Barstow at the junction with Interstate

15 and ends at the Arizona state border adjacent to the town of Needles. The highway contains two lanes in each direction with a posted speed limit of 70 mph.

State Route 60 (SR-60), Known as the Pomona Freeway, as well as CYA Counselor Ineasie M. Baker Memorial Freeway. Runs east/west for a small portion of southwestern San Bernardino County. This state route runs east/west primarily through the cities of Chino and Ontario. Access is provided to Los Angeles County to the west and Riverside County to the east. The speed limit is 65 mph and it provides five lanes in each direction.

State Route 71 (SR-71), Also called the Chino Valley Freeway. This state route runs north/south starting at the junction of SR-60 near Pomona at the northern end and ends at the Riverside County line and the junction with SR-83 near Prado Regional Park. The highway contains two lanes in each direction and provides access to Los Angeles County to the north near Pomona and runs south to the junction with SR-91 in Riverside County.

State Route 83 (SR-83), This route runs north/south and is also known as Euclid Avenue. This state route runs through the downtown districts of Chino and Upland. The northern end of the highway ends in Upland and runs south to the junction with SR-71. Lane access ranges from one to three lanes in each direction.

State Route 210 (SR-210), Also known as Foothill Highway. Runs east/west in the densely populated southwestern region of the county. The western edge of the route begins in Ontario and runs east to the junction with Interstate 10 in Redlands. Lane access ranges from two to four lanes in each direction.

State Route 62 (SR-62), Known as the Twentynine Palms Highway. This state route runs east-west through starting with the town of Yucca Valley on the western edge and east to the Arizona border near the town of Parker, AZ. This route contains one to two lanes in each direction. This is also a primary state route running through Joshua Tree National Park.

State Route 138 (SR-138), This state route runs east-west and begins in the high desert region on the western edge and connects to Interstate 15 near Cajon Junction. It then continues east and ends at the junction with SR-18 at the mountain town of Crestline. This route is one to two lanes in each direction with a posted speed limit of 55 mph.

State Route 18 (SR-18), This highway begins at SR-210 in San Bernardino and ends at the Los Angeles County line about ten miles west of Victorville in the Mojave Desert. It primarily runs east-west and loops through the mountain resort towns of Lake Arrowhead and Big Bear Lake, then around through Lucerne Valley, Apple Valley, and Victorville. It is also known as the Rim of the World Highway due to a portion of the highway providing panoramic views of San Bernardino and surrounding Inland Empire cities. The highway contains one lane in each direction.

State Route 247 (SR-247), This highway runs north-south starting in Barstow at the junction with I-15 at the northern edge and continuing south to Yucca Valley at the junction with SR-62. It is also known as Old Woman Springs Road and contains one lane in each direction.

State Route 330 (SR-330), This state route runs north-south begins at SR-210 in the town of Highland on the southern edge and continues north to the mountain town of Running Springs at the junction with SR-18. It is also known as City Creek Road and is one lane in each direction.

State Route 58 (SR-58), This state route runs east-west in the Mojave Desert region of the county. The highway's western edge within the county borders the Kern County line, then runs east to the junction with Interstate 15 in Barstow. Also known as the Barstow-Bakersfield Highway. This state route is one to two lanes in each direction and contains a posted speed limit of 55 mph.

Roadway classifications for existing facilities in the County are shown on Figure 1.

4.2 Existing Transit Facilities

Transit within the county consists of Metrolink, BRT, and local bus routes. Existing transit is shown on Figure 2 and is described in detail in the *San Bernardino County Policy Plan Transportation Existing Conditions Report* (Fehr & Peers, March 2017). The Existing Conditions report is provided in Appendix A.

4.3 Existing Bicycle Facilities

Existing bicycle facilities in the County of San Bernardino are described below. Existing bicycle facilities are shown on Figure 3 and are described in detail in the *San Bernardino County Policy Plan Transportation Existing Conditions Report* (Fehr & Peers, March 2017). The Existing Conditions report is provided in Appendix A.

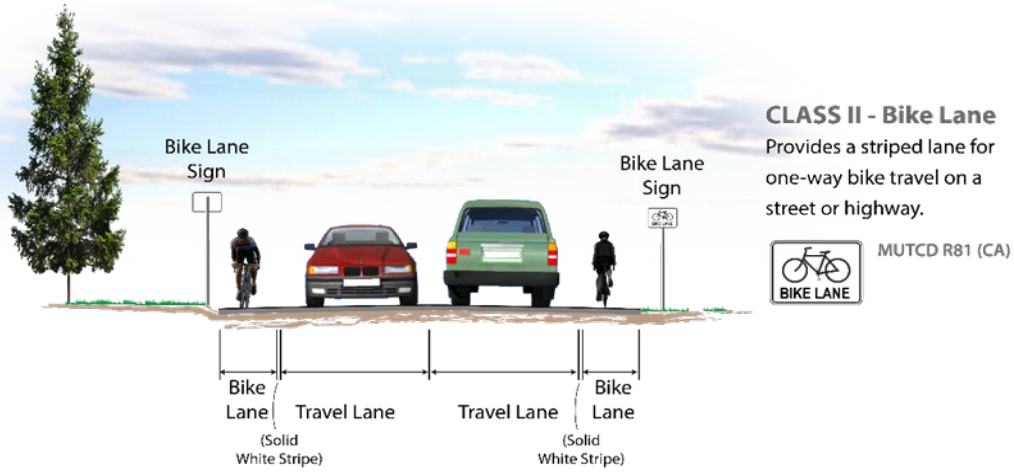
4.3.1 Class I Bikeways (Bike Paths)

Class I bicycle facilities are bicycle trails or paths that are off-street and separated from automobiles. They are a minimum of eight feet in width for two-way travel and include bike lane signage and designated street crossings where needed. A Class I Bike Path may parallel a roadway (within the parkway) or may be a completely separate right-of-way that meanders through a neighborhood or along a flood control channel or utility right-of-way.



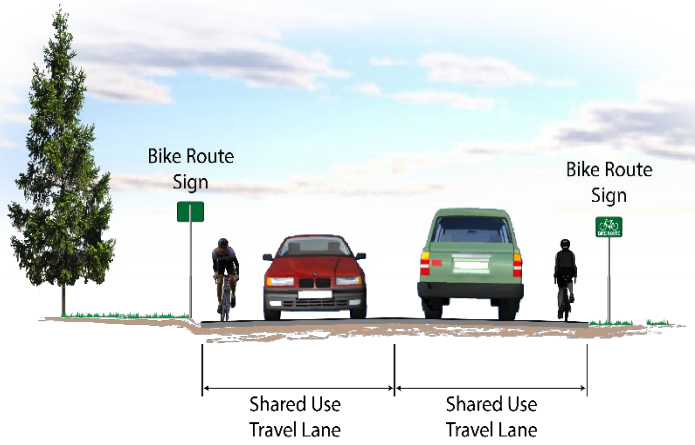
4.3.2 Class II Bikeways (Bike Lanes)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.



4.3.3 Class III Bikeways (Bike Routes)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.



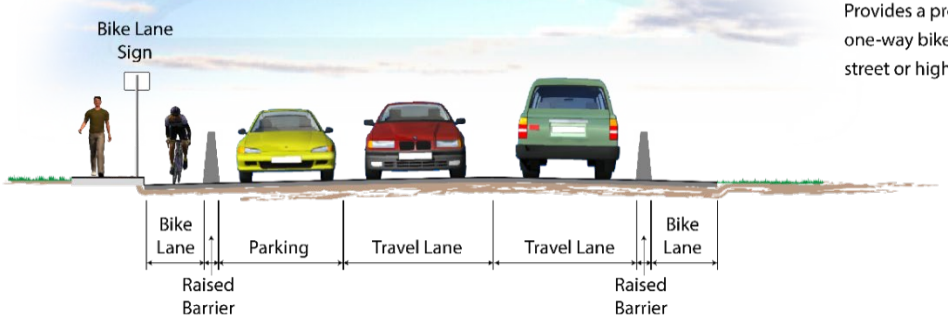
CLASS III - Bike Route
Provides a shared use with pedestrians or motor vehicle traffic, typically on lower volume roadways.



MUTCD D11-1

4.3.4 Class IV Bikeways (Cycle Tracks)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and are protected from vehicular traffic via separations (e.g. grade separation, flexible posts, inflexible physical barriers, on-street parking). California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.



CLASS IV - Separated Bikeway (Cycle Track)
Provides a protected lane for one-way bike travel on a street or highway.

Existing bicycle facilities are shown on **Figure 3**.

4.4 Existing Airports

The San Bernardino County Department of Airports provides for the management, maintenance, and operation of six County-owned airports. These airports are listed below.

- Apple Valley Airport (APV): Services at this general aviation airport include fuel, maintenance, rentals, and flight training. Two runways are provided.
- Baker Airport (0O2): Baker Airport is an emergency airfield with one runway.
- Barstow-Daggett Airport (DAG): This is a general aviation airport that can also support military training conducted at the nearby Fort Irwin Training Center. Two runways are provided.
- Chino Airport (CNO): Chino Airport is a general aviation facility and a base for business jets and air taxi services with three aviation groups providing business aviation operations. This airport also provides fuel, repair, and avionics services. Three runways are available.
- Needles Airport (EED): This is a general aviation airport with services including fuel and minor airframe and power plan service. There are two runways.
- Twentynine Palms Airport (TNP): This is a general aviation airport with some military aircraft operations. Two runways are provided.

In addition to operating these six County-owned airports, the Department assists private and municipal airport operators in the county with planning, interpretation, and implementation of Federal Aviation Administration (FAA) general aviation requirements.

Airports throughout the County are shown on **Figure 4**.

4.5 Existing Goods Movement Facilities

Goods movement plays an important role in both the circulation network and the economy of a county such as San Bernardino. Often, it can be difficult to balance accommodating trucks and other vehicles without impeding other modes or the well-being of residents of the county's communities. Due to its important location among numerous freeways and highways, San Bernardino should incorporate goods movement along its roadways into effective transportation planning.

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of highways as truck routes. Large trucks are allowed to operate on these routes. Goods movement into and through the county is currently accommodated by several STAA-designated routes including Interstate 40, Interstate 15, Interstate 10, US Route 395, and State Route 127. The STAA also encourages local governments to accommodate trucks on roadways beyond those designated by the Act.

Additionally, goods movement in San Bernardino County includes freight railways such as the Burlington Northern and Santa Fe Railway, the Union Pacific Railroad, the Trona Railway, and the Arizona and California Railroad.

Facilities accommodating goods movement in the County are shown on **Figure 5**.

4.6 Existing Traffic Volumes and Lane Configurations

4.6.1 Data Collection

Existing morning (7:00am to 9:00am) and evening (4:00pm to 6:00pm) peak period intersection counts were collected at 39 study intersections throughout the County during 2017. Daily roadway segment counts were collected at 160 locations throughout the County during 2017. All traffic counts were collected during typical weekdays with clear weather and when school was in session. Existing (peak hour traffic volumes and lane configurations for the study intersections are shown on **Figure 6**. Roadway segment ADT volumes are shown in **Table 7**.

4.7 Intersection Operation Analysis

Intersection delay and level of service for the Existing Conditions is provided in **Table 6**.

The results indicate that most of the study intersections currently operate at acceptable levels of service, with the exception of the following two study intersections:

- Alder Ave / Santa Ana Ave (Bloomington CPA, Rialto SOI)– LOS F during the AM peak hour at this all-way stop-controlled intersection
- Sheep Creek Rd / Palmdale Rd (Phelan/Pinon Hills CPA)– LOS F during the PM peak hour at this side-street top-controlled intersection

4.8 Roadway Segment Operation Analysis

Roadway segment ADT and level of service for Existing Conditions is shown in **Table 7**.

The results indicate that most of the study roadway segments currently operate at an acceptable level of service, except for the following locations:

- SR-138 west of Oasis Rd – LOS D (Phelan/Pinon Hills CPA)
- Phelan Rd east of Johnson Rd – LOS D (Lake Arrowhead CPA)
- SR 173 east of Lakes Edge Rd – LOS E (Lake Arrowhead CPA)
- North Bay Rd north of SR-189 – LOS E (Crest Forest CPA)
- California St north of Highland Ave – LOS E (Muscoy CPA, San Bernardino SOI) Mentone Ave west of Opal Ave – LOS E (Mentone CPA, Redlands SOI)

Intersections and road segments that operate unacceptably under Existing Conditions are shown on **Figure 7**.

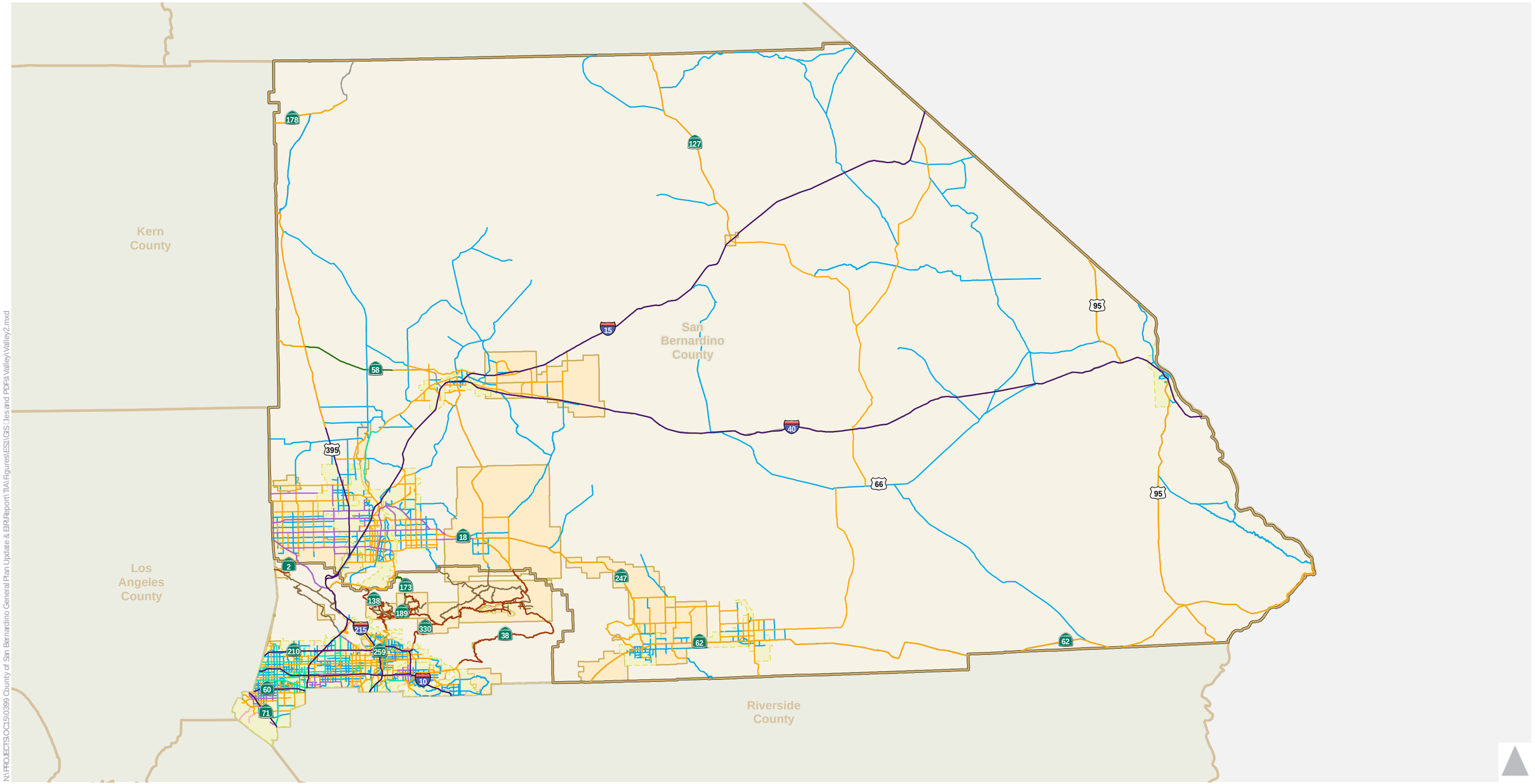
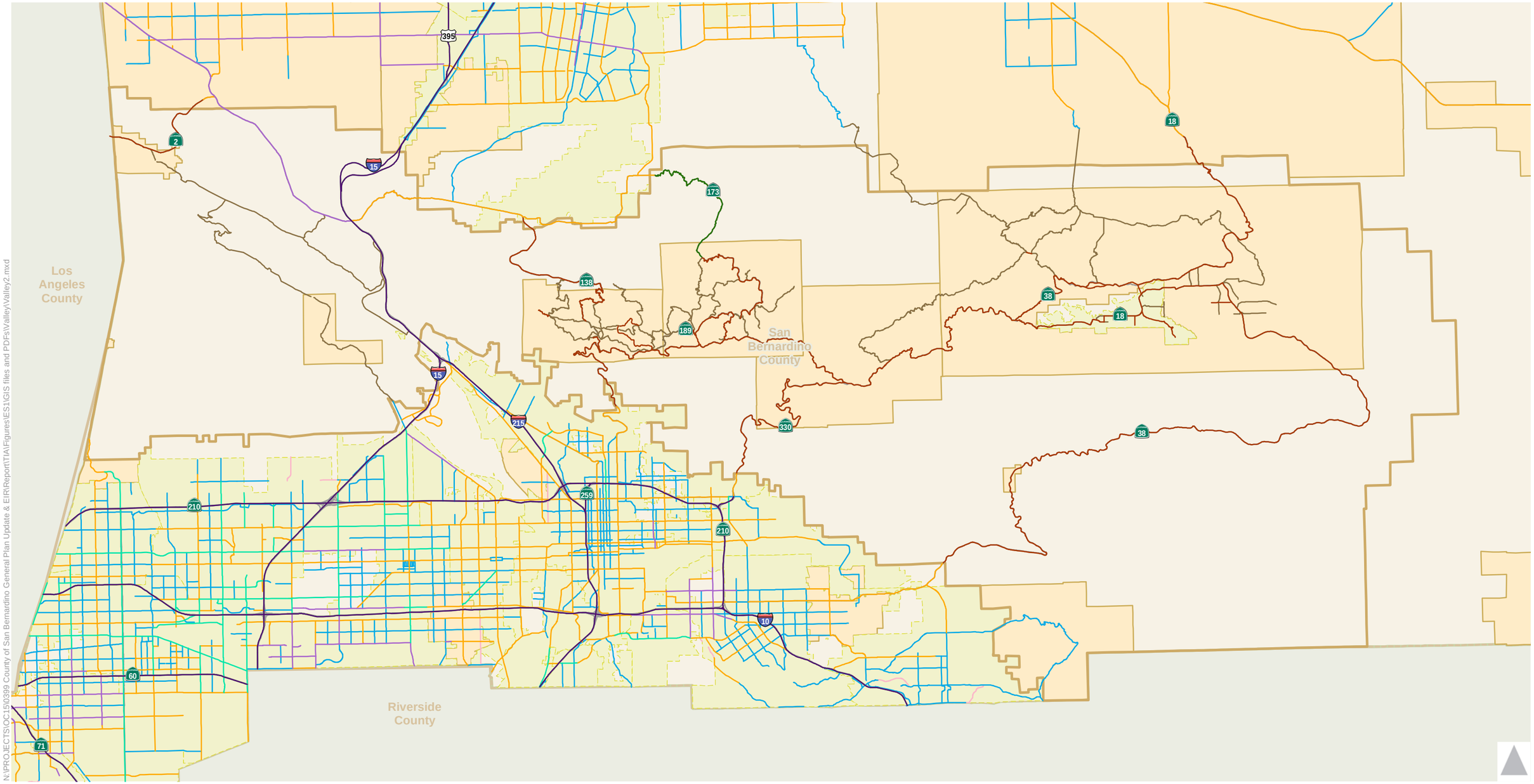


Figure 1.1

Existing Roadway Designations
Desert Region



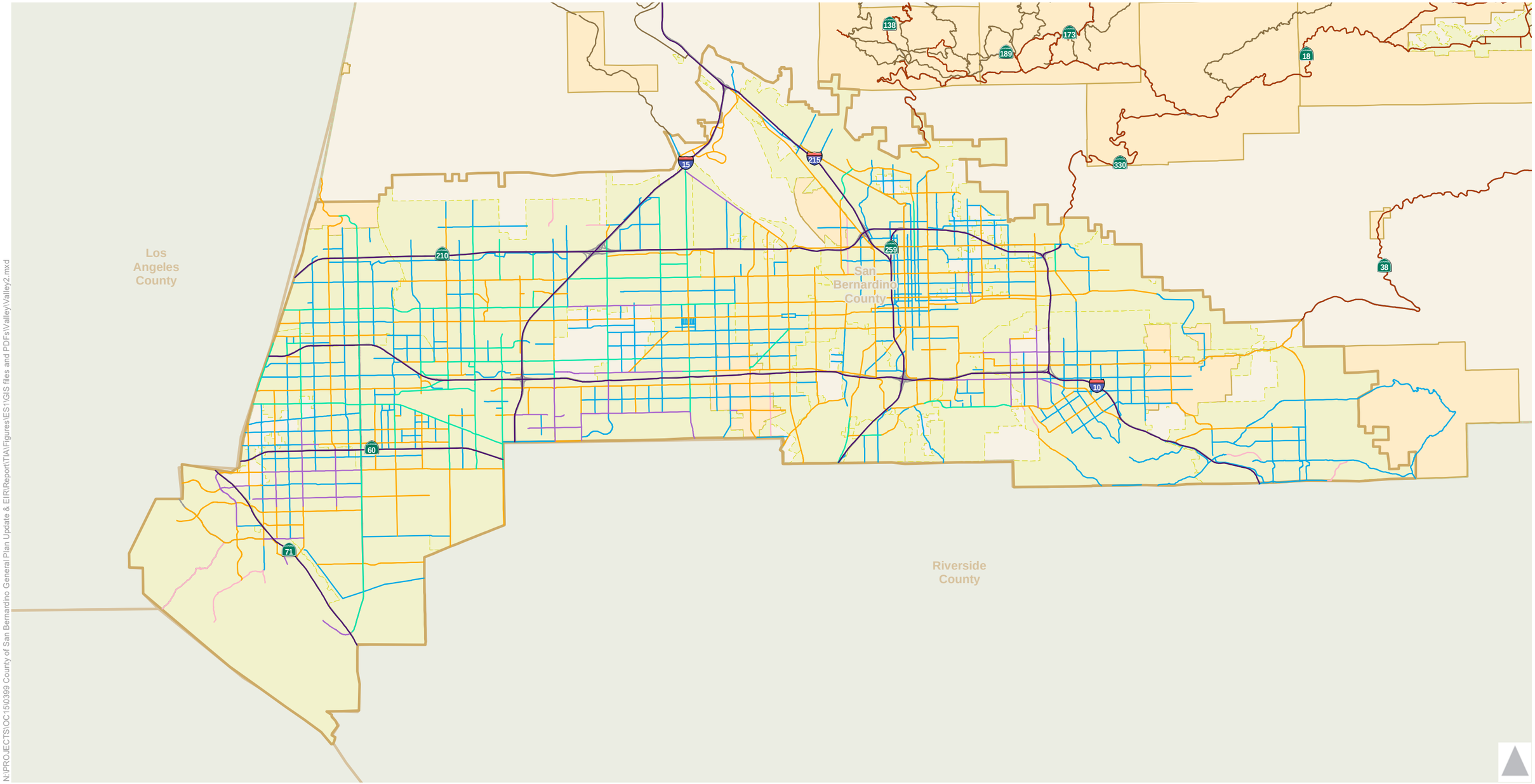
N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Mountain Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

Figure 1.2

Existing Roadway Designations

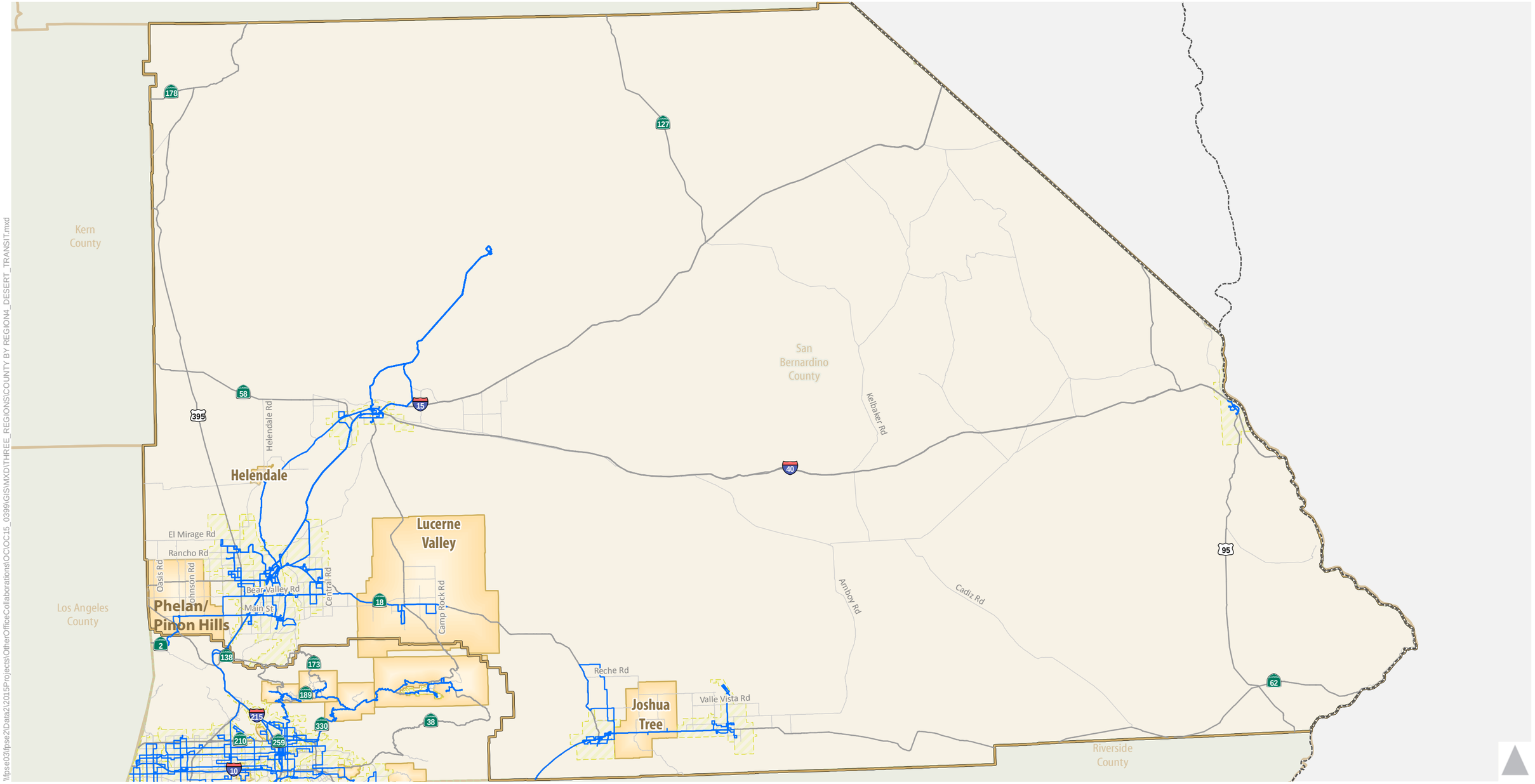
Mountain Region



- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

Figure 1.3

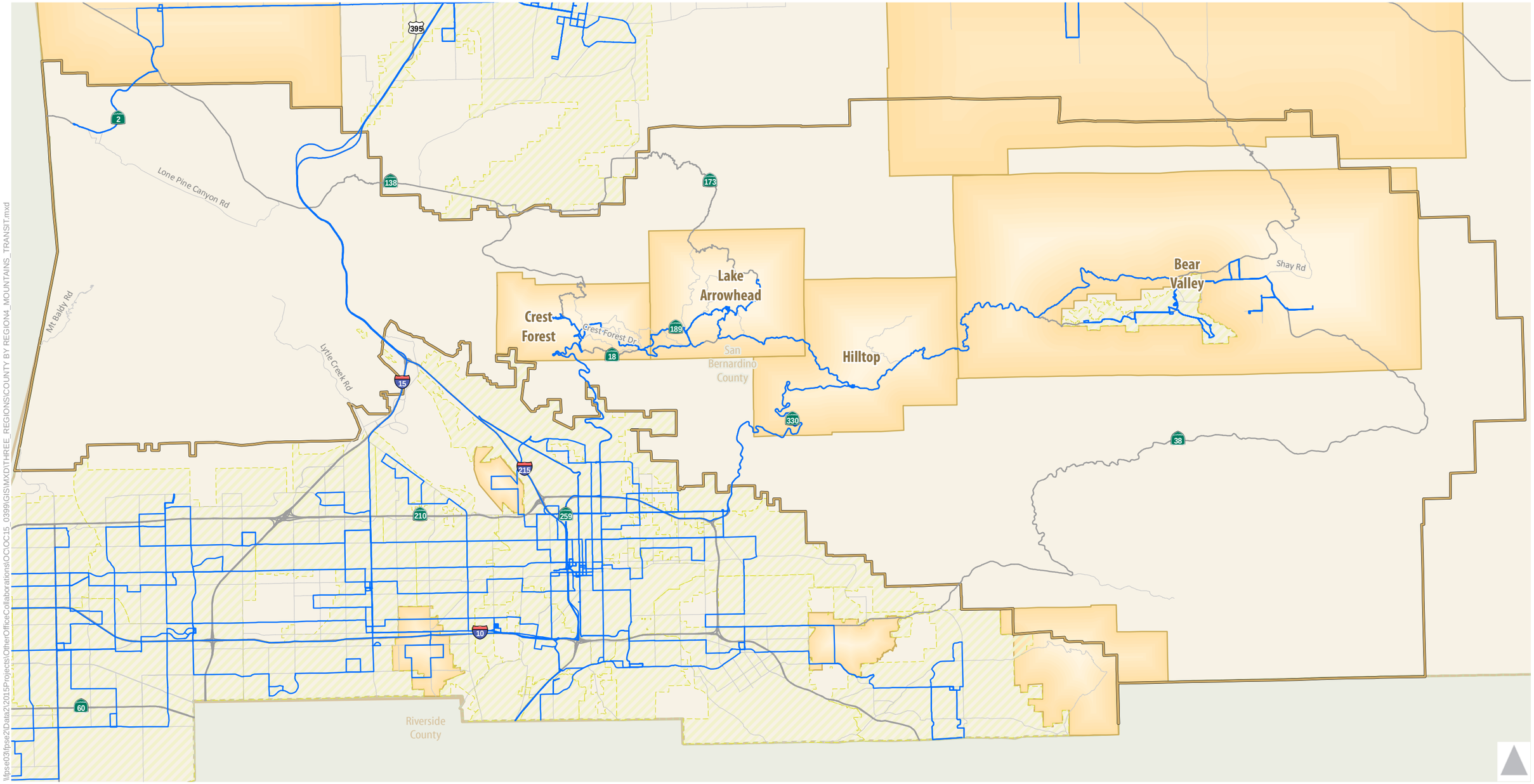
Existing Roadway Designations
Valley Region



Transit Route
Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries
State Boundaries

Figure 2.1

Desert Region Transit Routes



Transit Route
Mountain Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Figure 2.2

Mountain Region Transit Routes

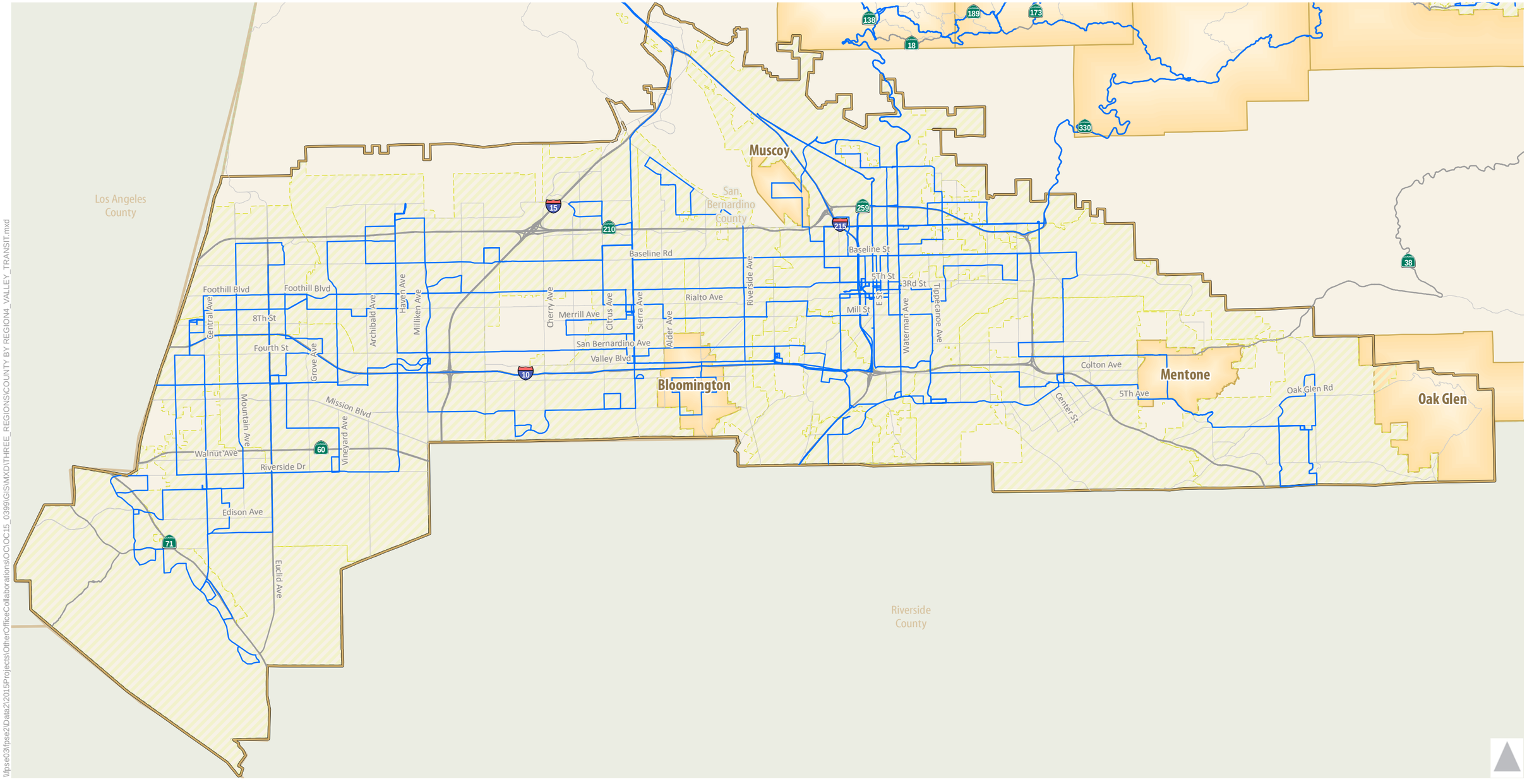
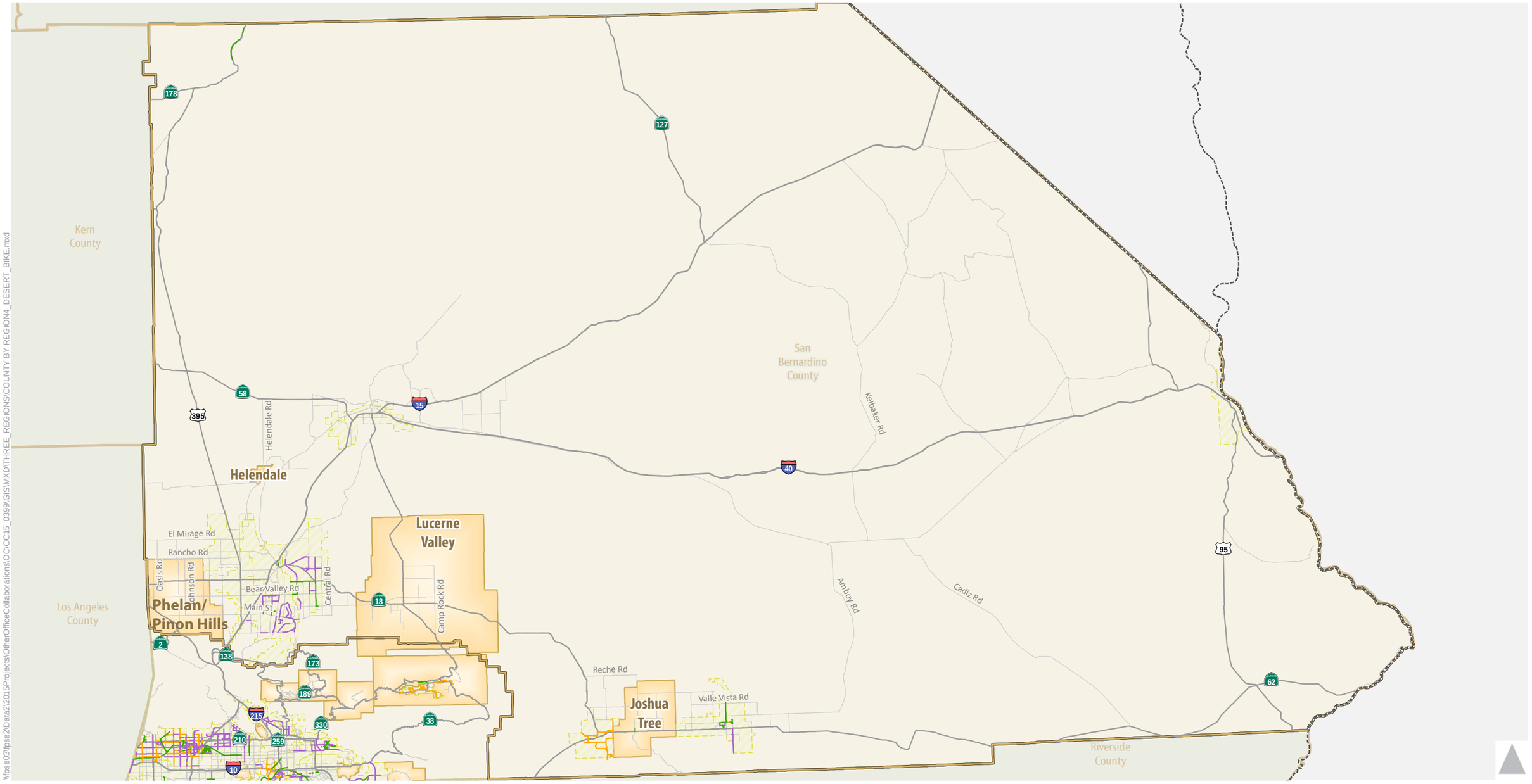


Figure 2.3

Valley Region Transit Routes

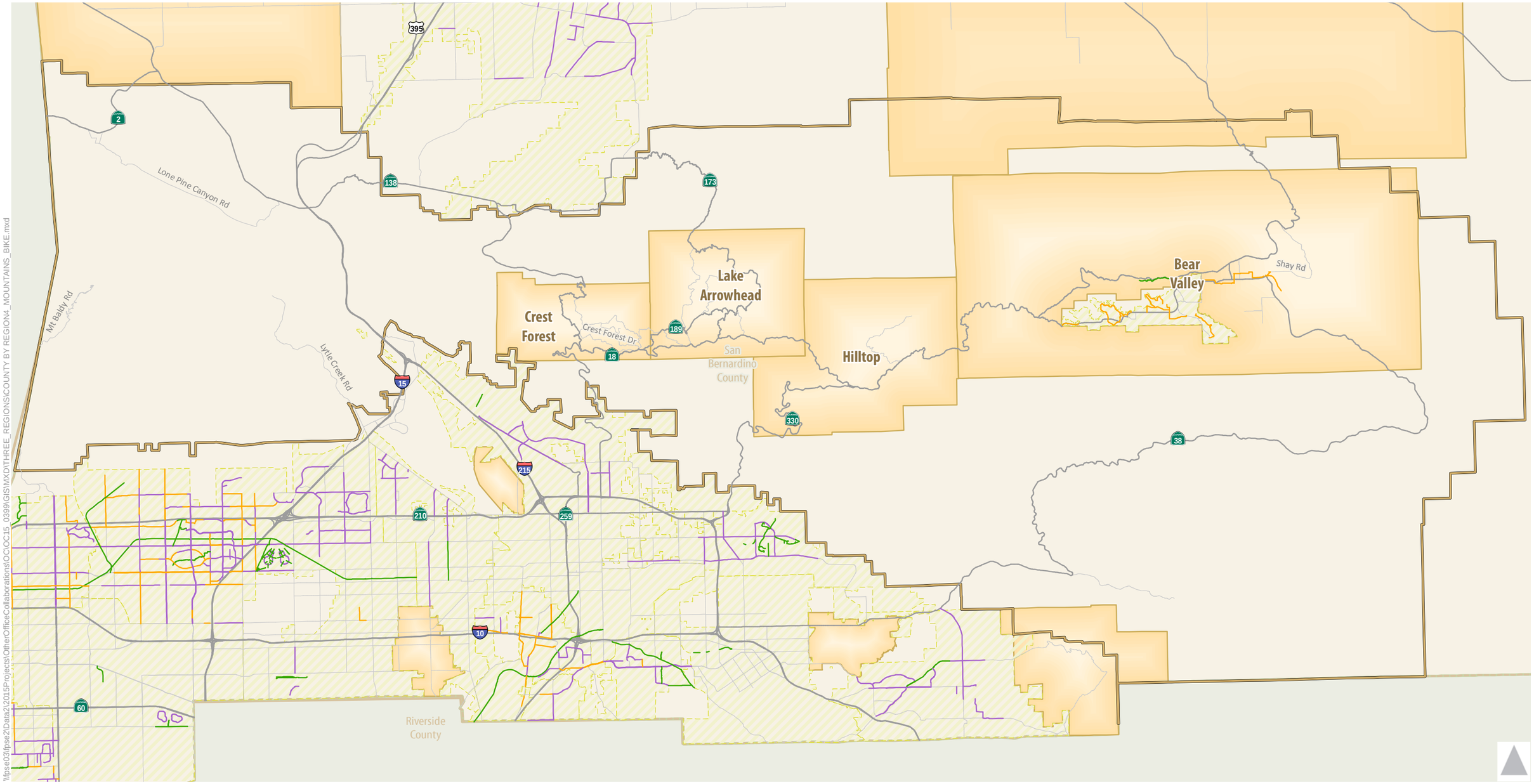
\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_VALLEY_TRANSIT.mxd



Class I Bike Path
Class II Bike Lane
Class III Bike Route
Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries
State Boundaries

Figure 3.1

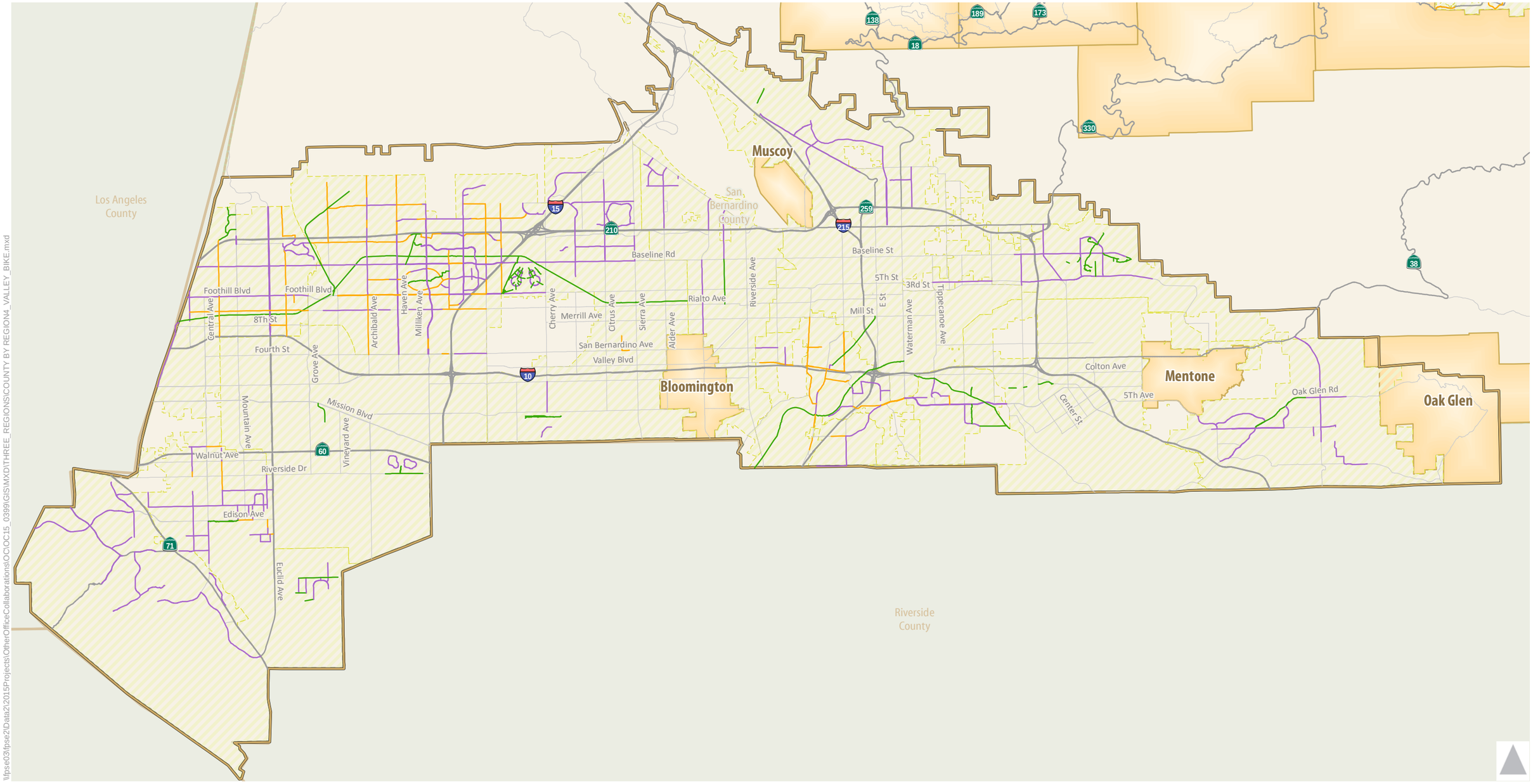
Desert Region Bicycle Facilities



Class I Bike Path
Class II Bike Lane
Class III Bike Route
Mountain Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Figure 3.2

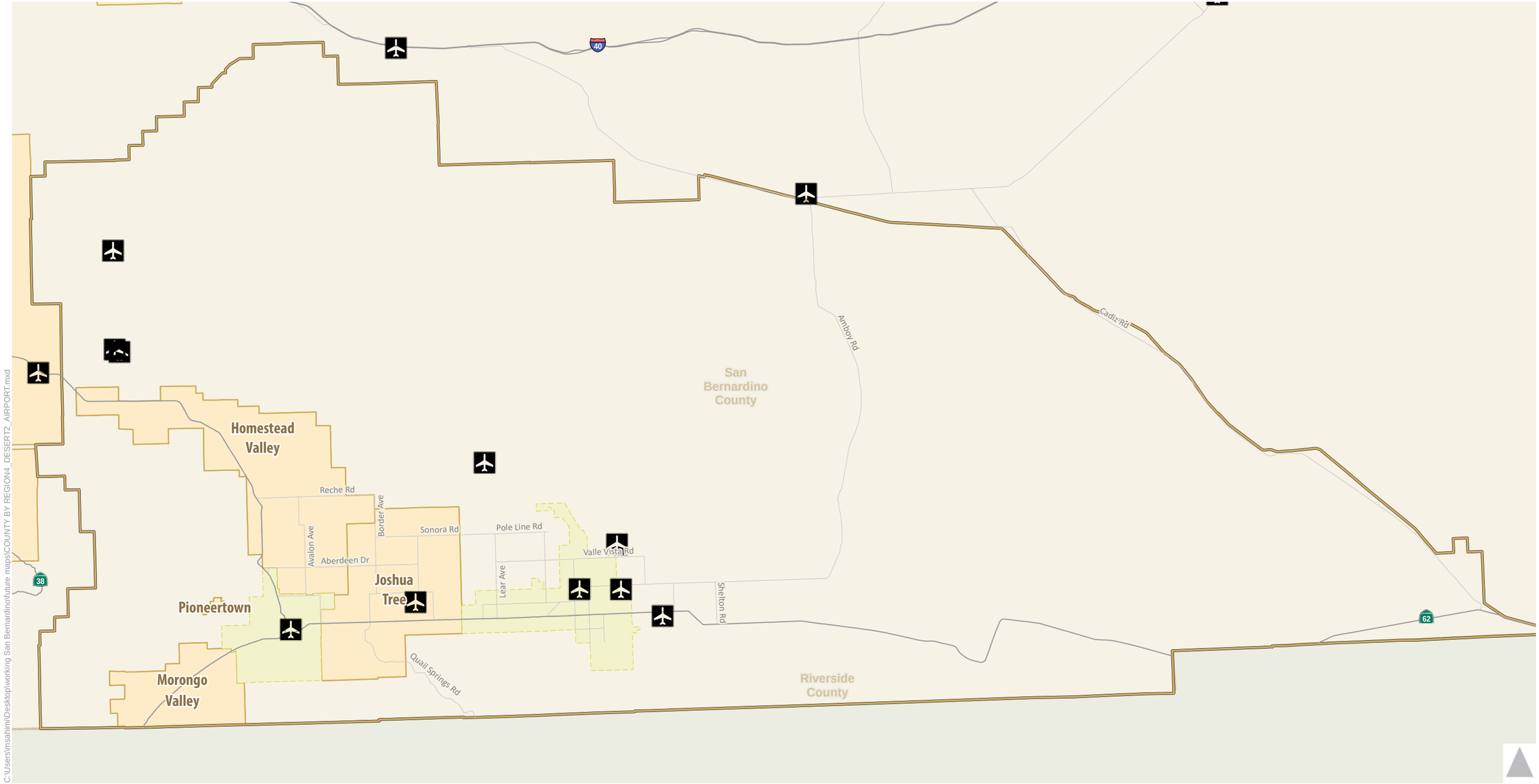
Mountain Region Bicycle Facilities



Class I Bike Path
Class II Bike Lane
Class III Bike Route
Valley Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Figure 3.3

Valley Region Bicycle Facilities



Airports
East Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 4.1

East Desert Region - Airports

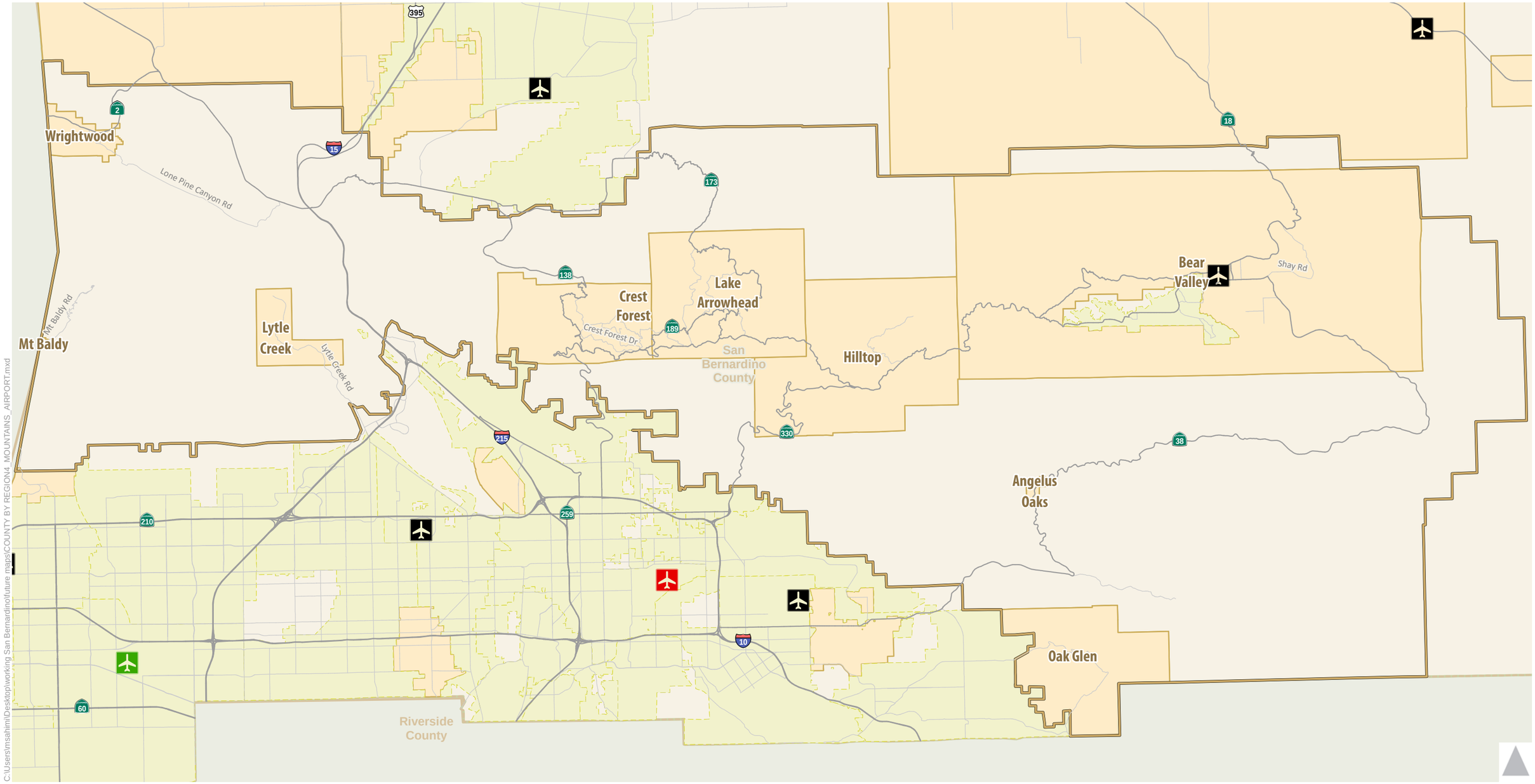
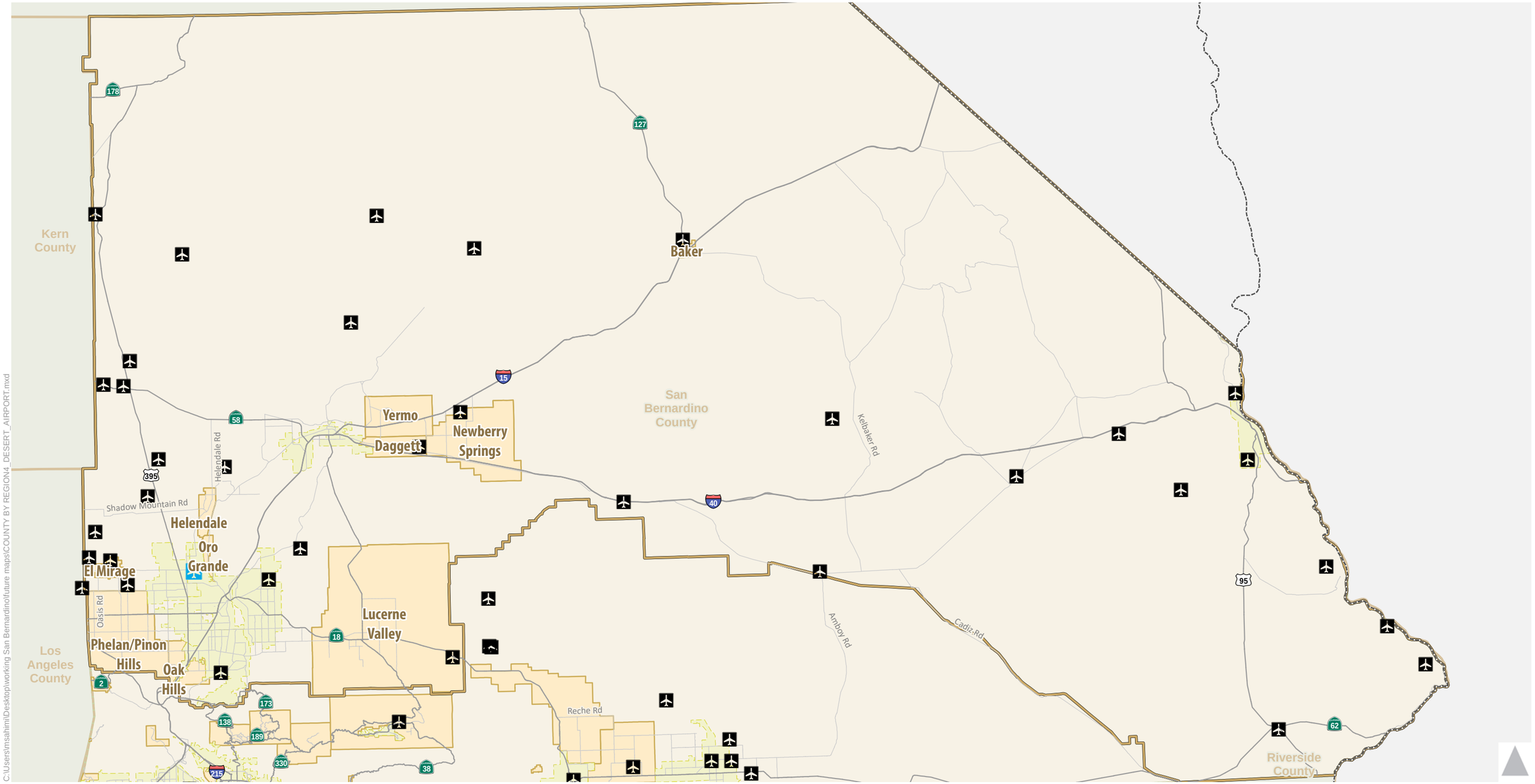


Figure 4.2

Mountain Region - Airports

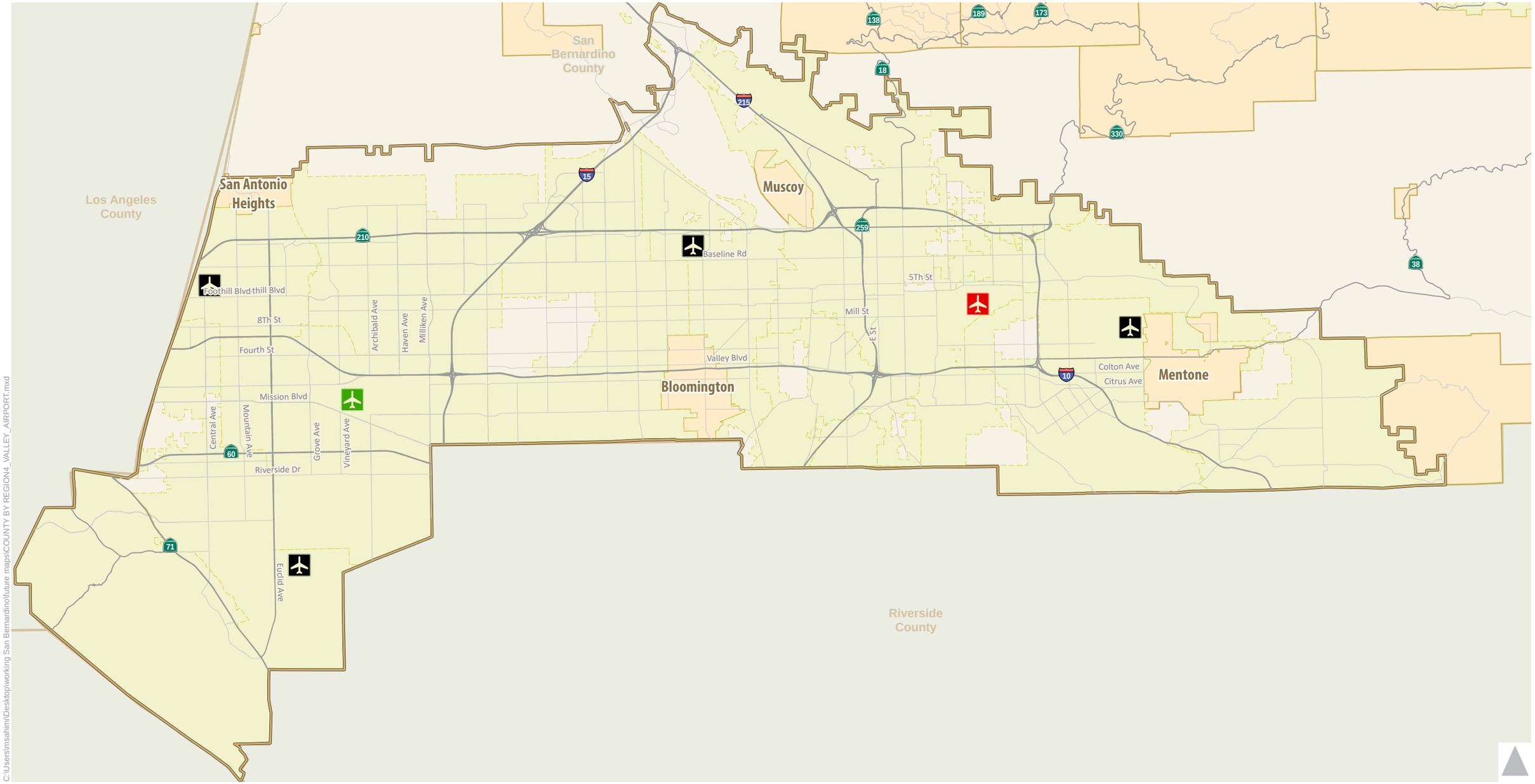


C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_AIRPORT.mxd

Southern Calif. Logistics Airport
Other Airports
North Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 4.3

North Desert Region - Airports



Ontario International Airport

San Bernardino International Airport

Other Airports

Valley Region

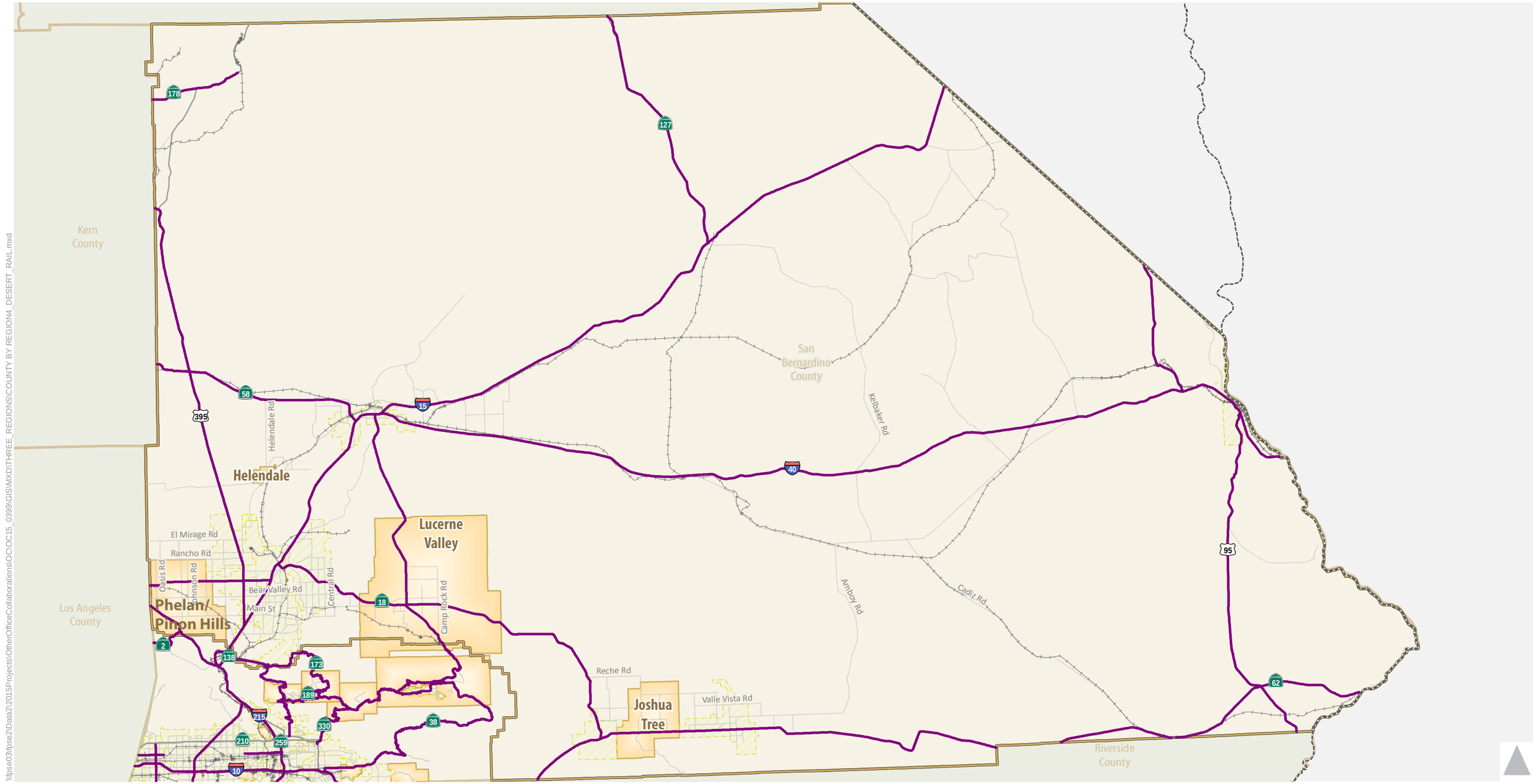
City Boundaries

Community Plan Boundaries

San Bernardino County

Figure 4.4

Valley Region - Airports



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_DESERT_RAIL.mxd

Figure 5.1

Desert Region Goods Movement

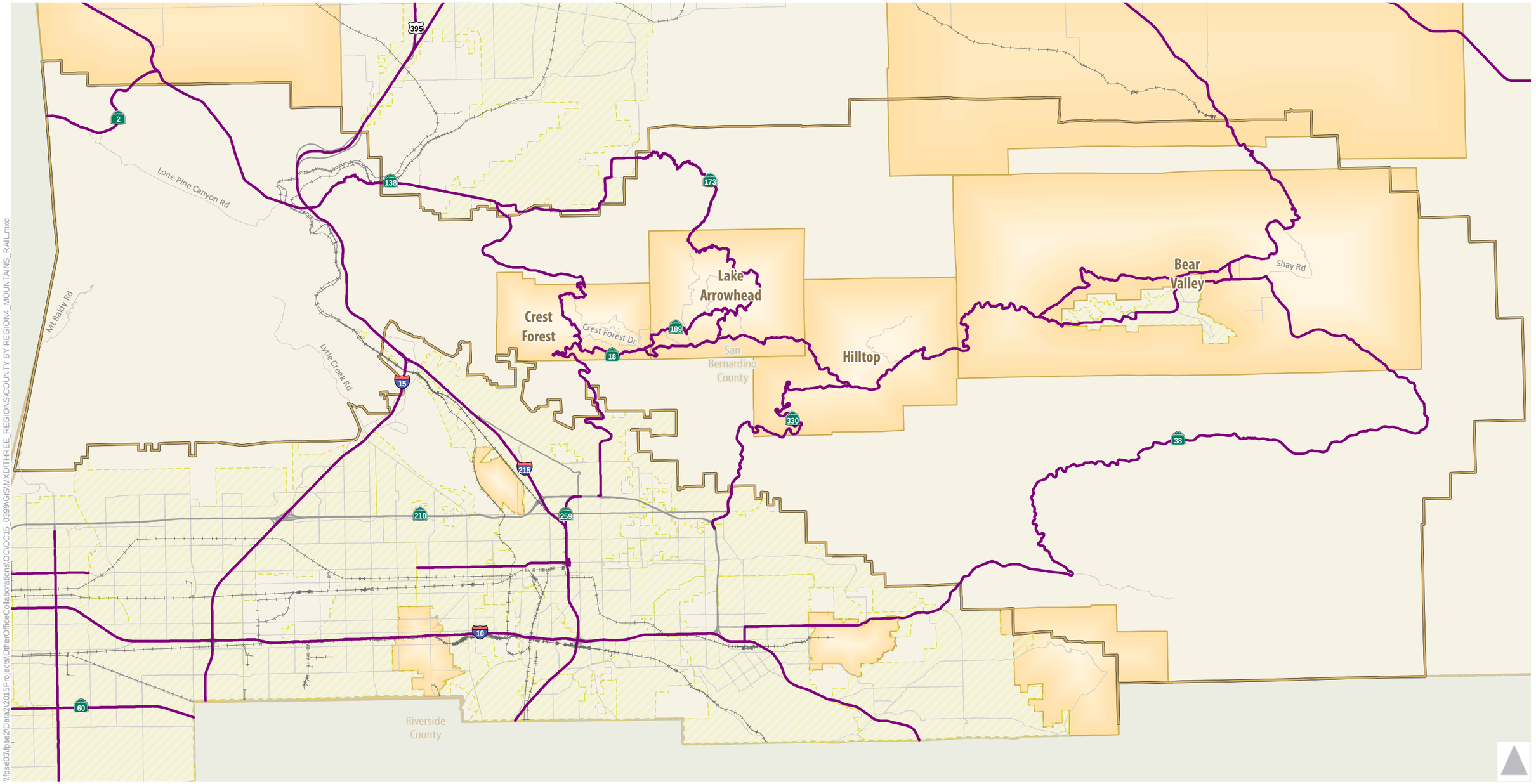
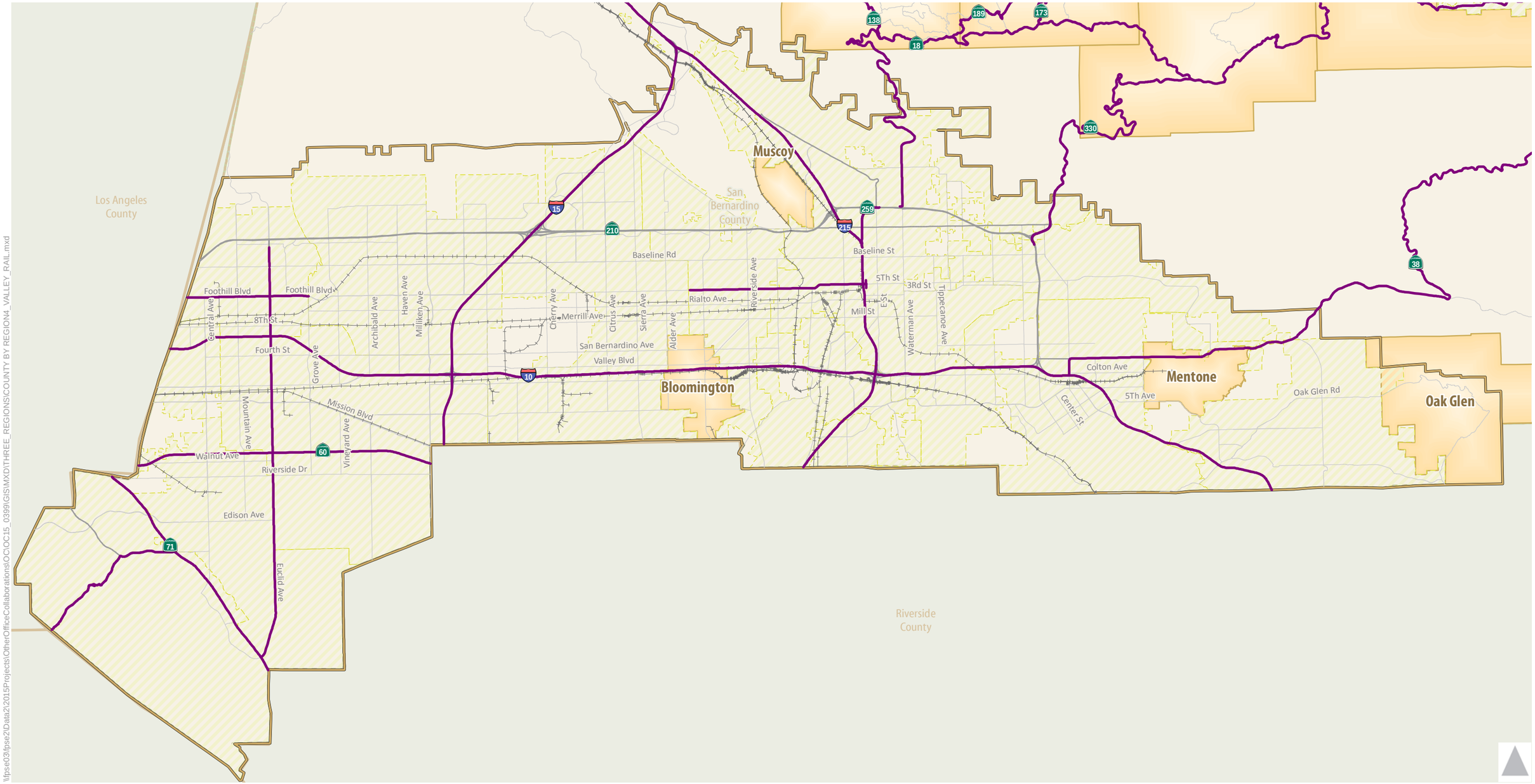


Figure 5.2

Mountain Region Goods Movement



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_VALLEY_RAIL.mxd

Figure 5.3

Valley Region Goods Movement

Table 6 Existing Conditions Intersection Assessment										
ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Existing Conditions			
							AM Peak Hour		PM Peak Hour	
							LOS	Delay	LOS	Delay
1	End Ave & Francis Ave	Valley	NA	Chino		All-Way Stop Controlled	B	14.0	B	11.2
2	Etiwanda Ave & Valley Blvd/Ontario Mills Pkwy	Valley	NA	Fontana		Signalized	C	32.7	C	27.5
3	Cherry Ave & San Bernardino Ave	Valley	NA	Fontana		Signalized	D	37.1	D	40.2
4	Live Oak Ave & Arrow Route	Valley	NA	Fontana		Two-Way Stop Controlled	C	23.8	D	26.5
5	Alder Ave & Santa Ana Ave	Valley	Bloomington	Rialto		All-Way Stop Controlled	F	67.1	B	13.5
6	Locust Ave & San Bernardino Ave	Valley	Bloomington	Rialto		Signalized	C	26.9	C	26.0
7	Cedar Ave & Slover Ave	Valley	Bloomington	Rialto		Signalized	C	23.5	C	31.0
8	Cedar Ave & Santa Ana Ave	Valley	Bloomington	Rialto		Signalized	C	23.2	C	26.7
9	Spruce Ave & Slover Ave	Valley	Bloomington	Rialto		Two-Way Stop Controlled	B	13.8	C	15.4
10	Entrance to Ranger Station & Lytle Creek Rd	Mountain	Lytle Creek	NA		Two-Way Stop Controlled	A	8.4	A	9.2
11	Lytle Creek Rd & Glen Helen Pkwy	Valley	NA	Rialto		Signalized	B	12.2	A	10.0
12	Vermont St & Ogden St	Valley	Muscoy	San Bernardino		All-Way Stop Controlled	A	8.3	A	8.8
13	Vermont St & Blake St	Valley	Muscoy	San Bernardino		Two-Way Stop Controlled	B	10.5	A	9.3
14	Macy St & Blake St	Valley	Muscoy	San Bernardino		All-Way Stop Controlled	B	10.2	A	9.0

Table 6 Existing Conditions Intersection Assessment										
ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Existing Conditions			
							AM Peak Hour		PM Peak Hour	
							LOS	Delay	LOS	Delay
15	Del Rosa Dr & Pacific St	Valley	NA	San Bernardino		Signalized	C	23.8	C	24.7
16	Alabama St & San Bernardino Ave	Valley	NA	NA		Signalized	C	23.2	C	27.6
17	Crafton Ave & Mentone Blvd	Valley	Mentone	Redlands	Yes	Signalized	B	15.3	B	12.2
18	Sheep Creek Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop Controlled	B	13.7	F	53.2
19	Caughlin Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop Controlled	B	13.6	C	15.0
20	Oasis Rd & State Hwy 138	North Desert	Phelan/Pinon Hills	NA	Yes	Signalized	B	15.4	B	16.5
21	Beekley Rd & State Hwy 138	North Desert	Phelan/Pinon Hills	NA	Yes	Signalized	B	16.3	C	21.6
22	Sheep Creek Rd & Phelan Rd	North Desert	Phelan/Pinon Hills	NA		Signalized	C	23.3	C	24.6
23	Baldy Mesa Rd & Phelan Rd	North Desert	Phelan/Pinon Hills	NA		Signalized	C	28.1	C	23.5
24	Escondido Ave & Ranchero Rd	North Desert	Oak Hills	Hesperia		Signalized	B	17.0	B	18.8
25	Lake Gregory Dr & Rim of the World Hwy	Mountain	Crest Forest	NA	Yes	Signalized	B	12.7	B	11.7
26	State Route 173 & Rim of the World Hwy	Mountain	Lake Arrowhead	NA	Yes	Two-Way Stop Controlled	B	11.6	B	12.4
27	Lake Edge Rd & Village Rd	Mountain	Lake Arrowhead	NA	Yes	All-Way Stop Controlled	A	9.0	B	11.9
28	Live Oak Dr & City Creek Rd	Mountain	Hilltop	NA	Yes	Two-Way Stop Controlled	B	12.3	C	17.5
29	Live Oak Dr & Rim of the World Hwy	Mountain	Hilltop	NA	Yes	Two-Way Stop Controlled	B	12.0	B	12.1

Table 6 Existing Conditions Intersection Assessment										
ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Existing Conditions			
							AM Peak Hour		PM Peak Hour	
							LOS	Delay	LOS	Delay
30	Shore Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized	A	8.2	A	7.4
31	Division Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized	B	15.1	B	13.6
32	Greenway Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized	A	5.4	A	6.6
33	Barstow Rd & Rabbit Springs Rd	North Desert	Lucerne Valley	NA	Yes	Two-Way Stop Controlled	A	9.8	B	10.2
34	Barstow Rd & Old Woman Springs Rd	North Desert	Lucerne Valley	NA	Yes	All-Way Stop Controlled	A	8.6	A	9.6
35	Juniper Ave & Pioneer Dr	East Desert	Morongo Valley	NA		Two-Way Stop Controlled	A	9.3	A	9.5
36	Old Woman Springs Rd & Linn Rd	East Desert	Homestead Valley	NA	Yes	Two-Way Stop Controlled	A	9.5	A	9.6
37	Avalon Ave & Aberdeen Dr	East Desert	Homestead Valley	NA		All-Way Stop Controlled	A	8.1	A	7.4
38	Sunfair Rd & Broadway	East Desert	Joshua Tree	NA		Two-Way Stop Controlled	A	9.4	A	8.6
39	Death Valley Rd & Baker Blvd	North Desert	Baker	NA	Yes	All-Way Stop Controlled	A	8.6	A	9.0

Notes:

For two-way stop controlled intersections, LOS and delay are reported for the worst approach.

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
1	TRONA RD SOUTH OF STATE HWY 178	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	413	C or Better
2	FORT IRWIN RD SOUTH OF STARBRIGHT RD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	7,269	C or Better
3	FORT IRWIN RD NORTH OF YERMO CUTOFF	North Desert	Yermo	NA		65	3	Controlled/Limited Access Collector	6,068	C or Better
4	STATE HWY 58 WEST OF HINKLEY RD	North Desert	NA	Barstow	Yes	60	2	Divided Highway	13,111	C or Better
5	IRWIN RD NORTH OF OLD HWY 58	North Desert	NA	Barstow		55	2	Controlled/Limited Access Collector	1,515	C or Better
6	GHOST TOWN RD NORTH OF YERMO RD	North Desert	Yermo	NA		55	2	Major Arterial/Major Highway	1,754	C or Better
7	YERMO RD WEST OF CALICO RD	North Desert	Yermo	NA		55	2	Major Arterial/Major Highway	1,790	C or Better
8	DAGGETT YERMO RD NORTH OF SANTA FE ST	North Desert	Daggett	NA		55	2	Major Arterial/Major Highway	2,551	C or Better
9	NATIONAL TRAILS HWY EAST OF DAGGETT YERMO RD	North Desert	Daggett	NA		40	2	Major Arterial/Major Highway	716	C or Better
10	NATIONAL TRAILS HWY EAST OF HINKLEY RD	North Desert	NA	Barstow		55	2	Major Arterial/Major Highway	2,886	C or Better
11	WILD ROAD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	357	C or Better
12	INDIAN TRAIL SOUTH OF WILD RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	396	C or Better

Table 7 Existing Roadway Segment Assessment									
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
13	VISTA RD EAST OF MOUNTAIN RD	North Desert	Helendale	NA		50	2	Controlled/Limited Access Collector	7,976	C or Better
14	SHADOW MOUNTAIN RD WEST OF SILVER LAKES PKWY	North Desert	Helendale	NA		55	2	Controlled/Limited Access Collector	1,990	C or Better
15	NATIONAL TRAILS HIGHWAY SOUTH OF VISTA - CPC REQ	North Desert	Helendale	NA		55	2	Divided Highway	6,457	C or Better
16	STODDARD WELLS EAST OF CENTRAL RD	North Desert	NA	Apple Valley		40	2	Controlled/Limited Access Collector	68	C or Better
17	DALE EVANS PKWY	North Desert	NA	Apple Valley		55	2	Major Arterial/Major Highway	3,036	C or Better
18	NATIONAL TRAILS HWY NORTH OF POLISH LANE -CPC REQ	North Desert	Oro Grande	NA		45	2	Divided Highway	6,700	C or Better
19	NATIONAL TRAILS HIGHWAY NORTH OF 1ST -CPC REQUEST	North Desert	Oro Grande	NA		45	2	Major Arterial/Major Highway	8,221	C or Better
20	EL MIRAGE RD WEST OF LINSON ST	North Desert	NA	NA		55	2	Major Arterial/Major Highway	6,007	C or Better
21	SHEEP CREEK RD SOUTH OF EL MIRAGE RD	North Desert	NA	NA		55	2	Major Arterial/Major Highway	2,986	C or Better
22	PALMDALE RD WEST OF SHEEP CREEK RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	2	Major Arterial/Major Highway	3,882	C or Better
23	PALMDALE RD WEST OF CAUGHLIN RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	2	Major Arterial/Major Highway	8,882	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
24	STATE HWY 138 WEST OF OASIS RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	2	Major Arterial/Major Highway	15,450	D
25	PHELAN RD EAST OF SILVER ROCK RD	North Desert	Phelan/Pinon Hills	NA		55	2	Major Arterial/Major Highway	7,740	C or Better
26	BEEKLEY RD NORTH OF PHELAN RD - CPC REQUEST	North Desert	Phelan/Pinon Hills	NA		45	2	Controlled/Limited Access Collector	236	C or Better
27	JOHNSON RD NORTH OF SMOKE TREE RD	North Desert	Phelan/Pinon Hills	NA		55	2	Major Arterial/Major Highway	3,547	C or Better
28	PHELAN RD EAST OF JOHNSON RD	North Desert	Phelan/Pinon Hills	NA		55	2	Major Arterial/Major Highway	15,995	D
29	SUNNYSLOPE EAST OF SH 138 -CPC REQUEST	North Desert	Phelan/Pinon Hills	NA		25	2	Controlled/Limited Access Collector	68	C or Better
30	SHEEP CREEK RD SOUTH OF NIELSON RD	North Desert	Phelan/Pinon Hills	NA		40	2	Major Arterial/Major Highway	4,695	C or Better
31	STATE HWY 138 NORTH OF ANGELES CREST HWY	North Desert	Phelan/Pinon Hills	NA	Yes	55	4	Major Arterial/Major Highway	10,527	C or Better
32	BALDY MESA ROAD SOUTH MESQUITE	North Desert	Phelan/Pinon Hills	NA		25	2	Controlled/Limited Access Collector	32	C or Better
33	CALIENTE RD NORTH OF RANCHERO	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	2,980	C or Better
34	LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY	Mountain	NA	NA		35	2	Mountain Secondary Highway	1,842	C or Better
35	LYTLE CREEK CANYON RD SOUTH OF SYCAMORE DR	Mountain	Lytle Creek	NA		15	2	Mountain Secondary Highway	819	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
36	CAJON BLVD NORTH OF KENWOOD AVE	Mountain	NA	NA		55	2	Mountain Secondary Highway	3,536	D
37	GLEN HELEN PKWY NORTH OF I-215	Valley	NA	NA		40	2	Controlled/Limited Access Collector	3,813	C or Better
38	LYTLE CREEK RD NORTH OF DEVORE RD	Mountain	NA	Rialto		45	2	Mountain Secondary Highway	2,416	C or Better
39	MOUNTAIN AVE WEST OF EUCLID AVE	Valley	San Antonio Heights	Upland		45	2	Major Arterial/Major Highway	1,502	C or Better
40	MOUNTAIN AVE NORTH OF 25TH ST	Valley	San Antonio Heights	Upland		40	2	Major Arterial/Major Highway	796	C or Better
41	EUCLID AVE NORTH OF 25TH ST	Valley	San Antonio Heights	Upland		35	2	Divided Highway	1,169	C or Better
42	ARROW RTE WEST OF CALABASH AVE	Valley	NA	Fontana		45	2	Major Arterial/Major Highway	12,520	D
43	CHERRY AVE NORTH OF MERRILL AVE	Valley	NA	Fontana		40	4	Divided Highway	29,758	C or Better
44	MERRILL AVE EAST OF BEECH AVE	Valley	NA	Fontana		40	2	Controlled/Limited Access Collector	9,063	D
45	SAN BERNARDINO AVE WEST OF CHERRY AVE	Valley	NA	Fontana		55	4	Divided Highway	15,837	C or Better
46	VALLEY BLVD EAST OF COMMERCE DR	Valley	NA	Fontana		50	5	Major Arterial/Major Highway	20,156	C or Better
47	SAN BERNARDINO AVE EAST OF BEECH AVE	Valley	NA	Fontana		40	2	Divided Highway	8,723	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
48	SAN BERNARDINO AVE WEST OF CEDAR AVE	Valley	Bloomington	Rialto		40	2	Controlled/Limited Access Collector	6,659	C or Better
49	VALLEY BLVD WEST OF LOCUST AVE	Valley	Bloomington	Rialto		45	4	Major Arterial/Major Highway	18,053	C or Better
50	CEDAR AVE NORTH OF BLOOMINGTON AVE	Valley	Bloomington	Rialto		40	4	Major Arterial/Major Highway	27,980	D
51	VALLEY BLVD EAST OF CEDAR AVE	Valley	Bloomington	Rialto		35	4	Major Arterial/Major Highway	17,841	D
52	CEDAR AVE NORTH OF SLOVER AVE	Valley	Bloomington	Rialto		40	4	Major Arterial/Major Highway	29,057	D
53	SLOVER AVE EAST OF LOCUST AVE	Valley	Bloomington	Rialto		50	4	Major Arterial/Major Highway	6,961	C or Better
54	SANTA ANA AV WEST OF LINDEN AVE	Valley	Bloomington	Rialto		40	2	Controlled/Limited Access Collector	7,212	C or Better
55	JURUPA AVE EAST OF LOCUST AVE	Valley	Bloomington	Rialto		40	2	Major Arterial/Major Highway	3,313	C or Better
56	JURUPA AVE WEST OF SPRUCE AVE	Valley	Bloomington	Rialto		40	2	Major Arterial/Major Highway	4,342	C or Better
57	CEDAR AVE SOUTH OF 11TH ST	Valley	Bloomington	Rialto		45	4	Major Arterial/Major Highway	21,927	D

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
58	BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	1,459	C or Better
59	BARSTOW RD NORTH OF NORTHSIDE RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	1,632	C or Better
60	NORTHSIDE RD EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA		45	2	Controlled/Limited Access Collector	105	C or Better
61	BARSTOW RD NORTH OF RABBIT SPRINGS RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	1,909	C or Better
62	RABBIT SPRINGS RD EAST OF STATE HWY 18	North Desert	Lucerne Valley	NA		55	2	Controlled/Limited Access Collector	952	C or Better
63	RABBIT SPRINGS RD EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA		55	2	Controlled/Limited Access Collector	1,557	C or Better
64	STATE HWY 18 WEST OF HIGH RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	9,142	C or Better
65	OLD WOMAN SPRINGS RD WEST OF MIDWAY AVE	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	4,074	C or Better
66	OLD WOMAN SPRINGS RD EAST OF CAMP ROCK RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	2,689	C or Better
67	STATE HWY 18 EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA	Yes	35	2	Major Arterial/Major Highway	3,549	C or Better
68	CAMP ROCK RD SOUTH OF OLD WOMAN SPRINGS RD	North Desert	Lucerne Valley	NA		45	2	Major Arterial/Major Highway	569	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
69	STATE HIGHWAY 18 NORTH OF SHORE DR	Mountain	Bear Valley	NA		35	2	Mountain Major Highway	2,482	C or Better
70	SHAY RD EAST OF WIEBE RD	Mountain	Bear Valley	NA		35	2	Mountain Secondary Highway	1,747	C or Better
71	GREENSPOT BLVD SOUTH OF CLARK LN	Mountain	Bear Valley	NA		55	2	Mountain Major Highway	6,267	C or Better
72	SHORE DR EAST OF HOLDEN AVE	Mountain	Bear Valley	NA		40	2	Mountain Major Highway	5,600	C or Better
73	STANFIELD CUTOFF SOUTH OF N. SHORE DRIVE	Mountain	Bear Valley	NA		35	2	Mountain Major Highway	6,964	C or Better
74	SHORE DR NORTH OF STATE HIGHWAY 18	Mountain	Bear Valley	NA		45	2	Mountain Major Highway	1,313	C or Better
75	BIG BEAR BLVD EAST OF SHORE DR	Mountain	Bear Valley	NA		40	2	Mountain Major Highway	3,761	C or Better
76	STATE HIGHWAY 18 WEST OF SHORE DR	Mountain	Bear Valley	NA		40	3	Mountain Major Highway	3,988	C or Better
77	STATE HIGHWAY 18 WEST OF GREEN VALLEY LAKE RD	Mountain	Hilltop	NA		40	2	Mountain Major Highway	5,033	C or Better
78	STATE HIGHWAY 18 EAST OF HILLTOP BLVD	Mountain	Hilltop	NA		35	2	Mountain Major Highway	8,136	D
79	STATE ROUTE 18 NORTH OF HILLTOP BLVD	Mountain	Hilltop	NA		40	2	Mountain Major Highway	4,943	C or Better
80	CITY CREEK RD WEST OF LIVE OAK DR	Mountain	Hilltop	NA		55	2	Mountain Major Highway	7,828	C or Better
81	KUFFEL CANYON RD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		20	2	Mountain Secondary Highway	2,950	C or Better
82	RIM OF THE WORLD HWY WEST OF KUFFEL CANYON RD	Mountain	Lake Arrowhead	NA		45	2	Mountain Major Highway	5,446	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
83	ARROWHEAD VILLA ROAD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		30	2	Controlled/Limited Access Collector	1,131	C or Better
84	COTTAGE GROVE RD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		35	2	Mountain Major Highway	393	C or Better
85	STATE HWY 173 WEST OF DOLLY VARDEN DR	Mountain	Lake Arrowhead	NA		20	2	Mountain Major Highway	4,249	C or Better
86	STATE HWY 173 EAST OF LAKES EDGE RD	Mountain	Lake Arrowhead	NA		20	2	Mountain Secondary Highway	6,895	E
87	STATE HWY 173 S OF MOUNTAINS HOSPITAL ACCESS RD	Mountain	Lake Arrowhead	NA		25	2	Mountain Major Highway	4,879	C or Better
88	STATE HIGHWAY 173 NORTH OF BAY RD	Mountain	Lake Arrowhead	NA		25	2	Mountain Major Highway	479	C or Better
89	GRASS VALLEY RD SOUTH OF PENINSULA DR	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	3,592	D
90	NORTH BAY ROAD NORTH OF SR 189	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	7,088	E
91	DALEY CANYON RD SOUTH OF STATE HWY 189	Mountain	Lake Arrowhead	NA		30	2	Mountain Major Highway	8,417	D
92	BEAR SPRINGS RD SOUTH OF STATE HWY 189	Mountain	Lake Arrowhead	NA		35	2	Controlled/Limited Access Collector	743	C or Better
93	STATE HWY 189 WEST OF BEAR SPRINGS RD	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	4,302	D
94	NORTH RD WEST OF STATE HIGHWAY 189	Mountain	Crest Forest	NA		30	2	Mountain Secondary Highway	848	C or Better
95	STATE HIGHWAY 189 WEST OF PINECREST RD	Mountain	Crest Forest	NA		35	2	Mountain Secondary Highway	4,041	D
96	STATE HIGHWAY 18 EAST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		45	2	Mountain Major Highway	10,507	D

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
97	LAKE GREGORY DR SOUTH OF SAN MORITZ DR	Mountain	Crest Forest	NA		40	2	Mountain Major Highway	6,868	C or Better
98	SAN MORITZ DR EAST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		35	2	Mountain Secondary Highway	1,366	C or Better
99	LAKE DR WEST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		25	2	Mountain Secondary Highway	11,534	E
100	STATE HIGHWAY 18 EAST OF STATE HIGHWAY 138	Mountain	Crest Forest	NA		55	2	Mountain Major Highway	7,904	C or Better
101	STATE HIGHWAY 18 WEST OF STATE HIGHWAY 138	Mountain	Crest Forest	NA		55	4	Mountain Major Highway	16,091	C or Better
102	STATE HIGHWAY 138 SOUTH OF VISTA LN	Mountain	Crest Forest	NA		30	2	Mountain Major Highway	470	C or Better
103	STATE HIGHWAY 138 EAST OF OLD MILL RD	Mountain	Crest Forest	NA		30	2	Mountain Major Highway	1,320	C or Better
104	CREST FOREST DR WEST OF PONDEROSA DR	Mountain	Crest Forest	NA		25	2	Mountain Secondary Highway	656	C or Better
105	3RD STREET WEST OF CAJON - CPC REQUEST	Valley	Muscoy	San Bernardino		25	2	Controlled/Limited Access Collector	2,442	C or Better
106	OGDEN ST EAST OF BRONSON ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	1,924	C or Better
107	DUFFY ST SOUTH OF OGDEN ST	Valley	Muscoy	San Bernardino		25	2	Controlled/Limited Access Collector	1,155	C or Better
108	MACY STREET SOUTH OF OGDEN - CPC REQUEST	Valley	Muscoy	San Bernardino		35	2	Major Arterial/Major Highway	1,719	C or Better
109	STATE STREET SOUTH OF CAJON - CPC REQUEST	Valley	NA	San Bernardino		40	4	Major Arterial/Major Highway	10,600	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
110	JUNE ST SOUTH OF OGDEN ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	1,103	C or Better
111	BLAKE ST WEST OF DUFFY ST	Valley	Muscoy	San Bernardino		30	2	Controlled/Limited Access Collector	1,705	C or Better
112	DARBY ST WEST OF MACY ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	3,976	C or Better
113	STATE ST SOUTH OF BLAKE ST	Valley	Muscoy	San Bernardino		40	2	Major Arterial/Major Highway	10,635	D
114	MACY ST SOUTH OF DARBY ST	Valley	Muscoy	San Bernardino		35	2	Major Arterial/Major Highway	6,750	C or Better
115	CALIFORNIA ST NORTH OF HIGHLAND AVE	Valley	Muscoy	San Bernardino		40	2	Controlled/Limited Access Collector	7,212	E
116	OLIVE ST WEST OF RANCHO AVE	Valley	NA	Colton		35	2	Controlled/Limited Access Collector	4,635	C or Better
117	ALABAMA STREET SOUTH OF SAN BERNARDINO	Valley	NA	NA		40	5	Major Arterial/Major Highway	15,659	C or Better
118	MENTONE AVE WEST OF OPAL AVE	Valley	Mentone	Redlands	Yes	40	2	Major Arterial/Major Highway	18,340	E
119	OPAL AVE SOUTH OF NICE AVE	Valley	Mentone	Redlands		35	2	Controlled/Limited Access Collector	1,046	C or Better
120	CRAFTON AVE SOUTH OF COLTON AVE	Valley	Mentone	Redlands		40	2	Major Arterial/Major Highway	6,342	C or Better
121	5TH AVE EAST OF WALNUT ST	Valley	Mentone	Redlands		45	2	Controlled/Limited Access Collector	7,089	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
122	SAND CANYON EAST OF CRAFTON	Valley	Mentone	Redlands		50	4	Major Arterial/Major Highway	11,100	C or Better
123	GARNET STREET AT BRIDGE	Valley	Mentone	Redlands		50	2	Controlled/Limited Access Collector	3,519	C or Better
124	MILL CREEK RD EAST OF GARNET AVE	Valley	Mentone	Redlands	Yes	50	2	Major Arterial/Major Highway	8,138	C or Better
125	OAK GLEN RD NORTH OF CHAGALL RD	Valley	Oak Glen	NA		50	2	Controlled/Limited Access Collector	2,462	C or Better
126	OAK GLEN RD SOUTH OF PISGAH PEAK RD	Mountain	Oak Glen	NA		45	2	Controlled/Limited Access Collector	2,102	C or Better
127	OLD WOMAN SPRINGS RD WEST OF GRAND VIEW RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	2,222	C or Better
128	OLD WOMAN SPRINGS RD NORTH OF RECHE RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	3,261	C or Better
129	RECHE RD WEST OF BELFIELD BLVD	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,353	C or Better
130	OLD WOMAN SPRINGS RD NORTH OF PIPES CANYON RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	5,045	C or Better
131	PIPES CANYON RD EAST OF PIONEERTOWN RD	East Desert	Pioneertown	NA		55	2	Major Arterial/Major Highway	385	C or Better
132	PIONEERTOWN RD SOUTH OF PIPES CANYON RD	East Desert	Pioneertown	NA		55	2	Major Arterial/Major Highway	565	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
133	TWENTYNINE PALMS HWY NOTRH OF HIGHLAND RD	East Desert	Morongo Valley	NA	Yes	60	4	Major Arterial/Major Highway	19,825	C or Better
134	TWENTYNINE PALMS HWY NORTH OF WEST DR	East Desert	Morongo Valley	NA	Yes	50	4	Major Arterial/Major Highway	20,213	C or Better
135	STATE HWY 62 SOUTH OF SENILS DR	East Desert	Morongo Valley	NA	Yes	50	4	Major Arterial/Major Highway	20,364	C or Better
136	ABERDEEN DR WEST OF AVALON AVE	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,028	C or Better
137	AVALON AVE NORTH OF ABERDEEN DR	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,821	C or Better
138	ABERDEEN DR EAST OF YUCCA MESA RD	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,663	C or Better
139	BORDER AVE NORTH OF ABERDEEN DR	East Desert	Joshua Tree	NA		55	2	Major Arterial/Major Highway	1,387	C or Better
140	YUCCA MESA RD NORTH OF BARRON DR	East Desert	Joshua Tree	NA		55	2	Major Arterial/Major Highway	4,865	C or Better
141	LA CONTENTA RD NORTH OF ALTA LOMA RD	East Desert	Joshua Tree	NA		55	2	Controlled/Limited Access Collector	2,266	C or Better
142	ALTA LOMA RD WEST OF OLYMPIC RD	East Desert	Joshua Tree	NA		55	2	Controlled/Limited Access Collector	6,138	C or Better

Table 7 Existing Roadway Segment Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Existing Number of Lanes	Facility Type	ADT	LOS
143	TWEHTYNINE PALMS HIGHWAY WEST OF SUNNY VISTA RD	East Desert	Joshua Tree	NA	Yes	60	4	Major Arterial/Major Highway	20,239	C or Better
144	TWENTYNINE PALMS HIGHWAY WEST OF RICE AVE	East Desert	Joshua Tree	NA	Yes	60	4	Major Arterial/Major Highway	16,964	C or Better
145	QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR	East Desert	Joshua Tree	NA		55	2	Major Arterial/Major Highway	2,254	C or Better
146	TWENTYNINE PALMS HWY EAST OF GODWIN RD	East Desert	NA	NA	Yes	55	2	Major Arterial/Major Highway	417	C or Better
147	AMBOY RD EAST OF GODWIN RD	East Desert	NA	NA		55	2	Major Arterial/Major Highway	1,267	C or Better
148	AMBOY RD SOUTH OF NATIONAL TRAILS HWY	East Desert	NA	NA		55	2	Major Arterial/Major Highway	853	C or Better
149	NATIONAL TRAILS HWY EAST OF AMBOY RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	950	C or Better
150	ESSEX RD SOUTH OF I-40	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	83	C or Better
151	GOFFS ROAD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	400	C or Better
152	NIPTON RD WEST OF MORNING STAR MINE RD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	1,101	C or Better
153	KINGSTON RD SOUTH OF MESQUITE VALLEY RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	48	C or Better

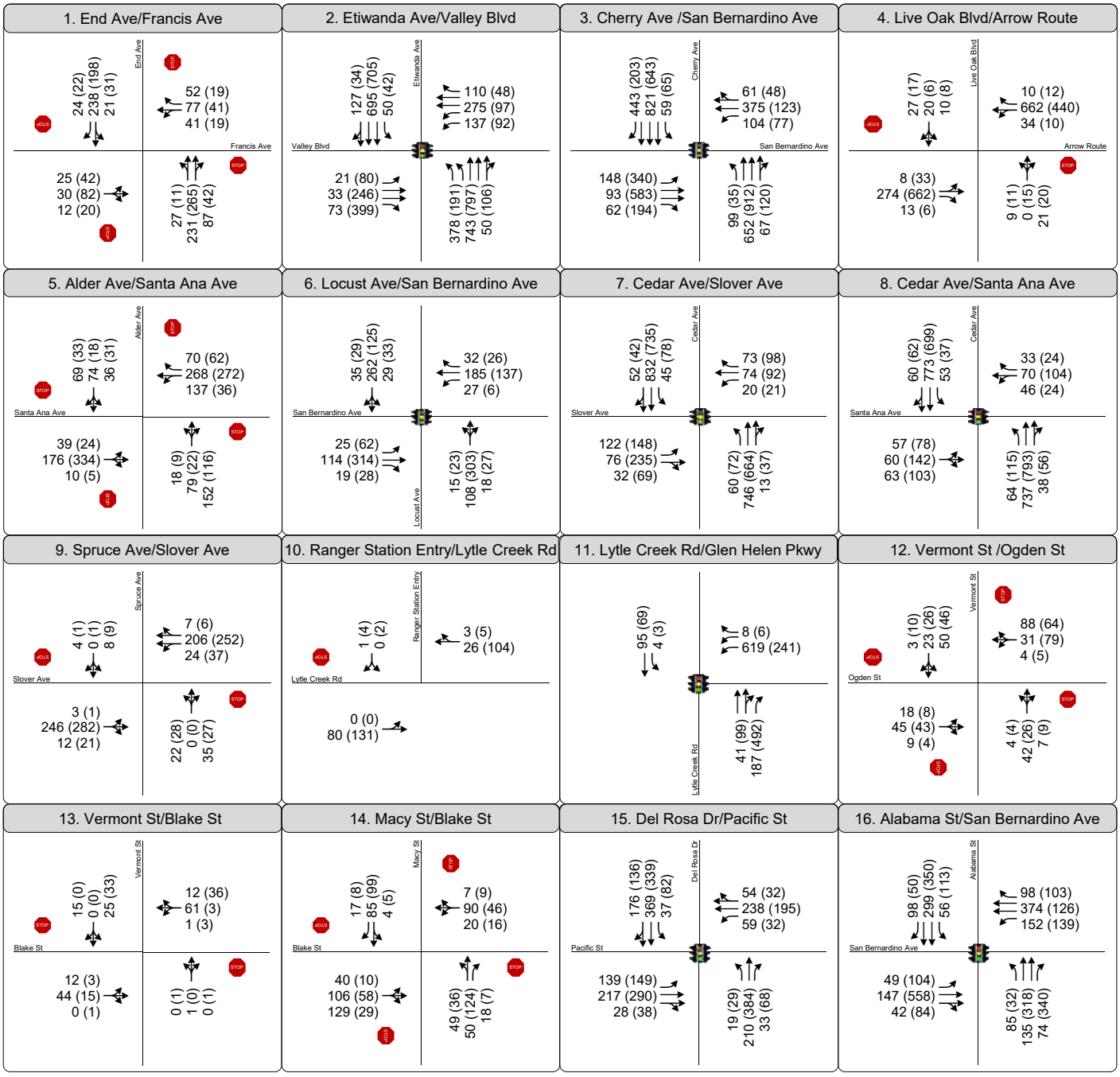


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Existing (2017) Conditions

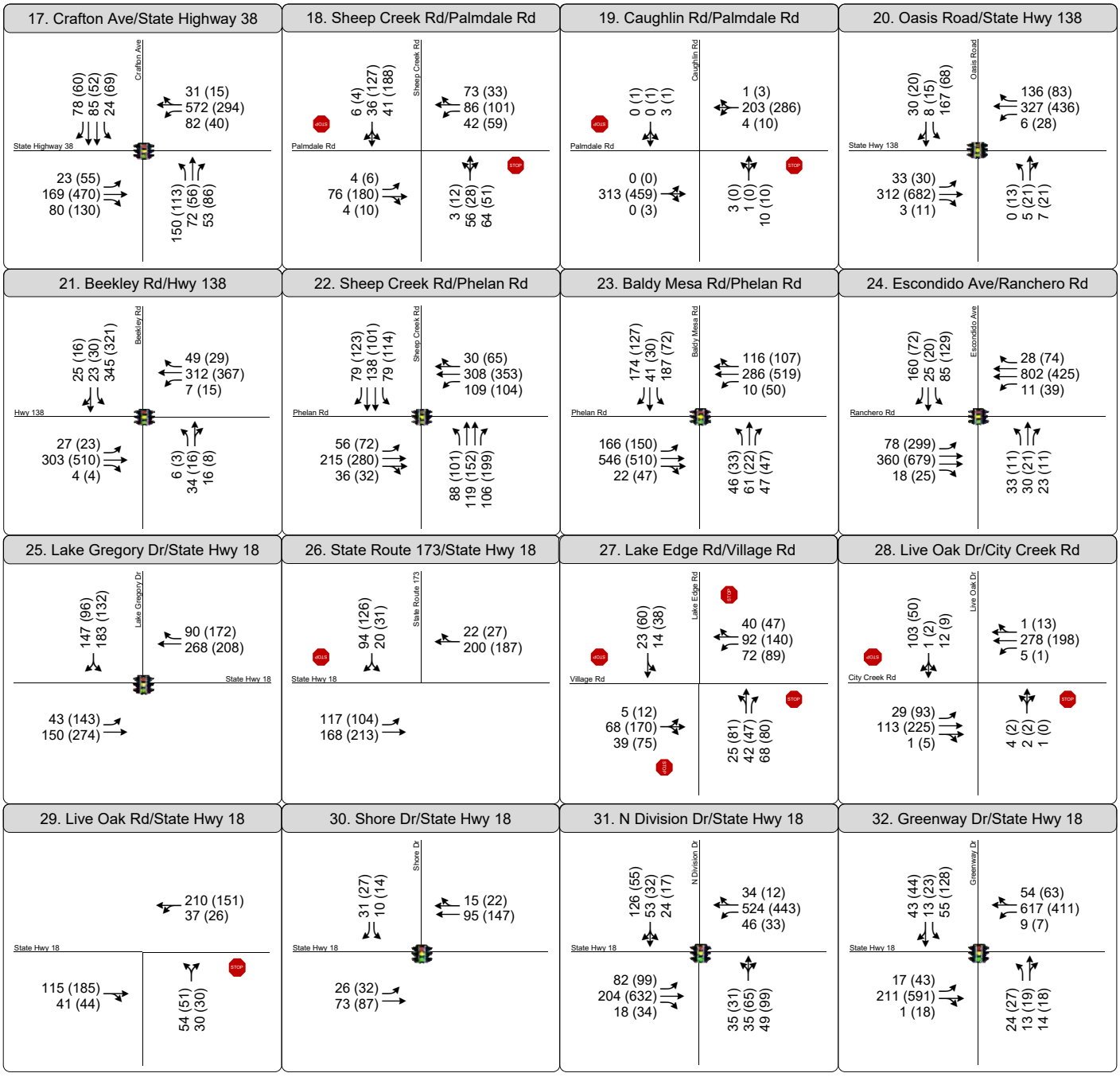


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Existing (2017) Conditions

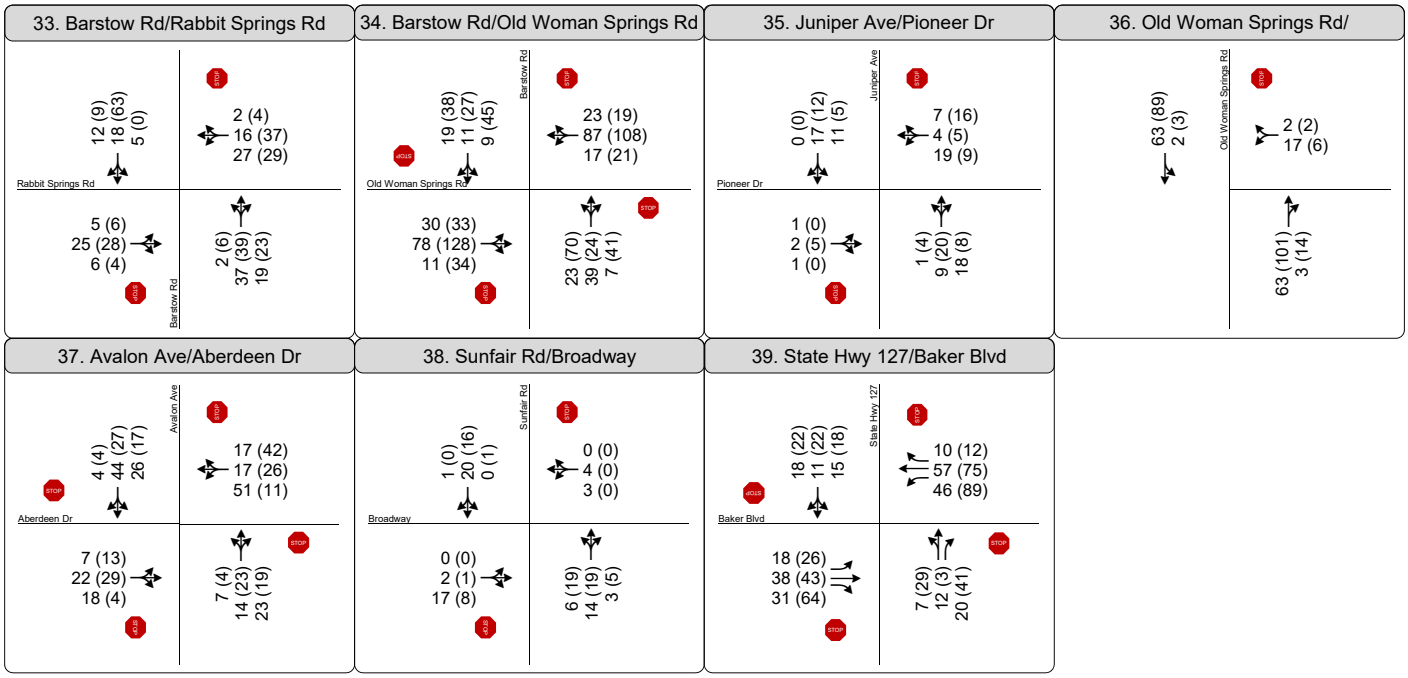


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Existing (2017) Conditions

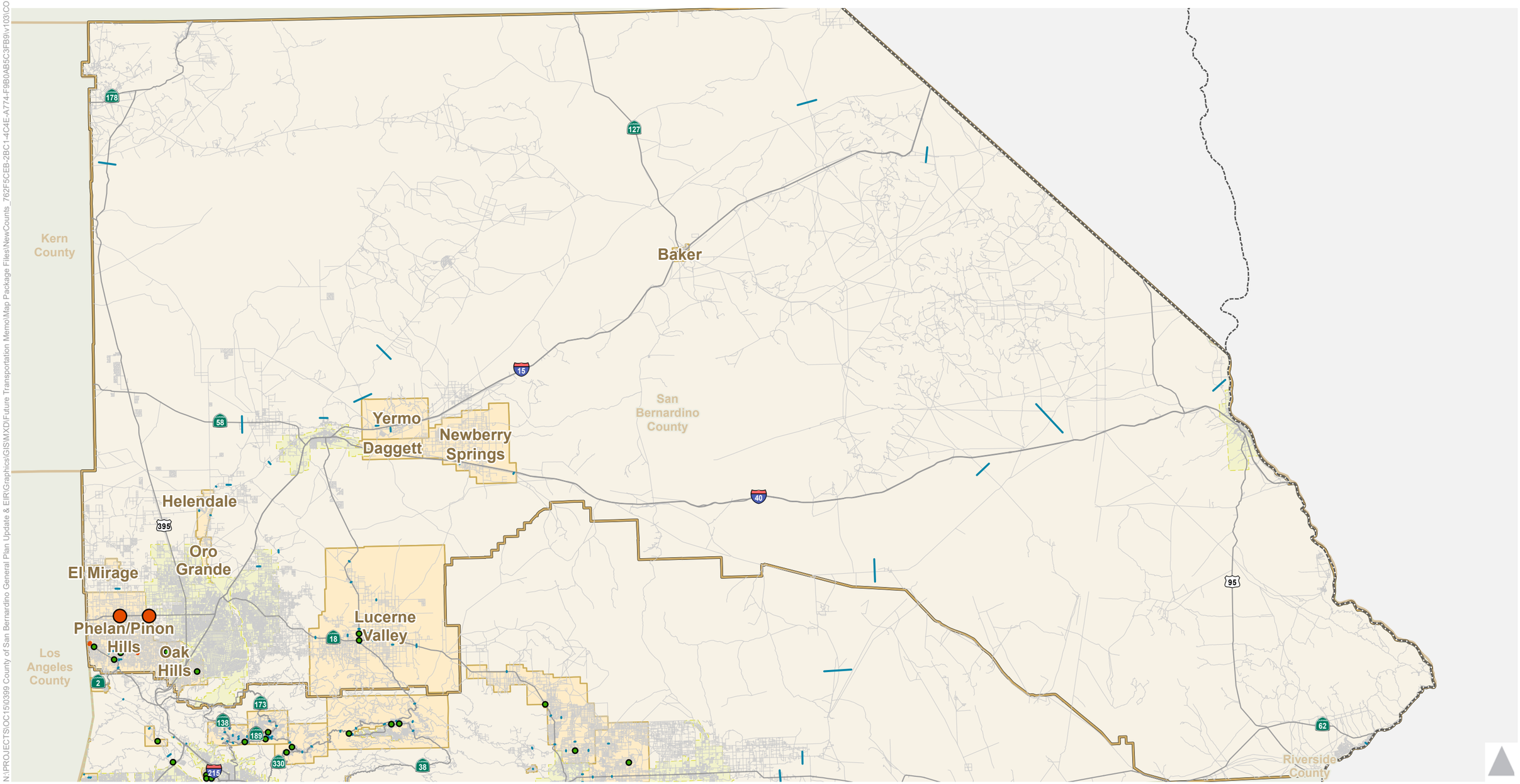
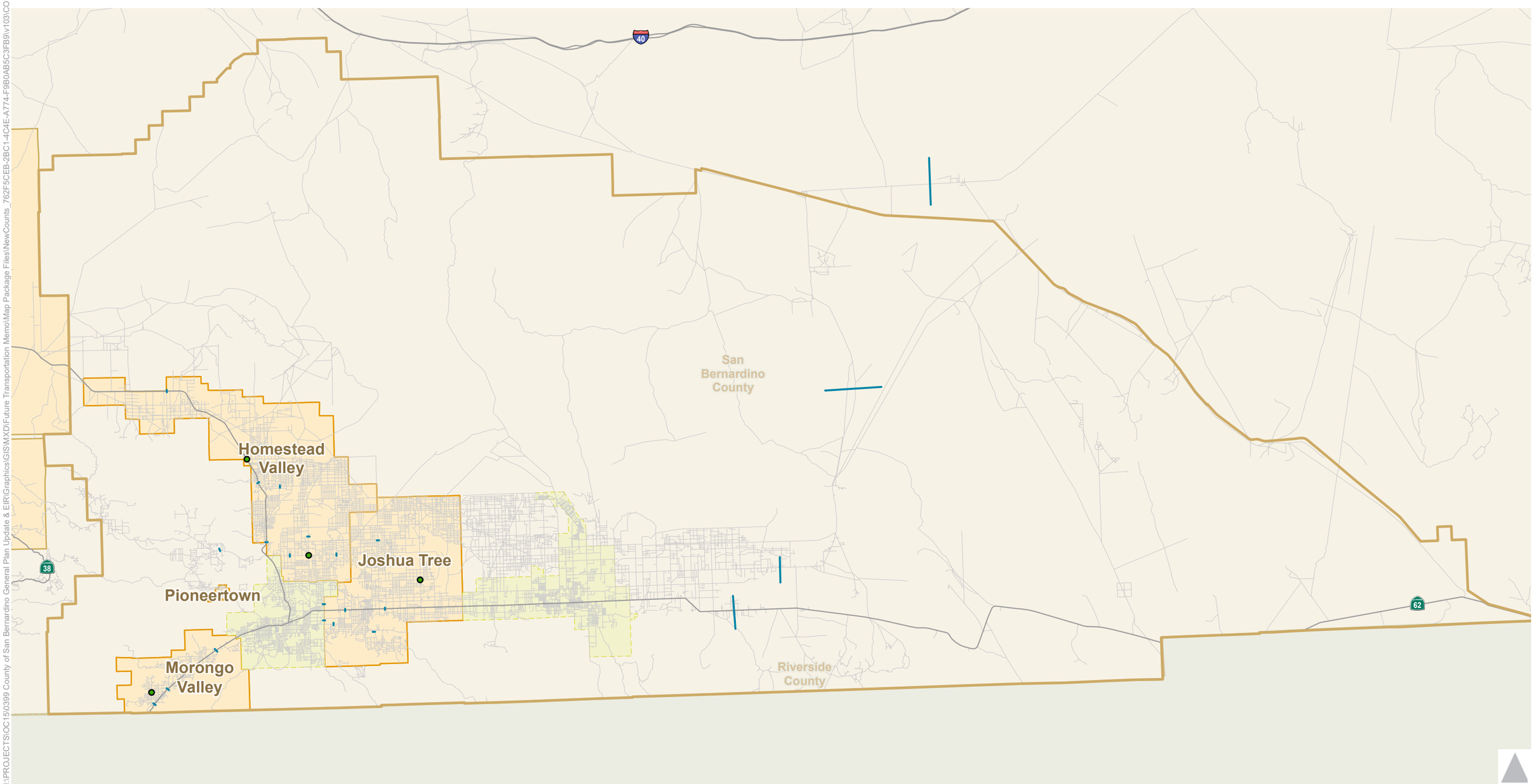


Figure 7.1

North Desert Region - Study Locations and Existing Conditions Failing Study Locations

N:\PROJECTS\OC150399 County of San Bernardino General Plan Update & EIR\Graphics\GIS\MXD\Future Transportation Memo\Map Package Files\NewCounts_762F5CEB-2BC1-4C4E-A774-F9B0AB5C3FB9\v103\COUNTY BY REG

N:\PROJECTS\OC15\03399 County of San Bernardino General Plan Update & EIR\Graphics\GIS\MXD\Future Transportation Memo\Map Package Files\NewCounts_762F5CEB-2BC1-4C4E-A774-F9B0AB5C3FB9\v103\COUNTY BY REG



Study Intersection
Failing Study Intersection
Study Roadway Segment
Failing Study Roadway Segment
EastDesert
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 7.2

East Desert Region - Study Locations and Existing Conditions Failing Study Locations

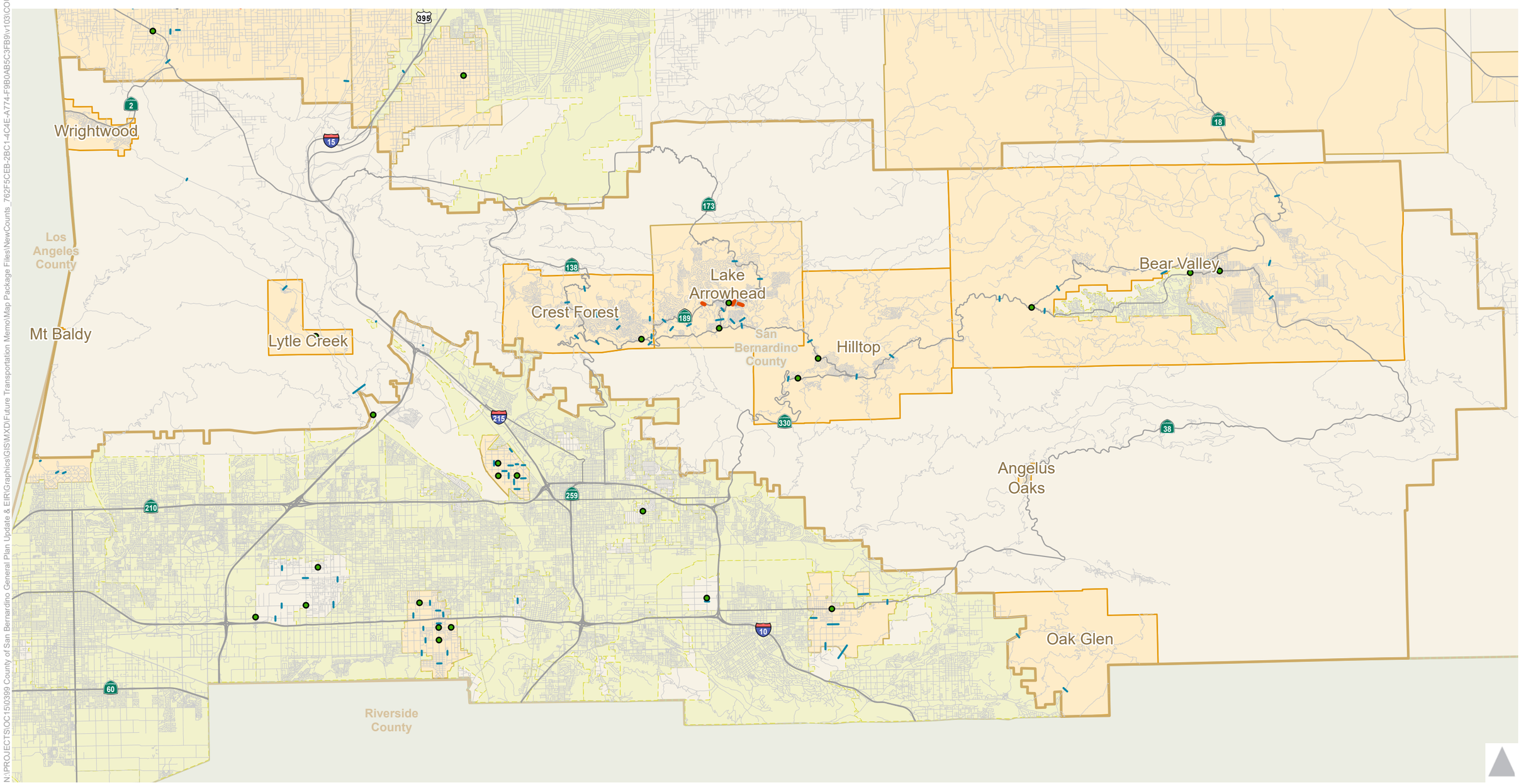
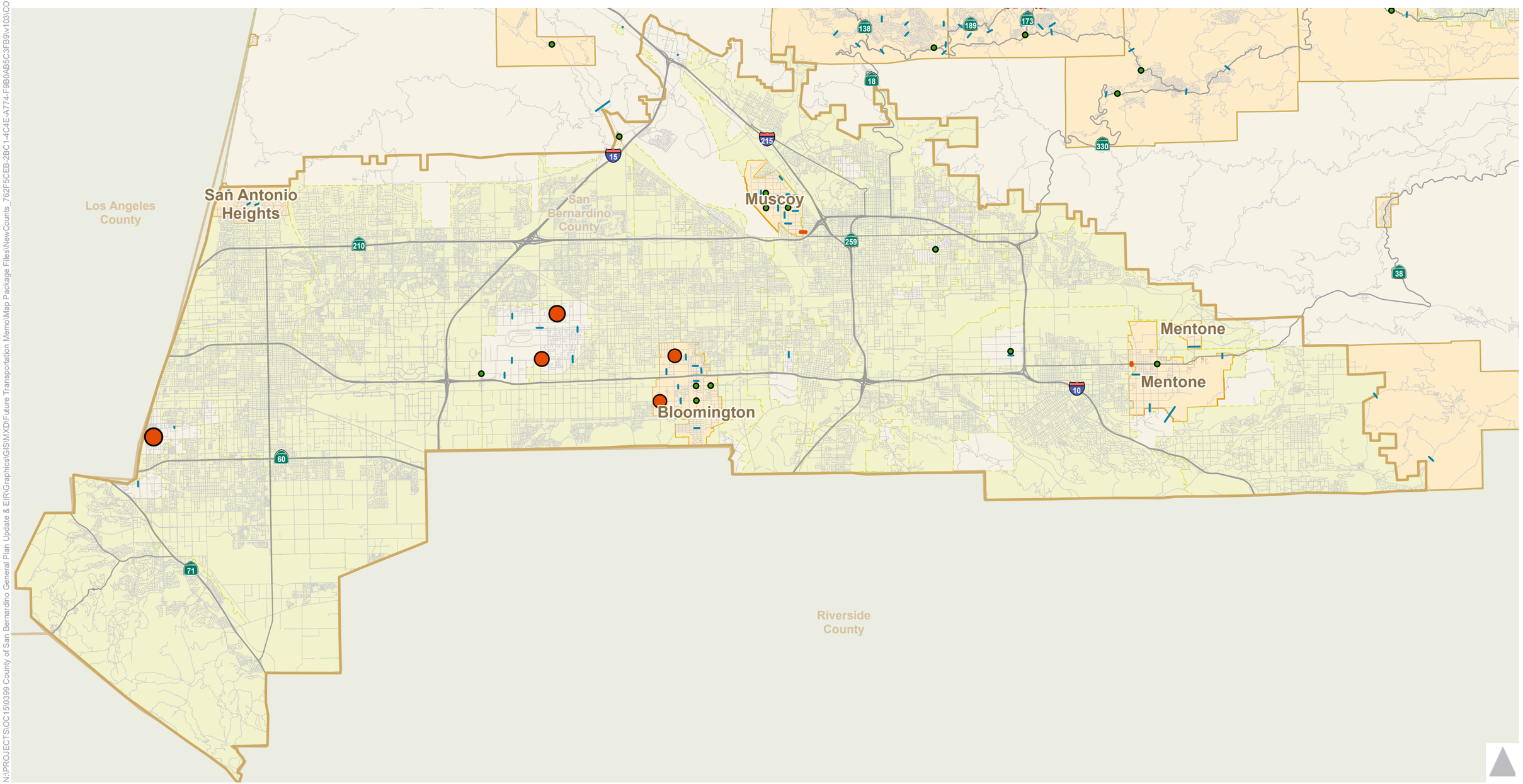


Figure 7.3

Study Locations and Existing Conditions Failing Study Locations - Mountain Region

N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Graphics\GIS\MXD\Future Transportation Memo\Map Package Files\NewCounts_762F5CEB-2BC1-4C4E-A774-F9B0AB5C3FB9\v103\COUNTY BY REG

N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Graphics\GIS\MXD\Future Transportation Memo\Map Package Files\NewCounts_762F5CEB-2BC1-4C4E-A774-F9B0AB5C3FB9\v103\COUNTY BY REGION



Study Intersection
Failing Study Intersection
Study Roadway Segment
Failing Study Roadway Segment
Valley
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 7.4

Study Locations and Existing Conditions Failing Study Locations - Valley Region

5.0 Future Year (2040) Conditions

5.1 Future Roadway Network

Proposed roadways and new/widened facilities are shown on **Figure 8**. These facilities are consistent with the planned RTP/SCS improvements described earlier in this report and the circulation map presented in the Draft Transportation & Mobility Element.

The General Plan also incorporates two other mobility plans prepared for the County and provided in Appendix E. These are the Mountain Area Study (MATS) and the Moronga Basin Area Transportation Study (MBATS).

5.2 Future Transit Facilities

Transit within the county consists of Metrolink, BRT, and local bus routes. Future transit is shown on **Figure 9**. Major transit improvements include proposed BRT along several major arterials, Redlands Light Rail, the extension of Metrolink to Redlands, California High Speed Rail, and Xpress West High Speed Rail. These future transit facilities are consistent with planned and funded regional transit facilities in the region and support Draft Transportation & Mobility Element policies related to transit.

The Draft Transportation & Mobility Element incorporates policies related to supporting transit in the study area. These include supporting trip reduction strategies to reduce the number and length of vehicular trips, first mile/last mile connectivity to enhance the viability of and expand the utility of public transit, transit access for residents in unincorporated areas, and transit access to job centers and tourist destinations

5.3 Future Bicycle Facilities

Future bicycle facilities are a mixture of Class I, Class II, Class III, and Class VI facilities. Future Bicycle facilities are shown on **Figure 10** and are consistent with SBCTA's Active Transportation Plan. Bicycle facility upgrades are extensive and support the Draft Transportation & Mobility Element policies related to bicycle facilities.

The Draft Transportation & Mobility Element incorporates policies related to supporting bicycle facilities in the study area. These include prioritizing multi-modal systems inside village and town cores, supporting first mile/last mile connectivity to transit, maintaining a network of complete streets to provide mobility opportunities for all users, implementing additional complete streets improvements when it fits the context

of the community, developing and maintaining local and regional bicycle networks, and promoting bicycle and pedestrian safety when infrastructure improvements are made. Additionally, ATP facilities for the Rim of the World and Big Bear areas are identified in their respective plans. It should also be noted that an ATP is currently under development for the Morongo Basin area which are incorporated into the General Plan.

5.4 Future Airports

In addition to the existing airports shown on **Figure 11** and described above, the Draft Transportation & Mobility Element includes the policies related to Airports. The policies allow for general aviation services, seek to maximize economic development potential of County airports, advocate for expanded passenger and cargo service at the County's regional airports, and require adherence to airport master plans.

5.5 Future Goods Movement Facilities

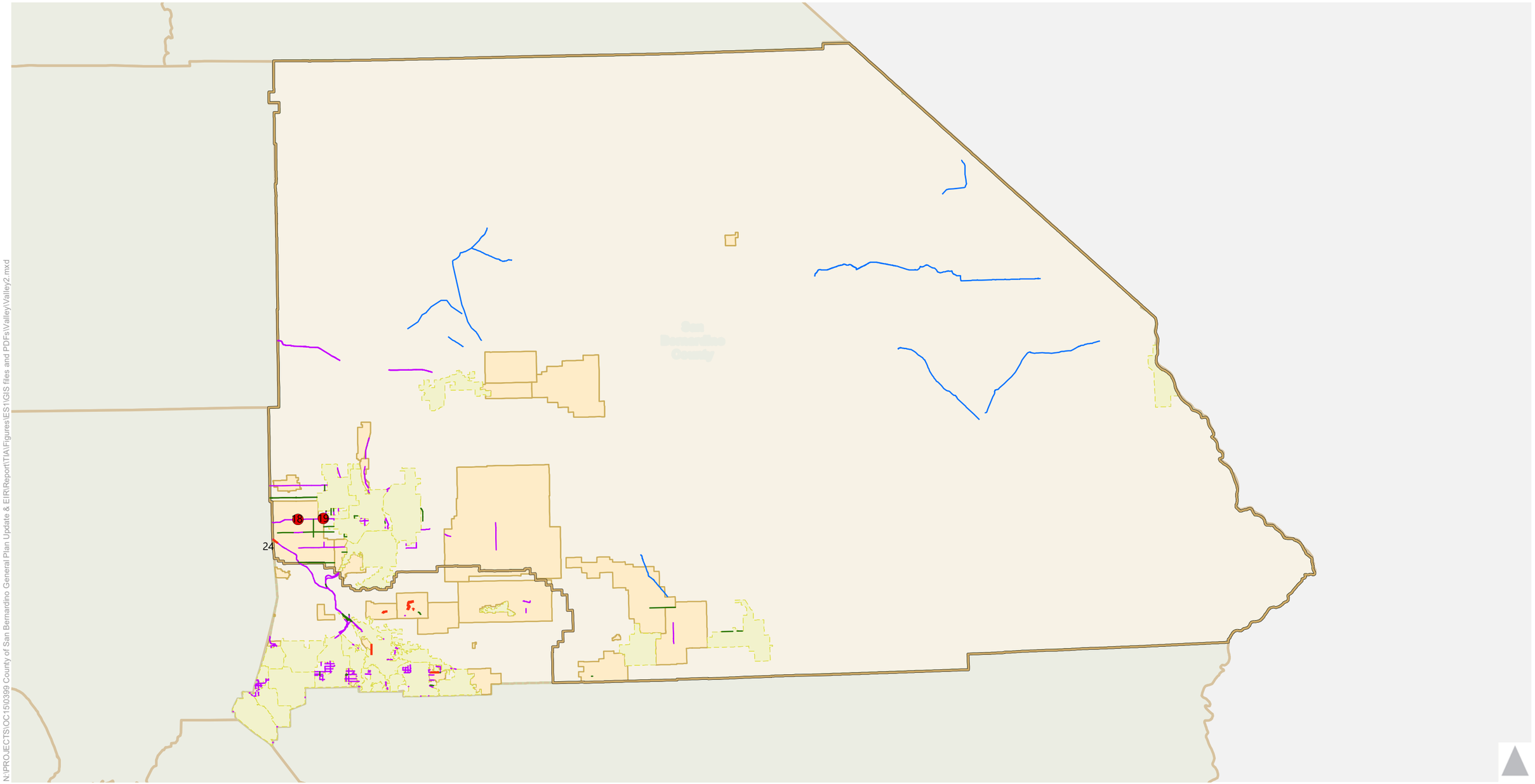
Goods movement within, into, and out of the county takes place primarily on rail and truck routes. Facilities accommodating goods movement in the County are shown on **Figure 12**. Improvements include new roadway facilities, such as the High Desert Corridor, as well as expanded facilities along SR-138 and I-15.

The Draft Transportation & Mobility Element includes policies to assist in supporting future goods movement in the County, such as advocating for maintaining an efficient goods movement network, supporting the development of an intermodal facility in connection with the Southern California Logistics Airport, supporting the development of the High Desert Corridor, supporting grade separations to reduce conflicts between rail facilities and roadways, and supporting the establishment of county wide truck routes and unincorporated truck routes to minimize impacts on residents in addition to efficiently distributing truck traffic.

5.6 Intersection Operation Analysis

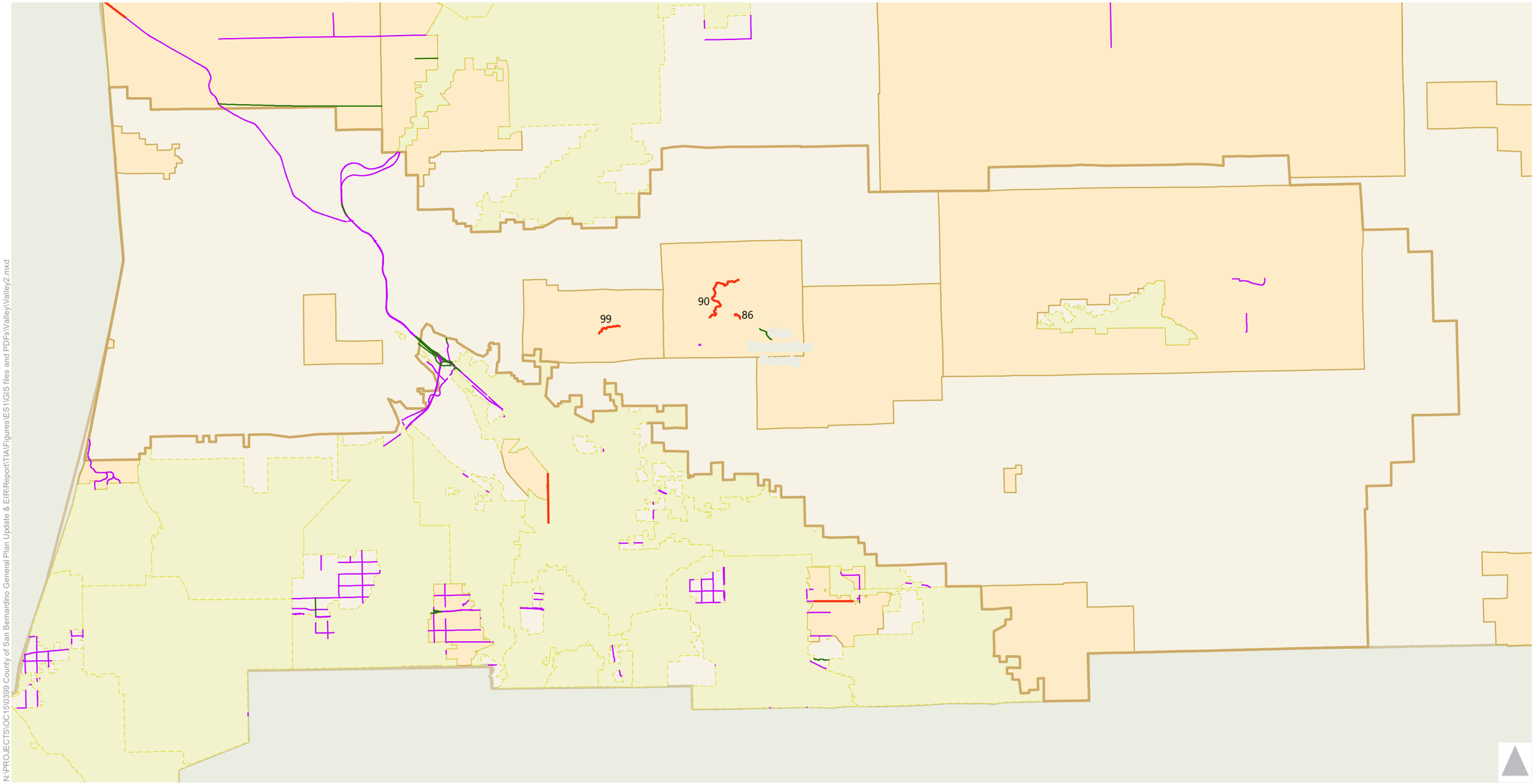
Intersection delay and level of service for the Cumulative (2040) With Project Conditions is provided in **Table 8. Figure 13** shows the Cumulative with Project intersection traffic volumes and lane configurations. The Cumulative with Project Synchro reports are provided in Appendix B.

N:\PROJECTS\OC15\03399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd



- Intersections Requiring Improvement
- Roadway Segments Needing Improvement
- RTP: New Facilities
- RTP: New Lanes/Widening
- Proposed Deletions
- Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County
- County Boundaries

Figure 8.1
Future Roadways
Desert Region

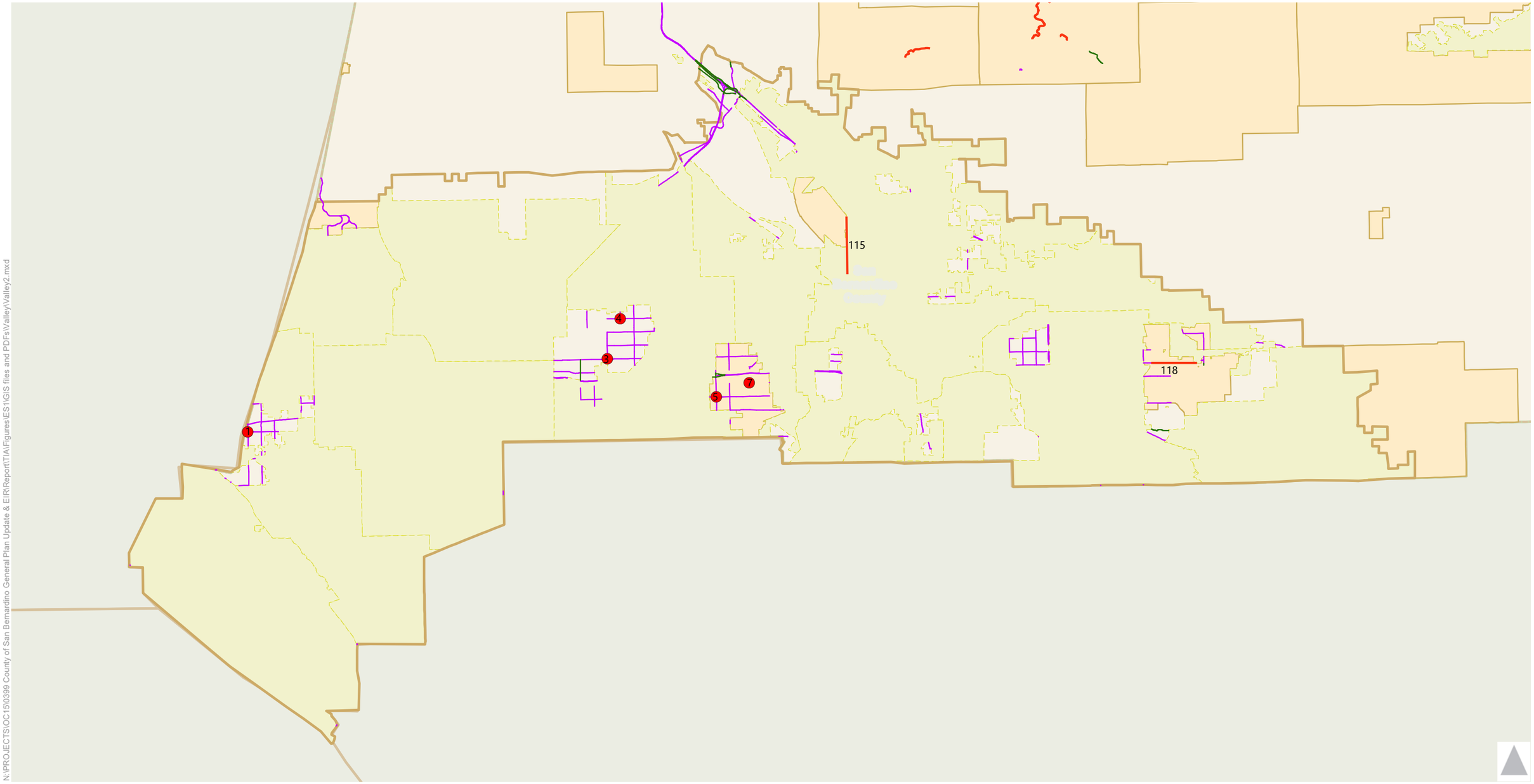


N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES11\GIS files and PDFs\Valley\Valley2.mxd

Roadway Segments Needing Improvement
RTP: New Facilities
RTP: New Lanes/Widening

Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County
County Boundaries

Figure 8.2
Future Roadways
Desert Region

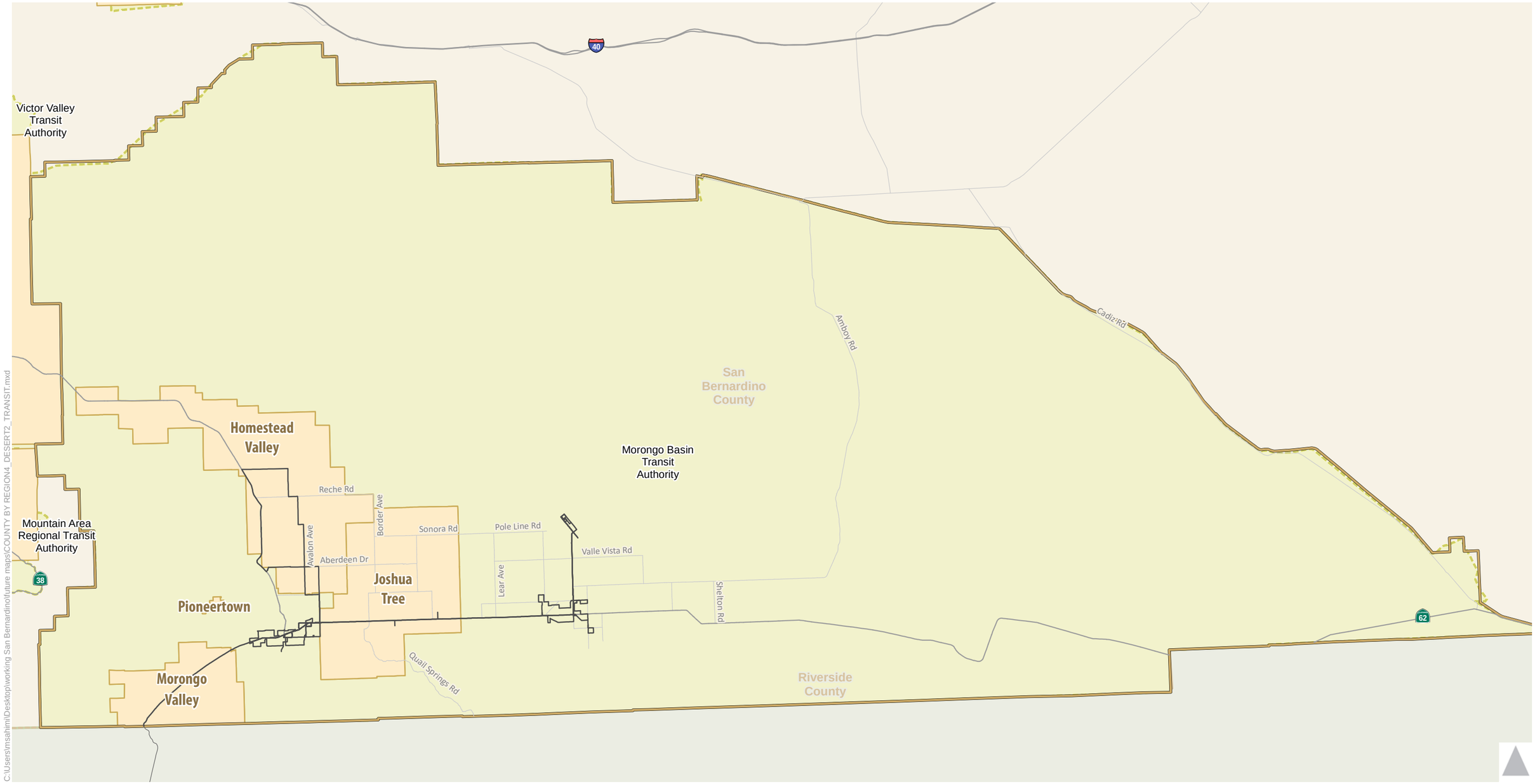


N:\PROJECTS\OC15\0399 County of San Bernardino General Plan Update & EIR\Report\TIA\Figures\ES1\GIS files and PDFs\Valley\Valley2.mxd

Roadway Segments Needing Improvement
Intersections Needing Improvement
RTP: New Facilities
RTP: New Lanes/Widening

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
County Boundaries

Figure 8.3
Future Roadways
Valley Region



Existing Bus Routes
Community Plan Boundaries
San Bernardino County
East Desert Region
Transit Service Areas

Figure 9.1

East Desert Region - Future Transit Routes

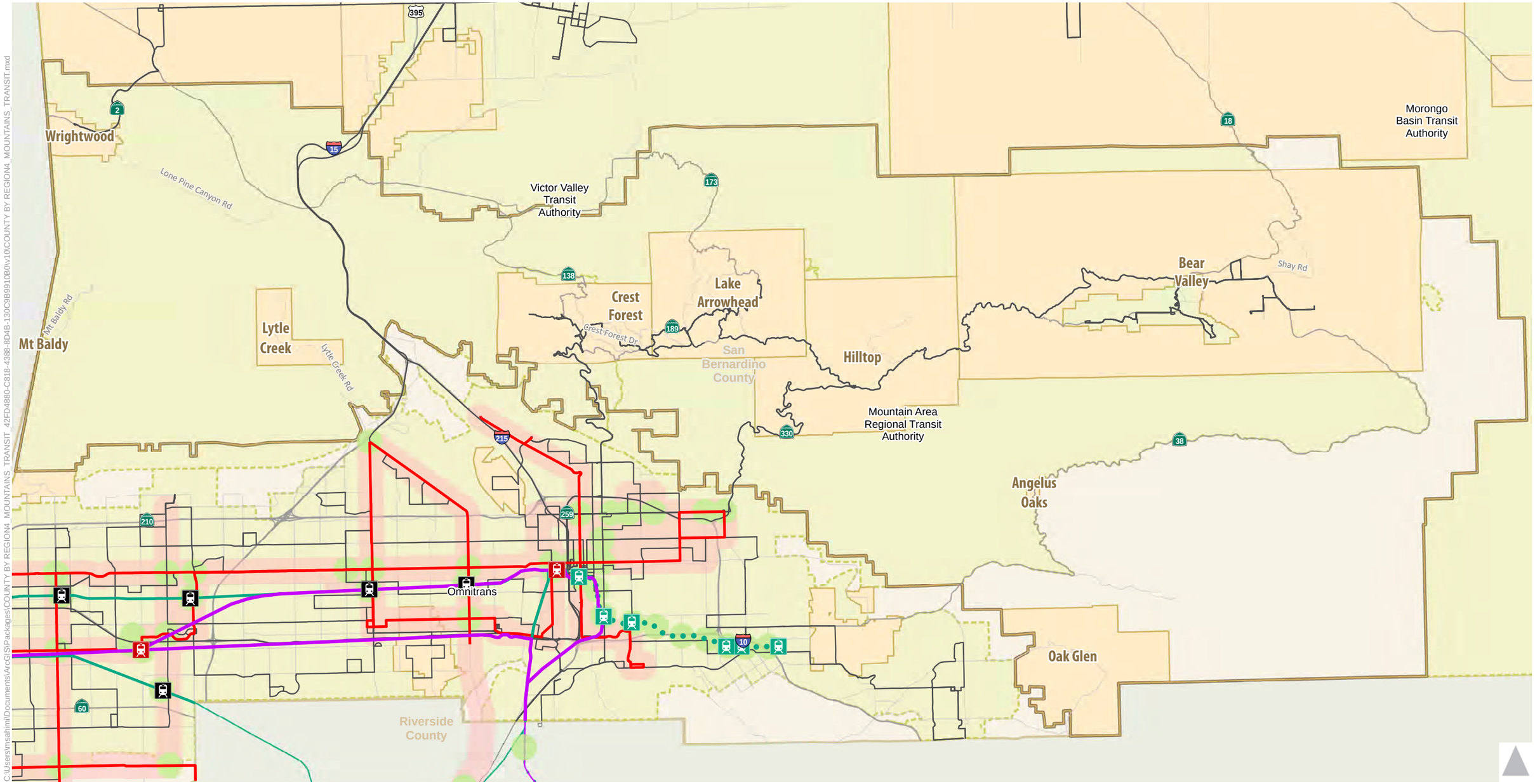
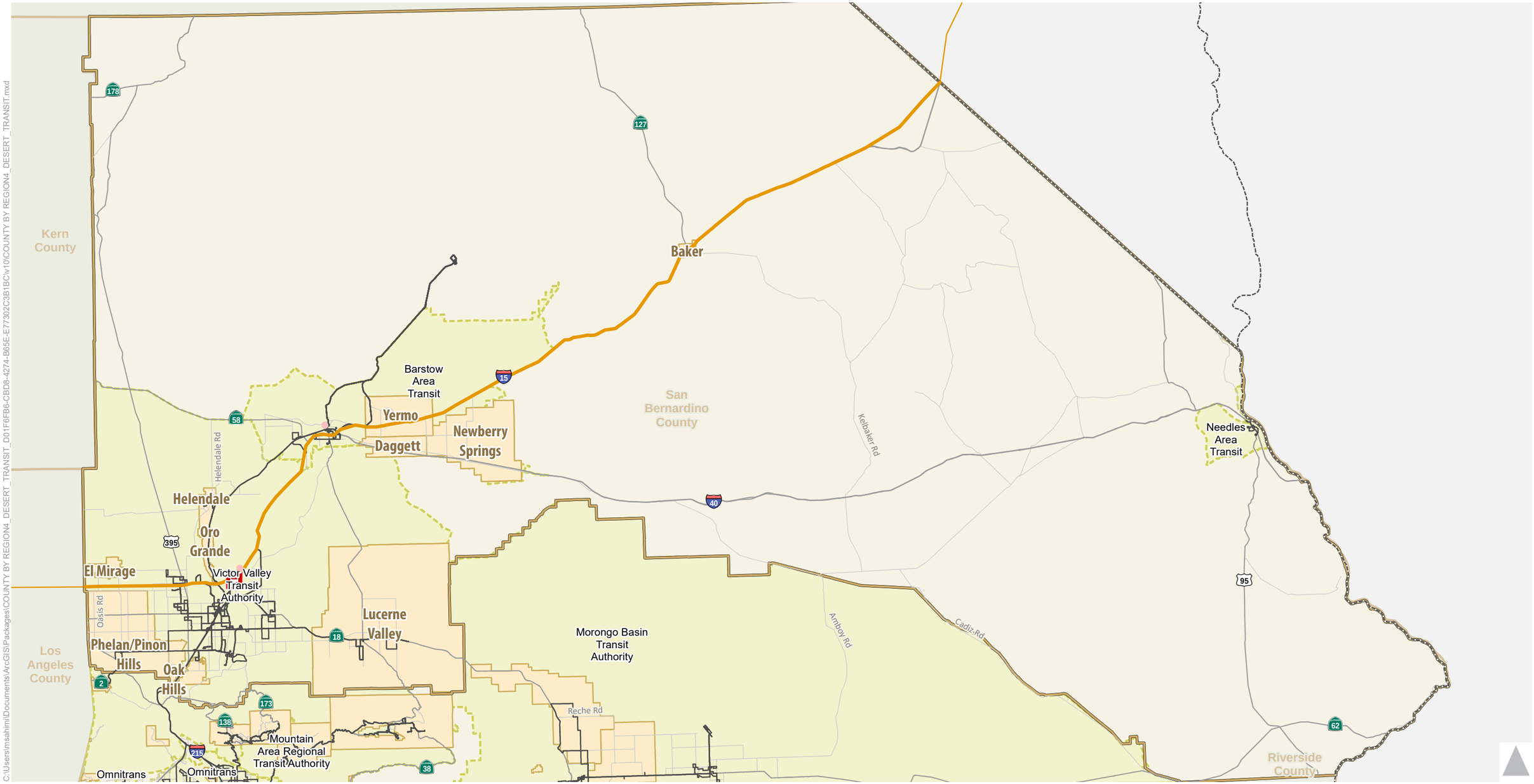


Figure 9.2

Mountain Region - Future Transit Routes

Notes: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes. Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.
High Speed Rail Phase 2 alignment is being developed and has not been finalized.

C:\Users\msahin\Documents\ArcGIS\Packages\COUNTY BY REGION4_MOUNTAINS_TRANSIT_42FD4880-C819-4388-8D4B-130C9B9910B0\v10\COUNTY BY REGION4_MOUNTAINS_TRANSIT.mxd

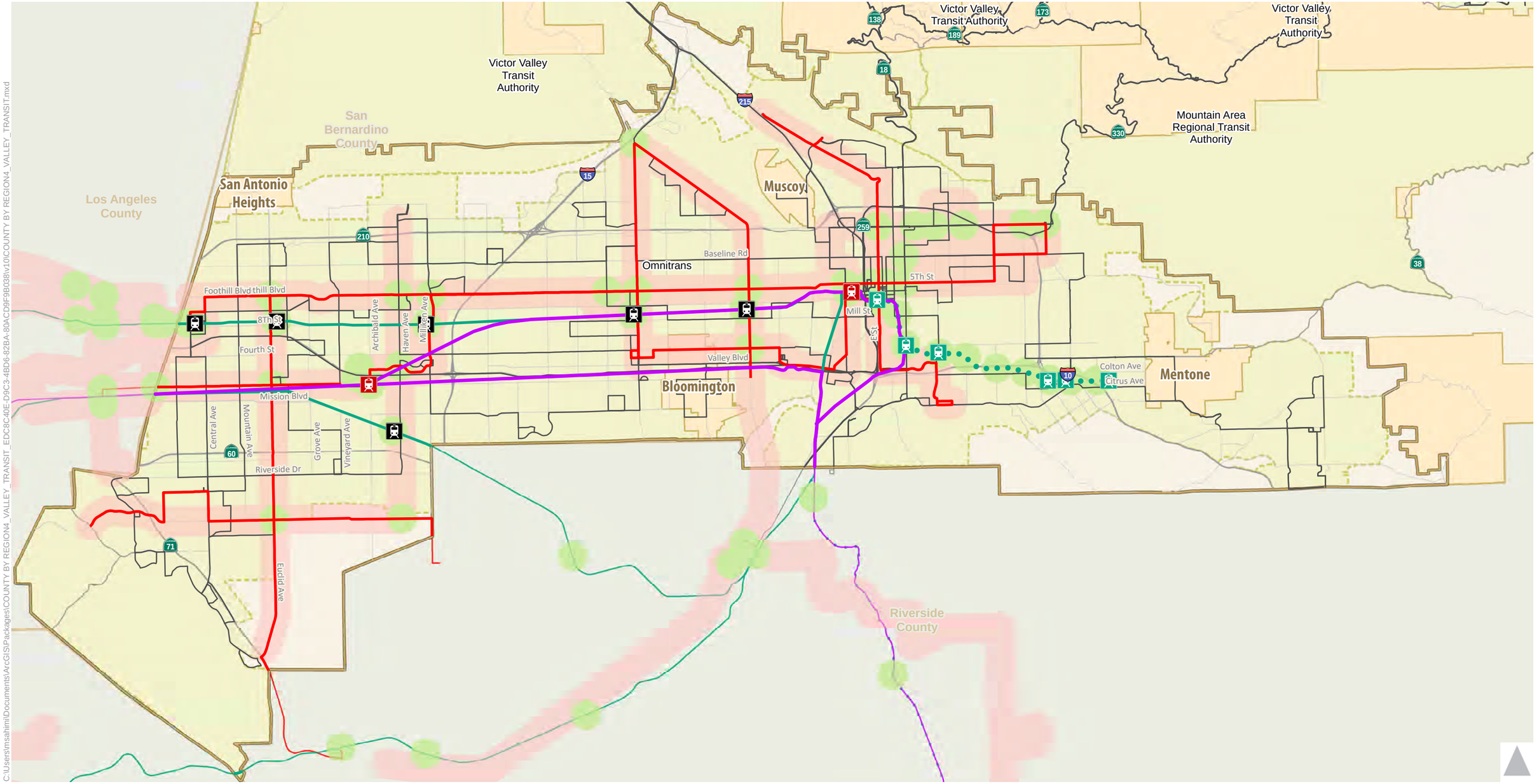


C:\Users\msahim\Documents\ArcGISPackages\COUNTY BY REGION4_DESERT_TRANSIT_D01F6FB6-CBD8-4274-B65E-E773022C3B1B\Cv10\COUNTY BY REGION4_DESERT_TRANSIT.mxd

Figure 9.3

North Desert Region - Future Transit Routes

Note: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.
Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.



C:\Users\imsahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_TRANSIT_EDC8C40E-D9C3-4BD6-82BA-80ACD9F9B038\v10\COUNTY BY REGION4_VALLEY_TRANSIT.mxd

Figure 9.4

Valley Region - Future Transit Routes

Notes: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes. Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.
High Speed Rail Phase 2 alignment is being developed and has not been finalized.

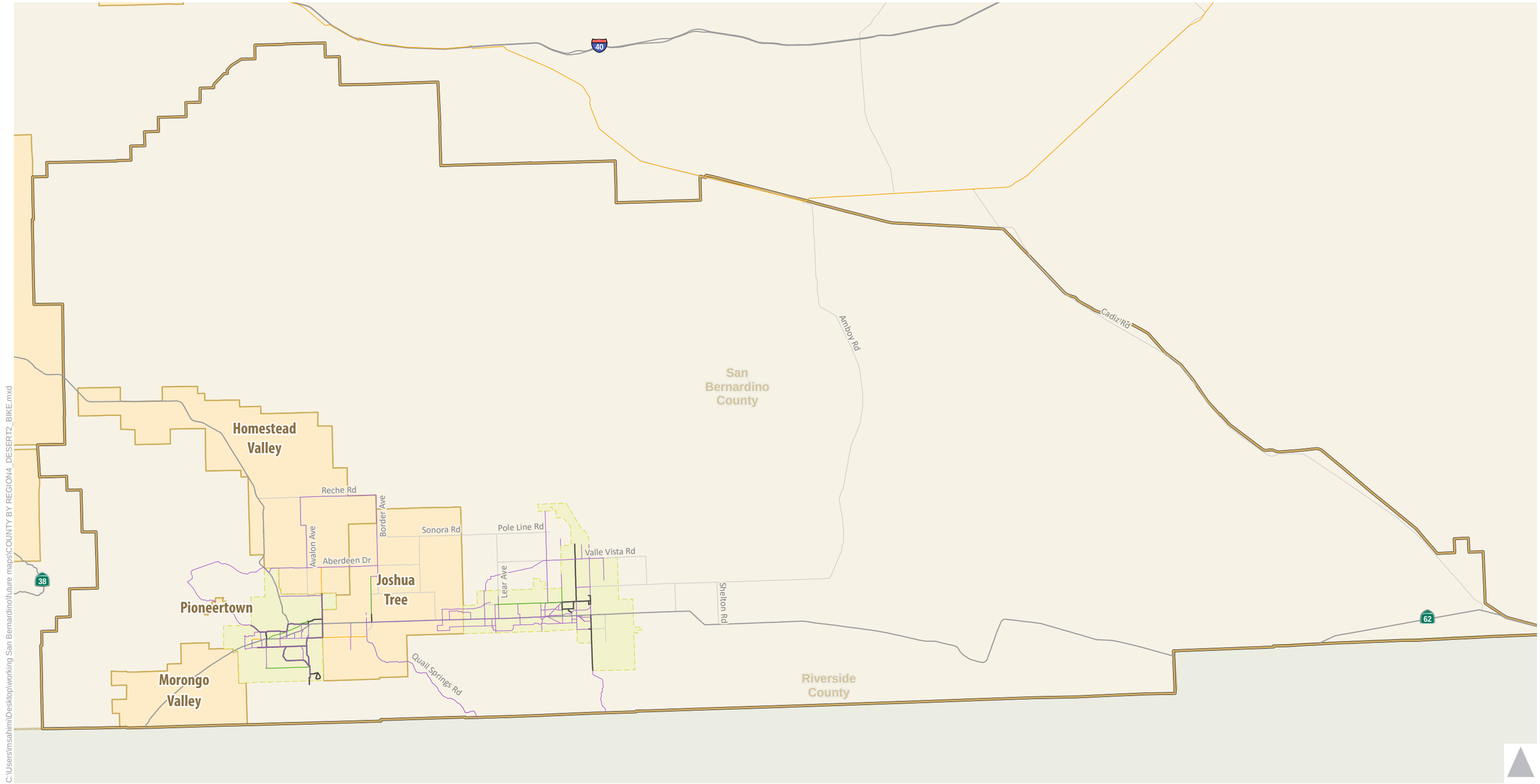
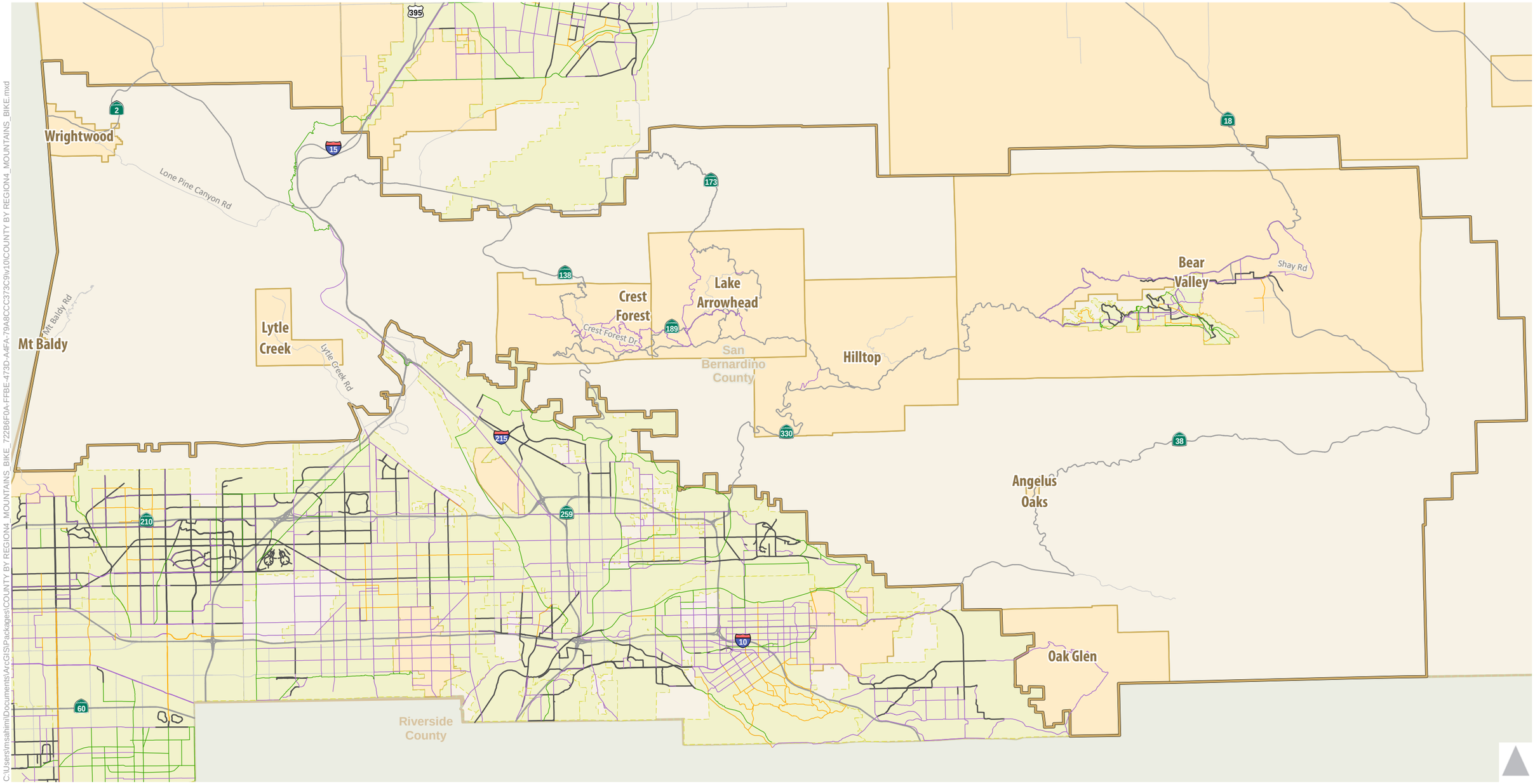


Figure 10.1

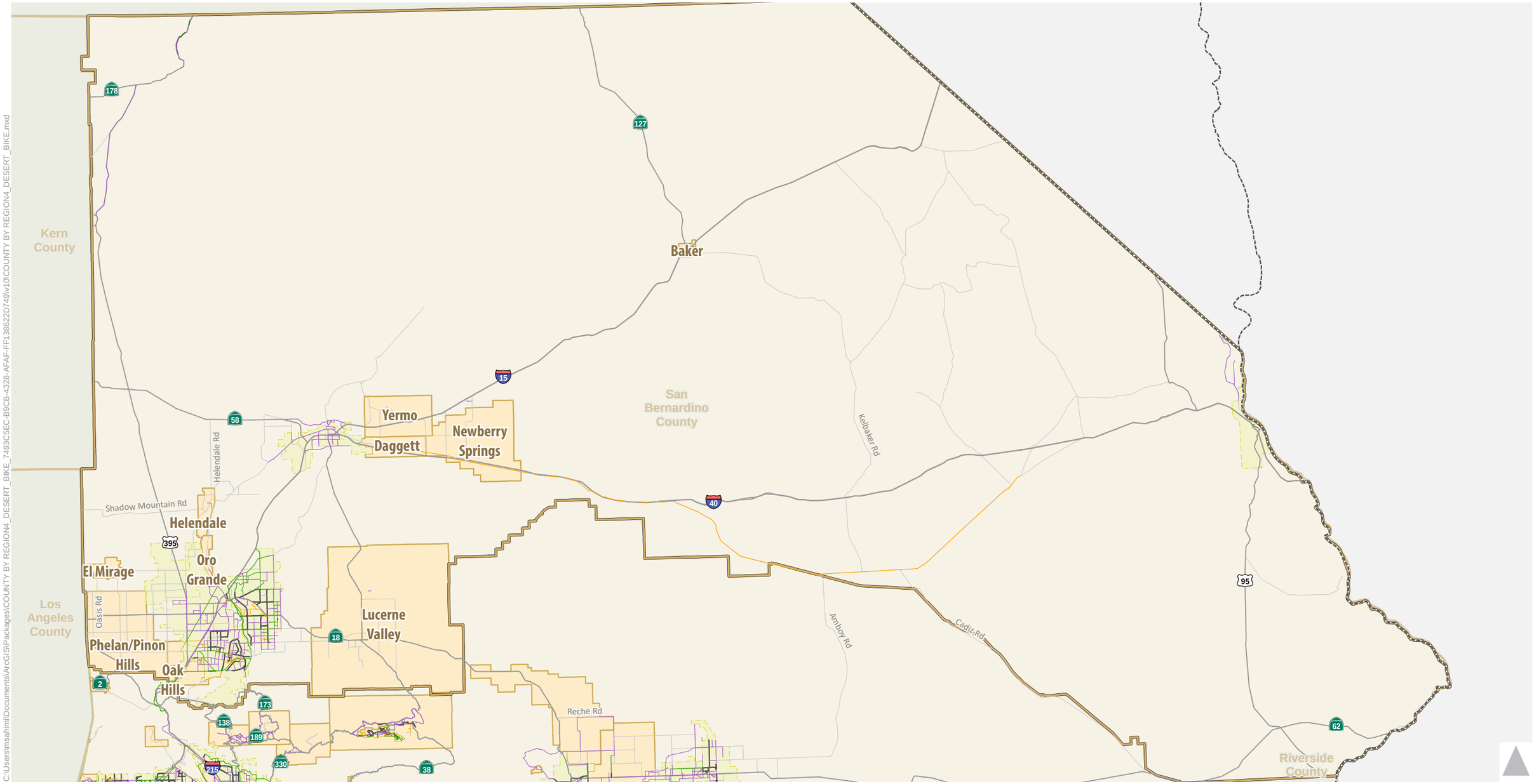
East Desert Region - Future Bicycle Facilities



Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 10.2

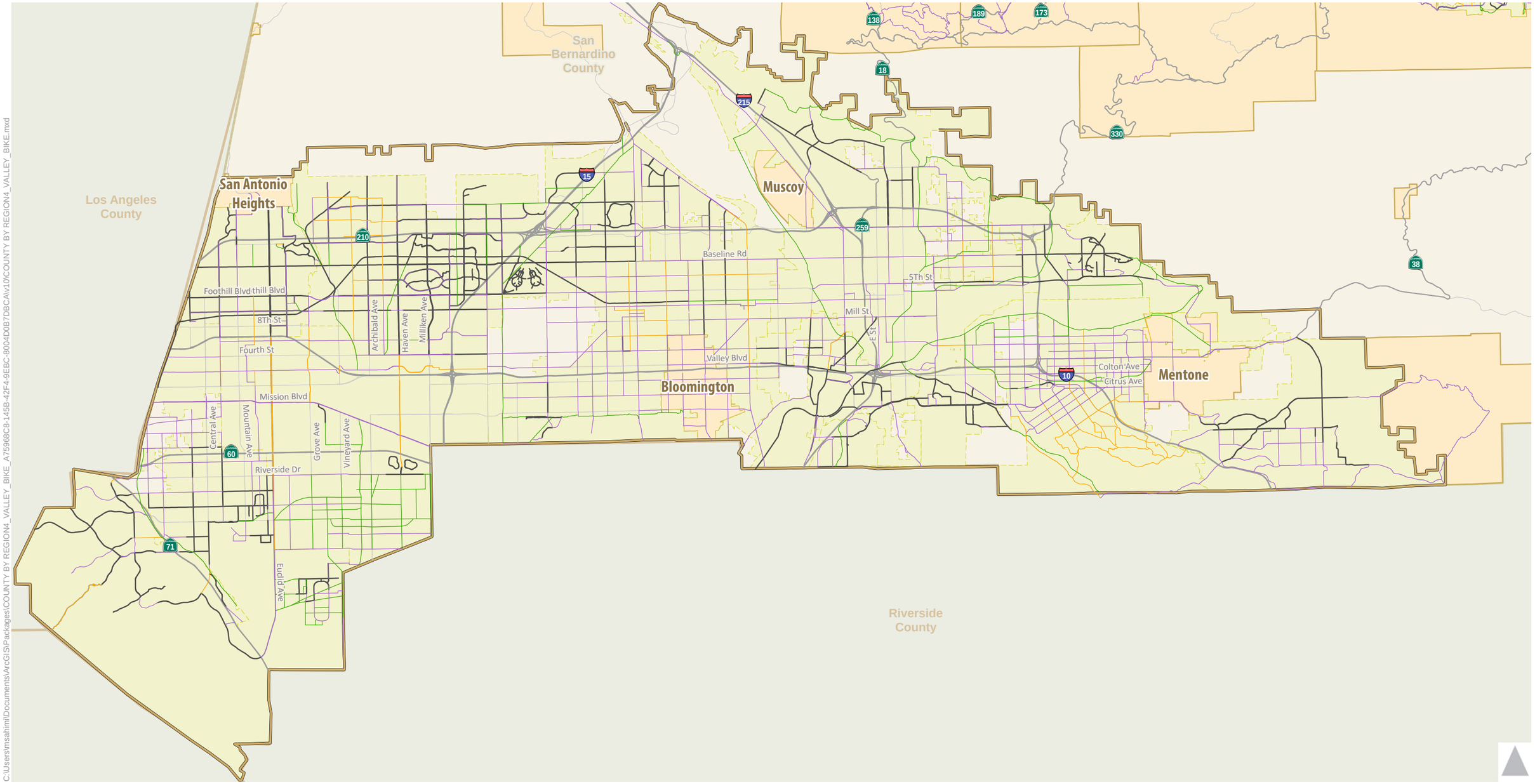
Mountain Region - Future Bicycle Facilities



Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
North Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 10.3

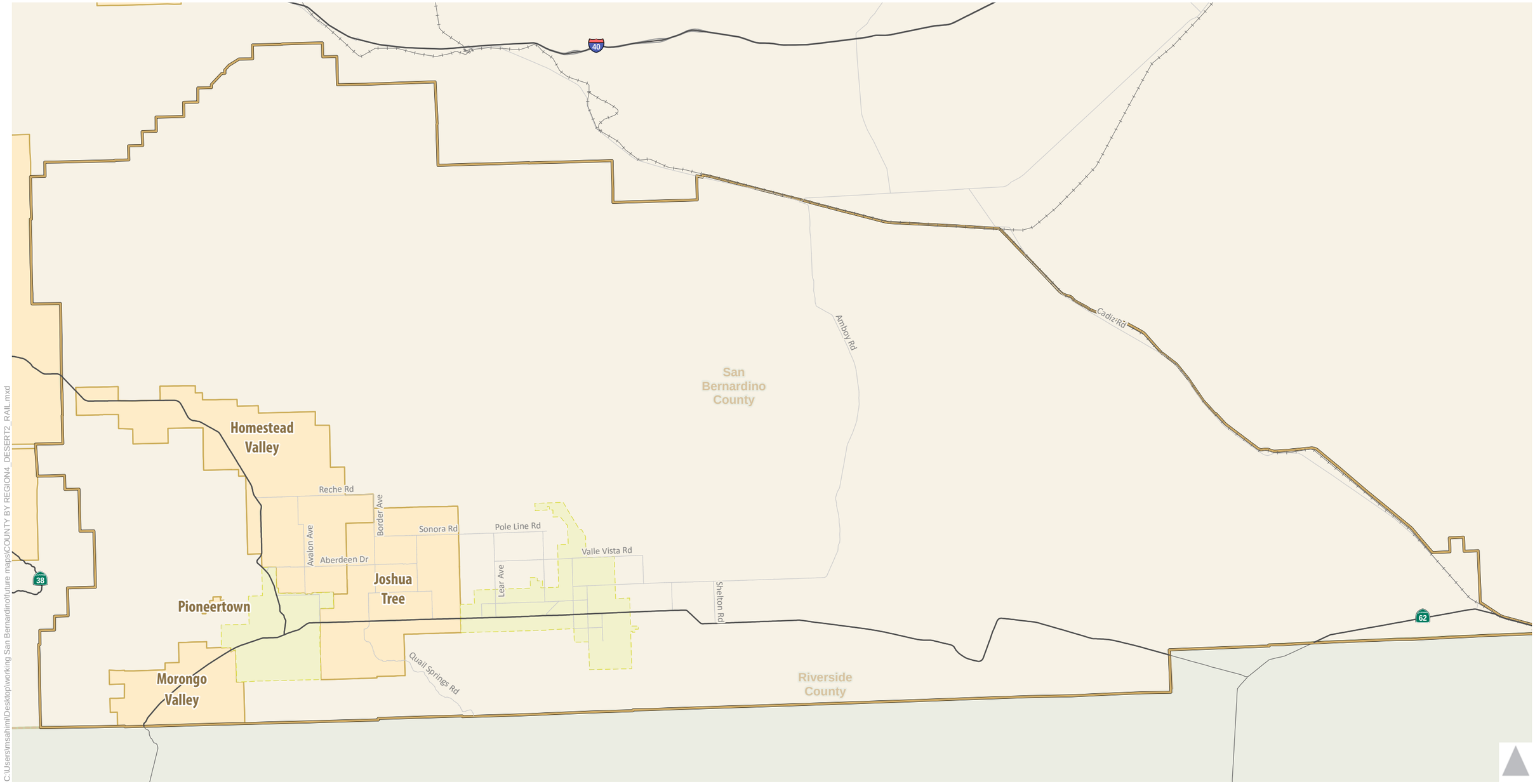
North Desert Region - Future Bicycle Facilities



C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_BIKE_A75968C8-145B-42F4-9EBC-8004D0B7DBCA\v10\COUNTY BY REGION4_VALLEY_BIKE.mxd

Figure 10.4

Valley Region - Future Bicycle Facilities

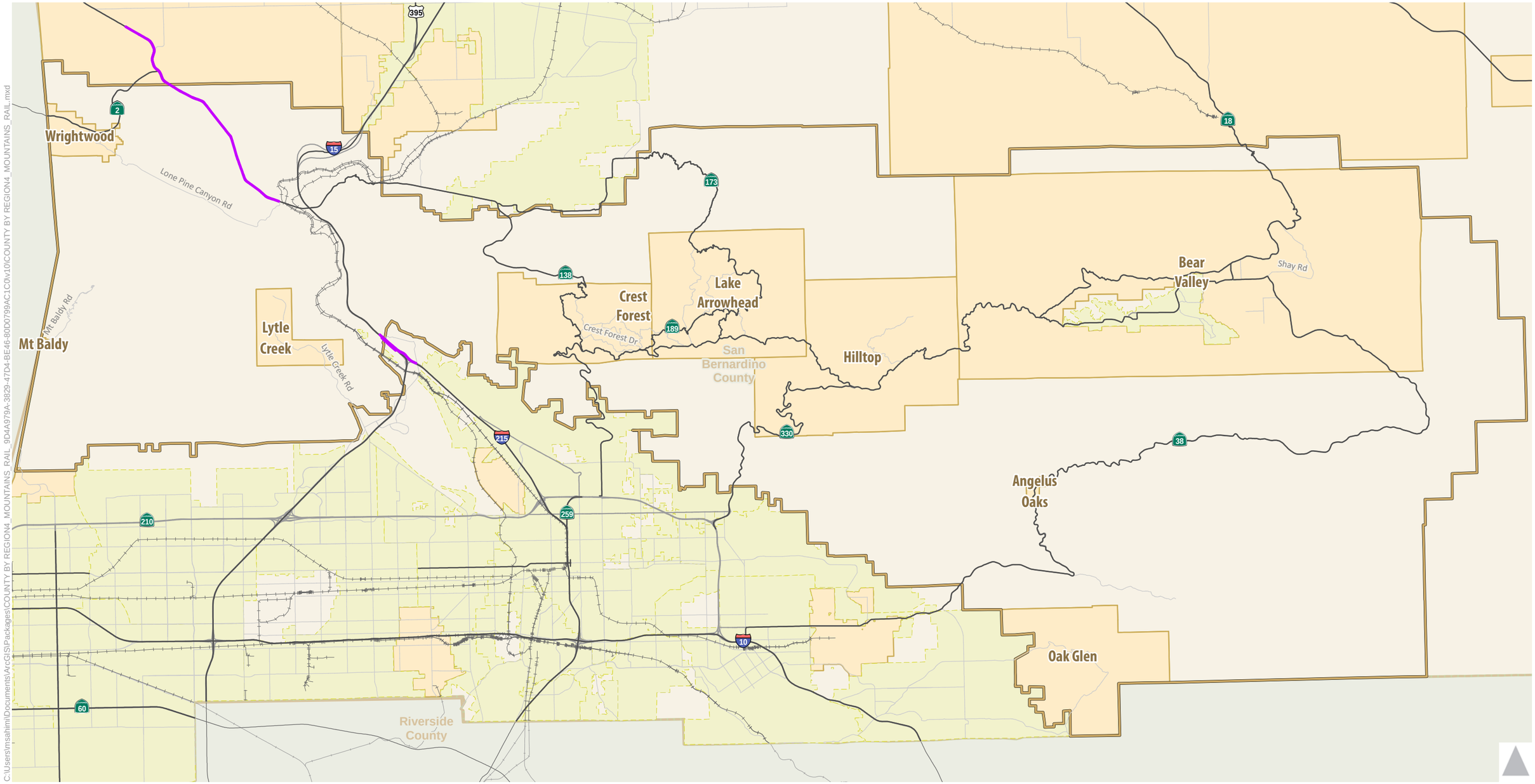


High Desert Corridor
New/Expanded Facilities
Existing Truck Route
Rail
East Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

Figure 11.1

East Desert Region - Future Goods Movement

*within Unincorporated County



New/Expanded Facilities
Existing Truck Route
Rail
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Figure 11.2

Mountain Region - Future Goods Movement

*within Unincorporated County

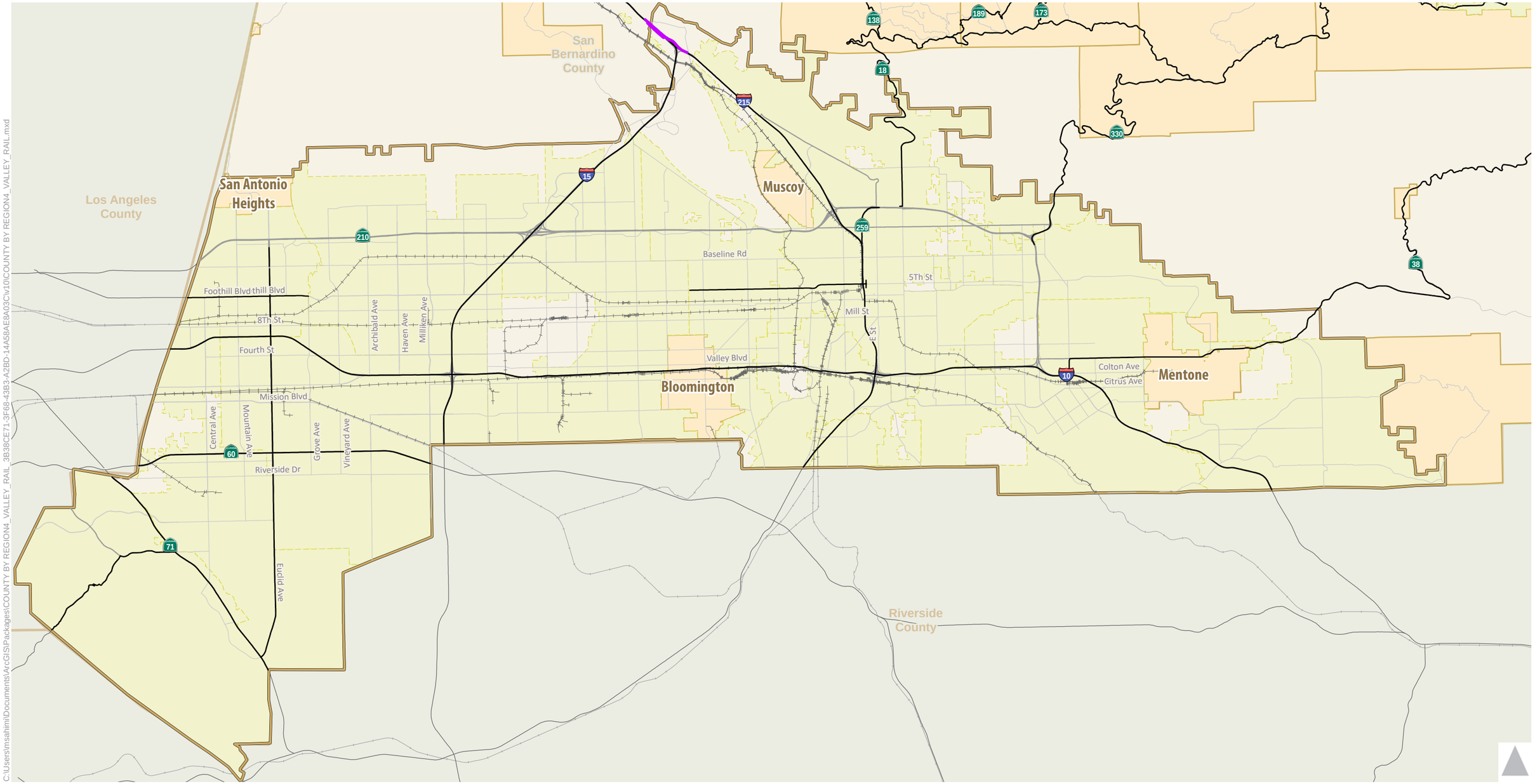


High Desert Corridor
New/Expanded Facilities
Existing Truck Route
Rail
North Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

Figure 11.3

North Desert Region - Future Goods Movement

*within Unincorporated County



C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_RAIL_3B38CE71-3F68-43B3-A2BD-14A58AE8A03C\v10\COUNTY BY REGION4_VALLEY_RAIL.mxd

Figure 11.4

Valley Region - Future Goods Movement

*within Unincorporated County

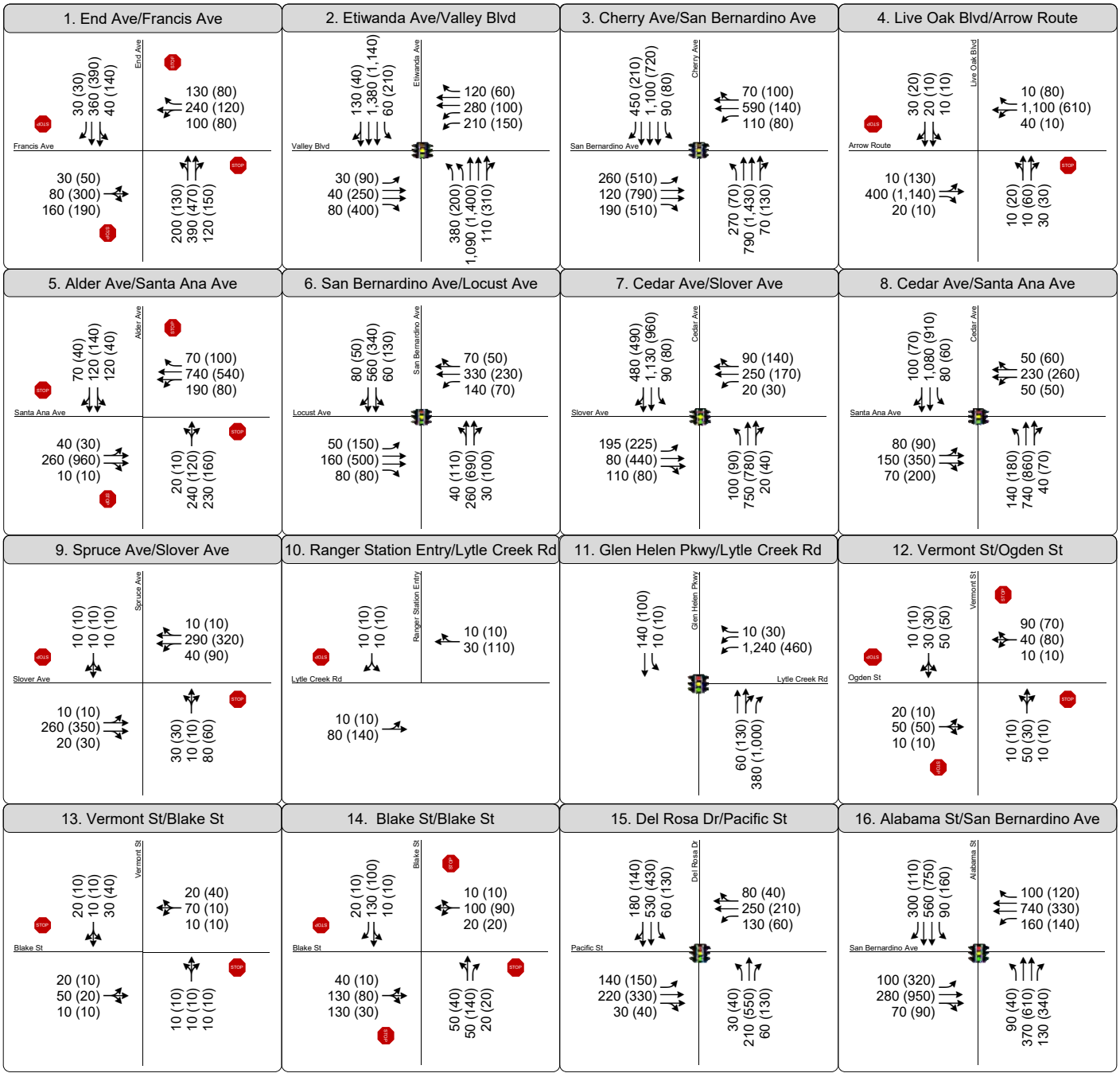


Figure 12

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040)

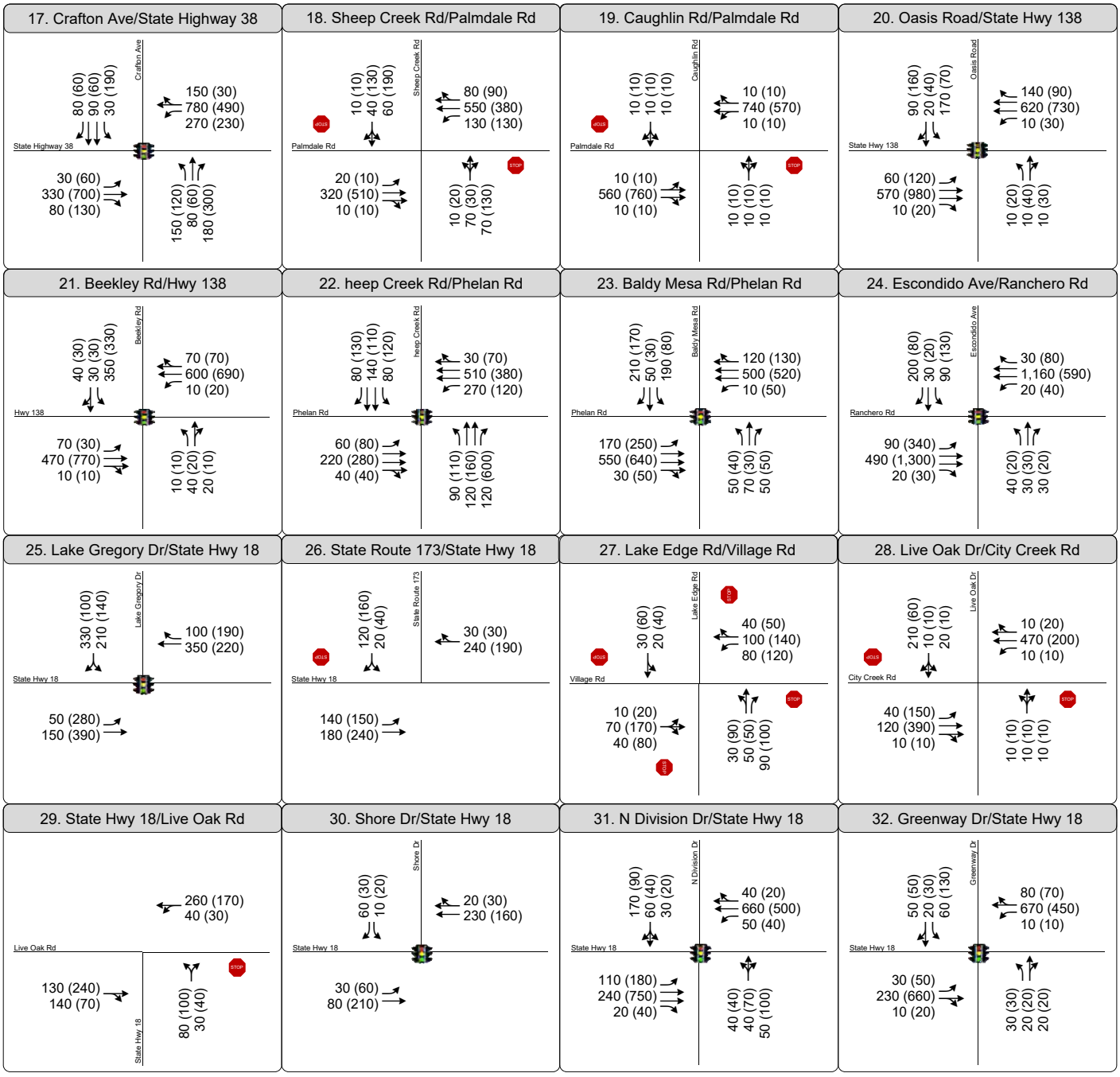


Figure 12

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040)

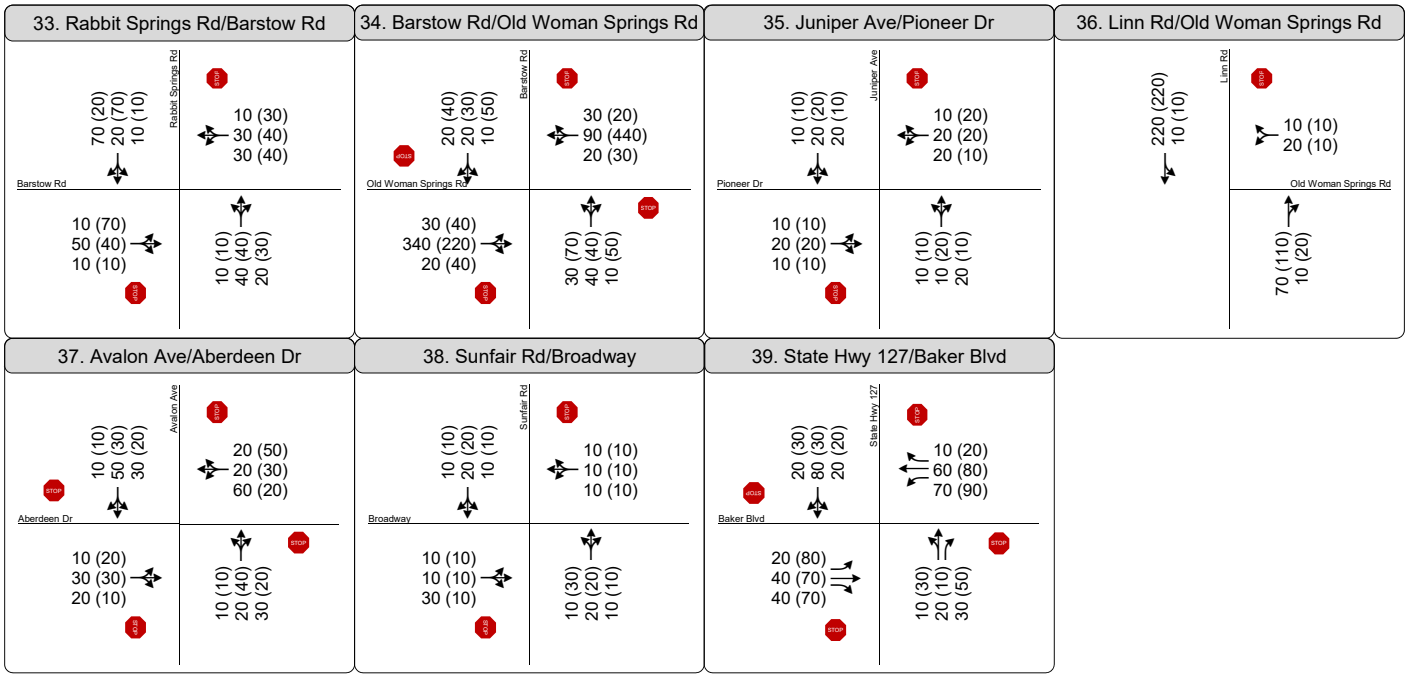


Figure 12

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040)

Table 8 Future (Year 2040) Intersection Level of Service Assessment

ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Future Capacity Increase?	Existing Conditions				Future Conditions				AM Delay Change	PM Delay Change	AM Impact	PM Impact
								AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
								LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				
1	End Ave & Francis Ave	Valley	NA	Chino		All-Way Stop Controlled	Yes	B	14.0	B	11.2	F	83.3	F	158.7	69.30	147.50	Yes	Yes
2	Etiwanda Ave & Valley Blvd/Ontario Mills Pkwy	Valley	NA	Fontana		Signalized		C	32.7	C	27.4	C	31.0	D	35.5	-1.70	8.10	No	No
3	Cherry Ave & San Bernardino Ave	Valley	NA	Fontana		Signalized		D	38.1	D	38.9	E	77.4	E	62.8	39.30	23.90	Yes	Yes
4	Live Oak Ave & Arrow Route	Valley	NA	Fontana		Two-Way Stop Controlled	Yes	C	24.0	D	26.7	F	56.7	F	917.9	32.70	891.20	Yes	Yes
5	Alder Ave & Santa Ana Ave	Valley	Bloomington	Rialto		All-Way Stop Controlled	Yes	F	67.1	B	13.5	F	119.3	F	123.4	52.20	109.90	Yes	Yes
6	Locust Ave & San Bernardino Ave	Valley	Bloomington	Rialto		Signalized	Yes	C	27.1	C	26.3	C	29.4	D	38.8	2.30	12.50	No	No
7	Cedar Ave & Slover Ave	Valley	Bloomington	Rialto		Signalized	Yes	C	24.4	C	31.3	E	78.7	E	70.2	54.30	38.90	Yes	Yes
8	Cedar Ave & Santa Ana Ave	Valley	Bloomington	Rialto		Signalized	Yes	C	22.7	C	27.4	C	27.9	D	36.7	5.20	9.30	No	No
9	Spruce Ave & Slover Ave	Valley	Bloomington	Rialto		Two-Way Stop Controlled	Yes	B	13.8	C	15.4	B	14.4	C	17.7	0.60	2.30	No	No
10	Entrance to Ranger Station & Lytle Creek Rd	Mountain	Lytle Creek	NA		Two-Way Stop Controlled		A	8.4	A	9.2	A	9.0	A	9.6	0.60	0.40	No	No
11	Lytle Creek Rd & Glen Helen Pkwy	Valley	NA	Rialto		Signalized		B	12.1	B	11.2	B	18.5	B	15.0	6.40	3.80	No	No

Table 8 Future (Year 2040) Intersection Level of Service Assessment																		
ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Future Capacity Increase?	Existing Conditions				Future Conditions				AM Delay Change	PM Delay Change	AM Impact	PM Impact
								AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
								LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				
12	Vermont St & Ogden St	Valley	Muscoy	San Bernardino		All-Way Stop Controlled		A	8.3	A	8.8	A	8.3	A	8.5	0.00	-0.30	No	No
13	Vermont St & Blake St	Valley	Muscoy	San Bernardino		Two-Way Stop Controlled		B	10.5	A	9.3	B	10.3	A	9.6	-0.20	0.30	No	No
14	Macy St & Blake St	Valley	Muscoy	San Bernardino		All-Way Stop Controlled		B	10.2	A	9.0	B	10.6	A	9.5	0.40	0.50	No	No
15	Del Rosa Dr & Pacific St	Valley	NA	San Bernardino		Signalized		C	24.2	C	23.6	C	24.0	C	29.7	-0.20	6.10	No	No
16	Alabama St & San Bernardino Ave	Valley	NA	NA		Signalized		C	23.0	C	26.4	C	32.6	D	45.7	9.60	19.30	No	No
17	Crafton Ave & Mentone Blvd	Valley	Mentone	Redlands	Yes	Signalized		B	15.1	B	12.2	C	28.6	C	31.5	13.50	19.30	No	No
18	Sheep Creek Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop Controlled	Yes	B	13.7	F	53.7	F	274.7	F	920.0	261.00	866.30	Yes	Yes
19	Caughlin Rd & Palmdale Rd	North Desert	Phelan/Pinon Hills	NA	Yes	Two-Way Stop Controlled	Yes	B	13.6	C	15.0	D	28.7	D	30.2	15.10	15.20	Yes	Yes
20	Oasis Rd & State Hwy 138	North Desert	Phelan/Pinon Hills	NA	Yes	Signalized	Yes	B	15.7	B	17.4	B	15.8	B	19.2	0.10	1.80	No	No
21	Beekley Rd & State Hwy 138	North Desert	Phelan/Pinon Hills	NA	Yes	Signalized	Yes	B	15.8	C	20.3	B	17.4	B	15.4	1.60	-4.90	No	No
22	Sheep Creek Rd & Phelan Rd	North Desert	Phelan/Pinon Hills	NA		Signalized	Yes	C	23.4	C	26.5	C	24.2	C	26.4	0.80	-0.10	No	No

Table 8 Future (Year 2040) Intersection Level of Service Assessment

ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Future Capacity Increase?	Existing Conditions				Future Conditions				AM Delay Change	PM Delay Change	AM Impact	PM Impact
								AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
								LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				
23	Baldy Mesa Rd & Phelan Rd	North Desert	Phelan/Pinon Hills	NA		Signalized	Yes	C	30.9	C	27.1	C	28.9	C	29.7	-2.00	2.60	No	No
24	Escondido Ave & Ranchero Rd	North Desert	Oak Hills	Hesperia		Signalized		B	19.3	B	17.8	B	19.9	C	21.9	0.60	4.10	No	No
25	Lake Gregory Dr & Rim of the World Hwy	Mountain	Crest Forest	NA	Yes	Signalized		B	12.6	B	11.9	B	17.7	B	13.5	5.10	1.60	No	No
26	State Route 173 & Rim of the World Hwy	Mountain	Lake Arrowhead	NA	Yes	Two-Way Stop Controlled		B	11.7	B	12.7	B	12.2	B	13.5	0.50	0.80	No	No
27	Lake Edge Rd & Village Rd	Mountain	Lake Arrowhead	NA	Yes	All-Way Stop Controlled		A	9.0	B	11.9	A	9.3	B	12.4	0.30	0.50	No	No
28	Live Oak Dr & City Creek Rd	Mountain	Hilltop	NA	Yes	Two-Way Stop Controlled		B	12.3	C	17.5	C	15.1	D	25.5	2.80	8.00	No	No
29	Live Oak Dr & Rim of the World Hwy	Mountain	Hilltop	NA	Yes	Two-Way Stop Controlled		B	12.0	B	12.1	B	13.7	B	14.0	1.70	1.90	No	No
30	Shore Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized		A	8.8	A	7.8	A	9.4	A	7.3	0.60	-0.50	No	No
31	Division Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized	Yes	B	17.0	B	14.5	B	14.4	B	13.0	-2.60	-1.50	No	No
32	Greenway Dr & Big Bear Blvd	Mountain	Bear Valley	NA	Yes	Signalized		A	6.2	A	7.0	A	6.1	A	7.0	-0.10	0.00	No	No
33	Barstow Rd & Rabbit Springs Rd	North Desert	Lucerne Valley	NA	Yes	Two-Way Stop Controlled		A	9.8	B	10.2	B	10.4	B	11.4	0.60	1.20	No	No

Table 8 Future (Year 2040) Intersection Level of Service Assessment																		
ID	Intersection	Region	CPA	SOI	Caltrans Facility?	Control Type	Future Capacity Increase?	Existing Conditions				Future Conditions				AM Delay Change	PM Delay Change	AM Impact	PM Impact
								AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					
								LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				
34	Barstow Rd & Old Woman Springs Rd	North Desert	Lucerne Valley	NA	Yes	All-Way Stop Controlled		A	8.6	A	9.6	B	11.3	C	21.8	2.70	12.20	No	No
35	Juniper Ave & Pioneer Dr	East Desert	Morongo Valley	NA		Two-Way Stop Controlled		A	9.3	A	9.5	A	9.6	A	9.5	0.30	0.00	No	No
36	Old Woman Springs Rd & Linn Rd	East Desert	Homestead Valley	NA	Yes	Two-Way Stop Controlled		A	9.5	A	9.6	B	10.2	B	10.0	0.70	0.40	No	No
37	Avalon Ave & Aberdeen Dr	East Desert	Homestead Valley	NA		All-Way Stop Controlled		A	8.1	A	7.4	A	8.0	A	7.6	-0.10	0.20	No	No
38	Sunfair Rd & Broadway	East Desert	Joshua Tree	NA		Two-Way Stop Controlled		A	9.4	A	8.6	A	9.3	A	9.5	-0.10	0.90	No	No
39	Death Valley Rd & Baker Blvd	North Desert	Baker	NA	Yes	All-Way Stop Controlled		A	8.6	A	9.0	A	9.0	A	9.5	0.40	0.50	No	No

Notes:
For two-way stop controlled intersections, LOS and delay are reported for the worst approach.

The results of the intersection assessment indicate that most of the study intersections operate at an acceptable level, with the exception of the following locations:

- End Ave / Francis Ave (Chino SOI)– LOS F in the AM and PM peak hours
- Cherry Ave / San Bernardino Ave (Fontana SOI)– LOS E during the AM and PM peak hours
- Live Oak Ave / Arrow Ave (Fontana SOI) – LOS F during the AM and PM peak hours
- Alder Ave / Santa Ana Ave (Bloomington CPA, Rialto SOI) – LOS F during the AM and PM peak hours
- Cedar Ave / Slover Ave (Bloomington CPA, Rialto SOI) – LOS E during the AM and PM peak hours
- Sheep Creek Rd / Palmdale Avenue (Phelan/Pinon Hills CPA)– LOS F during the AM and PM peak hours
- Caughlin Rd / Palmdale Rd (Phelan/Pinon Hills CPA) – LOS D during the AM and PM peak hours

5.6 Roadway Segment Analysis

Section 3.4 discusses the funded roadway improvements listed in the RTP applicable to this analysis. Future traffic volumes and lane configurations are shown on **Figure 9**.

Roadway segment delay and level of service for the Cumulative (2040) With Project Conditions is provided in **Table 9**.

The results indicate that most of the study roadway segments operate at an acceptable level of service, except for the following locations:

- SR 138 west of Oasis Rd (Phelan/Pinon Hills CPA) – LOS D
- State Hwy 173 east of Lake Edge Rd (Mountain/Lake Arrowhead CPA) – LOS E
- North Bay Rd north of SH 189 (Mountain/Lake Arrowhead CPA) – LOS E
- Lake Dr west of Lake Gregory Dr (Mountain/Crest Forest CPA) – LOS F
- California St North of Highland Ave (Muscoy CPA/San Bernardino SOI) – LOS E
- Mentone Ave west of Opal Ave (Mentone CPA, Redlands SOI) – LOS F

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
1	TRONA RD SOUTH OF STATE HWY 178	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	500	C or Better
2	FORT IRWIN RD SOUTH OF STARBRIGHT RD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	7,300	C or Better
3	FORT IRWIN RD NORTH OF YERMO CUTOFF	North Desert	Yermo	NA		65	3	Controlled/Limited Access Collector	6,100	C or Better
4	STATE HWY 58 WEST OF HINKLEY RD	North Desert	NA	Barstow	Yes	60	4	Divided Highway	14,100	C or Better
5	IRWIN RD NORTH OF OLD HWY 58	North Desert	NA	Barstow		55	2	Controlled/Limited Access Collector	1,600	C or Better
6	GHOST TOWN RD NORTH OF YERMO RD	North Desert	Yermo	NA		55	2	Major Arterial/Major Highway	1,800	C or Better
7	YERMO RD WEST OF CALICO RD	North Desert	Yermo	NA		55	2	Major Arterial/Major Highway	1,900	C or Better
8	DAGGETT YERMO RD NORTH OF SANTA FE ST	North Desert	Daggett	NA		55	2	Major Arterial/Major Highway	2,900	C or Better
9	NATIONAL TRAILS HWY EAST OF DAGGETT YERMO RD	North Desert	Daggett	NA		40	2	Major Arterial/Major Highway	800	C or Better
10	NATIONAL TRAILS HWY EAST OF HINKLEY RD	North Desert	NA	Barstow		55	2	Major Arterial/Major Highway	6,400	C or Better
11	WILD ROAD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	400	C or Better
12	INDIAN TRAIL SOUTH OF WILD RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	400	C or Better
13	VISTA RD EAST OF MOUNTAIN RD	North Desert	Helendale	NA		50	2	Controlled/Limited Access Collector	8,900	C or Better
14	SHADOW MOUNTAIN RD WEST OF SILVER LAKES PKWY	North Desert	Helendale	NA		55	2	Controlled/Limited Access Collector	6,000	C or Better
15	NATIONAL TRAILS HIGHWAY SOUTH OF VISTA - CPC REQ	North Desert	Helendale	NA		55	2	Divided Highway	7,300	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
16	STODDARD WELLS EAST OF CENTRAL RD	North Desert	NA	Apple Valley		40	2	Controlled/Limited Access Collector	1,500	C or Better
17	DALE EVANS PKWY	North Desert	NA	Apple Valley		55	4	Major Arterial/Major Highway	5,500	C or Better
18	NATIONAL TRAILS HWY NORTH OF POLISH LANE -CPC REQ	North Desert	Oro Grande	NA		45	4	Divided Highway	7,900	C or Better
19	NATIONAL TRAILS HIGHWAY NORTH OF 1ST -CPC REQUEST	North Desert	Oro Grande	NA		45	2	Major Arterial/Major Highway	9,400	C or Better
20	EL MIRAGE RD WEST OF LINSON ST	North Desert	NA	NA		55	4	Major Arterial/Major Highway	14,500	C or Better
21	SHEEP CREEK RD SOUTH OF EL MIRAGE RD	North Desert	NA	NA		55	2	Major Arterial/Major Highway	4,500	C or Better
22	PALMDALE RD WEST OF SHEEP CREEK RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	4	Major Arterial/Major Highway	11,700	C or Better
23	PALMDALE RD WEST OF CAUGHLIN RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	4	Major Arterial/Major Highway	16,600	C or Better
24	STATE HWY 138 WEST OF OASIS RD	North Desert	Phelan/Pinon Hills	NA	Yes	55	2	Major Arterial/Major Highway	24,400	D
25	PHELAN RD EAST OF SILVER ROCK RD	North Desert	Phelan/Pinon Hills	NA		55	2	Major Arterial/Major Highway	8,500	C or Better
26	BEEKLEY RD NORTH OF PHELAN RD - CPC REQUEST	North Desert	Phelan/Pinon Hills	NA		45	2	Controlled/Limited Access Collector	300	C or Better
27	JOHNSON RD NORTH OF SMOKE TREE RD	North Desert	Phelan/Pinon Hills	NA		55	2	Major Arterial/Major Highway	3,900	C or Better
28	PHELAN RD EAST OF JOHNSON RD	North Desert	Phelan/Pinon Hills	NA		55	6	Major Arterial/Major Highway	17,600	C or Better
29	SUNNYSLOPE EAST OF SH 138 - CPC REQUEST	North Desert	Phelan/Pinon Hills	NA		25	2	Controlled/Limited Access Collector	100	C or Better
30	SHEEP CREEK RD SOUTH OF NIELSON RD	North Desert	Phelan/Pinon Hills	NA		40	2	Major Arterial/Major Highway	5,200	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
31	STATE HWY 138 NORTH OF ANGELES CREST HWY	North Desert	Phelan/Pinon Hills	NA	Yes	55	4	Major Arterial/Major Highway	15,800	C or Better
32	BALDY MESA ROAD SOUTH MESQUITE	North Desert	Phelan/Pinon Hills	NA		25	2	Controlled/Limited Access Collector	100	C or Better
33	CALIENTE RD NORTH OF RANCHERO	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	6,500	C or Better
34	LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY	Mountain	NA	NA		35	2	Mountain Secondary Highway	3,500	C or Better
35	LYTLE CREEK CANYON RD SOUTH OF SYCAMORE DR	Mountain	Lytle Creek	NA		15	2	Mountain Secondary Highway	900	C or Better
36	CAJON BLVD NORTH OF KENWOOD AVE	Mountain	NA	NA		55	2	Mountain Secondary Highway	7,700	D
37	GLEN HELEN PKWY NORTH OF I-215	Valley	NA	NA		40	4	Controlled/Limited Access Collector	6,900	C or Better
38	LYTLE CREEK RD NORTH OF DEVORE RD	Mountain	NA	Rialto		45	2	Mountain Secondary Highway	3,300	C or Better
39	MOUNTAIN AVE WEST OF EUCLID AVE	Valley	San Antonio Heights	Upland		45	2	Major Arterial/Major Highway	2,400	C or Better
40	MOUNTAIN AVE NORTH OF 25TH ST	Valley	San Antonio Heights	Upland		40	2	Major Arterial/Major Highway	1,000	C or Better
41	EUCLID AVE NORTH OF 25TH ST	Valley	San Antonio Heights	Upland		35	2	Divided Highway	1,900	C or Better
42	ARROW RTE WEST OF CALABASH AVE	Valley	NA	Fontana		45	4	Major Arterial/Major Highway	16,200	D
43	CHERRY AVE NORTH OF MERRILL AVE	Valley	NA	Fontana		40	6	Divided Highway	42,000	C or Better
44	MERRILL AVE EAST OF BEECH AVE	Valley	NA	Fontana		40	4	Controlled/Limited Access Collector	11,700	D
45	SAN BERNARDINO AVE WEST OF CHERRY AVE	Valley	NA	Fontana		55	6	Divided Highway	21,800	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
46	VALLEY BLVD EAST OF COMMERCE DR	Valley	NA	Fontana		50	6	Major Arterial/Major Highway	26,900	C or Better
47	SAN BERNARDINO AVE EAST OF BEECH AVE	Valley	NA	Fontana		40	4	Divided Highway	10,200	C or Better
48	SAN BERNARDINO AVE WEST OF CEDAR AVE	Valley	Bloomington	Rialto		40	4	Controlled/Limited Access Collector	9,800	C or Better
49	VALLEY BLVD WEST OF LOCUST AVE	Valley	Bloomington	Rialto		45	4	Major Arterial/Major Highway	19,900	C or Better
50	CEDAR AVE NORTH OF BLOOMINGTON AVE	Valley	Bloomington	Rialto		40	4	Major Arterial/Major Highway	30,000	D
51	VALLEY BLVD EAST OF CEDAR AVE	Valley	Bloomington	Rialto		35	4	Major Arterial/Major Highway	19,400	D
52	CEDAR AVE NORTH OF SLOVER AVE	Valley	Bloomington	Rialto		40	6	Major Arterial/Major Highway	41,200	D
53	SLOVER AVE EAST OF LOCUST AVE	Valley	Bloomington	Rialto		50	4	Major Arterial/Major Highway	9,400	C or Better
54	SANTA ANA AV WEST OF LINDEN AVE	Valley	Bloomington	Rialto		40	4	Controlled/Limited Access Collector	9,000	C or Better
55	JURUPA AVE EAST OF LOCUST AVE	Valley	Bloomington	Rialto		40	4	Major Arterial/Major Highway	9,200	C or Better
56	JURUPA AVE WEST OF SPRUCE AVE	Valley	Bloomington	Rialto		40	4	Major Arterial/Major Highway	6,300	C or Better
57	CEDAR AVE SOUTH OF 11TH ST	Valley	Bloomington	Rialto		45	4	Major Arterial/Major Highway	36,000	D
58	BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	2,900	C or Better
59	BARSTOW RD NORTH OF NORTHSIDE RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	3,400	C or Better
60	NORTHSIDE RD EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA		45	2	Controlled/Limited Access Collector	700	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
61	BARSTOW RD NORTH OF RABBIT SPRINGS RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	3,400	C or Better
62	RABBIT SPRINGS RD EAST OF STATE HWY 18	North Desert	Lucerne Valley	NA		55	2	Controlled/Limited Access Collector	2,900	C or Better
63	RABBIT SPRINGS RD EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA		55	2	Controlled/Limited Access Collector	3,800	C or Better
64	STATE HWY 18 WEST OF HIGH RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	13,600	C or Better
65	OLD WOMAN SPRINGS RD WEST OF MIDWAY AVE	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	6,400	C or Better
66	OLD WOMAN SPRINGS RD EAST OF CAMP ROCK RD	North Desert	Lucerne Valley	NA	Yes	55	2	Major Arterial/Major Highway	6,800	C or Better
67	STATE HWY 18 EAST OF BARSTOW RD	North Desert	Lucerne Valley	NA	Yes	35	2	Major Arterial/Major Highway	4,000	C or Better
68	CAMP ROCK RD SOUTH OF OLD WOMAN SPRINGS RD	North Desert	Lucerne Valley	NA		45	2	Major Arterial/Major Highway	800	C or Better
69	STATE HIGHWAY 18 NORTH OF SHORE DR	Mountain	Bear Valley	NA		35	2	Mountain Major Highway	3,400	C or Better
70	SHAY RD EAST OF WIEBE RD	Mountain	Bear Valley	NA		35	2	Mountain Secondary Highway	2,200	C or Better
71	GREENSPOT BLVD SOUTH OF CLARK LN	Mountain	Bear Valley	NA		55	2	Mountain Major Highway	7,300	C or Better
72	SHORE DR EAST OF HOLDEN AVE	Mountain	Bear Valley	NA		40	2	Mountain Major Highway	6,600	C or Better
73	STANFIELD CUTOFF SOUTH OF N. SHORE DRIVE	Mountain	Bear Valley	NA		35	2	Mountain Major Highway	7,000	C or Better
74	SHORE DR NORTH OF STATE HIGHWAY 18	Mountain	Bear Valley	NA		45	2	Mountain Major Highway	1,600	C or Better
75	BIG BEAR BLVD EAST OF SHORE DR	Mountain	Bear Valley	NA		40	2	Mountain Major Highway	5,400	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
76	STATE HIGHWAY 18 WEST OF SHORE DR	Mountain	Bear Valley	NA		40	3	Mountain Major Highway	5,700	C or Better
77	STATE HIGHWAY 18 WEST OF GREEN VALLEY LAKE RD	Mountain	Hilltop	NA		40	2	Mountain Major Highway	6,800	C or Better
78	STATE HIGHWAY 18 EAST OF HILLTOP BLVD	Mountain	Hilltop	NA		35	2	Mountain Major Highway	10,000	D
79	STATE ROUTE 18 NORTH OF HILLTOP BLVD	Mountain	Hilltop	NA		40	2	Mountain Major Highway	6,500	C or Better
80	CITY CREEK RD WEST OF LIVE OAK DR	Mountain	Hilltop	NA		55	2	Mountain Major Highway	10,800	C or Better
81	KUFFEL CANYON RD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		20	2	Mountain Secondary Highway	3,000	C or Better
82	RIM OF THE WORLD HWY WEST OF KUFFEL CANYON RD	Mountain	Lake Arrowhead	NA		45	2	Mountain Major Highway	5,500	C or Better
83	ARROWHEAD VILLA ROAD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		30	2	Controlled/Limited Access Collector	1,200	C or Better
84	COTTAGE GROVE RD NORTH OF SH 18	Mountain	Lake Arrowhead	NA		35	2	Mountain Major Highway	1,000	C or Better
85	STATE HWY 173 WEST OF DOLLY VARDEN DR	Mountain	Lake Arrowhead	NA		20	2	Mountain Major Highway	4,300	C or Better
86	STATE HWY 173 EAST OF LAKES EDGE RD	Mountain	Lake Arrowhead	NA		20	2	Mountain Secondary Highway	6,900	E
87	STATE HWY 173 S OF MOUNTAINS HOSPITAL ACCESS RD	Mountain	Lake Arrowhead	NA		25	2	Mountain Major Highway	6,000	C or Better
88	STATE HIGHWAY 173 NORTH OF BAY RD	Mountain	Lake Arrowhead	NA		25	2	Mountain Major Highway	800	C or Better
89	GRASS VALLEY RD SOUTH OF PENINSULA DR	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	3,900	D

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
90	NORTH BAY ROAD NORTH OF SH 189	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	7,200	E
91	DALEY CANYON RD SOUTH OF STATE HWY 189	Mountain	Lake Arrowhead	NA		30	2	Mountain Major Highway	8,500	D
92	BEAR SPRINGS RD SOUTH OF STATE HWY 189	Mountain	Lake Arrowhead	NA		35	2	Controlled/Limited Access Collector	900	C or Better
93	STATE HWY 189 WEST OF BEAR SPRINGS RD	Mountain	Lake Arrowhead	NA		35	2	Mountain Secondary Highway	5,100	D
94	NORTH RD WEST OF STATE HIGHWAY 189	Mountain	Crest Forest	NA		30	2	Mountain Secondary Highway	1,000	C or Better
95	STATE HIGHWAY 189 WEST OF PINECREST RD	Mountain	Crest Forest	NA		35	2	Mountain Secondary Highway	5,500	D
96	STATE HIGHWAY 18 EAST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		45	2	Mountain Major Highway	11,500	D
97	LAKE GREGORY DR SOUTH OF SAN MORITZ DR	Mountain	Crest Forest	NA		40	2	Mountain Major Highway	7,800	C or Better
98	SAN MORITZ DR EAST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		35	2	Mountain Secondary Highway	1,600	C or Better
99	LAKE DR WEST OF LAKE GREGORY DR	Mountain	Crest Forest	NA		25	2	Mountain Secondary Highway	11,900	F
100	STATE HIGHWAY 18 EAST OF STATE HIGHWAY 138	Mountain	Crest Forest	NA		55	2	Mountain Major Highway	11,900	C or Better
101	STATE HIGHWAY 18 WEST OF STATE HIGHWAY 138	Mountain	Crest Forest	NA		55	4	Mountain Major Highway	22,300	C or Better
102	STATE HIGHWAY 138 SOUTH OF VISTA LN	Mountain	Crest Forest	NA		30	2	Mountain Major Highway	4,500	C or Better
103	STATE HIGHWAY 138 EAST OF OLD MILL RD	Mountain	Crest Forest	NA		30	2	Mountain Major Highway	5,400	C or Better
104	CREST FOREST DR WEST OF PONDEROSA DR	Mountain	Crest Forest	NA		25	2	Mountain Secondary Highway	700	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
105	3RD STREET WEST OF CAJON - CPC REQUEST	Valley	Muscoy	San Bernardino		25	2	Controlled/Limited Access Collector	2,500	C or Better
106	OGDEN ST EAST OF BRONSON ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	2,000	C or Better
107	DUFFY ST SOUTH OF OGDEN ST	Valley	Muscoy	San Bernardino		25	2	Controlled/Limited Access Collector	1,200	C or Better
108	MACY STREET SOUTH OF OGDEN - CPC REQUEST	Valley	Muscoy	San Bernardino		35	2	Major Arterial/Major Highway	3,700	C or Better
109	STATE STREET SOUTH OF CAJON - CPC REQUEST	Valley	NA	San Bernardino		40	4	Major Arterial/Major Highway	18,600	C or Better
110	JUNE ST SOUTH OF OGDEN ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	1,200	C or Better
111	BLAKE ST WEST OF DUFFY ST	Valley	Muscoy	San Bernardino		30	2	Controlled/Limited Access Collector	1,800	C or Better
112	DARBY ST WEST OF MACY ST	Valley	Muscoy	San Bernardino		35	2	Controlled/Limited Access Collector	7,800	C or Better
113	STATE ST SOUTH OF BLAKE ST	Valley	Muscoy	San Bernardino		40	2	Major Arterial/Major Highway	20,700	D
114	MACY ST SOUTH OF DARBY ST	Valley	Muscoy	San Bernardino		35	2	Major Arterial/Major Highway	11,100	C or Better
115	CALIFORNIA ST NORTH OF HIGHLAND AVE	Valley	Muscoy	San Bernardino		40	2	Controlled/Limited Access Collector	7,300	E
116	OLIVE ST WEST OF RANCHO AVE	Valley	NA	Colton		35	4	Controlled/Limited Access Collector	6,400	C or Better
117	ALABAMA STREET SOUTH OF SAN BERNARDINO	Valley	NA	NA		40	5	Major Arterial/Major Highway	22,200	C or Better
118	MENTONE AVE WEST OF OPAL AVE	Valley	Mentone	Redlands	Yes	40	2	Major Arterial/Major Highway	23,500	F
119	OPAL AVE SOUTH OF NICE AVE	Valley	Mentone	Redlands		35	2	Controlled/Limited Access Collector	1,700	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
120	CRAFTON AVE SOUTH OF COLTON AVE	Valley	Mentone	Redlands		40	2	Major Arterial/Major Highway	9,100	C or Better
121	5TH AVE EAST OF WALNUT ST	Valley	Mentone	Redlands		45	4	Controlled/Limited Access Collector	12,300	C or Better
122	SAND CANYON EAST OF CRAFTON	Valley	Mentone	Redlands		50	4	Major Arterial/Major Highway	17,300	C or Better
123	GARNET STREET AT BRIDGE	Valley	Mentone	Redlands		50	4	Controlled/Limited Access Collector	3,600	C or Better
124	MILL CREEK RD EAST OF GARNET AVE	Valley	Mentone	Redlands	Yes	50	2	Major Arterial/Major Highway	14,500	C or Better
125	OAK GLEN RD NORTH OF CHAGALL RD	Valley	Oak Glen	NA		50	2	Controlled/Limited Access Collector	2,700	C or Better
126	OAK GLEN RD SOUTH OF PISGAH PEAK RD	Mountain	Oak Glen	NA		45	2	Controlled/Limited Access Collector	2,700	C or Better
127	OLD WOMAN SPRINGS RD WEST OF GRAND VIEW RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	6,800	C or Better
128	OLD WOMAN SPRINGS RD NORTH OF RECHE RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	7,600	C or Better
129	RECHE RD WEST OF BELFIELD BLVD	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,400	C or Better
130	OLD WOMAN SPRINGS RD NORTH OF PIPES CANYON RD	East Desert	Homestead Valley	NA	Yes	55	2	Major Arterial/Major Highway	9,300	C or Better
131	PIPES CANYON RD EAST OF PIONEERTOWN RD	East Desert	Pioneertown	NA		55	2	Major Arterial/Major Highway	500	C or Better
132	PIONEERTOWN RD SOUTH OF PIPES CANYON RD	East Desert	Pioneertown	NA		55	2	Major Arterial/Major Highway	900	C or Better
133	TWENTYNINE PALMS HWY NOTRH OF HIGHLAND RD	East Desert	Morongo Valley	NA	Yes	60	6	Major Arterial/Major Highway	31,400	C or Better
134	TWENTYNINE PALMS HWY NORTH OF WEST DR	East Desert	Morongo Valley	NA	Yes	50	6	Major Arterial/Major Highway	32,400	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
135	STATE HWY 62 SOUTH OF SENILS DR	East Desert	Morongo Valley	NA	Yes	50	6	Major Arterial/Major Highway	33,300	C or Better
136	ABERDEEN DR WEST OF AVALON AVE	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,100	C or Better
137	AVALON AVE NORTH OF ABERDEEN DR	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	1,900	C or Better
138	ABERDEEN DR EAST OF YUCCA MESA RD	East Desert	Homestead Valley	NA		55	2	Major Arterial/Major Highway	2,100	C or Better
139	BORDER AVE NORTH OF ABERDEEN DR	East Desert	Joshua Tree	NA		55	2	Major Arterial/Major Highway	2,100	C or Better
140	YUCCA MESA RD NORTH OF BARRON DR	East Desert	Joshua Tree	NA		55	4	Major Arterial/Major Highway	5,500	C or Better
141	LA CONTENTA RD NORTH OF ALTA LOMA RD	East Desert	Joshua Tree	NA		55	2	Controlled/Limited Access Collector	2,300	C or Better
142	ALTA LOMA RD WEST OF OLYMPIC RD	East Desert	Joshua Tree	NA		55	2	Controlled/Limited Access Collector	6,500	C or Better
143	TWENTYNINE PALMS HIGHWAY WEST OF SUNNY VISTA RD	East Desert	Joshua Tree	NA	Yes	60	4	Major Arterial/Major Highway	23,000	C or Better
144	TWENTYNINE PALMS HIGHWAY WEST OF RICE AVE	East Desert	Joshua Tree	NA	Yes	60	4	Major Arterial/Major Highway	20,300	C or Better
145	QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR	East Desert	Joshua Tree	NA		55	2	Major Arterial/Major Highway	2,400	C or Better
146	TWENTYNINE PALMS HWY EAST OF GODWIN RD	East Desert	NA	NA	Yes	55	2	Major Arterial/Major Highway	900	C or Better
147	AMBOY RD EAST OF GODWIN RD	East Desert	NA	NA		55	2	Major Arterial/Major Highway	3,800	C or Better
148	AMBOY RD SOUTH OF NATIONAL TRAILS HWY	East Desert	NA	NA		55	2	Major Arterial/Major Highway	1,100	C or Better
149	NATIONAL TRAILS HWY EAST OF AMBOY RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	2,100	C or Better

Table 9 Future (Year 2040) Roadway Segment Level of Service Assessment										
Segment ID	Roadway	Region	CPA	SOI	Caltrans Facility?	Speed	Future Number of Lanes	Facility Type	ADT	LOS
150	ESSEX RD SOUTH OF I-40	North Desert	NA	NA		50	2	Controlled/Limited Access Collector	100	C or Better
151	GOFFS ROAD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	500	C or Better
152	NIPTON RD WEST OF MORNING STAR MINE RD	North Desert	NA	NA		55	2	Controlled/Limited Access Collector	7,100	C or Better
153	KINGSTON RD SOUTH OF MESQUITE VALLEY RD	North Desert	NA	NA		45	2	Controlled/Limited Access Collector	100	C or Better

6.0 Vehicle Miles Traveled (VMT) Analysis

SB 743, signed by the Governor in 2013, is changing the way transportation impacts are identified. Specifically, the legislation has directed the Office of Planning and Research (OPR) to look at different metrics for identifying transportation as a CEQA impact. The Final OPR guidelines were released in November 2017 and has identified vehicle miles of travel (VMT) as the preferred metric moving forward. The Natural Resources Agency is completing the rule making process to modify the CEQA guidelines, which is expected later this year. Given the timing of this implementation with the County Policy Plan, it is prudent to address VMT and develop draft significance criteria to evaluate the County Policy Plan related to VMT.

This chapter is particularly important as VMT assessment is the basis of identifying CEQA impacts associated with transportation. The analyses provided in previous chapters focused on LOS and consistency with requirements associated with the County Policy Plan.

6.1 VMT Criteria

The San Bernardino County Policy Plan evaluates VMT based on project-generated VMT and Cumulative (or the project's effect on) VMT. VMT measurements are normalized depending on the project type, as shown in **Table 10**. Please note that VMT is reported for residential uses and employment uses as part of this assessment.

Table 10 Recommended VMT Measurements by Project Type

Project Type	Appropriate Trip Purpose Average Trip Length	VMT Normalization (VMT per ___)
Residential	Home-Based Work (Production) + Home-Based Other (Production)	VMT / Household
Office/Industrial	Home-Based Work (Attraction) + Truck (Production & Attraction)	VMT / Employee

Table 10 Recommended VMT Measurements by Project Type		
Project Type	**Appropriate Trip Purpose Average Trip Length**	**VMT Normalization (VMT per ___)**
Regional Retail	Home-Based Work (Attraction) + Home-Based Other (Attraction) + Non-Home Based (Attraction) + Truck (Production & Attraction)	VMT / Employee
Government/Institutional	Calculate based on whether the project contains office or customer-serving components	
Community College (without on-campus housing)	Home-Based Work (Attraction) + Home-Based Other (Attraction) + Non-Home Based (Attraction) + Truck (Production & Attraction)	VMT / Employee and Student
University (with on-campus housing)	Home-Based Work (Production & Attraction) + Home-Based Other (Production & Attraction) + Non-Home Based (Production & Attraction) + Truck (Production & Attraction)	VMT / Service Population (Population plus Employment) and Students[1]

Note: 1. Employees, population, and students should not overlap since they are exclusive variables.

6.2 Project VMT Estimates

To estimate VMT for the project, we utilized the SBTAM for both the base year and the future year to estimate VMT by trip purpose for both trip attractions and for trip productions.

To estimate trip length, we utilized the SBTAM base year and future year models to extract trip length by trip purpose for the traffic analysis zones representing the unincorporated County area. Specifically, we used the model's congested network assignment skim matrices to derive trip length by trip purpose (e.g. home base work (HBW), home base other (HBO), and non-home based (NHB)) for both trips that are attractions and trips that are productions. It should be noted that, approaching trip length in this way, provides a full-accounting methodology for VMT estimation (e.g. it incorporates the entire length of the trip).

The average trip lengths were multiplied by the number of trips the model estimated from each land use by traffic analysis zone (TAZ) and those trips (by trip purpose) were multiplied by the trip length information to identify total VMT (e.g. trip generation multiplied by trip length) by TAZ. Fehr & Peers then aggregated the VMT information by TAZ into geographies needed for assessment. Specifically, we aggregated the data into the four key county regions and separated the information into both incorporated areas and unincorporated areas for assessment.

These VMT estimates are presented below. Please note that these VMT estimates reflect full accounting methodologies, where trips are tracked from their origins to their ultimate destinations and any trip having one trip end in the study area is accounted for in the estimate. However, the VMT estimates utilized for greenhouse gas assessment or air quality assessment typically rely on the ½ accounting method; or where trips where only one trip end occurs in the County and the other trip end occurs outside of the County, then only ½ of the VMT for the trip is assigned to the County. As such, the VMT estimates for other EIR assessment chapters will likely differ than the values noted below.

6.2.1 Existing VMT

To estimate the existing VMT, Fehr & Peers had to estimate VMT from both the Base Year (2012) and future Year (2040) horizons in the SBTAM Model. The VMT per service population was estimated for both of these horizons and then linear interpolation was utilized to estimate the existing (2016, consistent with our traffic count collection) VMT for the project. These VMT estimates are summarized below:

Table 11 Project-Generated VMT Summary				
VMT		**2012 Model Base Year**	**Interpolated 2016**	**2040 Model Future Year**
Residential VMT per Person				
Countywide	*Total*	*14.8*	15.2	*17.7*
	Unincorporated	20.1	20.5	22.8
	Incorporated	13.9	14.3	16.8
North Desert	Unincorporated	25.2	25.7	28.4
	Incorporated	14.8	15.0	16.1
East Desert	Unincorporated	23.5	23.5	23.3
	Incorporated	13.5	13.0	9.8
Mountain	Unincorporated	20.8	21.6	26.5
	Incorporated	9.8	10.4	14.2
Valley	Unincorporated	13.9	14.1	15.4
	Incorporated	13.7	14.2	17.2
Employment VMT per Person				
Countywide	*Total*	17.9	18.0	18.3
	Unincorporated	24.3	24.1	22.7
	Incorporated	17.2	17.3	17.8
North Desert	Unincorporated	36.2	35.3	29.9
	Incorporated	14.9	15.2	16.8
East Desert	Unincorporated	17.8	18.4	21.9

Table 11 Project-Generated VMT Summary				
VMT		2012 Model Base Year	Interpolated 2016	2040 Model Future Year
Mountain	Incorporated	15.1	15.9	20.9
	Unincorporated	21.6	21.7	22.3
Valley	Incorporated	13.5	13.0	10.1
	Unincorporated	19.6	19.5	18.8
	Incorporated	17.6	17.7	18.0

Please note that the numbers in Table 11 reflect both the existing development plus proposed new development in the region. However, based on the County's guidelines, the threshold for new development is VMT per person/employee that is 4% below the existing (2016) Countywide Unincorporated VMT noted above; or 19.7 VMT per person for residential development and 23.1 VMT per person for employment.

To estimate the VMT generated by just the new development, Fehr & Peers looked at the net change in VMT due to new development and compared that to the net change in population or employment. The results are summarized below and are compared back to the acceptability thresholds noted above. It should be noted that the VMT estimates presented in Table 12 are directly from the travel demand forecasting model and do not account for additional reductions that would occur from TDM strategies (which could potentially reduce VMT another 4% from the modeled values assuming full implementation and effectiveness of the program).

Table 12 New Development Generated VMT Summary			
VMT		VMT Target (4% Below Unincorporated Countywide Average)	New Development VMT (Estimated by the Change in Total VMT / Change in Population or Employment)
Residential VMT per Person			
Countywide	Unincorporated	19.7	30.7
North Desert	Unincorporated	19.7	37.4
East Desert	Unincorporated	19.7	22.2
Mountain	Unincorporated	19.7	43.1
Valley	Unincorporated	19.7	20.0
Employment VMT per Person			
Countywide	Unincorporated	23.1	19.2
North Desert	Unincorporated	23.1	18.5
East Desert	Unincorporated	23.1	86.4
Mountain	Unincorporated	23.1	34.7
Valley	Unincorporated	23.1	17.6

As shown above, without TDM mitigation, all residential development in the County will exceed the 4% below existing countywide average for all subregions of the County. However, if the County were to achieve a 4% reduction in VMT, then residential development in the Valley region would likely meet the City's reduction target goals (where the other regions of the County would not).

Employment uses in the County generate less commute-based VMT overall, and in the North Desert and Valley regions. However, the results indicate that the East Desert and Mountain region VMT would not achieve the desired VMT reduction target (4% below existing) identified by the County.

6.2.2 Project's Effect on VMT

The project generated VMT summarized above provides a summary of the potential project-generated VMT and how it relates to potential impacts. However, project-generated VMT provides only one part of the VMT "story". The other part is understanding the project's effect on VMT – e.g. is the VMT changes associated with the County Policy Plan correlate to a positive or negative effect on the environment.

To complete this assessment, Fehr & Peers compared the County Policy Plan VMT estimates to VMT estimates that are consistent with the RTP/SCS utilizing the SBTAM travel demand forecasting model for the 2040 analysis horizon. Please note that the results are aggregated into the total geographic area and are not refined by incorporated or unincorporated areas as the project effect on VMT relates to the entire sub-region of the County and the County as a whole.

Table 13 Cumulative Effect on VMT

VMT Per Service Population (Includes Incorporated and Unincorporated Areas of the County)	2040 RTP/SCS	2040 General Plan	Difference
North Desert	37.1	35.5	-4%
East Desert	37.3	34.1	-9%
Mountain	44.0	45.1	+3%
Valley	33.1	31.1	-6%
Countywide Total:	***34.4***	***32.5***	***-6%***

As shown above, implementation of the County Policy Plan would result in a VMT per service population reduction for the North Desert, East Desert, and Valley regions. Only the Mountain region would experience an increase in VMT per service population relative to the RTP/SCS.

Additionally, from a countywide perspective, the County Policy Plan would reduce VMT per service population by 6% in total compared to the anticipated RTP/SCS.

7.0 Impact Analysis and Mitigation Measures

Based on the County's Draft traffic impact study guidelines and the Appendix G Environmental Checklist from the CEQA guidelines listed below, this study uses the following criteria to determine if the project causes a significant impact.

According to the Appendix G Environmental Checklist, a project may have a significant impact related to transportation and traffic if the project would:

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

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

    - As previously described, the County Policy Plan has established LOS performance standards that are stricter than those identified in the CMP. As such, any potential CMP related impacts at study facilities would be identified as part of the local intersection assessment evaluated above.

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

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

e. Result in inadequate emergency access?

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

As previously discussed, the Natural Resources Agency is currently completing the rulemaking process to eliminate level of service as a CEQA threshold and replace it with VMT. The County guidelines reflect this change and utilizes VMT for impact assessment. The guidelines also identify needed level of service analysis for the County Policy Plan consistency findings related to the performance of the transportation system. Since the resources agency is still completing the rule making process under SB 743 to update the CEQA guidelines, this traffic study still treats general plan consistency impacts related to level of service assessment as a CEQA impact – a conservative approach for the purposes of this assessment

7.1 Traffic Operations Thresholds

As described in Chapter 3.0, the County Policy Plan and the County Traffic Impact Analysis Guidelines and relating to criterion (a) above, the following guidance related to impacts to transportation facilities as the project would conflict with applicable policies related to LOS.

7.1.1 Intersection Impacts

Consistent with the acceptable LOS for the County sub-regions (North Desert, East Desert, Valley, and Mountain regions) as described in the proposed County Policy Plan, the proposed County Policy Plan buildout impacted:

- Any signalized study intersection in the Valley or Mountain regions operating at an acceptable LOS D or better with existing traffic in which the addition of buildout traffic caused the intersection to degrade to an LOS E or F;
- Any signalized study intersection in the North Desert or East Desert regions operating at an LOS C or better with existing traffic in which the addition of buildout traffic caused the intersection to degrade to an LOS D, E, or F;
- Any signalized study intersection in the Valley or Mountain regions operating at LOS E or F with existing traffic where the addition of buildout traffic increased delay by 5.0 or more seconds; or

- Any signalized study intersection in the North Desert or East Desert regions that is operating at LOS D, E, or F with existing traffic where the addition of buildout traffic where the project increased delay by 5.0 or more seconds.

Consistent with the acceptable LOS for the County sub-regions as described in the proposed County Policy Plan, the proposed County Policy Plan buildout impacted an unsignalized intersection if the following points a) or both sections b) and c) occurred:

a) The addition of project related traffic caused the intersection to degrade from an LOS D or better to a LOS E or worse in the Valley and Mountain regions or from an LOS C or better to an LOS D or worse in the North Desert and East Desert regions.

OR

b) The project added 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at an LOS E or F in the Valley and Mountain regions or at an LOS D, E, or F in the North Desert or East Desert region (per Section 10.5.2 b))

AND

c) One or both of the following conditions are met:
   1) The project added ten (10) or more trips to any minor street approach
   2) The intersection met the peak hour traffic signal warrant after the addition of project traffic (per Section 10.5.2 c of the traffic study guidelines)).

7.1.2 Roadway Segments

Consistent with the acceptable LOS for the North Desert, East Desert, Valley, and Mountain regions as described in the proposed County Policy Plan, the proposed County Policy Plan impacted:

- Any study roadway segment in the Valley or Mountain regions that was operating at an LOS D or better in which the addition of buildout traffic caused the segment to degrade to an LOS E or F
- Any study roadway segment in the North Desert or East Desert regions that was operating at an LOS C or better without in which the addition of buildout traffic caused the segment to degrade to an LOS D, E, or F

- Any roadway segment that operated unacceptably in the existing scenario where the buildout scenario added traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05)

7.2 Transit, Bicycle, and Pedestrian Facility Impacts

Based on the County's guidelines and the CEQA checklist item (f) listed above, a significant impact would occur to transit, bicycle, and/or pedestrian facilities if the project would:

- Disrupt or interfere with existing or planned public transit services or facilities
- Create an inconsistency with policies concerning transit systems set forth in an applicable General Plan or other applicable adopted policy document
- Disrupt or interfere with existing or planned bicycle/pedestrian facilities
- Result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/vehicle conflicts
- Result in unsafe conditions for bicycles, including unsafe bicycle/pedestrian or bicycle/vehicle conflicts
- Create an inconsistency with policies related to bicycle or pedestrian systems set forth in an applicable General Plan, Bicycle Plan, or other applicable adopted policy document

7.3 Impacts and Mitigation Measures

7.3.1 Traffic Increases

Impact 1 ***The addition of project traffic to the roadway network and intersections would degrade operations at study locations to an unacceptable operating level as identified in the significance criteria.***

Key intersections and roadway segments identified as operating at an unacceptable level are noted below along with the improvements or County Policy Plan guidance that are required for the facilities to operate at an acceptable level. These impacts are considered ***significant*** and are subject to mitigation.

Intersections:

- End Ave / Francis Ave – Install traffic signal[1]
- Cherry Ave / San Bernardino Ave – Lane additions needed consisting of adding a second left-turn lane to all approaches
- Live Oak Ave / Arrow Route – Install traffic signal[1]
- Alder Ave / Santa Ana Ave – Install traffic signal[1]
- Cedar Ave / Slover Ave – Lane additions needed consisting of adding a second eastbound and northbound left-turn lane and an additional southbound through lane (with receiving lane)
- Sheep Creek Rd / Palmdale Rd – Install traffic signal[1]
- Caughlin Rd / Palmdale Rd – Install traffic signal[1]

Roadway Segments:

- SR 138 west of Oasis Rd – Modify the Roadway Network map to show this as a divided facility or exempt this location from the County's LOS standard
- SR 173 east of Lakes Edge Rd – Modify the Roadway Network map to show this as a Mountain Major roadway or exempt this location from the County's LOS standard
- North Bay Rd north of SR-189 – Modify the Roadway Network map to show this as a Mountain Major roadway
- Lake Dr west of Lake Gregory Dr – Modify the Roadway Network map to show this as a Mountain Major roadway

[1] This analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration *Manual on Uniform Traffic Control Devices* and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible state or local agency should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

- California St north of Highland Ave – Modify the Roadway Network map to show this as a Major Arterial roadway or exempt this location from the County's LOS standard
- Mentone Ave west of Opal Ave – Modify the Roadway Network map to show this as a four lane Major Arterial or exempt this location from the County's LOS standard

Mitigation 1 The County Policy Plan has numerous policies that support implementation of needed improvements by new development. These policies address fair share and phasing recommendations related to new development's requirement to mitigate impacts, LOS policy guidance, and LOS exemptions. Implementation of these policies that include the improvements noted above would result in all the facilities operating at an acceptable level and would demonstrate consistency with the County Policy Plan. However, some of these facilities are outside of the County's control and are operated by Caltrans. Others (like California Street) are constrained due to limited right of way along the roadway. Given that the County cannot guarantee that Caltrans will implement the modifications noted above as the owner/operator of those facilities, the impact is considered ***significant and unavoidable.***

7.3.2 Congestion Management Program

As previously noted, the County LOS requirements are more stringent than those identified in the County Congestion Management Program. As such, project impacts to CMP facilities are addressed above as part of Impact 1 and no further analysis is required.

7.3.3 Air Traffic Patterns

Impact 2 ***The project would not result in a change in air traffic patterns, including no significant increase in traffic levels or a change in location.***

The County Policy Plan includes several policies that maintain consistency with requires consistency with and support of airports in the County. The policy directions ensure consistency and thus the impact is considered ***less-than-significant.***

Mitigation 2 Since the County Policy Plan impact is considered less-than-significant, no mitigation is required.

7.3.4 Hazards

Impact 3 ***The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).***

The proposed County Policy Plan would result in some changes and growth of the County's transportation network but would not increase hazards. All future roadway system improvements associated with development and redevelopment activities under the proposed County Policy Plan would be designed in accordance with the established roadway design standards. These improvements would be subject to review and future consideration by the County's engineering staff. An evaluation of the roadway alignments, intersection geometrics, and traffic control features would be needed. Roadway improvements would have to be made in accordance with the County's Circulation Plan and roadway functional design guidelines and meet design guidelines in the California Manual of Uniform Traffic Control Devices and the Caltrans Roadway Design Manual.

In addition, the draft Transportation & Mobility Element includes goals and policies to improve the safety of all users of the transportation system in the County and to implement appropriate roadway design standards. Therefore, this impact is considered ***less-than-significant.***

Mitigation 3 Since the County Policy Plan impact is considered less-than-significant, no mitigation is required.

7.3.5 Emergency Access

Impact 4 ***The project would not result in inadequate emergency access.***

A review of the County Policy Plan revealed no potential internal policy inconsistencies or discrepancies related to emergency access. Implementation of the County Policy Plan would increase the amount of vehicle traffic, which would require the improvement and expansion of some of the County's roadway system to accommodate forecasts travel demand as well as maintaining acceptable traffic operations (LOS) in the County as noted above. An enhanced roadway network that accommodates forecasted travel demand would also provide adequate emergency access.

Therefore, this impact is considered ***less-than-significant.***

Mitigation 4 Since the County Policy Plan impact is considered less-than-significant, no mitigation is required.

7.3.6 Transit, Bicycle, and Pedestrian Impacts

Impact 5 ***The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.***

The County Policy Plan incorporates future networks and policies related to supporting transit, bicycle, and pedestrians in the County. These networks are consistent with regional and local planning efforts supporting these modes of travel. Additionally, the County Policy Plan has numerous policies supporting complete streets (providing accessibility for all users of all ages and abilities) and active transportation. Given the County Policy Plan's consistency with regional efforts, this impact is considered ***less-than-significant.***

Mitigation 5 Since the County Policy Plan impact is considered less-than-significant, no mitigation is required.

7.3.7 Additional VMT Reductions

As previously noted, the County Policy Plan will affect VMT in the area. It should be noted that the VMT information presented is produced from the regional model and only accounts for the built environment variables that the regional model is sensitive to. Additional policies in the County Policy Plan supporting variables the model is not sensitive to (such as connectivity in neighborhoods, presence of bicycle and pedestrian facilities, and transportation demand management (TDM) measures) are not reflected in these estimates. As such, the following provides a summary of built environment variables that the model is either accounting for or not accounting for, and the appropriate approach for the County to consider additional VMT reductions moving forward.

The CAPCOA documentation provides a variety of information related to potential VMT reduction strategies through implementation of Transportation Demand Management (TDM) measures. Some of the referenced strategies are already accounted for through the modeling of the General Plan and some are supported through policy language of the General Plan document. Other strategies are project specific and/or would be implemented through the development code or conditioned on future development as noted previously in this assessment.

The CAPCOA documentation identifies that, in a suburban context, the maximum achievable VMT reduction is 10% unless the development includes a NEV program; in which case a 15% VMT reduction is achievable (note that both of these numbers include land use measures that are already accounted for in the travel demand forecasting for the project). However, as previously discussed, Fehr & Peers worked with the County to identify feasible TDM programs that could be implemented in the County and recognized that the additional reduction that would be achievable would be limited to approximately 4%.

As noted above, most of the other measures would be implemented on a project-by-project basis or would occur during the development code update or modifications to the design guidelines and, because those have not yet been completed, cannot be relied upon for this General Plan evaluation.

This page left intentionally blank.

Appendix A:
Synchro 10 Reports



Existing AM

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	30	12	41	77	52	27	231	87	21	238	24
Future Vol, veh/h	25	30	12	41	77	52	27	231	87	21	238	24
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	20	3	25	0	2	3	3	5	0	14	10	20
Mvmt Flow	32	38	15	53	99	67	35	296	112	27	305	31
Number of Lanes	0	1	0	0	1	1	0	2	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12.2	11.9	12.5	17.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	19%	0%	37%	35%	0%	8%	0%
Vol Thru, %	81%	57%	45%	65%	0%	92%	0%
Vol Right, %	0%	43%	18%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	203	67	118	52	259	24
LT Vol	27	0	25	41	0	21	0
Through Vol	116	116	30	77	0	238	0
RT Vol	0	87	12	0	52	0	24
Lane Flow Rate	183	260	86	151	67	332	31
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.317	0.424	0.179	0.296	0.115	0.595	0.048
Departure Headway (Hd)	6.252	5.884	7.505	7.055	6.2	6.455	5.634
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	610	475	507	575	558	632
Service Time	4.016	3.648	5.595	4.828	3.972	4.221	3.398
HCM Lane V/C Ratio	0.32	0.426	0.181	0.298	0.117	0.595	0.049
HCM Control Delay	11.9	13	12.2	12.8	9.8	18.3	8.7
HCM Lane LOS	B	B	B	B	A	C	A
HCM 95th-tile Q	1.4	2.1	0.6	1.2	0.4	3.9	0.2



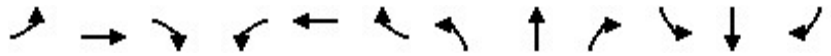
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	33	73	137	275	110	378	743	50	50	695	127
Future Volume (veh/h)	21	33	73	137	275	110	378	743	50	50	695	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
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	1143	1632	1435	1263	1744	1589	1550	1514	1603	1461	1408	1491
Adj Flow Rate, veh/h	24	38	0	156	312	0	430	844	0	57	790	144
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	42	12	26	27	4	15	4	14	14	18	22	22
Cap, veh/h	25	180		195	393		474	2725		69	1773	320
Arrive On Green	0.02	0.06	0.00	0.08	0.12	0.00	0.17	0.66	0.00	0.05	0.54	0.54
Sat Flow, veh/h	1089	3100	1216	2334	3313	1347	2864	4270	0	1392	3265	590
Grp Volume(v), veh/h	24	38	0	156	312	0	430	844	0	57	619	315
Grp Sat Flow(s),veh/h/ln	1089	1550	1216	1167	1657	1347	1432	1378	0	1392	1282	1292
Q Serve(g_s), s	2.6	1.4	0.0	7.9	11.0	0.0	17.7	10.5	0.0	4.9	17.5	17.7
Cycle Q Clear(g_c), s	2.6	1.4	0.0	7.9	11.0	0.0	17.7	10.5	0.0	4.9	17.5	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.46
Lane Grp Cap(c), veh/h	25	180		195	393		474	2725		69	1392	702
V/C Ratio(X)	0.96	0.21		0.80	0.79		0.91	0.31		0.83	0.44	0.45
Avail Cap(c_a), veh/h	141	530		301	566		489	2725		238	1392	702
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	53.9	0.0	54.0	51.4	0.0	49.2	8.8	0.0	56.5	16.5	16.6
Incr Delay (d2), s/veh	73.7	0.6	0.0	8.2	4.9	0.0	20.3	0.3	0.0	21.7	1.0	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	1.2	0.6	0.0	2.5	4.8	0.0	7.6	3.1	0.0	2.1	5.2	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.3	54.5	0.0	62.2	56.4	0.0	69.5	9.1	0.0	78.3	17.6	18.7
LnGrp LOS	F	D		E	E		E	A		E	B	B
Approach Vol, veh/h		62	A		468	A		1274	A		991	
Approach Delay, s/veh		84.6			58.3			29.5			21.4	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	83.6	7.3	18.7	24.3	69.7	14.5	11.5
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	20.5	45.5	15.5	20.5	20.5	45.5	15.5	20.5
Max Q Clear Time (g_c+I1), s	6.9	12.5	4.6	13.0	19.7	19.7	9.9	3.4
Green Ext Time (p_c), s	0.1	7.0	0.0	1.1	0.2	7.2	0.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	93	62	104	375	61	99	652	67	59	821	443
Future Volume (veh/h)	148	93	62	104	375	61	99	652	67	59	821	443
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		0.99	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	1501	1617	1266	1501	1673	1772	1422	1567	1660	1567	1688	1674
Adj Flow Rate, veh/h	154	97	0	108	391	64	103	679	70	61	855	461
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	15	13	38	15	2	2	21	10	10	10	8	9
Cap, veh/h	179	686		131	519	84	121	1749	179	75	1865	574
Arrive On Green	0.13	0.22	0.00	0.09	0.19	0.19	0.09	0.44	0.44	0.05	0.40	0.40
Sat Flow, veh/h	1430	3073	1073	1430	2739	445	1354	3939	403	1493	4607	1418
Grp Volume(v), veh/h	154	97	0	108	226	229	103	490	259	61	855	461
Grp Sat Flow(s),veh/h/ln	1430	1537	1073	1430	1590	1593	1354	1426	1489	1493	1536	1418
Q Serve(g_s), s	11.6	2.8	0.0	8.2	14.7	15.0	8.2	12.7	12.9	4.5	14.9	31.5
Cycle Q Clear(g_c), s	11.6	2.8	0.0	8.2	14.7	15.0	8.2	12.7	12.9	4.5	14.9	31.5
Prop In Lane	1.00		1.00	1.00		0.28	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	179	686		131	301	302	121	1267	661	75	1865	574
V/C Ratio(X)	0.86	0.14		0.82	0.75	0.76	0.85	0.39	0.39	0.81	0.46	0.80
Avail Cap(c_a), veh/h	227	847		227	438	439	134	1267	661	148	1865	574
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	34.3	0.0	49.1	42.1	42.2	49.4	20.5	20.6	51.7	23.9	28.9
Incr Delay (d2), s/veh	27.9	0.2	0.0	23.1	8.0	8.5	39.9	0.9	1.7	34.5	0.8	11.3
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	5.5	1.1	0.0	3.7	6.4	6.6	4.1	4.3	4.7	2.4	5.5	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.1	34.5	0.0	72.2	50.1	50.7	89.3	21.4	22.3	86.3	24.7	40.2
LnGrp LOS	E	C		E	D	D	F	C	C	F	C	D
Approach Vol, veh/h		251	A		563			852			1377	
Approach Delay, s/veh		59.4			54.6			29.9			32.6	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	54.9	18.3	26.9	14.3	50.5	14.6	30.6
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	10.9	30.3	17.5	30.3	10.9	30.3	17.5	30.3
Max Q Clear Time (g_c+I1), s	16.5	14.9	13.6	17.0	10.2	33.5	10.2	4.8
Green Ext Time (p_c), s	0.1	7.2	0.3	3.9	0.0	0.0	0.3	0.9

Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	274	13	34	662	10	9	0	21	10	20	27
Future Vol, veh/h	8	274	13	34	662	10	9	0	21	10	20	27
Conflicting Peds, #/hr	1	0	0	0	0	1	1	0	6	6	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	-	-	200	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	9	0	11	3	0	0	2	4	20	5	7
Mvmt Flow	9	291	14	36	704	11	10	0	22	11	21	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	716	0	0	305	0	0	1117	1097	297	1110	1100	706
Stage 1	-	-	-	-	-	-	309	309	-	777	777	-
Stage 2	-	-	-	-	-	-	808	788	-	333	323	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.52	6.24	7.3	6.55	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.3	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.3	5.55	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4.018	3.336	3.68	4.045	3.363
Pot Cap-1 Maneuver	894	-	-	1206	-	-	186	213	738	172	210	427
Stage 1	-	-	-	-	-	-	705	660	-	364	403	-
Stage 2	-	-	-	-	-	-	378	402	-	644	645	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	893	-	-	1206	-	-	152	200	734	158	197	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	152	200	-	158	197	-
Stage 1	-	-	-	-	-	-	697	652	-	359	382	-
Stage 2	-	-	-	-	-	-	316	381	-	613	637	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	16.6	24
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	893	-	-	1206	-	-	250
HCM Lane V/C Ratio	0.093	0.01	-	-	0.03	-	-	0.243
HCM Control Delay (s)	16.6	9.1	0	-	8.1	0	-	24
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.9

Intersection	
Intersection Delay, s/veh	67.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	176	10	137	268	70	18	79	152	36	74	69
Future Vol, veh/h	39	176	10	137	268	70	18	79	152	36	74	69
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	0	1	10	0	2	0	0	2	1	5	0	0
Mvmt Flow	54	244	14	190	372	97	25	110	211	50	103	96
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	26.8	123.9	28	21.5
HCM LOS	D	F	D	C

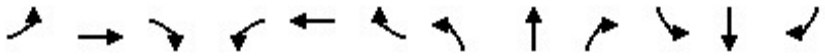
Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	17%	34%	0%	20%
Vol Thru, %	32%	78%	66%	0%	41%
Vol Right, %	61%	4%	0%	100%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	249	225	405	70	179
LT Vol	18	39	137	0	36
Through Vol	79	176	268	0	74
RT Vol	152	10	0	70	69
Lane Flow Rate	346	313	562	97	249
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.708	0.673	1.222	0.188	0.549
Departure Headway (Hd)	7.938	8.299	7.819	6.959	8.578
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	460	438	461	512	423
Service Time	5.938	6.299	5.61	4.749	6.578
HCM Lane V/C Ratio	0.752	0.715	1.219	0.189	0.589
HCM Control Delay	28	26.8	143.3	11.4	21.5
HCM Lane LOS	D	D	F	B	C
HCM 95th-tile Q	5.5	4.8	22.1	0.7	3.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	114	19	27	185	32	15	108	18	29	262	35
Future Volume (veh/h)	25	114	19	27	185	32	15	108	18	29	262	35
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		0.98
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	1647	1716	1730	1660	1744	1716	1660	1660	1660	1687	1687	1687
Adj Flow Rate, veh/h	28	128	21	30	208	36	17	121	20	33	294	39
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	6	5	3	4	6	3	3	3	1	1	1
Cap, veh/h	44	904	772	46	921	768	66	351	54	67	366	47
Arrive On Green	0.03	0.53	0.53	0.03	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1569	1716	1466	1581	1744	1454	80	1292	199	88	1348	171
Grp Volume(v), veh/h	28	128	21	30	208	36	158	0	0	366	0	0
Grp Sat Flow(s),veh/h/ln	1569	1716	1466	1581	1744	1454	1570	0	0	1607	0	0
Q Serve(g_s), s	1.6	3.4	0.6	1.7	5.8	1.1	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	1.6	3.4	0.6	1.7	5.8	1.1	7.1	0.0	0.0	19.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.11		0.13	0.09		0.11
Lane Grp Cap(c), veh/h	44	904	772	46	921	768	471	0	0	480	0	0
V/C Ratio(X)	0.64	0.14	0.03	0.65	0.23	0.05	0.34	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	174	904	772	176	921	768	638	0	0	657	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.3	10.9	10.2	43.2	11.4	10.3	26.4	0.0	0.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	28.5	0.3	0.1	28.0	0.6	0.1	0.9	0.0	0.0	6.0	0.0	0.0
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	1.0	1.3	0.2	1.0	2.2	0.4	2.8	0.0	0.0	8.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	11.2	10.3	71.2	11.9	10.4	27.3	0.0	0.0	36.7	0.0	0.0
LnGrp LOS	E	B	B	E	B	B	C	A	A	D	A	A
Approach Vol, veh/h		177			274			158			366	
Approach Delay, s/veh		20.7			18.2			27.3			36.7	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	52.4		30.0	7.5	52.5		30.0
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.5
Max Green Setting (Gmax), s	10.6	30.0		34.5	10.0	30.0		34.5
Max Q Clear Time (g_c+I1), s	3.7	5.4		9.1	3.6	7.8		21.2
Green Ext Time (p_c), s	0.0	1.4		1.7	0.0	2.4		3.2

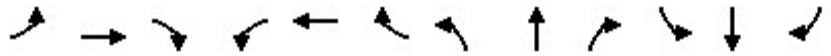
Intersection Summary		
HCM 6th Ctrl Delay		27.1
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	76	32	20	74	73	60	746	13	45	832	52
Future Volume (veh/h)	122	76	32	20	74	73	60	746	13	45	832	52
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	1647	1660	1660	1501	1603	1561	1594	1702	1702	1435	1716	1716
Adj Flow Rate, veh/h	133	83	35	22	80	79	65	811	14	49	904	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	10	10	15	14	17	8	7	7	20	6	6
Cap, veh/h	159	178	75	40	139	115	81	1658	29	86	1616	102
Arrive On Green	0.10	0.16	0.16	0.03	0.09	0.09	0.05	0.51	0.51	0.06	0.52	0.52
Sat Flow, veh/h	1569	1108	467	1430	1603	1323	1518	3252	56	1366	3114	196
Grp Volume(v), veh/h	133	0	118	22	80	79	65	403	422	49	473	488
Grp Sat Flow(s),veh/h/ln	1569	0	1575	1430	1603	1323	1518	1617	1692	1366	1630	1680
Q Serve(g_s), s	7.5	0.0	6.1	1.4	4.3	5.2	3.8	14.7	14.7	3.1	17.7	17.7
Cycle Q Clear(g_c), s	7.5	0.0	6.1	1.4	4.3	5.2	3.8	14.7	14.7	3.1	17.7	17.7
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.03	1.00		0.12
Lane Grp Cap(c), veh/h	159	0	253	40	139	115	81	824	862	86	846	872
V/C Ratio(X)	0.83	0.00	0.47	0.55	0.57	0.69	0.80	0.49	0.49	0.57	0.56	0.56
Avail Cap(c_a), veh/h	166	0	516	119	490	404	127	824	862	190	846	872
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	0.00	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	39.7	0.0	34.3	43.2	39.5	39.9	42.1	14.4	14.4	41.0	14.7	14.7
Incr Delay (d2), s/veh	26.7	0.0	1.3	4.2	3.7	7.1	8.5	2.1	2.0	2.2	2.7	2.6
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	4.0	0.0	2.4	0.5	1.8	1.9	1.6	5.5	5.7	1.1	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	0.0	35.6	47.4	43.2	47.0	50.7	16.5	16.4	43.2	17.3	17.3
LnGrp LOS	E	A	D	D	D	D	D	B	B	D	B	B
Approach Vol, veh/h		251			181			890			1010	
Approach Delay, s/veh		51.9			45.3			18.9			18.6	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	20.9	9.3	52.7	13.6	14.3	10.1	51.9
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	7.5	29.5	7.5	24.0	9.5	27.5	12.5	19.0
Max Q Clear Time (g_c+I1), s	3.4	8.1	5.8	19.7	9.5	7.2	5.1	16.7
Green Ext Time (p_c), s	0.0	0.6	0.0	2.6	0.0	0.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	60	63	46	70	33	64	737	38	53	773	60
Future Volume (veh/h)	57	60	63	46	70	33	64	737	38	53	773	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	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	1660	1660	1660	1673	1673	1302	1607	1688	1688	1581	1716	1716
Adj Flow Rate, veh/h	65	68	72	52	80	38	73	838	43	60	878	68
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	2	2	30	7	8	8	9	6	6
Cap, veh/h	103	101	85	132	177	239	133	1640	84	122	1603	124
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.53	0.53	0.08	0.52	0.52
Sat Flow, veh/h	251	458	384	370	803	1083	1531	3103	159	1505	3066	237
Grp Volume(v), veh/h	205	0	0	132	0	38	73	433	448	60	467	479
Grp Sat Flow(s),veh/h/ln	1093	0	0	1173	0	1083	1531	1603	1659	1505	1630	1673
Q Serve(g_s), s	9.7	0.0	0.0	0.0	0.0	2.8	4.6	17.4	17.4	3.8	19.2	19.2
Cycle Q Clear(g_c), s	19.0	0.0	0.0	9.2	0.0	2.8	4.6	17.4	17.4	3.8	19.2	19.2
Prop In Lane	0.32		0.35	0.39		1.00	1.00		0.10	1.00		0.14
Lane Grp Cap(c), veh/h	288	0	0	309	0	239	133	847	877	122	852	875
V/C Ratio(X)	0.71	0.00	0.00	0.43	0.00	0.16	0.55	0.51	0.51	0.49	0.55	0.55
Avail Cap(c_a), veh/h	452	0	0	476	0	368	191	847	877	188	852	875
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	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	0.0	33.5	0.0	31.5	43.8	15.2	15.2	44.0	16.0	16.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.9	0.0	0.3	1.3	2.2	2.1	1.1	2.5	2.5
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	5.1	0.0	0.0	2.8	0.0	0.8	1.8	6.6	6.8	1.5	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	0.0	34.5	0.0	31.8	45.1	17.4	17.4	45.1	18.5	18.4
LnGrp LOS	D	A	A	C	A	C	D	B	B	D	B	B
Approach Vol, veh/h		205			170			954			1006	
Approach Delay, s/veh		41.6			33.9			19.5			20.0	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	59.4		28.0	13.2	58.8		28.0
Change Period (Y+Rc), s	4.5	6.5		6.0	4.5	6.5		6.0
Max Green Setting (Gmax), s	12.5	36.5		34.0	12.5	36.5		34.0
Max Q Clear Time (g_c+I1), s	15.8	19.4		21.0	6.6	21.2		11.2
Green Ext Time (p_c), s	0.0	10.5		0.9	0.0	10.3		0.8

Intersection Summary		
HCM 6th Ctrl Delay		22.7
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	246	12	24	206	7	22	0	35	8	0	4
Future Vol, veh/h	3	246	12	24	206	7	22	0	35	8	0	4
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	33	8	16	4	16	0	4	2	2	12	2	25
Mvmt Flow	3	286	14	28	240	8	26	0	41	9	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	300	0	0	475	604	293	621	607	125
Stage 1	-	-	-	-	-	-	299	299	-	301	301	-
Stage 2	-	-	-	-	-	-	176	305	-	320	306	-
Critical Hdwy	4.595	-	-	4.16	-	-	7.36	6.53	6.23	7.48	6.53	7.275
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.53	-	6.68	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.53	-	6.28	5.53	-
Follow-up Hdwy	2.5135	-	-	2.238	-	-	3.538	4.019	3.319	3.614	4.019	3.5375
Pot Cap-1 Maneuver	1136	-	-	1247	-	-	482	412	745	368	410	840
Stage 1	-	-	-	-	-	-	704	666	-	660	664	-
Stage 2	-	-	-	-	-	-	804	662	-	666	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1135	-	-	1247	-	-	469	400	745	340	398	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	469	400	-	340	398	-
Stage 1	-	-	-	-	-	-	702	664	-	657	646	-
Stage 2	-	-	-	-	-	-	779	644	-	628	659	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.9	11.7	13.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	607	1135	-	-	1247	-	-	424
HCM Lane V/C Ratio	0.109	0.003	-	-	0.022	-	-	0.033
HCM Control Delay (s)	11.7	8.2	0	-	8	0.1	-	13.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	80	26	3	0	1
Future Vol, veh/h	0	80	26	3	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	1	0	0	2	0
Mvmt Flow	0	82	27	3	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	30	0	-	0	111	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	4.12	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1583	-	-	-	886	1052
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1583	-	-	-	886	1052
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	1052
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	619	8	41	187	4	95
Future Volume (veh/h)	619	8	41	187	4	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1588	1800	1463	1744	1700	1730
Adj Flow Rate, veh/h	688	9	46	208	4	106
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	0	24	4	0	5
Cap, veh/h	955	496	380	750	21	673
Arrive On Green	0.33	0.33	0.26	0.26	0.01	0.39
Sat Flow, veh/h	2933	1525	1463	2892	1619	1730
Grp Volume(v), veh/h	688	9	46	208	4	106
Grp Sat Flow(s),veh/h/ln	1467	1525	1463	1446	1619	1730
Q Serve(g_s), s	8.0	0.2	0.9	2.2	0.1	1.5
Cycle Q Clear(g_c), s	8.0	0.2	0.9	2.2	0.1	1.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	955	496	380	750	21	673
V/C Ratio(X)	0.72	0.02	0.12	0.28	0.19	0.16
Avail Cap(c_a), veh/h	1370	712	740	1463	504	1615
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.5	8.8	10.9	11.4	18.8	7.7
Incr Delay (d2), s/veh	1.5	0.0	0.2	0.3	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.3	0.6	0.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.0	8.8	11.1	11.7	20.4	7.8
LnGrp LOS	B	A	B	B	C	A
Approach Vol, veh/h	697		254			110
Approach Delay, s/veh	12.9		11.6			8.3
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		21.5		17.0	5.0	16.5
Change Period (Y+Rc), s		6.5		4.5	4.5	6.5
Max Green Setting (Gmax), s		36.0		18.0	12.0	19.5
Max Q Clear Time (g_c+I1), s		3.5		10.0	2.1	4.2
Green Ext Time (p_c), s		0.8		2.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	45	9	4	31	88	4	42	7	50	23	3
Future Vol, veh/h	18	45	9	4	31	88	4	42	7	50	23	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	5	4	22	25	3	3	0	4	28	2	4	0
Mvmt Flow	23	58	12	5	40	114	5	55	9	65	30	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.5	8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	25%	3%	66%
Vol Thru, %	79%	62%	25%	30%
Vol Right, %	13%	12%	72%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	72	123	76
LT Vol	4	18	4	50
Through Vol	42	45	31	23
RT Vol	7	9	88	3
Lane Flow Rate	69	94	160	99
Geometry Grp	1	1	1	1
Degree of Util (X)	0.087	0.118	0.196	0.129
Departure Headway (Hd)	4.537	4.535	4.407	4.704
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	791	815	763
Service Time	2.563	2.56	2.428	2.729
HCM Lane V/C Ratio	0.087	0.119	0.196	0.13
HCM Control Delay	8	8.2	8.5	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.7	0.4

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	12	44	0	1	61	12	0	1	0	25	0	15
Future Vol, veh/h	12	44	0	1	61	12	0	1	0	25	0	15
Conflicting Peds, #/hr	7	0	0	0	0	7	14	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	8	0	2	100	0	16	2	0	2	8	2	0
Mvmt Flow	19	69	0	2	95	19	0	2	0	39	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	121	0	0	69	0	0	241	232	71	226	223	126
Stage 1	-	-	-	-	-	-	107	107	-	116	116	-
Stage 2	-	-	-	-	-	-	134	125	-	110	107	-
Critical Hdwy	4.18	-	-	5.1	-	-	7.12	6.5	6.22	7.18	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.18	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.18	5.52	-
Follow-up Hdwy	2.272	-	-	3.1	-	-	3.518	4	3.318	3.572	4.018	3.3
Pot Cap-1 Maneuver	1430	-	-	1085	-	-	713	672	991	717	676	930
Stage 1	-	-	-	-	-	-	898	811	-	874	800	-
Stage 2	-	-	-	-	-	-	869	796	-	881	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1420	-	-	1085	-	-	677	657	989	701	660	911
Mov Cap-2 Maneuver	-	-	-	-	-	-	677	657	-	701	660	-
Stage 1	-	-	-	-	-	-	885	800	-	856	793	-
Stage 2	-	-	-	-	-	-	834	789	-	865	796	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.1	10.5	10.1
HCM LOS			B	B

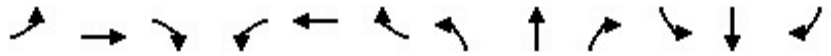
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	657	1420	-	-	1085	-	-	767
HCM Lane V/C Ratio	0.002	0.013	-	-	0.001	-	-	0.081
HCM Control Delay (s)	10.5	7.6	0	-	8.3	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	106	129	20	90	7	49	50	18	4	85	17
Future Vol, veh/h	40	106	129	20	90	7	49	50	18	4	85	17
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	1	0	0	0	14	2	10	0	25	8	5
Mvmt Flow	47	123	150	23	105	8	57	58	21	5	99	20
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.8	9.3	10	10
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	49%	0%	15%	17%	4%	0%
Vol Thru, %	51%	0%	39%	77%	96%	0%
Vol Right, %	0%	100%	47%	6%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	18	275	117	89	17
LT Vol	49	0	40	20	4	0
Through Vol	50	0	106	90	85	0
RT Vol	0	18	129	7	0	17
Lane Flow Rate	115	21	320	136	103	20
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.196	0.031	0.405	0.193	0.181	0.029
Departure Headway (Hd)	6.114	5.292	4.558	5.119	6.298	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	589	679	780	705	572	682
Service Time	3.824	3.001	2.639	3.119	4.009	2.983
HCM Lane V/C Ratio	0.195	0.031	0.41	0.193	0.18	0.029
HCM Control Delay	10.3	8.2	10.8	9.3	10.4	8.1
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	0.7	0.1	2	0.7	0.7	0.1



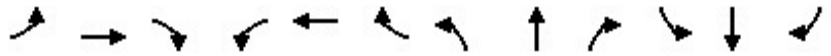
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	217	28	59	238	54	19	210	33	37	369	176
Future Volume (veh/h)	139	217	28	59	238	54	19	210	33	37	369	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.98
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	1673	1758	1758	1620	1744	1744	1700	1744	1589	1673	1744	1744
Adj Flow Rate, veh/h	170	265	34	72	290	66	23	256	40	45	450	215
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	3	3	6	4	4	0	4	15	2	4	4
Cap, veh/h	211	748	95	126	539	120	60	440	339	98	600	284
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.04	0.25	0.25	0.06	0.28	0.28
Sat Flow, veh/h	1594	2972	377	1543	2680	599	1619	1744	1345	1594	2167	1026
Grp Volume(v), veh/h	170	147	152	72	177	179	23	256	40	45	343	322
Grp Sat Flow(s),veh/h/ln	1594	1670	1678	1543	1657	1623	1619	1744	1345	1594	1657	1537
Q Serve(g_s), s	6.2	4.3	4.4	2.7	5.7	5.9	0.8	7.7	1.4	1.6	11.3	11.4
Cycle Q Clear(g_c), s	6.2	4.3	4.4	2.7	5.7	5.9	0.8	7.7	1.4	1.6	11.3	11.4
Prop In Lane	1.00		0.22	1.00		0.37	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	211	420	423	126	333	326	60	440	339	98	459	425
V/C Ratio(X)	0.80	0.35	0.36	0.57	0.53	0.55	0.38	0.58	0.12	0.46	0.75	0.76
Avail Cap(c_a), veh/h	401	560	563	388	556	545	272	585	452	267	556	516
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	25.1	18.3	18.3	26.3	21.3	21.4	28.0	19.5	17.2	27.0	19.7	19.7
Incr Delay (d2), s/veh	7.0	0.7	0.7	4.0	1.9	2.0	3.9	1.7	0.2	3.3	5.2	6.0
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	2.6	1.6	1.7	1.1	2.2	2.3	0.4	3.1	0.4	0.7	4.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	19.0	19.1	30.4	23.2	23.4	32.0	21.3	17.4	30.3	24.9	25.7
LnGrp LOS	C	B	B	C	C	C	C	C	B	C	C	C
Approach Vol, veh/h		469			428			319			710	
Approach Delay, s/veh		23.8			24.5			21.5			25.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	21.0	8.2	21.0	12.4	18.0	6.7	22.5
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	* 6
Max Green Setting (Gmax), s	4.9	20.0	10.0	20.0	15.0	20.0	10.0	* 20
Max Q Clear Time (g_c+I1), s	4.7	6.4	3.6	9.7	8.2	7.9	2.8	13.4
Green Ext Time (p_c), s	0.1	1.9	0.0	1.5	0.2	2.2	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



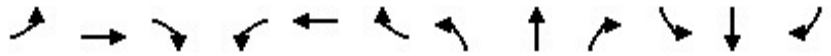
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	147	42	152	374	98	85	135	74	56	299	98
Future Volume (veh/h)	49	147	42	152	374	98	85	135	74	56	299	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1647	1744	1744	1660	1772	1730	1687	1617	1716	1687	1702	1730
Adj Flow Rate, veh/h	54	162	46	167	411	108	93	148	0	62	329	108
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	3	2	5	1	13	6	1	7	5
Cap, veh/h	172	419	116	250	714	311	234	637		173	549	249
Arrive On Green	0.11	0.16	0.16	0.16	0.21	0.21	0.15	0.21	0.00	0.11	0.17	0.17
Sat Flow, veh/h	1569	2566	707	1581	3367	1466	1606	3073	1454	1606	3233	1466
Grp Volume(v), veh/h	54	103	105	167	411	108	93	148	0	62	329	108
Grp Sat Flow(s),veh/h/ln	1569	1657	1617	1581	1683	1466	1606	1537	1454	1606	1617	1466
Q Serve(g_s), s	1.9	3.3	3.4	5.9	6.5	3.7	3.1	2.4	0.0	2.1	5.6	3.9
Cycle Q Clear(g_c), s	1.9	3.3	3.4	5.9	6.5	3.7	3.1	2.4	0.0	2.1	5.6	3.9
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	271	264	250	714	311	234	637		173	549	249
V/C Ratio(X)	0.31	0.38	0.40	0.67	0.58	0.35	0.40	0.23		0.36	0.60	0.43
Avail Cap(c_a), veh/h	397	700	683	401	1422	619	543	1557		543	1638	743
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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	22.1	22.2	23.5	20.9	19.8	22.9	19.5	0.0	24.5	22.7	22.0
Incr Delay (d2), s/veh	1.0	0.9	1.0	3.1	0.7	0.7	1.1	0.2	0.0	1.2	1.1	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	0.7	1.3	1.3	2.3	2.4	1.2	1.2	0.8	0.0	0.8	2.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	23.0	23.1	26.5	21.7	20.5	24.0	19.7	0.0	25.7	23.8	23.2
LnGrp LOS	C	C	C	C	C	C	C	B		C	C	C
Approach Vol, veh/h		262			686			241	A		499	
Approach Delay, s/veh		23.5			22.7			21.4			23.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	18.8	13.9	15.7	13.1	16.6	11.0	18.6
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	20.0	30.0	15.0	25.0	20.0	30.0	15.0	25.0
Max Q Clear Time (g_c+I1), s	4.1	4.4	7.9	5.4	5.1	7.6	3.9	8.5
Green Ext Time (p_c), s	0.1	0.9	0.2	1.1	0.2	2.5	0.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	169	80	82	572	31	150	72	53	24	85	78
Future Volume (veh/h)	23	169	80	82	572	31	150	72	53	24	85	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		1.00	1.00		0.99
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	1528	1688	1660	1660	1786	1786	1673	1688	1730	1594	1702	1730
Adj Flow Rate, veh/h	24	176	83	85	596	32	156	75	55	25	89	81
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	13	8	10	3	1	1	2	8	5	8	7	5
Cap, veh/h	41	673	553	110	739	40	367	382	331	350	731	328
Arrive On Green	0.03	0.40	0.40	0.07	0.44	0.44	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1455	1688	1387	1581	1677	90	1078	1688	1462	1072	3233	1450
Grp Volume(v), veh/h	24	176	83	85	0	628	156	75	55	25	89	81
Grp Sat Flow(s),veh/h/ln	1455	1688	1387	1581	0	1767	1078	1688	1462	1072	1617	1450
Q Serve(g_s), s	0.8	3.4	1.9	2.6	0.0	15.2	6.6	1.8	1.5	1.0	1.1	2.3
Cycle Q Clear(g_c), s	0.8	3.4	1.9	2.6	0.0	15.2	7.7	1.8	1.5	2.7	1.1	2.3
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	673	553	110	0	778	367	382	331	350	731	328
V/C Ratio(X)	0.58	0.26	0.15	0.77	0.00	0.81	0.43	0.20	0.17	0.07	0.12	0.25
Avail Cap(c_a), veh/h	740	1373	1128	804	0	1438	781	1030	892	762	1973	885
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	9.9	9.4	22.5	0.0	11.9	18.2	15.4	15.3	16.5	15.1	15.6
Incr Delay (d2), s/veh	4.7	0.2	0.1	4.2	0.0	2.0	0.3	0.1	0.1	0.0	0.0	0.1
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	0.3	1.1	0.5	1.0	0.0	5.1	1.5	0.6	0.4	0.2	0.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	10.1	9.6	26.7	0.0	14.0	18.5	15.5	15.4	16.5	15.2	15.7
LnGrp LOS	C	B	A	C	A	B	B	B	B	B	B	B
Approach Vol, veh/h		283			713			286			195	
Approach Delay, s/veh		11.5			15.5			17.1			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	25.6		16.1	5.4	27.6		16.1
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.0	40.0		30.0
Max Q Clear Time (g_c+I1), s	4.6	5.4		4.7	2.8	17.2		9.7
Green Ext Time (p_c), s	0.1	1.3		0.5	0.0	4.5		0.7

Intersection Summary		
HCM 6th Ctrl Delay		15.1
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	76	4	42	86	73	3	56	64	41	36	6
Future Vol, veh/h	4	76	4	42	86	73	3	56	64	41	36	6
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	25	10	0	0	15	6	0	5	4	12	2	0
Mvmt Flow	5	86	5	48	98	83	3	64	73	47	41	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	182	0	0	91	0	0	359	377	89	404	338	141
Stage 1	-	-	-	-	-	-	99	99	-	237	237	-
Stage 2	-	-	-	-	-	-	260	278	-	167	101	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.1	6.55	6.24	7.22	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.55	-	6.22	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.55	-	6.22	5.52	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.5	4.045	3.336	3.608	4.018	3.3
Pot Cap-1 Maneuver	1266	-	-	1517	-	-	600	550	964	540	583	912
Stage 1	-	-	-	-	-	-	912	807	-	744	709	-
Stage 2	-	-	-	-	-	-	749	675	-	812	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1265	-	-	1517	-	-	547	530	964	441	561	911
Mov Cap-2 Maneuver	-	-	-	-	-	-	547	530	-	441	561	-
Stage 1	-	-	-	-	-	-	908	804	-	740	686	-
Stage 2	-	-	-	-	-	-	677	653	-	689	808	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.6	11.5	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	693	1265	-	-	1517	-	-	507
HCM Lane V/C Ratio	0.202	0.004	-	-	0.031	-	-	0.186
HCM Control Delay (s)	11.5	7.9	-	-	7.5	-	-	13.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.7

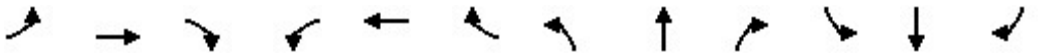
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	313	0	4	203	1	3	1	10	3	0	0
Future Vol, veh/h	0	313	0	4	203	1	3	1	10	3	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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	2	25	9	0	0	0	0	0	2	2
Mvmt Flow	0	340	0	4	221	1	3	1	11	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	222	0	0	340	0	0	570	570	340	576	570	222
Stage 1	-	-	-	-	-	-	340	340	-	230	230	-
Stage 2	-	-	-	-	-	-	230	230	-	346	340	-
Critical Hdwy	4.12	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	3.5	4	3.3	3.5	4.018	3.318
Pot Cap-1 Maneuver	1347	-	-	1101	-	-	435	434	707	431	431	818
Stage 1	-	-	-	-	-	-	679	643	-	777	714	-
Stage 2	-	-	-	-	-	-	777	718	-	674	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1347	-	-	1101	-	-	434	432	707	422	429	818
Mov Cap-2 Maneuver	-	-	-	-	-	-	434	432	-	422	429	-
Stage 1	-	-	-	-	-	-	679	643	-	777	711	-
Stage 2	-	-	-	-	-	-	774	715	-	663	639	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	11.2	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	1347	-	-	1101	-	-	422
HCM Lane V/C Ratio	0.025	-	-	-	0.004	-	-	0.008
HCM Control Delay (s)	11.2	0	-	-	8.3	0	-	13.6
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	312	3	6	327	136	0	5	7	167	8	30
Future Volume (veh/h)	33	312	3	6	327	136	0	5	7	167	8	30
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	1620	1646	1800	1700	1575	1772	1673	1800	1800	1647	1800	1800
Adj Flow Rate, veh/h	35	332	3	6	348	145	0	5	7	178	9	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	11	0	0	16	2	2	0	0	4	0	0
Cap, veh/h	107	975	904	25	849	809	2	10	14	215	69	245
Arrive On Green	0.07	0.59	0.59	0.02	0.54	0.54	0.00	0.01	0.01	0.14	0.20	0.20
Sat Flow, veh/h	1543	1646	1525	1619	1575	1502	1594	679	950	1569	346	1232
Grp Volume(v), veh/h	35	332	3	6	348	145	0	0	12	178	0	41
Grp Sat Flow(s),veh/h/ln	1543	1646	1525	1619	1575	1502	1594	0	1629	1569	0	1578
Q Serve(g_s), s	1.6	7.6	0.1	0.3	9.7	3.7	0.0	0.0	0.5	8.2	0.0	1.6
Cycle Q Clear(g_c), s	1.6	7.6	0.1	0.3	9.7	3.7	0.0	0.0	0.5	8.2	0.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.78
Lane Grp Cap(c), veh/h	107	975	904	25	849	809	2	0	24	215	0	314
V/C Ratio(X)	0.33	0.34	0.00	0.24	0.41	0.18	0.00	0.00	0.50	0.83	0.00	0.13
Avail Cap(c_a), veh/h	416	1109	1028	436	1061	1012	430	0	724	423	0	638
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	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	7.7	6.2	36.1	10.1	8.7	0.0	0.0	36.3	31.2	0.0	24.4
Incr Delay (d2), s/veh	1.3	0.2	0.0	3.5	0.3	0.1	0.0	0.0	15.1	6.0	0.0	0.2
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	0.6	2.4	0.0	0.1	3.0	1.1	0.0	0.0	0.3	3.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	7.9	6.2	39.6	10.4	8.8	0.0	0.0	51.4	37.2	0.0	24.6
LnGrp LOS	C	A	A	D	B	A	A	A	D	D	A	C
Approach Vol, veh/h		370			499			12			219	
Approach Delay, s/veh		10.4			10.3			51.4			34.8	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	50.3	0.0	19.3	8.6	46.3	13.7	5.6
Change Period (Y+Rc), s	3.5	6.3	3.5	4.5	3.5	6.3	3.5	4.5
Max Green Setting (Gmax), s	20.0	50.0	20.0	30.0	20.0	50.0	20.0	33.0
Max Q Clear Time (g_c+I1), s	2.3	9.6	0.0	3.6	3.6	11.7	10.2	2.5
Green Ext Time (p_c), s	0.0	2.2	0.0	0.2	0.0	2.9	0.2	0.0

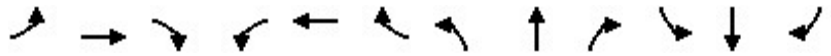
Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	303	4	7	312	49	6	34	16	345	23	25
Future Volume (veh/h)	27	303	4	7	312	49	6	34	16	345	23	25
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	1514	1632	1800	1700	1519	1716	1488	1772	1772	1620	1744	1744
Adj Flow Rate, veh/h	29	322	4	7	332	52	6	36	17	367	24	27
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	14	12	0	0	20	6	16	2	2	6	4	4
Cap, veh/h	48	513	479	15	441	422	536	432	204	569	285	320
Arrive On Green	0.03	0.31	0.31	0.01	0.29	0.29	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1442	1632	1525	1619	1519	1454	1077	1137	537	1168	749	843
Grp Volume(v), veh/h	29	322	4	7	332	52	6	0	53	367	0	51
Grp Sat Flow(s),veh/h/ln	1442	1632	1525	1619	1519	1454	1077	0	1674	1168	0	1592
Q Serve(g_s), s	1.0	8.1	0.1	0.2	9.6	1.3	0.2	0.0	1.0	14.2	0.0	1.0
Cycle Q Clear(g_c), s	1.0	8.1	0.1	0.2	9.6	1.3	1.2	0.0	1.0	15.1	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.53
Lane Grp Cap(c), veh/h	48	513	479	15	441	422	536	0	636	569	0	605
V/C Ratio(X)	0.60	0.63	0.01	0.47	0.75	0.12	0.01	0.00	0.08	0.64	0.00	0.08
Avail Cap(c_a), veh/h	598	1691	1581	671	1575	1507	797	0	1041	1021	0	1221
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	14.1	11.4	23.8	15.6	12.6	9.9	0.0	9.6	14.4	0.0	9.6
Incr Delay (d2), s/veh	4.4	1.3	0.0	15.7	2.6	0.1	0.0	0.0	0.0	0.5	0.0	0.0
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	0.4	2.7	0.0	0.1	3.1	0.4	0.0	0.0	0.3	3.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	15.4	11.4	39.5	18.2	12.7	10.0	0.0	9.6	14.9	0.0	9.6
LnGrp LOS	C	B	B	D	B	B	A	A	A	B	A	A
Approach Vol, veh/h		355			391			59			418	
Approach Delay, s/veh		16.3			17.8			9.6			14.2	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.9	21.5		22.8	5.1	20.3		22.8
Change Period (Y+Rc), s	3.5	6.3		4.5	3.5	6.3		4.5
Max Green Setting (Gmax), s	20.6	50.0		37.0	20.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	10.1		17.1	3.0	11.6		3.2
Green Ext Time (p_c), s	0.0	2.2		1.0	0.0	2.4		0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	215	36	109	308	30	88	119	106	79	138	79
Future Volume (veh/h)	56	215	36	109	308	30	88	119	106	79	138	79
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	1660	1702	1702	1647	1702	1702	1660	1716	1730	1607	1772	1758
Adj Flow Rate, veh/h	63	242	40	122	346	34	99	134	119	89	155	89
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	7	7	4	7	7	3	6	5	7	2	3
Cap, veh/h	172	479	78	230	623	61	215	570	256	219	612	270
Arrive On Green	0.11	0.17	0.17	0.15	0.21	0.21	0.14	0.17	0.17	0.14	0.18	0.18
Sat Flow, veh/h	1581	2782	453	1569	2975	291	1581	3260	1466	1531	3367	1485
Grp Volume(v), veh/h	63	139	143	122	187	193	99	134	119	89	155	89
Grp Sat Flow(s),veh/h/ln	1581	1617	1619	1569	1617	1649	1581	1630	1466	1531	1683	1485
Q Serve(g_s), s	2.2	4.6	4.7	4.3	6.1	6.2	3.4	2.1	4.3	3.1	2.3	3.1
Cycle Q Clear(g_c), s	2.2	4.6	4.7	4.3	6.1	6.2	3.4	2.1	4.3	3.1	2.3	3.1
Prop In Lane	1.00		0.28	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	278	279	230	338	345	215	570	256	219	612	270
V/C Ratio(X)	0.37	0.50	0.51	0.53	0.55	0.56	0.46	0.24	0.46	0.41	0.25	0.33
Avail Cap(c_a), veh/h	535	821	822	531	821	837	535	1655	744	518	1709	754
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	24.4	22.2	22.2	23.3	20.9	20.9	23.5	21.0	21.9	23.0	20.7	21.0
Incr Delay (d2), s/veh	1.3	2.0	2.1	1.9	2.0	2.0	1.5	0.3	1.9	1.2	0.3	1.0
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	0.8	1.8	1.8	1.6	2.3	2.4	1.3	0.8	1.5	1.1	0.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	24.1	24.3	25.3	22.9	22.9	25.1	21.3	23.8	24.3	21.0	22.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		345			502			352			333	
Approach Delay, s/veh		24.5			23.5			23.2			22.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	16.2	12.5	17.2	10.9	18.4	12.9	16.8
Change Period (Y+Rc), s	4.5	6.0	4.5	6.5	4.5	6.0	4.5	6.5
Max Green Setting (Gmax), s	20.0	30.0	20.0	30.0	20.0	30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	6.3	6.7	5.4	5.1	4.2	8.2	5.1	6.3
Green Ext Time (p_c), s	0.2	2.3	0.2	1.8	0.1	3.1	0.2	1.7

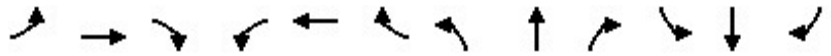
Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	546	22	10	286	116	46	61	47	187	41	174
Future Volume (veh/h)	166	546	22	10	286	116	46	61	47	187	41	174
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	1607	1744	1744	1700	1688	1688	1647	1758	1772	1687	1744	1744
Adj Flow Rate, veh/h	189	620	25	11	325	132	52	69	53	212	47	198
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	7	4	4	0	8	8	4	3	2	1	4	4
Cap, veh/h	364	1459	59	35	521	208	131	197	168	249	320	270
Arrive On Green	0.24	0.45	0.45	0.02	0.23	0.23	0.08	0.11	0.11	0.16	0.18	0.18
Sat Flow, veh/h	1531	3246	131	1619	2239	892	1569	1758	1502	1606	1744	1473
Grp Volume(v), veh/h	189	316	329	11	231	226	52	69	53	212	47	198
Grp Sat Flow(s),veh/h/ln	1531	1657	1720	1619	1603	1527	1569	1758	1502	1606	1744	1473
Q Serve(g_s), s	9.0	10.9	10.9	0.6	10.8	11.2	2.6	3.0	2.7	10.8	1.9	10.7
Cycle Q Clear(g_c), s	9.0	10.9	10.9	0.6	10.8	11.2	2.6	3.0	2.7	10.8	1.9	10.7
Prop In Lane	1.00		0.08	1.00		0.58	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	744	773	35	373	356	131	197	168	249	320	270
V/C Ratio(X)	0.52	0.42	0.43	0.32	0.62	0.64	0.40	0.35	0.31	0.85	0.15	0.73
Avail Cap(c_a), veh/h	364	744	773	385	668	636	373	314	268	382	320	270
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	27.8	15.7	15.7	40.5	28.9	29.0	36.5	34.5	34.3	34.5	28.8	32.4
Incr Delay (d2), s/veh	5.2	1.4	1.3	5.0	5.9	6.7	1.9	1.5	1.5	10.7	0.3	10.5
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	3.7	4.2	4.3	0.3	4.7	4.6	1.1	1.4	1.0	4.9	0.8	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	17.1	17.1	45.5	34.8	35.7	38.4	36.0	35.8	45.3	29.1	42.9
LnGrp LOS	C	B	B	D	C	D	D	D	D	D	C	D
Approach Vol, veh/h		834			468			174			457	
Approach Delay, s/veh		20.7			35.5			36.7			42.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	44.3	11.5	21.9	24.5	26.1	17.5	15.9
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5
Max Green Setting (Gmax), s	20.0	35.0	20.0	15.0	20.0	35.0	20.0	15.0
Max Q Clear Time (g_c+I1), s	2.6	12.9	4.6	12.7	11.0	13.2	12.8	5.0
Green Ext Time (p_c), s	0.0	9.1	0.1	0.3	0.3	6.4	0.3	0.4

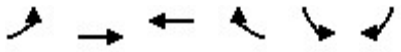
Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	360	18	11	802	28	33	30	23	85	25	160
Future Volume (veh/h)	78	360	18	11	802	28	33	30	23	85	25	160
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	1620	1744	1646	1700	1744	1702	1581	1758	1688	1607	1744	1772
Adj Flow Rate, veh/h	100	462	23	14	1028	36	42	38	29	109	32	205
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	6	4	11	0	4	7	9	3	8	7	4	2
Cap, veh/h	228	1721	724	66	1367	595	270	329	267	297	326	280
Arrive On Green	0.15	0.52	0.52	0.04	0.41	0.41	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1543	3313	1395	1619	3313	1442	965	1758	1428	1145	1744	1499
Grp Volume(v), veh/h	100	462	23	14	1028	36	42	38	29	109	32	205
Grp Sat Flow(s),veh/h/ln	1543	1657	1395	1619	1657	1442	965	1758	1428	1145	1744	1499
Q Serve(g_s), s	4.1	5.4	0.6	0.6	18.3	1.0	2.6	1.2	1.2	6.1	1.1	8.9
Cycle Q Clear(g_c), s	4.1	5.4	0.6	0.6	18.3	1.0	3.7	1.2	1.2	7.3	1.1	8.9
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	228	1721	724	66	1367	595	270	329	267	297	326	280
V/C Ratio(X)	0.44	0.27	0.03	0.21	0.75	0.06	0.16	0.12	0.11	0.37	0.10	0.73
Avail Cap(c_a), veh/h	446	1721	724	468	1674	729	507	761	619	579	755	649
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	26.9	9.3	8.1	32.1	17.3	12.3	24.8	23.4	23.4	26.4	23.3	26.5
Incr Delay (d2), s/veh	1.3	0.1	0.0	1.6	1.8	0.1	0.4	0.2	0.3	1.1	0.2	5.2
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	1.5	1.7	0.2	0.2	6.6	0.3	0.6	0.5	0.4	1.7	0.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	9.4	8.2	33.7	19.2	12.3	25.2	23.6	23.6	27.5	23.5	31.7
LnGrp LOS	C	A	A	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		585			1078			109			346	
Approach Delay, s/veh		12.6			19.1			24.2			29.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	42.5		19.4	14.7	35.1		19.4
Change Period (Y+Rc), s	4.5	6.5		6.5	4.5	6.5		6.5
Max Green Setting (Gmax), s	20.8	35.0		30.0	20.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.6	7.4		10.9	6.1	20.3		5.7
Green Ext Time (p_c), s	0.0	4.7		1.9	0.2	8.3		0.6

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	150	268	90	183	147
Future Volume (veh/h)	43	150	268	90	183	147
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1673	1716	1772	1589	1700	1700
Adj Flow Rate, veh/h	45	156	279	94	191	153
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	6	2	15	0	0
Cap, veh/h	80	731	448	340	232	186
Arrive On Green	0.05	0.43	0.25	0.25	0.27	0.27
Sat Flow, veh/h	1594	1716	1772	1347	850	681
Grp Volume(v), veh/h	45	156	279	94	345	0
Grp Sat Flow(s),veh/h/ln	1594	1716	1772	1347	1535	0
Q Serve(g_s), s	1.0	2.1	5.1	2.0	7.7	0.0
Cycle Q Clear(g_c), s	1.0	2.1	5.1	2.0	7.7	0.0
Prop In Lane	1.00			1.00	0.55	0.44
Lane Grp Cap(c), veh/h	80	731	448	340	418	0
V/C Ratio(X)	0.56	0.21	0.62	0.28	0.82	0.00
Avail Cap(c_a), veh/h	1310	3971	2427	1845	1471	0
HCM Platoon Ratio	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	0.00
Uniform Delay (d), s/veh	16.9	6.6	12.1	11.0	12.5	0.0
Incr Delay (d2), s/veh	2.3	0.1	1.4	0.4	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	1.7	0.5	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.2	6.8	13.5	11.4	14.1	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		201	373		345	
Approach Delay, s/veh		9.6	13.0		14.1	
Approach LOS		A	B		B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	21.6		15.0	6.3	15.2
Change Period (Y+Rc), s	6.0		5.0	4.5	6.0
Max Green Setting (Gmax), s	84.5		35.0	30.0	50.0
Max Q Clear Time (g_c+I1), s	4.1		9.7	3.0	7.1
Green Ext Time (p_c), s	1.0		0.6	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	117	168	200	22	20	94
Future Vol, veh/h	117	168	200	22	20	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	189	225	25	22	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	689	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1344	-	-	-	412	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1344	-	-	-	372	801
Mov Cap-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	666
HCM Lane V/C Ratio	0.098	-	-	-	0.192
HCM Control Delay (s)	8	-	-	-	11.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	68	39	72	92	40	25	42	68	14	23	0
Future Vol, veh/h	5	68	39	72	92	40	25	42	68	14	23	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	14	7	11	5	2	16	2	10	7	4	2
Mvmt Flow	5	72	41	77	98	43	27	45	72	15	24	0
Number of Lanes	0	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	1
HCM Control Delay	9.1	9	8.7	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	37%	0%	4%	100%	0%	38%
Vol Thru, %	63%	0%	61%	0%	70%	62%
Vol Right, %	0%	100%	35%	0%	30%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	68	112	72	132	37
LT Vol	25	0	5	72	0	14
Through Vol	42	0	68	0	92	23
RT Vol	0	68	39	0	40	0
Lane Flow Rate	71	72	119	77	140	39
Geometry Grp	7	7	6	7	7	6
Degree of Util (X)	0.116	0.095	0.167	0.123	0.194	0.063
Departure Headway (Hd)	5.852	4.72	5.044	5.787	4.969	5.73
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	757	710	620	722	623
Service Time	3.596	2.464	3.086	3.524	2.706	3.782
HCM Lane V/C Ratio	0.116	0.095	0.168	0.124	0.194	0.063
HCM Control Delay	9.4	8	9.1	9.3	8.9	9.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.6	0.4	0.7	0.2

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	29	113	1	5	278	1	4	2	1	12	1	103
Future Vol, veh/h	29	113	1	5	278	1	4	2	1	12	1	103
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	-	-	None	-	-	None	-	-	None
Storage Length	165	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	8	100	20	2	0	25	0	0	8	0	0
Mvmt Flow	31	120	1	5	296	1	4	2	1	13	1	110

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	297	0	0	121	0	0	342	490	61	430	490	149
Stage 1	-	-	-	-	-	-	183	183	-	307	307	-
Stage 2	-	-	-	-	-	-	159	307	-	123	183	-
Critical Hdwy	4.16	-	-	4.5	-	-	8	6.5	6.9	7.66	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.66	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.66	5.5	-
Follow-up Hdwy	2.23	-	-	2.4	-	-	3.75	4	3.3	3.58	4	3.3
Pot Cap-1 Maneuver	1254	-	-	1342	-	-	534	482	998	495	482	877
Stage 1	-	-	-	-	-	-	739	752	-	661	665	-
Stage 2	-	-	-	-	-	-	765	665	-	851	752	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1254	-	-	1342	-	-	457	468	998	482	468	877
Mov Cap-2 Maneuver	-	-	-	-	-	-	457	468	-	482	468	-
Stage 1	-	-	-	-	-	-	721	733	-	644	662	-
Stage 2	-	-	-	-	-	-	666	662	-	827	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.1	12.3	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	499	1254	-	-	1342	-	-	803
HCM Lane V/C Ratio	0.015	0.025	-	-	0.004	-	-	0.154
HCM Control Delay (s)	12.3	7.9	-	-	7.7	-	-	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.5

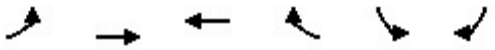
Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	41	37	210	54	30
Future Vol, veh/h	115	41	37	210	54	30
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	11	9	0	8	0	0
Mvmt Flow	134	48	43	244	63	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	489	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	330	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1404	-	542	892
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1403	-	522	891
Mov Cap-2 Maneuver	-	-	-	-	522	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	613	-	-	1403	-
HCM Lane V/C Ratio	0.159	-	-	0.031	-
HCM Control Delay (s)	12	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	73	95	15	10	31
Future Volume (veh/h)	26	73	95	15	10	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1660	1533	1617	1617	1435	1674
Adj Flow Rate, veh/h	28	79	103	16	11	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	19	13	13	20	9
Cap, veh/h	56	671	566	86	74	77
Arrive On Green	0.04	0.44	0.21	0.21	0.05	0.05
Sat Flow, veh/h	1581	1533	2755	407	1366	1418
Grp Volume(v), veh/h	28	79	58	61	11	34
Grp Sat Flow(s),veh/h/ln	1581	1533	1537	1544	1366	1418
Q Serve(g_s), s	0.4	0.7	0.7	0.8	0.2	0.5
Cycle Q Clear(g_c), s	0.4	0.7	0.7	0.8	0.2	0.5
Prop In Lane	1.00			0.26	1.00	1.00
Lane Grp Cap(c), veh/h	56	671	325	327	74	77
V/C Ratio(X)	0.50	0.12	0.18	0.19	0.15	0.44
Avail Cap(c_a), veh/h	3347	6784	3253	3269	2893	3003
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.2	3.9	7.6	7.6	10.7	10.8
Incr Delay (d2), s/veh	6.7	0.1	0.3	0.3	0.9	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.2	0.2	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	4.0	7.9	7.9	11.6	14.8
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		107	119		45	
Approach Delay, s/veh		7.6	7.9		14.0	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		16.3		7.3	5.3	11.0
Change Period (Y+Rc), s		6.0		6.0	4.5	6.0
Max Green Setting (Gmax), s		104.5		50.0	50.0	50.0
Max Q Clear Time (g_c+I1), s		2.7		2.5	2.4	2.8
Green Ext Time (p_c), s		0.5		0.1	0.1	0.7

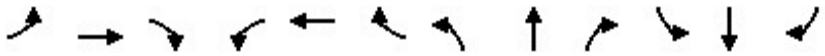
Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	204	18	46	524	34	35	35	49	24	53	126
Future Volume (veh/h)	82	204	18	46	524	34	35	35	49	24	53	126
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		0.98	0.99		1.00	1.00		0.98
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	1528	1674	1421	1528	1716	1716	1594	1594	1594	1488	1488	1488
Adj Flow Rate, veh/h	92	229	20	52	589	38	39	39	55	27	60	142
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	9	27	13	6	6	8	8	8	16	16	16
Cap, veh/h	110	758	545	73	680	44	144	125	129	93	89	174
Arrive On Green	0.08	0.45	0.45	0.05	0.43	0.43	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1455	1674	1204	1455	1592	103	262	571	588	82	406	797
Grp Volume(v), veh/h	92	229	20	52	0	627	133	0	0	229	0	0
Grp Sat Flow(s),veh/h/ln	1455	1674	1204	1455	0	1695	1421	0	0	1286	0	0
Q Serve(g_s), s	3.4	4.7	0.5	1.9	0.0	18.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	3.4	4.7	0.5	1.9	0.0	18.1	4.2	0.0	0.0	9.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	0.29		0.41	0.12		0.62
Lane Grp Cap(c), veh/h	110	758	545	73	0	724	397	0	0	356	0	0
V/C Ratio(X)	0.84	0.30	0.04	0.71	0.00	0.87	0.33	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	405	1398	1006	405	0	1416	710	0	0	665	0	0
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.6	9.3	8.2	25.2	0.0	14.0	18.1	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.1	0.0	4.7	0.0	1.3	0.2	0.0	0.0	0.7	0.0	0.0
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	1.3	1.4	0.1	0.7	0.0	5.9	1.3	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	9.4	8.2	29.9	0.0	15.3	18.2	0.0	0.0	20.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	B	B	A	A	C	A	A
Approach Vol, veh/h		341			679			133			229	
Approach Delay, s/veh		15.2			16.4			18.2			20.7	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	30.4		16.8	8.1	29.0		16.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	15.0	45.0		25.0	15.0	45.0		25.0
Max Q Clear Time (g_c+I1), s	3.9	6.7		6.2	5.4	20.1		11.1
Green Ext Time (p_c), s	0.0	0.9		0.5	0.1	2.9		0.8

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	211	1	9	617	54	24	13	14	55	13	43
Future Volume (veh/h)	17	211	1	9	617	54	24	13	14	55	13	43
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	0.99		1.00	1.00		0.99
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	1554	1730	1730	1262	1758	1758	1594	1702	1702	1660	1800	1800
Adj Flow Rate, veh/h	20	254	1	11	743	65	29	16	17	66	16	52
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	11	5	5	33	3	3	8	7	7	3	0	0
Cap, veh/h	358	999	4	623	924	81	351	105	111	385	51	167
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	561	1722	7	759	1593	139	1130	755	802	1221	370	1204
Grp Volume(v), veh/h	20	0	255	11	0	808	29	0	33	66	0	68
Grp Sat Flow(s),veh/h/ln	561	0	1729	759	0	1733	1130	0	1557	1221	0	1575
Q Serve(g_s), s	0.9	0.0	2.2	0.2	0.0	11.1	0.7	0.0	0.6	1.5	0.0	1.2
Cycle Q Clear(g_c), s	12.0	0.0	2.2	2.4	0.0	11.1	1.9	0.0	0.6	2.1	0.0	1.2
Prop In Lane	1.00		0.00	1.00		0.08	1.00		0.52	1.00		0.76
Lane Grp Cap(c), veh/h	358	0	1003	623	0	1005	351	0	216	385	0	218
V/C Ratio(X)	0.06	0.00	0.25	0.02	0.00	0.80	0.08	0.00	0.15	0.17	0.00	0.31
Avail Cap(c_a), veh/h	868	0	2575	1314	0	2581	1503	0	1804	1630	0	1824
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	3.1	3.7	0.0	5.0	12.6	0.0	11.5	12.4	0.0	11.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.1	0.0	0.3
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	0.1	0.0	0.2	0.0	0.0	1.1	0.1	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	0.0	3.2	3.7	0.0	5.6	12.6	0.0	11.6	12.4	0.0	12.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		275			819			62			134	
Approach Delay, s/veh		3.7			5.6			12.1			12.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	22.0	8.2	22.0	8.2
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	45.0	35.0	45.0	35.0
Max Q Clear Time (g_c+I1), s	14.0	4.1	13.1	3.9
Green Ext Time (p_c), s	1.2	0.4	4.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	25	6	27	16	2	2	37	19	5	18	12
Future Vol, veh/h	5	25	6	27	16	2	2	37	19	5	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	20	8	0	0	0	0	50	21	0	20	27	0
Mvmt Flow	6	32	8	34	20	3	3	47	24	6	23	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	120	120	31	128	115	59	38	0	0	71	0	0
Stage 1	43	43	-	65	65	-	-	-	-	-	-	-
Stage 2	77	77	-	63	50	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.58	6.2	7.1	6.5	6.2	4.6	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.072	3.3	3.5	4	3.3	2.65	-	-	2.38	-	-
Pot Cap-1 Maneuver	815	759	1049	850	779	1012	1312	-	-	1422	-	-
Stage 1	927	847	-	951	845	-	-	-	-	-	-	-
Stage 2	889	819	-	953	857	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	793	754	1049	813	774	1012	1312	-	-	1422	-	-
Mov Cap-2 Maneuver	793	754	-	813	774	-	-	-	-	-	-	-
Stage 1	925	844	-	949	843	-	-	-	-	-	-	-
Stage 2	864	817	-	907	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.8	0.3	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1312	-	-	797	806	1422	-	-
HCM Lane V/C Ratio	0.002	-	-	0.057	0.071	0.004	-	-
HCM Control Delay (s)	7.7	0	-	9.8	9.8	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	78	11	17	87	23	23	39	7	9	11	19
Future Vol, veh/h	30	78	11	17	87	23	23	39	7	9	11	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	16	27	17	8	4	65	15	28	33	18	0
Mvmt Flow	33	87	12	19	97	26	26	43	8	10	12	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.6	9.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	25%	13%	23%
Vol Thru, %	57%	66%	69%	28%
Vol Right, %	10%	9%	18%	49%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	119	127	39
LT Vol	23	30	17	9
Through Vol	39	78	87	11
RT Vol	7	11	23	19
Lane Flow Rate	77	132	141	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.163	0.18	0.06
Departure Headway (Hd)	5.703	4.443	4.59	4.963
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	809	783	722
Service Time	3.731	2.461	2.608	2.991
HCM Lane V/C Ratio	0.122	0.163	0.18	0.06
HCM Control Delay	9.5	8.3	8.6	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.7	0.2

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	19	4	7	1	9	18	11	17	0
Future Vol, veh/h	1	2	1	19	4	7	1	9	18	11	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	59	59	59	59	59	59	59	59	59
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	2	3	2	32	7	12	2	15	31	19	29	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	111	117	29	105	102	31	29	0	0	46	0	0
Stage 1	67	67	-	35	35	-	-	-	-	-	-	-
Stage 2	44	50	-	70	67	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	872	777	1052	880	792	1049	1597	-	-	1575	-	-
Stage 1	948	843	-	986	870	-	-	-	-	-	-	-
Stage 2	975	857	-	945	843	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	848	767	1052	867	782	1049	1597	-	-	1575	-	-
Mov Cap-2 Maneuver	848	767	-	867	782	-	-	-	-	-	-	-
Stage 1	947	833	-	985	869	-	-	-	-	-	-	-
Stage 2	955	856	-	928	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.3	0.3	2.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	844	890	1575	-	-
HCM Lane V/C Ratio	0.001	-	-	0.008	0.057	0.012	-	-
HCM Control Delay (s)	7.3	0	-	9.3	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	2	63	3	2	63
Future Vol, veh/h	17	2	63	3	2	63
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	84	84	84	84	84	84
Heavy Vehicles, %	11	0	15	0	0	22
Mvmt Flow	20	2	75	4	2	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	77	0	0	79	0
Stage 1	77	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.51	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	815	990	-	-	1532	-
Stage 1	924	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	990	-	-	1532	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	830	1532	-
HCM Lane V/C Ratio	-	-	0.027	0.002	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	22	18	51	17	17	7	14	23	26	44	4
Future Vol, veh/h	7	22	18	51	17	17	7	14	23	26	44	4
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	14	4	0	5	11	17	14	7	4	7	9	0
Mvmt Flow	10	32	26	74	25	25	10	20	33	38	64	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8.3	7.8	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	15%	60%	35%
Vol Thru, %	32%	47%	20%	59%
Vol Right, %	52%	38%	20%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	47	85	74
LT Vol	7	7	51	26
Through Vol	14	22	17	44
RT Vol	23	18	17	4
Lane Flow Rate	64	68	123	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.078	0.085	0.153	0.136
Departure Headway (Hd)	4.423	4.477	4.463	4.572
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	802	806	786
Service Time	2.442	2.494	2.477	2.589
HCM Lane V/C Ratio	0.079	0.085	0.153	0.136
HCM Control Delay	7.8	7.9	8.3	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.5	0.5

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	2	17	3	4	0	6	14	3	0	20	1
Future Vol, veh/h	0	2	17	3	4	0	6	14	3	0	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	58	58	58	58	58	58	58	58	58
Heavy Vehicles, %	2	0	5	0	0	2	16	7	33	2	20	0
Mvmt Flow	0	3	29	5	7	0	10	24	5	0	34	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	85	84	35	98	83	27	36	0	0	29	0	0
Stage 1	35	35	-	47	47	-	-	-	-	-	-	-
Stage 2	50	49	-	51	36	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.25	7.1	6.5	6.22	4.26	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.345	3.5	4	3.318	2.344	-	-	2.218	-	-
Pot Cap-1 Maneuver	901	810	1029	889	811	1048	1489	-	-	1584	-	-
Stage 1	981	870	-	972	860	-	-	-	-	-	-	-
Stage 2	963	858	-	967	869	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	890	804	1029	856	805	1048	1489	-	-	1584	-	-
Mov Cap-2 Maneuver	890	804	-	856	805	-	-	-	-	-	-	-
Stage 1	974	870	-	965	854	-	-	-	-	-	-	-
Stage 2	949	852	-	936	869	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.4	1.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1489	-	-	1000	826	1584	-	-
HCM Lane V/C Ratio	0.007	-	-	0.033	0.015	-	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.4	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	38	31	46	57	10	7	12	20	15	11	18
Future Vol, veh/h	18	38	31	46	57	10	7	12	20	15	11	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	33	39	16	13	31	0	0	0	10	0	72	38
Mvmt Flow	23	48	39	58	72	13	9	15	25	19	14	23
Number of Lanes	1	1	1	1	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.6	8.9	7.9	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	37%	0%	100%	0%	0%	100%	0%	0%	34%
Vol Thru, %	63%	0%	0%	100%	0%	0%	100%	0%	25%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	20	18	38	31	46	57	10	44
LT Vol	7	0	18	0	0	46	0	0	15
Through Vol	12	0	0	38	0	0	57	0	11
RT Vol	0	20	0	0	31	0	0	10	18
Lane Flow Rate	24	25	23	48	39	58	72	13	56
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.037	0.033	0.039	0.077	0.051	0.093	0.112	0.015	0.08
Departure Headway (Hd)	5.508	4.624	6.179	5.78	4.685	5.763	5.569	4.338	5.19
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	651	774	580	621	764	622	644	825	691
Service Time	3.237	2.354	3.909	3.509	2.414	3.491	3.297	2.065	2.921
HCM Lane V/C Ratio	0.037	0.032	0.04	0.077	0.051	0.093	0.112	0.016	0.081
HCM Control Delay	8.4	7.5	9.2	9	7.7	9.1	9	7.1	8.4
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0	0.3

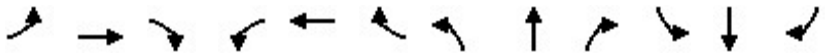
Existing PM

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	82	20	19	41	19	11	265	42	31	198	22
Future Vol, veh/h	42	82	20	19	41	19	11	265	42	31	198	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	14	1	0	0	4	0	0	4	9	0	7	36
Mvmt Flow	46	89	22	21	45	21	12	288	46	34	215	24
Number of Lanes	0	1	0	0	1	1	0	2	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	12.1	9.8	10.5	12
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	8%	0%	29%	32%	0%	14%	0%
Vol Thru, %	92%	76%	57%	68%	0%	86%	0%
Vol Right, %	0%	24%	14%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	175	144	60	19	229	22
LT Vol	11	0	42	19	0	31	0
Through Vol	133	133	82	41	0	198	0
RT Vol	0	42	20	0	19	0	22
Lane Flow Rate	156	190	157	65	21	249	24
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.247	0.293	0.282	0.119	0.033	0.402	0.034
Departure Headway (Hd)	5.702	5.562	6.487	6.596	5.794	5.817	5.16
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	630	647	554	543	617	620	694
Service Time	3.429	3.289	4.52	4.336	3.533	3.545	2.888
HCM Lane V/C Ratio	0.248	0.294	0.283	0.12	0.034	0.402	0.035
HCM Control Delay	10.3	10.6	12.1	10.2	8.7	12.4	8.1
HCM Lane LOS	B	B	B	B	A	B	A
HCM 95th-tile Q	1	1.2	1.2	0.4	0.1	1.9	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	246	399	92	97	48	191	797	106	42	705	34
Future Volume (veh/h)	80	246	399	92	97	48	191	797	106	42	705	34
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	1620	1716	1730	1263	1674	1252	1488	1501	1589	1262	1475	1561
Adj Flow Rate, veh/h	85	262	0	98	103	0	203	848	0	45	750	36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	5	27	9	39	9	15	15	33	17	17
Cap, veh/h	104	338		133	296		255	2652		51	2349	112
Arrive On Green	0.07	0.10	0.00	0.06	0.09	0.00	0.09	0.65	0.00	0.04	0.60	0.60
Sat Flow, veh/h	1543	3260	1466	2334	3180	1061	2749	4233	0	1202	3936	188
Grp Volume(v), veh/h	85	262	0	98	103	0	203	848	0	45	511	275
Grp Sat Flow(s),veh/h/ln	1543	1630	1466	1167	1590	1061	1374	1366	0	1202	1342	1441
Q Serve(g_s), s	6.5	9.4	0.0	5.0	3.6	0.0	8.7	11.0	0.0	4.5	11.4	11.4
Cycle Q Clear(g_c), s	6.5	9.4	0.0	5.0	3.6	0.0	8.7	11.0	0.0	4.5	11.4	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.13
Lane Grp Cap(c), veh/h	104	338		133	296		255	2652		51	1601	860
V/C Ratio(X)	0.82	0.78		0.74	0.35		0.80	0.32		0.89	0.32	0.32
Avail Cap(c_a), veh/h	199	557		301	543		470	2652		205	1601	860
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	52.4	0.0	55.7	51.0	0.0	53.3	9.4	0.0	57.2	12.1	12.1
Incr Delay (d2), s/veh	14.1	3.8	0.0	7.7	0.7	0.0	5.6	0.3	0.0	35.2	0.5	1.0
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	4.0	0.0	1.6	1.5	0.0	3.2	3.2	0.0	1.9	3.4	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.3	56.3	0.0	63.4	51.7	0.0	59.0	9.7	0.0	92.4	12.6	13.1
LnGrp LOS	E	E		E	D		E	A		F	B	B
Approach Vol, veh/h		347	A		201	A		1051	A		831	
Approach Delay, s/veh		59.5			57.4			19.2			17.1	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	82.2	12.6	15.7	15.6	76.1	11.3	16.9
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	20.5	45.5	15.5	20.5	20.5	45.5	15.5	20.5
Max Q Clear Time (g_c+I1), s	6.5	13.0	8.5	5.6	10.7	13.4	7.0	11.4
Green Ext Time (p_c), s	0.1	7.1	0.1	0.4	0.5	6.0	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	583	194	77	123	48	35	912	120	65	643	203
Future Volume (veh/h)	340	583	194	77	123	48	35	912	120	65	643	203
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	1594	1758	1603	1541	1581	1674	1209	1594	1688	1647	1660	1702
Adj Flow Rate, veh/h	378	648	0	86	137	53	39	1013	133	72	714	226
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	3	14	12	9	9	37	8	8	4	10	7
Cap, veh/h	407	970		105	201	74	42	1519	199	90	1861	592
Arrive On Green	0.27	0.29	0.00	0.07	0.09	0.09	0.04	0.39	0.39	0.06	0.41	0.41
Sat Flow, veh/h	1518	3340	1359	1468	2142	794	1152	3893	510	1569	4531	1441
Grp Volume(v), veh/h	378	648	0	86	94	96	39	754	392	72	714	226
Grp Sat Flow(s),veh/h/ln	1518	1670	1359	1468	1502	1435	1152	1450	1502	1569	1510	1441
Q Serve(g_s), s	26.7	18.8	0.0	6.4	6.7	7.1	3.7	23.6	23.7	5.0	12.1	12.1
Cycle Q Clear(g_c), s	26.7	18.8	0.0	6.4	6.7	7.1	3.7	23.6	23.7	5.0	12.1	12.1
Prop In Lane	1.00		1.00	1.00		0.55	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	407	970		105	141	135	42	1132	586	90	1861	592
V/C Ratio(X)	0.93	0.67		0.82	0.67	0.71	0.93	0.67	0.67	0.80	0.38	0.38
Avail Cap(c_a), veh/h	439	1154		160	248	237	114	1132	586	155	1861	592
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	34.4	0.0	50.4	48.2	48.4	52.9	27.7	27.7	51.2	22.7	22.6
Incr Delay (d2), s/veh	26.8	2.0	0.0	29.0	11.1	13.8	76.3	3.1	6.0	28.5	0.6	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	12.8	7.8	0.0	3.2	2.9	3.1	2.0	8.5	9.3	2.7	4.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.1	36.3	0.0	79.3	59.3	62.2	129.2	30.8	33.6	79.7	23.3	24.5
LnGrp LOS	E	D		E	E	E	F	C	C	E	C	C
Approach Vol, veh/h		1026	A		276			1185			1012	
Approach Delay, s/veh		47.3			66.6			35.0			27.6	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	48.9	34.0	16.3	8.5	51.2	12.4	37.9
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	10.3	28.1	31.8	18.2	10.9	28.1	12.0	38.0
Max Q Clear Time (g_c+I1), s	7.1	25.7	28.7	9.1	5.7	14.1	8.4	20.8
Green Ext Time (p_c), s	0.1	2.0	0.8	1.1	0.0	7.9	0.1	6.9

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	662	6	10	440	12	11	15	20	8	6	17
Future Vol, veh/h	33	662	6	10	440	12	11	15	20	8	6	17
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	-	-	200	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	3	2	0	10	3	0	9	0	5	0	0	11
Mvmt Flow	34	676	6	10	449	12	11	15	20	8	6	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	463	0	0	684	0	0	1233	1229	678	1236	1223	451
Stage 1	-	-	-	-	-	-	746	746	-	471	471	-
Stage 2	-	-	-	-	-	-	487	483	-	765	752	-
Critical Hdwy	4.13	-	-	4.2	-	-	7.19	6.5	6.25	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.29	-	-	3.581	4	3.345	3.5	4	3.399
Pot Cap-1 Maneuver	1093	-	-	873	-	-	149	179	447	154	181	590
Stage 1	-	-	-	-	-	-	395	424	-	577	563	-
Stage 2	-	-	-	-	-	-	549	556	-	399	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1091	-	-	871	-	-	134	167	446	130	169	589
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	167	-	130	169	-
Stage 1	-	-	-	-	-	-	374	402	-	547	553	-
Stage 2	-	-	-	-	-	-	519	547	-	348	399	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	26.7	21.8
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	212	1091	-	-	871	-	-	246
HCM Lane V/C Ratio	0.221	0.031	-	-	0.012	-	-	0.129
HCM Control Delay (s)	26.7	8.4	0	-	9.2	0	-	21.8
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	0.4

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	334	5	36	272	62	9	22	116	31	18	33
Future Vol, veh/h	24	334	5	36	272	62	9	22	116	31	18	33
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	4	1	0	0	1	1	0	0	0	0	0	0
Mvmt Flow	26	355	5	38	289	66	10	23	123	33	19	35
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	15.5	13.5	10.5	10.2
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	7%	12%	0%	38%
Vol Thru, %	15%	92%	88%	0%	22%
Vol Right, %	79%	1%	0%	100%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	363	308	62	82
LT Vol	9	24	36	0	31
Through Vol	22	334	272	0	18
RT Vol	116	5	0	62	33
Lane Flow Rate	156	386	328	66	87
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.244	0.576	0.523	0.091	0.147
Departure Headway (Hd)	5.619	5.366	5.745	4.994	6.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	636	672	626	716	588
Service Time	3.674	3.405	3.484	2.733	4.136
HCM Lane V/C Ratio	0.245	0.574	0.524	0.092	0.148
HCM Control Delay	10.5	15.5	14.6	8.2	10.2
HCM Lane LOS	B	C	B	A	B
HCM 95th-tile Q	1	3.7	3	0.3	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	314	28	6	137	26	23	303	27	33	125	29
Future Volume (veh/h)	62	314	28	6	137	26	23	303	27	33	125	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
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	1700	1772	1758	1700	1786	1758	1700	1700	1700	1700	1700	1700
Adj Flow Rate, veh/h	65	327	29	6	143	27	24	316	28	34	130	30
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	2	3	0	1	3	0	0	0	0	0	0
Cap, veh/h	82	975	801	13	906	755	58	395	34	89	292	61
Arrive On Green	0.05	0.55	0.55	0.01	0.51	0.51	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1619	1772	1456	1619	1786	1488	58	1463	125	155	1081	226
Grp Volume(v), veh/h	65	327	29	6	143	27	368	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1619	1772	1456	1619	1786	1488	1646	0	0	1462	0	0
Q Serve(g_s), s	3.6	9.2	0.8	0.3	3.9	0.8	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.6	9.2	0.8	0.3	3.9	0.8	18.8	0.0	0.0	8.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.07		0.08	0.18		0.15
Lane Grp Cap(c), veh/h	82	975	801	13	906	755	487	0	0	442	0	0
V/C Ratio(X)	0.79	0.34	0.04	0.48	0.16	0.04	0.76	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	180	975	801	180	906	755	671	0	0	606	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.3	11.2	9.3	44.5	11.9	11.1	30.8	0.0	0.0	27.2	0.0	0.0
Incr Delay (d2), s/veh	29.8	0.9	0.1	50.3	0.4	0.1	5.6	0.0	0.0	1.5	0.0	0.0
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	2.1	3.6	0.3	0.3	1.6	0.3	8.0	0.0	0.0	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	12.1	9.4	94.8	12.2	11.2	36.4	0.0	0.0	28.6	0.0	0.0
LnGrp LOS	E	B	A	F	B	B	D	A	A	C	A	A
Approach Vol, veh/h		421			176			368			194	
Approach Delay, s/veh		21.2			14.9			36.4			28.6	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	54.5		29.8	9.5	50.7		29.8
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.5
Max Green Setting (Gmax), s	10.6	30.0		34.5	10.0	30.0		34.5
Max Q Clear Time (g_c+I1), s	2.3	11.2		20.8	5.6	5.9		10.8
Green Ext Time (p_c), s	0.0	3.6		3.3	0.1	1.6		2.1

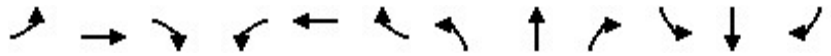
Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	235	69	21	92	98	72	664	37	78	735	42
Future Volume (veh/h)	148	235	69	21	92	98	72	664	37	78	735	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		0.98
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	1673	1660	1660	1647	1617	1505	1554	1744	1744	1368	1716	1716
Adj Flow Rate, veh/h	151	240	70	21	94	100	73	678	38	80	750	43
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	10	10	4	13	21	11	4	4	25	6	6
Cap, veh/h	168	280	82	43	240	189	88	1373	77	100	1401	80
Arrive On Green	0.11	0.23	0.23	0.03	0.15	0.15	0.06	0.43	0.43	0.08	0.45	0.45
Sat Flow, veh/h	1594	1234	360	1569	1617	1273	1480	3189	179	1303	3129	179
Grp Volume(v), veh/h	151	0	310	21	94	100	73	352	364	80	391	402
Grp Sat Flow(s),veh/h/ln	1594	0	1594	1569	1617	1273	1480	1657	1711	1303	1630	1679
Q Serve(g_s), s	8.4	0.0	16.8	1.2	4.7	6.5	4.4	13.8	13.8	5.4	15.7	15.7
Cycle Q Clear(g_c), s	8.4	0.0	16.8	1.2	4.7	6.5	4.4	13.8	13.8	5.4	15.7	15.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.10	1.00		0.11
Lane Grp Cap(c), veh/h	168	0	361	43	240	189	88	713	737	100	730	752
V/C Ratio(X)	0.90	0.00	0.86	0.49	0.39	0.53	0.83	0.49	0.49	0.80	0.54	0.54
Avail Cap(c_a), veh/h	168	0	523	131	494	389	123	713	737	181	730	752
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	0.00	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	39.8	0.0	33.4	43.2	34.7	35.4	41.9	18.5	18.5	40.9	18.1	18.1
Incr Delay (d2), s/veh	40.5	0.0	9.5	3.2	1.0	2.3	19.5	2.4	2.4	5.4	2.8	2.7
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	5.1	0.0	7.3	0.5	1.9	2.1	2.1	5.6	5.7	1.9	6.2	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.3	0.0	42.9	46.4	35.7	37.7	61.3	21.0	20.9	46.3	20.9	20.8
LnGrp LOS	F	A	D	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		461			215			789			873	
Approach Delay, s/veh		55.2			37.7			24.7			23.1	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	26.9	9.9	46.3	14.0	19.8	11.4	44.7
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	7.5	29.5	7.5	24.0	9.5	27.5	12.5	19.0
Max Q Clear Time (g_c+I1), s	3.2	18.8	6.4	17.7	10.4	8.5	7.4	15.8
Green Ext Time (p_c), s	0.0	1.4	0.0	2.9	0.0	0.7	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	142	103	24	104	24	115	793	56	37	699	62
Future Volume (veh/h)	78	142	103	24	104	24	115	793	56	37	699	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		0.98
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	1660	1660	1660	1607	1607	1594	1660	1744	1744	1236	1730	1730
Adj Flow Rate, veh/h	83	151	110	26	111	26	122	844	60	39	744	66
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	7	7	8	3	4	4	35	5	5
Cap, veh/h	119	184	121	89	328	383	153	1522	108	78	1385	123
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.10	0.49	0.49	0.07	0.45	0.45
Sat Flow, veh/h	260	647	426	163	1156	1348	1581	3137	223	1177	3047	270
Grp Volume(v), veh/h	344	0	0	137	0	26	122	446	458	39	401	409
Grp Sat Flow(s),veh/h/ln	1334	0	0	1319	0	1348	1581	1657	1704	1177	1643	1674
Q Serve(g_s), s	18.5	0.0	0.0	0.0	0.0	1.4	7.6	19.0	19.0	3.2	17.6	17.6
Cycle Q Clear(g_c), s	25.1	0.0	0.0	6.7	0.0	1.4	7.6	19.0	19.0	3.2	17.6	17.6
Prop In Lane	0.24		0.32	0.19		1.00	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	423	0	0	417	0	383	153	804	826	78	747	761
V/C Ratio(X)	0.81	0.00	0.00	0.33	0.00	0.07	0.80	0.55	0.55	0.50	0.54	0.54
Avail Cap(c_a), veh/h	509	0	0	504	0	465	198	804	826	147	747	761
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	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	0.0	28.0	0.0	26.2	44.2	18.1	18.1	45.1	19.7	19.7
Incr Delay (d2), s/veh	8.3	0.0	0.0	0.5	0.0	0.1	12.2	2.8	2.7	1.8	2.8	2.7
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	8.9	0.0	0.0	2.6	0.0	0.5	3.5	7.6	7.8	1.0	7.1	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	0.0	0.0	28.5	0.0	26.2	56.4	20.9	20.8	46.9	22.4	22.4
LnGrp LOS	D	A	A	C	A	C	E	C	C	D	C	C
Approach Vol, veh/h		344			163			1026			849	
Approach Delay, s/veh		43.3			28.1			25.1			23.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	55.0		33.9	14.2	52.0		33.9
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	12.5	36.5		34.5	12.5	36.5		34.5
Max Q Clear Time (g_c+I1), s	15.2	21.0		27.1	9.6	19.6		8.7
Green Ext Time (p_c), s	0.0	10.0		1.2	0.0	9.7		0.8

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	282	21	37	252	6	28	0	27	9	1	1
Future Vol, veh/h	1	282	21	37	252	6	28	0	27	9	1	1
Conflicting Peds, #/hr	0	0	1	1	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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	13	4	0	13	0	10	2	3	0	0	0
Mvmt Flow	1	297	22	39	265	6	29	0	28	9	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	271	0	0	320	0	0	522	660	309	670	668	136
Stage 1	-	-	-	-	-	-	311	311	-	346	346	-
Stage 2	-	-	-	-	-	-	211	349	-	324	322	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.45	6.53	6.245	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.25	5.53	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.65	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.595	4.019	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	1304	-	-	1251	-	-	436	382	727	360	382	894
Stage 1	-	-	-	-	-	-	679	658	-	649	639	-
Stage 2	-	-	-	-	-	-	752	633	-	692	655	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1250	-	-	422	367	726	336	367	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	422	367	-	336	367	-
Stage 1	-	-	-	-	-	-	678	657	-	648	615	-
Stage 2	-	-	-	-	-	-	722	610	-	664	654	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	12.6	15.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	531	1304	-	-	1250	-	-	359
HCM Lane V/C Ratio	0.109	0.001	-	-	0.031	-	-	0.032
HCM Control Delay (s)	12.6	7.8	0	-	8	0.1	-	15.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	131	104	5	2	4
Future Vol, veh/h	0	131	104	5	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	3	4	0	0	0
Mvmt Flow	0	146	116	6	2	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	122	0	-	0	265	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1465	-	-	-	728	938
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1465	-	-	-	728	938
Mov Cap-2 Maneuver	-	-	-	-	728	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	886	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1465	-	-	-	856
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	241	6	99	492	3	69
Future Volume (veh/h)	241	6	99	492	3	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1600	1575	1800	1786	1700	1800
Adj Flow Rate, veh/h	271	7	111	553	3	78
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	16	0	1	0	0
Cap, veh/h	819	370	540	908	16	774
Arrive On Green	0.28	0.28	0.30	0.30	0.01	0.43
Sat Flow, veh/h	2956	1335	1800	3027	1619	1800
Grp Volume(v), veh/h	271	7	111	553	3	78
Grp Sat Flow(s),veh/h/ln	1478	1335	1800	1514	1619	1800
Q Serve(g_s), s	2.7	0.1	1.7	5.9	0.1	1.0
Cycle Q Clear(g_c), s	2.7	0.1	1.7	5.9	0.1	1.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	819	370	540	908	16	774
V/C Ratio(X)	0.33	0.02	0.21	0.61	0.19	0.10
Avail Cap(c_a), veh/h	1418	640	935	1573	518	1727
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.8	9.9	9.8	11.2	18.4	6.4
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.9	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.6	1.6	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	9.9	10.1	12.2	20.5	6.5
LnGrp LOS	B	A	B	B	C	A
Approach Vol, veh/h	278		664			81
Approach Delay, s/veh	11.1		11.8			7.0
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.6		14.9	4.9	17.8
Change Period (Y+Rc), s		6.5		4.5	4.5	6.5
Max Green Setting (Gmax), s		36.0		18.0	12.0	19.5
Max Q Clear Time (g_c+I1), s		3.0		4.7	2.1	7.9
Green Ext Time (p_c), s		0.6		1.2	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	43	4	5	79	64	4	26	9	46	26	10
Future Vol, veh/h	8	43	4	5	79	64	4	26	9	46	26	10
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	0	0	0	40	1	1	0	7	11	0	0	0
Mvmt Flow	11	57	5	7	104	84	5	34	12	61	34	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.5	7.9	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	15%	3%	56%
Vol Thru, %	67%	78%	53%	32%
Vol Right, %	23%	7%	43%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	55	148	82
LT Vol	4	8	5	46
Through Vol	26	43	79	26
RT Vol	9	4	64	10
Lane Flow Rate	51	72	195	108
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.09	0.259	0.139
Departure Headway (Hd)	4.564	4.495	4.786	4.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	785	798	752	773
Service Time	2.589	2.52	2.806	2.673
HCM Lane V/C Ratio	0.065	0.09	0.259	0.14
HCM Control Delay	7.9	8	9.5	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	1	0.5

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	15	1	3	3	36	1	0	1	33	0	0
Future Vol, veh/h	3	15	1	3	3	36	1	0	1	33	0	0
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	65	65	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	2	0	2	0	6	2	2
Mvmt Flow	5	23	2	5	5	55	2	0	2	51	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	26	0	0	78	105	26	79	79	33
Stage 1	-	-	-	-	-	-	35	35	-	43	43	-
Stage 2	-	-	-	-	-	-	43	70	-	36	36	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.52	6.2	7.16	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.018	3.3	3.554	4.018	3.318
Pot Cap-1 Maneuver	1556	-	-	1601	-	-	916	785	1056	900	811	1041
Stage 1	-	-	-	-	-	-	986	866	-	961	859	-
Stage 2	-	-	-	-	-	-	976	837	-	969	865	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1556	-	-	1599	-	-	911	780	1054	894	805	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	911	780	-	894	805	-
Stage 1	-	-	-	-	-	-	982	863	-	958	856	-
Stage 2	-	-	-	-	-	-	973	834	-	964	862	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.5	8.7	9.3
HCM LOS			A	A

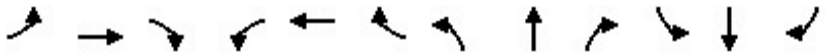
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	977	1556	-	-	1599	-	-	894
HCM Lane V/C Ratio	0.003	0.003	-	-	0.003	-	-	0.057
HCM Control Delay (s)	8.7	7.3	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	58	29	16	46	9	36	124	7	5	99	8
Future Vol, veh/h	10	58	29	16	46	9	36	124	7	5	99	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	5	3	0	6	0	5	4	28	20	3	12
Mvmt Flow	10	60	30	17	48	9	38	129	7	5	103	8
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.3	8.3	9.5	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	23%	0%	10%	23%	5%	0%
Vol Thru, %	78%	0%	60%	65%	95%	0%
Vol Right, %	0%	100%	30%	13%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	7	97	71	104	8
LT Vol	36	0	10	16	5	0
Through Vol	124	0	58	46	99	0
RT Vol	0	7	29	9	0	8
Lane Flow Rate	167	7	101	74	108	8
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.242	0.009	0.129	0.098	0.164	0.01
Departure Headway (Hd)	5.226	4.392	4.594	4.753	5.445	4.426
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	687	813	780	754	658	807
Service Time	2.962	2.128	2.624	2.785	3.184	2.164
HCM Lane V/C Ratio	0.243	0.009	0.129	0.098	0.164	0.01
HCM Control Delay	9.6	7.2	8.3	8.3	9.3	7.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0	0.4	0.3	0.6	0



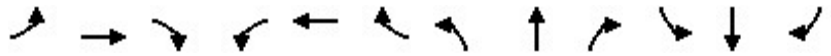
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	290	38	32	195	32	29	384	68	82	339	136
Future Volume (veh/h)	149	290	38	32	195	32	29	384	68	82	339	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.99	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	1687	1800	1800	1660	1786	1786	1700	1786	1800	1700	1772	1772
Adj Flow Rate, veh/h	159	309	40	34	207	34	31	409	72	87	361	145
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	0	3	1	1	0	1	0	0	2	2
Cap, veh/h	199	690	88	80	450	73	76	498	425	145	757	299
Arrive On Green	0.12	0.23	0.23	0.05	0.15	0.15	0.05	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	1606	3031	388	1581	2919	471	1619	1786	1522	1619	2353	930
Grp Volume(v), veh/h	159	173	176	34	119	122	31	409	72	87	257	249
Grp Sat Flow(s),veh/h/ln	1606	1710	1709	1581	1697	1693	1619	1786	1522	1619	1683	1600
Q Serve(g_s), s	5.7	5.2	5.3	1.2	3.8	3.9	1.1	12.7	2.1	3.1	7.3	7.5
Cycle Q Clear(g_c), s	5.7	5.2	5.3	1.2	3.8	3.9	1.1	12.7	2.1	3.1	7.3	7.5
Prop In Lane	1.00		0.23	1.00		0.28	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	199	389	389	80	262	261	76	498	425	145	541	514
V/C Ratio(X)	0.80	0.44	0.45	0.43	0.45	0.47	0.41	0.82	0.17	0.60	0.47	0.48
Avail Cap(c_a), veh/h	405	575	575	399	571	569	272	601	512	272	566	538
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	25.3	19.7	19.8	27.4	22.9	22.9	27.5	20.1	16.2	26.0	16.2	16.2
Incr Delay (d2), s/veh	7.2	1.1	1.2	3.5	1.7	1.8	3.4	8.4	0.3	3.9	0.9	1.0
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	2.0	2.1	0.5	1.5	1.6	0.5	5.9	0.7	1.3	2.7	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	20.9	21.0	30.9	24.6	24.8	31.0	28.4	16.5	30.0	17.1	17.2
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	B	B
Approach Vol, veh/h		508			275			512			593	
Approach Delay, s/veh		24.5			25.5			26.9			19.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	19.5	9.8	22.6	11.9	15.2	7.3	25.1
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	* 6
Max Green Setting (Gmax), s	15.0	20.0	10.0	20.0	15.0	20.0	10.0	* 20
Max Q Clear Time (g_c+I1), s	3.2	7.3	5.1	14.7	7.7	5.9	3.1	9.5
Green Ext Time (p_c), s	0.0	2.2	0.1	1.7	0.2	1.5	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



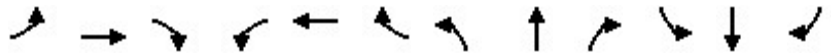
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	558	84	139	126	103	32	318	340	113	350	50
Future Volume (veh/h)	104	558	84	139	126	103	32	318	340	113	350	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1634	1786	1786	1673	1758	1744	1660	1744	1800	1673	1744	1688
Adj Flow Rate, veh/h	108	581	88	145	131	107	33	331	0	118	365	52
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	1	1	2	3	4	3	4	0	2	4	8
Cap, veh/h	218	761	115	218	849	375	118	533		208	718	310
Arrive On Green	0.14	0.26	0.26	0.14	0.25	0.25	0.07	0.16	0.00	0.13	0.22	0.22
Sat Flow, veh/h	1556	2955	446	1594	3340	1476	1581	3313	1525	1594	3313	1430
Grp Volume(v), veh/h	108	333	336	145	131	107	33	331	0	118	365	52
Grp Sat Flow(s),veh/h/ln	1556	1697	1705	1594	1670	1476	1581	1657	1525	1594	1657	1430
Q Serve(g_s), s	4.4	12.4	12.5	5.9	2.1	4.0	1.3	6.4	0.0	4.8	6.6	2.0
Cycle Q Clear(g_c), s	4.4	12.4	12.5	5.9	2.1	4.0	1.3	6.4	0.0	4.8	6.6	2.0
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	437	439	218	849	375	118	533		208	718	310
V/C Ratio(X)	0.50	0.76	0.77	0.66	0.15	0.29	0.28	0.62		0.57	0.51	0.17
Avail Cap(c_a), veh/h	341	620	623	349	1220	539	462	1452		466	1452	627
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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	23.5	23.5	28.0	19.8	20.5	29.9	26.8	0.0	27.9	23.6	21.8
Incr Delay (d2), s/veh	1.7	3.5	3.6	3.5	0.1	0.4	1.3	1.2	0.0	2.4	0.6	0.3
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	1.7	5.1	5.1	2.4	0.8	1.3	0.5	2.5	0.0	1.9	2.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	27.0	27.1	31.5	19.9	20.9	31.2	27.9	0.0	30.3	24.2	22.0
LnGrp LOS	C	C	C	C	B	C	C	C		C	C	C
Approach Vol, veh/h		777			383			364	A		535	
Approach Delay, s/veh		27.3			24.6			28.2			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	17.5	13.9	23.6	9.6	21.3	14.1	23.4
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	20.0	30.0	15.0	25.0	20.0	30.0	15.0	25.0
Max Q Clear Time (g_c+I1), s	6.4	8.4	7.9	14.5	3.3	8.6	6.4	6.0
Green Ext Time (p_c), s	0.2	2.1	0.2	3.1	0.0	2.5	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	470	130	40	294	15	113	56	86	69	52	60
Future Volume (veh/h)	55	470	130	40	294	15	113	56	86	69	52	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.97
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	1687	1786	1758	1634	1758	1758	1700	1730	1744	1647	1786	1786
Adj Flow Rate, veh/h	56	480	133	41	300	15	115	57	88	70	53	61
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	3	5	3	3	0	5	4	4	1	1
Cap, veh/h	94	678	558	72	609	30	383	314	264	356	616	267
Arrive On Green	0.06	0.38	0.38	0.05	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1606	1786	1471	1556	1660	83	1157	1730	1454	1092	3393	1472
Grp Volume(v), veh/h	56	480	133	41	0	315	115	57	88	70	53	61
Grp Sat Flow(s),veh/h/ln	1606	1786	1471	1556	0	1743	1157	1730	1454	1092	1697	1472
Q Serve(g_s), s	1.3	8.7	2.4	1.0	0.0	5.3	3.5	1.1	2.0	2.2	0.5	1.4
Cycle Q Clear(g_c), s	1.3	8.7	2.4	1.0	0.0	5.3	4.0	1.1	2.0	3.3	0.5	1.4
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	678	558	72	0	640	383	314	264	356	616	267
V/C Ratio(X)	0.59	0.71	0.24	0.57	0.00	0.49	0.30	0.18	0.33	0.20	0.09	0.23
Avail Cap(c_a), veh/h	1052	1871	1541	1018	0	1825	1082	1359	1142	1016	2665	1156
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	10.0	8.1	17.8	0.0	9.3	14.7	13.2	13.6	14.6	13.0	13.3
Incr Delay (d2), s/veh	2.2	1.4	0.2	2.6	0.0	0.6	0.2	0.1	0.3	0.1	0.0	0.2
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	0.5	2.7	0.6	0.4	0.0	1.6	0.8	0.4	0.6	0.5	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	11.4	8.3	20.5	0.0	9.9	14.8	13.3	13.9	14.7	13.0	13.5
LnGrp LOS	B	B	A	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		669			356			260			184	
Approach Delay, s/veh		11.5			11.1			14.2			13.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	20.5		11.9	6.2	20.0		11.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.0	40.0		30.0
Max Q Clear Time (g_c+I1), s	3.3	10.7		5.3	3.3	7.3		6.0
Green Ext Time (p_c), s	0.0	3.8		0.5	0.1	2.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	23.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	180	10	59	101	33	12	28	51	188	127	4
Future Vol, veh/h	6	180	10	59	101	33	12	28	51	188	127	4
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	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	6	10	1	7	12	0	14	1	2	6	50
Mvmt Flow	7	205	11	67	115	38	14	32	58	214	144	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	216	0	0	568	512	211	538	498	134
Stage 1	-	-	-	-	-	-	225	225	-	268	268	-
Stage 2	-	-	-	-	-	-	343	287	-	270	230	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.64	6.21	7.12	6.56	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.64	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.64	-	6.12	5.56	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4.126	3.309	3.518	4.054	3.75
Pot Cap-1 Maneuver	1440	-	-	1360	-	-	437	449	832	454	468	802
Stage 1	-	-	-	-	-	-	782	696	-	738	680	-
Stage 2	-	-	-	-	-	-	676	653	-	736	707	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1440	-	-	1360	-	-	312	425	832	382	443	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	425	-	382	443	-
Stage 1	-	-	-	-	-	-	778	693	-	734	647	-
Stage 2	-	-	-	-	-	-	497	621	-	650	703	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	2.4	13.1	53.7
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1440	-	-	1360	-	-	407
HCM Lane V/C Ratio	0.188	0.005	-	-	0.049	-	-	0.891
HCM Control Delay (s)	13.1	7.5	-	-	7.8	-	-	53.7
HCM Lane LOS	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	9.2

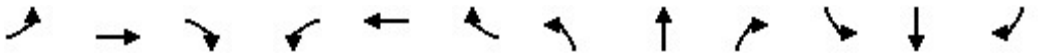
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	459	3	10	286	3	0	0	10	1	1	1
Future Vol, veh/h	0	459	3	10	286	3	0	0	10	1	1	1
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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	33	10	5	0	2	2	0	0	0	0
Mvmt Flow	0	499	3	11	311	3	0	0	11	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	314	0	0	502	0	0	837	837	501	841	837	313
Stage 1	-	-	-	-	-	-	501	501	-	335	335	-
Stage 2	-	-	-	-	-	-	336	336	-	506	502	-
Critical Hdwy	4.12	-	-	4.2	-	-	7.12	6.52	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.29	-	-	3.518	4.018	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1246	-	-	1022	-	-	286	303	574	287	305	732
Stage 1	-	-	-	-	-	-	552	543	-	683	646	-
Stage 2	-	-	-	-	-	-	678	642	-	552	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1246	-	-	1022	-	-	282	299	574	279	301	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	299	-	279	301	-
Stage 1	-	-	-	-	-	-	552	543	-	683	638	-
Stage 2	-	-	-	-	-	-	667	634	-	542	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	11.4	15
HCM LOS			B	C

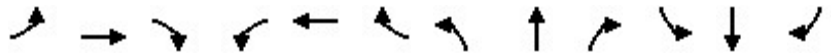
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	574	1246	-	-	1022	-	-	363
HCM Lane V/C Ratio	0.019	-	-	-	0.011	-	-	0.009
HCM Control Delay (s)	11.4	0	-	-	8.6	0	-	15
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	682	11	28	436	83	13	21	21	68	15	20
Future Volume (veh/h)	30	682	11	28	436	83	13	21	21	68	15	20
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	1660	1617	1800	1660	1674	1744	1700	1800	1800	1634	1800	1800
Adj Flow Rate, veh/h	34	784	13	32	501	95	15	24	24	78	17	23
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	13	0	3	9	4	0	0	0	5	0	0
Cap, veh/h	109	929	876	105	956	844	29	36	36	97	61	82
Arrive On Green	0.07	0.57	0.57	0.07	0.57	0.57	0.02	0.04	0.04	0.06	0.09	0.09
Sat Flow, veh/h	1581	1617	1525	1581	1674	1478	1619	826	826	1556	693	938
Grp Volume(v), veh/h	34	784	13	32	501	95	15	0	48	78	0	40
Grp Sat Flow(s),veh/h/ln	1581	1617	1525	1581	1674	1478	1619	0	1651	1556	0	1631
Q Serve(g_s), s	1.4	28.0	0.3	1.4	12.8	2.1	0.6	0.0	2.0	3.5	0.0	1.6
Cycle Q Clear(g_c), s	1.4	28.0	0.3	1.4	12.8	2.1	0.6	0.0	2.0	3.5	0.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.57
Lane Grp Cap(c), veh/h	109	929	876	105	956	844	29	0	72	97	0	142
V/C Ratio(X)	0.31	0.84	0.01	0.31	0.52	0.11	0.51	0.00	0.67	0.81	0.00	0.28
Avail Cap(c_a), veh/h	452	1155	1089	452	1195	1055	462	0	778	444	0	699
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	12.3	6.4	31.2	9.2	6.9	34.1	0.0	33.0	32.4	0.0	29.9
Incr Delay (d2), s/veh	1.2	4.9	0.0	1.2	0.4	0.1	13.2	0.0	10.3	11.2	0.0	1.1
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	0.6	9.5	0.1	0.5	4.0	0.6	0.4	0.0	1.0	1.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	17.2	6.4	32.4	9.6	6.9	47.3	0.0	43.3	43.6	0.0	31.0
LnGrp LOS	C	B	A	C	A	A	D	A	D	D	A	C
Approach Vol, veh/h		831			628			63			118	
Approach Delay, s/veh		17.6			10.4			44.3			39.3	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	46.5	4.8	10.6	8.3	46.3	7.8	7.5
Change Period (Y+Rc), s	3.5	6.3	3.5	4.5	3.5	6.3	3.5	4.5
Max Green Setting (Gmax), s	20.0	50.0	20.0	30.0	20.0	50.0	20.0	33.0
Max Q Clear Time (g_c+I1), s	3.4	30.0	2.6	3.6	3.4	14.8	5.5	4.0
Green Ext Time (p_c), s	0.0	5.9	0.0	0.2	0.0	4.0	0.1	0.2

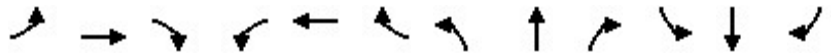
Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	510	4	15	367	29	3	16	8	321	30	16
Future Volume (veh/h)	23	510	4	15	367	29	3	16	8	321	30	16
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	1700	1561	1800	1528	1632	1716	1700	1800	1800	1673	1758	1758
Adj Flow Rate, veh/h	26	586	5	17	422	33	3	18	9	369	34	18
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	17	0	13	12	6	0	0	0	2	3	3
Cap, veh/h	46	675	660	29	692	617	494	382	191	510	365	193
Arrive On Green	0.03	0.43	0.43	0.02	0.42	0.42	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1619	1561	1525	1455	1632	1454	1229	1132	566	1238	1082	573
Grp Volume(v), veh/h	26	586	5	17	422	33	3	0	27	369	0	52
Grp Sat Flow(s),veh/h/ln	1619	1561	1525	1455	1632	1454	1229	0	1698	1238	0	1655
Q Serve(g_s), s	1.1	23.3	0.1	0.8	13.7	0.9	0.1	0.0	0.7	19.5	0.0	1.5
Cycle Q Clear(g_c), s	1.1	23.3	0.1	0.8	13.7	0.9	1.6	0.0	0.7	20.2	0.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.35
Lane Grp Cap(c), veh/h	46	675	660	29	692	617	494	0	574	510	0	559
V/C Ratio(X)	0.56	0.87	0.01	0.58	0.61	0.05	0.01	0.00	0.05	0.72	0.00	0.09
Avail Cap(c_a), veh/h	474	1144	1117	426	1195	1065	619	0	746	763	0	897
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	17.6	11.0	33.2	15.3	11.6	16.0	0.0	15.2	22.0	0.0	15.5
Incr Delay (d2), s/veh	4.0	3.9	0.0	12.7	0.9	0.0	0.0	0.0	0.0	0.7	0.0	0.0
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	0.5	8.1	0.0	0.4	4.7	0.3	0.0	0.0	0.3	5.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	21.5	11.0	45.8	16.1	11.6	16.0	0.0	15.2	22.8	0.0	15.5
LnGrp LOS	D	C	B	D	B	B	B	A	B	C	A	B
Approach Vol, veh/h		617			472			30			421	
Approach Delay, s/veh		22.0			16.9			15.3			21.9	
Approach LOS		C			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	35.8		27.6	5.4	35.3		27.6
Change Period (Y+Rc), s	3.5	6.3		4.5	3.5	6.3		4.5
Max Green Setting (Gmax), s	20.0	50.0		37.0	20.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	2.8	25.3		22.2	3.1	15.7		3.6
Green Ext Time (p_c), s	0.0	4.3		0.8	0.0	3.0		0.1

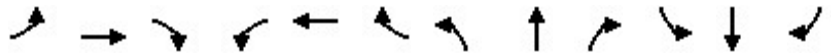
Intersection Summary		
HCM 6th Ctrl Delay		20.3
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	280	32	104	353	65	101	152	199	114	101	123
Future Volume (veh/h)	72	280	32	104	353	65	101	152	199	114	101	123
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		0.99	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	1647	1730	1730	1673	1772	1772	1673	1758	1730	1660	1716	1772
Adj Flow Rate, veh/h	77	301	34	112	380	70	109	163	214	123	109	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	5	5	2	2	2	2	3	5	3	6	2
Cap, veh/h	177	595	67	207	615	112	205	693	304	231	734	337
Arrive On Green	0.11	0.20	0.20	0.13	0.22	0.22	0.13	0.21	0.21	0.15	0.23	0.23
Sat Flow, veh/h	1569	2979	334	1594	2840	518	1594	3340	1466	1581	3260	1496
Grp Volume(v), veh/h	77	165	170	112	224	226	109	163	214	123	109	132
Grp Sat Flow(s),veh/h/ln	1569	1643	1669	1594	1683	1675	1594	1670	1466	1581	1630	1496
Q Serve(g_s), s	3.1	6.1	6.2	4.5	8.1	8.3	4.3	2.8	9.2	4.9	1.8	5.1
Cycle Q Clear(g_c), s	3.1	6.1	6.2	4.5	8.1	8.3	4.3	2.8	9.2	4.9	1.8	5.1
Prop In Lane	1.00		0.20	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	328	334	207	365	363	205	693	304	231	734	337
V/C Ratio(X)	0.43	0.50	0.51	0.54	0.61	0.62	0.53	0.24	0.70	0.53	0.15	0.39
Avail Cap(c_a), veh/h	463	727	738	470	745	741	470	1477	648	466	1442	662
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	28.1	24.1	24.2	27.6	24.0	24.1	27.6	22.4	24.9	26.8	21.1	22.3
Incr Delay (d2), s/veh	1.7	1.7	1.7	2.2	2.4	2.5	2.1	0.2	4.2	1.9	0.1	1.1
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	1.2	2.4	2.5	1.8	3.3	3.4	1.7	1.1	3.4	1.9	0.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	25.8	25.9	29.8	26.4	26.6	29.8	22.6	29.2	28.7	21.2	23.4
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		412			562			486			364	
Approach Delay, s/veh		26.6			27.1			27.1			24.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	19.6	13.2	21.8	12.2	20.7	14.4	20.6
Change Period (Y+Rc), s	4.5	6.0	4.5	6.5	4.5	6.0	4.5	6.5
Max Green Setting (Gmax), s	20.0	30.0	20.0	30.0	20.0	30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	6.5	8.2	6.3	7.1	5.1	10.3	6.9	11.2
Green Ext Time (p_c), s	0.2	2.7	0.2	1.6	0.1	3.6	0.2	2.4

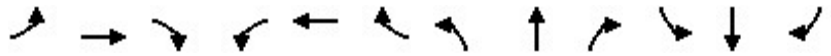
Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	510	47	50	519	107	33	22	47	72	30	127
Future Volume (veh/h)	150	510	47	50	519	107	33	22	47	72	30	127
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	1687	1744	1744	1620	1744	1744	1620	1744	1716	1647	1758	1744
Adj Flow Rate, veh/h	156	531	49	52	541	111	34	23	49	75	31	132
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	4	4	6	4	4	6	4	6	4	3	4
Cap, veh/h	393	1466	135	105	824	169	102	183	153	126	210	176
Arrive On Green	0.24	0.48	0.48	0.07	0.30	0.30	0.07	0.11	0.11	0.08	0.12	0.12
Sat Flow, veh/h	1606	3067	282	1543	2740	560	1543	1744	1454	1569	1758	1478
Grp Volume(v), veh/h	156	286	294	52	326	326	34	23	49	75	31	132
Grp Sat Flow(s),veh/h/ln	1606	1657	1693	1543	1657	1643	1543	1744	1454	1569	1758	1478
Q Serve(g_s), s	6.6	8.9	9.0	2.7	14.0	14.1	1.7	1.0	2.6	3.8	1.3	7.1
Cycle Q Clear(g_c), s	6.6	8.9	9.0	2.7	14.0	14.1	1.7	1.0	2.6	3.8	1.3	7.1
Prop In Lane	1.00		0.17	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	792	809	105	499	494	102	183	153	126	210	176
V/C Ratio(X)	0.40	0.36	0.36	0.50	0.65	0.66	0.33	0.13	0.32	0.60	0.15	0.75
Avail Cap(c_a), veh/h	393	792	809	378	709	704	378	320	267	384	323	271
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	25.8	13.5	13.5	36.7	24.9	24.9	36.5	33.2	33.9	36.3	32.3	34.8
Incr Delay (d2), s/veh	3.0	1.0	1.0	3.6	5.2	5.3	1.9	0.4	1.7	4.5	0.5	8.7
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	2.8	3.3	3.4	1.1	6.0	6.0	0.7	0.4	1.0	1.6	0.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	14.5	14.5	40.4	30.1	30.2	38.4	33.6	35.6	40.8	32.7	43.5
LnGrp LOS	C	B	B	D	C	C	D	C	D	D	C	D
Approach Vol, veh/h		736			704			106			238	
Approach Delay, s/veh		17.5			30.9			36.0			41.2	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	45.6	9.9	16.3	24.5	31.1	11.0	15.1
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5
Max Green Setting (Gmax), s	20.0	35.0	20.0	15.0	20.0	35.0	20.0	15.0
Max Q Clear Time (g_c+I1), s	4.7	11.0	3.7	9.1	8.6	16.1	5.8	4.6
Green Ext Time (p_c), s	0.1	8.5	0.0	0.4	0.3	8.5	0.1	0.2

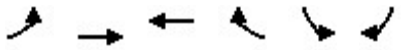
Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	679	25	39	425	74	11	21	11	129	20	72
Future Volume (veh/h)	299	679	25	39	425	74	11	21	11	129	20	72
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	1687	1758	1744	1673	1758	1786	1700	1800	1800	1700	1800	1786
Adj Flow Rate, veh/h	308	700	26	40	438	76	11	22	11	133	21	74
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	3	4	2	3	1	0	0	0	0	0	1
Cap, veh/h	369	1235	546	161	805	365	361	360	305	373	360	303
Arrive On Green	0.23	0.37	0.37	0.10	0.24	0.24	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1606	3340	1478	1594	3340	1514	1182	1800	1525	1251	1800	1514
Grp Volume(v), veh/h	308	700	26	40	438	76	11	22	11	133	21	74
Grp Sat Flow(s),veh/h/ln	1606	1670	1478	1594	1670	1514	1182	1800	1525	1251	1800	1514
Q Serve(g_s), s	9.7	8.9	0.6	1.2	6.1	2.1	0.4	0.5	0.3	5.1	0.5	2.2
Cycle Q Clear(g_c), s	9.7	8.9	0.6	1.2	6.1	2.1	0.9	0.5	0.3	5.6	0.5	2.2
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	369	1235	546	161	805	365	361	360	305	373	360	303
V/C Ratio(X)	0.84	0.57	0.05	0.25	0.54	0.21	0.03	0.06	0.04	0.36	0.06	0.24
Avail Cap(c_a), veh/h	605	2202	974	600	2202	998	792	1017	862	830	1017	855
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	19.5	13.3	10.7	22.0	17.6	16.1	17.6	17.2	17.1	19.5	17.2	17.9
Incr Delay (d2), s/veh	5.3	0.6	0.1	0.8	0.8	0.4	0.0	0.1	0.1	0.8	0.1	0.6
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	3.8	2.9	0.2	0.5	2.2	0.7	0.1	0.2	0.1	1.4	0.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	13.9	10.8	22.8	18.4	16.5	17.6	17.3	17.2	20.3	17.3	18.5
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		1034			554			44			228	
Approach Delay, s/veh		17.1			18.5			17.3			19.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	26.1		17.1	16.7	19.3		17.1
Change Period (Y+Rc), s	4.5	6.5		6.5	4.5	6.5		6.5
Max Green Setting (Gmax), s	20.0	35.0		30.0	20.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	3.2	10.9		7.6	11.7	8.1		2.9
Green Ext Time (p_c), s	0.1	7.2		1.2	0.6	4.7		0.2

Intersection Summary		
HCM 6th Ctrl Delay		17.8
HCM 6th LOS		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	143	274	208	172	132	96
Future Volume (veh/h)	143	274	208	172	132	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1700	1786	1744	1772	1700	1700
Adj Flow Rate, veh/h	149	285	217	179	138	100
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	1	4	2	0	0
Cap, veh/h	188	854	398	343	173	126
Arrive On Green	0.12	0.48	0.23	0.23	0.19	0.19
Sat Flow, veh/h	1619	1786	1744	1502	889	644
Grp Volume(v), veh/h	149	285	217	179	239	0
Grp Sat Flow(s),veh/h/ln	1619	1786	1744	1502	1540	0
Q Serve(g_s), s	3.0	3.3	3.7	3.5	5.0	0.0
Cycle Q Clear(g_c), s	3.0	3.3	3.7	3.5	5.0	0.0
Prop In Lane	1.00			1.00	0.58	0.42
Lane Grp Cap(c), veh/h	188	854	398	343	300	0
V/C Ratio(X)	0.79	0.33	0.55	0.52	0.80	0.00
Avail Cap(c_a), veh/h	1443	4484	2591	2231	1601	0
HCM Platoon Ratio	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	0.00
Uniform Delay (d), s/veh	14.5	5.5	11.4	11.4	12.9	0.0
Incr Delay (d2), s/veh	2.8	0.2	1.2	1.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.7	1.2	1.0	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.3	5.7	12.6	12.6	14.8	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		434	396		239	
Approach Delay, s/veh		9.7	12.6		14.8	
Approach LOS		A	B		B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	22.1		11.6	8.4	13.7
Change Period (Y+Rc), s	6.0		5.0	4.5	6.0
Max Green Setting (Gmax), s	84.5		35.0	30.0	50.0
Max Q Clear Time (g_c+I1), s	5.3		7.0	5.0	5.7
Green Ext Time (p_c), s	1.9		0.4	0.2	2.0

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	104	213	187	27	31	126
Future Vol, veh/h	104	213	187	27	31	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	121	248	217	31	36	147

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	723	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	490	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1365	-	-	-	396	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1365	-	-	-	361	811
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1365	-	-	-	651
HCM Lane V/C Ratio	0.089	-	-	-	0.28
HCM Control Delay (s)	7.9	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	170	75	89	140	47	81	47	80	38	60	1
Future Vol, veh/h	12	170	75	89	140	47	81	47	80	38	60	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	1	2	3	3	2	2	10	1	2	3	0
Mvmt Flow	13	183	81	96	151	51	87	51	86	41	65	1
Number of Lanes	0	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	1
HCM Control Delay	13.6	11.1	10.9	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	63%	0%	5%	100%	0%	38%
Vol Thru, %	37%	0%	66%	0%	75%	61%
Vol Right, %	0%	100%	29%	0%	25%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	80	257	89	187	99
LT Vol	81	0	12	89	0	38
Through Vol	47	0	170	0	140	60
RT Vol	0	80	75	0	47	1
Lane Flow Rate	138	86	276	96	201	106
Geometry Grp	7	7	6	7	7	6
Degree of Util (X)	0.255	0.138	0.448	0.173	0.325	0.197
Departure Headway (Hd)	6.678	5.784	5.838	6.499	5.814	6.674
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	618	616	552	617	537
Service Time	4.427	3.533	3.88	4.242	3.556	4.729
HCM Lane V/C Ratio	0.257	0.139	0.448	0.174	0.326	0.197
HCM Control Delay	11.7	9.5	13.6	10.6	11.3	11.4
HCM Lane LOS	B	A	B	B	B	B
HCM 95th-tile Q	1	0.5	2.3	0.6	1.4	0.7

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	225	5	1	198	13	2	2	0	9	2	50
Future Vol, veh/h	93	225	5	1	198	13	2	2	0	9	2	50
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	-	-	None	-	-	None	-	-	None
Storage Length	165	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	2	40	0	4	0	50	50	2	0	0	2
Mvmt Flow	96	232	5	1	204	13	2	2	0	9	2	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	237	0	0	532	646	119	522	642	109
Stage 1	-	-	-	-	-	-	427	427	-	213	213	-
Stage 2	-	-	-	-	-	-	105	219	-	309	429	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.5	7.5	6.94	7.5	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	6.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	6.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	4	4.5	3.32	3.5	4	3.32
Pot Cap-1 Maneuver	1365	-	-	1342	-	-	339	304	910	442	395	924
Stage 1	-	-	-	-	-	-	464	478	-	775	730	-
Stage 2	-	-	-	-	-	-	766	616	-	682	587	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1365	-	-	1342	-	-	301	282	910	415	367	924
Mov Cap-2 Maneuver	-	-	-	-	-	-	301	282	-	415	367	-
Stage 1	-	-	-	-	-	-	432	445	-	721	729	-
Stage 2	-	-	-	-	-	-	721	615	-	631	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	17.5	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	1365	-	-	1342	-	-	751
HCM Lane V/C Ratio	0.014	0.07	-	-	0.001	-	-	0.084
HCM Control Delay (s)	17.5	7.8	-	-	7.7	-	-	10.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.3

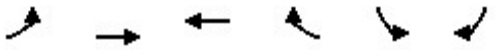
Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	185	44	26	151	51	30
Future Vol, veh/h	185	44	26	151	51	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	0	0	3	3	0
Mvmt Flow	218	52	31	178	60	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	270	0	484	244
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	-	-	4.1	-	6.43	6.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.2	-	3.527	3.3
Pot Cap-1 Maneuver	-	-	1305	-	540	800
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	798	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1305	-	526	800
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	12.1
HCM LOS			B

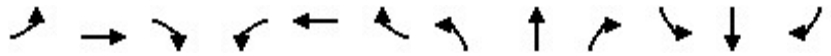
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	602	-	-	1305	-
HCM Lane V/C Ratio	0.158	-	-	0.023	-
HCM Control Delay (s)	12.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	87	147	22	14	27
Future Volume (veh/h)	32	87	147	22	14	27
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1660	1688	1744	1744	1607	1603
Adj Flow Rate, veh/h	36	99	167	25	16	31
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	8	4	4	7	14
Cap, veh/h	71	796	651	96	87	77
Arrive On Green	0.04	0.47	0.22	0.22	0.06	0.06
Sat Flow, veh/h	1581	1688	2984	427	1531	1359
Grp Volume(v), veh/h	36	99	94	98	16	31
Grp Sat Flow(s),veh/h/ln	1581	1688	1657	1667	1531	1359
Q Serve(g_s), s	0.5	0.7	1.0	1.1	0.2	0.5
Cycle Q Clear(g_c), s	0.5	0.7	1.0	1.1	0.2	0.5
Prop In Lane	1.00			0.26	1.00	1.00
Lane Grp Cap(c), veh/h	71	796	372	374	87	77
V/C Ratio(X)	0.51	0.12	0.25	0.26	0.18	0.40
Avail Cap(c_a), veh/h	3552	7923	3721	3745	3541	3144
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.4	3.3	7.1	7.1	10.0	10.1
Incr Delay (d2), s/veh	5.5	0.1	0.4	0.4	1.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.2	0.2	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.9	3.4	7.4	7.5	11.0	13.5
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		135	192		47	
Approach Delay, s/veh		6.7	7.5		12.7	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		16.5		5.8	5.5	11.0
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		104.5		51.5	50.0	50.0
Max Q Clear Time (g_c+I1), s		2.7		2.5	2.5	3.1
Green Ext Time (p_c), s		0.6		0.1	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	7.8
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	632	34	33	443	12	31	65	99	17	32	55
Future Volume (veh/h)	99	632	34	33	443	12	31	65	99	17	32	55
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		0.98	0.99		0.99	1.00		0.96
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	1673	1772	1772	1700	1772	1772	1660	1660	1660	1660	1660	1660
Adj Flow Rate, veh/h	103	658	35	34	461	12	32	68	103	18	33	57
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	0	2	2	3	3	3	3	3	3
Cap, veh/h	127	779	659	62	683	18	115	121	153	113	118	159
Arrive On Green	0.08	0.44	0.44	0.04	0.40	0.40	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1594	1772	1500	1619	1718	45	134	585	740	119	570	769
Grp Volume(v), veh/h	103	658	35	34	0	473	203	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1619	0	1763	1459	0	0	1458	0	0
Q Serve(g_s), s	3.0	15.7	0.6	1.0	0.0	10.5	2.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	15.7	0.6	1.0	0.0	10.5	6.0	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.16		0.51	0.17		0.53
Lane Grp Cap(c), veh/h	127	779	659	62	0	701	389	0	0	390	0	0
V/C Ratio(X)	0.81	0.85	0.05	0.55	0.00	0.67	0.52	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	503	1679	1421	511	0	1670	844	0	0	829	0	0
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.5	11.9	7.6	22.4	0.0	11.8	17.3	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	4.6	1.0	0.0	2.8	0.0	0.4	0.4	0.0	0.0	0.1	0.0	0.0
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	1.2	4.9	0.2	0.4	0.0	3.3	1.8	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	12.9	7.7	25.3	0.0	12.2	17.7	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	B	A	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		796			507			203			108	
Approach Delay, s/veh		14.3			13.1			17.7			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	26.9		14.8	7.8	24.9		14.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	15.8	45.0		25.0	15.0	45.0		25.0
Max Q Clear Time (g_c+I1), s	3.0	17.7		8.0	5.0	12.5		5.0
Green Ext Time (p_c), s	0.0	3.1		0.7	0.1	2.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	591	18	7	411	63	27	19	18	128	23	44
Future Volume (veh/h)	43	591	18	7	411	63	27	19	18	128	23	44
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		0.98	0.99		0.96	0.98		0.98
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	1620	1786	1786	1700	1744	1744	1700	1730	1730	1673	1800	1800
Adj Flow Rate, veh/h	46	635	19	8	442	68	29	20	19	138	25	47
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	1	1	0	4	4	0	5	5	2	0	0
Cap, veh/h	452	838	25	379	715	110	468	177	168	491	123	231
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	771	1725	52	708	1471	226	1189	798	758	1204	552	1038
Grp Volume(v), veh/h	46	0	654	8	0	510	29	0	39	138	0	72
Grp Sat Flow(s),veh/h/ln	771	0	1777	708	0	1697	1189	0	1555	1204	0	1591
Q Serve(g_s), s	1.4	0.0	8.7	0.3	0.0	6.4	0.6	0.0	0.6	3.0	0.0	1.1
Cycle Q Clear(g_c), s	7.8	0.0	8.7	9.0	0.0	6.4	1.7	0.0	0.6	3.6	0.0	1.1
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.49	1.00		0.65
Lane Grp Cap(c), veh/h	452	0	863	379	0	825	468	0	345	491	0	353
V/C Ratio(X)	0.10	0.00	0.76	0.02	0.00	0.62	0.06	0.00	0.11	0.28	0.00	0.20
Avail Cap(c_a), veh/h	1270	0	2748	1130	0	2626	1634	0	1871	1673	0	1914
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	6.1	9.7	0.0	5.5	9.9	0.0	9.0	10.5	0.0	9.2
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0	0.1	0.1	0.0	0.1
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	0.2	0.0	1.4	0.0	0.0	1.0	0.1	0.0	0.1	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	0.0	6.6	9.8	0.0	5.8	9.9	0.0	9.1	10.6	0.0	9.3
LnGrp LOS	A	A	A	A	A	A	A	A	A	B	A	A
Approach Vol, veh/h		700			518			68			210	
Approach Delay, s/veh		6.7			5.8			9.4			10.1	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	18.6	10.5	18.6	10.5
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	45.0	35.0	45.0	35.0
Max Q Clear Time (g_c+I1), s	10.7	5.6	11.0	3.7
Green Ext Time (p_c), s	3.4	0.5	2.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	28	4	29	37	4	6	39	23	0	63	9
Future Vol, veh/h	6	28	4	29	37	4	6	39	23	0	63	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	3	0	6	16	0	0	28	0	2	19	0
Mvmt Flow	6	29	4	30	38	4	6	40	24	0	65	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	155	146	70	150	138	52	74	0	0	64	0	0
Stage 1	70	70	-	64	64	-	-	-	-	-	-	-
Stage 2	85	76	-	86	74	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.53	6.2	7.16	6.66	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.53	-	6.16	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.53	-	6.16	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.3	3.554	4.144	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	816	744	998	809	728	1021	1538	-	-	1538	-	-
Stage 1	945	835	-	937	815	-	-	-	-	-	-	-
Stage 2	928	830	-	912	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	778	741	998	779	725	1021	1538	-	-	1538	-	-
Mov Cap-2 Maneuver	778	741	-	779	725	-	-	-	-	-	-	-
Stage 1	941	835	-	933	812	-	-	-	-	-	-	-
Stage 2	877	827	-	877	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.2	0.6	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	768	759	1538	-	-
HCM Lane V/C Ratio	0.004	-	-	0.051	0.095	-	-	-
HCM Control Delay (s)	7.4	0	-	9.9	10.2	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	128	34	21	108	19	70	24	41	45	27	38
Future Vol, veh/h	33	128	34	21	108	19	70	24	41	45	27	38
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	6	5	2	14	12	26	24	12	14	22	14	5
Mvmt Flow	34	133	35	22	113	20	73	25	43	47	28	40
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.5	9.7	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	17%	14%	41%
Vol Thru, %	18%	66%	73%	25%
Vol Right, %	30%	17%	13%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	195	148	110
LT Vol	70	33	21	45
Through Vol	24	128	108	27
RT Vol	41	34	19	38
Lane Flow Rate	141	203	154	115
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.271	0.215	0.166
Departure Headway (Hd)	5.257	4.797	5.01	5.216
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	678	743	712	683
Service Time	3.328	2.856	3.073	3.289
HCM Lane V/C Ratio	0.208	0.273	0.216	0.168
HCM Control Delay	9.7	9.7	9.5	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1.1	0.8	0.6

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	0	9	5	16	4	20	8	5	12	0
Future Vol, veh/h	0	5	0	9	5	16	4	20	8	5	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	0	2	0	0	0	0	0	0	0	0	2
Mvmt Flow	0	7	0	13	7	22	6	28	11	7	17	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	91	82	17	81	77	34	17	0	0	39	0	0
Stage 1	31	31	-	46	46	-	-	-	-	-	-	-
Stage 2	60	51	-	35	31	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	893	812	1062	912	817	1045	1613	-	-	1584	-	-
Stage 1	986	873	-	973	861	-	-	-	-	-	-	-
Stage 2	951	856	-	986	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	863	806	1062	900	810	1045	1613	-	-	1584	-	-
Mov Cap-2 Maneuver	863	806	-	900	810	-	-	-	-	-	-	-
Stage 1	982	870	-	969	858	-	-	-	-	-	-	-
Stage 2	920	853	-	974	870	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9	0.9	2.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1613	-	-	806	953	1584	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009	0.044	0.004	-	-
HCM Control Delay (s)	7.2	0	-	9.5	9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	2	101	14	3	89
Future Vol, veh/h	6	2	101	14	3	89
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	14	7	0	16
Mvmt Flow	7	2	120	17	4	106

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	243	129	0	0	137	0
Stage 1	129	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	750	926	-	-	1459	-
Stage 1	902	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	748	926	-	-	1459	-
Mov Cap-2 Maneuver	748	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	786	1459	-
HCM Lane V/C Ratio	-	-	0.012	0.002	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	29	4	11	26	42	4	23	19	17	27	4
Future Vol, veh/h	13	29	4	11	26	42	4	23	19	17	27	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	7	10	0	0	0	7	0	4	0	5	14	0
Mvmt Flow	14	32	4	12	29	47	4	26	21	19	30	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.3	7.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	28%	14%	35%
Vol Thru, %	50%	63%	33%	56%
Vol Right, %	41%	9%	53%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	46	79	48
LT Vol	4	13	11	17
Through Vol	23	29	26	27
RT Vol	19	4	42	4
Lane Flow Rate	51	51	88	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.061	0.093	0.063
Departure Headway (Hd)	3.949	4.271	3.826	4.285
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	895	831	926	827
Service Time	2.024	2.337	1.893	2.355
HCM Lane V/C Ratio	0.057	0.061	0.095	0.064
HCM Control Delay	7.3	7.6	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.3	0.2

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	0	1	8	0	0	0	19	19	5	1	16	0
Future Vol, veh/h	0	1	8	0	0	0	19	19	5	1	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	0	0	2	2	2	5	0	0	0	6	2
Mvmt Flow	0	1	11	0	0	0	25	25	7	1	21	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	105	108	24	108	105	29	24	0	0	32	0	0
Stage 1	26	26	-	79	79	-	-	-	-	-	-	-
Stage 2	79	82	-	29	26	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.12	6.52	6.22	4.15	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.518	4.018	3.318	2.245	-	-	2.2	-	-
Pot Cap-1 Maneuver	875	786	1058	871	785	1046	1572	-	-	1593	-	-
Stage 1	992	878	-	930	829	-	-	-	-	-	-	-
Stage 2	930	831	-	988	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	861	770	1055	850	769	1046	1568	-	-	1593	-	-
Mov Cap-2 Maneuver	861	770	-	850	769	-	-	-	-	-	-	-
Stage 1	973	874	-	915	816	-	-	-	-	-	-	-
Stage 2	915	818	-	976	871	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	0	3.2	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1568	-	-	1013	-	1593	-	-
HCM Lane V/C Ratio	0.016	-	-	0.012	-	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.6	0	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	43	64	89	75	12	29	3	41	18	22	22
Future Vol, veh/h	26	43	64	89	75	12	29	3	41	18	22	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	20	4	6	17	0	17	33	12	11	27	36
Mvmt Flow	28	46	69	96	81	13	31	3	44	19	24	24
Number of Lanes	1	1	1	1	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.5	9.3	8.9	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	91%	0%	100%	0%	0%	100%	0%	0%	29%
Vol Thru, %	9%	0%	0%	100%	0%	0%	100%	0%	35%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	41	26	43	64	89	75	12	62
LT Vol	29	0	26	0	0	89	0	0	18
Through Vol	3	0	0	43	0	0	75	0	22
RT Vol	0	41	0	0	64	0	0	12	22
Lane Flow Rate	34	44	28	46	69	96	81	13	67
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.06	0.066	0.046	0.073	0.09	0.155	0.124	0.016	0.105
Departure Headway (Hd)	6.281	5.401	5.919	5.707	4.73	5.849	5.535	4.541	5.65
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	660	603	626	754	612	645	784	631
Service Time	4.041	3.16	3.675	3.463	2.485	3.604	3.289	2.294	3.41
HCM Lane V/C Ratio	0.06	0.067	0.046	0.073	0.092	0.157	0.126	0.017	0.106
HCM Control Delay	9.4	8.5	9	8.9	8	9.7	9.1	7.4	9.1
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.2	0.3	0.5	0.4	0	0.4

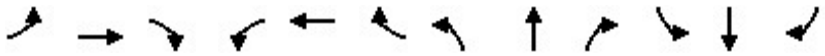
Future AM

Intersection	
Intersection Delay, s/veh	83.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	80	160	100	240	130	200	390	120	40	360	30
Future Vol, veh/h	30	80	160	100	240	130	200	390	120	40	360	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	20	3	25	0	2	3	3	5	0	14	10	20
Mvmt Flow	32	84	168	105	253	137	211	411	126	42	379	32
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	63.6	84.4	118.4	36.5
HCM LOS	F	F	F	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	51%	0%	11%	29%	0%	25%	0%	0%
Vol Thru, %	49%	62%	30%	71%	0%	75%	100%	0%
Vol Right, %	0%	38%	59%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	395	315	270	340	130	160	240	30
LT Vol	200	0	30	100	0	40	0	0
Through Vol	195	195	80	240	0	120	240	0
RT Vol	0	120	160	0	130	0	0	30
Lane Flow Rate	416	332	284	358	137	168	253	32
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1.228	0.935	0.892	1.082	0.383	0.526	0.776	0.092
Departure Headway (Hd)	11.183	10.665	11.914	11.382	10.529	11.916	11.712	11.152
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	328	342	307	322	343	305	311	323
Service Time	8.883	8.365	9.614	9.082	8.229	9.616	9.412	8.852
HCM Lane V/C Ratio	1.268	0.971	0.925	1.112	0.399	0.551	0.814	0.099
HCM Control Delay	159.1	67.3	63.6	109.2	19.6	27.1	45.4	15
HCM Lane LOS	F	F	F	F	C	D	E	B
HCM 95th-tile Q	17.6	9.6	8.2	13.1	1.7	2.9	6.1	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	80	210	280	120	380	1090	110	60	1380	130
Future Volume (veh/h)	30	40	80	210	280	120	380	1090	110	60	1380	130
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		0.99
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	1210	1722	1515	1342	1841	1678	1647	1603	1693	1547	1491	1574
Adj Flow Rate, veh/h	32	42	0	221	295	0	400	1147	0	63	1453	137
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	42	12	26	27	4	15	4	14	14	18	22	22
Cap, veh/h	34	116		259	386		448	2881		77	2128	201
Arrive On Green	0.03	0.04	0.00	0.10	0.11	0.00	0.15	0.66	0.00	0.05	0.56	0.56
Sat Flow, veh/h	1153	3272	1284	2479	3497	1422	3043	4522	0	1474	3779	356
Grp Volume(v), veh/h	32	42	0	221	295	0	400	1147	0	63	1043	547
Grp Sat Flow(s),veh/h/ln	1153	1636	1284	1240	1749	1422	1521	1459	0	1474	1357	1421
Q Serve(g_s), s	3.3	1.5	0.0	10.5	9.8	0.0	15.5	14.6	0.0	5.1	32.7	32.8
Cycle Q Clear(g_c), s	3.3	1.5	0.0	10.5	9.8	0.0	15.5	14.6	0.0	5.1	32.7	32.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.25
Lane Grp Cap(c), veh/h	34	116		259	386		448	2881		77	1528	800
V/C Ratio(X)	0.95	0.36		0.85	0.76		0.89	0.40		0.82	0.68	0.68
Avail Cap(c_a), veh/h	87	494		260	630		469	2881		146	1528	800
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	56.6	0.0	52.8	51.8	0.0	50.2	9.5	0.0	56.3	18.6	18.6
Incr Delay (d2), s/veh	60.3	1.9	0.0	23.1	3.2	0.0	18.6	0.4	0.0	18.8	2.5	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	1.5	0.7	0.0	4.1	4.5	0.0	7.0	4.5	0.0	2.3	10.4	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.5	58.5	0.0	75.9	55.0	0.0	68.8	9.9	0.0	75.2	21.1	23.3
LnGrp LOS	F	E		E	E		E	A		E	C	C
Approach Vol, veh/h		74	A		516	A		1547	A		1653	
Approach Delay, s/veh		84.4			64.0			25.1			23.9	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	83.5	8.0	17.8	22.2	72.1	17.0	8.7
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	11.3	59.4	9.1	21.6	18.5	52.8	12.6	18.1
Max Q Clear Time (g_c+I1), s	7.1	16.6	5.3	11.8	17.5	34.8	12.5	3.5
Green Ext Time (p_c), s	0.0	11.1	0.0	1.2	0.2	11.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	120	190	110	590	70	270	790	70	90	1100	450
Future Volume (veh/h)	260	120	190	110	590	70	270	790	70	90	1100	450
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		0.99	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	1589	1707	1337	1589	1772	1870	1505	1660	1752	1660	1781	1767
Adj Flow Rate, veh/h	274	126	0	116	621	74	284	832	74	95	1158	474
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	15	13	38	15	2	2	21	10	10	10	8	9
Cap, veh/h	200	913		139	732	87	215	1529	135	118	1390	428
Arrive On Green	0.13	0.28	0.00	0.09	0.24	0.24	0.15	0.36	0.36	0.07	0.29	0.29
Sat Flow, veh/h	1514	3244	1133	1514	3030	360	1433	4232	375	1581	4863	1497
Grp Volume(v), veh/h	274	126	0	116	345	350	284	593	313	95	1158	474
Grp Sat Flow(s),veh/h/ln	1514	1622	1133	1514	1683	1707	1433	1510	1586	1581	1621	1497
Q Serve(g_s), s	14.5	3.2	0.0	8.3	21.5	21.6	16.5	17.2	17.3	6.5	24.6	31.4
Cycle Q Clear(g_c), s	14.5	3.2	0.0	8.3	21.5	21.6	16.5	17.2	17.3	6.5	24.6	31.4
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	200	913		139	406	412	215	1091	573	118	1390	428
V/C Ratio(X)	1.37	0.14		0.83	0.85	0.85	1.32	0.54	0.55	0.81	0.83	1.11
Avail Cap(c_a), veh/h	200	914		172	444	450	215	1091	573	191	1390	428
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	29.5	0.0	49.1	39.8	39.8	46.8	27.9	28.0	50.1	36.8	39.3
Incr Delay (d2), s/veh	196.3	0.1	0.0	30.2	15.3	15.4	173.1	1.9	3.7	23.2	6.0	76.1
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	16.3	1.3	0.0	4.3	10.5	10.7	16.2	6.4	7.1	3.3	10.4	20.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	244.1	29.7	0.0	79.3	55.1	55.2	219.8	29.9	31.7	73.3	42.8	115.3
LnGrp LOS	F	C		E	E	E	F	C	C	E	D	F
Approach Vol, veh/h		400	A		811			1190			1727	
Approach Delay, s/veh		176.5			58.6			75.7			64.4	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	45.7	19.0	32.6	21.0	37.4	14.6	37.0
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	13.3	32.2	14.5	29.0	16.5	29.0	12.5	31.0
Max Q Clear Time (g_c+I1), s	8.5	19.3	16.5	23.6	18.5	33.4	10.3	5.2
Green Ext Time (p_c), s	0.2	7.6	0.0	3.0	0.0	0.0	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	400	20	40	1100	10	10	10	30	10	20	30
Future Vol, veh/h	10	400	20	40	1100	10	10	10	30	10	20	30
Conflicting Peds, #/hr	1	0	0	0	0	1	1	0	6	6	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	-	-	200	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	9	0	11	3	0	0	2	4	20	5	7
Mvmt Flow	11	421	21	42	1158	11	11	11	32	11	21	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1170	0	0	442	0	0	1718	1697	427	1724	1707	1160
Stage 1	-	-	-	-	-	-	443	443	-	1243	1243	-
Stage 2	-	-	-	-	-	-	1275	1254	-	481	464	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	6.52	6.24	7.3	6.55	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.3	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.3	5.55	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4.018	3.336	3.68	4.045	3.363
Pot Cap-1 Maneuver	604	-	-	1072	-	-	71	92	623	63	90	232
Stage 1	-	-	-	-	-	-	598	576	-	196	243	-
Stage 2	-	-	-	-	-	-	207	243	-	534	558	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	603	-	-	1072	-	-	44	80	619	48	78	232
Mov Cap-2 Maneuver	-	-	-	-	-	-	44	80	-	48	78	-
Stage 1	-	-	-	-	-	-	584	562	-	191	216	-
Stage 2	-	-	-	-	-	-	143	216	-	483	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	43.1	56.7
HCM LOS			E	F

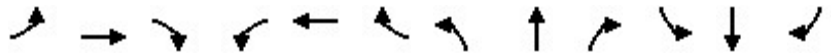
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	52	315	603	-	-	1072	-	-	59	155
HCM Lane V/C Ratio	0.304	0.117	0.017	-	-	0.039	-	-	0.357	0.272
HCM Control Delay (s)	102	17.9	11.1	0	-	8.5	0	-	96.6	36.7
HCM Lane LOS	F	C	B	A	-	A	A	-	F	E
HCM 95th %tile Q(veh)	1.1	0.4	0.1	-	-	0.1	-	-	1.3	1

Intersection	
Intersection Delay, s/veh	119.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	260	10	190	740	70	20	240	230	120	120	70
Future Vol, veh/h	40	260	10	190	740	70	20	240	230	120	120	70
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	1	10	0	2	0	0	2	1	5	0	0
Mvmt Flow	42	274	11	200	779	74	21	253	242	126	126	74
Number of Lanes	0	2	0	0	2	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay	26.6	144.7	169.4	51
HCM LOS	D	F	F	F

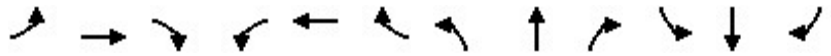
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	4%	24%	0%	44%	0%	0%	39%
Vol Thru, %	49%	76%	93%	56%	100%	0%	39%
Vol Right, %	47%	0%	7%	0%	0%	100%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	490	170	140	437	493	70	310
LT Vol	20	40	0	190	0	0	120
Through Vol	240	130	130	247	493	0	120
RT Vol	230	0	10	0	0	70	70
Lane Flow Rate	516	179	147	460	519	74	326
Geometry Grp	7	8	8	7	7	7	7
Degree of Util (X)	1.276	0.539	0.438	1.163	1.288	0.168	0.857
Departure Headway (Hd)	9.146	12.377	12.215	9.894	9.7	8.927	10.152
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	402	293	296	372	379	405	359
Service Time	6.846	10.077	9.915	7.594	7.4	6.627	7.852
HCM Lane V/C Ratio	1.284	0.611	0.497	1.237	1.369	0.183	0.908
HCM Control Delay	169.4	28.7	24.1	130	176.3	13.4	51
HCM Lane LOS	F	D	C	F	F	B	F
HCM 95th-tile Q	22.1	3	2.1	16.8	21.6	0.6	8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	160	80	140	330	70	40	260	30	60	560	80
Future Volume (veh/h)	50	160	80	140	330	70	40	260	30	60	560	80
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		0.99
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	1744	1811	1826	1758	1841	1841	1758	1758	1758	1786	1786	1786
Adj Flow Rate, veh/h	53	168	84	147	347	74	42	274	32	63	589	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	6	5	3	4	4	3	3	3	1	1	1
Cap, veh/h	68	1400	630	182	1366	288	87	606	80	103	778	114
Arrive On Green	0.04	0.41	0.41	0.11	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1661	3441	1547	1674	2874	606	117	1944	257	181	2497	366
Grp Volume(v), veh/h	53	168	84	147	210	211	155	0	193	380	0	356
Grp Sat Flow(s),veh/h/ln	1661	1721	1547	1674	1749	1732	765	0	1553	1491	0	1553
Q Serve(g_s), s	2.8	2.7	3.1	7.7	6.4	6.6	2.8	0.0	8.8	12.9	0.0	18.4
Cycle Q Clear(g_c), s	2.8	2.7	3.1	7.7	6.4	6.6	21.3	0.0	8.8	21.7	0.0	18.4
Prop In Lane	1.00		1.00	1.00		0.35	0.27		0.17	0.17		0.24
Lane Grp Cap(c), veh/h	68	1400	630	182	831	823	289	0	484	511	0	484
V/C Ratio(X)	0.78	0.12	0.13	0.81	0.25	0.26	0.53	0.00	0.40	0.74	0.00	0.74
Avail Cap(c_a), veh/h	129	1400	630	279	831	823	339	0	545	574	0	545
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.8	16.6	16.7	39.2	14.1	14.1	25.6	0.0	24.3	28.9	0.0	27.7
Incr Delay (d2), s/veh	33.0	0.2	0.4	16.8	0.7	0.8	3.3	0.0	1.1	6.1	0.0	6.2
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	1.8	1.1	1.1	4.0	2.6	2.6	2.7	0.0	3.3	8.2	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	16.8	17.2	56.0	14.8	14.9	28.9	0.0	25.5	35.0	0.0	33.8
LnGrp LOS	E	B	B	E	B	B	C	A	C	D	A	C
Approach Vol, veh/h		305			568			348			736	
Approach Delay, s/veh		27.2			25.5			27.0			34.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.8	41.6		33.6	8.7	47.8		33.6
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.5
Max Green Setting (Gmax), s	15.8	27.9		31.6	7.0	35.9		31.6
Max Q Clear Time (g_c+I1), s	10.7	5.1		23.3	4.8	8.6		23.7
Green Ext Time (p_c), s	0.3	2.5		2.2	0.0	5.0		4.3

Intersection Summary		
HCM 6th Ctrl Delay	29.4	
HCM 6th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	80	110	20	250	90	100	750	20	90	1130	480
Future Volume (veh/h)	195	80	110	20	250	90	100	750	20	90	1130	480
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	1744	1752	1752	1589	1693	1693	1688	1796	1796	1519	1811	1811
Adj Flow Rate, veh/h	205	84	116	21	263	95	105	789	21	95	1189	505
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	10	10	15	14	14	8	7	7	20	6	6
Cap, veh/h	120	333	297	41	362	127	107	1539	41	117	1113	455
Arrive On Green	0.07	0.20	0.20	0.03	0.16	0.16	0.07	0.45	0.45	0.08	0.47	0.47
Sat Flow, veh/h	1661	1664	1485	1514	2331	822	1607	3396	90	1447	2383	973
Grp Volume(v), veh/h	205	84	116	21	179	179	105	396	414	95	845	849
Grp Sat Flow(s),veh/h/ln	1661	1664	1485	1514	1608	1545	1607	1706	1780	1447	1721	1636
Q Serve(g_s), s	6.5	3.8	6.1	1.2	9.6	9.9	5.9	14.9	14.9	5.8	42.0	42.0
Cycle Q Clear(g_c), s	6.5	3.8	6.1	1.2	9.6	9.9	5.9	14.9	14.9	5.8	42.0	42.0
Prop In Lane	1.00		1.00	1.00		0.53	1.00		0.05	1.00		0.59
Lane Grp Cap(c), veh/h	120	333	297	41	249	240	107	773	807	117	804	764
V/C Ratio(X)	1.71	0.25	0.39	0.51	0.72	0.75	0.98	0.51	0.51	0.81	1.05	1.11
Avail Cap(c_a), veh/h	120	545	487	126	545	523	107	773	807	130	804	764
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	41.8	30.3	31.2	43.2	36.2	36.3	41.9	17.5	17.5	40.7	24.0	24.0
Incr Delay (d2), s/veh	351.9	0.4	0.8	3.6	3.9	4.6	80.1	2.4	2.3	26.0	46.2	67.3
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	14.3	1.5	2.2	0.5	4.0	4.0	4.7	6.1	6.3	2.9	26.1	29.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	393.6	30.7	32.1	46.8	40.0	40.9	122.0	20.0	19.9	66.7	70.2	91.3
LnGrp LOS	F	C	C	D	D	D	F	B	B	E	F	F
Approach Vol, veh/h		405			379			915			1789	
Approach Delay, s/veh		214.8			40.8			31.6			80.0	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	24.5	10.5	48.0	11.0	20.5	11.8	46.8
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	7.5	29.5	6.0	25.5	6.5	30.5	8.1	23.4
Max Q Clear Time (g_c+I1), s	13.2	8.1	7.9	44.0	8.5	11.9	7.8	16.9
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	2.0	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	78.7
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	150	70	50	230	50	140	740	40	80	1080	100
Future Volume (veh/h)	80	150	70	50	230	50	140	740	40	80	1080	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	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	1758	1758	1758	1772	1772	1772	1702	1781	1781	1674	1811	1811
Adj Flow Rate, veh/h	84	158	74	53	242	53	147	779	42	84	1137	105
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	2	2	2	7	8	8	9	6	6
Cap, veh/h	144	279	146	104	446	103	175	1682	91	144	1585	146
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.11	0.51	0.51	0.09	0.50	0.50
Sat Flow, veh/h	388	1242	651	254	1984	459	1621	3266	176	1594	3185	294
Grp Volume(v), veh/h	148	0	168	172	0	176	147	404	417	84	614	628
Grp Sat Flow(s),veh/h/ln	802	0	1478	1177	0	1520	1621	1692	1750	1594	1721	1758
Q Serve(g_s), s	9.4	0.0	9.9	5.5	0.0	10.1	8.9	15.2	15.2	5.1	27.9	27.9
Cycle Q Clear(g_c), s	19.5	0.0	9.9	15.5	0.0	10.1	8.9	15.2	15.2	5.1	27.9	27.9
Prop In Lane	0.57		0.44	0.31		0.30	1.00		0.10	1.00		0.17
Lane Grp Cap(c), veh/h	237	0	332	312	0	342	175	871	901	144	856	875
V/C Ratio(X)	0.62	0.00	0.51	0.55	0.00	0.51	0.84	0.46	0.46	0.58	0.72	0.72
Avail Cap(c_a), veh/h	281	0	384	364	0	395	222	871	901	185	856	875
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	33.9	35.9	0.0	34.0	43.8	15.5	15.5	43.7	19.6	19.6
Incr Delay (d2), s/veh	3.2	0.0	1.2	1.5	0.0	1.2	16.9	1.8	1.7	1.4	5.1	5.0
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	3.7	0.0	3.6	4.0	0.0	3.8	4.4	6.0	6.2	2.0	11.8	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	35.1	37.4	0.0	35.2	60.6	17.2	17.2	45.1	24.7	24.7
LnGrp LOS	D	A	D	D	A	D	E	B	B	D	C	C
Approach Vol, veh/h		316			348			968			1326	
Approach Delay, s/veh		38.9			36.3			23.8			26.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.5	58.0		28.5	15.3	56.3		28.5
Change Period (Y+Rc), s	4.5	6.5		6.0	4.5	6.5		6.0
Max Green Setting (Gmax), s	11.6	45.4		26.0	13.7	43.3		26.0
Max Q Clear Time (g_c+I1), s	17.1	17.2		21.5	10.9	29.9		17.5
Green Ext Time (p_c), s	0.0	13.6		0.8	0.1	11.0		1.3

Intersection Summary		
HCM 6th Ctrl Delay		27.9
HCM 6th LOS		C

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	260	20	40	290	10	30	10	80	10	10	10
Future Vol, veh/h	10	260	20	40	290	10	30	10	80	10	10	10
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	8	16	4	16	0	4	2	2	12	2	25
Mvmt Flow	11	274	21	42	305	11	32	11	84	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	317	0	0	295	0	0	549	708	148	561	713	159
Stage 1	-	-	-	-	-	-	307	307	-	396	396	-
Stage 2	-	-	-	-	-	-	242	401	-	165	317	-
Critical Hdwy	4.76	-	-	4.18	-	-	7.58	6.54	6.94	7.74	6.54	7.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.54	-	6.74	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.54	-	6.74	5.54	-
Follow-up Hdwy	2.53	-	-	2.24	-	-	3.54	4.02	3.32	3.62	4.02	3.55
Pot Cap-1 Maneuver	1044	-	-	1249	-	-	414	358	872	390	356	790
Stage 1	-	-	-	-	-	-	672	660	-	574	602	-
Stage 2	-	-	-	-	-	-	734	599	-	792	653	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1043	-	-	1249	-	-	383	339	872	330	337	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	339	-	330	337	-
Stage 1	-	-	-	-	-	-	663	651	-	566	577	-
Stage 2	-	-	-	-	-	-	682	574	-	695	645	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	12.6	14.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	601	1043	-	-	1249	-	-	413
HCM Lane V/C Ratio	0.21	0.01	-	-	0.034	-	-	0.076
HCM Control Delay (s)	12.6	8.5	0.1	-	8	0.1	-	14.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	80	30	10	10	10
Future Vol, veh/h	10	80	30	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	1	0	0	2	0
Mvmt Flow	11	84	32	11	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	43	0	-	0	144	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	4.12	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1566	-	-	-	849	1040
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1566	-	-	-	843	1040
Mov Cap-2 Maneuver	-	-	-	-	843	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	918	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1566	-	-	-	931
HCM Lane V/C Ratio	0.007	-	-	-	0.023
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1240	10	60	380	10	140
Future Volume (veh/h)	1240	10	60	380	10	140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1687	1900	1544	1841	1800	1826
Adj Flow Rate, veh/h	1305	11	63	400	11	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	24	4	0	5
Cap, veh/h	1503	777	293	579	58	564
Arrive On Green	0.48	0.48	0.19	0.19	0.03	0.31
Sat Flow, veh/h	3116	1610	1544	3051	1714	1826
Grp Volume(v), veh/h	1305	11	63	400	11	147
Grp Sat Flow(s),veh/h/ln	1558	1610	1544	1526	1714	1826
Q Serve(g_s), s	19.7	0.2	1.8	6.4	0.3	3.2
Cycle Q Clear(g_c), s	19.7	0.2	1.8	6.4	0.3	3.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1503	777	293	579	58	564
V/C Ratio(X)	0.87	0.01	0.22	0.69	0.19	0.26
Avail Cap(c_a), veh/h	1626	840	293	579	390	918
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	12.1	7.1	18.0	19.9	24.8	13.7
Incr Delay (d2), s/veh	5.3	0.0	0.5	3.9	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.6	2.4	0.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	7.1	18.6	23.8	25.3	14.0
LnGrp LOS	B	A	B	C	C	B
Approach Vol, veh/h	1316		463			158
Approach Delay, s/veh	17.3		23.1			14.8
Approach LOS	B		C			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.8		29.9	6.3	16.5
Change Period (Y+Rc), s		6.5		4.5	4.5	6.5
Max Green Setting (Gmax), s		26.5		27.5	12.0	10.0
Max Q Clear Time (g_c+I1), s		5.2		21.7	2.3	8.4
Green Ext Time (p_c), s		1.0		3.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	50	10	10	40	90	10	50	10	50	30	10
Future Vol, veh/h	20	50	10	10	40	90	10	50	10	50	30	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	5	4	22	25	3	3	0	4	28	2	4	0
Mvmt Flow	21	53	11	11	42	95	11	53	11	53	32	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.5	8	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	25%	7%	56%
Vol Thru, %	71%	62%	29%	33%
Vol Right, %	14%	12%	64%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	80	140	90
LT Vol	10	20	10	50
Through Vol	50	50	40	30
RT Vol	10	10	90	10
Lane Flow Rate	74	84	147	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.092	0.106	0.182	0.121
Departure Headway (Hd)	4.489	4.519	4.444	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	799	794	809	781
Service Time	2.512	2.54	2.463	2.62
HCM Lane V/C Ratio	0.093	0.106	0.182	0.122
HCM Control Delay	8	8.1	8.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.7	0.4

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	50	10	10	70	20	10	10	10	30	10	20
Future Vol, veh/h	20	50	10	10	70	20	10	10	10	30	10	20
Conflicting Peds, #/hr	7	0	0	0	0	7	14	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	8	0	2	100	0	16	2	0	2	8	2	0
Mvmt Flow	21	53	11	11	74	21	11	11	11	32	11	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	102	0	0	64	0	0	238	225	61	228	220	106
Stage 1	-	-	-	-	-	-	101	101	-	114	114	-
Stage 2	-	-	-	-	-	-	137	124	-	114	106	-
Critical Hdwy	4.18	-	-	5.1	-	-	7.12	6.5	6.22	7.18	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.18	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.18	5.52	-
Follow-up Hdwy	2.272	-	-	3.1	-	-	3.518	4	3.318	3.572	4.018	3.3
Pot Cap-1 Maneuver	1453	-	-	1090	-	-	716	678	1004	715	678	954
Stage 1	-	-	-	-	-	-	905	815	-	876	801	-
Stage 2	-	-	-	-	-	-	866	797	-	876	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1443	-	-	1090	-	-	669	656	1002	679	656	935
Mov Cap-2 Maneuver	-	-	-	-	-	-	669	656	-	679	656	-
Stage 1	-	-	-	-	-	-	891	803	-	857	787	-
Stage 2	-	-	-	-	-	-	815	783	-	841	795	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.8	10	10.3
HCM LOS			B	B

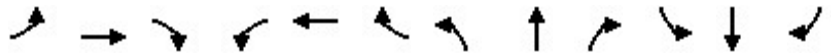
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	747	1443	-	-	1090	-	-	742
HCM Lane V/C Ratio	0.042	0.015	-	-	0.01	-	-	0.085
HCM Control Delay (s)	10	7.5	0	-	8.3	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	130	130	20	100	10	50	50	20	10	130	20
Future Vol, veh/h	40	130	130	20	100	10	50	50	20	10	130	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	1	0	0	0	14	2	10	0	25	8	5
Mvmt Flow	42	137	137	21	105	11	53	53	21	11	137	21
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.2	9.6	10	10.9
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	50%	0%	13%	15%	7%	0%
Vol Thru, %	50%	0%	43%	77%	93%	0%
Vol Right, %	0%	100%	43%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	20	300	130	140	20
LT Vol	50	0	40	20	10	0
Through Vol	50	0	130	100	130	0
RT Vol	0	20	130	10	0	20
Lane Flow Rate	105	21	316	137	147	21
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.182	0.032	0.42	0.199	0.259	0.031
Departure Headway (Hd)	6.215	5.389	4.788	5.223	6.32	5.281
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	578	664	758	687	569	678
Service Time	3.948	3.121	2.788	3.254	4.051	3.011
HCM Lane V/C Ratio	0.182	0.032	0.417	0.199	0.258	0.031
HCM Control Delay	10.3	8.3	11.2	9.6	11.3	8.2
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	0.7	0.1	2.1	0.7	1	0.1



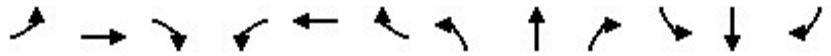
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	220	30	130	250	80	30	210	60	60	530	180
Future Volume (veh/h)	140	220	30	130	250	80	30	210	60	60	530	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.98
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	1772	1856	1856	1716	1841	1841	1800	1841	1678	1772	1841	1841
Adj Flow Rate, veh/h	147	232	32	137	263	84	32	221	63	63	558	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	3	6	4	4	0	4	15	2	4	4
Cap, veh/h	187	617	84	173	507	158	82	510	393	127	777	262
Arrive On Green	0.11	0.20	0.20	0.11	0.19	0.19	0.05	0.28	0.28	0.08	0.30	0.30
Sat Flow, veh/h	1688	3104	422	1634	2611	813	1714	1841	1420	1688	2554	862
Grp Volume(v), veh/h	147	130	134	137	174	173	32	221	63	63	381	366
Grp Sat Flow(s),veh/h/ln	1688	1763	1763	1634	1749	1676	1714	1841	1420	1688	1749	1667
Q Serve(g_s), s	5.2	3.9	4.0	5.0	5.4	5.7	1.1	6.0	2.1	2.2	11.9	12.0
Cycle Q Clear(g_c), s	5.2	3.9	4.0	5.0	5.4	5.7	1.1	6.0	2.1	2.2	11.9	12.0
Prop In Lane	1.00		0.24	1.00		0.49	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	187	350	350	173	339	325	82	510	393	127	532	507
V/C Ratio(X)	0.79	0.37	0.38	0.79	0.51	0.53	0.39	0.43	0.16	0.50	0.72	0.72
Avail Cap(c_a), veh/h	373	597	597	355	586	562	196	659	509	251	701	668
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	26.5	21.2	21.2	26.7	22.1	22.2	28.2	18.2	16.7	27.2	18.9	19.0
Incr Delay (d2), s/veh	7.2	0.9	1.0	7.9	1.7	1.9	3.0	0.8	0.3	3.0	3.1	3.3
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	2.3	1.6	1.6	2.2	2.2	2.3	0.5	2.5	0.6	0.9	4.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	22.1	22.2	34.6	23.8	24.1	31.2	19.0	17.0	30.1	22.0	22.3
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		411			484			316			810	
Approach Delay, s/veh		26.3			26.9			19.8			22.8	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	18.2	9.1	22.9	11.3	17.9	7.4	24.6
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	* 6
Max Green Setting (Gmax), s	13.3	20.7	9.1	21.9	13.5	20.5	7.0	* 25
Max Q Clear Time (g_c+I1), s	7.0	6.0	4.2	8.0	7.2	7.7	3.1	14.0
Green Ext Time (p_c), s	0.2	1.7	0.0	1.7	0.2	2.2	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



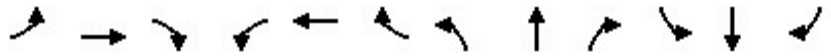
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	280	70	160	740	100	90	370	130	90	560	300
Future Volume (veh/h)	100	280	70	160	740	100	90	370	130	90	560	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1744	1841	1841	1758	1870	1826	1786	1707	1811	1786	1796	1826
Adj Flow Rate, veh/h	105	295	74	168	779	105	95	389	0	95	589	316
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	3	2	5	1	13	6	1	7	5
Cap, veh/h	189	745	184	203	981	427	189	876		172	887	402
Arrive On Green	0.11	0.27	0.27	0.12	0.28	0.28	0.11	0.27	0.00	0.10	0.26	0.26
Sat Flow, veh/h	1661	2780	686	1674	3554	1547	1701	3244	1535	1701	3413	1547
Grp Volume(v), veh/h	105	184	185	168	779	105	95	389	0	95	589	316
Grp Sat Flow(s),veh/h/ln	1661	1749	1717	1674	1777	1547	1701	1622	1535	1701	1706	1547
Q Serve(g_s), s	5.4	7.7	7.9	8.8	18.3	4.7	4.7	8.9	0.0	4.8	13.9	17.1
Cycle Q Clear(g_c), s	5.4	7.7	7.9	8.8	18.3	4.7	4.7	8.9	0.0	4.8	13.9	17.1
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	469	460	203	981	427	189	876		172	887	402
V/C Ratio(X)	0.56	0.39	0.40	0.83	0.79	0.25	0.50	0.44		0.55	0.66	0.79
Avail Cap(c_a), veh/h	235	487	478	371	1274	555	248	1134		259	1216	551
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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	26.9	27.0	38.5	30.1	25.3	37.6	27.2	0.0	38.4	29.7	30.9
Incr Delay (d2), s/veh	2.6	0.5	0.6	8.2	2.7	0.3	2.1	0.4	0.0	2.8	0.9	5.1
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	2.3	3.2	3.3	4.0	7.9	1.7	2.1	3.4	0.0	2.1	5.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	27.4	27.5	46.7	32.8	25.5	39.6	27.5	0.0	41.2	30.6	36.0
LnGrp LOS	D	C	C	D	C	C	D	C		D	C	D
Approach Vol, veh/h		474			1052			484	A		1000	
Approach Delay, s/veh		30.3			34.3			29.9			33.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	30.8	15.4	30.1	14.5	29.9	14.7	30.8
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	13.5	31.4	19.9	25.0	13.1	32.0	12.7	32.2
Max Q Clear Time (g_c+I1), s	6.8	10.9	10.8	9.9	6.7	19.1	7.4	20.3
Green Ext Time (p_c), s	0.1	2.5	0.3	1.9	0.1	4.3	0.1	4.5

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	330	80	270	780	150	150	80	180	30	90	80
Future Volume (veh/h)	30	330	80	270	780	150	150	80	180	30	90	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		1.00	1.00		0.99
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	1617	1781	1752	1758	1885	1885	1772	1781	1826	1688	1796	1826
Adj Flow Rate, veh/h	32	347	84	284	821	158	158	84	189	32	95	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	8	10	3	1	1	2	8	5	8	7	5
Cap, veh/h	48	768	631	318	902	174	287	357	309	246	684	306
Arrive On Green	0.03	0.43	0.43	0.19	0.59	0.59	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1540	1781	1464	1674	1530	295	1131	1781	1543	996	3413	1528
Grp Volume(v), veh/h	32	347	84	284	0	979	158	84	189	32	95	84
Grp Sat Flow(s),veh/h/ln	1540	1781	1464	1674	0	1825	1131	1781	1543	996	1706	1528
Q Serve(g_s), s	1.7	11.6	2.9	13.9	0.0	39.9	11.2	3.3	9.4	2.3	1.9	3.9
Cycle Q Clear(g_c), s	1.7	11.6	2.9	13.9	0.0	39.9	13.1	3.3	9.4	5.7	1.9	3.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	768	631	318	0	1076	287	357	309	246	684	306
V/C Ratio(X)	0.66	0.45	0.13	0.89	0.00	0.91	0.55	0.24	0.61	0.13	0.14	0.27
Avail Cap(c_a), veh/h	92	997	820	339	0	1282	478	658	570	414	1260	564
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	16.9	14.4	33.2	0.0	15.3	33.0	28.2	30.6	30.5	27.6	28.4
Incr Delay (d2), s/veh	5.7	0.4	0.1	22.7	0.0	8.7	0.6	0.1	0.7	0.1	0.0	0.2
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	0.7	4.6	0.9	7.5	0.0	16.7	3.0	1.4	3.5	0.6	0.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	17.3	14.5	55.9	0.0	24.0	33.6	28.3	31.3	30.6	27.6	28.6
LnGrp LOS	D	B	B	E	A	C	C	C	C	C	C	C
Approach Vol, veh/h		463			1263			431			211	
Approach Delay, s/veh		18.8			31.2			31.6			28.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	42.2		21.8	6.6	55.5		21.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	7.9	47.0		31.0	5.0	59.0		31.0
Max Q Clear Time (g_c+I1), s	5.9	13.6		7.7	3.7	41.9		15.1
Green Ext Time (p_c), s	0.1	2.6		0.6	0.0	7.6		0.9

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	29.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	320	10	130	550	80	10	70	70	60	40	10
Future Vol, veh/h	20	320	10	130	550	80	10	70	70	60	40	10
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	25	10	0	0	15	6	0	5	4	12	2	0
Mvmt Flow	21	337	11	137	579	84	11	74	74	63	42	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	664	0	0	348	0	0	970	1323	174	1144	1286	333
Stage 1	-	-	-	-	-	-	385	385	-	896	896	-
Stage 2	-	-	-	-	-	-	585	938	-	248	390	-
Critical Hdwy	4.6	-	-	4.1	-	-	7.5	6.6	6.98	7.74	6.54	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.6	-	6.74	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.6	-	6.74	5.54	-
Follow-up Hdwy	2.45	-	-	2.2	-	-	3.5	4.05	3.34	3.62	4.02	3.3
Pot Cap-1 Maneuver	782	-	-	1222	-	-	211	151	833	143	163	669
Stage 1	-	-	-	-	-	-	615	602	-	282	357	-
Stage 2	-	-	-	-	-	-	469	334	-	706	606	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	781	-	-	1222	-	-	144	130	833	65	141	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	130	-	65	141	-
Stage 1	-	-	-	-	-	-	598	586	-	274	317	-
Stage 2	-	-	-	-	-	-	355	296	-	548	590	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.4	56.2	274.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	781	-	-	1222	-	-	90
HCM Lane V/C Ratio	0.728	0.027	-	-	0.112	-	-	1.287
HCM Control Delay (s)	56.2	9.7	-	-	8.3	-	-	274.7
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	4.8	0.1	-	-	0.4	-	-	8.4

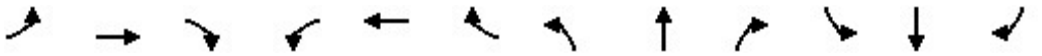
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	560	10	10	740	10	10	10	10	10	10	10
Future Vol, veh/h	10	560	10	10	740	10	10	10	10	10	10	10
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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	6	2	25	9	0	0	0	0	0	2	2
Mvmt Flow	11	589	11	11	779	11	11	11	11	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	790	0	0	600	0	0	1034	1429	300	1129	1429	395
Stage 1	-	-	-	-	-	-	617	617	-	807	807	-
Stage 2	-	-	-	-	-	-	417	812	-	322	622	-
Critical Hdwy	4.14	-	-	4.6	-	-	7.5	6.5	6.9	7.5	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.54	-
Follow-up Hdwy	2.22	-	-	2.45	-	-	3.5	4	3.3	3.5	4.02	3.32
Pot Cap-1 Maneuver	826	-	-	831	-	-	189	136	702	161	134	604
Stage 1	-	-	-	-	-	-	449	484	-	346	392	-
Stage 2	-	-	-	-	-	-	589	395	-	670	477	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	826	-	-	831	-	-	168	130	702	144	128	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	130	-	144	128	-
Stage 1	-	-	-	-	-	-	440	474	-	339	383	-
Stage 2	-	-	-	-	-	-	549	386	-	632	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	26.5	28.7
HCM LOS			D	D

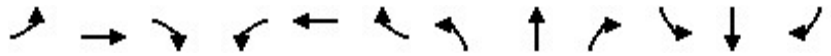
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	199	826	-	-	831	-	-	183
HCM Lane V/C Ratio	0.159	0.013	-	-	0.013	-	-	0.173
HCM Control Delay (s)	26.5	9.4	0.1	-	9.4	0.1	-	28.7
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	570	10	10	620	140	10	10	10	170	20	90
Future Volume (veh/h)	60	570	10	10	620	140	10	10	10	170	20	90
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	1716	1737	1900	1800	1663	1870	1772	1900	1900	1744	1900	1900
Adj Flow Rate, veh/h	63	600	11	11	653	147	11	11	11	179	21	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	11	0	0	16	2	2	0	0	4	0	0
Cap, veh/h	157	1934	944	47	1635	820	23	21	21	219	43	194
Arrive On Green	0.10	0.59	0.59	0.03	0.52	0.52	0.01	0.02	0.02	0.13	0.14	0.14
Sat Flow, veh/h	1634	3300	1610	1714	3159	1585	1688	872	872	1661	300	1356
Grp Volume(v), veh/h	63	600	11	11	653	147	11	0	22	179	0	116
Grp Sat Flow(s),veh/h/ln	1634	1650	1610	1714	1580	1585	1688	0	1743	1661	0	1656
Q Serve(g_s), s	2.8	7.1	0.2	0.5	9.7	3.8	0.5	0.0	1.0	8.1	0.0	5.0
Cycle Q Clear(g_c), s	2.8	7.1	0.2	0.5	9.7	3.8	0.5	0.0	1.0	8.1	0.0	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.82
Lane Grp Cap(c), veh/h	157	1934	944	47	1635	820	23	0	42	219	0	237
V/C Ratio(X)	0.40	0.31	0.01	0.24	0.40	0.18	0.48	0.00	0.52	0.82	0.00	0.49
Avail Cap(c_a), veh/h	243	2134	1041	233	2002	1005	120	0	744	634	0	1221
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	8.1	6.7	36.8	11.3	9.9	37.9	0.0	37.3	32.6	0.0	30.5
Incr Delay (d2), s/veh	1.2	0.1	0.0	1.9	0.2	0.1	14.7	0.0	9.4	5.5	0.0	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	1.1	2.2	0.1	0.2	3.1	1.2	0.3	0.0	0.5	3.5	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	8.2	6.7	38.7	11.5	10.0	52.5	0.0	46.7	38.1	0.0	32.1
LnGrp LOS	C	A	A	D	B	B	D	A	D	D	A	C
Approach Vol, veh/h		674			811			33			295	
Approach Delay, s/veh		10.6			11.6			48.6			35.7	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	51.6	4.6	15.5	10.9	46.3	13.7	6.4
Change Period (Y+Rc), s	3.5	6.3	3.5	4.5	3.5	6.3	3.5	4.5
Max Green Setting (Gmax), s	10.5	50.0	5.5	57.0	11.5	49.0	29.5	33.0
Max Q Clear Time (g_c+I1), s	2.5	9.1	2.5	7.0	4.8	11.7	10.1	3.0
Green Ext Time (p_c), s	0.0	4.8	0.0	0.8	0.0	5.8	0.3	0.1

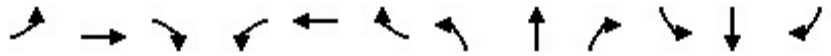
Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	470	10	10	600	70	10	40	20	350	30	40
Future Volume (veh/h)	70	470	10	10	600	70	10	40	20	350	30	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	1603	1722	1722	1800	1604	1604	1575	1870	1870	1716	1841	1841
Adj Flow Rate, veh/h	74	495	11	11	632	74	11	42	21	368	32	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	14	12	12	0	20	20	16	2	2	6	4	4
Cap, veh/h	92	1215	27	24	893	104	500	428	214	544	263	345
Arrive On Green	0.06	0.37	0.37	0.01	0.32	0.32	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1527	3272	73	1714	2748	321	1117	1176	588	1227	722	948
Grp Volume(v), veh/h	74	247	259	11	350	356	11	0	63	368	0	74
Grp Sat Flow(s),veh/h/ln	1527	1636	1709	1714	1523	1546	1117	0	1763	1227	0	1670
Q Serve(g_s), s	2.7	6.4	6.4	0.4	11.5	11.5	0.4	0.0	1.3	16.1	0.0	1.7
Cycle Q Clear(g_c), s	2.7	6.4	6.4	0.4	11.5	11.5	2.1	0.0	1.3	17.5	0.0	1.7
Prop In Lane	1.00		0.04	1.00		0.21	1.00		0.33	1.00		0.57
Lane Grp Cap(c), veh/h	92	608	635	24	495	502	500	0	642	544	0	608
V/C Ratio(X)	0.80	0.41	0.41	0.46	0.71	0.71	0.02	0.00	0.10	0.68	0.00	0.12
Avail Cap(c_a), veh/h	308	1417	1480	153	1148	1165	1121	0	1623	1226	0	1537
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	13.3	13.3	27.9	16.9	16.9	12.8	0.0	12.0	17.7	0.0	12.1
Incr Delay (d2), s/veh	5.9	0.4	0.4	9.7	1.9	1.9	0.0	0.0	0.0	0.6	0.0	0.0
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	1.1	2.1	2.2	0.2	3.8	3.9	0.1	0.0	0.5	4.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	13.7	13.7	37.7	18.7	18.8	12.8	0.0	12.0	18.3	0.0	12.1
LnGrp LOS	C	B	B	D	B	B	B	A	B	B	A	B
Approach Vol, veh/h		580			717			74			442	
Approach Delay, s/veh		16.1			19.0			12.1			17.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	27.5		25.3	7.0	24.8		25.3
Change Period (Y+Rc), s	3.5	6.3		4.5	3.5	6.3		4.5
Max Green Setting (Gmax), s	5.1	49.4		52.5	11.5	43.0		52.5
Max Q Clear Time (g_c+I1), s	2.4	8.4		19.5	4.7	13.5		4.1
Green Ext Time (p_c), s	0.0	3.4		1.0	0.0	5.0		0.3

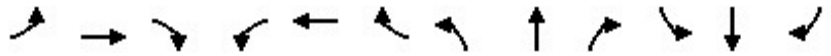
Intersection Summary		
HCM 6th Ctrl Delay		17.4
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	220	40	270	510	30	90	120	120	80	140	80
Future Volume (veh/h)	60	220	40	270	510	30	90	120	120	80	140	80
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	1758	1796	1796	1744	1796	1796	1758	1811	1826	1702	1870	1856
Adj Flow Rate, veh/h	63	232	42	284	537	32	95	126	126	84	147	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	7	7	4	7	7	3	6	5	7	2	3
Cap, veh/h	177	672	117	342	1232	73	214	560	252	217	599	264
Arrive On Green	0.11	0.16	0.16	0.21	0.26	0.26	0.13	0.16	0.16	0.13	0.17	0.17
Sat Flow, veh/h	1674	4201	731	1661	4735	280	1674	3441	1547	1621	3554	1567
Grp Volume(v), veh/h	63	179	95	284	370	199	95	126	126	84	147	84
Grp Sat Flow(s),veh/h/ln	1674	1635	1663	1661	1635	1746	1674	1721	1547	1621	1777	1567
Q Serve(g_s), s	2.2	3.1	3.3	10.4	6.0	6.1	3.3	2.0	4.7	3.0	2.3	3.0
Cycle Q Clear(g_c), s	2.2	3.1	3.3	10.4	6.0	6.1	3.3	2.0	4.7	3.0	2.3	3.0
Prop In Lane	1.00		0.44	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	523	266	342	850	454	214	560	252	217	599	264
V/C Ratio(X)	0.36	0.34	0.36	0.83	0.43	0.44	0.44	0.22	0.50	0.39	0.25	0.32
Avail Cap(c_a), veh/h	274	1557	792	749	2497	1333	266	1622	729	280	1726	761
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	26.5	23.7	23.8	24.2	19.6	19.7	25.7	23.2	24.3	25.2	22.9	23.2
Incr Delay (d2), s/veh	1.2	0.5	1.2	5.2	0.5	1.0	1.4	0.3	2.2	1.1	0.3	1.0
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	0.9	1.2	1.3	4.3	2.2	2.4	1.3	0.8	1.8	1.2	0.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	24.3	25.0	29.5	20.1	20.6	27.1	23.4	26.5	26.3	23.2	24.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		337			853			347			315	
Approach Delay, s/veh		25.1			23.4			25.5			24.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	16.2	12.6	17.2	11.2	22.6	13.0	16.9
Change Period (Y+Rc), s	4.5	6.0	4.5	6.5	4.5	6.0	4.5	6.5
Max Green Setting (Gmax), s	28.7	30.3	10.1	30.9	10.4	48.6	11.0	30.0
Max Q Clear Time (g_c+I1), s	12.4	5.3	5.3	5.0	4.2	8.1	5.0	6.7
Green Ext Time (p_c), s	0.8	2.4	0.1	1.7	0.0	6.0	0.1	1.7

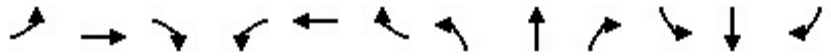
Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	550	30	10	500	120	50	70	50	190	50	210
Future Volume (veh/h)	170	550	30	10	500	120	50	70	50	190	50	210
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	1702	1841	1841	1800	1781	1781	1744	1856	1870	1786	1841	1841
Adj Flow Rate, veh/h	179	579	32	11	526	126	53	74	53	200	53	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	4	4	0	8	8	4	3	2	1	4	4
Cap, veh/h	370	2260	124	37	1010	236	139	216	185	239	319	269
Arrive On Green	0.23	0.46	0.46	0.02	0.26	0.26	0.08	0.12	0.12	0.14	0.17	0.17
Sat Flow, veh/h	1621	4875	268	1714	3937	921	1661	1856	1585	1701	1841	1555
Grp Volume(v), veh/h	179	397	214	11	431	221	53	74	53	200	53	221
Grp Sat Flow(s),veh/h/ln	1621	1675	1793	1714	1621	1616	1661	1856	1585	1701	1841	1555
Q Serve(g_s), s	8.2	6.2	6.2	0.5	9.7	10.1	2.6	3.1	2.6	9.8	2.1	11.7
Cycle Q Clear(g_c), s	8.2	6.2	6.2	0.5	9.7	10.1	2.6	3.1	2.6	9.8	2.1	11.7
Prop In Lane	1.00		0.15	1.00		0.57	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	1553	831	37	832	415	139	216	185	239	319	269
V/C Ratio(X)	0.48	0.26	0.26	0.30	0.52	0.53	0.38	0.34	0.29	0.84	0.17	0.82
Avail Cap(c_a), veh/h	370	1865	998	161	1368	682	195	326	279	389	528	446
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	28.6	13.9	13.9	41.1	27.2	27.3	37.0	34.7	34.5	35.7	30.0	34.0
Incr Delay (d2), s/veh	4.5	0.3	0.6	4.4	1.8	3.8	1.7	1.3	1.2	8.3	0.3	8.5
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	3.6	2.3	2.5	0.3	3.9	4.2	1.1	1.5	1.0	4.5	0.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	14.2	14.5	45.5	29.0	31.2	38.7	36.0	35.7	44.0	30.4	42.5
LnGrp LOS	C	B	B	D	C	C	D	D	D	D	C	D
Approach Vol, veh/h		790			663			180			474	
Approach Delay, s/veh		18.6			30.0			36.7			41.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	46.1	11.7	21.3	24.0	28.4	16.5	16.5
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5
Max Green Setting (Gmax), s	8.8	47.5	10.0	24.5	19.5	36.0	19.5	15.0
Max Q Clear Time (g_c+I1), s	2.5	8.2	4.6	13.7	10.2	12.1	11.8	5.1
Green Ext Time (p_c), s	0.0	11.2	0.0	1.1	0.3	9.8	0.3	0.4

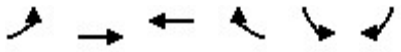
Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	490	20	20	1160	30	40	30	30	90	30	200
Future Volume (veh/h)	90	490	20	20	1160	30	40	30	30	90	30	200
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	1716	1841	1737	1800	1841	1796	1674	1856	1781	1702	1841	1870
Adj Flow Rate, veh/h	95	516	21	21	1221	32	42	32	32	95	32	211
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	4	11	0	4	7	9	3	8	7	4	2
Cap, veh/h	220	1890	795	97	1615	703	258	329	267	291	326	281
Arrive On Green	0.13	0.54	0.54	0.06	0.46	0.46	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1634	3497	1472	1714	3497	1522	1016	1856	1507	1215	1841	1582
Grp Volume(v), veh/h	95	516	21	21	1221	32	42	32	32	95	32	211
Grp Sat Flow(s),veh/h/ln	1634	1749	1472	1714	1749	1522	1016	1856	1507	1215	1841	1582
Q Serve(g_s), s	4.1	6.2	0.5	0.9	22.4	0.9	2.8	1.1	1.4	5.5	1.1	9.8
Cycle Q Clear(g_c), s	4.1	6.2	0.5	0.9	22.4	0.9	3.9	1.1	1.4	6.6	1.1	9.8
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	220	1890	795	97	1615	703	258	329	267	291	326	281
V/C Ratio(X)	0.43	0.27	0.03	0.22	0.76	0.05	0.16	0.10	0.12	0.33	0.10	0.75
Avail Cap(c_a), veh/h	253	1942	817	266	1942	845	472	719	584	546	713	613
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	30.8	9.6	8.3	34.9	17.2	11.5	28.3	26.7	26.8	29.4	26.7	30.2
Incr Delay (d2), s/veh	1.3	0.1	0.0	1.1	1.7	0.0	0.4	0.2	0.3	0.9	0.2	5.7
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	1.7	2.1	0.2	0.4	8.5	0.3	0.7	0.5	0.5	1.6	0.5	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	9.7	8.3	36.0	18.9	11.5	28.7	26.8	27.1	30.4	26.9	35.9
LnGrp LOS	C	A	A	D	B	B	C	C	C	C	C	D
Approach Vol, veh/h		632			1274			106			338	
Approach Delay, s/veh		13.0			19.0			27.7			33.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	48.3		20.2	14.9	42.3		20.2
Change Period (Y+Rc), s	4.5	6.5		6.5	4.5	6.5		6.5
Max Green Setting (Gmax), s	12.6	43.0		30.0	12.0	43.0		30.0
Max Q Clear Time (g_c+I1), s	2.9	8.2		11.8	6.1	24.4		5.9
Green Ext Time (p_c), s	0.0	5.6		1.8	0.1	11.4		0.6

Intersection Summary		
HCM 6th Ctrl Delay		19.9
HCM 6th LOS		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	150	350	100	210	330
Future Volume (veh/h)	50	150	350	100	210	330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1772	1811	1870	1678	1800	1800
Adj Flow Rate, veh/h	53	158	368	105	221	347
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	6	2	15	0	0
Cap, veh/h	86	729	502	382	244	383
Arrive On Green	0.05	0.40	0.27	0.27	0.39	0.39
Sat Flow, veh/h	1688	1811	1870	1422	619	972
Grp Volume(v), veh/h	53	158	368	105	569	0
Grp Sat Flow(s),veh/h/ln	1688	1811	1870	1422	1594	0
Q Serve(g_s), s	1.7	3.1	9.7	3.1	18.2	0.0
Cycle Q Clear(g_c), s	1.7	3.1	9.7	3.1	18.2	0.0
Prop In Lane	1.00			1.00	0.39	0.61
Lane Grp Cap(c), veh/h	86	729	502	382	627	0
V/C Ratio(X)	0.62	0.22	0.73	0.28	0.91	0.00
Avail Cap(c_a), veh/h	266	1964	1578	1199	1803	0
HCM Platoon Ratio	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	0.00
Uniform Delay (d), s/veh	25.1	10.5	18.0	15.6	15.4	0.0
Incr Delay (d2), s/veh	2.7	0.1	2.1	0.4	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.1	4.0	1.0	5.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.8	10.7	20.1	16.0	17.6	0.0
LnGrp LOS	C	B	C	B	B	A
Approach Vol, veh/h		211	473		569	
Approach Delay, s/veh		15.0	19.2		17.6	
Approach LOS		B	B		B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	27.7		26.2	7.2	20.5
Change Period (Y+Rc), s	6.0		5.0	4.5	6.0
Max Green Setting (Gmax), s	58.5		61.0	8.5	45.5
Max Q Clear Time (g_c+I1), s	5.1		20.2	3.7	11.7
Green Ext Time (p_c), s	1.0		1.1	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	180	240	30	20	120
Future Vol, veh/h	140	180	240	30	20	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	189	253	32	21	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	253	0	-	0	752	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1312	-	-	-	378	770
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1312	-	-	-	336	770
Mov Cap-2 Maneuver	-	-	-	-	336	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1312	-	-	-	650
HCM Lane V/C Ratio	0.112	-	-	-	0.227
HCM Control Delay (s)	8.1	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.9

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	70	40	80	100	40	30	50	90	20	30	10
Future Vol, veh/h	10	70	40	80	100	40	30	50	90	20	30	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	14	7	11	5	2	16	2	10	7	4	2
Mvmt Flow	11	74	42	84	105	42	32	53	95	21	32	11
Number of Lanes	0	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	1
HCM Control Delay	9.5	9.4	9	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	38%	0%	8%	100%	0%	33%
Vol Thru, %	62%	0%	58%	0%	71%	50%
Vol Right, %	0%	100%	33%	0%	29%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	90	120	80	140	60
LT Vol	30	0	10	80	0	20
Through Vol	50	0	70	0	100	30
RT Vol	0	90	40	0	40	10
Lane Flow Rate	84	95	126	84	147	63
Geometry Grp	7	7	6	7	7	6
Degree of Util (X)	0.139	0.127	0.184	0.139	0.211	0.101
Departure Headway (Hd)	5.958	4.824	5.245	5.957	5.15	5.743
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	600	739	681	600	694	620
Service Time	3.718	2.583	3.307	3.714	2.906	3.813
HCM Lane V/C Ratio	0.14	0.129	0.185	0.14	0.212	0.102
HCM Control Delay	9.7	8.3	9.5	9.7	9.3	9.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.4	0.7	0.5	0.8	0.3

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	120	10	10	470	10	10	10	10	20	10	210
Future Vol, veh/h	40	120	10	10	470	10	10	10	10	20	10	210
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	-	-	None	-	-	None	-	-	None
Storage Length	165	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	8	100	20	2	0	25	0	0	8	0	0
Mvmt Flow	42	126	11	11	495	11	11	11	11	21	11	221

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	506	0	0	137	0	0	491	744	69	676	744	253
Stage 1	-	-	-	-	-	-	216	216	-	523	523	-
Stage 2	-	-	-	-	-	-	275	528	-	153	221	-
Critical Hdwy	4.16	-	-	4.5	-	-	8	6.5	6.9	7.66	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.66	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.66	5.5	-
Follow-up Hdwy	2.23	-	-	2.4	-	-	3.75	4	3.3	3.58	4	3.3
Pot Cap-1 Maneuver	1048	-	-	1323	-	-	412	345	986	328	345	753
Stage 1	-	-	-	-	-	-	704	728	-	490	534	-
Stage 2	-	-	-	-	-	-	647	531	-	817	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1048	-	-	1323	-	-	274	328	986	305	328	753
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	328	-	305	328	-
Stage 1	-	-	-	-	-	-	676	699	-	470	530	-
Stage 2	-	-	-	-	-	-	444	527	-	764	695	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.2	15.1	14.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	389	1048	-	-	1323	-	-	640
HCM Lane V/C Ratio	0.081	0.04	-	-	0.008	-	-	0.395
HCM Control Delay (s)	15.1	8.6	-	-	7.7	-	-	14.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.9

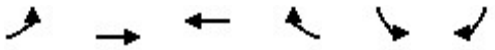
Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	140	40	260	80	30
Future Vol, veh/h	130	140	40	260	80	30
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	11	9	0	8	0	0
Mvmt Flow	137	147	42	274	84	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	285	0	570	212
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1289	-	486	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1288	-	467	832
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	13.7
HCM LOS			B

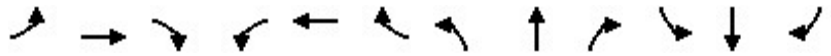
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	530	-	-	1288	-
HCM Lane V/C Ratio	0.218	-	-	0.033	-
HCM Control Delay (s)	13.7	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	80	230	20	10	60
Future Volume (veh/h)	30	80	230	20	10	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1618	1707	1707	1519	1767
Adj Flow Rate, veh/h	32	84	242	21	11	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	19	13	13	20	9
Cap, veh/h	67	708	656	57	116	120
Arrive On Green	0.04	0.44	0.22	0.22	0.08	0.08
Sat Flow, veh/h	1674	1618	3108	260	1447	1497
Grp Volume(v), veh/h	32	84	129	134	11	63
Grp Sat Flow(s),veh/h/ln	1674	1618	1622	1661	1447	1497
Q Serve(g_s), s	0.5	0.8	1.7	1.7	0.2	1.0
Cycle Q Clear(g_c), s	0.5	0.8	1.7	1.7	0.2	1.0
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	67	708	352	361	116	120
V/C Ratio(X)	0.48	0.12	0.37	0.37	0.09	0.52
Avail Cap(c_a), veh/h	1781	6856	4852	4967	2847	2946
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	11.7	4.2	8.3	8.3	10.6	11.0
Incr Delay (d2), s/veh	5.2	0.1	0.6	0.6	0.3	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.4	0.4	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	4.2	8.9	8.9	11.0	14.5
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		116	263		74	
Approach Delay, s/veh		7.7	8.9		14.0	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		16.9		8.0	5.5	11.4
Change Period (Y+Rc), s		6.0		6.0	4.5	6.0
Max Green Setting (Gmax), s		105.5		49.0	26.5	74.5
Max Q Clear Time (g_c+I1), s		2.8		3.0	2.5	3.7
Green Ext Time (p_c), s		0.5		0.2	0.0	1.7

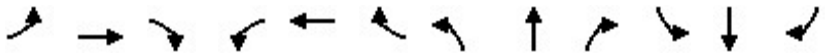
Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	240	20	50	660	40	40	40	50	30	60	170
Future Volume (veh/h)	110	240	20	50	660	40	40	40	50	30	60	170
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		0.98	0.99		1.00	1.00		0.99
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	1617	1767	1500	1617	1811	1811	1688	1688	1688	1575	1575	1575
Adj Flow Rate, veh/h	116	253	21	53	695	42	42	42	53	32	63	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	9	27	13	6	6	8	8	8	16	16	16
Cap, veh/h	142	1148	435	84	1001	60	185	164	151	115	99	229
Arrive On Green	0.09	0.34	0.34	0.05	0.30	0.30	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1540	3357	1271	1540	3292	199	296	638	590	87	386	891
Grp Volume(v), veh/h	116	253	21	53	363	374	137	0	0	274	0	0
Grp Sat Flow(s),veh/h/ln	1540	1678	1271	1540	1721	1770	1524	0	0	1364	0	0
Q Serve(g_s), s	3.2	2.3	0.5	1.5	8.0	8.1	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	3.2	2.3	0.5	1.5	8.0	8.1	3.1	0.0	0.0	8.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.11	0.31		0.39	0.12		0.65
Lane Grp Cap(c), veh/h	142	1148	435	84	523	538	500	0	0	443	0	0
V/C Ratio(X)	0.82	0.22	0.05	0.63	0.69	0.69	0.27	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	605	3181	1205	356	1352	1391	1203	0	0	1151	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.3	10.1	9.5	20.0	13.3	13.3	13.1	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	2.9	0.6	0.6	0.1	0.0	0.0	0.5	0.0	0.0
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	1.2	0.7	0.1	0.5	2.6	2.7	0.9	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	10.2	9.5	22.9	13.9	13.9	13.2	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		390			790			137			274	
Approach Delay, s/veh		14.1			14.5			13.2			15.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	20.8		16.1	8.0	19.2		16.1
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	10.0	41.0		34.0	17.0	34.0		34.0
Max Q Clear Time (g_c+I1), s	3.5	4.3		5.1	5.2	10.1		10.0
Green Ext Time (p_c), s	0.0	1.2		0.6	0.1	3.1		1.2

Intersection Summary		
HCM 6th Ctrl Delay	14.4	
HCM 6th LOS	B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	230	10	10	670	80	30	20	20	60	20	50
Future Volume (veh/h)	30	230	10	10	670	80	30	20	20	60	20	50
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	0.99		1.00	1.00		0.99
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	1646	1826	1826	1337	1856	1856	1688	1796	1796	1758	1900	1900
Adj Flow Rate, veh/h	32	242	11	11	705	84	32	21	21	63	21	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	5	5	33	3	3	8	7	7	3	0	0
Cap, veh/h	384	969	44	642	909	108	377	121	121	409	70	176
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	604	1733	79	805	1627	194	1190	824	824	1283	476	1200
Grp Volume(v), veh/h	32	0	253	11	0	789	32	0	42	63	0	74
Grp Sat Flow(s),veh/h/ln	604	0	1812	805	0	1821	1190	0	1648	1283	0	1676
Q Serve(g_s), s	1.3	0.0	2.1	0.2	0.0	9.7	0.7	0.0	0.6	1.3	0.0	1.1
Cycle Q Clear(g_c), s	11.0	0.0	2.1	2.3	0.0	9.7	1.9	0.0	0.6	1.9	0.0	1.1
Prop In Lane	1.00		0.04	1.00		0.11	1.00		0.50	1.00		0.72
Lane Grp Cap(c), veh/h	384	0	1013	642	0	1018	377	0	241	409	0	245
V/C Ratio(X)	0.08	0.00	0.25	0.02	0.00	0.78	0.08	0.00	0.17	0.15	0.00	0.30
Avail Cap(c_a), veh/h	1260	0	3642	1810	0	3659	1110	0	1256	1199	0	1278
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	3.3	3.8	0.0	5.0	11.8	0.0	10.8	11.6	0.0	11.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.3
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	0.1	0.0	0.2	0.0	0.0	1.1	0.1	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	3.3	3.8	0.0	5.4	11.9	0.0	10.9	11.7	0.0	11.3
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		285			800			74			137	
Approach Delay, s/veh		4.0			5.4			11.3			11.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	20.6	8.2	20.6	8.2
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	58.0	22.0	58.0	22.0
Max Q Clear Time (g_c+I1), s	13.0	3.9	11.7	3.9
Green Ext Time (p_c), s	1.3	0.3	4.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	50	10	30	30	10	10	40	20	10	20	70
Future Vol, veh/h	10	50	10	30	30	10	10	40	20	10	20	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	20	8	0	0	0	0	50	21	0	20	27	0
Mvmt Flow	11	53	11	32	32	11	11	42	21	11	21	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	165	58	187	192	53	95	0	0	63	0	0
Stage 1	80	80	-	75	75	-	-	-	-	-	-	-
Stage 2	96	85	-	112	117	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.58	6.2	7.1	6.5	6.2	4.6	-	-	4.3	-	-
Critical Hdwy Stg 1	6.3	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.58	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.072	3.3	3.5	4	3.3	2.65	-	-	2.38	-	-
Pot Cap-1 Maneuver	748	717	1014	778	707	1020	1246	-	-	1432	-	-
Stage 1	886	817	-	939	836	-	-	-	-	-	-	-
Stage 2	868	813	-	898	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	705	705	1014	717	695	1020	1246	-	-	1432	-	-
Mov Cap-2 Maneuver	705	705	-	717	695	-	-	-	-	-	-	-
Stage 1	878	810	-	931	828	-	-	-	-	-	-	-
Stage 2	819	806	-	824	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.4	1.1	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1246	-	-	737	738	1432	-	-
HCM Lane V/C Ratio	0.008	-	-	0.1	0.1	0.007	-	-
HCM Control Delay (s)	7.9	0	-	10.4	10.4	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	340	20	20	90	30	30	40	10	10	20	20
Future Vol, veh/h	30	340	20	20	90	30	30	40	10	10	20	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	16	27	17	8	4	65	15	28	33	18	0
Mvmt Flow	32	358	21	21	95	32	32	42	11	11	21	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	9.3	10.6	9.3
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	8%	14%	20%
Vol Thru, %	50%	87%	64%	40%
Vol Right, %	12%	5%	21%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	390	140	50
LT Vol	30	30	20	10
Through Vol	40	340	90	20
RT Vol	10	20	30	20
Lane Flow Rate	84	411	147	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.149	0.517	0.203	0.083
Departure Headway (Hd)	6.379	4.532	4.967	5.703
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	558	792	719	623
Service Time	4.462	2.574	3.026	3.791
HCM Lane V/C Ratio	0.151	0.519	0.204	0.085
HCM Control Delay	10.6	12.4	9.3	9.3
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	0.5	3	0.8	0.3

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	20	10	20	20	10	10	10	20	20	20	10
Future Vol, veh/h	10	20	10	20	20	10	10	10	20	20	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	2
Mvmt Flow	11	21	11	21	21	11	11	11	21	21	21	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	129	123	27	129	118	22	32	0	0	32	0	0
Stage 1	69	69	-	44	44	-	-	-	-	-	-	-
Stage 2	60	54	-	85	74	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	849	771	1054	849	776	1061	1593	-	-	1593	-	-
Stage 1	946	841	-	975	862	-	-	-	-	-	-	-
Stage 2	957	854	-	928	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	810	756	1054	810	760	1061	1593	-	-	1593	-	-
Mov Cap-2 Maneuver	810	756	-	810	760	-	-	-	-	-	-	-
Stage 1	939	830	-	968	856	-	-	-	-	-	-	-
Stage 2	918	848	-	884	826	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.6	1.8	2.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	828	827	1593	-	-
HCM Lane V/C Ratio	0.007	-	-	0.051	0.064	0.013	-	-
HCM Control Delay (s)	7.3	0	-	9.6	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	70	10	10	220
Future Vol, veh/h	20	10	70	10	10	220
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	95	95	95	95	95	95
Heavy Vehicles, %	11	0	15	0	0	22
Mvmt Flow	21	11	74	11	11	232

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	334	80	0	0	85	0
Stage 1	80	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.51	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	643	986	-	-	1524	-
Stage 1	921	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	638	986	-	-	1524	-
Mov Cap-2 Maneuver	638	-	-	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	1524	-
HCM Lane V/C Ratio	-	-	0.044	0.007	-
HCM Control Delay (s)	-	-	10.2	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	20	60	20	20	10	20	30	30	50	10
Future Vol, veh/h	10	30	20	60	20	20	10	20	30	30	50	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	14	4	0	5	11	17	14	7	4	7	9	0
Mvmt Flow	11	32	21	63	21	21	11	21	32	32	53	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	8.1	7.7	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	17%	60%	33%
Vol Thru, %	33%	50%	20%	56%
Vol Right, %	50%	33%	20%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	60	100	90
LT Vol	10	10	60	30
Through Vol	20	30	20	50
RT Vol	30	20	20	10
Lane Flow Rate	63	63	105	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.078	0.129	0.118
Departure Headway (Hd)	4.367	4.453	4.42	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	823	807	814	803
Service Time	2.38	2.467	2.434	2.49
HCM Lane V/C Ratio	0.077	0.078	0.129	0.118
HCM Control Delay	7.7	7.8	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.4	0.4

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	30	10	10	10	10	20	10	10	20	10
Future Vol, veh/h	10	10	30	10	10	10	10	20	10	10	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	0	5	0	0	2	16	7	33	2	20	0
Mvmt Flow	11	11	32	11	11	11	11	21	11	11	21	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	109	103	27	119	103	27	32	0	0	32	0	0
Stage 1	49	49	-	49	49	-	-	-	-	-	-	-
Stage 2	60	54	-	70	54	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.25	7.1	6.5	6.22	4.26	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.345	3.5	4	3.318	2.344	-	-	2.218	-	-
Pot Cap-1 Maneuver	870	791	1040	861	791	1048	1494	-	-	1580	-	-
Stage 1	964	858	-	969	858	-	-	-	-	-	-	-
Stage 2	951	854	-	945	854	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	843	779	1040	817	779	1048	1494	-	-	1580	-	-
Mov Cap-2 Maneuver	843	779	-	817	779	-	-	-	-	-	-	-
Stage 1	956	852	-	961	851	-	-	-	-	-	-	-
Stage 2	922	847	-	899	848	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.3	1.9	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	934	867	1580	-	-
HCM Lane V/C Ratio	0.007	-	-	0.056	0.036	0.007	-	-
HCM Control Delay (s)	7.4	0	-	9.1	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	40	40	70	60	10	10	20	30	20	80	20
Future Vol, veh/h	20	40	40	70	60	10	10	20	30	20	80	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	33	39	16	13	31	0	0	0	10	0	72	38
Mvmt Flow	21	42	42	74	63	11	11	21	32	21	84	21
Number of Lanes	1	1	1	1	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.8	9.3	8.3	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	33%	0%	100%	0%	0%	100%	0%	0%	17%
Vol Thru, %	67%	0%	0%	100%	0%	0%	100%	0%	67%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	30	20	40	40	70	60	10	120
LT Vol	10	0	20	0	0	70	0	0	20
Through Vol	20	0	0	40	0	0	60	0	80
RT Vol	0	30	0	0	40	0	0	10	20
Lane Flow Rate	32	32	21	42	42	74	63	11	126
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.05	0.042	0.038	0.071	0.058	0.123	0.102	0.013	0.187
Departure Headway (Hd)	5.664	4.797	6.46	6.059	4.961	6.016	5.821	4.586	5.321
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	630	742	553	589	718	594	614	776	672
Service Time	3.421	2.554	4.217	3.816	2.717	3.771	3.576	2.341	3.069
HCM Lane V/C Ratio	0.051	0.043	0.038	0.071	0.058	0.125	0.103	0.014	0.188
HCM Control Delay	8.7	7.8	9.5	9.3	8	9.6	9.2	7.4	9.3
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.2	0.2	0.4	0.3	0	0.7

Future PM

Intersection	
Intersection Delay, s/veh	158.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	300	190	80	120	80	130	470	150	140	390	30
Future Vol, veh/h	50	300	190	80	120	80	130	470	150	140	390	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	14	1	0	0	4	0	0	4	9	0	7	36
Mvmt Flow	53	316	200	84	126	84	137	495	158	147	411	32
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	376.7	34.2	125.7	55
HCM LOS	F	D	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	36%	0%	9%	40%	0%	52%	0%	0%
Vol Thru, %	64%	61%	56%	60%	0%	48%	100%	0%
Vol Right, %	0%	39%	35%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	365	385	540	200	80	270	260	30
LT Vol	130	0	50	80	0	140	0	0
Through Vol	235	235	300	120	0	130	260	0
RT Vol	0	150	190	0	80	0	0	30
Lane Flow Rate	384	405	568	211	84	284	274	32
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1.112	1.129	1.75	0.675	0.25	0.852	0.81	0.092
Departure Headway (Hd)	12.55	12.133	11.506	13.44	12.547	13.03	12.88	12.659
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	292	304	324	272	288	281	285	285
Service Time	10.25	9.833	9.206	11.14	10.247	10.73	10.58	10.359
HCM Lane V/C Ratio	1.315	1.332	1.753	0.776	0.292	1.011	0.961	0.112
HCM Control Delay	123.6	127.6	376.7	40.1	19.4	60.6	53.6	16.6
HCM Lane LOS	F	F	F	E	C	F	F	C
HCM 95th-tile Q	13.1	13.9	35.2	4.4	1	7.2	6.5	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	250	400	150	100	60	200	1400	310	210	1140	40
Future Volume (veh/h)	90	250	400	150	100	60	200	1400	310	210	1140	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	1716	1811	1826	1342	1767	1322	1581	1589	1678	1337	1561	1648
Adj Flow Rate, veh/h	95	263	0	158	105	0	211	1474	0	221	1200	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	5	27	9	39	9	15	15	33	17	17
Cap, veh/h	116	341		178	335		262	2170		228	2493	87
Arrive On Green	0.07	0.10	0.00	0.07	0.10	0.00	0.09	0.50	0.00	0.18	0.59	0.59
Sat Flow, veh/h	1634	3441	1547	2479	3357	1120	2920	4482	0	1273	4228	148
Grp Volume(v), veh/h	95	263	0	158	105	0	211	1474	0	221	806	436
Grp Sat Flow(s),veh/h/ln	1634	1721	1547	1240	1678	1120	1460	1446	0	1273	1421	1535
Q Serve(g_s), s	6.9	8.9	0.0	7.6	3.5	0.0	8.5	30.9	0.0	20.7	19.5	19.5
Cycle Q Clear(g_c), s	6.9	8.9	0.0	7.6	3.5	0.0	8.5	30.9	0.0	20.7	19.5	19.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	116	341		178	335		262	2170		228	1675	905
V/C Ratio(X)	0.82	0.77		0.89	0.31		0.80	0.68		0.97	0.48	0.48
Avail Cap(c_a), veh/h	116	542		178	531		365	2170		228	1675	905
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	52.7	0.0	55.2	50.2	0.0	53.6	22.7	0.0	48.9	14.1	14.1
Incr Delay (d2), s/veh	35.5	3.7	0.0	38.1	0.5	0.0	8.7	1.7	0.0	50.7	1.0	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	4.0	4.0	0.0	3.3	1.5	0.0	3.4	10.6	0.0	9.8	6.3	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.5	56.4	0.0	93.3	50.7	0.0	62.3	24.4	0.0	99.6	15.1	16.0
LnGrp LOS	F	E		F	D		E	C		F	B	B
Approach Vol, veh/h		358	A		263	A		1685	A		1463	
Approach Delay, s/veh		65.5			76.3			29.2			28.1	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	64.5	13.0	16.5	15.3	75.2	13.1	16.4
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	21.5	53.0	8.5	19.0	15.0	59.5	8.6	18.9
Max Q Clear Time (g_c+I1), s	22.7	32.9	8.9	5.5	10.5	21.5	9.6	10.9
Green Ext Time (p_c), s	0.0	11.2	0.0	0.4	0.3	11.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	790	510	80	140	100	70	1430	130	80	720	210
Future Volume (veh/h)	510	790	510	80	140	100	70	1430	130	80	720	210
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	1688	1856	1693	1632	1674	1767	1281	1688	1781	1744	1752	1796
Adj Flow Rate, veh/h	537	832	0	84	147	105	74	1505	137	84	758	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	3	14	12	9	9	37	8	8	4	10	7
Cap, veh/h	431	1120		104	212	142	83	1554	141	104	1704	542
Arrive On Green	0.27	0.32	0.00	0.07	0.12	0.12	0.07	0.36	0.36	0.06	0.36	0.36
Sat Flow, veh/h	1607	3526	1434	1554	1822	1218	1220	4298	391	1661	4782	1521
Grp Volume(v), veh/h	537	832	0	84	127	125	74	1075	567	84	758	221
Grp Sat Flow(s),veh/h/ln	1607	1763	1434	1554	1590	1451	1220	1536	1617	1661	1594	1521
Q Serve(g_s), s	29.5	23.2	0.0	5.9	8.4	9.2	6.6	37.8	37.9	5.5	13.3	12.0
Cycle Q Clear(g_c), s	29.5	23.2	0.0	5.9	8.4	9.2	6.6	37.8	37.9	5.5	13.3	12.0
Prop In Lane	1.00		1.00	1.00		0.84	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	431	1120		104	185	169	83	1111	585	104	1704	542
V/C Ratio(X)	1.25	0.74		0.81	0.69	0.74	0.89	0.97	0.97	0.80	0.44	0.41
Avail Cap(c_a), veh/h	431	1237		157	292	266	83	1111	585	113	1704	542
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	33.5	0.0	50.6	46.7	47.0	50.8	34.5	34.5	50.9	27.1	26.7
Incr Delay (d2), s/veh	128.8	2.9	0.0	27.8	9.2	12.7	66.1	20.4	30.3	36.3	0.8	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	26.9	10.2	0.0	3.1	3.8	3.9	3.5	16.9	19.4	3.3	5.2	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	169.0	36.4	0.0	78.4	55.9	59.7	116.9	54.8	64.8	87.1	27.9	28.9
LnGrp LOS	F	D		E	E	E	F	D	E	F	C	C
Approach Vol, veh/h		1369	A		336			1716			1063	
Approach Delay, s/veh		88.5			62.9			60.8			32.8	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	45.8	34.0	18.8	12.0	45.2	11.9	41.0
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	7.5	31.8	29.5	20.2	7.5	31.8	11.1	38.6
Max Q Clear Time (g_c+I1), s	7.5	39.9	31.5	11.2	8.6	15.3	7.9	25.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	9.2	0.1	7.5

Intersection Summary	
HCM 6th Ctrl Delay	62.8
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	48.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	1140	10	10	610	80	20	60	30	10	10	20
Future Vol, veh/h	130	1140	10	10	610	80	20	60	30	10	10	20
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	-	-	200	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	2	0	10	3	0	9	0	5	0	0	11
Mvmt Flow	137	1200	11	11	642	84	21	63	32	11	11	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	728	0	0	1213	0	0	2198	2226	1202	2193	2153	644
Stage 1	-	-	-	-	-	-	1476	1476	-	666	666	-
Stage 2	-	-	-	-	-	-	722	750	-	1527	1487	-
Critical Hdwy	4.13	-	-	4.2	-	-	7.19	6.5	6.25	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.29	-	-	3.581	4	3.345	3.5	4	3.399
Pot Cap-1 Maneuver	871	-	-	548	-	-	31	~ 44	222	33	49	457
Stage 1	-	-	-	-	-	-	152	192	-	452	460	-
Stage 2	-	-	-	-	-	-	407	422	-	149	190	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	869	-	-	547	-	-	~ 12	~ 22	222	-	24	456
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	~ 22	-	-	24	-
Stage 1	-	-	-	-	-	-	78	99	-	233	443	-
Stage 2	-	-	-	-	-	-	366	407	-	24	98	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	$ 917.9	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	17	40	869	-	-	547	-	-	-	99
HCM Lane V/C Ratio	3.096	1.579	0.157	-	-	0.019	-	-	-	0.266
HCM Control Delay (s)	$ 1407.7	$ 509.7	9.9	0	-	11.7	0	-	-	54
HCM Lane LOS	F	F	A	A	-	B	A	-	-	F
HCM 95th %tile Q(veh)	7.2	6.5	0.6	-	-	0.1	-	-	-	1

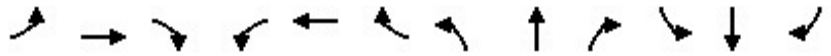
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	123.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	960	10	80	540	100	10	120	160	40	140	40
Future Vol, veh/h	30	960	10	80	540	100	10	120	160	40	140	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	4	1	0	0	1	1	0	0	0	0	0	0
Mvmt Flow	32	1011	11	84	568	105	11	126	168	42	147	42
Number of Lanes	0	2	0	0	2	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay	230.7	38	38	27.9
HCM LOS	F	E	E	D

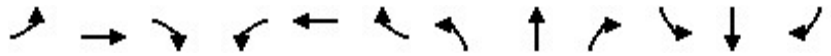
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	3%	6%	0%	31%	0%	0%	18%
Vol Thru, %	41%	94%	98%	69%	100%	0%	64%
Vol Right, %	55%	0%	2%	0%	0%	100%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	290	510	490	260	360	100	220
LT Vol	10	30	0	80	0	0	40
Through Vol	120	480	480	180	360	0	140
RT Vol	160	0	10	0	0	100	40
Lane Flow Rate	305	537	516	274	379	105	232
Geometry Grp	7	8	8	7	7	7	7
Degree of Util (X)	0.771	1.456	1.385	0.662	0.902	0.23	0.621
Departure Headway (Hd)	9.543	9.765	9.666	8.836	8.693	7.871	10.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	382	376	377	411	421	454	361
Service Time	7.243	7.527	7.427	6.536	6.393	5.665	7.752
HCM Lane V/C Ratio	0.798	1.428	1.369	0.667	0.9	0.231	0.643
HCM Control Delay	38	245.4	215.5	27.2	52.7	13	27.9
HCM Lane LOS	E	F	F	D	F	B	D
HCM 95th-tile Q	6.4	28	25.4	4.6	9.6	0.9	4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	500	80	70	230	50	110	690	100	130	340	50
Future Volume (veh/h)	150	500	80	70	230	50	110	690	100	130	340	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1800	1870	1856	1800	1885	1885	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	158	526	84	74	242	53	116	726	105	137	358	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	0	1	1	0	0	0	0	0	0
Cap, veh/h	152	1227	535	94	912	196	148	898	147	163	641	104
Arrive On Green	0.09	0.35	0.35	0.05	0.31	0.31	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1714	3554	1550	1714	2931	630	229	2100	344	225	1499	243
Grp Volume(v), veh/h	158	526	84	74	146	149	466	0	481	201	0	347
Grp Sat Flow(s),veh/h/ln	1714	1777	1550	1714	1791	1771	1097	0	1575	373	0	1594
Q Serve(g_s), s	8.0	10.2	3.4	3.8	5.5	5.7	23.9	0.0	22.6	15.9	0.0	14.3
Cycle Q Clear(g_c), s	8.0	10.2	3.4	3.8	5.5	5.7	38.2	0.0	22.6	38.5	0.0	14.3
Prop In Lane	1.00		1.00	1.00		0.36	0.25		0.22	0.68		0.15
Lane Grp Cap(c), veh/h	152	1227	535	94	557	551	519	0	674	227	0	682
V/C Ratio(X)	1.04	0.43	0.16	0.79	0.26	0.27	0.90	0.00	0.71	0.89	0.00	0.51
Avail Cap(c_a), veh/h	152	1227	535	114	557	551	519	0	674	227	0	682
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.0	22.6	20.4	42.0	23.3	23.3	28.8	0.0	21.2	35.9	0.0	18.8
Incr Delay (d2), s/veh	83.0	1.1	0.6	33.1	1.1	1.2	19.1	0.0	4.5	32.8	0.0	1.3
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	6.8	4.4	1.3	2.5	2.5	2.5	12.4	0.0	8.7	6.5	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.0	23.7	21.0	75.1	24.4	24.5	47.9	0.0	25.7	68.7	0.0	20.1
LnGrp LOS	F	C	C	E	C	C	D	A	C	E	A	C
Approach Vol, veh/h		768			369			947			548	
Approach Delay, s/veh		44.1			34.6			36.6			37.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	36.1		44.0	13.0	33.0		44.0
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.5
Max Green Setting (Gmax), s	6.9	30.0		38.5	8.0	28.0		38.5
Max Q Clear Time (g_c+I1), s	5.8	12.2		40.2	10.0	7.7		40.5
Green Ext Time (p_c), s	0.0	6.2		0.0	0.0	3.0		0.0

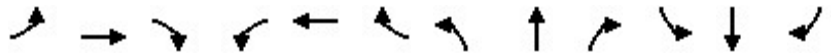
Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	440	80	30	170	140	90	780	40	80	960	490
Future Volume (veh/h)	225	440	80	30	170	140	90	780	40	80	960	490
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		0.99
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	1772	1752	1752	1744	1707	1707	1646	1841	1841	1449	1811	1811
Adj Flow Rate, veh/h	237	463	84	32	179	147	95	821	42	84	1011	516
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	10	10	4	13	13	11	4	4	25	6	6
Cap, veh/h	141	599	108	61	289	223	104	1468	75	108	987	489
Arrive On Green	0.08	0.21	0.21	0.04	0.17	0.17	0.07	0.43	0.43	0.08	0.45	0.45
Sat Flow, veh/h	1688	2816	508	1661	1740	1344	1567	3385	173	1380	2218	1098
Grp Volume(v), veh/h	237	272	275	32	166	160	95	424	439	84	777	750
Grp Sat Flow(s),veh/h/ln	1688	1664	1660	1661	1622	1462	1567	1749	1809	1380	1721	1596
Q Serve(g_s), s	7.5	13.9	14.0	1.7	8.6	9.2	5.4	16.3	16.3	5.4	40.1	40.1
Cycle Q Clear(g_c), s	7.5	13.9	14.0	1.7	8.6	9.2	5.4	16.3	16.3	5.4	40.1	40.1
Prop In Lane	1.00		0.31	1.00		0.92	1.00		0.10	1.00		0.69
Lane Grp Cap(c), veh/h	141	354	353	61	269	243	104	759	785	108	766	710
V/C Ratio(X)	1.69	0.77	0.78	0.52	0.62	0.66	0.91	0.56	0.56	0.78	1.01	1.06
Avail Cap(c_a), veh/h	141	545	544	111	505	455	104	759	785	123	766	710
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	41.3	33.4	33.4	42.6	34.9	35.1	41.7	19.0	19.0	40.7	25.0	25.0
Incr Delay (d2), s/veh	337.2	3.6	3.8	2.6	2.3	3.0	58.9	3.0	2.9	20.6	36.3	49.3
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	16.2	5.8	5.9	0.7	3.5	3.4	3.8	6.9	7.2	2.4	22.9	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	378.4	36.9	37.3	45.2	37.2	38.2	100.6	22.0	21.9	61.4	61.2	74.3
LnGrp LOS	F	D	D	D	D	D	F	C	C	E	F	F
Approach Vol, veh/h		784			358			958			1611	
Approach Delay, s/veh		140.3			38.3			29.8			67.3	
Approach LOS		F			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	25.6	10.5	46.1	12.0	21.4	11.5	45.0
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	6.6	29.5	6.0	27.0	7.5	28.0	8.0	25.0
Max Q Clear Time (g_c+I1), s	3.7	16.0	7.4	42.1	9.5	11.2	7.4	18.3
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	1.8	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	70.2
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	350	200	50	260	60	180	860	70	60	910	70
Future Volume (veh/h)	90	350	200	50	260	60	180	860	70	60	910	70
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		0.99
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	1758	1758	1758	1702	1702	1702	1758	1841	1841	1309	1826	1826
Adj Flow Rate, veh/h	95	368	211	53	274	63	189	905	74	63	958	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	7	7	7	3	4	4	35	5	5
Cap, veh/h	120	408	279	83	478	131	219	1465	120	103	1302	101
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.13	0.45	0.45	0.08	0.40	0.40
Sat Flow, veh/h	242	1337	913	119	1566	428	1674	3274	268	1246	3260	252
Grp Volume(v), veh/h	343	0	331	174	0	216	189	483	496	63	510	522
Grp Sat Flow(s),veh/h/ln	1059	0	1433	642	0	1470	1674	1749	1793	1246	1735	1777
Q Serve(g_s), s	18.5	0.0	20.9	7.5	0.0	12.0	11.1	21.1	21.1	4.9	25.0	25.0
Cycle Q Clear(g_c), s	30.5	0.0	20.9	28.4	0.0	12.0	11.1	21.1	21.1	4.9	25.0	25.0
Prop In Lane	0.28		0.64	0.31		0.29	1.00		0.15	1.00		0.14
Lane Grp Cap(c), veh/h	369	0	437	243	0	448	219	782	802	103	693	710
V/C Ratio(X)	0.93	0.00	0.76	0.72	0.00	0.48	0.86	0.62	0.62	0.61	0.74	0.74
Avail Cap(c_a), veh/h	369	0	437	243	0	448	266	782	802	143	693	710
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	31.4	34.3	0.0	28.3	42.6	21.1	21.1	44.3	25.5	25.6
Incr Delay (d2), s/veh	29.5	0.0	7.5	9.6	0.0	0.8	18.7	3.6	3.6	2.2	6.8	6.7
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	11.4	0.0	8.0	4.8	0.0	4.3	5.7	9.1	9.3	1.6	11.3	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	0.0	38.9	43.9	0.0	29.1	61.3	24.7	24.7	46.5	32.4	32.2
LnGrp LOS	E	A	D	D	A	C	E	C	C	D	C	C
Approach Vol, veh/h		674			390			1168			1095	
Approach Delay, s/veh		53.5			35.7			30.6			33.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.8	51.2		36.0	17.6	46.4		36.0
Change Period (Y+Rc), s	4.5	6.5		5.5	4.5	6.5		5.5
Max Green Setting (Gmax), s	11.5	41.5		30.5	15.9	37.1		30.5
Max Q Clear Time (g_c+I1), s	16.9	23.1		32.5	13.1	27.0		30.4
Green Ext Time (p_c), s	0.0	12.1		0.0	0.1	7.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	350	30	90	320	10	30	10	60	10	10	10
Future Vol, veh/h	10	350	30	90	320	10	30	10	60	10	10	10
Conflicting Peds, #/hr	0	0	1	1	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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	13	4	0	13	0	10	2	3	0	0	0
Mvmt Flow	11	368	32	95	337	11	32	11	63	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	348	0	0	401	0	0	771	945	201	745	956	174
Stage 1	-	-	-	-	-	-	407	407	-	533	533	-
Stage 2	-	-	-	-	-	-	364	538	-	212	423	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	6.54	6.96	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.54	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.54	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.6	4.02	3.33	3.5	4	3.3
Pot Cap-1 Maneuver	1222	-	-	1169	-	-	276	260	803	306	260	846
Stage 1	-	-	-	-	-	-	571	596	-	503	528	-
Stage 2	-	-	-	-	-	-	606	521	-	776	591	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1222	-	-	1168	-	-	240	231	802	249	231	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	231	-	249	231	-
Stage 1	-	-	-	-	-	-	564	588	-	497	475	-
Stage 2	-	-	-	-	-	-	526	468	-	694	583	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	2	16.7	17.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	411	1222	-	-	1168	-	-	315
HCM Lane V/C Ratio	0.256	0.009	-	-	0.081	-	-	0.1
HCM Control Delay (s)	16.7	8	0	-	8.4	0.3	-	17.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0.3	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	140	110	10	10	10
Future Vol, veh/h	10	140	110	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	3	4	0	0	0
Mvmt Flow	11	147	116	11	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	127	0	-	0	291	122
Stage 1	-	-	-	-	122	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1459	-	-	-	704	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1459	-	-	-	698	935
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	799
HCM Lane V/C Ratio	0.007	-	-	-	0.026
HCM Control Delay (s)	7.5	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	460	30	130	1000	10	100
Future Volume (veh/h)	460	30	130	1000	10	100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1700	1663	1900	1885	1800	1900
Adj Flow Rate, veh/h	484	32	137	1053	11	105
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	16	0	1	0	0
Cap, veh/h	693	311	825	1388	58	1061
Arrive On Green	0.22	0.22	0.43	0.43	0.03	0.56
Sat Flow, veh/h	3141	1409	1900	3195	1714	1900
Grp Volume(v), veh/h	484	32	137	1053	11	105
Grp Sat Flow(s),veh/h/ln	1570	1409	1900	1598	1714	1900
Q Serve(g_s), s	7.1	0.9	2.2	13.9	0.3	1.3
Cycle Q Clear(g_c), s	7.1	0.9	2.2	13.9	0.3	1.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	693	311	825	1388	58	1061
V/C Ratio(X)	0.70	0.10	0.17	0.76	0.19	0.10
Avail Cap(c_a), veh/h	694	311	1011	1700	413	1640
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	17.9	15.5	8.6	11.9	23.4	5.1
Incr Delay (d2), s/veh	3.4	0.2	0.1	1.9	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.8	4.2	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.3	15.7	8.7	13.8	24.0	5.2
LnGrp LOS	C	B	A	B	C	A
Approach Vol, veh/h	516		1190			116
Approach Delay, s/veh	21.0		13.2			7.0
Approach LOS	C		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.3		15.5	6.2	28.1
Change Period (Y+Rc), s		6.5		4.5	4.5	6.5
Max Green Setting (Gmax), s		43.0		11.0	12.0	26.5
Max Q Clear Time (g_c+I1), s		3.3		9.1	2.3	15.9
Green Ext Time (p_c), s		0.8		0.6	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	50	10	10	80	70	10	30	10	50	30	10
Future Vol, veh/h	10	50	10	10	80	70	10	30	10	50	30	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	40	1	1	0	7	11	0	0	0
Mvmt Flow	11	53	11	11	84	74	11	32	11	53	32	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	9.1	7.9	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	14%	6%	56%
Vol Thru, %	60%	71%	50%	33%
Vol Right, %	20%	14%	44%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	70	160	90
LT Vol	10	10	10	50
Through Vol	30	50	80	30
RT Vol	10	10	70	10
Lane Flow Rate	53	74	168	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.066	0.09	0.223	0.121
Departure Headway (Hd)	4.516	4.387	4.757	4.589
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	794	818	756	783
Service Time	2.539	2.409	2.776	2.61
HCM Lane V/C Ratio	0.067	0.09	0.222	0.121
HCM Control Delay	7.9	7.8	9.1	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.9	0.4

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	20	10	10	10	40	10	10	10	40	10	10
Future Vol, veh/h	10	20	10	10	10	40	10	10	10	40	10	10
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	2	0	6	2	2
Mvmt Flow	11	21	11	11	11	42	11	11	11	42	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	33	0	0	115	125	29	115	109	32
Stage 1	-	-	-	-	-	-	50	50	-	54	54	-
Stage 2	-	-	-	-	-	-	65	75	-	61	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.52	6.2	7.16	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.018	3.3	3.554	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1592	-	-	867	765	1052	852	781	1042
Stage 1	-	-	-	-	-	-	968	853	-	948	850	-
Stage 2	-	-	-	-	-	-	951	833	-	940	849	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1590	-	-	839	754	1050	825	769	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	839	754	-	825	769	-
Stage 1	-	-	-	-	-	-	960	846	-	941	844	-
Stage 2	-	-	-	-	-	-	923	827	-	912	842	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	1.2	9.3	9.6
HCM LOS			A	A

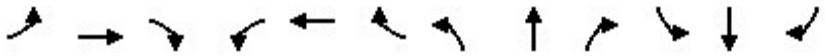
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1566	-	-	1590	-	-	844
HCM Lane V/C Ratio	0.037	0.007	-	-	0.007	-	-	0.075
HCM Control Delay (s)	9.3	7.3	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	80	30	20	90	10	40	140	20	10	100	10
Future Vol, veh/h	10	80	30	20	90	10	40	140	20	10	100	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	5	3	0	6	0	5	4	28	20	3	12
Mvmt Flow	11	84	32	21	95	11	42	147	21	11	105	11
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.9	9	10.1	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	22%	0%	8%	17%	9%	0%
Vol Thru, %	78%	0%	67%	75%	91%	0%
Vol Right, %	0%	100%	25%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	20	120	120	110	10
LT Vol	40	0	10	20	10	0
Through Vol	140	0	80	90	100	0
RT Vol	0	20	30	10	0	10
Lane Flow Rate	189	21	126	126	116	11
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.287	0.027	0.169	0.173	0.184	0.014
Departure Headway (Hd)	5.448	4.613	4.823	4.936	5.725	4.682
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	656	770	739	723	623	758
Service Time	3.212	2.377	2.882	2.995	3.495	2.451
HCM Lane V/C Ratio	0.288	0.027	0.171	0.174	0.186	0.015
HCM Control Delay	10.4	7.5	8.9	9	9.8	7.5
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	1.2	0.1	0.6	0.6	0.7	0



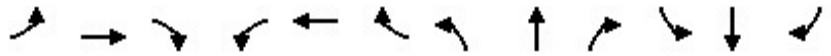
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	330	40	60	210	40	40	550	130	130	430	140
Future Volume (veh/h)	150	330	40	60	210	40	40	550	130	130	430	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.99	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	1786	1900	1900	1758	1885	1885	1800	1885	1900	1800	1870	1870
Adj Flow Rate, veh/h	158	347	42	63	221	42	42	579	137	137	453	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	3	1	1	0	1	0	0	2	2
Cap, veh/h	194	616	74	117	441	82	95	654	558	170	1032	332
Arrive On Green	0.11	0.19	0.19	0.07	0.15	0.15	0.06	0.35	0.35	0.10	0.39	0.39
Sat Flow, veh/h	1701	3225	386	1674	3005	560	1714	1885	1607	1714	2641	850
Grp Volume(v), veh/h	158	193	196	63	130	133	42	579	137	137	304	296
Grp Sat Flow(s),veh/h/ln	1701	1805	1806	1674	1791	1775	1714	1885	1607	1714	1777	1714
Q Serve(g_s), s	6.5	6.9	7.1	2.6	4.8	5.0	1.7	20.7	4.4	5.6	9.0	9.1
Cycle Q Clear(g_c), s	6.5	6.9	7.1	2.6	4.8	5.0	1.7	20.7	4.4	5.6	9.0	9.1
Prop In Lane	1.00		0.21	1.00		0.32	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	194	345	345	117	263	260	95	654	558	170	694	670
V/C Ratio(X)	0.81	0.56	0.57	0.54	0.49	0.51	0.44	0.89	0.25	0.81	0.44	0.44
Avail Cap(c_a), veh/h	226	539	540	213	525	520	167	710	606	179	694	670
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	31.0	26.2	26.3	32.2	28.1	28.2	32.8	22.1	16.7	31.6	16.0	16.1
Incr Delay (d2), s/veh	17.8	2.0	2.1	3.8	2.0	2.2	3.2	12.7	0.3	22.0	0.6	0.7
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	3.5	3.0	3.1	1.1	2.1	2.2	0.8	10.8	1.6	3.3	3.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	28.3	28.4	36.0	30.2	30.4	36.0	34.8	17.0	53.6	16.7	16.7
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	B	B
Approach Vol, veh/h		547			326			758			737	
Approach Delay, s/veh		34.2			31.4			31.6			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	19.7	11.6	30.9	12.7	16.5	8.5	34.0
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	* 6
Max Green Setting (Gmax), s	5.1	21.4	7.5	27.0	9.5	21.0	7.0	* 28
Max Q Clear Time (g_c+I1), s	4.6	9.1	7.6	22.7	8.5	7.0	3.7	11.1
Green Ext Time (p_c), s	0.0	2.4	0.0	2.1	0.0	1.7	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	950	90	140	330	120	40	610	340	160	750	110
Future Volume (veh/h)	320	950	90	140	330	120	40	610	340	160	750	110
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	1730	1885	1885	1772	1856	1841	1758	1841	1900	1772	1841	1781
Adj Flow Rate, veh/h	337	1000	95	147	347	126	42	642	0	168	789	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	1	1	2	3	4	3	4	0	2	4	8
Cap, veh/h	364	1121	106	175	783	346	126	800		194	939	405
Arrive On Green	0.22	0.34	0.34	0.10	0.22	0.22	0.08	0.23	0.00	0.12	0.27	0.27
Sat Flow, veh/h	1647	3305	314	1688	3526	1558	1674	3497	1610	1688	3497	1510
Grp Volume(v), veh/h	337	542	553	147	347	126	42	642	0	168	789	116
Grp Sat Flow(s),veh/h/ln	1647	1791	1828	1688	1763	1558	1674	1749	1610	1688	1749	1510
Q Serve(g_s), s	20.2	28.9	28.9	8.6	8.6	6.9	2.4	17.5	0.0	9.9	21.5	6.1
Cycle Q Clear(g_c), s	20.2	28.9	28.9	8.6	8.6	6.9	2.4	17.5	0.0	9.9	21.5	6.1
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	607	620	175	783	346	126	800		194	939	405
V/C Ratio(X)	0.93	0.89	0.89	0.84	0.44	0.36	0.33	0.80		0.87	0.84	0.29
Avail Cap(c_a), veh/h	374	650	664	189	874	386	183	1058		194	1078	466
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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	31.6	31.6	44.4	33.9	33.2	44.2	36.7	0.0	43.9	34.9	29.2
Incr Delay (d2), s/veh	28.2	14.0	13.8	25.7	0.4	0.6	1.5	3.4	0.0	31.1	5.4	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	10.9	14.5	14.8	4.8	3.7	2.7	1.0	7.7	0.0	5.8	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	45.6	45.4	70.0	34.3	33.9	45.7	40.1	0.0	75.0	40.3	29.6
LnGrp LOS	E	D	D	E	C	C	D	D		E	D	C
Approach Vol, veh/h		1432			620			684	A		1073	
Approach Delay, s/veh		50.5			42.7			40.5			44.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	29.6	15.0	40.2	12.1	33.6	26.8	28.4
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	11.6	30.5	11.3	36.6	11.0	31.1	22.9	25.0
Max Q Clear Time (g_c+I1), s	11.9	19.5	10.6	30.9	4.4	23.5	22.2	10.6
Green Ext Time (p_c), s	0.0	3.3	0.0	3.3	0.0	3.4	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	700	130	230	490	30	120	60	300	190	60	60
Future Volume (veh/h)	60	700	130	230	490	30	120	60	300	190	60	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.97
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	1786	1885	1856	1730	1856	1856	1800	1826	1841	1744	1885	1885
Adj Flow Rate, veh/h	63	737	58	242	516	30	126	63	67	200	63	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	3	5	3	3	0	5	4	4	1	1
Cap, veh/h	79	790	651	276	937	54	363	419	352	325	822	357
Arrive On Green	0.05	0.42	0.42	0.17	0.54	0.54	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1701	1885	1553	1647	1736	101	1272	1826	1536	1172	3582	1556
Grp Volume(v), veh/h	63	737	58	242	0	546	126	63	67	200	63	10
Grp Sat Flow(s),veh/h/ln	1701	1885	1553	1647	0	1837	1272	1826	1536	1172	1791	1556
Q Serve(g_s), s	3.0	30.4	1.8	11.7	0.0	15.9	7.0	2.2	2.9	13.4	1.1	0.4
Cycle Q Clear(g_c), s	3.0	30.4	1.8	11.7	0.0	15.9	8.1	2.2	2.9	15.6	1.1	0.4
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	790	651	276	0	992	363	419	352	325	822	357
V/C Ratio(X)	0.79	0.93	0.09	0.88	0.00	0.55	0.35	0.15	0.19	0.62	0.08	0.03
Avail Cap(c_a), veh/h	188	833	686	283	0	992	539	672	565	488	1319	573
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	22.6	14.3	33.1	0.0	12.3	27.8	25.1	25.3	31.3	24.6	24.3
Incr Delay (d2), s/veh	6.5	16.7	0.1	23.9	0.0	0.7	0.2	0.1	0.1	0.7	0.0	0.0
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	1.4	16.1	0.6	6.4	0.0	6.0	2.1	1.0	1.0	3.7	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	39.3	14.3	57.0	0.0	12.9	28.0	25.1	25.4	32.0	24.6	24.4
LnGrp LOS	D	D	B	E	A	B	C	C	C	C	C	C
Approach Vol, veh/h		858			788			256			273	
Approach Delay, s/veh		38.0			26.5			26.6			30.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.6	40.1		23.7	7.8	50.0		23.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	14.0	36.0		30.0	9.0	41.0		30.0
Max Q Clear Time (g_c+I1), s	13.7	32.4		17.6	5.0	17.9		10.1
Green Ext Time (p_c), s	0.0	1.8		0.5	0.0	3.7		0.5

Intersection Summary	
HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	185.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	510	10	130	380	90	20	30	130	190	130	10
Future Vol, veh/h	10	510	10	130	380	90	20	30	130	190	130	10
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	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	6	10	1	7	12	0	14	1	2	6	50
Mvmt Flow	11	537	11	137	400	95	21	32	137	200	137	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	548	0	0	1108	1334	274	1029	1292	248
Stage 1	-	-	-	-	-	-	565	565	-	722	722	-
Stage 2	-	-	-	-	-	-	543	769	-	307	570	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.5	6.78	6.92	7.54	6.62	7.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.78	-	6.54	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.78	-	6.54	5.62	-
Follow-up Hdwy	2.2	-	-	2.21	-	-	3.5	4.14	3.31	3.52	4.06	3.8
Pot Cap-1 Maneuver	1079	-	-	1025	-	-	167	138	727	~ 188	157	625
Stage 1	-	-	-	-	-	-	482	477	-	384	420	-
Stage 2	-	-	-	-	-	-	497	381	-	678	494	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1079	-	-	1025	-	-	-	118	727	~ 108	~ 135	625
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	118	-	~ 108	~ 135	-
Stage 1	-	-	-	-	-	-	477	472	-	380	364	-
Stage 2	-	-	-	-	-	-	264	330	-	508	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	2		$ 920
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1079	-	-	1025	-	-	121
HCM Lane V/C Ratio	-	0.01	-	-	0.134	-	-	2.871
HCM Control Delay (s)	-	8.4	-	-	9.1	-	-	$ 920
HCM Lane LOS	-	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0	-	-	0.5	-	-	32.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

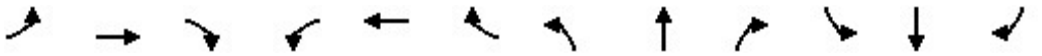
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	760	10	10	570	10	10	10	10	10	10	10
Future Vol, veh/h	10	760	10	10	570	10	10	10	10	10	10	10
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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	4	33	10	5	0	2	2	0	0	0	0
Mvmt Flow	11	800	11	11	600	11	11	11	11	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	611	0	0	811	0	0	1156	1461	406	1056	1461	306
Stage 1	-	-	-	-	-	-	828	828	-	628	628	-
Stage 2	-	-	-	-	-	-	328	633	-	428	833	-
Critical Hdwy	4.14	-	-	4.3	-	-	7.54	6.54	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.5	5.5	-
Follow-up Hdwy	2.22	-	-	2.3	-	-	3.52	4.02	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	964	-	-	761	-	-	152	128	600	182	130	696
Stage 1	-	-	-	-	-	-	332	384	-	442	479	-
Stage 2	-	-	-	-	-	-	659	472	-	581	386	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	964	-	-	761	-	-	135	122	600	162	124	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	135	122	-	162	124	-
Stage 1	-	-	-	-	-	-	325	376	-	433	468	-
Stage 2	-	-	-	-	-	-	620	462	-	543	378	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	30.2	27.5
HCM LOS			D	D

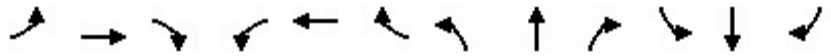
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	174	964	-	-	761	-	-	191
HCM Lane V/C Ratio	0.181	0.011	-	-	0.014	-	-	0.165
HCM Control Delay (s)	30.2	8.8	0.1	-	9.8	0.1	-	27.5
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	980	20	30	730	90	20	40	30	70	40	160
Future Volume (veh/h)	120	980	20	30	730	90	20	40	30	70	40	160
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	1758	1707	1900	1758	1767	1841	1800	1900	1900	1730	1900	1900
Adj Flow Rate, veh/h	126	1032	21	32	768	95	21	42	32	74	42	168
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	13	0	3	9	4	0	0	0	5	0	0
Cap, veh/h	192	1742	865	106	1629	757	40	127	97	93	53	214
Arrive On Green	0.11	0.54	0.54	0.06	0.49	0.49	0.02	0.13	0.13	0.06	0.16	0.16
Sat Flow, veh/h	1674	3244	1610	1674	3357	1560	1714	1001	762	1647	332	1329
Grp Volume(v), veh/h	126	1032	21	32	768	95	21	0	74	74	0	210
Grp Sat Flow(s),veh/h/ln	1674	1622	1610	1674	1678	1560	1714	0	1763	1647	0	1661
Q Serve(g_s), s	5.9	17.8	0.5	1.5	12.6	2.8	1.0	0.0	3.2	3.7	0.0	10.0
Cycle Q Clear(g_c), s	5.9	17.8	0.5	1.5	12.6	2.8	1.0	0.0	3.2	3.7	0.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.80
Lane Grp Cap(c), veh/h	192	1742	865	106	1629	757	40	0	225	93	0	267
V/C Ratio(X)	0.66	0.59	0.02	0.30	0.47	0.13	0.53	0.00	0.33	0.79	0.00	0.79
Avail Cap(c_a), veh/h	416	2559	1270	213	2240	1041	135	0	706	290	0	826
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	13.0	9.0	36.9	14.1	11.6	39.8	0.0	32.7	38.4	0.0	33.2
Incr Delay (d2), s/veh	2.8	0.3	0.0	1.2	0.2	0.1	10.5	0.0	0.8	10.6	0.0	5.1
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	2.5	5.9	0.2	0.6	4.5	0.9	0.5	0.0	1.4	1.7	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	13.3	9.0	38.1	14.4	11.7	50.3	0.0	33.6	49.0	0.0	38.3
LnGrp LOS	D	B	A	D	B	B	D	A	C	D	A	D
Approach Vol, veh/h		1179			895			95			284	
Approach Delay, s/veh		15.8			14.9			37.3			41.1	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	50.5	5.4	17.8	12.9	46.3	8.2	15.0
Change Period (Y+Rc), s	3.5	6.3	3.5	4.5	3.5	6.3	3.5	4.5
Max Green Setting (Gmax), s	10.5	65.0	6.5	41.0	20.5	55.0	14.5	33.0
Max Q Clear Time (g_c+I1), s	3.5	19.8	3.0	12.0	7.9	14.6	5.7	5.2
Green Ext Time (p_c), s	0.0	10.0	0.0	1.4	0.2	6.8	0.1	0.4

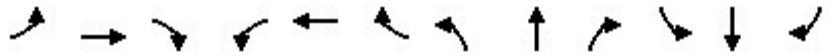
Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	770	10	20	690	70	10	20	10	330	30	30
Future Volume (veh/h)	30	770	10	20	690	70	10	20	10	330	30	30
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	1800	1648	1648	1617	1722	1722	1800	1900	1900	1772	1856	1856
Adj Flow Rate, veh/h	32	811	11	21	726	74	11	21	11	347	32	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	17	17	13	12	12	0	0	0	2	3	3
Cap, veh/h	61	1187	16	39	1094	111	517	374	196	541	271	271
Arrive On Green	0.04	0.38	0.38	0.03	0.36	0.36	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1714	3163	43	1540	2998	305	1288	1174	615	1305	851	851
Grp Volume(v), veh/h	32	401	421	21	396	404	11	0	32	347	0	64
Grp Sat Flow(s),veh/h/ln	1714	1566	1640	1540	1636	1667	1288	0	1789	1305	0	1702
Q Serve(g_s), s	0.9	11.0	11.0	0.7	10.3	10.4	0.3	0.0	0.6	12.8	0.0	1.4
Cycle Q Clear(g_c), s	0.9	11.0	11.0	0.7	10.3	10.4	1.7	0.0	0.6	13.4	0.0	1.4
Prop In Lane	1.00		0.03	1.00		0.18	1.00		0.34	1.00		0.50
Lane Grp Cap(c), veh/h	61	588	616	39	597	608	517	0	570	541	0	543
V/C Ratio(X)	0.52	0.68	0.68	0.54	0.66	0.66	0.02	0.00	0.06	0.64	0.00	0.12
Avail Cap(c_a), veh/h	256	1468	1539	203	1506	1534	1433	0	1843	1469	0	1754
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	13.4	13.4	24.5	13.6	13.6	12.9	0.0	12.0	16.7	0.0	12.3
Incr Delay (d2), s/veh	2.5	1.4	1.3	8.4	1.3	1.3	0.0	0.0	0.0	0.5	0.0	0.0
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	0.4	3.5	3.6	0.3	3.4	3.5	0.1	0.0	0.2	3.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	14.8	14.7	32.9	14.8	14.8	12.9	0.0	12.1	17.2	0.0	12.3
LnGrp LOS	C	B	B	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		854			821			43			411	
Approach Delay, s/veh		15.2			15.3			12.3			16.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	25.4		20.7	5.3	24.9		20.7
Change Period (Y+Rc), s	3.5	6.3		4.5	3.5	6.3		4.5
Max Green Setting (Gmax), s	6.7	47.8		52.5	7.6	46.9		52.5
Max Q Clear Time (g_c+I1), s	2.7	13.0		15.4	2.9	12.4		3.7
Green Ext Time (p_c), s	0.0	6.2		0.8	0.0	6.0		0.1

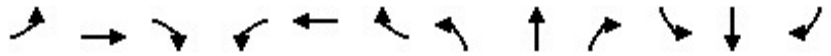
Intersection Summary		
HCM 6th Ctrl Delay		15.4
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	280	40	120	380	70	110	160	600	120	110	130
Future Volume (veh/h)	80	280	40	120	380	70	110	160	600	120	110	130
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		0.99	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	1744	1826	1826	1772	1870	1870	1772	1856	1826	1758	1811	1870
Adj Flow Rate, veh/h	84	295	21	126	400	45	116	168	287	126	116	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	5	5	2	2	2	2	3	5	3	6	2
Cap, veh/h	193	771	54	224	831	92	219	870	382	244	904	415
Arrive On Green	0.12	0.16	0.16	0.13	0.18	0.18	0.13	0.25	0.25	0.15	0.26	0.26
Sat Flow, veh/h	1661	4755	334	1688	4663	515	1688	3526	1547	1674	3441	1580
Grp Volume(v), veh/h	84	205	111	126	290	155	116	168	287	126	116	34
Grp Sat Flow(s),veh/h/ln	1661	1662	1765	1688	1702	1774	1688	1763	1547	1674	1721	1580
Q Serve(g_s), s	3.2	3.8	3.9	4.8	5.3	5.4	4.4	2.6	11.8	4.8	1.8	1.1
Cycle Q Clear(g_c), s	3.2	3.8	3.9	4.8	5.3	5.4	4.4	2.6	11.8	4.8	1.8	1.1
Prop In Lane	1.00		0.19	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	539	286	224	607	316	219	870	382	244	904	415
V/C Ratio(X)	0.43	0.38	0.39	0.56	0.48	0.49	0.53	0.19	0.75	0.52	0.13	0.08
Avail Cap(c_a), veh/h	266	1471	781	273	1512	788	258	1566	687	280	1578	724
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	28.2	25.7	25.7	27.9	25.3	25.4	27.9	20.5	23.9	27.1	19.3	19.1
Incr Delay (d2), s/veh	1.5	0.6	1.2	2.2	0.8	1.7	2.0	0.2	4.2	1.7	0.1	0.1
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	1.3	1.5	1.6	2.0	2.1	2.3	1.8	1.0	4.5	1.9	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	26.3	26.9	30.2	26.2	27.1	29.9	20.6	28.2	28.8	19.4	19.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		400			571			571			276	
Approach Delay, s/veh		27.2			27.3			26.3			23.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	17.1	13.4	24.5	12.5	18.2	14.5	23.4
Change Period (Y+Rc), s	4.5	6.0	4.5	6.5	4.5	6.0	4.5	6.5
Max Green Setting (Gmax), s	11.1	30.4	10.5	31.5	11.0	30.5	11.5	30.5
Max Q Clear Time (g_c+I1), s	6.8	5.9	6.4	3.8	5.2	7.4	6.8	13.8
Green Ext Time (p_c), s	0.1	2.8	0.1	1.1	0.1	4.0	0.1	2.8

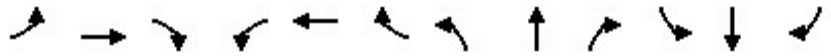
Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	640	50	50	520	130	40	30	50	80	30	170
Future Volume (veh/h)	250	640	50	50	520	130	40	30	50	80	30	170
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	1786	1841	1841	1716	1841	1841	1716	1841	1811	1744	1856	1841
Adj Flow Rate, veh/h	263	674	53	53	547	137	42	32	53	84	32	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	4	4	6	4	4	6	4	6	4	3	4
Cap, veh/h	522	2332	182	105	999	244	116	243	202	127	254	214
Arrive On Green	0.31	0.49	0.49	0.06	0.25	0.25	0.07	0.13	0.13	0.08	0.14	0.14
Sat Flow, veh/h	1701	4753	371	1634	4027	986	1634	1841	1535	1661	1856	1560
Grp Volume(v), veh/h	263	474	253	53	453	231	42	32	53	84	32	179
Grp Sat Flow(s),veh/h/ln	1701	1675	1774	1634	1675	1663	1634	1841	1535	1661	1856	1560
Q Serve(g_s), s	11.8	7.8	7.9	2.9	10.9	11.3	2.3	1.4	2.9	4.6	1.4	10.4
Cycle Q Clear(g_c), s	11.8	7.8	7.9	2.9	10.9	11.3	2.3	1.4	2.9	4.6	1.4	10.4
Prop In Lane	1.00		0.21	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	522	1644	870	105	831	412	116	243	202	127	254	214
V/C Ratio(X)	0.50	0.29	0.29	0.51	0.55	0.56	0.36	0.13	0.26	0.66	0.13	0.84
Avail Cap(c_a), veh/h	522	1941	1028	171	1263	627	176	297	248	206	330	277
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	26.4	14.0	14.0	42.0	30.4	30.5	41.1	35.6	36.2	41.7	35.2	39.1
Incr Delay (d2), s/veh	3.4	0.3	0.7	3.7	2.0	4.3	1.9	0.3	1.0	5.8	0.3	17.8
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	5.2	2.9	3.2	1.3	4.6	4.9	1.0	0.7	1.1	2.1	0.7	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	14.4	14.7	45.7	32.4	34.8	43.0	36.0	37.2	47.5	35.5	56.9
LnGrp LOS	C	B	B	D	C	C	D	D	D	D	D	E
Approach Vol, veh/h		990			737			127			295	
Approach Delay, s/veh		18.6			34.1			38.8			51.9	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	52.1	11.1	19.2	33.0	29.5	11.6	18.7
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5
Max Green Setting (Gmax), s	9.5	53.8	10.0	16.5	28.5	35.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	4.9	9.9	4.3	12.4	13.8	13.3	6.6	4.9
Green Ext Time (p_c), s	0.0	14.4	0.0	0.4	0.7	9.8	0.1	0.2

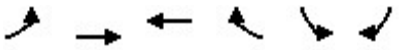
Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	1300	30	40	590	80	20	30	20	130	20	80
Future Volume (veh/h)	340	1300	30	40	590	80	20	30	20	130	20	80
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	1786	1856	1841	1772	1856	1885	1800	1900	1900	1800	1900	1885
Adj Flow Rate, veh/h	358	1368	32	42	621	84	21	32	21	137	21	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	3	4	2	3	1	0	0	0	0	0	1
Cap, veh/h	400	1794	794	159	1296	587	282	299	254	285	299	252
Arrive On Green	0.24	0.51	0.51	0.09	0.37	0.37	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1701	3526	1560	1688	3526	1598	1241	1900	1610	1300	1900	1598
Grp Volume(v), veh/h	358	1368	32	42	621	84	21	32	21	137	21	84
Grp Sat Flow(s),veh/h/ln	1701	1763	1560	1688	1763	1598	1241	1900	1610	1300	1900	1598
Q Serve(g_s), s	14.9	22.8	0.8	1.7	9.9	2.6	1.1	1.1	0.8	7.4	0.7	3.4
Cycle Q Clear(g_c), s	14.9	22.8	0.8	1.7	9.9	2.6	1.8	1.1	0.8	8.4	0.7	3.4
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	400	1794	794	159	1296	587	282	299	254	285	299	252
V/C Ratio(X)	0.89	0.76	0.04	0.26	0.48	0.14	0.07	0.11	0.08	0.48	0.07	0.33
Avail Cap(c_a), veh/h	454	2074	918	277	1712	776	596	780	661	613	780	656
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	27.1	14.4	9.0	30.8	17.7	15.4	27.0	26.4	26.3	30.0	26.2	27.4
Incr Delay (d2), s/veh	18.4	1.7	0.0	0.9	0.4	0.2	0.2	0.2	0.2	1.8	0.1	1.1
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	7.8	8.4	0.2	0.7	3.8	0.9	0.3	0.5	0.3	2.4	0.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	16.1	9.0	31.6	18.1	15.6	27.1	26.6	26.5	31.8	26.4	28.5
LnGrp LOS	D	B	A	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1758			747			74			242	
Approach Delay, s/veh		21.9			18.6			26.7			30.2	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.4	43.7		18.0	21.7	33.4		18.0
Change Period (Y+Rc), s	4.5	6.5		6.5	4.5	6.5		6.5
Max Green Setting (Gmax), s	12.9	43.0		30.0	19.5	35.5		30.0
Max Q Clear Time (g_c+I1), s	13.7	24.8		10.4	16.9	11.9		3.8
Green Ext Time (p_c), s	0.0	12.4		1.2	0.3	6.6		0.4

Intersection Summary		
HCM 6th Ctrl Delay	21.9	
HCM 6th LOS	C	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	280	390	220	190	140	100
Future Volume (veh/h)	280	390	220	190	140	100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1800	1885	1841	1870	1800	1800
Adj Flow Rate, veh/h	295	411	232	200	147	105
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	1	4	2	0	0
Cap, veh/h	368	1012	391	337	185	132
Arrive On Green	0.21	0.54	0.21	0.21	0.19	0.19
Sat Flow, veh/h	1714	1885	1841	1585	948	677
Grp Volume(v), veh/h	295	411	232	200	253	0
Grp Sat Flow(s),veh/h/ln	1714	1885	1841	1585	1631	0
Q Serve(g_s), s	6.7	5.3	4.7	4.7	6.1	0.0
Cycle Q Clear(g_c), s	6.7	5.3	4.7	4.7	6.1	0.0
Prop In Lane	1.00			1.00	0.58	0.42
Lane Grp Cap(c), veh/h	368	1012	391	337	318	0
V/C Ratio(X)	0.80	0.41	0.59	0.59	0.80	0.00
Avail Cap(c_a), veh/h	1944	3793	1414	1218	1472	0
HCM Platoon Ratio	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	0.00
Uniform Delay (d), s/veh	15.3	5.6	14.5	14.5	15.7	0.0
Incr Delay (d2), s/veh	1.6	0.3	1.4	1.7	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.3	1.8	1.5	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	5.9	16.0	16.2	17.5	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		706	432		253	
Approach Delay, s/veh		10.5	16.1		17.5	
Approach LOS		B	B		B	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	28.0		13.0	13.3	14.7
Change Period (Y+Rc), s	6.0		5.0	4.5	6.0
Max Green Setting (Gmax), s	82.5		37.0	46.5	31.5
Max Q Clear Time (g_c+I1), s	7.3		8.1	8.7	6.7
Green Ext Time (p_c), s	2.9		0.4	0.4	2.1

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	150	240	190	30	40	160
Future Vol, veh/h	150	240	190	30	40	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	158	253	200	32	42	168

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	200	0	-	0	785	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	569	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1384	-	-	-	364	829
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	570	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	323	829
Mov Cap-2 Maneuver	-	-	-	-	323	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	570	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1384	-	-	-	631
HCM Lane V/C Ratio	0.114	-	-	-	0.334
HCM Control Delay (s)	7.9	-	-	-	13.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	170	80	120	140	50	90	50	100	40	60	10
Future Vol, veh/h	20	170	80	120	140	50	90	50	100	40	60	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	1	2	3	3	2	2	10	1	2	3	0
Mvmt Flow	21	179	84	126	147	53	95	53	105	42	63	11
Number of Lanes	0	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	1
HCM Control Delay	14.5	11.6	11.3	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	64%	0%	7%	100%	0%	36%
Vol Thru, %	36%	0%	63%	0%	74%	55%
Vol Right, %	0%	100%	30%	0%	26%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	100	270	120	190	110
LT Vol	90	0	20	120	0	40
Through Vol	50	0	170	0	140	60
RT Vol	0	100	80	0	50	10
Lane Flow Rate	147	105	284	126	200	116
Geometry Grp	7	7	6	7	7	6
Degree of Util (X)	0.28	0.174	0.476	0.234	0.332	0.219
Departure Headway (Hd)	6.842	5.942	6.03	6.67	5.975	6.821
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	601	597	537	600	523
Service Time	4.604	3.703	4.084	4.424	3.73	4.894
HCM Lane V/C Ratio	0.281	0.175	0.476	0.235	0.333	0.222
HCM Control Delay	12.3	10	14.5	11.5	11.7	11.8
HCM Lane LOS	B	A	B	B	B	B
HCM 95th-tile Q	1.1	0.6	2.6	0.9	1.4	0.8

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	150	390	10	10	200	20	10	10	10	10	10	60
Future Vol, veh/h	150	390	10	10	200	20	10	10	10	10	10	60
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	-	-	None	-	-	None	-	-	None
Storage Length	165	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	40	0	4	0	50	50	2	0	0	2
Mvmt Flow	158	411	11	11	211	21	11	11	11	11	11	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	422	0	0	866	987	211	771	982	116
Stage 1	-	-	-	-	-	-	733	733	-	244	244	-
Stage 2	-	-	-	-	-	-	133	254	-	527	738	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.5	7.5	6.94	7.5	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	6.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	6.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	4	4.5	3.32	3.5	4	3.32
Pot Cap-1 Maneuver	1348	-	-	1148	-	-	181	178	794	293	251	914
Stage 1	-	-	-	-	-	-	286	325	-	744	708	-
Stage 2	-	-	-	-	-	-	734	590	-	508	427	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1148	-	-	147	156	794	248	219	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	156	-	248	219	-
Stage 1	-	-	-	-	-	-	253	287	-	657	701	-
Stage 2	-	-	-	-	-	-	667	584	-	426	377	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.4	25.5	13.1
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	207	1348	-	-	1148	-	-	528
HCM Lane V/C Ratio	0.153	0.117	-	-	0.009	-	-	0.159
HCM Control Delay (s)	25.5	8	-	-	8.2	-	-	13.1
HCM Lane LOS	D	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.4	-	-	0	-	-	0.6

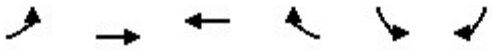
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	240	70	30	170	100	40
Future Vol, veh/h	240	70	30	170	100	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	0	0	3	3	0
Mvmt Flow	253	74	32	179	105	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	327	0	533	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	-	-	4.1	-	6.43	6.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.2	-	3.527	3.3
Pot Cap-1 Maneuver	-	-	1244	-	506	754
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	795	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1244	-	491	754
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	795	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	14
HCM LOS			B

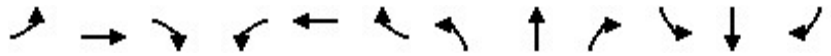
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	545	-	-	1244	-
HCM Lane V/C Ratio	0.27	-	-	0.025	-
HCM Control Delay (s)	14	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	210	160	30	20	30
Future Volume (veh/h)	60	210	160	30	20	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1781	1841	1841	1702	1693
Adj Flow Rate, veh/h	63	221	168	32	21	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	4	4	7	14
Cap, veh/h	120	861	637	119	101	90
Arrive On Green	0.07	0.48	0.22	0.22	0.06	0.06
Sat Flow, veh/h	1674	1781	3034	549	1621	1434
Grp Volume(v), veh/h	63	221	98	102	21	32
Grp Sat Flow(s),veh/h/ln	1674	1781	1749	1742	1621	1434
Q Serve(g_s), s	0.8	1.7	1.1	1.1	0.3	0.5
Cycle Q Clear(g_c), s	0.8	1.7	1.1	1.1	0.3	0.5
Prop In Lane	1.00			0.32	1.00	1.00
Lane Grp Cap(c), veh/h	120	861	378	377	101	90
V/C Ratio(X)	0.52	0.26	0.26	0.27	0.21	0.36
Avail Cap(c_a), veh/h	3514	9060	4882	4863	2701	2390
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	10.3	3.5	7.5	7.5	10.3	10.4
Incr Delay (d2), s/veh	3.5	0.2	0.4	0.4	1.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.3	0.3	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	3.7	7.9	7.9	11.3	12.8
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		284	200		53	
Approach Delay, s/veh		5.9	7.9		12.2	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		17.2		5.9	6.2	11.0
Change Period (Y+Rc), s		6.0		4.5	4.5	6.0
Max Green Setting (Gmax), s		117.5		38.5	48.5	64.5
Max Q Clear Time (g_c+I1), s		3.7		2.5	2.8	3.1
Green Ext Time (p_c), s		1.4		0.1	0.2	1.3

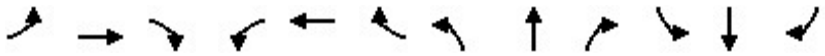
Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	750	40	40	500	20	40	70	100	20	40	90
Future Volume (veh/h)	180	750	40	40	500	20	40	70	100	20	40	90
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		0.98	0.99		0.99	1.00		0.98
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	1772	1870	1870	1800	1870	1870	1758	1758	1758	1758	1758	1758
Adj Flow Rate, veh/h	189	789	42	42	526	21	42	74	105	21	42	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	2	2	3	3	3	3	3	3
Cap, veh/h	243	1229	547	80	864	34	150	140	164	127	114	207
Arrive On Green	0.14	0.35	0.35	0.05	0.25	0.25	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1688	3554	1583	1714	3480	139	181	626	730	104	509	924
Grp Volume(v), veh/h	189	789	42	42	268	279	221	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	1688	1777	1583	1714	1777	1841	1537	0	0	1537	0	0
Q Serve(g_s), s	4.2	7.3	0.7	0.9	5.2	5.2	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	7.3	0.7	0.9	5.2	5.2	4.9	0.0	0.0	3.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	0.19		0.48	0.13		0.60
Lane Grp Cap(c), veh/h	243	1229	547	80	441	457	454	0	0	449	0	0
V/C Ratio(X)	0.78	0.64	0.08	0.52	0.61	0.61	0.49	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1250	4721	2103	263	1316	1364	1144	0	0	1132	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.1	10.8	8.6	18.2	13.0	13.0	13.7	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.2	0.0	2.0	0.5	0.5	0.3	0.0	0.0	0.2	0.0	0.0
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	1.5	2.2	0.2	0.4	1.7	1.8	1.5	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	11.0	8.6	20.2	13.5	13.5	14.0	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B	B	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		1020			589			221			158	
Approach Delay, s/veh		12.2			14.0			14.0			13.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	19.5		13.8	9.6	15.7		13.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.6	52.0		27.0	29.0	29.0		27.0
Max Q Clear Time (g_c+I1), s	2.9	9.3		6.9	6.2	7.2		5.4
Green Ext Time (p_c), s	0.0	4.2		0.8	0.2	2.1		0.6

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	660	20	10	450	70	30	20	20	130	30	50
Future Volume (veh/h)	50	660	20	10	450	70	30	20	20	130	30	50
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		0.98	0.99		0.96	0.98		0.98
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	1716	1885	1885	1800	1841	1841	1800	1826	1826	1772	1900	1900
Adj Flow Rate, veh/h	53	695	21	11	474	74	32	21	21	137	32	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	1	1	0	4	4	0	5	5	2	0	0
Cap, veh/h	461	916	28	376	779	122	455	178	178	487	138	228
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	788	1820	55	707	1549	242	1245	818	818	1271	635	1052
Grp Volume(v), veh/h	53	0	716	11	0	548	32	0	42	137	0	85
Grp Sat Flow(s),veh/h/ln	788	0	1875	707	0	1791	1245	0	1637	1271	0	1687
Q Serve(g_s), s	1.6	0.0	9.3	0.4	0.0	6.6	0.7	0.0	0.6	2.9	0.0	1.3
Cycle Q Clear(g_c), s	8.2	0.0	9.3	9.7	0.0	6.6	1.9	0.0	0.6	3.6	0.0	1.3
Prop In Lane	1.00		0.03	1.00		0.14	1.00		0.50	1.00		0.62
Lane Grp Cap(c), veh/h	461	0	943	376	0	901	455	0	355	487	0	366
V/C Ratio(X)	0.11	0.00	0.76	0.03	0.00	0.61	0.07	0.00	0.12	0.28	0.00	0.23
Avail Cap(c_a), veh/h	1544	0	3521	1348	0	3363	1128	0	1240	1174	0	1278
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	6.1	10.0	0.0	5.4	10.6	0.0	9.6	11.0	0.0	9.8
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.1
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	0.2	0.0	1.6	0.0	0.0	1.1	0.1	0.0	0.2	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	0.0	6.5	10.0	0.0	5.6	10.6	0.0	9.6	11.1	0.0	9.9
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		769			559			74			222	
Approach Delay, s/veh		6.7			5.7			10.0			10.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	19.8	10.6	19.8	10.6
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	57.0	23.0	57.0	23.0
Max Q Clear Time (g_c+I1), s	11.3	5.6	11.7	3.9
Green Ext Time (p_c), s	4.0	0.5	2.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	40	10	40	40	30	10	40	30	10	70	20
Future Vol, veh/h	70	40	10	40	40	30	10	40	30	10	70	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	6	16	0	0	28	0	2	19	0
Mvmt Flow	74	42	11	42	42	32	11	42	32	11	74	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	224	203	85	213	197	58	95	0	0	74	0	0
Stage 1	107	107	-	80	80	-	-	-	-	-	-	-
Stage 2	117	96	-	133	117	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.53	6.2	7.16	6.66	6.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.53	-	6.16	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.53	-	6.16	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.3	3.554	4.144	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	736	691	980	735	674	1014	1512	-	-	1526	-	-
Stage 1	903	805	-	919	802	-	-	-	-	-	-	-
Stage 2	892	814	-	861	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	670	680	980	684	663	1014	1512	-	-	1526	-	-
Mov Cap-2 Maneuver	670	680	-	684	663	-	-	-	-	-	-	-
Stage 1	896	799	-	912	796	-	-	-	-	-	-	-
Stage 2	812	807	-	800	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	10.8	0.9	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1512	-	-	692	741	1526	-	-
HCM Lane V/C Ratio	0.007	-	-	0.183	0.156	0.007	-	-
HCM Control Delay (s)	7.4	0	-	11.4	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.6	0	-	-

Intersection	
Intersection Delay, s/veh	21.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	220	40	30	440	20	70	40	50	50	30	40
Future Vol, veh/h	40	220	40	30	440	20	70	40	50	50	30	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	6	5	2	14	12	26	24	12	14	22	14	5
Mvmt Flow	42	232	42	32	463	21	74	42	53	53	32	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.4	30.8	13.4	12.4
HCM LOS	C	D	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	13%	6%	42%
Vol Thru, %	25%	73%	90%	25%
Vol Right, %	31%	13%	4%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	300	490	120
LT Vol	70	40	30	50
Through Vol	40	220	440	30
RT Vol	50	40	20	40
Lane Flow Rate	168	316	516	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.326	0.523	0.83	0.248
Departure Headway (Hd)	6.971	5.965	5.794	7.06
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	515	606	629	508
Service Time	5.024	3.982	3.806	5.116
HCM Lane V/C Ratio	0.326	0.521	0.82	0.248
HCM Control Delay	13.4	15.4	30.8	12.4
HCM Lane LOS	B	C	D	B
HCM 95th-tile Q	1.4	3	8.8	1

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	20	10	10	20	20	10	20	10	10	20	10
Future Vol, veh/h	10	20	10	10	20	20	10	20	10	10	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	0	2	0	0	0	0	0	0	0	0	2
Mvmt Flow	11	21	11	11	21	21	11	21	11	11	21	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	119	103	27	114	103	27	32	0	0	32	0	0
Stage 1	49	49	-	49	49	-	-	-	-	-	-	-
Stage 2	70	54	-	65	54	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	857	791	1048	868	791	1054	1593	-	-	1593	-	-
Stage 1	964	858	-	969	858	-	-	-	-	-	-	-
Stage 2	940	854	-	951	854	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	814	780	1048	832	780	1054	1593	-	-	1593	-	-
Mov Cap-2 Maneuver	814	780	-	832	780	-	-	-	-	-	-	-
Stage 1	957	852	-	962	852	-	-	-	-	-	-	-
Stage 2	892	848	-	912	848	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.3	1.8	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	843	883	1593	-	-
HCM Lane V/C Ratio	0.007	-	-	0.05	0.06	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9.5	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	110	20	10	220
Future Vol, veh/h	10	10	110	20	10	220
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	14	7	0	16
Mvmt Flow	11	11	116	21	11	232

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	381	127	0	0	137	0
Stage 1	127	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	625	929	-	-	1459	-
Stage 1	904	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	619	929	-	-	1459	-
Mov Cap-2 Maneuver	619	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	743	1459	-
HCM Lane V/C Ratio	-	-	0.028	0.007	-
HCM Control Delay (s)	-	-	10	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	30	10	20	30	50	10	40	20	20	30	10
Future Vol, veh/h	20	30	10	20	30	50	10	40	20	20	30	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	7	10	0	0	0	7	0	4	0	5	14	0
Mvmt Flow	21	32	11	21	32	53	11	42	21	21	32	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.5	7.6	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	33%	20%	33%
Vol Thru, %	57%	50%	30%	50%
Vol Right, %	29%	17%	50%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	60	100	60
LT Vol	10	20	20	20
Through Vol	40	30	30	30
RT Vol	20	10	50	10
Lane Flow Rate	74	63	105	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.084	0.076	0.115	0.075
Departure Headway (Hd)	4.098	4.304	3.924	4.301
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	859	820	898	820
Service Time	2.194	2.398	2.015	2.398
HCM Lane V/C Ratio	0.086	0.077	0.117	0.077
HCM Control Delay	7.6	7.8	7.5	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.2

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	10	10	10	10	10	30	20	10	10	20	10
Future Vol, veh/h	10	10	10	10	10	10	30	20	10	10	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	2	2	2	5	0	0	0	6	2
Mvmt Flow	11	11	11	11	11	11	32	21	11	11	21	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	154	148	30	151	148	27	35	0	0	32	0	0
Stage 1	52	52	-	91	91	-	-	-	-	-	-	-
Stage 2	102	96	-	60	57	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.12	6.52	6.22	4.15	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.518	4.018	3.318	2.245	-	-	2.2	-	-
Pot Cap-1 Maneuver	813	747	1050	816	743	1048	1557	-	-	1593	-	-
Stage 1	961	856	-	916	820	-	-	-	-	-	-	-
Stage 2	904	819	-	951	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	776	724	1047	782	720	1048	1553	-	-	1593	-	-
Mov Cap-2 Maneuver	776	724	-	782	720	-	-	-	-	-	-	-
Stage 1	938	847	-	897	803	-	-	-	-	-	-	-
Stage 2	865	802	-	923	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.5	3.7	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1553	-	-	828	828	1593	-	-
HCM Lane V/C Ratio	0.02	-	-	0.038	0.038	0.007	-	-
HCM Control Delay (s)	7.4	0	-	9.5	9.5	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	70	70	90	80	20	30	10	50	20	30	30
Future Vol, veh/h	80	70	70	90	80	20	30	10	50	20	30	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	20	4	6	17	0	17	33	12	11	27	36
Mvmt Flow	84	74	74	95	84	21	32	11	53	21	32	32
Number of Lanes	1	1	1	1	1	1	0	1	1	0	1	0

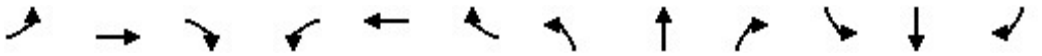
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	9.2	9.7	9.5	9.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	75%	0%	100%	0%	0%	100%	0%	0%	25%
Vol Thru, %	25%	0%	0%	100%	0%	0%	100%	0%	38%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	50	80	70	70	90	80	20	80
LT Vol	30	0	80	0	0	90	0	0	20
Through Vol	10	0	0	70	0	0	80	0	30
RT Vol	0	50	0	0	70	0	0	20	30
Lane Flow Rate	42	53	84	74	74	95	84	21	84
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.078	0.085	0.142	0.12	0.1	0.165	0.139	0.029	0.141
Departure Headway (Hd)	6.628	5.825	6.181	5.969	4.989	6.269	5.953	4.956	6.034
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	617	584	604	723	576	606	727	596
Service Time	4.342	3.538	3.881	3.669	2.689	3.969	3.653	2.656	3.748
HCM Lane V/C Ratio	0.077	0.086	0.144	0.123	0.102	0.165	0.139	0.029	0.141
HCM Control Delay	9.9	9.1	9.9	9.5	8.2	10.2	9.6	7.8	9.7
HCM Lane LOS	A	A	A	A	A	B	A	A	A
HCM 95th-tile Q	0.3	0.3	0.5	0.4	0.3	0.6	0.5	0.1	0.5

Future Mitigated AM

HCM 6th Signalized Intersection Summary
1: Francis Ave. & End Ave.

04/23/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	160	100	240	130	200	390	120	40	360	30
Future Volume (veh/h)	30	80	160	100	240	130	200	390	120	40	360	30
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		0.98
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	1758	1758	1758	1772	1772	1856	1730	1730	1826	1660	1660	1604
Adj Flow Rate, veh/h	32	84	168	105	253	137	211	411	126	42	379	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	2	2	3	5	5	5	10	10	20
Cap, veh/h	102	128	203	200	342	486	399	729	232	177	1312	652
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	41	413	657	313	1106	1571	552	1487	473	165	2674	1329
Grp Volume(v), veh/h	284	0	0	358	0	137	351	0	397	214	207	32
Grp Sat Flow(s),veh/h/ln	1111	0	0	1420	0	1571	1024	0	1488	1404	1435	1329
Q Serve(g_s), s	1.1	0.0	0.0	0.0	0.0	3.0	9.3	0.0	8.3	0.2	3.9	0.6
Cycle Q Clear(g_c), s	11.6	0.0	0.0	10.5	0.0	3.0	13.2	0.0	8.3	8.5	3.9	0.6
Prop In Lane	0.11		0.59	0.29		1.00	0.60		0.32	0.20		1.00
Lane Grp Cap(c), veh/h	433	0	0	543	0	486	630	0	730	784	704	652
V/C Ratio(X)	0.66	0.00	0.00	0.66	0.00	0.28	0.56	0.00	0.54	0.27	0.29	0.05
Avail Cap(c_a), veh/h	565	0	0	677	0	628	630	0	730	784	704	652
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	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.0	0.0	11.8	9.6	0.0	8.0	6.7	6.8	6.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	1.7	0.0	0.3	3.5	0.0	2.9	0.9	1.1	0.1
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	2.2	0.0	0.0	2.9	0.0	0.9	2.7	0.0	2.5	1.0	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.7	0.0	12.1	13.1	0.0	10.9	7.6	7.9	6.1
LnGrp LOS	B	A	A	B	A	B	B	A	B	A	A	A
Approach Vol, veh/h		284			495			748			453	
Approach Delay, s/veh		15.1			14.7			11.9			7.6	
Approach LOS		B			B			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.6		18.4		26.6		18.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		15.2		13.6		10.5		12.5				
Green Ext Time (p_c), s		1.4		0.7		1.6		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		12.1
HCM 6th LOS		B



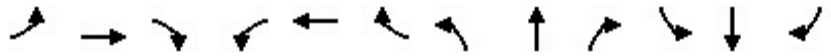
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	120	190	110	590	70	270	790	70	90	1100	450
Future Volume (veh/h)	260	120	190	110	590	70	270	790	70	90	1100	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1589	1707	1337	1589	1772	1870	1505	1660	1752	1660	1781	1767
Adj Flow Rate, veh/h	274	126	0	116	621	74	284	832	74	95	1158	474
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	15	13	38	15	2	2	21	10	10	10	8	9
Cap, veh/h	308	974		170	767	91	317	1626	144	146	1546	476
Arrive On Green	0.10	0.30	0.00	0.06	0.25	0.25	0.11	0.38	0.38	0.05	0.32	0.32
Sat Flow, veh/h	2937	3244	1133	2937	3030	360	2781	4232	375	3066	4863	1497
Grp Volume(v), veh/h	274	126	0	116	345	350	284	593	313	95	1158	474
Grp Sat Flow(s),veh/h/ln	1468	1622	1133	1468	1683	1707	1390	1510	1586	1533	1621	1497
Q Serve(g_s), s	9.2	2.8	0.0	3.9	19.2	19.3	10.1	15.0	15.2	3.0	21.3	31.6
Cycle Q Clear(g_c), s	9.2	2.8	0.0	3.9	19.2	19.3	10.1	15.0	15.2	3.0	21.3	31.6
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	308	974		170	426	432	317	1161	609	146	1546	476
V/C Ratio(X)	0.89	0.13		0.68	0.81	0.81	0.90	0.51	0.51	0.65	0.75	1.00
Avail Cap(c_a), veh/h	308	1009		247	488	495	317	1161	609	227	1546	476
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	25.5	0.0	46.2	35.1	35.1	43.7	23.6	23.6	46.8	30.5	34.0
Incr Delay (d2), s/veh	26.7	0.1	0.0	9.9	10.9	10.9	27.4	1.6	3.1	9.9	3.4	40.2
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	4.5	1.1	0.0	1.6	9.0	9.2	4.6	5.5	6.1	1.4	8.6	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	25.6	0.0	56.1	45.9	46.0	71.1	25.2	26.7	56.7	33.9	74.2
LnGrp LOS	E	C		E	D	D	E	C	C	E	C	E
Approach Vol, veh/h		400	A		811			1190			1727	
Approach Delay, s/veh		56.6			47.4			36.5			46.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	44.4	15.0	31.3	15.9	37.8	10.3	36.0
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	7.4	32.1	10.5	29.0	11.4	28.1	8.4	31.1
Max Q Clear Time (g_c+I1), s	5.0	17.2	11.2	21.3	12.1	33.6	5.9	4.8
Green Ext Time (p_c), s	0.1	8.4	0.0	4.0	0.0	0.0	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

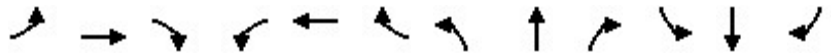
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	400	20	40	1100	10	10	10	30	10	20	30
Future Volume (veh/h)	10	400	20	40	1100	10	10	10	30	10	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		0.99	0.99		0.99
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	1800	1674	1800	1646	1758	1800	1772	1772	1772	1730	1730	1730
Adj Flow Rate, veh/h	11	421	21	42	1158	11	11	11	32	11	21	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	9	0	11	3	0	2	2	2	5	5	5
Cap, veh/h	21	1118	1006	52	1210	1050	176	163	282	129	228	275
Arrive On Green	0.01	0.67	0.67	0.03	0.69	0.69	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1714	1674	1506	1567	1758	1525	669	782	1347	461	1090	1315
Grp Volume(v), veh/h	11	421	21	42	1158	11	22	0	32	32	0	32
Grp Sat Flow(s),veh/h/ln	1714	1674	1506	1567	1758	1525	1450	0	1347	1551	0	1315
Q Serve(g_s), s	1.0	16.8	0.7	4.0	90.2	0.3	0.0	0.0	2.9	0.0	0.0	3.0
Cycle Q Clear(g_c), s	1.0	16.8	0.7	4.0	90.2	0.3	3.0	0.0	2.9	2.2	0.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	0.50		1.00	0.34		1.00
Lane Grp Cap(c), veh/h	21	1118	1006	52	1210	1050	339	0	282	357	0	275
V/C Ratio(X)	0.52	0.38	0.02	0.81	0.96	0.01	0.06	0.00	0.11	0.09	0.00	0.12
Avail Cap(c_a), veh/h	57	1207	1086	108	1330	1154	339	0	282	357	0	275
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.6	11.1	8.4	72.0	21.3	7.3	47.5	0.0	48.0	47.8	0.0	48.1
Incr Delay (d2), s/veh	18.7	0.2	0.0	24.7	14.9	0.0	0.4	0.0	0.8	0.5	0.0	0.9
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	0.5	6.2	0.2	2.0	39.3	0.1	0.7	0.0	1.0	1.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	11.3	8.4	96.7	36.2	7.3	47.9	0.0	48.9	48.3	0.0	48.9
LnGrp LOS	F	B	A	F	D	A	D	A	D	D	A	D
Approach Vol, veh/h		453			1211			54			64	
Approach Delay, s/veh		13.1			38.0			48.5			48.6	
Approach LOS		B			D			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	35.9	9.5	104.7	35.9	6.3	107.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	10.3	108.2	18.0	5.0	113.5
Max Q Clear Time (g_c+I1), s	5.0	6.0	18.8	5.0	3.0	92.2
Green Ext Time (p_c), s	0.1	0.0	3.1	0.2	0.0	11.1

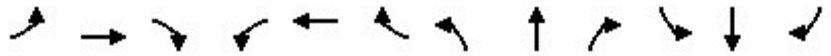
Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	260	10	190	740	70	20	240	230	120	120	70
Future Volume (veh/h)	40	260	10	190	740	70	20	240	230	120	120	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.98	1.00		0.98
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	1786	1786	1786	1772	1772	1900	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	42	274	11	200	779	74	21	253	242	126	126	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	2	2	0	2	2	2	0	0	0
Cap, veh/h	126	878	40	302	945	662	80	341	311	239	224	109
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	95	2077	94	490	2237	1567	28	823	752	357	542	264
Grp Volume(v), veh/h	138	0	189	449	530	74	516	0	0	326	0	0
Grp Sat Flow(s),veh/h/ln	660	0	1605	1195	1532	1567	1602	0	0	1164	0	0
Q Serve(g_s), s	1.7	0.0	4.2	15.6	16.8	1.6	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.5	0.0	4.2	19.8	16.8	1.6	15.2	0.0	0.0	12.6	0.0	0.0
Prop In Lane	0.30		0.06	0.45		1.00	0.04		0.47	0.39		0.23
Lane Grp Cap(c), veh/h	364	0	678	599	647	662	731	0	0	572	0	0
V/C Ratio(X)	0.38	0.00	0.28	0.75	0.82	0.11	0.71	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	382	0	703	621	671	687	731	0	0	572	0	0
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	10.4	15.8	14.0	9.6	13.9	0.0	0.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.2	4.9	7.7	0.1	5.7	0.0	0.0	4.1	0.0	0.0
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	1.0	0.0	1.3	5.3	6.2	0.5	5.8	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	0.0	10.6	20.7	21.7	9.7	19.5	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	B	A	B	C	C	A	B	A	A	B	A	A
Approach Vol, veh/h		327			1053			516			326	
Approach Delay, s/veh		11.3			20.5			19.5			16.6	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	27.3	27.7	27.3	27.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.9	24.1	21.9	24.1
Max Q Clear Time (g_c+I1), s	17.2	20.5	14.6	21.8
Green Ext Time (p_c), s	1.5	0.7	1.3	1.4

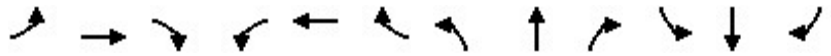
Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	80	110	20	250	90	100	750	20	90	1130	480
Future Volume (veh/h)	195	80	110	20	250	90	100	750	20	90	1130	480
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	1744	1752	1752	1589	1693	1693	1688	1796	1796	1519	1811	1811
Adj Flow Rate, veh/h	205	84	116	21	263	95	105	789	21	95	1189	505
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	10	10	15	14	14	8	7	7	20	6	6
Cap, veh/h	272	352	314	41	360	127	193	1501	40	117	1569	664
Arrive On Green	0.08	0.21	0.21	0.03	0.15	0.15	0.06	0.44	0.44	0.08	0.46	0.46
Sat Flow, veh/h	3222	1664	1485	1514	2331	822	3118	3396	90	1447	3406	1442
Grp Volume(v), veh/h	205	84	116	21	179	179	105	396	414	95	1150	544
Grp Sat Flow(s),veh/h/ln	1611	1664	1485	1514	1608	1545	1559	1706	1780	1447	1648	1552
Q Serve(g_s), s	5.6	3.8	6.0	1.2	9.6	10.0	2.9	15.2	15.2	5.8	26.0	26.2
Cycle Q Clear(g_c), s	5.6	3.8	6.0	1.2	9.6	10.0	2.9	15.2	15.2	5.8	26.0	26.2
Prop In Lane	1.00		1.00	1.00		0.53	1.00		0.05	1.00		0.93
Lane Grp Cap(c), veh/h	272	352	314	41	248	238	193	754	787	117	1518	715
V/C Ratio(X)	0.75	0.24	0.37	0.51	0.72	0.75	0.54	0.53	0.53	0.81	0.76	0.76
Avail Cap(c_a), veh/h	301	545	487	126	511	491	208	754	787	130	1518	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	40.3	29.5	30.4	43.2	36.2	36.4	41.0	18.3	18.3	40.7	20.1	20.1
Incr Delay (d2), s/veh	7.9	0.3	0.7	3.6	4.0	4.7	1.0	2.6	2.5	26.0	3.6	7.5
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	1.5	2.2	0.5	4.0	4.0	1.1	6.3	6.5	2.9	10.1	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	29.8	31.1	46.8	40.2	41.1	42.0	20.9	20.8	66.7	23.7	27.6
LnGrp LOS	D	C	C	D	D	D	D	C	C	E	C	C
Approach Vol, veh/h		405			379			915			1789	
Approach Delay, s/veh		39.5			41.0			23.2			27.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	25.5	10.1	47.5	12.1	20.4	11.8	45.8
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	7.5	29.5	6.0	25.5	8.4	28.6	8.1	23.4
Max Q Clear Time (g_c+I1), s	3.2	8.0	4.9	28.2	7.6	12.0	7.8	17.2
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.9	0.0	3.0

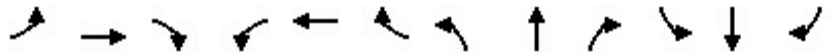
Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	320	10	130	550	80	10	70	70	60	40	10
Future Volume (veh/h)	20	320	10	130	550	80	10	70	70	60	40	10
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	1449	1752	1752	1800	1678	1678	1730	1730	1730	1772	1772	1772
Adj Flow Rate, veh/h	21	337	11	137	579	84	11	74	74	63	42	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	25	10	10	0	15	15	5	5	5	2	2	2
Cap, veh/h	458	1372	45	648	1165	169	173	163	153	363	156	30
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	598	3289	107	993	2794	404	60	782	733	631	748	144
Grp Volume(v), veh/h	21	170	178	137	330	333	159	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	598	1664	1732	993	1594	1604	1575	0	0	1523	0	0
Q Serve(g_s), s	0.6	1.6	1.6	2.5	3.7	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.3	1.6	1.6	4.1	3.7	3.7	2.1	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.25	0.07		0.47	0.54		0.09
Lane Grp Cap(c), veh/h	458	694	723	648	665	669	488	0	0	548	0	0
V/C Ratio(X)	0.05	0.25	0.25	0.21	0.50	0.50	0.33	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	657	1247	1298	978	1194	1202	1331	0	0	1290	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	4.5	4.5	5.9	5.1	5.2	8.4	0.0	0.0	8.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.2	0.6	0.6	0.4	0.0	0.0	0.2	0.0	0.0
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	0.0	0.2	0.2	0.3	0.5	0.5	0.5	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	4.7	4.7	6.0	5.7	5.7	8.7	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		369			800			159			116	
Approach Delay, s/veh		4.8			5.8			8.7			8.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	14.5	9.5	14.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.1	6.3	3.4	6.1
Green Ext Time (p_c), s	0.7	1.7	0.5	3.9

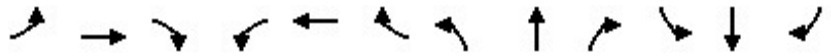
Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	560	10	10	740	10	10	10	10	10	10	10
Future Volume (veh/h)	10	560	10	10	740	10	10	10	10	10	10	10
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	1716	1716	1716	1674	1674	1674	1800	1800	1800	1772	1772	1772
Adj Flow Rate, veh/h	11	589	11	11	779	11	11	11	11	11	11	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	9	9	9	0	0	0	2	2	2
Cap, veh/h	159	1364	25	156	1344	19	252	160	109	252	157	107
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	18	3160	59	13	3114	44	284	787	535	279	775	527
Grp Volume(v), veh/h	319	0	292	419	0	382	33	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1685	0	1551	1656	0	1515	1606	0	0	1581	0	0
Q Serve(g_s), s	0.0	0.0	3.2	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	3.2	4.7	0.0	4.7	0.4	0.0	0.0	0.4	0.0	0.0
Prop In Lane	0.03		0.04	0.03		0.03	0.33		0.33	0.33		0.33
Lane Grp Cap(c), veh/h	879	0	669	865	0	654	521	0	0	516	0	0
V/C Ratio(X)	0.36	0.00	0.44	0.48	0.00	0.58	0.06	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	1363	0	1133	1349	0	1107	1329	0	0	1311	0	0
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	4.9	5.3	0.0	5.3	8.0	0.0	0.0	8.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.4	0.0	0.8	0.1	0.0	0.0	0.1	0.0	0.0
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	0.5	0.0	0.4	0.7	0.0	0.7	0.1	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	0.0	5.3	5.7	0.0	6.1	8.0	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		611			801			33			33	
Approach Delay, s/veh		5.2			5.9			8.0			8.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	15.1	9.5	15.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	5.2	2.4	6.7
Green Ext Time (p_c), s	0.1	3.1	0.1	3.9

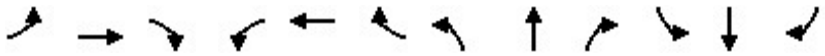
Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	220	40	270	510	30	90	120	120	80	140	80
Future Volume (veh/h)	60	220	40	270	510	30	90	120	120	80	140	80
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	1758	1796	1796	1744	1796	1796	1758	1811	1826	1702	1870	1856
Adj Flow Rate, veh/h	63	232	42	284	537	32	95	126	126	84	147	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	7	7	4	7	7	3	6	5	7	2	3
Cap, veh/h	177	672	117	342	1232	73	214	560	252	217	599	264
Arrive On Green	0.11	0.16	0.16	0.21	0.26	0.26	0.13	0.16	0.16	0.13	0.17	0.17
Sat Flow, veh/h	1674	4201	731	1661	4735	280	1674	3441	1547	1621	3554	1567
Grp Volume(v), veh/h	63	179	95	284	370	199	95	126	126	84	147	84
Grp Sat Flow(s),veh/h/ln	1674	1635	1663	1661	1635	1746	1674	1721	1547	1621	1777	1567
Q Serve(g_s), s	2.2	3.1	3.3	10.4	6.0	6.1	3.3	2.0	4.7	3.0	2.3	3.0
Cycle Q Clear(g_c), s	2.2	3.1	3.3	10.4	6.0	6.1	3.3	2.0	4.7	3.0	2.3	3.0
Prop In Lane	1.00		0.44	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	523	266	342	850	454	214	560	252	217	599	264
V/C Ratio(X)	0.36	0.34	0.36	0.83	0.43	0.44	0.44	0.22	0.50	0.39	0.25	0.32
Avail Cap(c_a), veh/h	274	1557	792	749	2497	1333	266	1622	729	280	1726	761
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	26.5	23.7	23.8	24.2	19.6	19.7	25.7	23.2	24.3	25.2	22.9	23.2
Incr Delay (d2), s/veh	1.2	0.5	1.2	5.2	0.5	1.0	1.4	0.3	2.2	1.1	0.3	1.0
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	0.9	1.2	1.3	4.3	2.2	2.4	1.3	0.8	1.8	1.2	0.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	24.3	25.0	29.5	20.1	20.6	27.1	23.4	26.5	26.3	23.2	24.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		337			853			347			315	
Approach Delay, s/veh		25.1			23.4			25.5			24.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	16.2	12.6	17.2	11.2	22.6	13.0	16.9
Change Period (Y+Rc), s	4.5	6.0	4.5	6.5	4.5	6.0	4.5	6.5
Max Green Setting (Gmax), s	28.7	30.3	10.1	30.9	10.4	48.6	11.0	30.0
Max Q Clear Time (g_c+I1), s	12.4	5.3	5.3	5.0	4.2	8.1	5.0	6.7
Green Ext Time (p_c), s	0.8	2.4	0.1	1.7	0.0	6.0	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

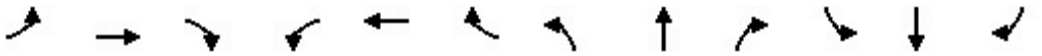


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	120	10	10	470	10	10	10	10	20	10	210
Future Volume (veh/h)	40	120	10	10	470	10	10	10	10	20	10	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1758	1781	1781	1519	1870	1870	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	42	126	11	11	495	11	11	11	11	21	11	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	8	8	20	2	2	0	0	0	0	0	0
Cap, veh/h	491	984	85	611	1109	25	289	221	148	194	36	381
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	839	3153	272	1017	3554	79	261	777	519	66	128	1341
Grp Volume(v), veh/h	42	67	70	11	247	259	33	0	0	253	0	0
Grp Sat Flow(s),veh/h/ln	839	1692	1732	1017	1777	1856	1557	0	0	1536	0	0
Q Serve(g_s), s	0.9	0.6	0.6	0.2	2.5	2.5	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.6	0.6	0.8	2.5	2.5	0.3	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.04	0.33		0.33	0.08		0.87
Lane Grp Cap(c), veh/h	491	528	541	611	554	579	658	0	0	611	0	0
V/C Ratio(X)	0.09	0.13	0.13	0.02	0.45	0.45	0.05	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	907	1366	1398	1114	1434	1498	1399	0	0	1405	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	5.5	5.5	5.8	6.1	6.1	5.8	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.0	0.6	0.5	0.0	0.0	0.0	0.4	0.0	0.0
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	0.1	0.1	0.1	0.0	0.5	0.5	0.1	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	5.6	5.6	5.8	6.7	6.7	5.9	0.0	0.0	7.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		179			517			33			253	
Approach Delay, s/veh		6.1			6.7			5.9			7.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	10.8	11.5	10.8	11.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	5.4	5.1	4.5
Green Ext Time (p_c), s	0.1	0.7	1.2	2.6

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Future Mitigated PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	300	190	80	120	80	130	470	150	140	390	30
Future Volume (veh/h)	50	300	190	80	120	80	130	470	150	140	390	30
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	1786	1786	1786	1744	1744	1900	1744	1744	1841	1702	1702	1366
Adj Flow Rate, veh/h	53	316	200	84	126	84	137	495	158	147	411	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	4	4	0	4	4	4	7	7	36
Cap, veh/h	114	373	221	227	293	622	195	686	253	302	637	502
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	91	965	572	327	759	1609	225	1582	584	365	1471	1158
Grp Volume(v), veh/h	569	0	0	210	0	84	389	0	401	147	411	32
Grp Sat Flow(s),veh/h/ln	1628	0	0	1086	0	1609	909	0	1482	365	1471	1158
Q Serve(g_s), s	8.9	0.0	0.0	0.0	0.0	1.7	10.4	0.0	10.5	10.2	11.0	0.8
Cycle Q Clear(g_c), s	16.4	0.0	0.0	5.6	0.0	1.7	21.4	0.0	10.5	20.7	11.0	0.8
Prop In Lane	0.09		0.35	0.40		1.00	0.35		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	708	0	0	521	0	622	491	0	642	302	637	502
V/C Ratio(X)	0.80	0.00	0.00	0.40	0.00	0.14	0.79	0.00	0.62	0.49	0.64	0.06
Avail Cap(c_a), veh/h	758	0	0	558	0	673	491	0	642	302	637	502
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	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	10.8	0.0	9.9	15.2	0.0	11.0	19.0	11.1	8.3
Incr Delay (d2), s/veh	5.9	0.0	0.0	0.5	0.0	0.1	12.3	0.0	4.5	5.5	5.0	0.2
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	6.0	0.0	0.0	1.4	0.0	0.5	5.5	0.0	3.6	1.9	3.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	0.0	11.3	0.0	10.0	27.5	0.0	15.6	24.6	16.1	8.5
LnGrp LOS	C	A	A	B	A	B	C	A	B	C	B	A
Approach Vol, veh/h		569			294			790			590	
Approach Delay, s/veh		20.3			11.0			21.4			17.8	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.2		23.8		26.2		23.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.1		20.9		20.1		20.9				
Max Q Clear Time (g_c+I1), s		23.4		18.4		22.7		7.6				
Green Ext Time (p_c), s		0.0		1.0		0.0		1.4				

Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									



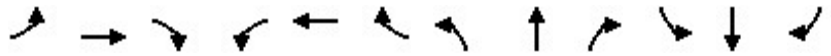
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	790	510	80	140	100	70	1430	130	80	720	210
Future Volume (veh/h)	510	790	510	80	140	100	70	1430	130	80	720	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1688	1856	1693	1632	1674	1767	1281	1688	1781	1744	1752	1796
Adj Flow Rate, veh/h	537	832	0	84	147	105	74	1505	137	84	758	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	3	14	12	9	9	37	8	8	4	10	7
Cap, veh/h	655	1095		120	256	171	101	2047	186	107	2232	710
Arrive On Green	0.21	0.31	0.00	0.04	0.14	0.14	0.04	0.48	0.48	0.03	0.47	0.47
Sat Flow, veh/h	3118	3526	1434	3014	1822	1219	2366	4298	391	3222	4782	1521
Grp Volume(v), veh/h	537	832	0	84	127	125	74	1075	567	84	758	221
Grp Sat Flow(s),veh/h/ln	1559	1763	1434	1507	1590	1451	1183	1536	1617	1611	1594	1521
Q Serve(g_s), s	24.7	31.9	0.0	4.1	11.2	12.2	4.6	42.3	42.4	3.9	15.1	13.6
Cycle Q Clear(g_c), s	24.7	31.9	0.0	4.1	11.2	12.2	4.6	42.3	42.4	3.9	15.1	13.6
Prop In Lane	1.00		1.00	1.00		0.84	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	655	1095		120	223	204	101	1463	770	107	2232	710
V/C Ratio(X)	0.82	0.76		0.70	0.57	0.61	0.73	0.74	0.74	0.78	0.34	0.31
Avail Cap(c_a), veh/h	1154	1570		139	223	204	150	1463	770	107	2232	710
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	46.6	0.0	71.1	60.2	60.6	70.9	31.7	31.7	72.0	25.3	24.9
Incr Delay (d2), s/veh	5.4	2.5	0.0	17.8	5.5	7.8	19.4	3.3	6.2	34.2	0.4	1.1
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	10.2	14.5	0.0	1.9	4.9	4.9	1.7	16.3	17.8	2.1	5.9	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	49.2	0.0	89.0	65.7	68.4	90.3	35.0	37.9	106.1	25.8	26.1
LnGrp LOS	E	D		F	E	E	F	C	D	F	C	C
Approach Vol, veh/h		1369	A		336			1716			1063	
Approach Delay, s/veh		54.2			72.5			38.3			32.2	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	77.4	36.0	27.1	10.9	76.0	10.5	52.6
Change Period (Y+Rc), s	4.5	6.0	4.5	6.0	4.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	5.0	50.3	55.5	18.2	9.5	45.8	6.9	66.8
Max Q Clear Time (g_c+I1), s	5.9	44.4	26.7	14.2	6.6	17.1	6.1	33.9
Green Ext Time (p_c), s	0.0	5.4	4.8	0.8	0.1	12.7	0.0	12.7

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

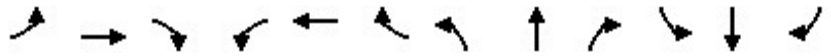
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1140	10	10	610	80	20	60	30	10	10	20
Future Volume (veh/h)	130	1140	10	10	610	80	20	60	30	10	10	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1758	1772	1800	1660	1758	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	137	1200	11	11	642	84	21	63	32	11	11	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	0	10	3	0	0	0	0	0	0	0
Cap, veh/h	159	1249	1061	19	1093	948	124	341	168	156	144	268
Arrive On Green	0.09	0.70	0.70	0.01	0.62	0.62	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1674	1772	1505	1581	1758	1524	474	1766	872	621	745	1388
Grp Volume(v), veh/h	137	1200	11	11	642	84	62	0	54	22	0	21
Grp Sat Flow(s),veh/h/ln	1674	1772	1505	1581	1758	1524	1630	0	1481	1366	0	1388
Q Serve(g_s), s	12.1	92.9	0.3	1.0	32.6	3.3	0.5	0.0	4.6	0.0	0.0	1.9
Cycle Q Clear(g_c), s	12.1	92.9	0.3	1.0	32.6	3.3	4.3	0.0	4.6	4.7	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	0.34		0.59	0.50		1.00
Lane Grp Cap(c), veh/h	159	1249	1061	19	1093	948	347	0	286	300	0	268
V/C Ratio(X)	0.86	0.96	0.01	0.57	0.59	0.09	0.18	0.00	0.19	0.07	0.00	0.08
Avail Cap(c_a), veh/h	242	1341	1139	53	1134	983	347	0	286	300	0	268
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.9	20.3	6.6	73.7	16.9	11.3	50.6	0.0	50.7	49.5	0.0	49.6
Incr Delay (d2), s/veh	17.6	15.7	0.0	23.5	0.7	0.0	1.1	0.0	1.5	0.5	0.0	0.6
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	6.0	40.4	0.1	0.6	13.2	1.2	2.1	0.0	1.9	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	35.9	6.6	97.2	17.6	11.4	51.7	0.0	52.2	49.9	0.0	50.2
LnGrp LOS	F	D	A	F	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1348			737			116			43	
Approach Delay, s/veh		40.6			18.1			51.9			50.1	
Approach LOS		D			B			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	33.5	6.3	110.2	33.5	18.7	97.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	5.0	113.5	18.0	21.7	96.8
Max Q Clear Time (g_c+I1), s	6.6	3.0	94.9	6.7	14.1	34.6
Green Ext Time (p_c), s	0.4	0.0	10.8	0.1	0.2	5.6

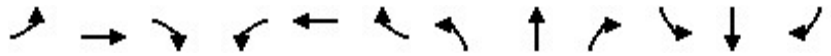
Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	960	10	80	540	100	10	120	160	40	140	40
Future Volume (veh/h)	30	960	10	80	540	100	10	120	160	40	140	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	0.99		0.97	0.99		0.98
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	1786	1786	1786	1786	1786	1885	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	32	1011	11	84	568	105	11	126	168	42	147	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	89	1413	15	163	858	701	75	277	349	148	452	116
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	45	3212	35	157	1949	1594	19	699	880	177	1140	293
Grp Volume(v), veh/h	544	0	510	196	456	105	305	0	0	231	0	0
Grp Sat Flow(s),veh/h/ln	1673	0	1619	562	1544	1594	1598	0	0	1610	0	0
Q Serve(g_s), s	1.7	0.0	14.2	5.9	12.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.6	0.0	14.2	20.1	12.9	2.2	7.8	0.0	0.0	5.1	0.0	0.0
Prop In Lane	0.06		0.02	0.43		1.00	0.04		0.55	0.18		0.18
Lane Grp Cap(c), veh/h	806	0	712	341	679	701	701	0	0	716	0	0
V/C Ratio(X)	0.68	0.00	0.72	0.57	0.67	0.15	0.44	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	886	0	792	384	755	780	701	0	0	716	0	0
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	12.6	13.8	12.2	9.2	12.4	0.0	0.0	11.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	2.8	1.6	2.0	0.1	2.0	0.0	0.0	1.2	0.0	0.0
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	4.8	0.0	4.8	1.4	4.0	0.7	2.8	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	15.3	15.5	14.3	9.3	14.3	0.0	0.0	12.8	0.0	0.0
LnGrp LOS	B	A	B	B	B	A	B	A	A	B	A	A
Approach Vol, veh/h		1054			757			305			231	
Approach Delay, s/veh		14.8			13.9			14.3			12.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	26.3	28.7	26.3	28.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.1	26.9	19.1	26.9
Max Q Clear Time (g_c+I1), s	9.8	16.6	7.1	22.1
Green Ext Time (p_c), s	1.3	5.0	1.0	2.1

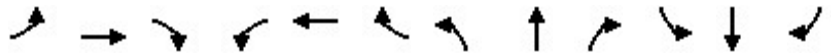
Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	440	80	30	170	140	90	780	40	80	960	490
Future Volume (veh/h)	225	440	80	30	170	140	90	780	40	80	960	490
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		0.99
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	1772	1752	1752	1744	1707	1707	1646	1841	1841	1449	1811	1811
Adj Flow Rate, veh/h	237	463	84	32	179	147	95	821	42	84	1011	516
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	10	10	4	13	13	11	4	4	25	6	6
Cap, veh/h	301	586	106	57	261	202	157	1659	85	100	1684	774
Arrive On Green	0.09	0.21	0.21	0.03	0.15	0.15	0.05	0.49	0.49	0.07	0.51	0.51
Sat Flow, veh/h	3274	2816	508	1661	1740	1344	3040	3385	173	1380	3296	1515
Grp Volume(v), veh/h	237	272	275	32	166	160	95	424	439	84	1011	516
Grp Sat Flow(s),veh/h/ln	1637	1664	1660	1661	1622	1462	1520	1749	1809	1380	1648	1515
Q Serve(g_s), s	7.8	17.1	17.3	2.1	10.7	11.5	3.4	18.0	18.0	6.6	23.8	27.8
Cycle Q Clear(g_c), s	7.8	17.1	17.3	2.1	10.7	11.5	3.4	18.0	18.0	6.6	23.8	27.8
Prop In Lane	1.00		0.31	1.00		0.92	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	301	346	345	57	244	220	157	857	887	100	1684	774
V/C Ratio(X)	0.79	0.79	0.79	0.57	0.68	0.73	0.61	0.49	0.50	0.84	0.60	0.67
Avail Cap(c_a), veh/h	616	629	628	100	405	366	169	857	887	104	1684	774
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	48.9	41.2	41.3	52.3	44.2	44.6	51.1	18.9	18.9	50.4	19.0	20.0
Incr Delay (d2), s/veh	1.7	4.0	4.2	3.3	3.3	4.6	3.4	2.0	2.0	39.7	1.6	4.5
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	3.2	7.3	7.4	0.9	4.5	4.4	1.4	7.6	7.8	3.4	9.2	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	45.2	45.5	55.6	47.6	49.2	54.5	20.9	20.9	90.1	20.6	24.5
LnGrp LOS	D	D	D	E	D	D	D	C	C	F	C	C
Approach Vol, veh/h		784			358			958			1611	
Approach Delay, s/veh		46.9			49.0			24.2			25.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	29.4	10.2	62.2	14.6	23.0	12.5	59.9
Change Period (Y+Rc), s	4.5	6.5	4.5	6.0	4.5	6.5	4.5	6.0
Max Green Setting (Gmax), s	5.6	41.6	6.1	34.2	20.7	27.5	8.3	32.0
Max Q Clear Time (g_c+I1), s	4.1	19.3	5.4	29.8	9.8	13.5	8.6	20.0
Green Ext Time (p_c), s	0.0	3.4	0.0	3.6	0.3	1.6	0.0	5.0

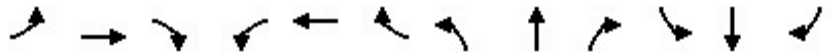
Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	510	10	130	380	90	20	30	130	190	130	10
Future Volume (veh/h)	10	510	10	130	380	90	20	30	130	190	130	10
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	1800	1811	1811	1786	1796	1796	1603	1603	1603	1716	1716	1716
Adj Flow Rate, veh/h	11	537	11	137	400	95	21	32	137	200	137	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	6	6	1	7	7	14	14	14	6	6	6
Cap, veh/h	481	1362	28	461	1083	255	150	103	325	412	209	14
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	868	3448	71	820	2742	645	71	323	1019	728	656	45
Grp Volume(v), veh/h	11	268	280	137	247	248	190	0	0	348	0	0
Grp Sat Flow(s),veh/h/ln	868	1721	1798	820	1706	1680	1414	0	0	1428	0	0
Q Serve(g_s), s	0.3	3.5	3.5	4.5	3.2	3.3	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	3.6	3.5	3.5	8.0	3.2	3.3	3.3	0.0	0.0	6.5	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.38	0.11		0.72	0.57		0.03
Lane Grp Cap(c), veh/h	481	680	710	461	674	664	578	0	0	636	0	0
V/C Ratio(X)	0.02	0.39	0.39	0.30	0.37	0.37	0.33	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	635	985	1029	607	977	962	921	0	0	967	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	6.8	6.8	9.7	6.7	6.7	8.4	0.0	0.0	9.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.7	0.0	0.0
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	0.0	0.8	0.9	0.6	0.8	0.8	0.7	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	7.2	7.2	10.1	7.1	7.1	8.8	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		559			632			190			348	
Approach Delay, s/veh		7.2			7.7			8.8			10.1	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	14.5	16.9	14.5	16.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	5.3	5.6	8.5	10.0
Green Ext Time (p_c), s	0.9	2.7	1.5	2.4

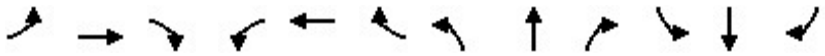
Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	760	10	10	570	10	10	10	10	10	10	10
Future Volume (veh/h)	10	760	10	10	570	10	10	10	10	10	10	10
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	1744	1744	1744	1730	1730	1730	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	11	800	11	11	600	11	11	11	11	11	11	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	5	5	5	2	2	2	0	0	0
Cap, veh/h	156	1400	19	159	1374	25	252	157	107	253	160	109
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	14	3247	44	18	3187	58	279	775	527	284	787	535
Grp Volume(v), veh/h	430	0	392	325	0	297	33	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1726	0	1579	1699	0	1564	1581	0	0	1606	0	0
Q Serve(g_s), s	0.0	0.0	4.6	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	4.6	3.2	0.0	3.3	0.4	0.0	0.0	0.4	0.0	0.0
Prop In Lane	0.03		0.03	0.03		0.04	0.33		0.33	0.33		0.33
Lane Grp Cap(c), veh/h	894	0	681	884	0	674	516	0	0	521	0	0
V/C Ratio(X)	0.48	0.00	0.58	0.37	0.00	0.44	0.06	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	1401	0	1155	1373	0	1144	1312	0	0	1330	0	0
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.3	0.0	5.3	4.9	0.0	4.9	8.0	0.0	0.0	8.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.8	0.3	0.0	0.5	0.1	0.0	0.0	0.1	0.0	0.0
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	0.7	0.0	0.7	0.5	0.0	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	6.1	5.2	0.0	5.4	8.0	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		822			622			33			33	
Approach Delay, s/veh		5.9			5.3			8.0			8.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	15.1	9.5	15.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	6.6	2.4	5.3
Green Ext Time (p_c), s	0.1	4.0	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	390	10	10	200	20	10	10	10	10	10	60
Future Volume (veh/h)	150	390	10	10	200	20	10	10	10	10	10	60
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	1800	1870	1870	1800	1841	1841	1098	1098	1098	1800	1800	1800
Adj Flow Rate, veh/h	158	411	11	11	211	21	11	11	11	11	11	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	4	4	50	50	50	0	0	0
Cap, veh/h	676	1268	34	584	1153	114	258	110	74	211	68	264
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1105	3536	94	929	3215	317	167	481	324	108	295	1153
Grp Volume(v), veh/h	158	206	216	11	114	118	33	0	0	85	0	0
Grp Sat Flow(s),veh/h/ln	1105	1777	1853	929	1749	1784	971	0	0	1555	0	0
Q Serve(g_s), s	2.5	1.8	1.8	0.2	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	1.8	1.8	2.0	1.0	1.0	0.6	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.18	0.33		0.33	0.13		0.74
Lane Grp Cap(c), veh/h	676	637	665	584	627	640	442	0	0	543	0	0
V/C Ratio(X)	0.23	0.32	0.32	0.02	0.18	0.18	0.07	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	1191	1465	1528	1017	1442	1471	989	0	0	1453	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	5.1	5.1	5.8	4.8	4.8	6.7	0.0	0.0	6.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
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	0.3	0.3	0.3	0.0	0.1	0.2	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	5.4	5.4	5.8	4.9	4.9	6.8	0.0	0.0	7.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		580			243			33			85	
Approach Delay, s/veh		5.6			5.0			6.8			7.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	12.3	9.5	12.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	5.5	3.0	4.0
Green Ext Time (p_c), s	0.1	2.6	0.3	1.1

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Appendix B:
Counts



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

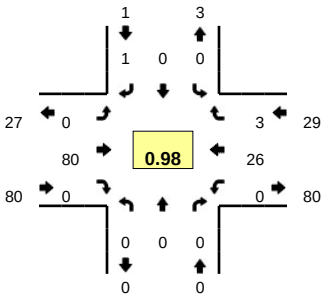
LOCATION: Entrance To Ranger Station -- Lytle Creek Rd

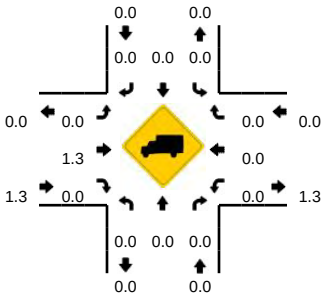
CITY/STATE: Lytle Creek, CA

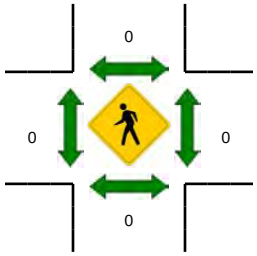
QC JOB #: 13862901

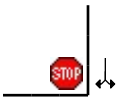
DATE: Tue, Jul 26 2016

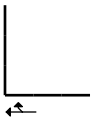
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

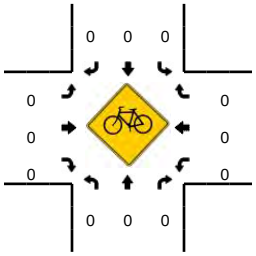


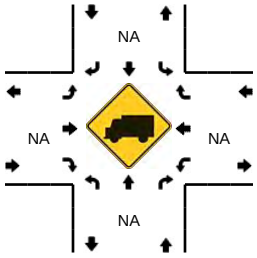


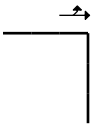




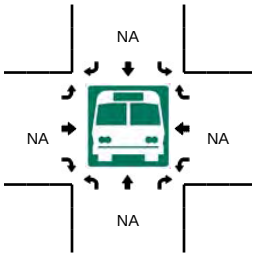












15-Min Count Period Beginning At	Entrance To Ranger Station (Northbound)				Entrance To Ranger Station (Southbound)				Lytle Creek Rd (Eastbound)				Lytle Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	23	0	0	0	4	1	0	28	
7:15 AM	0	0	0	0	0	0	0	0	0	19	0	0	0	9	0	0	28	
7:30 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	5	1	0	28	
7:45 AM	0	0	0	0	0	0	1	0	0	16	0	0	0	8	1	0	26	110
8:00 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	9	2	0	28	110
8:15 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	9	1	0	27	109
8:30 AM	0	0	0	0	1	0	1	0	0	12	0	0	0	8	4	0	26	107
8:45 AM	0	0	0	0	0	0	1	0	0	11	0	0	0	9	1	0	22	103

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	0	0	0	92	0	0	0	16	4	0	112
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/12/2016 10:16 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

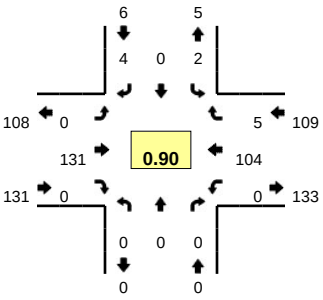
LOCATION: Entrance To Ranger Station -- Lytle Creek Rd

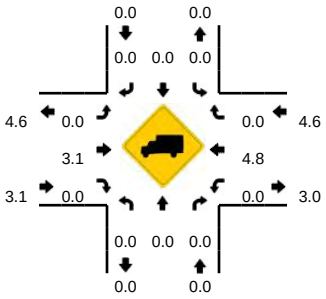
CITY/STATE: Lytle Creek, CA

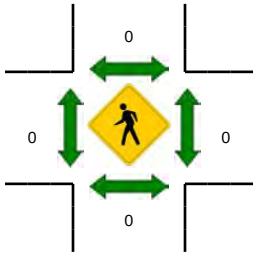
QC JOB #: 13862902

DATE: Tue, Jul 26 2016

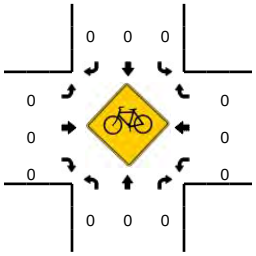
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

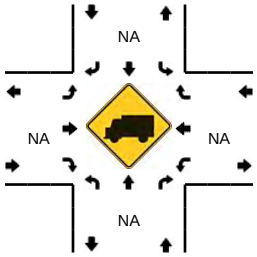




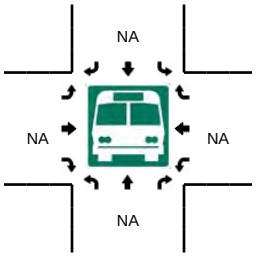












15-Min Count Period Beginning At	Entrance To Ranger Station (Northbound)				Entrance To Ranger Station (Southbound)				Lytle Creek Rd (Eastbound)				Lytle Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	3	0	0	28	0	0	0	24	3	0	58	
4:15 PM	0	0	0	0	0	0	1	0	0	31	0	0	0	28	1	0	61	
4:30 PM	0	0	0	0	1	0	0	0	0	40	0	0	0	27	0	0	68	
4:45 PM	0	0	0	0	1	0	0	0	0	32	0	0	0	25	1	0	59	246
5:00 PM	0	0	0	0	0	0	0	0	0	16	0	0	0	37	0	0	53	241
5:15 PM	0	0	0	0	0	0	0	0	0	23	0	0	0	30	0	0	53	233
5:30 PM	0	0	0	0	1	0	0	0	0	10	0	0	0	36	0	0	47	212
5:45 PM	0	0	0	0	1	0	1	0	0	20	0	0	0	34	2	0	58	211

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	0	0	0	160	0	0	0	108	0	0	272
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	8	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/12/2016 10:16 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

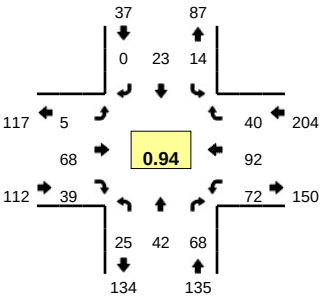
Type of peak hour being reported: Intersection Peak

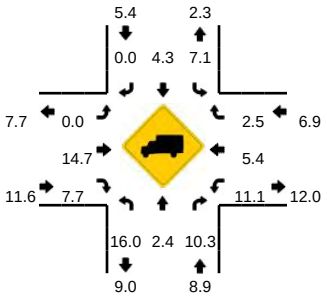
Method for determining peak hour: Total Entering Volume

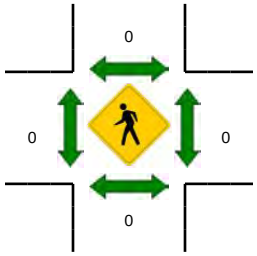
LOCATION: SH 173 -- Lakes Edge Rd
CITY/STATE: Lake Arrowhead, CA

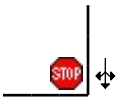
QC JOB #: 13863001
DATE: Tue, Aug 30 2016

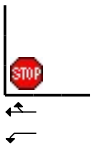
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

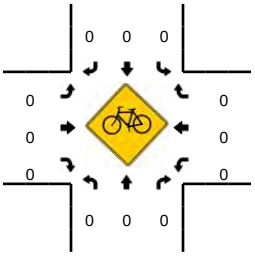


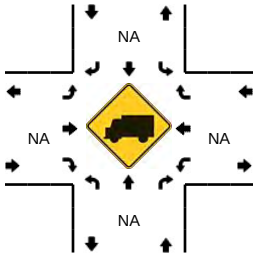


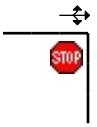


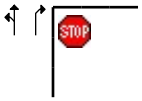


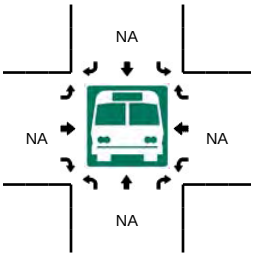












15-Min Count Period Beginning At	SH 173 (Northbound)				SH 173 (Southbound)				Lakes Edge Rd (Eastbound)				Lakes Edge Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	5	21	0	0	1	0	0	0	12	12	0	21	10	1	0	87	
7:15 AM	4	3	16	0	2	1	0	0	0	6	6	0	17	16	3	0	74	
7:30 AM	6	6	22	0	2	2	1	0	0	16	8	0	29	14	5	1	112	
7:45 AM	13	7	20	0	3	2	0	0	2	16	15	0	15	23	10	0	126	399
8:00 AM	5	14	21	0	5	5	0	0	1	17	8	0	20	19	15	0	130	442
8:15 AM	4	4	18	0	6	4	0	0	2	22	9	0	19	20	8	0	116	484
8:30 AM	4	12	14	0	2	4	0	0	1	15	12	0	15	29	7	0	115	487
8:45 AM	12	12	15	0	1	10	0	0	1	14	10	0	18	24	10	0	127	488

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	56	84	0	20	20	0	0	4	68	32	0	80	76	60	0	520
Heavy Trucks	4	0	8		0	0	0		0	12	0		16	4	4		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

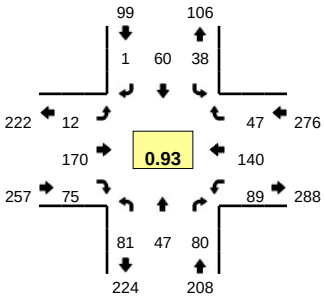
Type of peak hour being reported: Intersection Peak

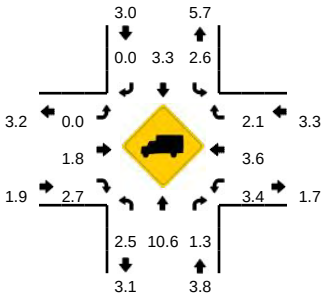
Method for determining peak hour: Total Entering Volume

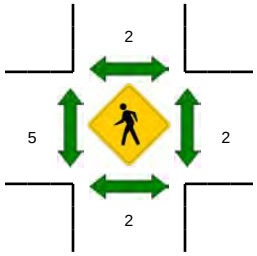
LOCATION: SH 173 -- Lakes Edge Rd
CITY/STATE: Lake Arrowhead, CA

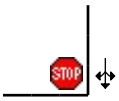
QC JOB #: 13863002
DATE: Tue, Aug 30 2016

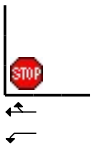
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

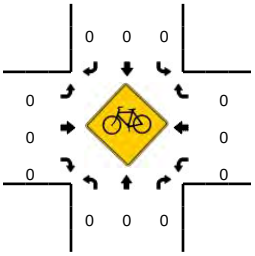


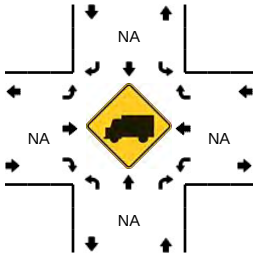


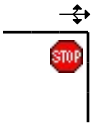


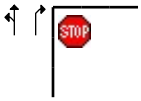


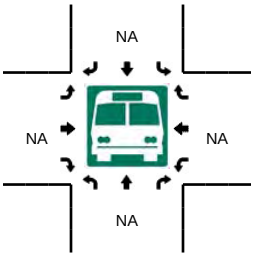












15-Min Count Period Beginning At	SH 173 (Northbound)				SH 173 (Southbound)				Lakes Edge Rd (Eastbound)				Lakes Edge Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	20	13	24	0	7	12	0	0	2	42	21	0	27	34	16	0	218	
4:15 PM	17	12	11	0	12	18	0	0	4	42	14	0	23	33	12	0	198	
4:30 PM	22	11	24	0	10	22	1	0	4	41	19	0	23	36	13	0	226	
4:45 PM	22	11	21	0	9	8	0	0	2	45	21	0	16	37	6	0	198	840
5:00 PM	13	8	16	0	6	13	0	0	4	51	18	0	22	25	8	0	184	806
5:15 PM	8	14	12	0	11	16	2	0	4	47	24	0	32	19	8	0	197	805
5:30 PM	12	5	21	0	17	9	1	0	1	30	13	0	15	21	7	0	152	731
5:45 PM	15	9	20	0	10	10	1	0	1	24	23	0	16	32	10	0	171	704

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	44	96	0	40	88	4	0	16	164	76	0	92	144	52	0	904
Heavy Trucks	0	0	4		0	8	0		0	4	4		4	0	0		24
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

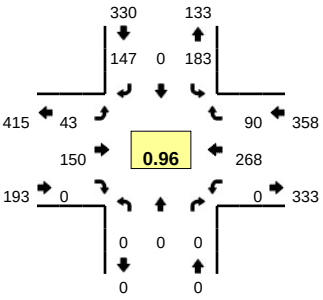
Type of peak hour being reported: Intersection Peak

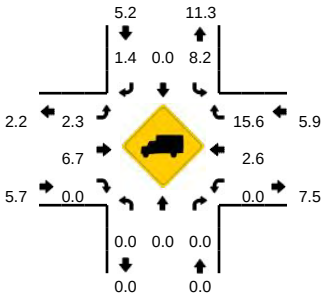
Method for determining peak hour: Total Entering Volume

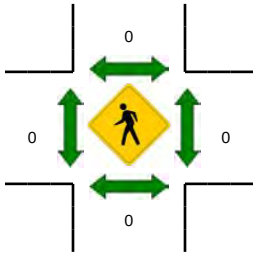
LOCATION: Lake Gregory Dr -- SH 18
CITY/STATE: Crestline, CA

QC JOB #: 13863005
DATE: Tue, Aug 30 2016

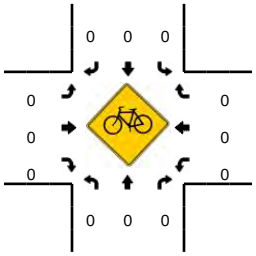
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

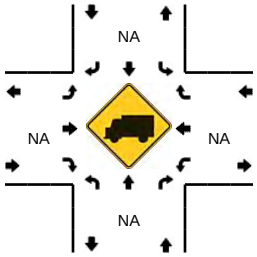




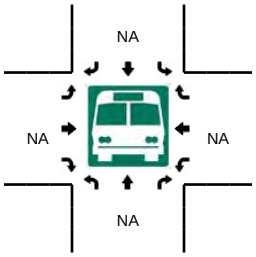












15-Min Count Period Beginning At	Lake Gregory Dr (Northbound)				Lake Gregory Dr (Southbound)				SH 18 (Eastbound)				SH 18 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	28	0	41	0	15	27	0	0	0	76	23	0	210	
7:15 AM	0	0	0	0	43	0	33	0	11	30	0	0	0	69	26	0	212	
7:30 AM	0	0	0	0	45	0	44	0	10	49	0	0	0	60	21	0	229	
7:45 AM	0	0	0	0	67	0	29	0	7	44	0	0	0	63	20	0	230	881
8:00 AM	0	0	0	0	44	0	33	0	8	46	0	0	0	60	18	1	210	881
8:15 AM	0	0	0	0	39	0	26	0	9	37	0	0	0	58	20	0	189	858
8:30 AM	0	0	0	0	57	0	20	0	20	43	0	0	0	66	18	0	224	853
8:45 AM	0	0	0	0	44	0	25	0	18	44	0	0	0	60	23	0	214	837

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	268	0	116	0	28	176	0	0	0	252	80	0	920
Heavy Trucks	0	0	0		16	0	0		0	4	0		0	8	28		56
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

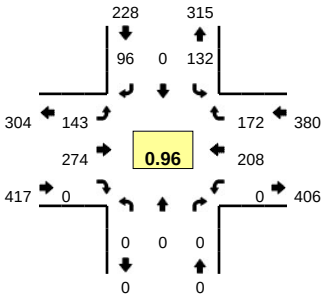
Type of peak hour being reported: Intersection Peak

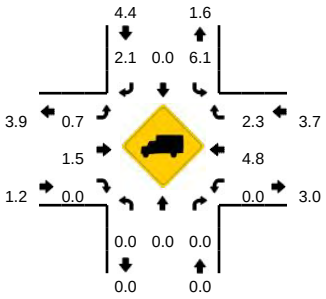
Method for determining peak hour: Total Entering Volume

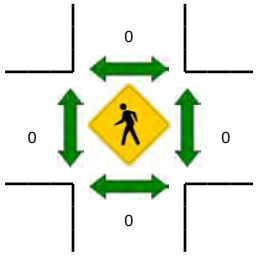
LOCATION: Lake Gregory Dr -- SH 18
CITY/STATE: Crestline, CA

QC JOB #: 13863006
DATE: Tue, Aug 30 2016

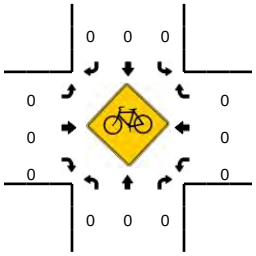
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

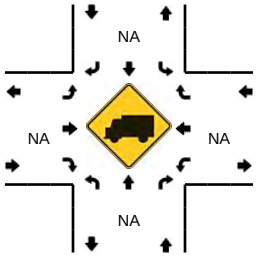




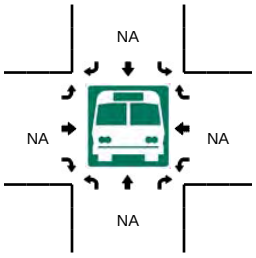












15-Min Count Period Beginning At	Lake Gregory Dr (Northbound)				Lake Gregory Dr (Southbound)				SH 18 (Eastbound)				SH 18 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	24	0	19	0	32	71	0	0	0	58	38	0	242	
4:15 PM	0	0	0	0	26	0	16	0	23	70	0	0	0	48	54	0	237	
4:30 PM	0	0	0	0	38	0	20	0	30	68	0	0	0	46	38	0	240	
4:45 PM	0	0	0	0	19	0	33	0	33	62	0	0	0	56	41	0	244	963
5:00 PM	0	0	0	0	34	0	28	0	33	64	0	0	0	52	51	0	262	983
5:15 PM	0	0	0	0	45	0	23	0	32	74	0	0	0	48	46	0	268	1014
5:30 PM	0	0	0	0	34	0	12	0	45	74	0	0	0	52	34	0	251	1025
5:45 PM	0	0	0	0	30	0	18	0	40	76	0	0	0	39	29	0	232	1013

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	180	0	92	0	128	296	0	0	0	192	184	0	1072
Heavy Trucks	0	0	0		16	0	4		0	4	0		0	0	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

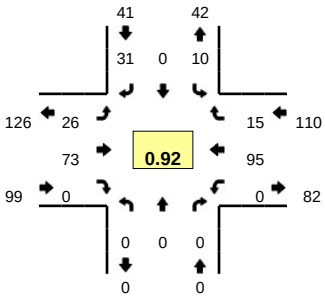
Type of peak hour being reported: Intersection Peak

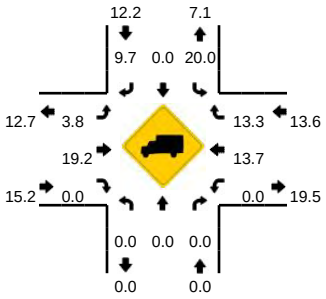
Method for determining peak hour: Total Entering Volume

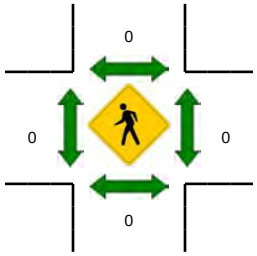
LOCATION: Shore Dr -- Big Bear Blvd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863007
DATE: Tue, Aug 30 2016

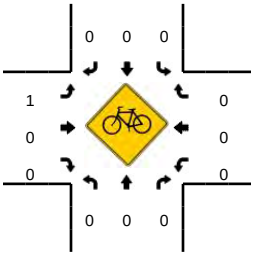
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

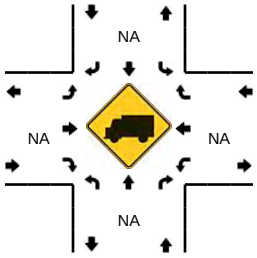




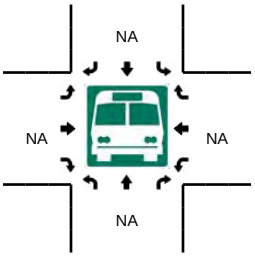












15-Min Count Period Beginning At	Shore Dr (Northbound)				Shore Dr (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	11	0	3	16	0	0	0	17	2	0	51	
7:15 AM	0	0	0	0	0	0	7	0	0	26	0	0	0	22	3	0	58	
7:30 AM	0	0	0	0	1	0	10	0	3	22	0	0	0	24	2	0	62	
7:45 AM	0	0	0	0	0	0	5	0	10	21	0	0	0	19	4	0	59	230
8:00 AM	0	0	0	0	2	0	5	0	6	22	0	0	0	23	3	0	61	240
8:15 AM	0	0	0	0	3	0	6	0	4	11	0	0	0	29	2	0	55	237
8:30 AM	0	0	0	0	1	0	12	0	9	20	0	0	0	18	6	0	66	241
8:45 AM	0	0	0	0	3	0	8	1	7	20	0	0	0	25	4	0	68	250

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	12	0	32	4	28	80	0	0	0	100	16	0	272
Heavy Trucks	0	0	0		4	0	0		0	12	0		0	8	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

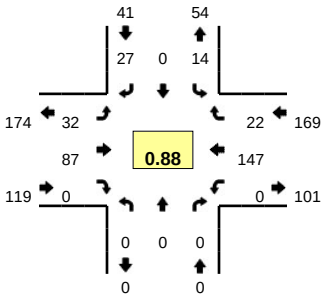
Type of peak hour being reported: Intersection Peak

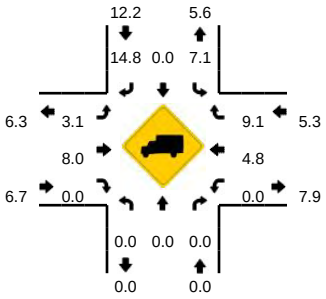
Method for determining peak hour: Total Entering Volume

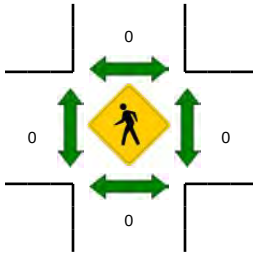
LOCATION: Shore Dr -- Big Bear Blvd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863008
DATE: Tue, Aug 30 2016

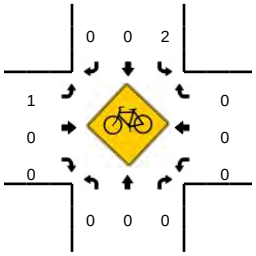
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

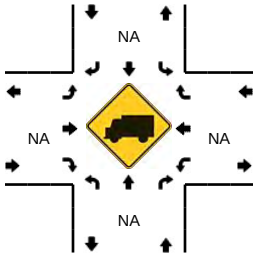




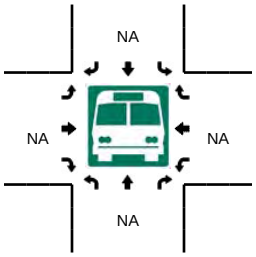












15-Min Count Period Beginning At	Shore Dr (Northbound)				Shore Dr (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	5	0	6	0	8	20	0	0	0	24	3	0	66	
4:15 PM	0	0	0	0	4	0	4	0	8	20	0	0	0	37	6	0	79	
4:30 PM	0	0	0	0	4	0	5	0	8	18	0	0	0	34	2	0	71	
4:45 PM	0	0	0	0	3	0	11	0	5	29	0	0	0	41	5	0	94	310
5:00 PM	0	0	0	0	3	0	7	0	11	20	0	0	0	35	9	0	85	329
5:15 PM	0	0	0	0	0	0	8	0	3	21	0	0	0	19	1	1	53	303
5:30 PM	0	0	0	0	3	0	4	0	4	22	0	0	0	18	4	0	55	287
5:45 PM	0	0	0	0	4	0	10	0	4	19	0	0	0	18	3	0	58	251

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	12	0	44	0	20	116	0	0	0	164	20	0	376
Heavy Trucks	0	0	0		0	0	8		0	20	0		0	16	0		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		1	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

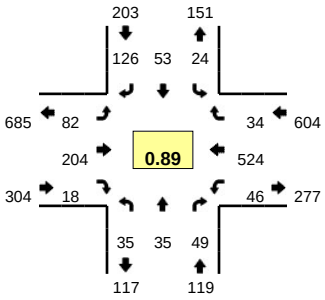
Type of peak hour being reported: Intersection Peak

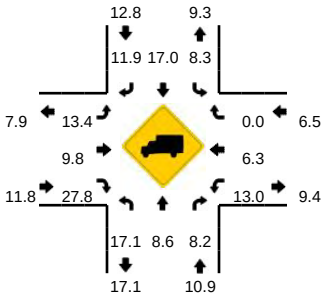
Method for determining peak hour: Total Entering Volume

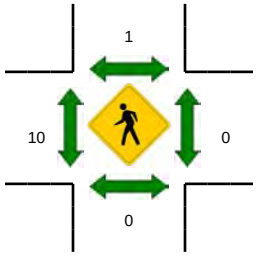
LOCATION: Division Dr -- Big Bear Blvd
CITY/STATE: Big Bear, CA

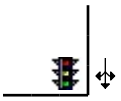
QC JOB #: 13863009
DATE: Tue, Aug 30 2016

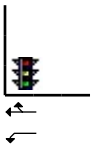
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

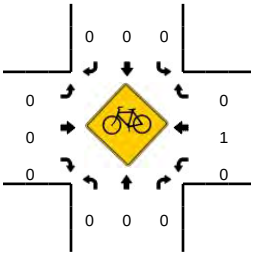


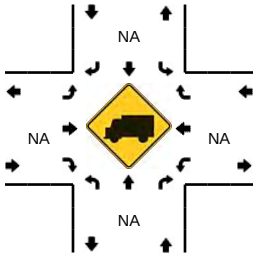


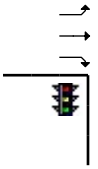


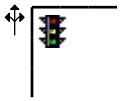


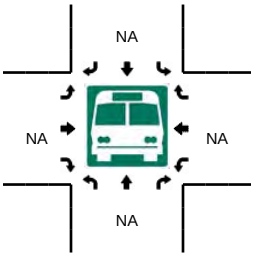












15-Min Count Period Beginning At	Division Dr (Northbound)				Division Dr (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	5	12	0	6	2	17	0	15	41	1	0	8	115	6	0	231	
7:15 AM	10	5	6	0	0	10	21	0	14	33	5	0	12	170	9	0	295	
7:30 AM	9	9	0	0	4	7	11	0	20	64	4	0	8	111	6	0	253	
7:45 AM	10	12	15	0	4	14	38	0	16	43	6	0	15	166	7	0	346	1125
8:00 AM	11	7	9	0	9	18	36	0	16	50	4	0	11	129	8	0	308	1202
8:15 AM	8	8	13	0	7	14	28	0	21	50	5	0	9	114	5	0	282	1189
8:30 AM	6	8	12	0	4	7	24	0	29	61	3	0	11	115	14	0	294	1230
8:45 AM	9	6	9	0	8	14	20	0	21	65	4	0	12	126	20	0	314	1198

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	48	60	0	16	56	152	0	64	172	24	0	60	664	28	0	1384
Heavy Trucks	0	0	0		0	0	20		8	16	8		12	36	0		100
Pedestrians		0				0				16				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

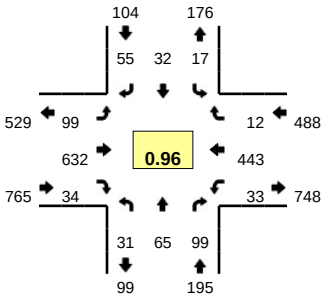
Type of peak hour being reported: Intersection Peak

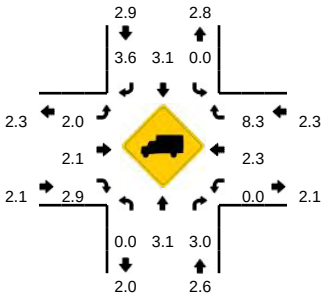
Method for determining peak hour: Total Entering Volume

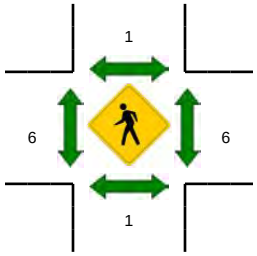
LOCATION: Division Dr -- Big Bear Blvd
CITY/STATE: Big Bear, CA

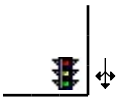
QC JOB #: 13863010
DATE: Tue, Aug 30 2016

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

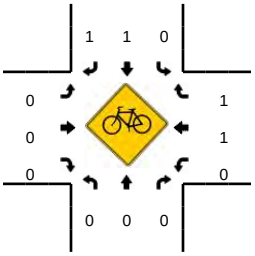


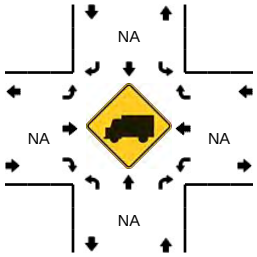


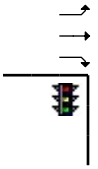


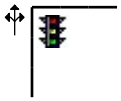


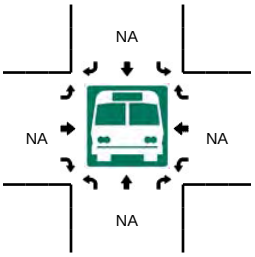












15-Min Count Period Beginning At	Division Dr (Northbound)				Division Dr (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	13	20	0	5	8	15	0	21	164	8	0	13	116	6	0	392	
4:15 PM	7	7	17	0	11	10	15	0	24	169	8	0	9	102	5	0	384	
4:30 PM	9	16	12	0	5	6	13	0	27	144	7	0	4	121	4	0	368	
4:45 PM	9	10	16	0	3	7	15	0	24	154	11	0	14	122	1	0	386	1530
5:00 PM	8	19	26	0	7	11	14	0	23	174	12	0	8	102	1	0	405	1543
5:15 PM	5	20	45	0	2	8	13	0	25	160	4	0	7	98	6	0	393	1552
5:30 PM	7	8	24	0	7	6	10	0	24	160	4	0	5	84	2	0	341	1525
5:45 PM	9	8	8	0	4	5	11	0	21	138	2	0	5	88	2	0	301	1440

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	76	104	0	28	44	56	0	92	696	48	0	32	408	4	0	1620
Heavy Trucks	0	4	4		0	0	4		0	20	0		0	8	0		40
Pedestrians		0				0				8				12			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Sierra Ave (Greenway Dr.) -- Big Bear Blvd

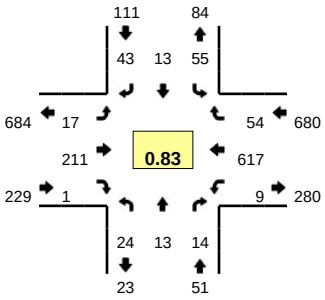
CITY/STATE: Big Bear, CA

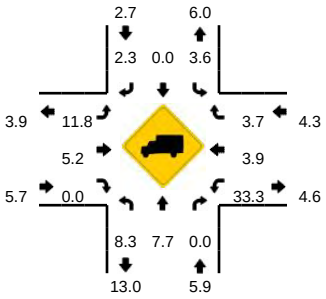
QC JOB #: 13863011

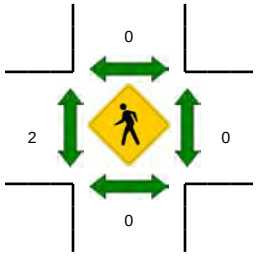
DATE: Tue, Aug 30 2016

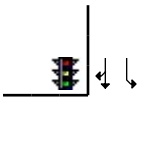
Peak-Hour: 7:00 AM -- 8:00 AM

Peak 15-Min: 7:45 AM -- 8:00 AM

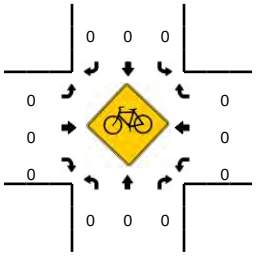


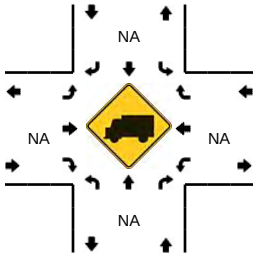


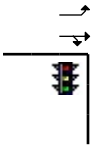


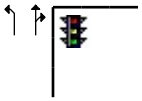


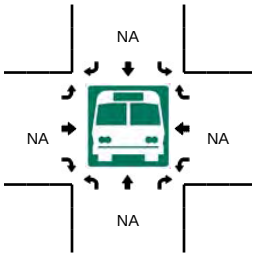












15-Min Count Period Beginning At	Sierra Ave (Greenway Dr.) (Northbound)				Sierra Ave (Greenway Dr.) (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	2	6	0	25	0	8	0	2	83	0	0	1	134	14	0	277	
7:15 AM	5	4	1	0	9	5	11	0	5	27	1	0	3	165	11	0	247	
7:30 AM	7	4	3	0	9	2	10	0	2	46	0	0	2	128	13	0	226	
7:45 AM	10	3	4	0	12	6	14	0	8	55	0	0	3	190	16	0	321	1071
8:00 AM	2	4	4	0	19	1	12	0	6	51	2	0	3	120	13	0	237	1031
8:15 AM	7	1	2	0	24	2	13	0	6	48	1	0	6	117	8	0	235	1019
8:30 AM	5	0	2	0	11	1	9	0	1	66	2	0	4	138	9	0	248	1041
8:45 AM	4	1	1	0	17	1	11	0	6	64	1	0	2	174	12	0	294	1014

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	12	16	0	48	24	56	0	32	220	0	0	12	760	64	0	1284
Heavy Trucks	0	0	0		4	0	4		4	8	0		8	32	4		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

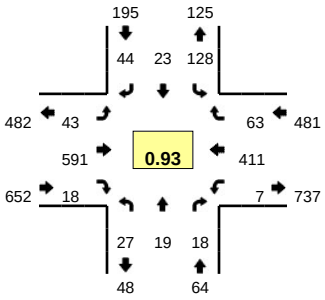
Type of peak hour being reported: Intersection Peak

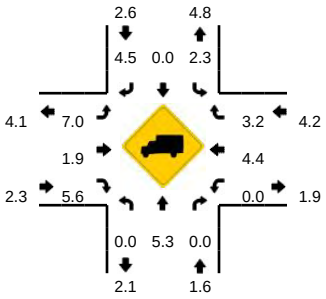
Method for determining peak hour: Total Entering Volume

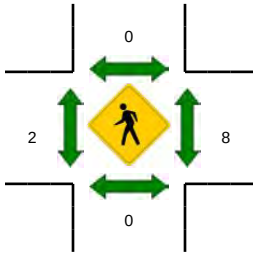
LOCATION: Sierra Ave (Greenway Dr.) -- Big Bear Blvd
CITY/STATE: Big Bear, CA

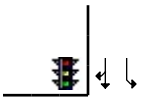
QC JOB #: 13863012
DATE: Tue, Aug 30 2016

Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

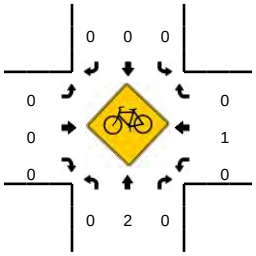


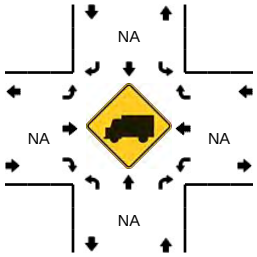


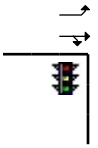




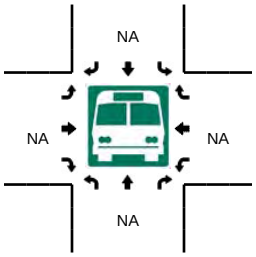












15-Min Count Period Beginning At	Sierra Ave (Greenway Dr.) (Northbound)				Sierra Ave (Greenway Dr.) (Southbound)				Big Bear Blvd (Eastbound)				Big Bear Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	4	4	0	43	3	14	0	13	139	4	0	4	90	19	0	342	
4:15 PM	8	7	5	0	35	8	11	0	16	151	5	0	3	92	16	0	357	
4:30 PM	6	2	4	0	35	4	13	0	11	133	4	0	2	111	14	0	339	
4:45 PM	9	4	7	0	29	2	11	0	10	131	4	0	0	100	16	0	323	1361
5:00 PM	4	6	2	0	29	9	9	0	6	176	5	0	2	108	17	0	373	1392
5:15 PM	1	4	6	0	34	1	7	0	10	180	2	0	1	76	10	0	332	1367
5:30 PM	5	4	4	0	30	2	6	0	9	173	5	0	5	98	16	0	357	1385
5:45 PM	2	2	6	0	26	2	5	0	8	126	7	0	1	82	9	0	276	1338

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	24	8	0	116	36	36	0	24	704	20	0	8	432	68	0	1492
Heavy Trucks	0	0	0		0	0	4		4	12	0		0	36	4		60
Pedestrians		0				0				0				20			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

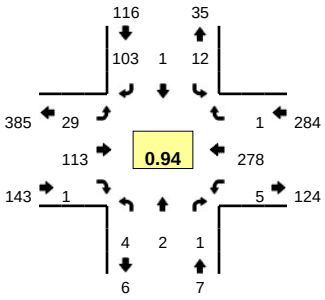
LOCATION: Live Oak Dr/Old City Creek Rd -- City Creek Rd

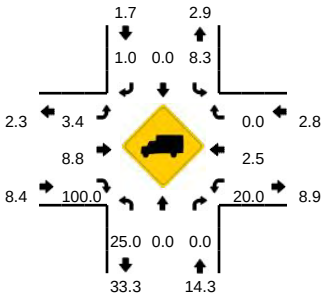
QC JOB #: 13863013

CITY/STATE: San Bernardino, CA

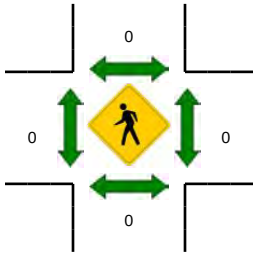
DATE: Tue, Aug 30 2016

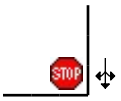
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

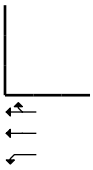


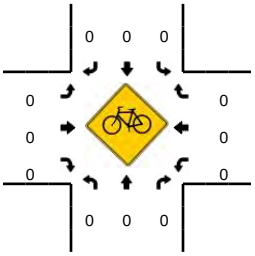


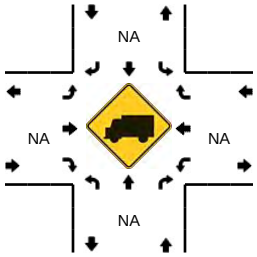
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

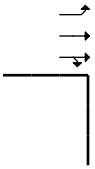


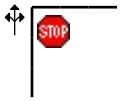


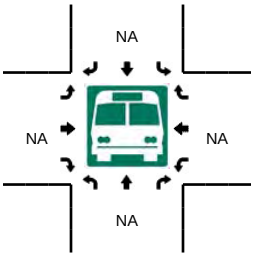












15-Min Count Period Beginning At	Live Oak Dr/Old City Creek Rd (Northbound)				Live Oak Dr/Old City Creek Rd (Southbound)				City Creek Rd (Eastbound)				City Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	1	0	23	0	4	30	1	0	1	68	0	0	129	
7:15 AM	1	0	1	0	2	0	26	0	6	30	0	0	2	79	0	0	147	
7:30 AM	1	0	0	0	1	0	25	3	10	25	0	0	1	64	1	0	131	
7:45 AM	2	1	0	0	5	1	29	0	9	28	0	0	0	67	0	1	143	550
8:00 AM	3	2	0	0	1	1	12	0	9	39	0	0	0	57	2	0	126	547
8:15 AM	3	0	1	0	4	0	26	1	7	33	0	0	1	58	3	1	138	538
8:30 AM	2	1	0	0	0	1	24	0	9	20	2	0	1	57	3	0	120	527
8:45 AM	0	1	0	0	1	0	21	0	5	45	0	0	0	43	1	0	117	501

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	4	0	8	0	104	0	24	120	0	0	8	316	0	0	588
Heavy Trucks	0	0	0		4	0	0		0	24	0		0	4	0		32
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

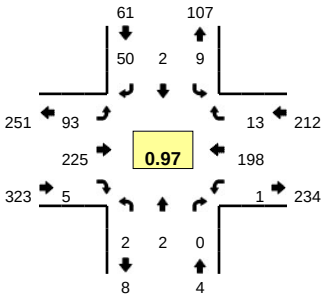
LOCATION: Live Oak Dr/Old City Creek Rd -- City Creek Rd

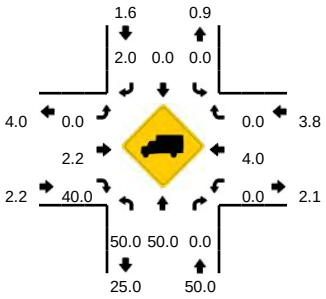
QC JOB #: 13863014

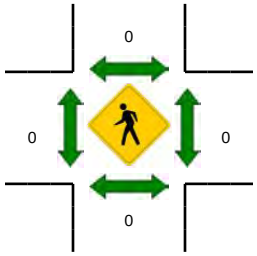
CITY/STATE: San Bernardino, CA

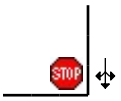
DATE: Tue, Aug 30 2016

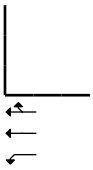
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

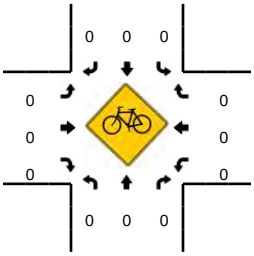


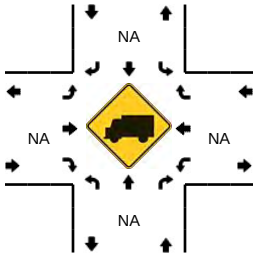


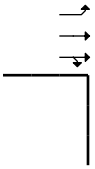


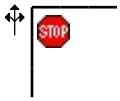


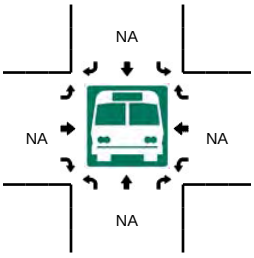












15-Min Count Period Beginning At	Live Oak Dr/Old City Creek Rd (Northbound)				Live Oak Dr/Old City Creek Rd (Southbound)				City Creek Rd (Eastbound)				City Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	4	0	15	0	26	54	0	0	0	49	2	0	150	
4:15 PM	1	0	0	0	1	1	20	0	17	67	1	0	0	45	3	0	156	
4:30 PM	0	0	0	0	2	0	13	0	17	52	0	0	0	35	1	0	120	
4:45 PM	0	1	0	0	1	1	10	0	26	55	2	0	0	46	3	0	145	571
5:00 PM	1	0	0	0	2	1	13	0	14	57	0	0	0	63	3	0	154	575
5:15 PM	1	1	0	0	2	0	17	0	24	53	2	0	0	49	5	0	154	573
5:30 PM	0	0	0	0	4	0	10	0	28	60	1	1	1	40	2	0	147	600
5:45 PM	0	0	0	0	2	0	8	0	29	57	1	0	0	33	2	0	132	587

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	0	0	8	4	52	0	56	228	0	0	0	252	12	0	616
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	12	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

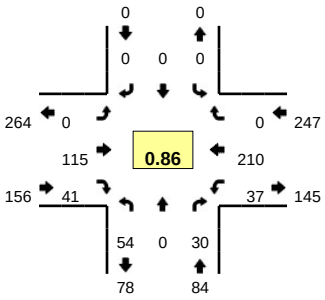
Type of peak hour being reported: Intersection Peak

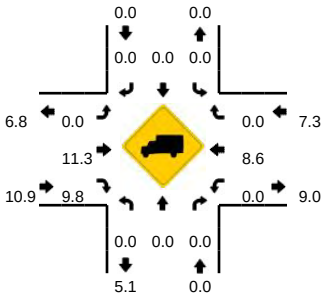
Method for determining peak hour: Total Entering Volume

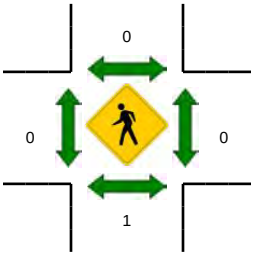
LOCATION: Live Oak Dr -- SH 18
CITY/STATE: San Bernardino, CA

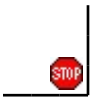
QC JOB #: 13863015
DATE: Tue, Aug 30 2016

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

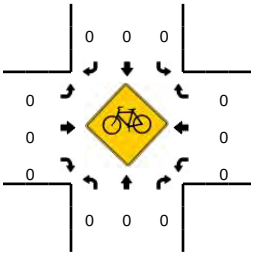


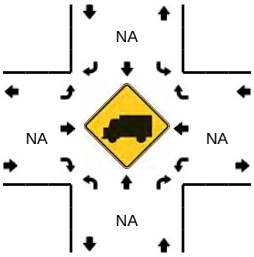


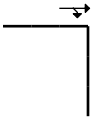


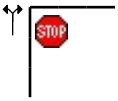


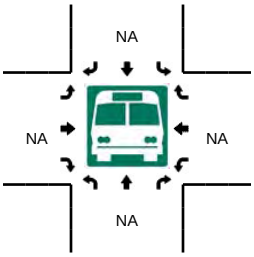












15-Min Count Period Beginning At	Live Oak Dr (Northbound)				Live Oak Dr (Southbound)				SH 18 (Eastbound)				SH 18 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	0	3	0	0	0	0	0	0	21	10	0	8	21	0	0	75	
7:15 AM	5	0	2	0	0	0	0	0	0	24	12	0	11	28	0	0	82	
7:30 AM	12	0	5	0	0	0	0	0	0	25	8	0	10	59	0	0	119	
7:45 AM	8	0	9	0	0	0	0	0	0	18	10	0	12	35	0	0	92	368
8:00 AM	14	0	11	0	0	0	0	0	0	28	7	0	4	46	0	0	110	403
8:15 AM	15	0	8	0	0	0	0	0	0	40	13	0	12	53	0	0	141	462
8:30 AM	10	0	3	0	0	0	0	0	0	24	11	0	16	54	0	0	118	461
8:45 AM	15	0	8	0	0	0	0	0	0	23	10	0	5	57	0	0	118	487

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	0	32	0	0	0	0	0	0	160	52	0	48	212	0	0	564
Heavy Trucks	0	0	0		0	0	0		0	16	8		0	8	0		32
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

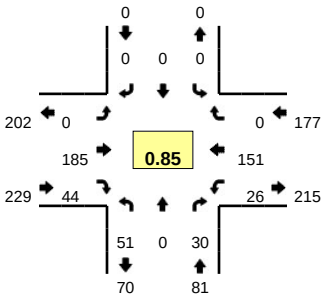
Type of peak hour being reported: Intersection Peak

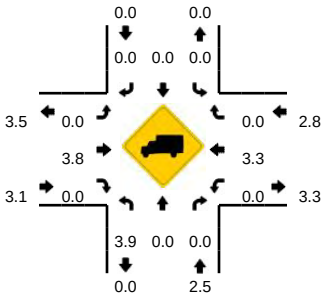
Method for determining peak hour: Total Entering Volume

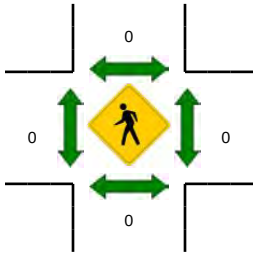
LOCATION: Live Oak Dr -- SH 18
CITY/STATE: San Bernardino, CA

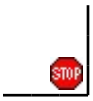
QC JOB #: 13863016
DATE: Tue, Aug 30 2016

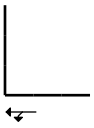
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

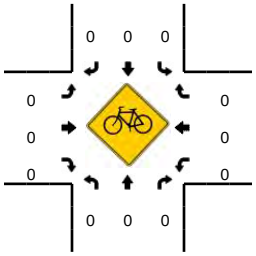


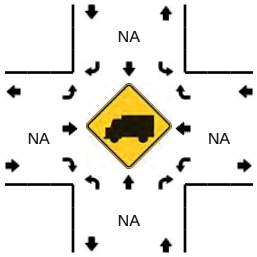


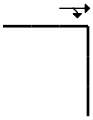


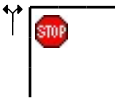


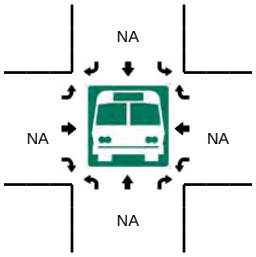












15-Min Count Period Beginning At	Live Oak Dr (Northbound)				Live Oak Dr (Southbound)				SH 18 (Eastbound)				SH 18 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	0	10	0	0	0	0	0	0	56	14	0	7	39	0	0	139	
4:15 PM	11	0	6	0	0	0	0	0	0	41	11	0	7	31	0	0	107	
4:30 PM	7	0	9	0	0	0	0	0	0	41	7	0	6	27	0	0	97	
4:45 PM	9	0	9	0	0	0	0	0	0	43	14	0	5	25	0	0	105	448
5:00 PM	11	0	7	0	0	0	0	0	0	41	9	0	10	40	0	0	118	427
5:15 PM	14	0	6	0	0	0	0	0	0	53	15	0	6	49	0	0	143	463
5:30 PM	17	0	8	0	0	0	0	0	0	48	6	0	5	37	0	0	121	487
5:45 PM	11	0	12	0	0	0	0	0	0	40	7	0	6	29	0	0	105	487

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	0	24	0	0	0	0	0	0	212	60	0	24	196	0	0	572
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	12	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/12/2016 10:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

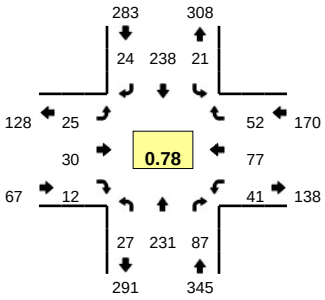
LOCATION: End Ave -- Francis Ave

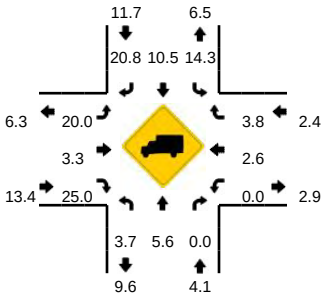
QC JOB #: 13917601

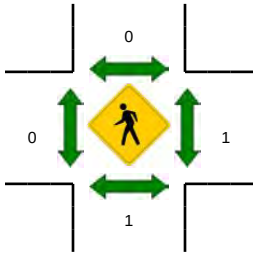
CITY/STATE: Chino, CA

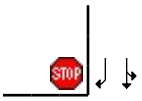
DATE: Thu, Sep 29 2016

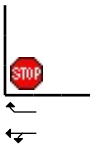
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

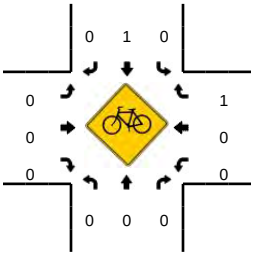


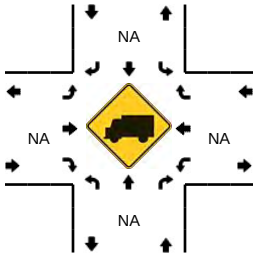


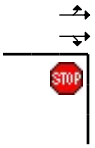


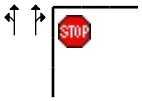


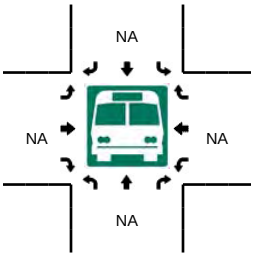












15-Min Count Period Beginning At	End Ave (Northbound)				End Ave (Southbound)				Francis Ave (Eastbound)				Francis Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	35	7	0	2	42	3	0	5	8	4	0	11	16	9	0	147	
7:15 AM	7	37	23	0	5	57	4	0	3	6	4	0	11	17	9	0	183	
7:30 AM	10	72	34	0	7	74	6	0	9	7	1	0	14	23	19	0	276	
7:45 AM	6	72	11	0	3	47	8	0	6	7	4	0	10	24	10	0	208	814
8:00 AM	4	50	19	0	6	60	6	0	7	10	3	0	6	13	14	0	198	865
8:15 AM	4	53	2	0	0	41	6	0	4	9	2	0	3	13	5	0	142	824
8:30 AM	7	43	2	0	1	45	4	0	2	4	2	0	7	12	8	0	137	685
8:45 AM	5	39	1	0	3	25	5	0	3	2	3	0	6	6	4	0	102	579

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	288	136	0	28	296	24	0	36	28	4	0	56	92	76	0	1104
Heavy Trucks	0	20	0		0	24	4		0	0	0		0	0	4		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/7/2016 1:09 PM

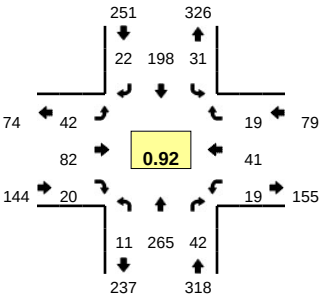
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

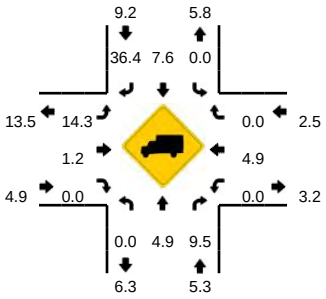
Method for determining peak hour: Total Entering Volume

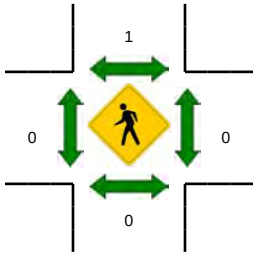
LOCATION: End Ave -- Francis Ave
CITY/STATE: Chino, CA

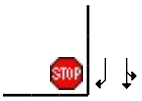
QC JOB #: 13917602
DATE: Wed, Nov 09 2016

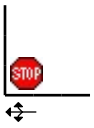


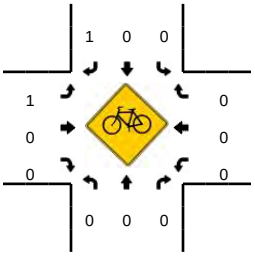
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

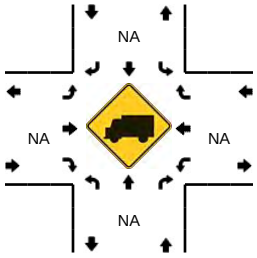


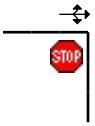


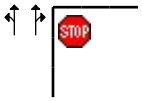


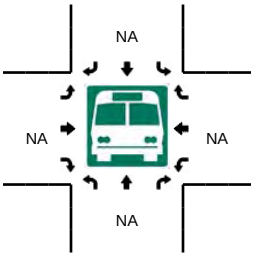












15-Min Count Period Beginning At	End Ave (Northbound)				End Ave (Southbound)				Francis Ave (Eastbound)				Francis Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	74	8	0	7	49	3	0	3	13	3	0	8	11	7	0	186	
4:15 PM	5	68	10	0	2	51	12	0	10	14	4	0	6	6	3	0	191	
4:30 PM	2	77	12	0	7	55	6	0	9	22	3	0	5	10	7	0	215	
4:45 PM	1	60	7	0	8	44	10	0	15	17	4	0	5	9	6	0	186	778
5:00 PM	7	62	8	0	10	53	4	0	11	21	9	0	3	8	3	0	199	791
5:15 PM	1	66	15	0	6	46	2	0	7	22	4	0	6	14	3	0	192	792
5:30 PM	2	66	5	0	2	46	9	0	9	19	3	1	8	10	3	0	183	760
5:45 PM	5	49	4	1	6	49	5	0	7	15	7	0	2	7	5	0	162	736

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	308	48	0	28	220	24	0	36	88	12	0	20	40	28	0	860
Heavy Trucks	0	20	4		0	16	12		12	4	0		0	4	0		72
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		1	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Etiwanda Ave -- Valley Blvd

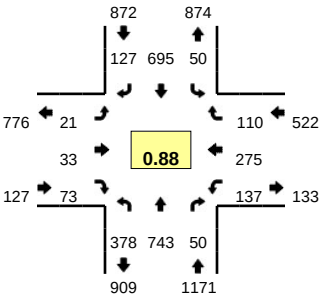
CITY/STATE: Ontario, CA

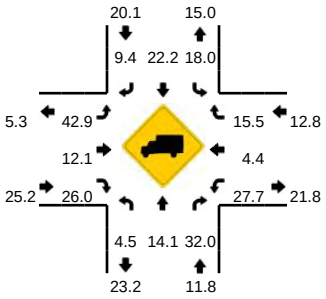
QC JOB #: 13917603

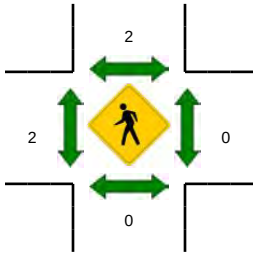
DATE: Thu, Sep 29 2016

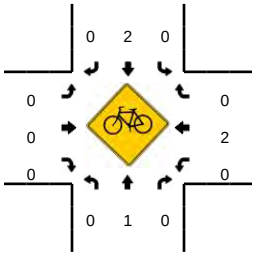
Peak-Hour: 7:00 AM -- 8:00 AM

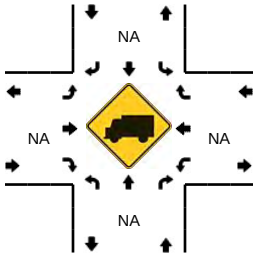
Peak 15-Min: 7:45 AM -- 8:00 AM

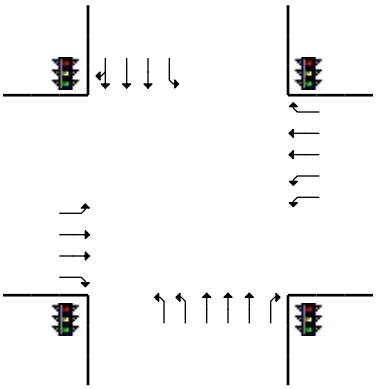


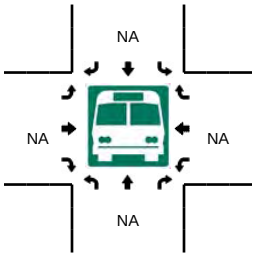












15-Min Count Period Beginning At	Etiwanda Ave (Northbound)				Etiwanda Ave (Southbound)				Valley Blvd (Eastbound)				Valley Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	71	173	10	2	25	154	29	0	4	12	14	0	20	46	27	0	587	
7:15 AM	85	165	10	1	11	161	23	0	6	4	19	0	33	45	27	0	590	
7:30 AM	98	205	13	1	9	202	40	0	3	7	15	0	42	85	32	0	752	
7:45 AM	120	200	17	0	5	178	35	0	8	10	25	0	42	99	24	0	763	2692
8:00 AM	65	166	8	0	3	141	25	1	1	4	17	0	23	32	14	0	500	2605
8:15 AM	59	154	12	0	4	171	17	0	2	13	20	0	24	26	12	0	514	2529
8:30 AM	89	143	14	0	5	126	10	0	2	8	19	0	25	24	7	0	472	2249
8:45 AM	77	177	16	2	4	117	9	0	3	8	14	0	16	21	8	0	472	1958

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	480	800	68	0	20	712	140	0	32	40	100	0	168	396	96	0	3052
Heavy Trucks	12	92	24		4	144	8		12	4	24		44	8	4		380
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	0	0		0	0	0		0	2	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

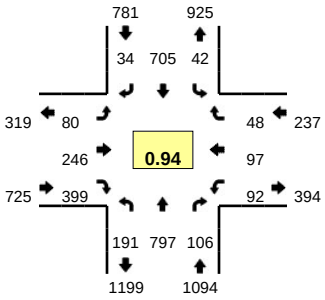
Method for determining peak hour: Total Entering Volume

LOCATION: Etiwanda Ave -- Valley Blvd

CITY/STATE: Ontario, CA

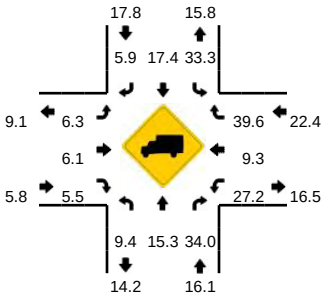
QC JOB #: 13917604

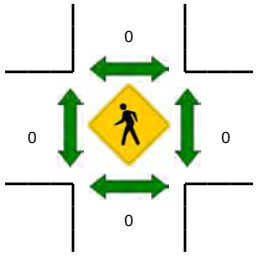
DATE: Thu, Sep 29 2016

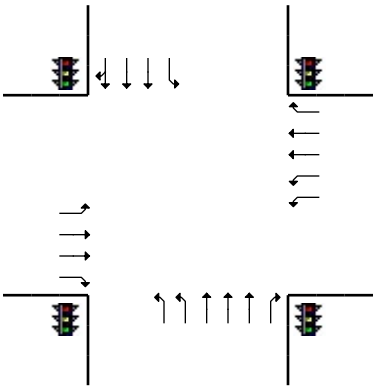


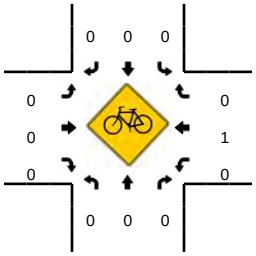
Peak-Hour: 4:30 PM -- 5:30 PM

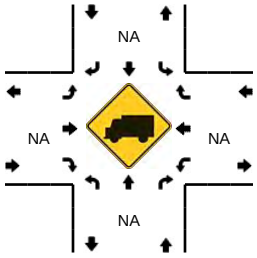
Peak 15-Min: 5:15 PM -- 5:30 PM

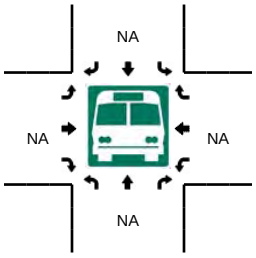












15-Min Count Period Beginning At	Etiwanda Ave (Northbound)				Etiwanda Ave (Southbound)				Valley Blvd (Eastbound)				Valley Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	42	195	26	0	12	183	8	0	17	46	106	0	30	22	14	0	701	
4:15 PM	37	188	35	1	16	168	12	0	15	42	74	0	16	17	12	0	633	
4:30 PM	44	213	21	2	9	174	10	0	24	62	93	0	25	27	14	0	718	
4:45 PM	51	195	33	0	12	156	10	0	13	50	87	0	25	23	15	0	670	2722
5:00 PM	31	176	20	1	11	186	6	0	27	63	121	0	24	19	8	0	693	2714
5:15 PM	62	213	32	0	10	189	8	0	16	71	98	0	18	28	11	0	756	2837
5:30 PM	42	220	14	0	9	157	7	0	20	62	90	0	22	27	20	0	690	2809
5:45 PM	45	185	24	4	9	123	7	0	8	44	60	0	21	18	8	0	556	2695

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	248	852	128	0	40	756	32	0	64	284	392	0	72	112	44	0	3024
Heavy Trucks	28	100	36		16	128	0		4	20	16		20	8	16		392
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Cherry Ave -- San Bernardino Ave

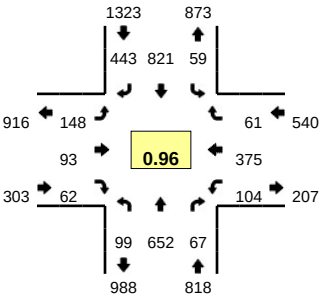
CITY/STATE: Fontana, CA

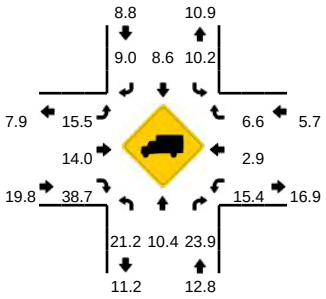
QC JOB #: 13917605

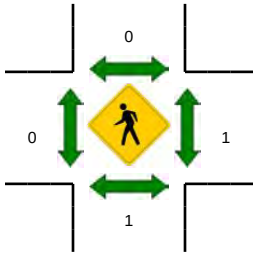
DATE: Thu, Sep 29 2016

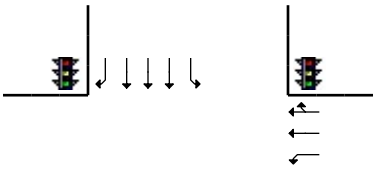
Peak-Hour: 7:15 AM -- 8:15 AM

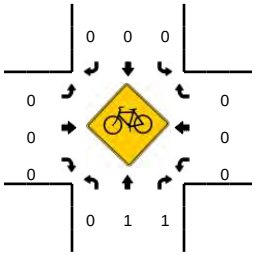
Peak 15-Min: 7:30 AM -- 7:45 AM

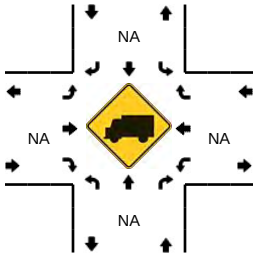


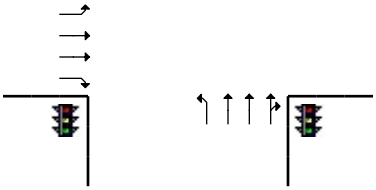


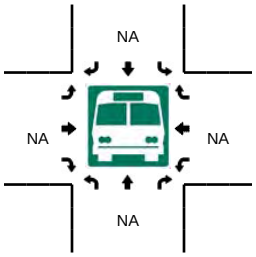












15-Min Count Period Beginning At	Cherry Ave (Northbound)				Cherry Ave (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	149	19	0	9	177	90	6	27	29	22	0	30	67	15	0	652	
7:15 AM	17	179	16	0	15	226	93	3	31	22	16	0	40	91	22	0	771	
7:30 AM	34	165	19	0	9	198	140	5	33	20	15	0	17	108	18	0	781	
7:45 AM	26	159	15	0	14	211	136	4	39	24	16	0	23	102	10	0	779	2983
8:00 AM	21	149	17	1	9	186	74	0	45	27	15	0	24	74	11	0	653	2984
8:15 AM	14	147	17	1	9	154	78	5	35	18	12	0	22	53	8	0	573	2786
8:30 AM	8	146	16	0	10	151	54	4	32	13	27	0	18	38	15	0	532	2537
8:45 AM	18	122	15	0	5	146	66	3	32	22	13	0	15	47	3	0	507	2265

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	660	76	0	36	792	560	20	132	80	60	0	68	432	72	0	3124
Heavy Trucks	20	68	12		0	48	16		20	8	24		4	0	8		228
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

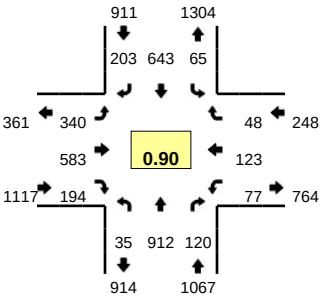
Method for determining peak hour: Total Entering Volume

LOCATION: Cherry Ave -- San Bernardino Ave

CITY/STATE: Fontana, CA

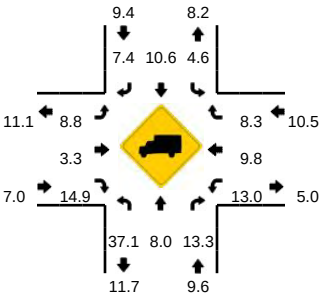
QC JOB #: 13917606

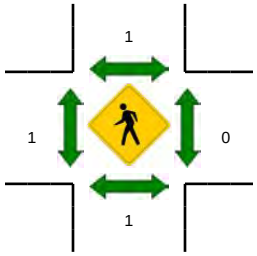
DATE: Thu, Sep 29 2016

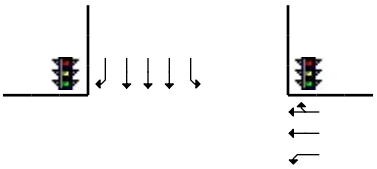


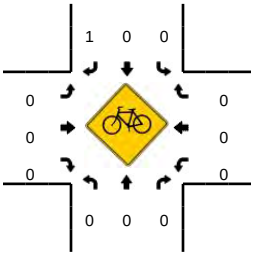
Peak-Hour: 4:30 PM -- 5:30 PM

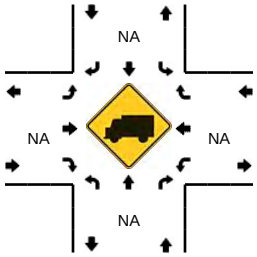
Peak 15-Min: 5:15 PM -- 5:30 PM

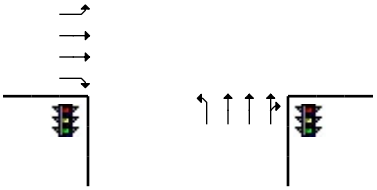


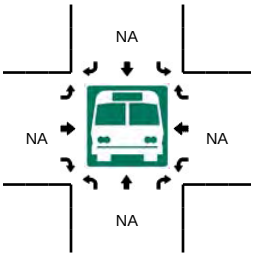












15-Min Count Period Beginning At	Cherry Ave (Northbound)				Cherry Ave (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	214	26	2	16	192	70	2	70	140	49	0	17	37	10	0	854	
4:15 PM	10	259	25	0	18	155	50	0	85	155	42	0	14	42	10	0	865	
4:30 PM	7	213	22	0	20	189	56	1	74	139	45	0	14	31	13	0	824	
4:45 PM	9	209	26	0	15	140	35	0	90	135	31	0	26	26	16	0	758	3301
5:00 PM	9	223	37	0	10	161	64	1	83	132	59	0	19	27	10	0	835	3282
5:15 PM	10	267	35	0	16	153	48	2	93	177	59	0	18	39	9	0	926	3343
5:30 PM	10	245	23	0	10	158	38	0	88	128	33	0	23	49	16	0	821	3340
5:45 PM	11	218	23	0	8	114	45	0	70	101	44	0	15	28	12	0	689	3271

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	1068	140	0	64	612	192	8	372	708	236	0	72	156	36	0	3704
Heavy Trucks	8	68	20		4	72	20		28	16	16		8	8	4		272
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Live Oak Ave -- Arrow Blvd

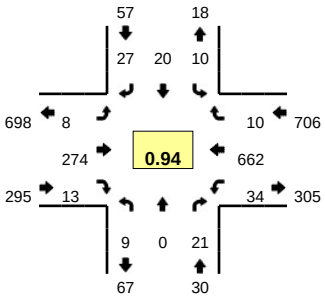
CITY/STATE: Fontana, CA

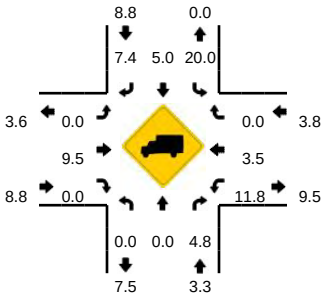
QC JOB #: 13917607

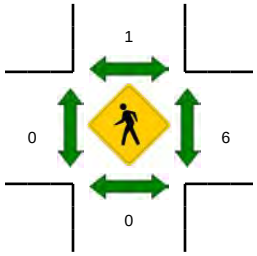
DATE: Thu, Sep 29 2016

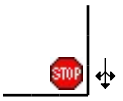
Peak-Hour: 7:15 AM -- 8:15 AM

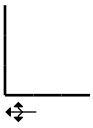
Peak 15-Min: 7:45 AM -- 8:00 AM

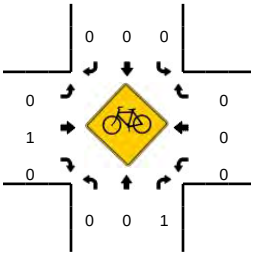


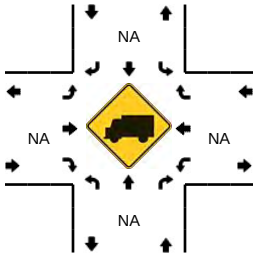


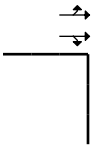


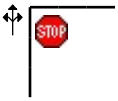


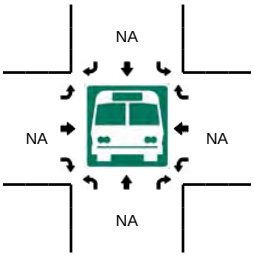












15-Min Count Period Beginning At	Live Oak Ave (Northbound)				Live Oak Ave (Southbound)				Arrow Blvd (Eastbound)				Arrow Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	5	3	0	2	4	5	0	3	56	4	0	7	114	3	0	213	
7:15 AM	3	0	3	0	3	4	7	0	3	50	3	0	4	172	3	0	255	
7:30 AM	2	0	4	0	5	6	5	0	2	59	4	0	7	174	2	0	270	
7:45 AM	2	0	5	0	1	6	11	0	1	80	2	0	9	170	3	0	290	1028
8:00 AM	2	0	9	0	1	4	4	0	2	85	4	0	14	146	2	0	273	1088
8:15 AM	4	3	5	0	3	5	8	0	7	73	3	0	12	124	1	0	248	1081
8:30 AM	1	9	15	0	2	8	7	0	11	54	5	0	12	120	3	0	247	1058
8:45 AM	3	2	2	0	3	2	4	0	1	75	2	0	1	103	3	0	201	969

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	0	20	0	4	24	44	0	4	320	8	0	36	680	12	0	1160
Heavy Trucks	0	0	0		4	0	4		0	8	0		0	20	0		36
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Live Oak Ave -- Arrow Blvd

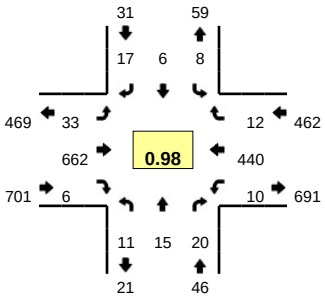
CITY/STATE: Fontana, CA

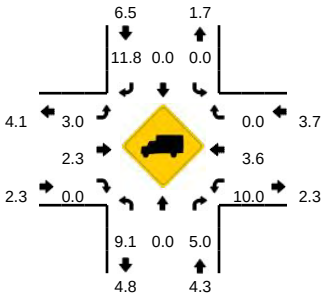
QC JOB #: 13917608

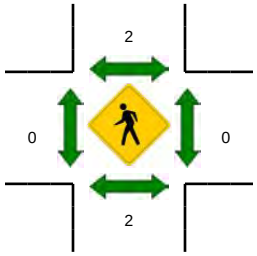
DATE: Thu, Sep 29 2016

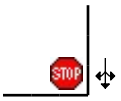
Peak-Hour: 4:45 PM -- 5:45 PM

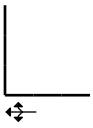
Peak 15-Min: 4:45 PM -- 5:00 PM

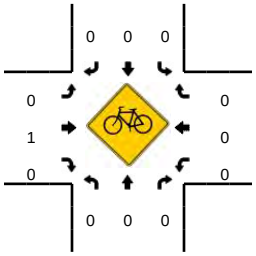


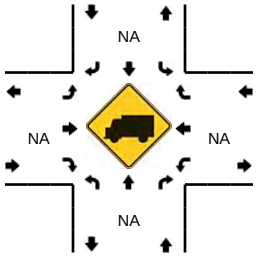


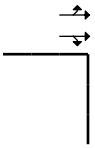


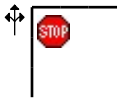


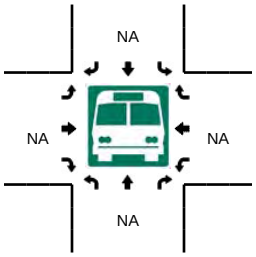












15-Min Count Period Beginning At	Live Oak Ave (Northbound)				Live Oak Ave (Southbound)				Arrow Blvd (Eastbound)				Arrow Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	4	4	0	7	2	6	0	4	150	0	0	0	102	4	0	284	
4:15 PM	1	3	13	0	5	2	1	0	4	127	4	0	6	90	10	0	266	
4:30 PM	2	2	5	0	0	5	5	0	2	150	3	0	2	118	2	1	297	
4:45 PM	2	3	4	0	2	1	3	0	8	173	1	0	0	115	4	0	316	1163
5:00 PM	3	6	5	0	2	0	6	0	6	166	1	0	4	100	2	0	301	1180
5:15 PM	3	3	6	0	3	3	6	0	10	162	1	1	2	107	5	0	312	1226
5:30 PM	3	3	5	0	1	2	2	0	8	161	3	0	3	118	1	1	311	1240
5:45 PM	1	3	8	0	2	5	6	0	10	154	0	0	3	96	3	0	291	1215

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	12	16	0	8	4	12	0	32	692	4	0	0	460	16	0	1264
Heavy Trucks	0	0	0		0	0	4		0	28	0		0	28	0		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

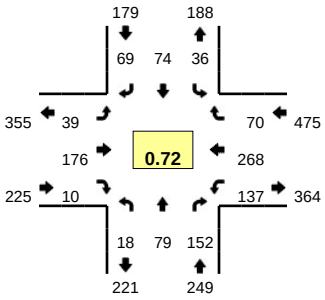
Report generated on 10/31/2016 8:24 PM

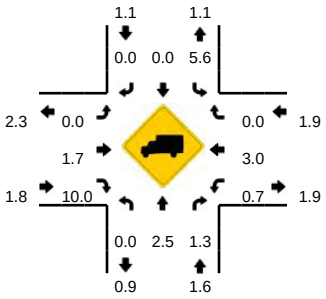
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

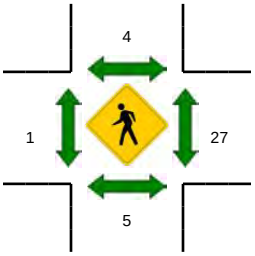
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

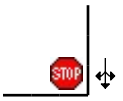
LOCATION: Alder Ave -- Santa Ana Ave | **QC JOB #:** 13917609
CITY/STATE: Bloomington, CA | **DATE:** Tue, Sep 27 2016

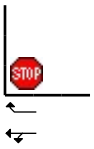
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

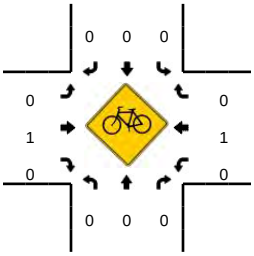


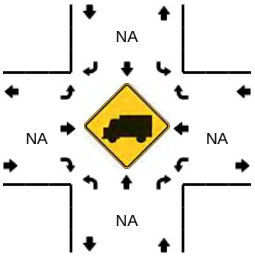


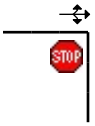


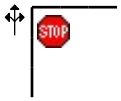


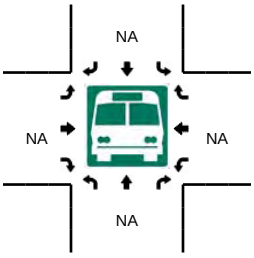












15-Min Count Period Beginning At	Alder Ave (Northbound)				Alder Ave (Southbound)				Santa Ana Ave (Eastbound)				Santa Ana Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	21	23	0	14	12	28	0	17	57	1	0	12	67	11	0	263	
7:15 AM	1	35	37	0	20	30	37	0	20	50	0	0	19	90	51	0	390	
7:30 AM	4	3	39	0	1	11	3	0	2	41	1	0	52	65	3	0	225	
7:45 AM	13	20	53	0	1	21	1	0	0	28	8	0	54	46	5	0	250	1128
8:00 AM	9	8	49	0	2	17	4	0	1	28	4	0	42	38	4	0	206	1071
8:15 AM	2	2	23	0	4	6	1	0	0	30	0	0	8	41	3	0	120	801
8:30 AM	0	1	11	0	1	3	2	0	3	33	1	0	4	56	3	0	118	694
8:45 AM	3	2	18	0	2	4	5	0	1	32	0	0	7	67	2	0	143	587

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	140	148	0	80	120	148	0	80	200	0	0	76	360	204	0	1560
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	0		4
Pedestrians		0				0				0				28			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

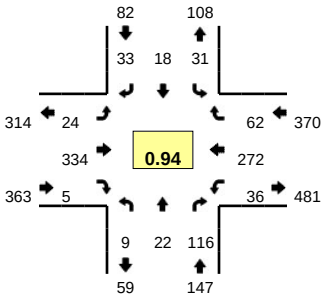
Type of peak hour being reported: Intersection Peak

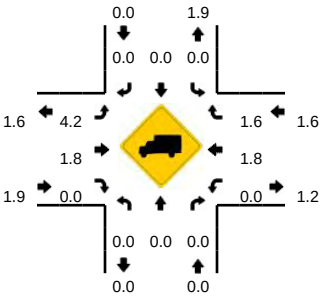
Method for determining peak hour: Total Entering Volume

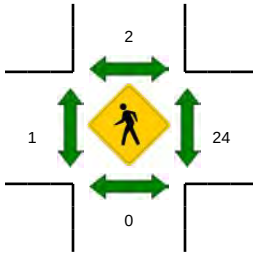
LOCATION: Alder Ave -- Santa Ana Ave
CITY/STATE: Bloomington, CA

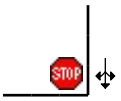
QC JOB #: 13917610
DATE: Tue, Sep 27 2016

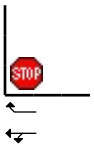
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

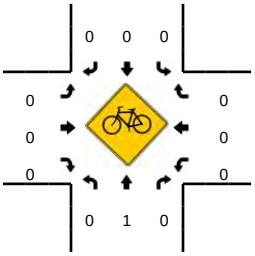


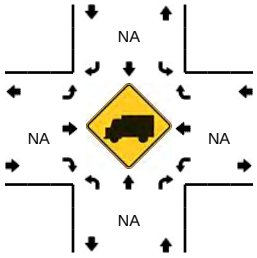


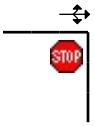


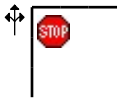


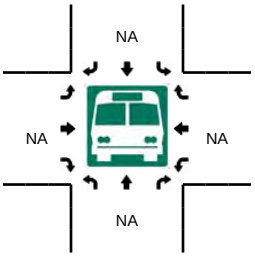












15-Min Count Period Beginning At	Alder Ave (Northbound)				Alder Ave (Southbound)				Santa Ana Ave (Eastbound)				Santa Ana Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	8	36	0	3	5	3	0	3	70	0	0	13	54	4	0	199	
4:15 PM	1	6	34	0	1	0	0	0	2	65	0	0	2	55	2	0	168	
4:30 PM	0	4	29	0	2	5	1	0	2	70	4	0	10	69	6	0	202	
4:45 PM	0	9	30	0	8	1	9	0	3	80	2	0	7	58	8	0	215	784
5:00 PM	2	6	29	0	7	3	2	0	1	97	0	0	9	57	8	0	221	806
5:15 PM	4	2	35	0	4	4	7	0	4	73	1	0	8	86	14	0	242	880
5:30 PM	2	8	29	0	11	4	8	0	3	84	1	0	12	68	13	0	243	921
5:45 PM	1	6	23	0	9	7	16	0	16	80	3	0	7	61	27	0	256	962

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	24	92	0	36	28	64	0	64	320	12	0	28	244	108	0	1024
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	12	0		16
Pedestrians		0				4				0				8			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Locust Ave -- San Bernardino Ave

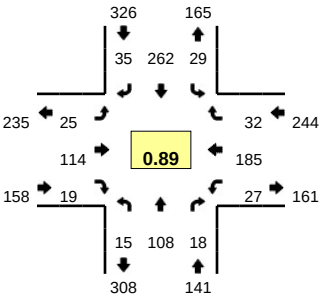
CITY/STATE: Fontana, CA

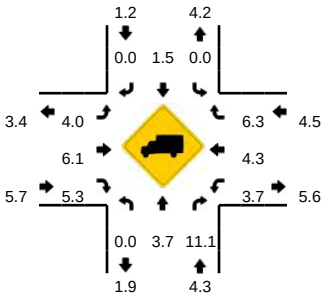
QC JOB #: 13917611

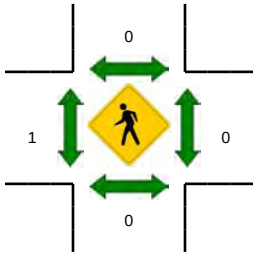
DATE: Wed, Nov 09 2016

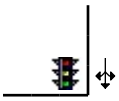
Peak-Hour: 7:15 AM -- 8:15 AM

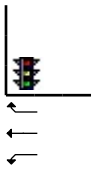
Peak 15-Min: 7:45 AM -- 8:00 AM

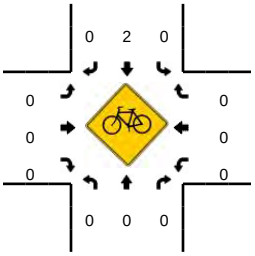


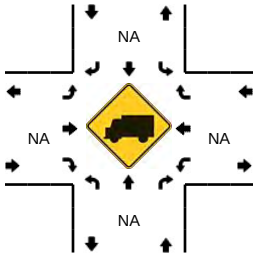


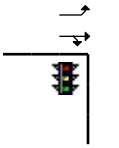


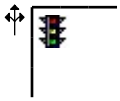


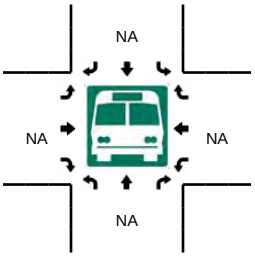












15-Min Count Period Beginning At	Locust Ave (Northbound)				Locust Ave (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	21	1	0	5	57	7	0	2	17	4	0	7	32	5	0	159	
7:15 AM	2	36	3	0	2	63	9	0	5	27	3	0	2	33	7	0	192	
7:30 AM	2	37	2	0	8	75	8	0	9	34	9	0	5	45	7	0	241	
7:45 AM	7	17	7	0	10	56	14	0	8	27	7	0	12	69	11	0	245	837
8:00 AM	4	18	6	0	9	68	4	0	3	26	0	0	8	38	7	0	191	869
8:15 AM	1	26	5	0	9	50	7	0	2	26	4	0	5	43	10	0	188	865
8:30 AM	14	21	1	0	3	41	11	0	15	29	5	0	8	35	7	0	190	814
8:45 AM	36	32	1	0	8	37	20	0	5	25	12	0	5	46	12	0	239	808

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	68	28	0	40	224	56	0	32	108	28	0	48	276	44	0	980
Heavy Trucks	0	0	0		0	4	0		0	4	0		0	16	8		32
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	2	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Locust Ave -- San Bernardino Ave

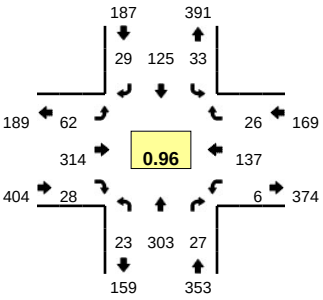
CITY/STATE: Fontana, CA

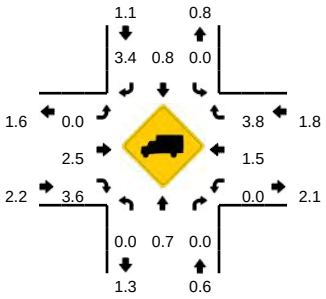
QC JOB #: 13917612

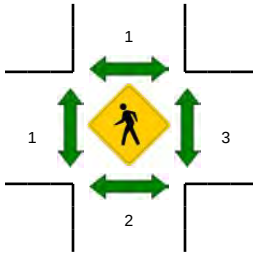
DATE: Wed, Nov 09 2016

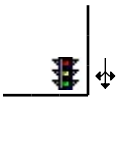
Peak-Hour: 4:45 PM -- 5:45 PM

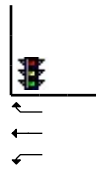
Peak 15-Min: 5:30 PM -- 5:45 PM

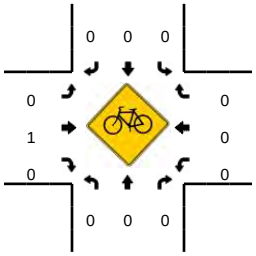


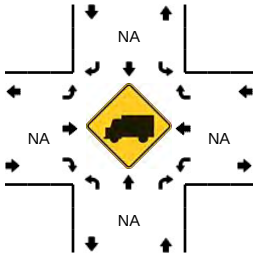


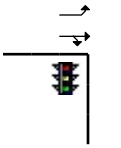


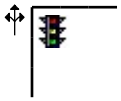


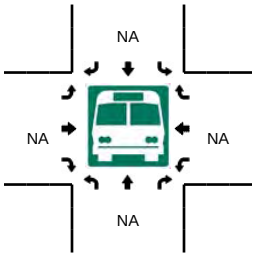












15-Min Count Period Beginning At	Locust Ave (Northbound)				Locust Ave (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	55	8	0	8	28	7	0	10	63	5	0	4	39	7	0	236	
4:15 PM	10	66	5	0	6	36	7	0	10	75	7	0	6	49	5	0	282	
4:30 PM	8	73	12	0	7	47	9	0	13	55	5	0	3	46	4	0	282	
4:45 PM	2	85	5	0	6	43	5	0	16	77	3	0	3	38	2	0	285	1085
5:00 PM	5	73	8	0	7	26	3	0	11	82	6	0	2	32	8	0	263	1112
5:15 PM	9	74	8	0	8	24	9	0	12	77	8	0	1	35	11	0	276	1106
5:30 PM	7	71	6	0	12	32	12	0	23	78	11	0	0	32	5	0	289	1113
5:45 PM	10	60	2	0	7	26	13	0	6	53	2	0	4	42	4	0	229	1057

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	284	24	0	48	128	48	0	92	312	44	0	0	128	20	0	1156
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	4		4
Pedestrians		4				0				0				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Slover Ave -- Cedar Ave

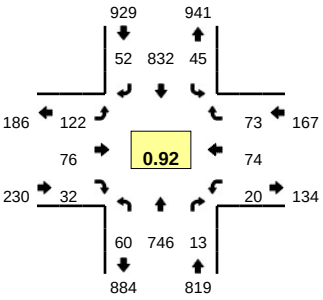
CITY/STATE: San Bernardino, CA

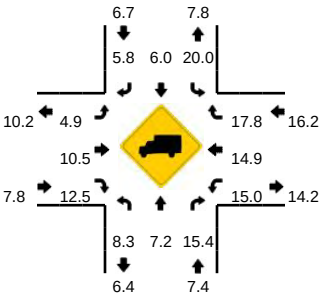
QC JOB #: 13917613

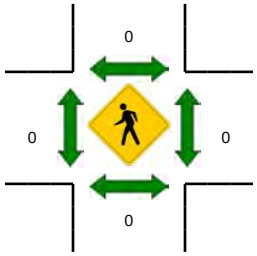
DATE: Wed, Nov 09 2016

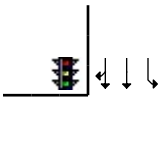
Peak-Hour: 7:00 AM -- 8:00 AM

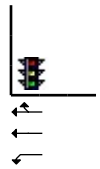
Peak 15-Min: 7:15 AM -- 7:30 AM

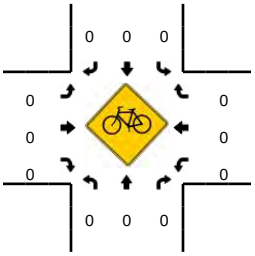


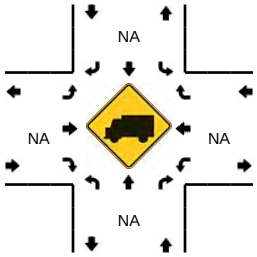


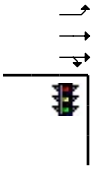


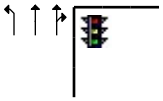


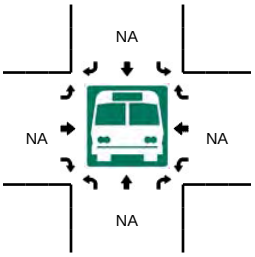












15-Min Count Period Beginning At	Slover Ave (Northbound)				Slover Ave (Southbound)				Cedar Ave (Eastbound)				Cedar Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	156	1	0	11	180	9	0	25	17	3	0	8	15	15	0	452	
7:15 AM	21	199	4	0	9	239	13	0	26	18	10	0	4	17	21	0	581	
7:30 AM	10	195	5	0	13	216	8	0	31	25	13	0	6	21	17	0	560	
7:45 AM	17	196	3	0	12	197	22	0	40	16	6	0	2	21	20	0	552	2145
8:00 AM	9	110	3	0	8	159	16	0	26	15	5	0	3	24	17	0	395	2088
8:15 AM	16	226	5	0	15	182	13	0	42	20	3	0	1	21	19	0	563	2070
8:30 AM	11	153	9	0	10	147	12	0	51	17	7	1	4	27	19	0	468	1978
8:45 AM	13	173	2	0	18	144	14	0	45	12	7	0	3	27	36	0	494	1920

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	796	16	0	36	956	52	0	104	72	40	0	16	68	84	0	2324
Heavy Trucks	4	44	4		4	64	0		8	4	0		0	12	20		164
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

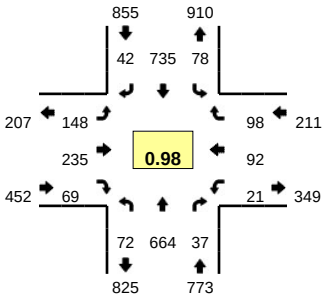
Method for determining peak hour: Total Entering Volume

LOCATION: Slover Ave -- Cedar Ave

CITY/STATE: San Bernardino, CA

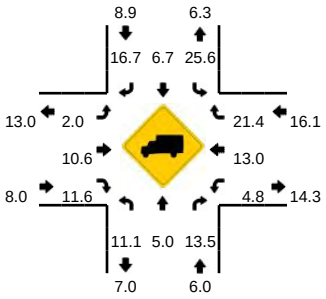
QC JOB #: 13917614

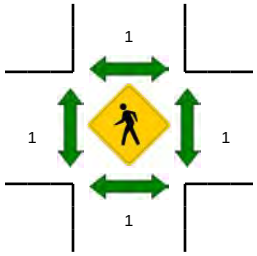
DATE: Wed, Nov 09 2016

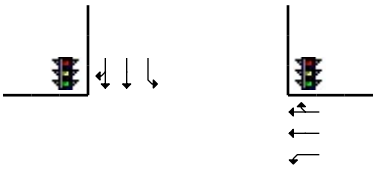


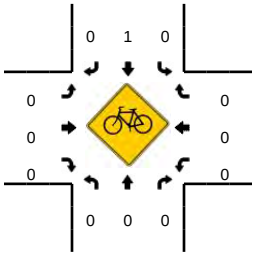
Peak-Hour: 4:00 PM -- 5:00 PM

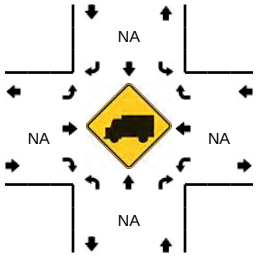
Peak 15-Min: 4:45 PM -- 5:00 PM



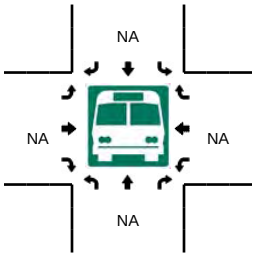












15-Min Count Period Beginning At	Slover Ave (Northbound)				Slover Ave (Southbound)				Cedar Ave (Eastbound)				Cedar Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	20	189	6	0	21	185	11	0	38	45	17	0	5	18	28	0	583	
4:15 PM	10	165	11	0	20	177	14	1	39	65	15	0	5	31	28	0	581	
4:30 PM	27	130	10	0	20	178	9	0	27	67	15	0	7	18	32	0	540	
4:45 PM	15	180	10	0	16	195	8	0	43	58	22	1	4	25	10	0	587	2291
5:00 PM	21	170	11	0	16	179	12	0	39	57	19	1	4	30	23	0	582	2290
5:15 PM	23	157	3	0	13	170	11	0	34	78	21	0	6	31	27	0	574	2283
5:30 PM	11	113	13	1	18	164	9	0	27	77	19	1	3	29	20	0	505	2248
5:45 PM	12	137	7	0	17	175	18	0	31	48	22	0	4	28	13	0	512	2173

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	720	40	0	64	780	32	0	172	232	88	4	16	100	40	0	2348
Heavy Trucks	8	28	0		0	56	0		4	24	4		0	28	8		160
Pedestrians		4				4				0				0			8
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Santa Ana Ave -- Cedar Ave

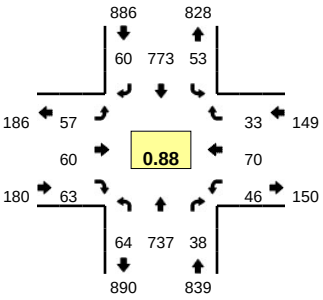
CITY/STATE: San Bernardino, CA

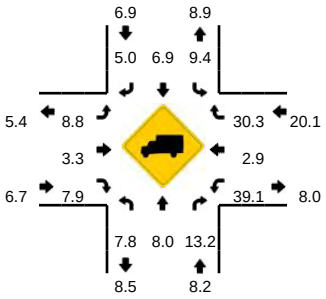
QC JOB #: 13917615

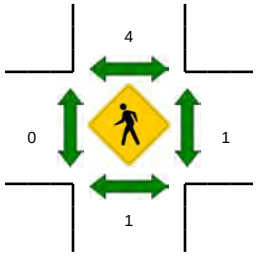
DATE: Wed, Nov 09 2016

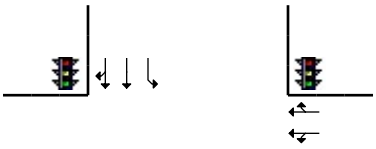
Peak-Hour: 7:00 AM -- 8:00 AM

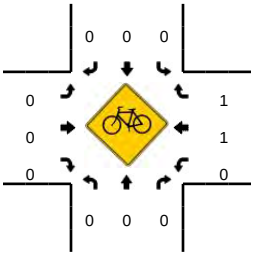
Peak 15-Min: 7:30 AM -- 7:45 AM

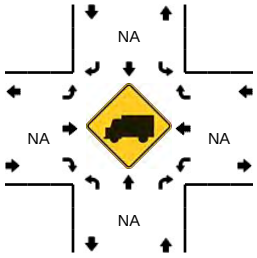


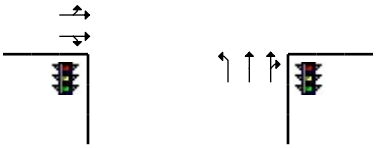


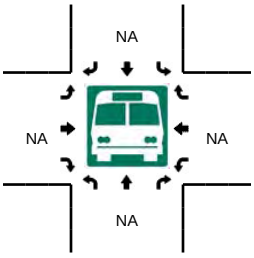












15-Min Count Period Beginning At	Santa Ana Ave (Northbound)				Santa Ana Ave (Southbound)				Cedar Ave (Eastbound)				Cedar Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	17	144	7	0	12	165	17	0	16	10	11	0	5	14	6	0	424	
7:15 AM	15	190	8	0	20	237	16	0	18	17	16	0	14	16	10	0	577	
7:30 AM	17	203	18	2	14	221	16	0	14	19	18	0	11	24	9	0	586	
7:45 AM	7	200	5	6	6	150	11	1	9	14	18	0	16	16	8	0	467	2054
8:00 AM	10	144	6	0	7	133	13	0	12	10	16	0	10	17	5	0	383	2013
8:15 AM	9	220	6	4	9	151	8	0	14	14	9	0	5	18	6	0	473	1909
8:30 AM	17	131	3	1	9	146	11	0	19	24	9	0	4	15	4	0	393	1716
8:45 AM	14	144	3	1	7	132	9	0	20	22	11	0	7	25	7	0	402	1651

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	812	72	8	56	884	64	0	56	76	72	0	44	96	36	0	2344
Heavy Trucks	0	64	8		12	68	4		4	4	8		20	4	4		200
Pedestrians		4				4				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Santa Ana Ave -- Cedar Ave

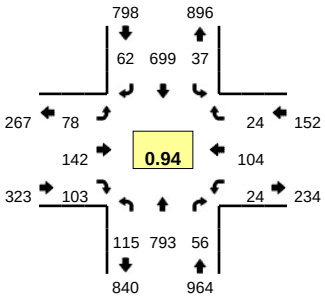
CITY/STATE: San Bernardino, CA

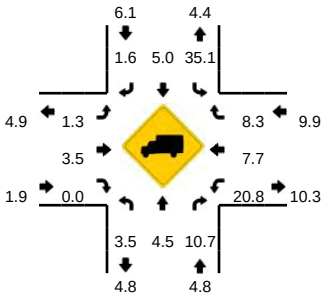
QC JOB #: 13917616

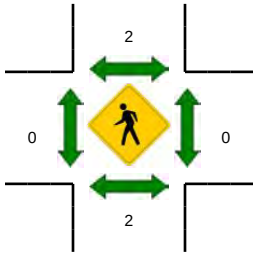
DATE: Wed, Nov 09 2016

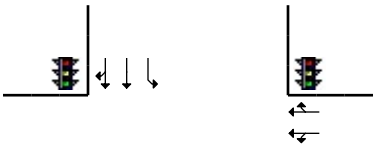
Peak-Hour: 4:45 PM -- 5:45 PM

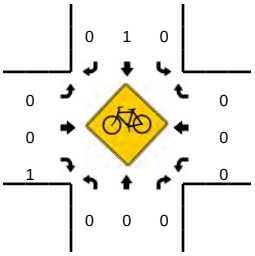
Peak 15-Min: 4:45 PM -- 5:00 PM

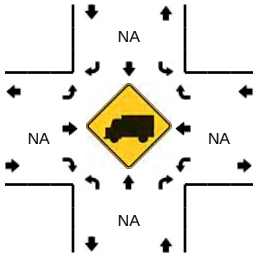


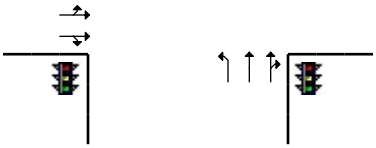


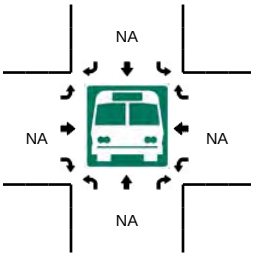












15-Min Count Period Beginning At	Santa Ana Ave (Northbound)				Santa Ana Ave (Southbound)				Cedar Ave (Eastbound)				Cedar Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	26	185	10	6	12	149	7	0	15	35	23	0	12	12	8	0	500	
4:15 PM	21	162	15	3	5	183	8	1	23	31	27	0	7	25	4	0	515	
4:30 PM	13	150	8	1	8	175	9	1	22	34	15	0	6	26	4	0	472	
4:45 PM	24	205	11	4	11	196	13	1	19	32	27	0	5	36	8	0	592	2079
5:00 PM	27	201	9	4	10	183	14	0	23	47	27	0	9	26	6	0	586	2165
5:15 PM	21	192	14	1	7	164	12	0	21	39	30	0	5	23	6	0	535	2185
5:30 PM	29	195	22	5	8	156	23	0	15	24	19	0	5	19	4	0	524	2237
5:45 PM	20	166	25	7	13	174	23	0	16	26	20	0	4	16	6	0	516	2161

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	96	820	44	16	44	784	52	4	76	128	108	0	20	144	32	0	2368
Heavy Trucks	4	36	8		20	52	0		0	4	0		8	12	8		152
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

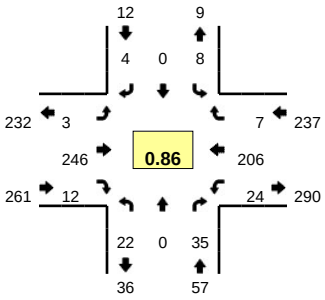
Type of peak hour being reported: Intersection Peak

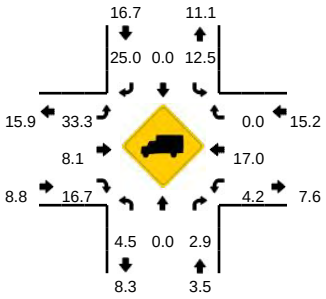
Method for determining peak hour: Total Entering Volume

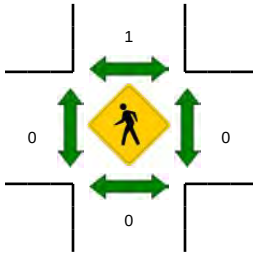
LOCATION: Spruce Ace -- Slover Ave
CITY/STATE: San Bernardino, CA

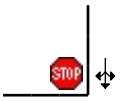
QC JOB #: 13917617
DATE: Tue, Sep 27 2016

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

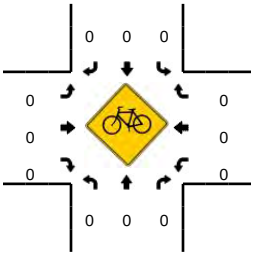


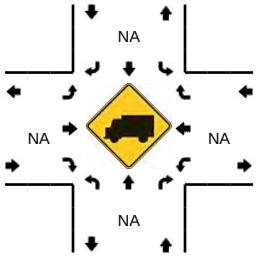


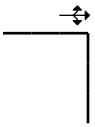


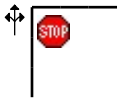


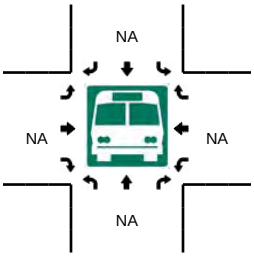












15-Min Count Period Beginning At	Spruce Ace (Northbound)				Spruce Ace (Southbound)				Slover Ave (Eastbound)				Slover Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	11	0	1	0	1	0	0	43	1	0	2	33	3	0	101	
7:15 AM	5	0	10	0	4	0	0	0	0	53	2	0	4	64	4	1	147	
7:30 AM	8	0	14	1	2	0	4	0	1	61	5	0	6	60	3	0	165	
7:45 AM	3	0	8	0	1	0	0	0	1	80	3	1	7	48	0	0	152	565
8:00 AM	5	0	3	0	1	0	0	0	0	52	2	0	6	34	0	0	103	567
8:15 AM	6	0	7	0	2	0	2	0	0	38	2	0	6	35	2	0	100	520
8:30 AM	5	0	8	0	1	0	0	0	2	51	2	0	4	31	2	1	107	462
8:45 AM	2	0	6	0	6	0	2	0	0	38	4	0	2	48	3	0	111	421

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	0	56	4	8	0	16	0	4	244	20	0	24	240	12	0	660
Heavy Trucks	0	0	4		0	0	4		0	12	4		0	24	0		48
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

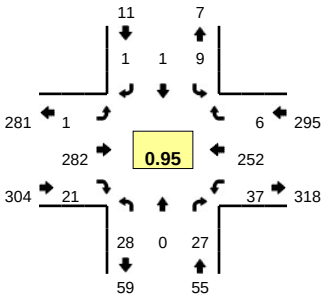
Report generated on 10/31/2016 8:24 PM

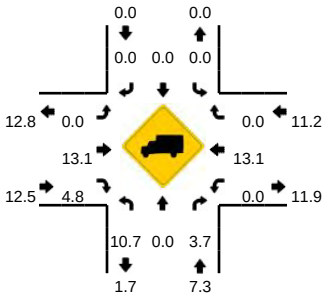
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

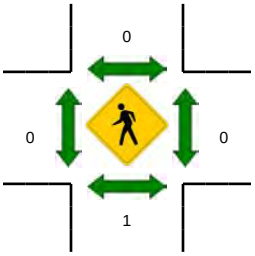
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

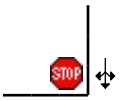
LOCATION: Spruce Ace -- Slover Ave | **QC JOB #:** 13917618
CITY/STATE: San Bernardino, CA | **DATE:** Tue, Sep 27 2016

Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

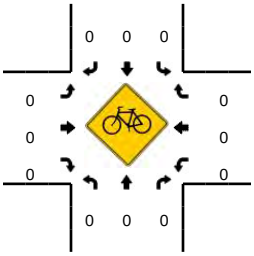


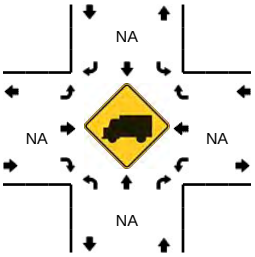


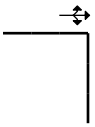


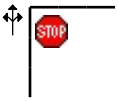


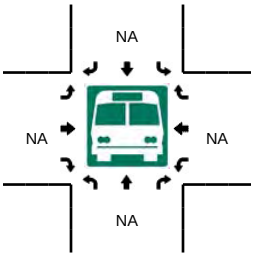












15-Min Count Period Beginning At	Spruce Ace (Northbound)				Spruce Ace (Southbound)				Slover Ave (Eastbound)				Slover Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	0	7	0	2	0	2	0	1	55	8	0	4	57	2	1	142	
4:15 PM	7	0	9	0	1	0	1	0	0	75	7	0	11	59	0	0	170	
4:30 PM	5	0	3	0	2	0	0	0	1	72	3	0	8	67	2	0	163	
4:45 PM	5	0	7	0	4	0	0	0	0	71	10	0	6	69	3	0	175	650
5:00 PM	11	0	8	0	2	1	0	0	0	64	1	0	12	57	1	0	157	665
5:15 PM	4	0	9	0	4	0	1	0	1	73	4	0	8	59	2	0	165	660
5:30 PM	6	0	12	0	1	1	1	0	0	60	3	0	9	45	1	0	139	636
5:45 PM	6	0	13	0	1	0	0	0	0	71	3	0	7	61	2	0	164	625

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	0	28	0	16	0	0	0	0	284	40	0	24	276	12	0	700
Heavy Trucks	0	0	0		0	0	0		0	32	0		0	56	0		88
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

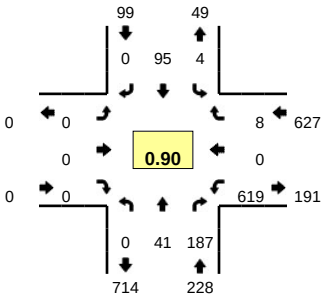
Comments:

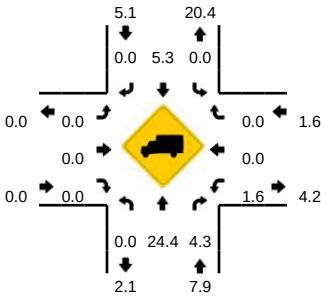
Report generated on 10/31/2016 8:24 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

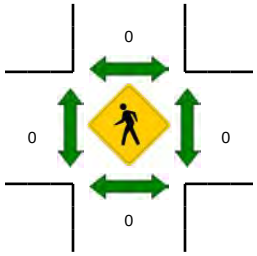
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

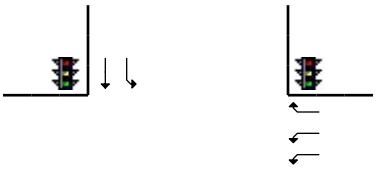
LOCATION: Lytle Creek Rd -- Glen Helen Pkwy | **QC JOB #:** 13917619
CITY/STATE: San Bernardino, CA | **DATE:** Tue, Sep 27 2016

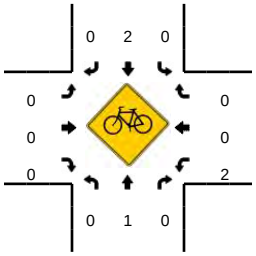
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

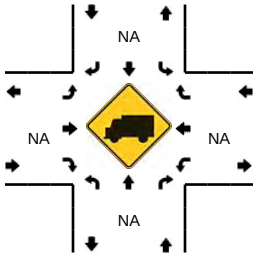




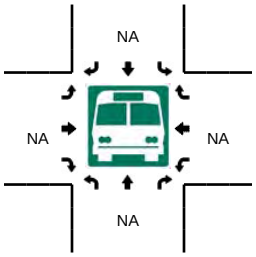












15-Min Count Period Beginning At	Lytle Creek Rd (Northbound)				Lytle Creek Rd (Southbound)				Glen Helen Pkwy (Eastbound)				Glen Helen Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	8	44	0	0	26	0	0	0	0	0	0	135	0	2	0	215	
7:15 AM	0	7	52	0	2	24	0	0	0	0	0	0	181	0	0	0	266	
7:30 AM	0	8	50	0	2	16	0	0	0	0	0	0	164	0	2	0	242	
7:45 AM	0	18	41	0	0	29	0	0	0	0	0	0	139	0	4	0	231	954
8:00 AM	0	16	59	0	2	19	0	0	0	0	0	0	91	0	0	0	187	926
8:15 AM	0	13	47	0	0	15	0	0	0	0	0	0	72	0	1	0	148	808
8:30 AM	0	8	38	0	0	15	0	0	0	0	0	0	90	0	0	0	151	717
8:45 AM	0	18	49	0	1	15	0	0	0	0	0	0	61	0	1	0	145	631

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	28	208	0	8	96	0	0	0	0	0	0	724	0	0	0	1064
Heavy Trucks	0	12	16		0	4	0		0	0	0		12	0	0		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	2	0		0	0	0		1	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Lytle Creek Rd -- Glen Helen Pkwy

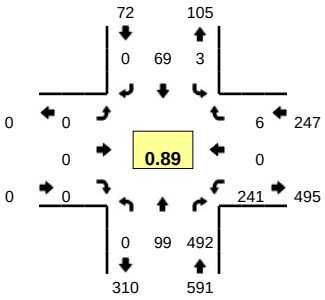
CITY/STATE: San Bernardino, CA

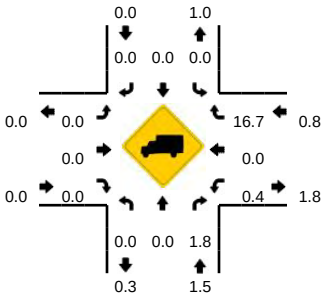
QC JOB #: 13917620

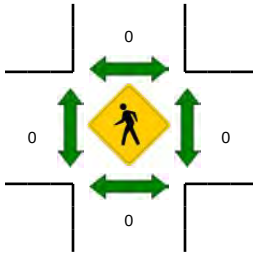
DATE: Tue, Sep 27 2016

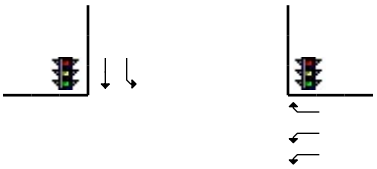
Peak-Hour: 5:00 PM -- 6:00 PM

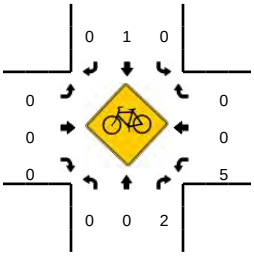
Peak 15-Min: 5:15 PM -- 5:30 PM

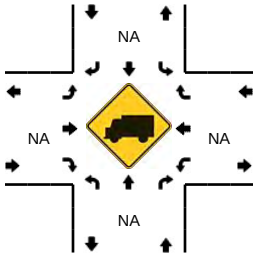




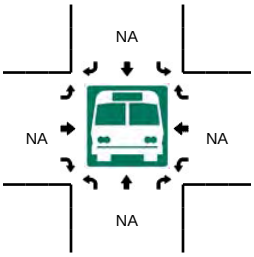












15-Min Count Period Beginning At	Lytle Creek Rd (Northbound)				Lytle Creek Rd (Southbound)				Glen Helen Pkwy (Eastbound)				Glen Helen Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	23	91	0	2	22	0	0	0	0	0	0	81	0	5	0	224	
4:15 PM	0	14	116	0	0	14	0	0	0	0	0	0	86	0	3	0	233	
4:30 PM	0	19	108	0	0	13	0	0	0	0	0	0	72	0	0	0	212	
4:45 PM	0	28	102	0	1	14	0	0	0	0	0	0	65	0	0	0	210	879
5:00 PM	0	21	97	0	0	19	0	0	0	0	0	0	51	0	0	0	188	843
5:15 PM	0	30	134	0	2	21	0	0	0	0	0	0	67	0	1	0	255	865
5:30 PM	0	25	129	0	0	20	0	0	0	0	0	0	75	0	2	0	251	904
5:45 PM	0	23	132	0	1	9	0	0	0	0	0	0	48	0	3	0	216	910

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	120	536	0	8	84	0	0	0	0	0	0	268	0	4	0	1020
Heavy Trucks	0	0	8		0	0	0		0	0	0		4	0	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	1		0	1	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Vermont St -- Ogden St

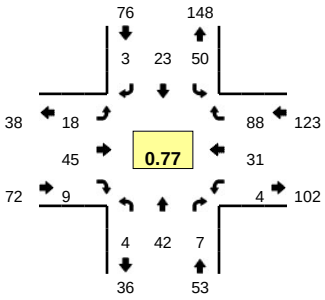
CITY/STATE: San Bernardino, CA

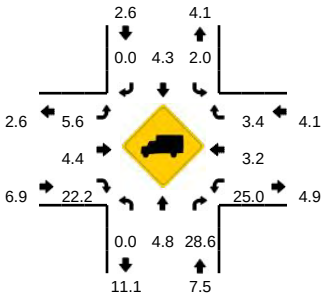
QC JOB #: 13917621

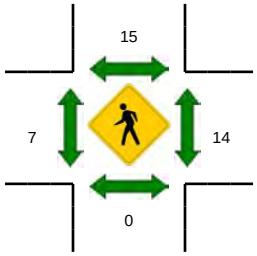
DATE: Tue, Sep 27 2016

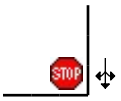
Peak-Hour: 8:00 AM -- 9:00 AM

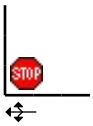
Peak 15-Min: 8:30 AM -- 8:45 AM

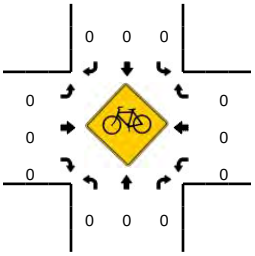


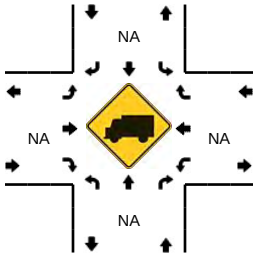


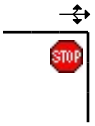


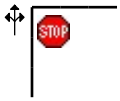


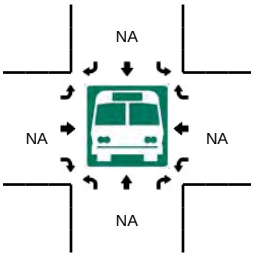












15-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				Ogden St (Eastbound)				Ogden St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	3	0	8	2	0	0	1	14	1	0	2	5	4	0	41	
7:15 AM	0	4	0	0	11	5	1	0	2	13	1	0	1	5	4	0	47	
7:30 AM	0	3	0	0	4	5	2	0	1	16	2	0	1	8	11	0	53	
7:45 AM	0	3	4	0	9	11	0	0	1	14	1	0	5	3	10	0	61	202
8:00 AM	1	14	5	0	9	2	0	0	0	5	2	0	2	6	10	0	56	217
8:15 AM	0	6	1	0	14	5	2	0	5	8	1	0	0	12	26	0	80	250
8:30 AM	1	11	1	0	14	5	0	0	10	21	1	0	1	8	32	0	105	302
8:45 AM	2	11	0	0	13	11	1	0	3	11	5	0	1	5	20	0	83	324

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	44	4	0	56	20	0	0	40	84	4	0	4	32	128	0	420
Heavy Trucks	0	4	0		4	0	0		4	4	0		4	4	8		32
Pedestrians		0				8				0				20			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Vermont St -- Ogden St

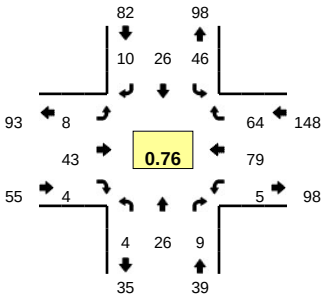
CITY/STATE: San Bernardino, CA

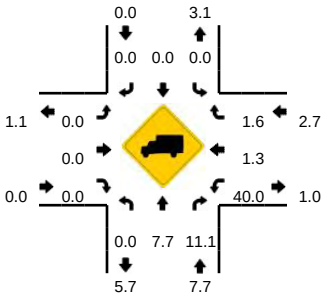
QC JOB #: 13917622

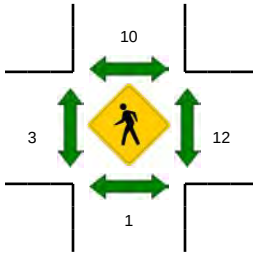
DATE: Tue, Sep 27 2016

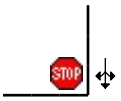
Peak-Hour: 5:00 PM -- 6:00 PM

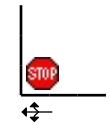
Peak 15-Min: 5:45 PM -- 6:00 PM

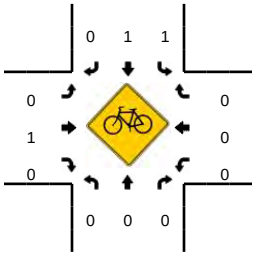


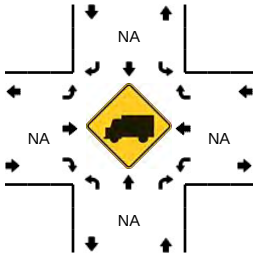


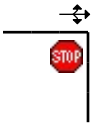


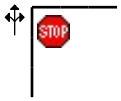


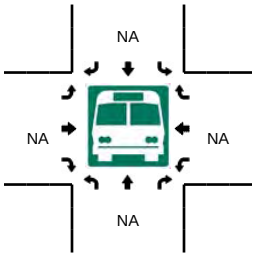












15-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				Ogden St (Eastbound)				Ogden St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	7	2	0	14	4	1	0	2	10	1	0	1	17	7	0	66	
4:15 PM	8	13	5	0	6	4	3	0	0	10	2	0	3	10	4	0	68	
4:30 PM	1	3	1	0	10	1	2	0	1	13	0	0	5	15	12	0	64	
4:45 PM	2	2	1	0	6	5	1	0	0	12	1	0	5	15	12	0	62	260
5:00 PM	0	10	4	0	5	8	2	0	0	9	1	0	2	16	14	0	71	265
5:15 PM	0	5	3	0	13	4	1	0	0	14	1	0	0	18	14	0	73	270
5:30 PM	4	8	2	0	11	5	4	0	2	7	0	0	1	13	17	0	74	280
5:45 PM	0	3	0	0	17	9	3	0	6	13	2	0	2	32	19	0	106	324

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	12	0	0	68	36	12	0	24	52	8	0	8	128	76	0	424
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	4		8
Pedestrians		0				12				0				20			32
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Vermont St -- Blake St

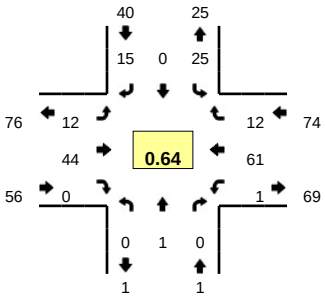
CITY/STATE: San Bernardino, CA

QC JOB #: 13917623

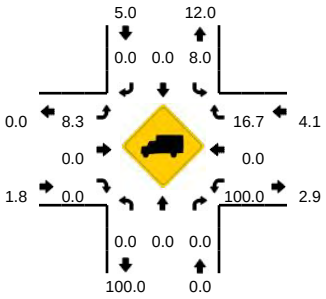
DATE: Tue, Sep 27 2016

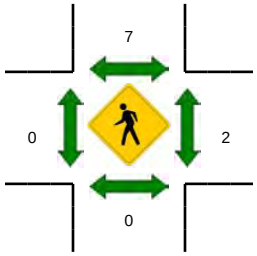
Peak-Hour: 7:15 AM -- 8:15 AM

Peak 15-Min: 7:45 AM -- 8:00 AM

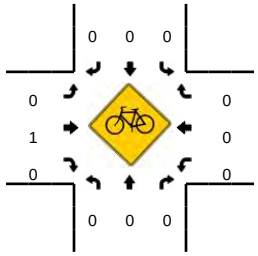


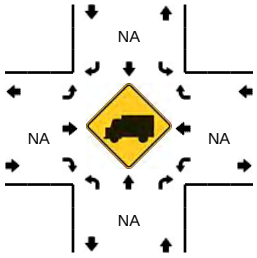




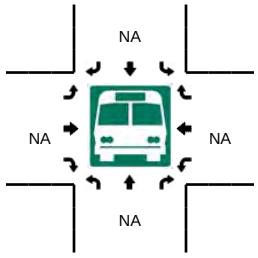












15-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				Blake St (Eastbound)				Blake St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	2	0	0	2	0	0	0	4	1	0	13	
7:15 AM	0	0	0	0	7	0	1	0	1	2	0	0	1	7	3	0	22	
7:30 AM	0	0	0	0	5	0	2	0	1	7	0	0	0	10	2	0	27	
7:45 AM	0	1	0	0	9	0	9	0	4	16	0	0	0	25	3	0	67	129
8:00 AM	0	0	0	0	4	0	3	0	6	19	0	0	0	19	4	0	55	171
8:15 AM	0	1	0	0	6	0	0	0	0	3	0	0	0	4	5	1	20	169
8:30 AM	0	0	0	0	8	0	2	0	1	4	0	0	0	4	7	0	26	168
8:45 AM	0	0	0	0	6	0	3	0	1	2	0	0	0	3	5	0	20	121

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	4	0	0	36	0	36	0	16	64	0	0	0	100	12	0	268
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	0		4
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Vermont St -- Blake St

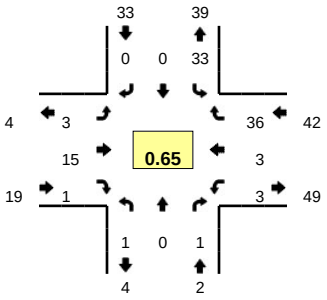
CITY/STATE: San Bernardino, CA

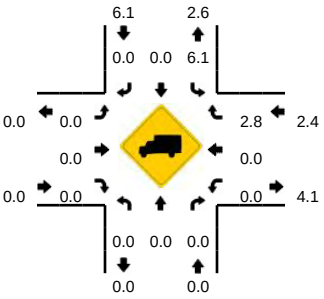
QC JOB #: 13917624

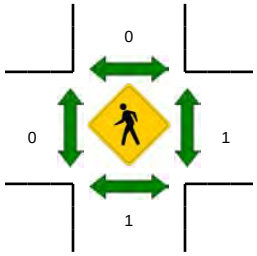
DATE: Tue, Sep 27 2016

Peak-Hour: 5:00 PM -- 6:00 PM

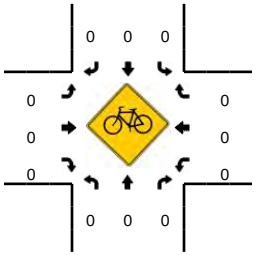
Peak 15-Min: 5:00 PM -- 5:15 PM

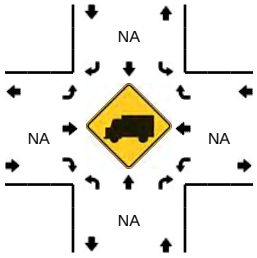




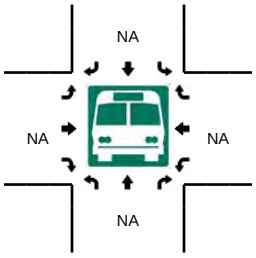












15-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				Blake St (Eastbound)				Blake St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	5	0	0	0	1	8	1	0	0	1	6	0	22	
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	13	0	15	
4:30 PM	0	0	1	0	3	0	0	0	1	5	0	0	3	2	6	0	21	
4:45 PM	0	0	0	0	3	0	3	0	0	3	0	0	0	0	7	0	16	74
5:00 PM	0	0	0	0	12	0	0	0	0	9	0	0	1	0	15	0	37	89
5:15 PM	0	0	0	0	4	0	0	0	1	3	0	0	0	0	6	0	14	88
5:30 PM	0	0	0	0	5	0	0	0	2	2	1	0	2	1	8	0	21	88
5:45 PM	1	0	1	0	12	0	0	0	0	1	0	0	0	2	7	0	24	96

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	48	0	0	0	0	36	0	0	4	0	60	0	148
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	4		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

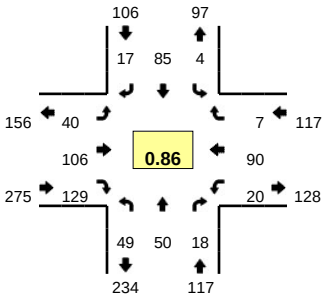
Type of peak hour being reported: Intersection Peak

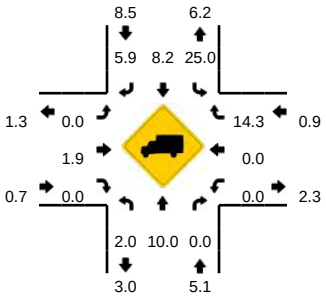
Method for determining peak hour: Total Entering Volume

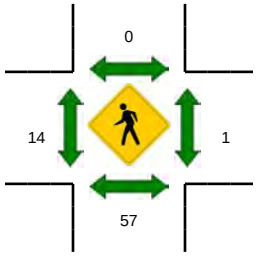
LOCATION: Macy St -- Blake St
CITY/STATE: San Bernardino, CA

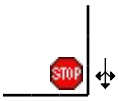
QC JOB #: 13917625
DATE: Tue, Sep 27 2016

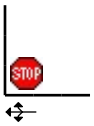
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

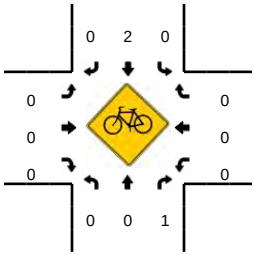


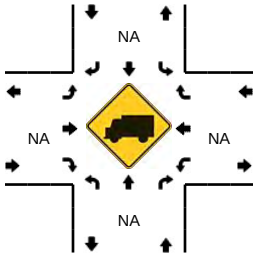


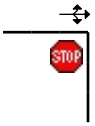


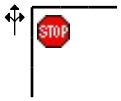


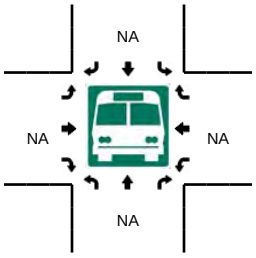












15-Min Count Period Beginning At	Macy St (Northbound)				Macy St (Southbound)				Blake St (Eastbound)				Blake St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	11	1	0	0	30	1	0	0	7	6	0	5	6	1	0	72	
7:15 AM	11	11	5	0	1	26	1	0	2	11	11	0	4	6	0	0	89	
7:30 AM	9	25	2	0	3	27	0	0	1	10	11	0	1	18	1	0	108	
7:45 AM	13	21	4	0	0	26	2	0	2	17	7	0	2	30	2	0	126	395
8:00 AM	13	12	2	0	1	17	5	0	5	23	21	0	4	21	2	0	126	449
8:15 AM	9	12	5	0	0	19	3	0	9	30	32	0	7	21	2	0	149	509
8:30 AM	13	13	3	0	1	28	4	0	9	27	45	0	5	30	1	0	179	580
8:45 AM	14	13	8	0	2	21	5	0	17	26	31	0	4	18	2	0	161	615

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	52	12	0	4	112	16	0	36	108	180	0	20	120	4	0	716
Heavy Trucks	0	4	0		0	16	0		0	8	0		0	0	0		28
Pedestrians		108				0				24				4			136
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

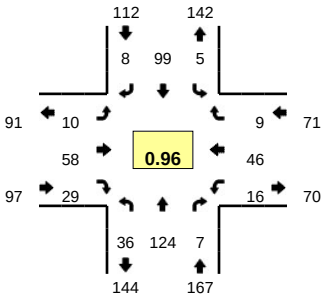
Type of peak hour being reported: Intersection Peak

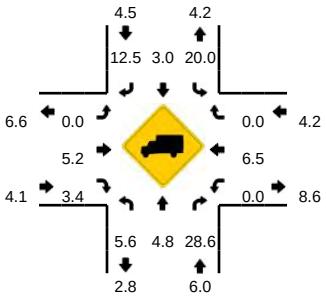
Method for determining peak hour: Total Entering Volume

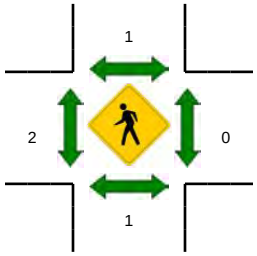
LOCATION: Macy St -- Blake St
CITY/STATE: San Bernardino, CA

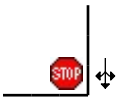
QC JOB #: 13917626
DATE: Tue, Sep 27 2016

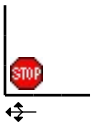
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

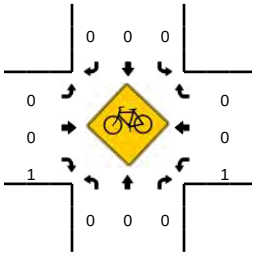


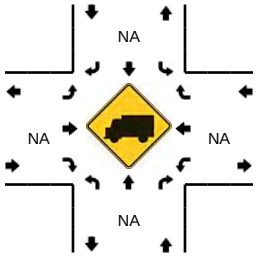


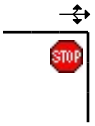


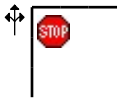


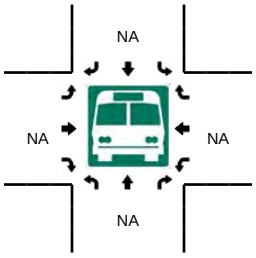












15-Min Count Period Beginning At	Macy St (Northbound)				Macy St (Southbound)				Blake St (Eastbound)				Blake St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	24	4	0	1	20	0	0	5	16	10	0	6	8	3	0	103	
4:15 PM	15	32	1	0	0	22	2	0	3	14	7	1	4	12	3	0	116	
4:30 PM	10	27	1	0	0	30	3	0	1	19	6	0	3	15	2	0	117	
4:45 PM	5	41	1	0	4	27	3	0	0	9	6	0	3	11	1	0	111	447
5:00 PM	9	22	3	0	0	25	1	0	0	14	17	0	3	7	2	0	103	447
5:15 PM	7	33	2	0	0	18	3	0	4	7	12	0	2	7	3	0	98	429
5:30 PM	15	38	1	0	1	22	0	0	2	18	10	0	2	10	2	0	121	433
5:45 PM	14	36	2	0	1	25	2	1	2	15	16	0	0	9	1	0	124	446

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	108	4	0	0	120	12	0	4	76	24	0	12	60	8	0	468
Heavy Trucks	0	8	0		0	8	4		0	8	4		0	4	0		36
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		1	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Del Rosa Dr -- Pacific St

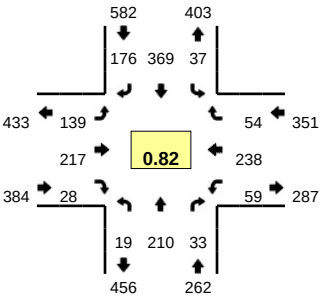
CITY/STATE: San Bernardino, CA

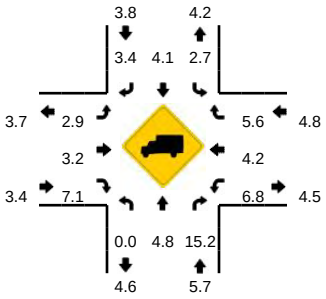
QC JOB #: 13917627

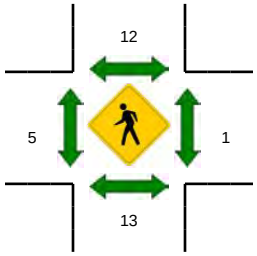
DATE: Tue, Sep 27 2016

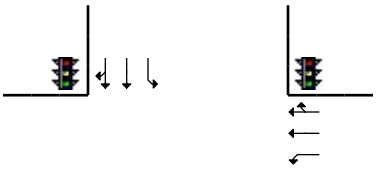
Peak-Hour: 7:00 AM -- 8:00 AM

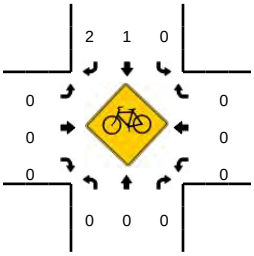
Peak 15-Min: 7:15 AM -- 7:30 AM

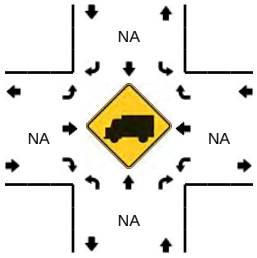




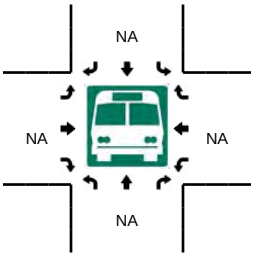












15-Min Count Period Beginning At	Del Rosa Dr (Northbound)				Del Rosa Dr (Southbound)				Pacific St (Eastbound)				Pacific St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	50	9	0	5	92	44	0	26	47	9	0	10	39	14	0	348	
7:15 AM	5	53	14	0	8	106	58	0	50	76	9	0	17	72	11	0	479	
7:30 AM	7	62	8	0	17	85	45	0	37	54	9	0	20	78	16	0	438	
7:45 AM	4	45	2	0	7	86	29	0	26	40	1	0	12	49	13	0	314	1579
8:00 AM	10	57	3	0	7	80	32	0	25	34	8	0	10	43	5	0	314	1545
8:15 AM	7	43	10	0	7	60	26	0	35	37	5	0	15	48	9	0	302	1368
8:30 AM	7	43	7	0	7	77	39	0	32	51	4	0	8	53	5	0	333	1263
8:45 AM	2	47	5	0	6	74	23	0	39	45	4	0	6	45	6	0	302	1251

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	212	56	0	32	424	232	0	200	304	36	0	68	288	44	0	1916
Heavy Trucks	0	8	8		0	32	0		4	16	4		4	8	4		88
Pedestrians		16				12				12				0			40
Bicycles	0	0	0		0	0	1		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Del Rosa Dr -- Pacific St

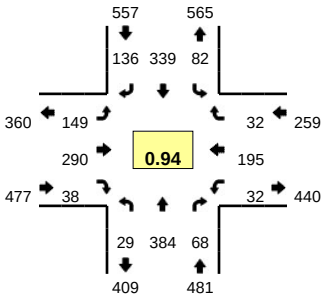
CITY/STATE: San Bernardino, CA

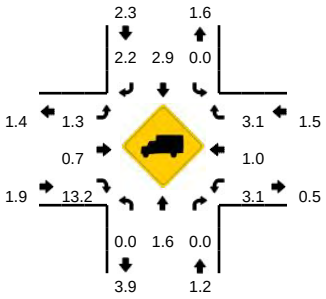
QC JOB #: 13917628

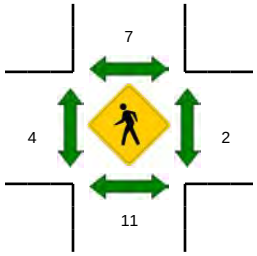
DATE: Tue, Sep 27 2016

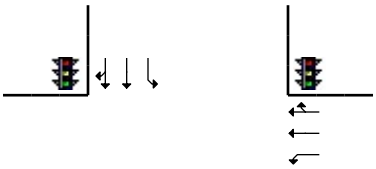
Peak-Hour: 4:45 PM -- 5:45 PM

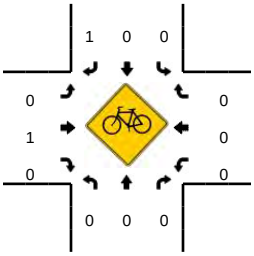
Peak 15-Min: 5:15 PM -- 5:30 PM

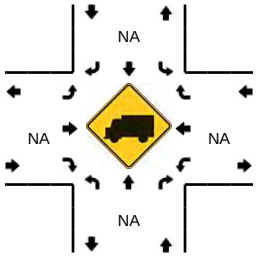




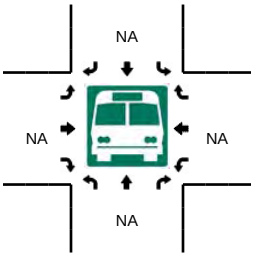












15-Min Count Period Beginning At	Del Rosa Dr (Northbound)				Del Rosa Dr (Southbound)				Pacific St (Eastbound)				Pacific St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	96	9	0	16	75	47	0	43	55	5	0	6	40	6	0	403	
4:15 PM	5	76	10	0	14	82	37	0	24	55	8	0	3	39	6	0	359	
4:30 PM	4	78	18	0	17	86	39	0	35	66	12	0	7	43	6	0	411	
4:45 PM	8	95	14	0	22	92	31	0	25	56	9	0	4	45	6	0	407	1580
5:00 PM	7	87	13	0	26	87	26	0	47	84	9	0	6	38	8	0	438	1615
5:15 PM	7	104	21	0	13	90	44	0	38	70	7	0	12	58	8	0	472	1728
5:30 PM	7	98	20	0	21	70	35	0	39	80	13	0	10	54	10	0	457	1774
5:45 PM	3	79	14	0	15	73	30	0	23	71	12	0	9	50	8	0	387	1754

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	416	84	0	52	360	176	0	152	280	28	0	48	232	32	0	1888
Heavy Trucks	0	4	0		0	8	8		4	0	0		0	0	0		24
Pedestrians		20				8				4				0			32
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

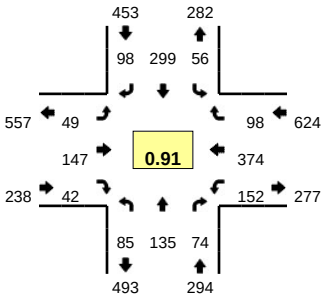
LOCATION: Alabama St -- San Bernardino Ave

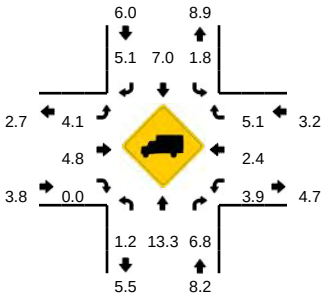
QC JOB #: 13917629

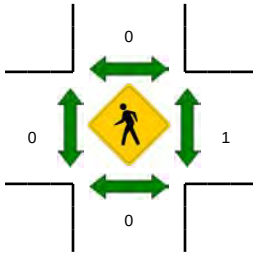
CITY/STATE: Redlands, CA

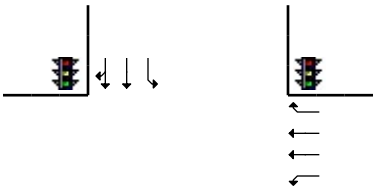
DATE: Tue, Sep 27 2016

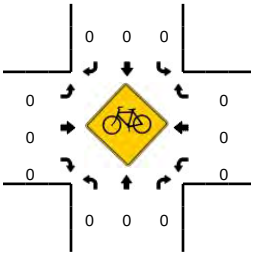
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

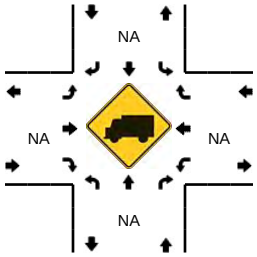


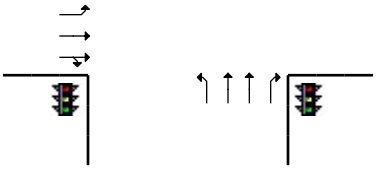


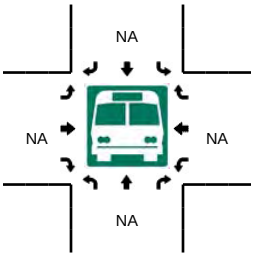












15-Min Count Period Beginning At	Alabama St (Northbound)				Alabama St (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	17	39	11	0	3	32	11	0	7	15	7	0	25	71	8	0	246	
7:15 AM	33	35	11	0	13	41	25	0	8	16	4	0	33	110	11	0	340	
7:30 AM	30	28	18	0	16	63	22	0	8	29	9	0	37	98	10	0	368	
7:45 AM	21	36	22	0	12	86	21	0	6	31	10	0	39	129	15	0	428	1382
8:00 AM	26	37	17	0	20	68	25	0	25	45	11	0	47	79	40	0	440	1576
8:15 AM	8	34	17	0	8	82	30	0	10	42	12	0	29	68	33	0	373	1609
8:30 AM	7	39	15	0	4	65	15	0	8	31	5	0	54	79	7	0	329	1570
8:45 AM	7	49	21	0	10	70	12	0	6	28	7	0	37	66	13	0	326	1468

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	148	68	0	80	272	100	0	100	180	44	0	188	316	160	0	1760
Heavy Trucks	4	28	0		0	20	8		4	12	0		4	0	8		88
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

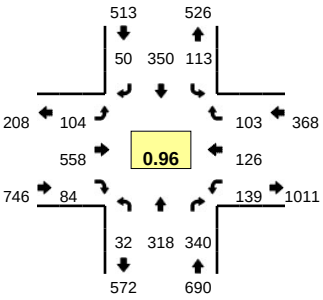
LOCATION: Alabama St -- San Bernardino Ave

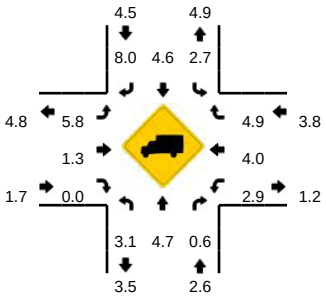
QC JOB #: 13917630

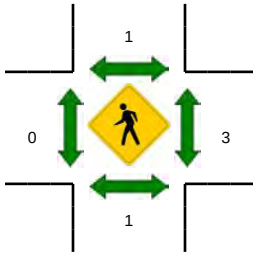
CITY/STATE: Redlands, CA

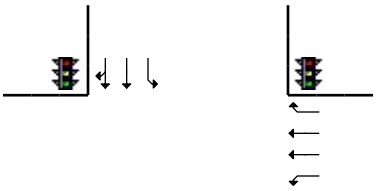
DATE: Tue, Sep 27 2016

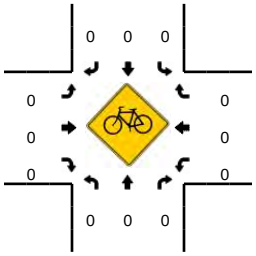
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

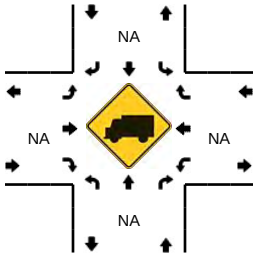


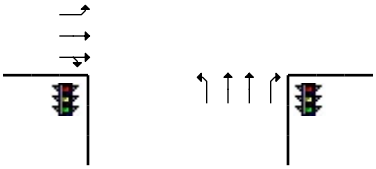


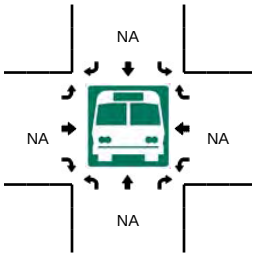












15-Min Count Period Beginning At	Alabama St (Northbound)				Alabama St (Southbound)				San Bernardino Ave (Eastbound)				San Bernardino Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	72	62	0	14	78	15	0	25	86	18	0	40	40	17	0	476	
4:15 PM	9	74	71	0	8	65	5	0	32	99	14	0	48	36	19	0	480	
4:30 PM	8	99	86	0	21	101	8	0	29	127	29	0	43	26	25	1	603	
4:45 PM	10	69	82	0	28	104	19	0	15	126	17	0	32	41	12	0	555	2114
5:00 PM	10	76	84	0	23	68	9	1	26	161	17	0	32	27	21	0	555	2193
5:15 PM	4	74	88	0	40	77	14	0	34	144	21	0	31	32	45	0	604	2317
5:30 PM	14	76	81	0	19	74	12	0	21	131	19	0	37	43	27	0	554	2268
5:45 PM	10	79	66	1	28	73	17	0	16	120	20	0	38	36	13	0	517	2230

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	296	352	0	160	308	56	0	136	576	84	0	124	128	180	0	2416
Heavy Trucks	0	8	4		8	4	4		16	0	0		4	8	8		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/31/2016 8:24 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

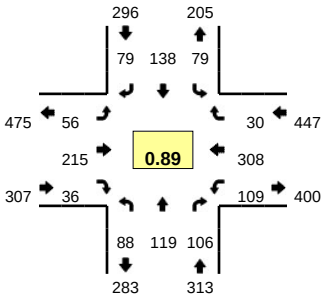
Type of peak hour being reported: Intersection Peak

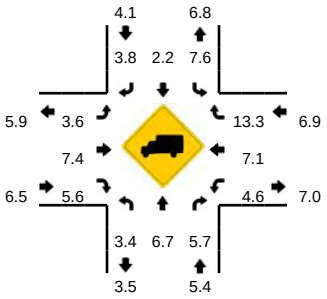
Method for determining peak hour: Total Entering Volume

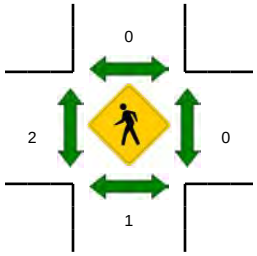
LOCATION: Sheep Creek Rd -- Phelan Rd
CITY/STATE: San Bernardino, CA

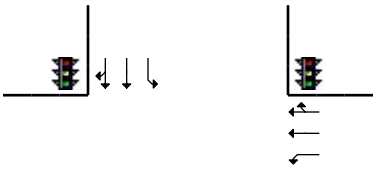
QC JOB #: 13917631
DATE: Thu, Oct 20 2016

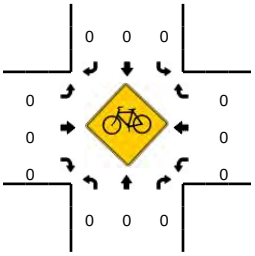
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

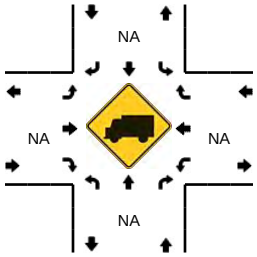




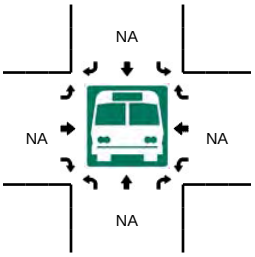












15-Min Count Period Beginning At	Sheep Creek Rd (Northbound)				Sheep Creek Rd (Southbound)				Phelan Rd (Eastbound)				Phelan Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	35	22	0	8	11	30	0	7	51	7	0	7	64	5	0	259	
7:15 AM	11	15	13	0	10	13	22	0	8	52	5	0	4	68	9	0	230	
7:30 AM	6	12	16	0	28	19	31	0	9	67	3	0	11	72	9	0	283	
7:45 AM	7	15	28	0	53	17	40	0	9	73	4	0	22	85	18	0	371	1143
8:00 AM	16	19	20	0	26	20	24	0	11	42	10	0	38	87	7	0	320	1204
8:15 AM	24	22	26	0	19	23	20	0	13	59	6	0	21	88	11	0	332	1306
8:30 AM	21	44	25	0	18	50	13	0	17	53	12	0	26	49	2	0	330	1353
8:45 AM	27	34	35	0	16	45	22	0	15	61	8	0	24	84	10	0	381	1363

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	136	140	0	64	180	88	0	60	244	32	0	96	336	40	0	1524
Heavy Trucks	0	0	12		8	0	0		0	16	0		4	24	8		72
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

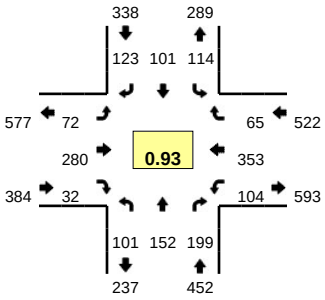
Type of peak hour being reported: Intersection Peak

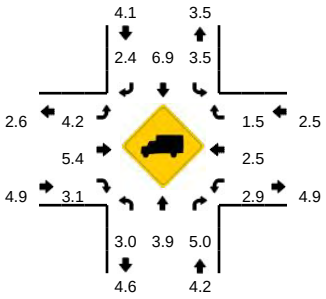
Method for determining peak hour: Total Entering Volume

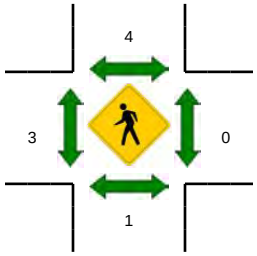
LOCATION: Sheep Creek Rd -- Phelan Rd
CITY/STATE: San Bernardino, CA

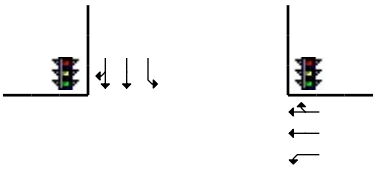
QC JOB #: 13917632
DATE: Thu, Oct 20 2016

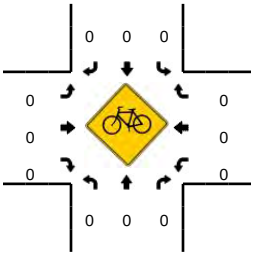
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

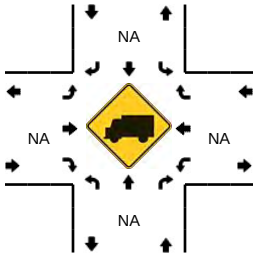




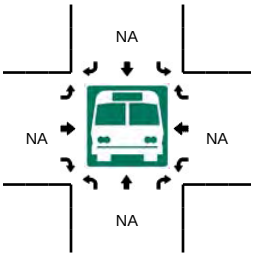












15-Min Count Period Beginning At	Sheep Creek Rd (Northbound)				Sheep Creek Rd (Southbound)				Phelan Rd (Eastbound)				Phelan Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	27	43	41	0	22	25	30	0	20	75	7	0	30	78	8	0	406	
4:15 PM	21	42	46	0	17	26	30	0	20	76	5	0	34	103	14	0	434	
4:30 PM	23	30	32	0	34	30	36	0	20	69	8	0	29	82	18	0	411	
4:45 PM	22	29	32	0	26	18	31	0	15	67	8	0	26	89	10	0	373	1624
5:00 PM	23	36	69	0	29	26	15	0	24	87	6	0	30	98	12	0	455	1673
5:15 PM	29	42	54	0	32	27	26	0	15	58	5	0	21	76	15	0	400	1639
5:30 PM	23	37	46	0	28	24	38	0	20	72	14	0	28	74	19	0	423	1651
5:45 PM	26	37	30	0	25	24	44	0	13	63	7	0	25	105	19	0	418	1696

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	92	144	276	0	116	104	60	0	96	348	24	0	120	392	48	0	1820
Heavy Trucks	4	16	12		4	8	0		0	20	0		4	8	0		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

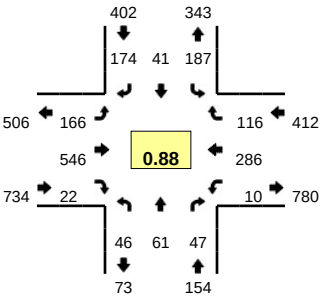
Type of peak hour being reported: Intersection Peak

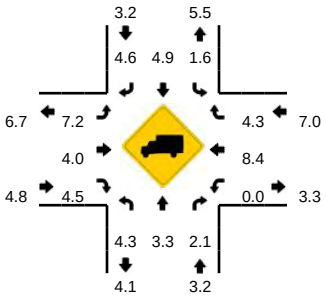
Method for determining peak hour: Total Entering Volume

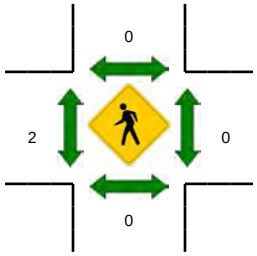
LOCATION: Baldy Mesa Rd -- Phelan Rd
CITY/STATE: San Bernardino, CA

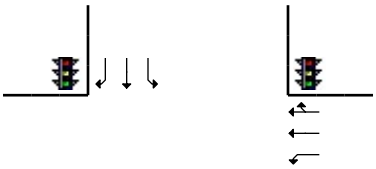
QC JOB #: 13917633
DATE: Wed, Oct 19 2016

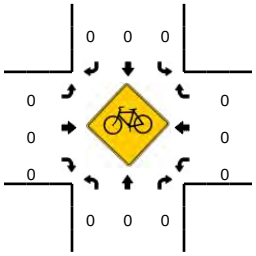
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

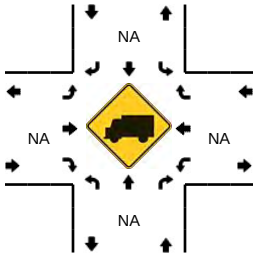




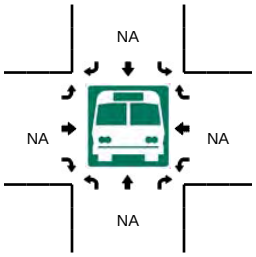












15-Min Count Period Beginning At	Baldy Mesa Rd (Northbound)				Baldy Mesa Rd (Southbound)				Phelan Rd (Eastbound)				Phelan Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	14	13	0	29	6	13	0	35	101	7	0	3	48	12	0	288	
7:15 AM	6	11	11	0	32	2	27	0	18	139	5	0	3	47	18	0	319	
7:30 AM	14	10	13	0	30	5	41	0	51	146	3	0	3	74	17	0	407	
7:45 AM	23	28	14	0	45	11	58	0	56	123	4	0	2	66	53	0	483	1497
8:00 AM	4	17	6	0	67	14	43	0	36	152	10	0	2	76	24	0	451	1660
8:15 AM	5	6	14	0	45	11	32	0	23	125	5	0	3	70	22	0	361	1702
8:30 AM	4	15	10	0	43	15	36	0	24	107	8	0	6	70	35	0	373	1668
8:45 AM	9	8	12	0	45	14	23	0	19	125	3	0	5	82	30	0	375	1560

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	92	112	56	0	180	44	232	0	224	492	16	0	8	264	212	0	1932
Heavy Trucks	0	4	4		0	0	12		20	8	0		0	28	4		80
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

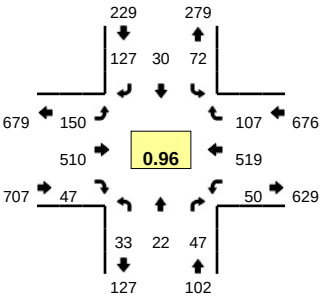
Type of peak hour being reported: Intersection Peak

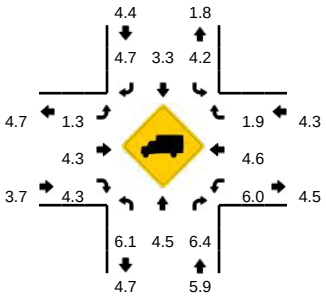
Method for determining peak hour: Total Entering Volume

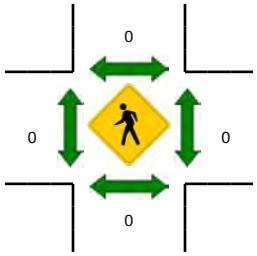
LOCATION: Baldy Mesa Rd -- Phelan Rd
CITY/STATE: San Bernardino, CA

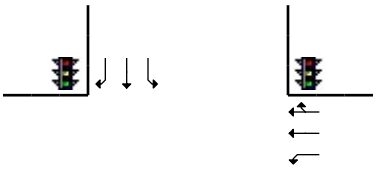
QC JOB #: 13917634
DATE: Wed, Oct 19 2016

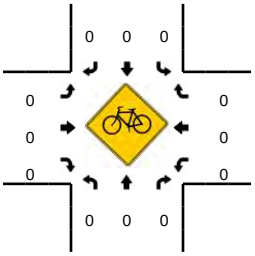
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

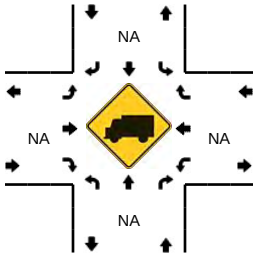




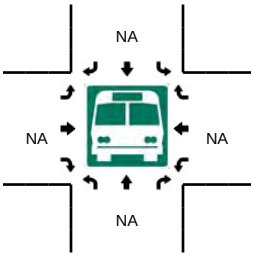












15-Min Count Period Beginning At	Baldy Mesa Rd (Northbound)				Baldy Mesa Rd (Southbound)				Phelan Rd (Eastbound)				Phelan Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	4	5	0	43	12	35	0	19	107	4	0	9	110	27	0	383	
4:15 PM	11	8	7	0	20	8	33	0	21	130	6	0	16	130	31	0	421	
4:30 PM	10	6	10	0	15	8	36	0	35	132	10	0	19	125	21	0	427	
4:45 PM	5	7	12	0	16	8	34	0	33	131	16	0	9	128	26	0	425	1656
5:00 PM	7	4	9	0	27	6	25	0	40	115	10	0	9	129	33	0	414	1687
5:15 PM	11	5	16	0	14	8	32	0	42	132	11	0	13	137	27	0	448	1714
5:30 PM	11	1	12	0	16	7	28	0	21	107	4	0	13	155	37	0	412	1699
5:45 PM	6	3	8	0	24	12	25	0	21	92	8	0	12	126	39	0	376	1650

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	20	64	0	56	32	128	0	168	528	44	0	52	548	108	0	1792
Heavy Trucks	0	0	0		4	4	4		0	28	0		0	12	0		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Escondido Ave -- Ranchero Rd

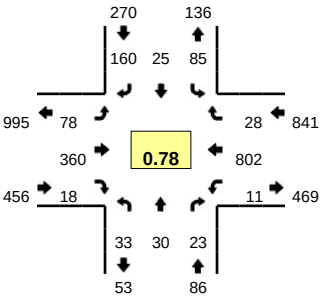
CITY/STATE: San Bernardino, CA

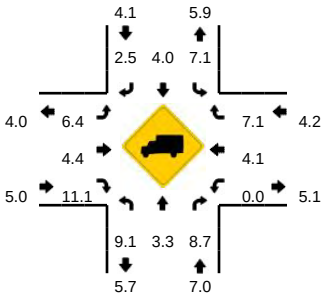
QC JOB #: 13917635

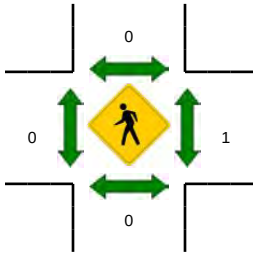
DATE: Thu, Oct 20 2016

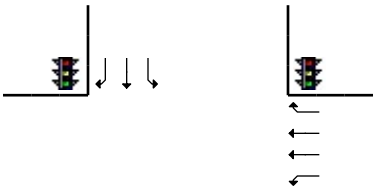
Peak-Hour: 7:00 AM -- 8:00 AM

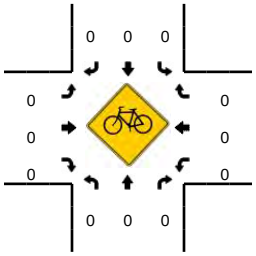
Peak 15-Min: 7:15 AM -- 7:30 AM

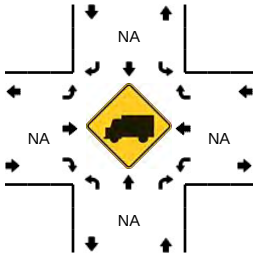


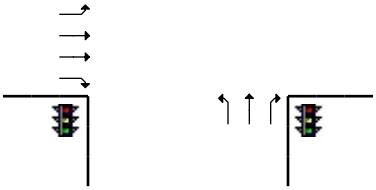


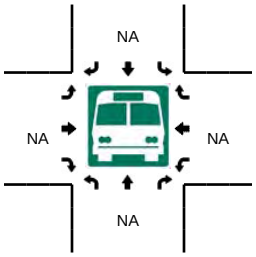












15-Min Count Period Beginning At	Escondido Ave (Northbound)				Escondido Ave (Southbound)				Ranchero Rd (Eastbound)				Ranchero Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	16	14	5	0	17	7	47	0	17	101	4	0	4	264	6	0	502	
7:15 AM	10	6	4	0	26	9	59	0	28	119	4	0	3	262	3	0	533	
7:30 AM	4	1	6	0	31	6	29	0	21	92	8	0	2	155	5	1	361	
7:45 AM	3	9	8	0	11	3	25	0	12	48	2	0	1	121	14	0	257	1653
8:00 AM	1	6	5	0	24	5	26	0	19	51	2	0	6	118	18	0	281	1432
8:15 AM	7	4	4	0	14	3	29	0	11	52	0	0	1	165	19	2	311	1210
8:30 AM	4	4	2	0	16	1	20	0	8	48	3	0	2	110	10	1	229	1078
8:45 AM	3	3	6	0	18	2	13	0	7	54	1	0	4	152	15	1	279	1100

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	24	16	0	104	36	236	0	112	476	16	0	12	1048	12	0	2132
Heavy Trucks	0	0	0		8	0	4		8	28	0		0	44	0		92
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

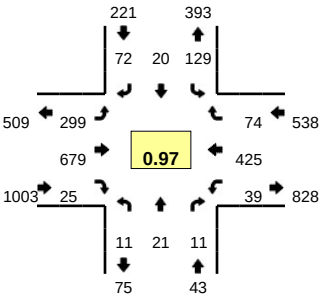
Method for determining peak hour: Total Entering Volume

LOCATION: Escondido Ave -- Ranchero Rd

CITY/STATE: San Bernardino, CA

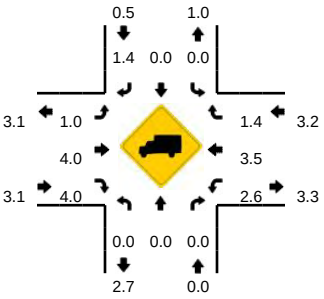
QC JOB #: 13917636

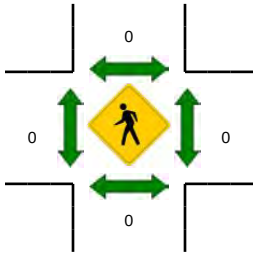
DATE: Wed, Oct 19 2016

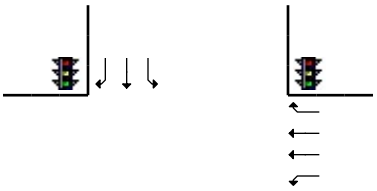


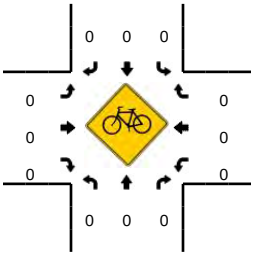
Peak-Hour: 4:30 PM -- 5:30 PM

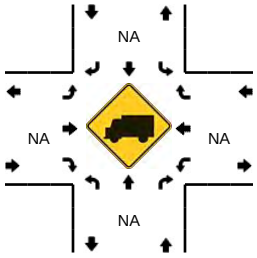
Peak 15-Min: 4:30 PM -- 4:45 PM

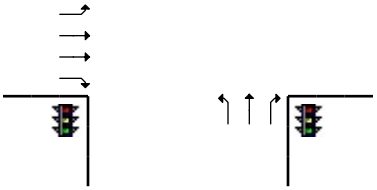


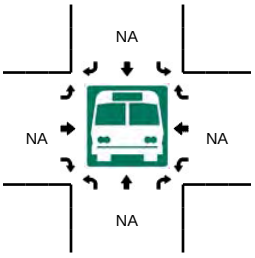












15-Min Count Period Beginning At	Escondido Ave (Northbound)				Escondido Ave (Southbound)				Ranchero Rd (Eastbound)				Ranchero Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	5	3	0	25	7	15	0	66	161	2	0	6	110	26	0	429	
4:15 PM	2	3	2	0	18	4	22	0	60	171	3	1	3	125	19	2	435	
4:30 PM	7	5	2	0	42	5	21	0	73	164	7	1	8	109	21	1	466	
4:45 PM	2	6	2	0	34	6	19	0	80	162	4	0	7	100	17	4	443	1773
5:00 PM	1	4	5	0	21	3	19	0	77	172	6	0	9	115	14	2	448	1792
5:15 PM	1	6	2	0	32	6	13	0	68	181	8	0	6	101	22	2	448	1805
5:30 PM	6	2	2	0	30	6	19	0	65	150	6	0	10	84	18	4	402	1741
5:45 PM	3	10	3	0	31	9	16	0	57	155	5	0	6	84	24	0	403	1701

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	20	8	0	168	20	84	0	292	656	28	4	32	436	84	4	1864
Heavy Trucks	0	0	0		0	0	0		0	32	4		0	12	0		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

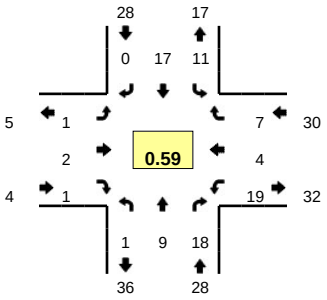
Type of peak hour being reported: Intersection Peak

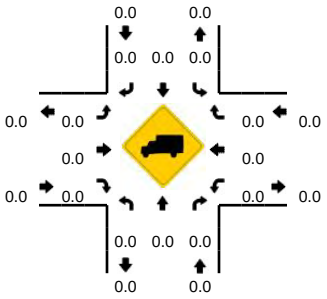
Method for determining peak hour: Total Entering Volume

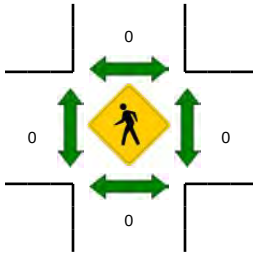
LOCATION: Pioneer Dr -- Juniper Ave
CITY/STATE: San Bernardino, CA

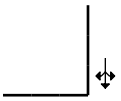
QC JOB #: 13917637
DATE: Tue, Oct 25 2016

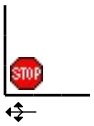
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

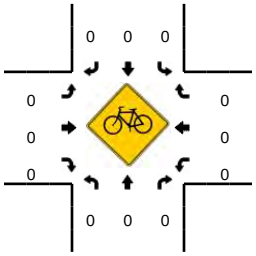


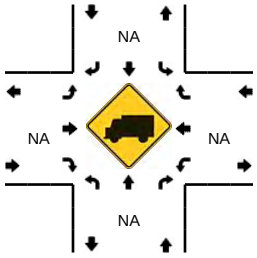


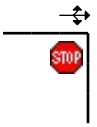


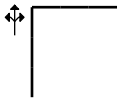


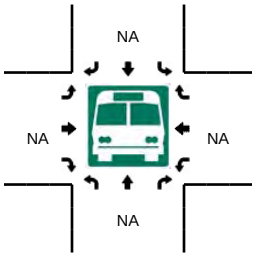












15-Min Count Period Beginning At	Pioneer Dr (Northbound)				Pioneer Dr (Southbound)				Juniper Ave (Eastbound)				Juniper Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	3	0	0	4	0	0	0	0	0	0	1	0	1	0	10	
7:15 AM	0	1	1	0	0	2	0	0	0	0	1	0	0	0	1	0	6	
7:30 AM	0	1	1	0	1	5	0	0	0	2	2	0	0	0	0	0	12	
7:45 AM	0	1	1	0	1	3	0	0	0	1	0	0	1	1	0	0	9	37
8:00 AM	0	2	4	0	3	3	0	0	1	0	0	0	2	0	2	0	17	44
8:15 AM	0	2	10	0	5	5	0	0	0	1	0	0	10	1	3	1	38	76
8:30 AM	1	4	3	0	2	6	0	0	0	0	1	0	5	2	2	0	26	90
8:45 AM	0	2	1	0	0	4	0	0	0	0	1	0	0	1	0	0	9	90

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	8	40	0	20	20	0	0	0	4	0	0	40	4	12	4	152
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

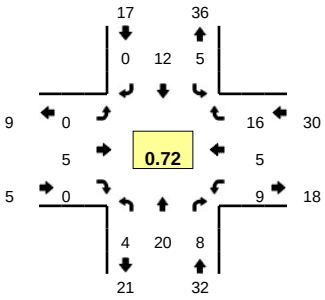
Type of peak hour being reported: Intersection Peak

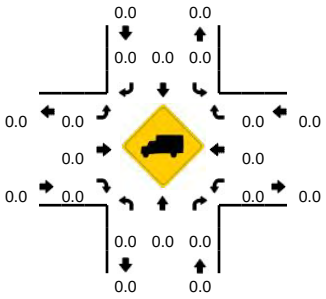
Method for determining peak hour: Total Entering Volume

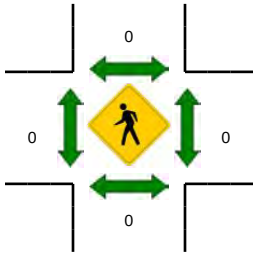
LOCATION: Pioneer Dr -- Juniper Ave
CITY/STATE: San Bernardino, CA

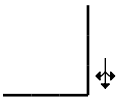
QC JOB #: 13917638
DATE: Tue, Oct 25 2016

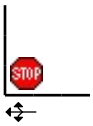
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

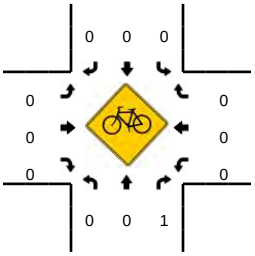


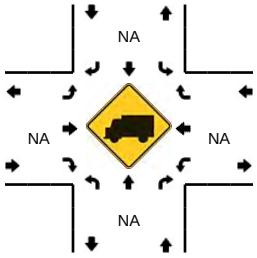


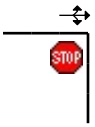


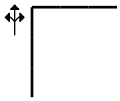


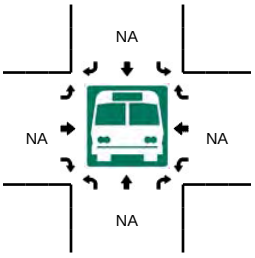












15-Min Count Period Beginning At	Pioneer Dr (Northbound)				Pioneer Dr (Southbound)				Juniper Ave (Eastbound)				Juniper Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	0	0	1	1	0	0	0	0	1	0	4	1	4	0	13	
4:15 PM	0	4	2	0	2	5	0	0	0	1	0	0	2	0	3	0	19	
4:30 PM	0	8	1	0	2	2	0	0	1	0	0	0	1	0	1	0	16	
4:45 PM	2	0	0	0	0	4	0	0	0	1	1	0	2	1	3	0	14	62
5:00 PM	2	7	0	0	1	2	0	0	0	2	0	0	1	1	4	0	20	69
5:15 PM	0	5	4	0	2	3	0	0	0	0	0	0	1	1	3	0	19	69
5:30 PM	2	5	4	0	1	3	0	0	0	2	0	0	4	0	8	0	29	82
5:45 PM	0	3	0	0	1	4	0	0	0	1	0	0	3	3	1	0	16	84

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	20	16	0	4	12	0	0	0	8	0	0	16	0	32	0	116
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Avalon Ave -- Aberdeen Dr

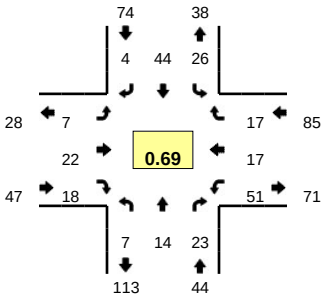
CITY/STATE: San Bernardino, CA

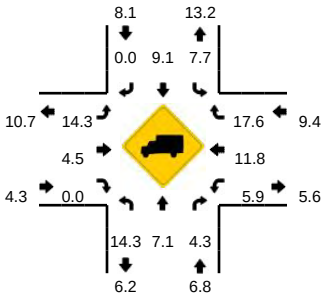
QC JOB #: 13917639

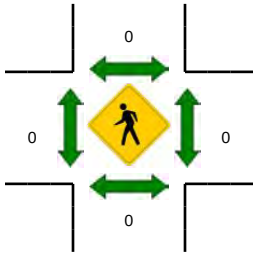
DATE: Tue, Oct 25 2016

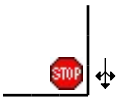
Peak-Hour: 8:00 AM -- 9:00 AM

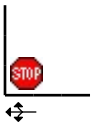
Peak 15-Min: 8:30 AM -- 8:45 AM

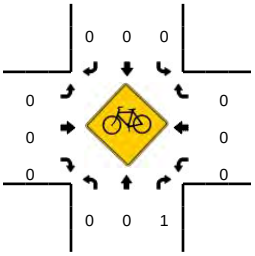


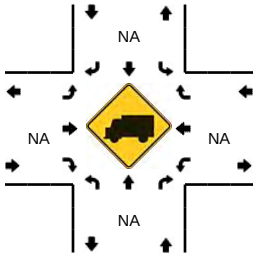


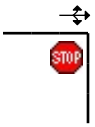


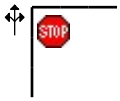


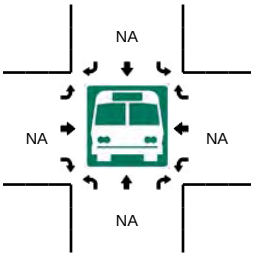












15-Min Count Period Beginning At	Avalon Ave (Northbound)				Avalon Ave (Southbound)				Aberdeen Dr (Eastbound)				Aberdeen Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	1	3	0	3	6	1	0	0	3	3	0	5	3	7	0	36	
7:15 AM	2	2	3	0	6	6	0	0	0	1	2	0	1	5	3	0	31	
7:30 AM	0	1	2	0	5	3	2	0	3	3	1	0	4	5	5	0	34	
7:45 AM	1	4	2	0	4	3	1	0	1	6	2	0	8	2	4	0	38	139
8:00 AM	0	1	2	0	5	8	0	0	3	4	2	0	7	3	7	0	42	145
8:15 AM	2	1	2	0	6	6	2	0	2	9	2	0	3	8	2	0	45	159
8:30 AM	4	7	5	0	11	18	1	0	1	5	7	0	25	4	2	0	90	215
8:45 AM	1	5	14	0	4	12	1	0	1	4	7	0	16	2	6	0	73	250

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	28	20	0	44	72	4	0	4	20	28	0	100	16	8	0	360
Heavy Trucks	4	0	0		0	8	0		0	0	0		0	4	4		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

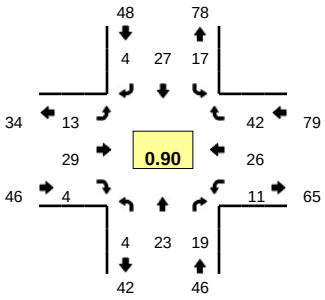
Type of peak hour being reported: Intersection Peak

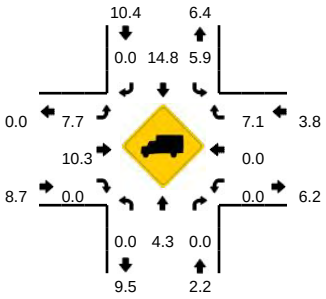
Method for determining peak hour: Total Entering Volume

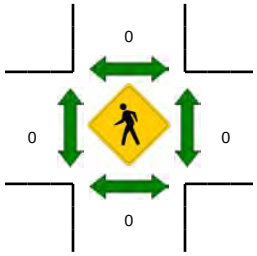
LOCATION: Avalon Ave -- Aberdeen Dr
CITY/STATE: San Bernardino, CA

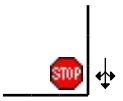
QC JOB #: 13917640
DATE: Tue, Oct 25 2016

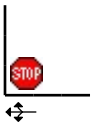
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

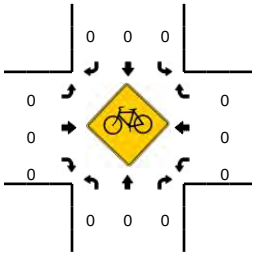


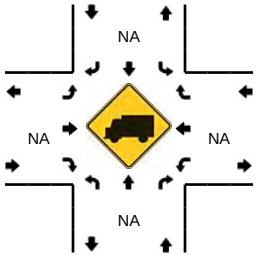


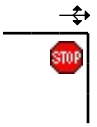


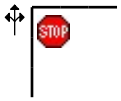


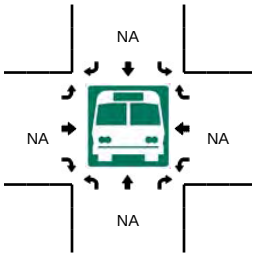












15-Min Count Period Beginning At	Avalon Ave (Northbound)				Avalon Ave (Southbound)				Aberdeen Dr (Eastbound)				Aberdeen Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	4	3	0	4	9	1	0	4	7	0	0	1	13	13	0	61	
4:15 PM	0	4	5	0	5	8	0	0	3	7	1	0	2	7	6	0	48	
4:30 PM	1	7	6	0	4	4	0	0	2	6	2	0	5	5	16	0	58	
4:45 PM	1	8	5	0	4	6	3	0	4	9	1	0	3	1	7	0	52	219
5:00 PM	2	8	3	0	7	5	0	0	5	7	1	0	8	6	9	0	61	219
5:15 PM	0	5	2	0	2	4	0	0	0	4	2	0	2	5	4	0	30	201
5:30 PM	0	5	2	0	5	9	0	0	0	6	3	0	3	9	9	0	51	194
5:45 PM	2	8	4	0	5	6	0	0	1	4	1	0	6	3	13	0	53	195

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	16	12	0	16	36	4	0	16	28	0	0	4	52	52	0	244
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	8		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

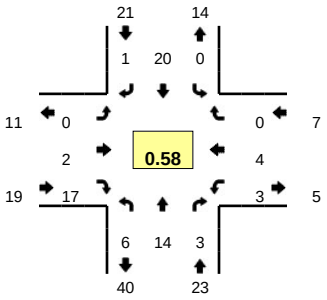
Type of peak hour being reported: Intersection Peak

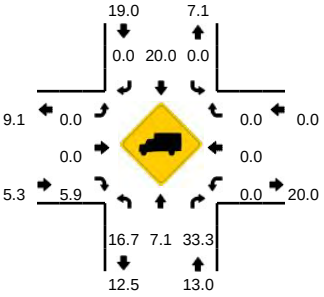
Method for determining peak hour: Total Entering Volume

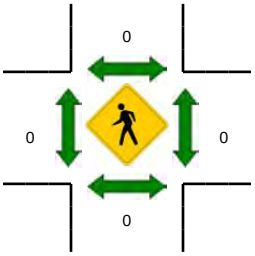
LOCATION: Sunfair Rd -- Broadway
CITY/STATE: San Bernardino, CA

QC JOB #: 13917641
DATE: Tue, Oct 25 2016

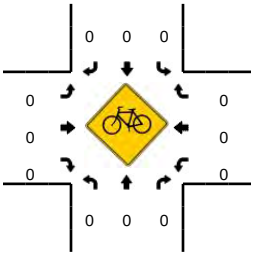
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

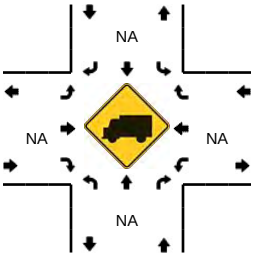




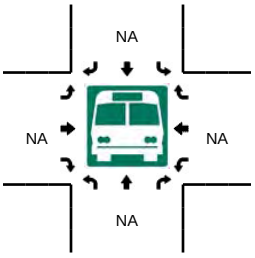












15-Min Count Period Beginning At	Sunfair Rd (Northbound)				Sunfair Rd (Southbound)				Broadway (Eastbound)				Broadway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	0	0	0	1	0	0	1	0	2	0	1	0	0	0	6	
7:15 AM	2	1	0	0	0	3	1	0	0	1	6	0	1	0	0	0	15	
7:30 AM	2	1	0	0	0	6	0	0	0	0	3	0	1	0	0	0	13	
7:45 AM	0	5	0	0	0	2	0	0	0	1	3	0	1	0	0	0	12	46
8:00 AM	2	7	3	0	0	9	0	0	0	0	5	0	0	4	0	0	30	70
8:15 AM	0	2	0	0	0	4	0	0	0	0	1	0	0	0	0	0	7	62
8:30 AM	3	3	0	0	0	4	0	0	0	0	4	0	0	0	0	0	14	63
8:45 AM	0	2	0	0	0	5	0	0	0	0	0	0	1	0	0	0	8	59

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	28	12	0	0	36	0	0	0	0	20	0	0	16	0	0	120
Heavy Trucks	0	0	4		0	16	0		0	0	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

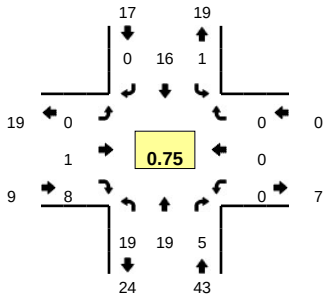
Type of peak hour being reported: Intersection Peak

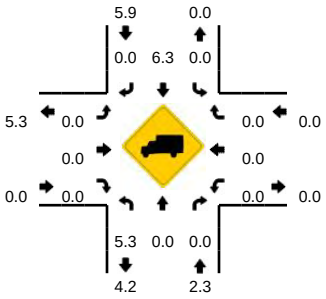
Method for determining peak hour: Total Entering Volume

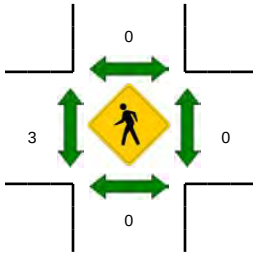
LOCATION: Sunfair Rd -- Broadway
CITY/STATE: San Bernardino, CA

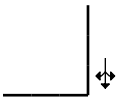
QC JOB #: 13917642
DATE: Tue, Oct 25 2016

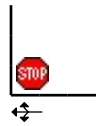
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

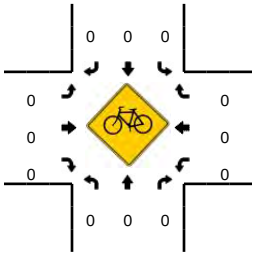


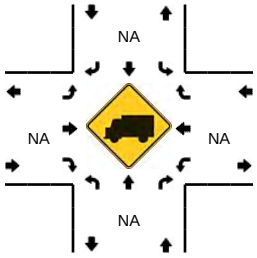


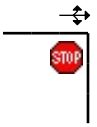


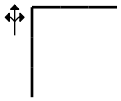


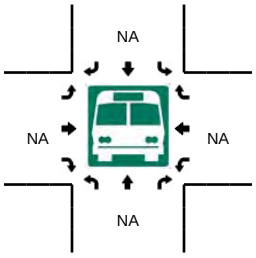












15-Min Count Period Beginning At	Sunfair Rd (Northbound)				Sunfair Rd (Southbound)				Broadway (Eastbound)				Broadway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	4	0	0	0	6	0	0	0	0	2	0	0	0	0	0	14	
4:15 PM	1	12	1	0	0	2	0	0	0	0	0	0	0	0	0	0	16	
4:30 PM	9	7	2	0	1	4	0	0	0	0	0	0	0	0	0	0	23	
4:45 PM	1	2	1	0	0	7	0	0	0	0	0	0	0	0	0	0	11	64
5:00 PM	3	4	1	0	0	2	0	0	0	1	4	0	0	0	0	0	15	65
5:15 PM	6	6	1	0	0	3	0	0	0	0	4	0	0	0	0	0	20	69
5:30 PM	4	5	1	0	1	3	0	0	0	0	0	0	2	0	0	0	16	62
5:45 PM	2	3	0	0	0	2	0	0	0	0	1	0	1	0	0	0	9	60

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	28	8	0	4	16	0	0	0	0	0	0	0	0	0	0	92
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 5:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Crafton Ave -- Mentone Blvd

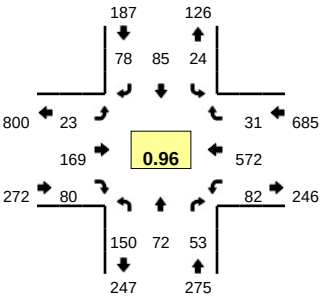
CITY/STATE: Mentone, CA

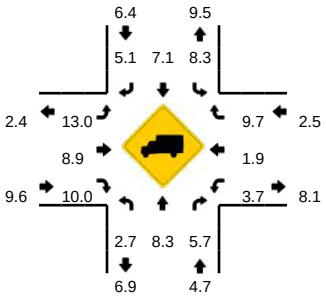
QC JOB #: 13917801

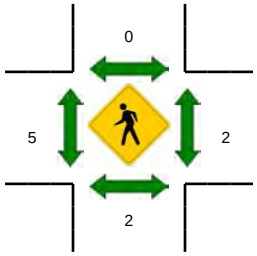
DATE: Thu, Nov 10 2016

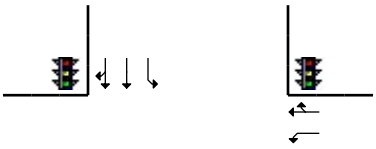
Peak-Hour: 7:00 AM -- 8:00 AM

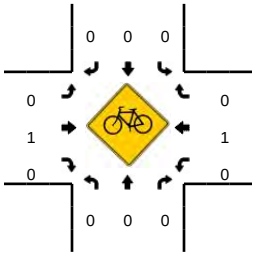
Peak 15-Min: 7:15 AM -- 7:30 AM

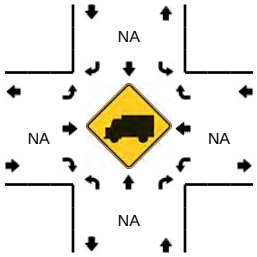




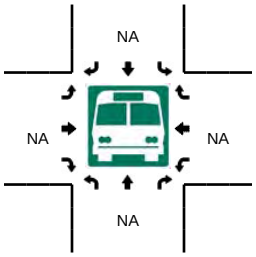












15-Min Count Period Beginning At	Crafton Ave (Northbound)				Crafton Ave (Southbound)				Mentone Blvd (Eastbound)				Mentone Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	35	23	8	0	7	36	18	0	5	43	16	0	29	125	12	0	357	
7:15 AM	40	25	23	0	6	21	23	0	3	34	25	0	24	138	9	0	371	
7:30 AM	28	12	13	0	9	21	17	0	4	55	16	0	14	173	4	0	366	
7:45 AM	47	12	9	0	2	7	20	0	11	37	23	0	15	136	6	0	325	1419
8:00 AM	36	10	8	0	7	14	28	0	5	59	22	0	11	112	5	0	317	1379
8:15 AM	25	11	9	0	7	12	13	0	12	59	15	0	9	102	9	0	283	1291
8:30 AM	21	14	11	0	6	17	10	0	4	51	24	0	5	102	4	0	269	1194
8:45 AM	23	8	13	0	3	12	20	0	10	60	34	0	8	93	4	0	288	1157

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	100	92	0	24	84	92	0	12	136	100	0	96	552	36	0	1484
Heavy Trucks	0	8	0		0	4	4		8	8	16		0	8	4		60
Pedestrians		4				0				4				8			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

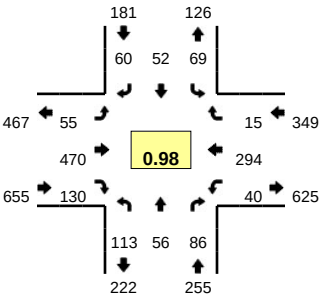
LOCATION: Crafton Ave -- Mentone Blvd

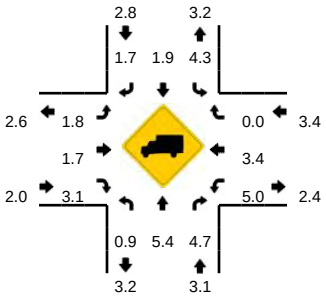
QC JOB #: 13917802

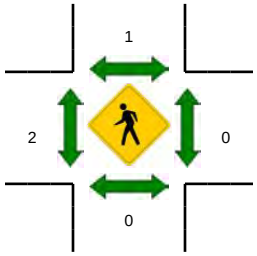
CITY/STATE: Mentone, CA

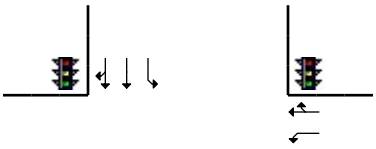
DATE: Wed, Nov 09 2016

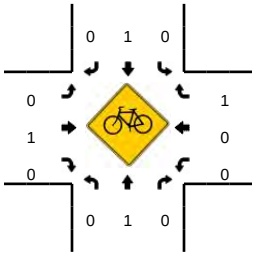
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

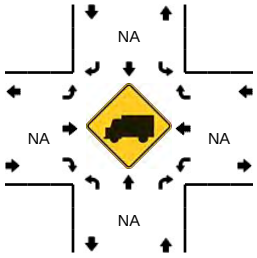




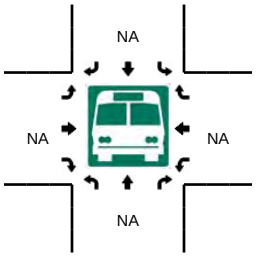












15-Min Count Period Beginning At	Crafton Ave (Northbound)				Crafton Ave (Southbound)				Mentone Blvd (Eastbound)				Mentone Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	15	7	23	0	17	6	12	0	14	119	37	0	12	69	3	0	334	
4:15 PM	29	20	27	0	18	12	11	0	16	135	31	0	12	56	2	0	369	
4:30 PM	35	9	14	0	22	11	19	0	10	114	32	0	6	88	4	0	364	
4:45 PM	27	16	21	0	11	14	13	0	16	114	33	0	15	81	4	0	365	1432
5:00 PM	22	11	24	0	18	15	17	0	13	107	34	0	7	69	5	0	342	1440
5:15 PM	24	15	30	0	6	17	10	0	15	134	31	0	10	73	4	0	369	1440
5:30 PM	21	12	18	0	7	13	14	0	17	122	33	0	11	58	5	0	331	1407
5:45 PM	17	17	22	0	11	15	14	0	16	113	36	0	12	62	9	0	344	1386

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	116	80	108	0	72	48	44	0	64	540	124	0	48	224	8	0	1476
Heavy Trucks	0	0	12		0	4	4		0	20	0		4	24	0		68
Pedestrians		0				4				4				0			8
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

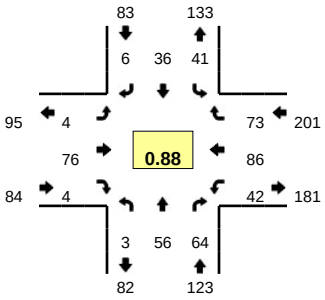
Type of peak hour being reported: Intersection Peak

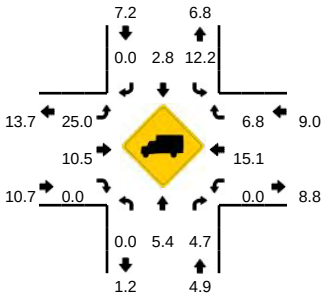
Method for determining peak hour: Total Entering Volume

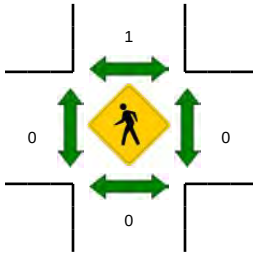
LOCATION: Sheep Creek Rd -- Palmdale Rd
CITY/STATE: Phelan, CA

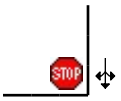
QC JOB #: 13917803
DATE: Wed, Nov 16 2016

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

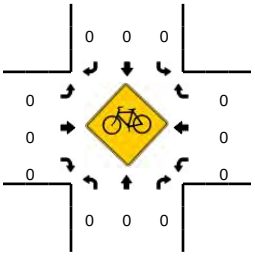


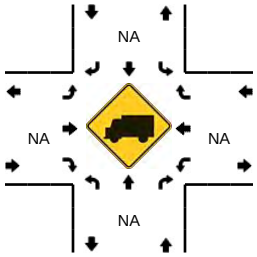


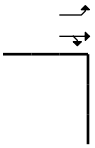


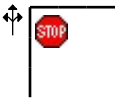


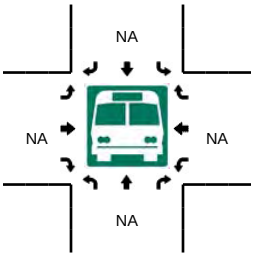












15-Min Count Period Beginning At	Sheep Creek Rd (Northbound)				Sheep Creek Rd (Southbound)				Palmdale Rd (Eastbound)				Palmdale Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	9	16	0	8	7	0	0	0	31	1	0	10	18	17	0	118	
7:15 AM	0	16	19	0	9	7	2	0	0	13	1	0	5	19	24	0	115	
7:30 AM	2	15	16	0	13	12	4	0	1	17	0	0	17	31	12	0	140	
7:45 AM	0	16	13	0	11	10	0	0	3	15	2	0	10	18	20	0	118	491
8:00 AM	1	6	9	0	11	9	0	0	1	18	1	0	4	18	10	0	88	461
8:15 AM	0	10	11	0	5	6	0	0	1	25	1	0	6	15	23	0	103	449
8:30 AM	0	10	9	0	7	10	2	0	1	23	2	0	15	17	18	0	114	423
8:45 AM	1	11	17	0	11	13	0	0	0	14	0	0	9	20	5	0	101	406

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	60	64	0	52	48	16	0	4	68	0	0	68	124	48	0	560
Heavy Trucks	0	4	0		8	0	0		0	8	0		0	24	0		44
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

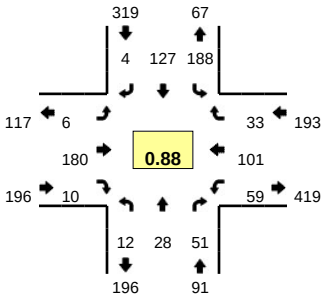
Report generated on 12/6/2016 6:51 PM

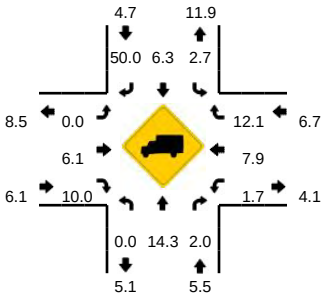
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

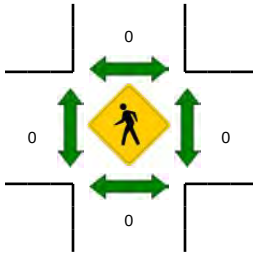
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

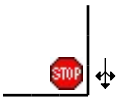
LOCATION: Sheep Creek Rd -- Palmdale Rd | **QC JOB #:** 13917804
CITY/STATE: Phelan, CA | **DATE:** Wed, Nov 16 2016

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

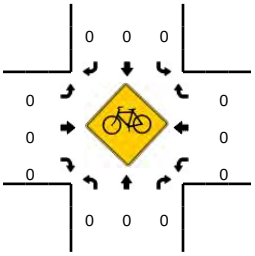


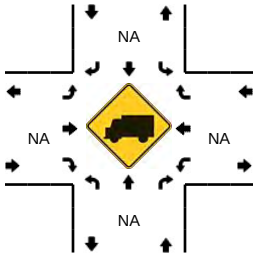


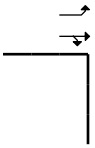


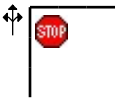


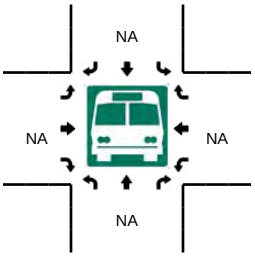












15-Min Count Period Beginning At	Sheep Creek Rd (Northbound)				Sheep Creek Rd (Southbound)				Palmdale Rd (Eastbound)				Palmdale Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	11	17	0	55	26	2	0	0	59	7	0	12	28	7	0	228	
4:15 PM	4	11	14	0	57	46	0	0	3	42	1	0	19	23	3	0	223	
4:30 PM	3	3	8	0	31	32	2	0	3	43	2	0	17	25	13	0	182	
4:45 PM	1	3	12	0	45	23	0	0	0	36	0	0	11	25	10	0	166	799
5:00 PM	1	10	9	0	24	22	0	0	1	54	3	0	18	21	6	0	169	740
5:15 PM	4	12	6	0	23	20	0	0	1	54	4	0	13	26	13	0	176	693
5:30 PM	2	9	20	0	32	17	0	0	4	35	5	0	14	20	12	0	170	681
5:45 PM	1	8	9	0	18	18	2	0	0	44	1	0	12	17	10	0	140	655

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	44	68	0	220	104	8	0	0	236	28	0	48	112	28	0	912
Heavy Trucks	0	4	0		8	8	4		0	20	4		0	8	8		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Caughlin Rd -- Palmdale Rd

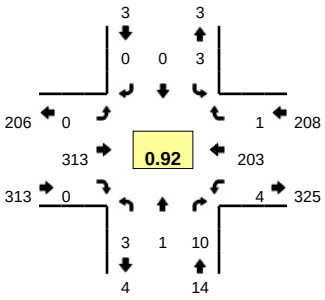
CITY/STATE: Phelan, CA

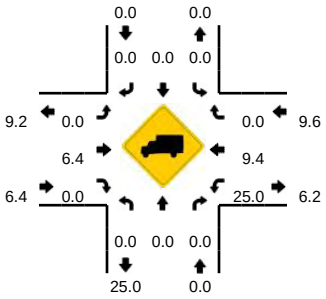
QC JOB #: 13917805

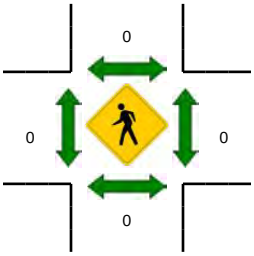
DATE: Wed, Nov 16 2016

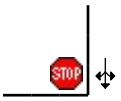
Peak-Hour: 7:00 AM -- 8:00 AM

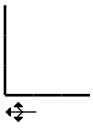
Peak 15-Min: 7:15 AM -- 7:30 AM

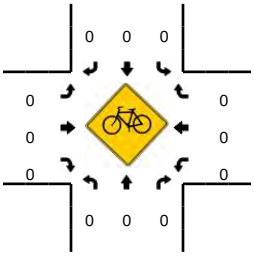


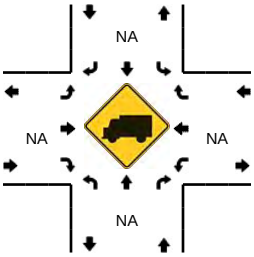


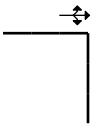


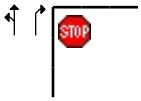


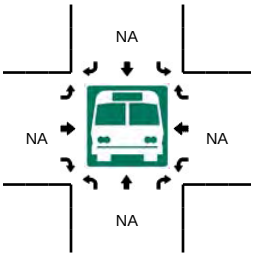












15-Min Count Period Beginning At	Caughlin Rd (Northbound)				Caughlin Rd (Southbound)				Palmdale Rd (Eastbound)				Palmdale Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	2	0	1	0	0	0	0	91	0	0	0	44	0	0	140	
7:15 AM	0	0	3	0	0	0	0	0	0	82	0	0	3	58	0	0	146	
7:30 AM	0	1	4	0	0	0	0	0	0	73	0	0	0	53	1	0	132	
7:45 AM	1	0	1	0	1	0	0	1	0	67	0	0	1	48	0	0	120	538
8:00 AM	1	1	4	0	0	0	0	0	0	48	1	0	0	32	0	0	87	485
8:15 AM	1	0	3	0	1	0	0	0	0	73	0	0	0	48	1	0	127	466
8:30 AM	0	0	1	0	0	0	0	0	0	48	0	0	0	52	0	0	101	435
8:45 AM	0	0	2	0	0	0	0	0	0	54	1	0	1	44	0	0	102	417

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	12	0	0	0	0	0	0	328	0	0	12	232	0	0	584
Heavy Trucks	0	0	0		0	0	0		0	20	0		4	16	0		40
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Caughlin Rd -- Palmdale Rd

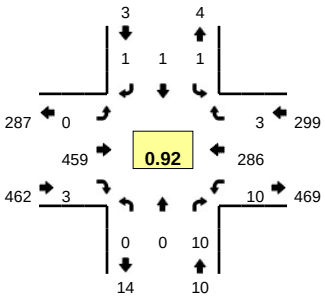
CITY/STATE: Phelan, CA

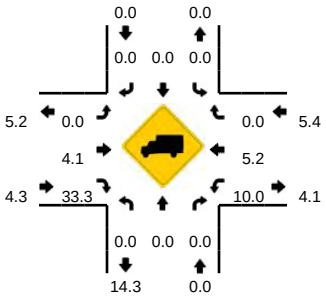
QC JOB #: 13917806

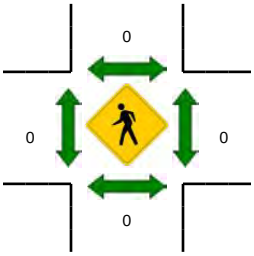
DATE: Wed, Nov 16 2016

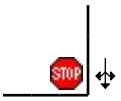
Peak-Hour: 4:00 PM -- 5:00 PM

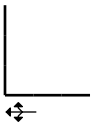
Peak 15-Min: 4:15 PM -- 4:30 PM

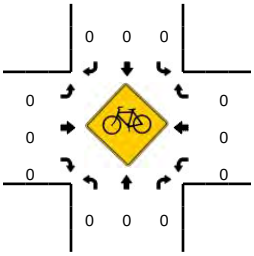


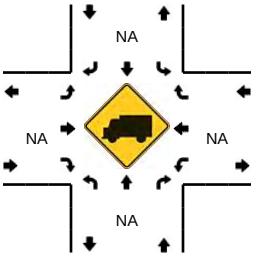


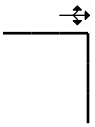


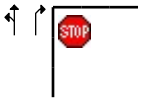


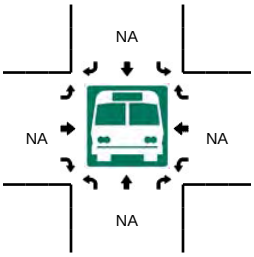












15-Min Count Period Beginning At	Caughlin Rd (Northbound)				Caughlin Rd (Southbound)				Palmdale Rd (Eastbound)				Palmdale Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	3	0	0	0	1	0	0	111	1	0	4	69	1	0	190	
4:15 PM	0	0	1	0	0	1	0	1	0	133	1	0	4	68	2	0	211	
4:30 PM	0	0	3	0	0	0	0	0	0	110	0	0	1	76	0	0	190	
4:45 PM	0	0	3	0	0	0	0	0	0	105	1	0	1	73	0	0	183	774
5:00 PM	0	0	3	0	0	0	0	0	0	74	0	0	0	62	0	0	139	723
5:15 PM	0	0	2	0	0	0	0	0	0	121	2	0	2	82	2	0	211	723
5:30 PM	1	0	0	0	0	0	0	0	0	95	0	0	0	82	0	0	178	711
5:45 PM	0	0	1	0	0	0	0	0	0	88	0	0	1	61	0	0	151	679

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	4	0	0	4	0	4	0	532	4	0	16	272	8	0	844
Heavy Trucks	0	0	0		0	0	0		0	24	4		4	20	0		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

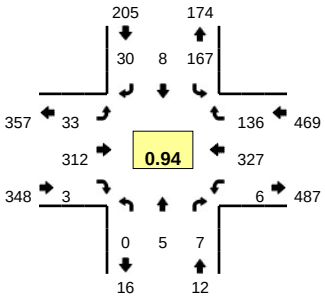
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

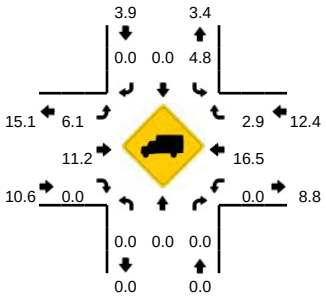
LOCATION: Oasis Rd -- State Hwy 138
CITY/STATE: Pinon Hills, CA

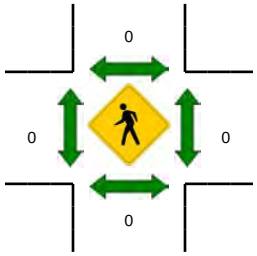
QC JOB #: 13917807
DATE: Thu, Jan 26 2017

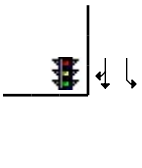
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

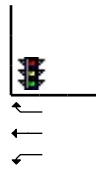


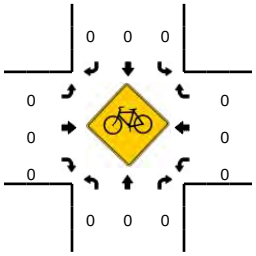


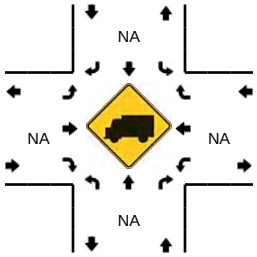


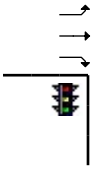




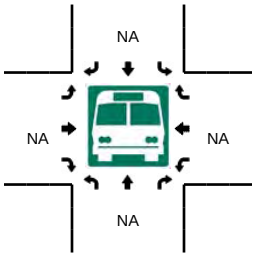












15-Min Count Period Beginning At	Oasis Rd (Northbound)				Oasis Rd (Southbound)				State Hwy 138 (Eastbound)				State Hwy 138 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	2	0	26	1	4	0	4	71	1	0	1	93	8	0	213	
7:15 AM	0	1	1	0	30	0	1	0	3	91	0	0	4	70	12	0	213	
7:30 AM	0	0	0	0	31	0	4	0	5	78	0	0	1	85	49	0	253	
7:45 AM	0	2	2	0	48	2	8	0	17	63	0	0	2	82	49	1	276	955
8:00 AM	0	2	2	0	59	1	15	0	7	81	1	0	1	83	24	0	276	1018
8:15 AM	0	1	3	0	29	5	3	0	4	90	2	0	1	77	14	0	229	1034
8:30 AM	1	0	6	0	21	1	4	0	2	111	4	0	2	80	5	0	237	1018
8:45 AM	2	3	2	0	19	1	2	0	2	89	1	0	5	75	10	0	211	953

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	8	8	0	192	8	32	0	68	252	0	0	8	328	196	4	1104
Heavy Trucks	0	0	0		16	0	0		8	28	0		0	56	8		116
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

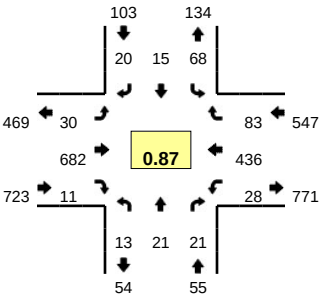
Type of peak hour being reported: Intersection Peak

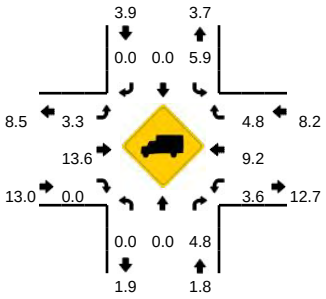
Method for determining peak hour: Total Entering Volume

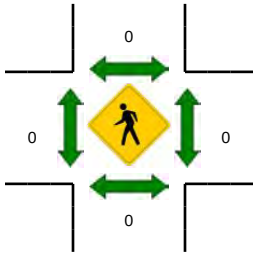
LOCATION: Oasis Rd -- State Hwy 138
CITY/STATE: Pinon Hills, CA

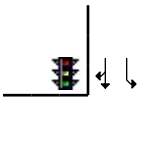
QC JOB #: 13917808
DATE: Thu, Jan 26 2017

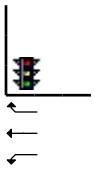
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

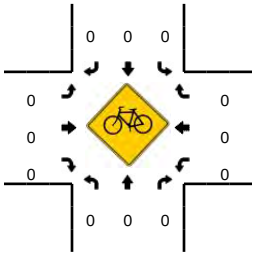


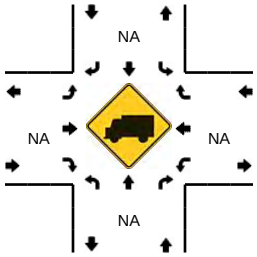


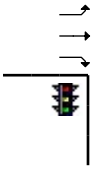


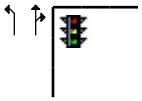


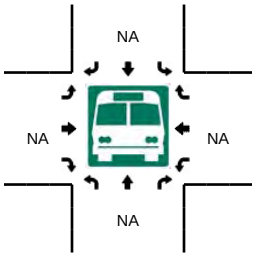












15-Min Count Period Beginning At	Oasis Rd (Northbound)				Oasis Rd (Southbound)				State Hwy 138 (Eastbound)				State Hwy 138 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	11	11	0	17	8	5	0	10	161	4	0	12	105	17	0	365	
4:15 PM	3	4	4	0	15	3	7	0	4	212	4	0	7	129	20	0	412	
4:30 PM	3	3	6	0	19	3	3	0	9	145	1	0	7	114	14	0	327	
4:45 PM	3	3	0	0	17	1	5	0	7	164	2	0	2	88	32	0	324	1428
5:00 PM	3	5	2	0	16	3	6	0	5	139	1	0	9	80	21	0	290	1353
5:15 PM	5	5	2	0	12	0	4	0	9	142	1	0	13	91	26	0	310	1251
5:30 PM	2	3	8	0	18	1	5	0	7	126	2	0	6	109	18	0	305	1229
5:45 PM	2	3	1	0	9	0	3	0	5	137	0	0	6	92	19	0	277	1182

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	16	16	0	60	12	28	0	16	848	16	0	28	516	80	0	1648
Heavy Trucks	0	0	0		4	0	0		4	96	0		0	44	4		152
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

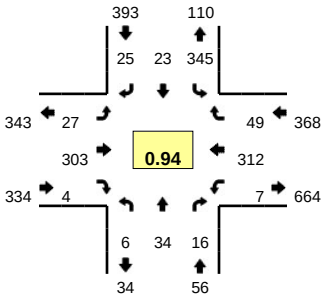
Type of peak hour being reported: Intersection Peak

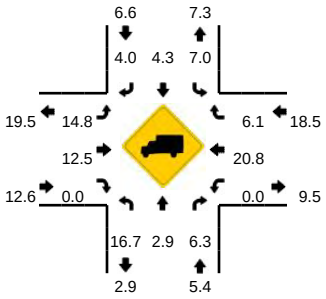
Method for determining peak hour: Total Entering Volume

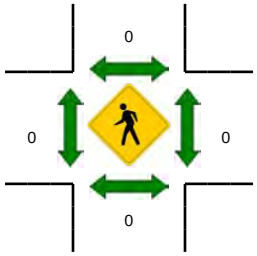
LOCATION: Beekley Rd -- State Hwy 138
CITY/STATE: Pinon Hills, CA

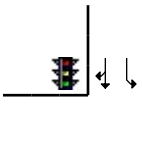
QC JOB #: 13917809
DATE: Wed, Nov 16 2016

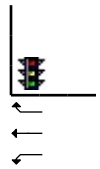
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

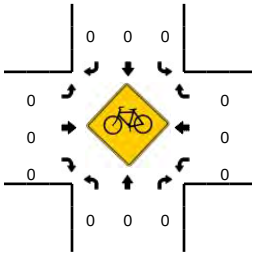


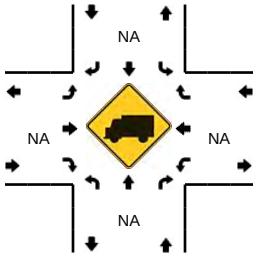


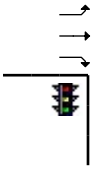


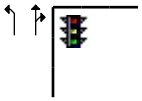


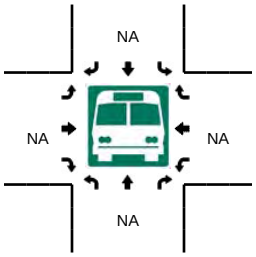












15-Min Count Period Beginning At	Beekley Rd (Northbound)				Beekley Rd (Southbound)				State Hwy 138 (Eastbound)				State Hwy 138 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	4	2	0	104	6	4	0	8	72	2	0	0	91	13	0	307	
7:15 AM	1	10	5	0	74	9	6	0	3	77	0	0	0	76	11	0	272	
7:30 AM	3	15	6	0	67	2	8	0	5	74	1	0	6	66	12	0	265	
7:45 AM	1	5	3	0	100	6	7	0	11	80	1	0	1	79	13	0	307	1151
8:00 AM	1	8	3	0	81	8	1	0	3	67	3	0	1	66	6	0	248	1092
8:15 AM	0	17	3	0	83	6	1	0	10	68	0	0	3	65	9	0	265	1085
8:30 AM	0	4	2	0	72	10	4	0	9	81	3	0	2	56	10	0	253	1073
8:45 AM	1	6	4	0	85	9	3	0	7	120	0	0	4	59	3	0	301	1067

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	16	8	0	416	24	16	0	32	288	8	0	0	364	52	0	1228
Heavy Trucks	0	0	4		40	0	0		16	12	0		0	64	0		136
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

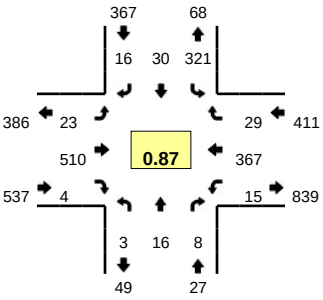
Type of peak hour being reported: Intersection Peak

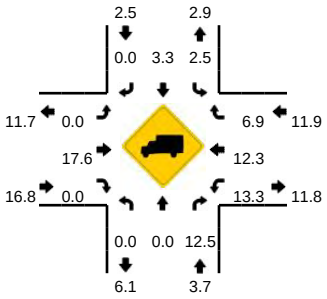
Method for determining peak hour: Total Entering Volume

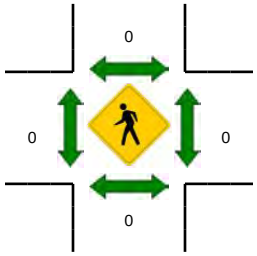
LOCATION: Beekley Rd -- State Hwy 138
CITY/STATE: Pinon Hills, CA

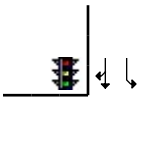
QC JOB #: 13917810
DATE: Wed, Nov 16 2016

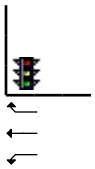
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

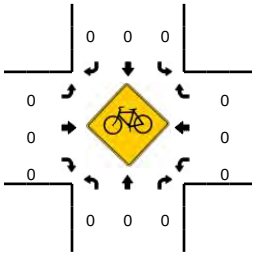


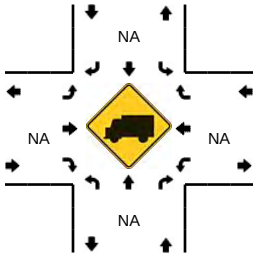


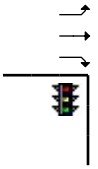


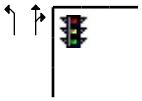


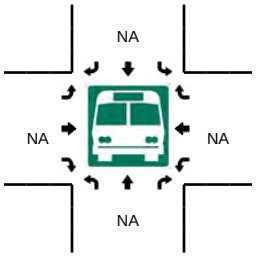












15-Min Count Period Beginning At	Beekley Rd (Northbound)				Beekley Rd (Southbound)				State Hwy 138 (Eastbound)				State Hwy 138 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	3	2	0	80	12	9	0	6	120	1	0	4	80	11	0	329	
4:15 PM	0	5	1	0	107	9	8	0	8	122	2	0	2	94	6	0	364	
4:30 PM	0	3	2	0	86	8	2	0	2	150	1	0	8	111	14	0	387	
4:45 PM	3	3	5	0	60	6	2	0	6	94	1	0	2	74	5	0	261	1341
5:00 PM	0	5	0	0	68	7	4	0	7	144	0	0	3	88	4	0	330	1342
5:15 PM	2	7	2	0	80	8	6	0	2	79	0	0	6	98	8	0	298	1276
5:30 PM	0	6	2	0	70	5	4	0	2	87	0	0	4	77	8	0	265	1154
5:45 PM	0	5	1	0	79	8	3	0	4	95	0	0	0	60	4	0	259	1152

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	12	8	0	344	32	8	0	8	600	4	0	32	444	56	0	1548
Heavy Trucks	0	0	0		12	0	0		0	80	0		4	60	4		160
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/6/2016 6:51 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Old Woman Springs Rd -- Barstow Rd

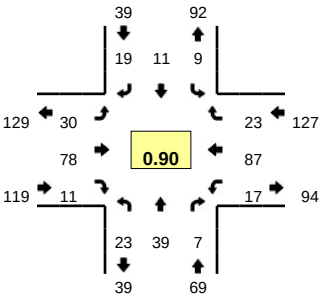
CITY/STATE: San Bernardino, CA

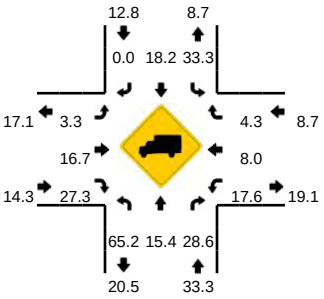
QC JOB #: 13917811

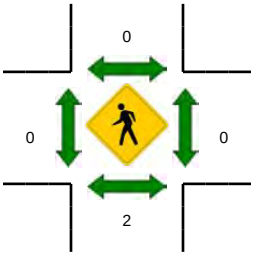
DATE: Tue, Jan 10 2017

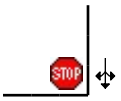
Peak-Hour: 7:30 AM -- 8:30 AM

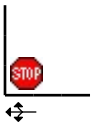
Peak 15-Min: 7:45 AM -- 8:00 AM

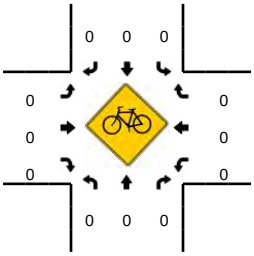


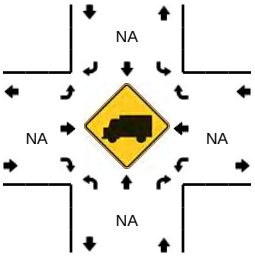


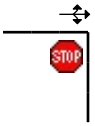


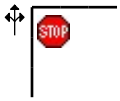


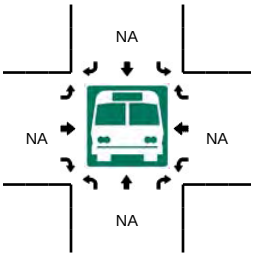












15-Min Count Period Beginning At	Old Woman Springs Rd (Northbound)				Old Woman Springs Rd (Southbound)				Barstow Rd (Eastbound)				Barstow Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	7	1	0	4	5	2	0	7	19	0	0	3	16	4	0	73	
7:15 AM	9	2	0	0	3	4	2	0	2	10	1	0	1	22	0	0	56	
7:30 AM	5	17	3	0	1	0	3	0	10	19	3	0	2	25	9	0	97	
7:45 AM	4	12	2	0	3	5	6	0	9	27	0	0	4	19	7	0	98	324
8:00 AM	7	5	1	0	5	3	7	0	7	14	2	0	2	21	4	0	78	329
8:15 AM	7	5	1	0	0	3	3	0	4	18	6	0	9	22	3	0	81	354
8:30 AM	10	4	5	0	4	10	8	0	1	12	3	0	5	18	7	0	87	344
8:45 AM	8	4	3	0	4	5	7	0	6	26	6	0	5	27	3	0	104	350

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	48	8	0	12	20	24	0	36	108	0	0	16	76	28	0	392
Heavy Trucks	12	8	4		0	8	0		0	24	0		4	0	0		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

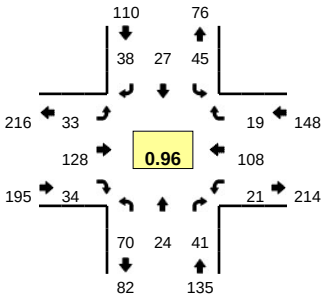
Type of peak hour being reported: Intersection Peak

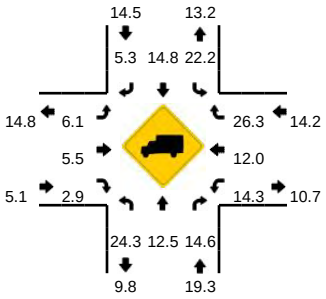
Method for determining peak hour: Total Entering Volume

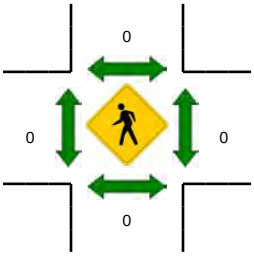
LOCATION: Old Woman Springs Rd -- Barstow Rd
CITY/STATE: San Bernardino, CA

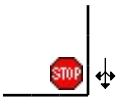
QC JOB #: 13917812
DATE: Tue, Jan 10 2017

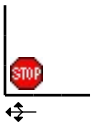
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

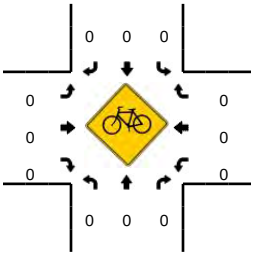


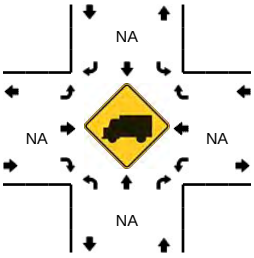


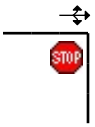


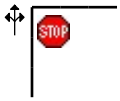


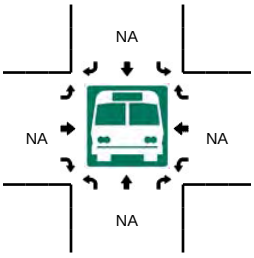












15-Min Count Period Beginning At	Old Woman Springs Rd (Northbound)				Old Woman Springs Rd (Southbound)				Barstow Rd (Eastbound)				Barstow Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	14	7	10	0	9	9	9	0	9	36	10	0	5	26	2	0	146	
4:15 PM	22	5	12	0	12	5	10	0	7	29	7	0	6	33	5	0	153	
4:30 PM	24	5	6	0	13	7	11	0	4	31	10	0	5	25	5	0	146	
4:45 PM	10	7	13	0	11	6	8	0	13	32	7	0	5	24	7	0	143	588
5:00 PM	13	8	14	0	4	6	5	0	6	41	3	0	7	25	8	0	140	582
5:15 PM	16	5	8	0	6	7	8	0	6	23	8	0	11	27	3	0	128	557
5:30 PM	14	5	8	0	8	10	5	0	7	42	8	0	6	28	3	0	144	555
5:45 PM	13	9	7	0	4	5	6	0	3	24	0	0	5	28	2	0	106	518

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	20	48	0	48	20	40	0	28	116	28	0	24	132	20	0	612
Heavy Trucks	24	4	12		12	0	4		0	8	0		4	8	4		80
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

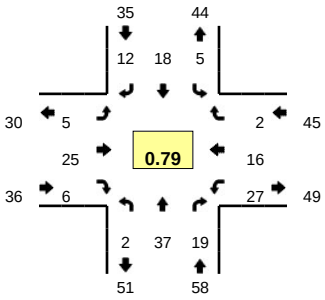
Type of peak hour being reported: Intersection Peak

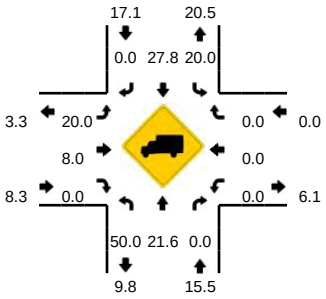
Method for determining peak hour: Total Entering Volume

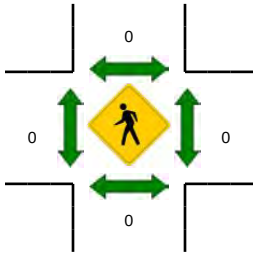
LOCATION: Rabbit Springs Rd -- Barstow Rd
CITY/STATE: Lucerne Valley, CA

QC JOB #: 13917813
DATE: Tue, Jan 10 2017

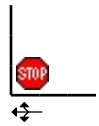
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

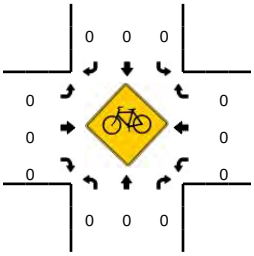


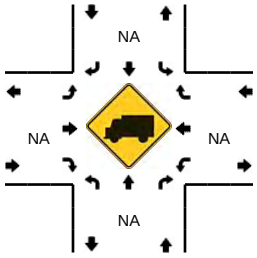


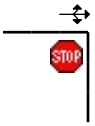


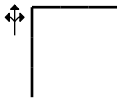


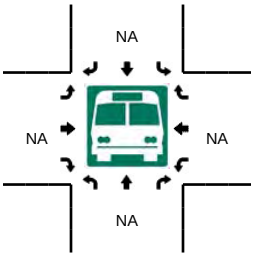












15-Min Count Period Beginning At	Rabbit Springs Rd (Northbound)				Rabbit Springs Rd (Southbound)				Barstow Rd (Eastbound)				Barstow Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	6	2	0	1	7	2	0	0	4	0	0	2	5	0	0	30	
7:15 AM	1	3	0	0	0	7	1	0	1	0	1	0	3	5	0	0	22	
7:30 AM	2	13	5	0	1	2	3	0	1	6	2	0	4	6	0	0	45	
7:45 AM	0	5	11	0	1	6	2	0	0	6	1	0	7	3	1	0	43	140
8:00 AM	0	9	2	0	2	6	4	0	4	11	2	0	10	5	0	0	55	165
8:15 AM	0	10	1	0	1	4	3	0	0	2	1	0	6	2	1	0	31	174
8:30 AM	0	9	2	0	1	15	1	0	4	0	0	0	3	2	1	0	38	167
8:45 AM	0	9	3	0	3	9	0	0	1	3	1	0	4	4	1	0	38	162

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	36	8	0	8	24	16	0	16	44	8	0	40	20	0	0	220
Heavy Trucks	0	4	0		4	8	0		4	0	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

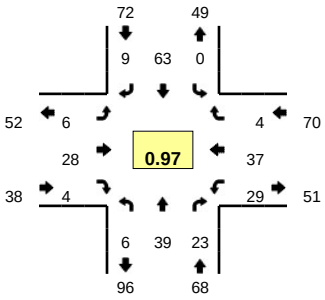
Type of peak hour being reported: Intersection Peak

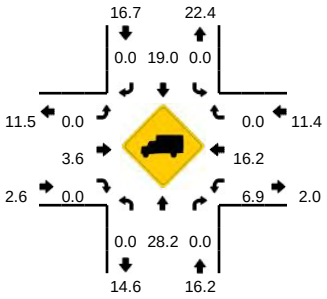
Method for determining peak hour: Total Entering Volume

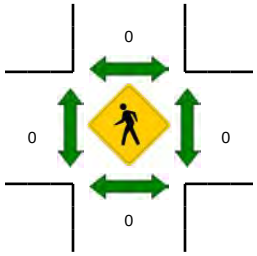
LOCATION: Rabbit Springs Rd -- Barstow Rd
CITY/STATE: Lucerne Valley, CA

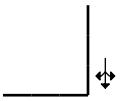
QC JOB #: 13917814
DATE: Tue, Jan 10 2017

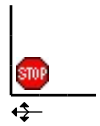
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

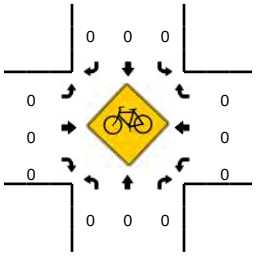


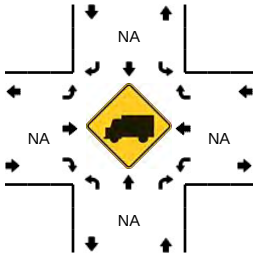


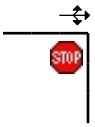


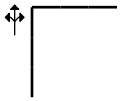


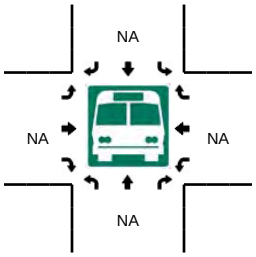












15-Min Count Period Beginning At	Rabbit Springs Rd (Northbound)				Rabbit Springs Rd (Southbound)				Barstow Rd (Eastbound)				Barstow Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	10	7	0	0	15	4	0	1	3	2	0	5	15	1	0	64	
4:15 PM	2	11	3	0	0	17	1	0	2	6	2	0	8	7	1	0	60	
4:30 PM	3	5	4	0	0	18	3	0	1	12	0	0	9	5	2	0	62	
4:45 PM	0	13	9	0	0	13	1	0	2	7	0	0	7	10	0	0	62	248
5:00 PM	3	16	3	0	0	12	2	0	1	6	2	0	0	5	1	0	51	235
5:15 PM	1	8	3	0	1	12	0	0	3	3	2	0	6	4	0	0	43	218
5:30 PM	1	10	3	0	0	15	2	0	0	2	0	0	2	2	2	0	39	195
5:45 PM	0	6	4	0	1	16	4	0	4	7	1	0	1	3	1	0	48	181

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	40	28	0	0	60	16	0	4	12	8	0	20	60	4	0	256
Heavy Trucks	0	12	0		0	8	0		0	0	0		0	4	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/1/2017 6:27 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Old Woman Springs Rd -- Linn Rd

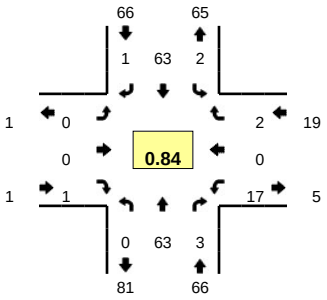
CITY/STATE: San Bernardino, CA

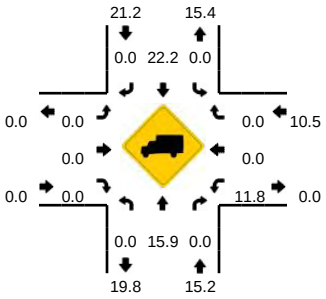
QC JOB #: 13917815

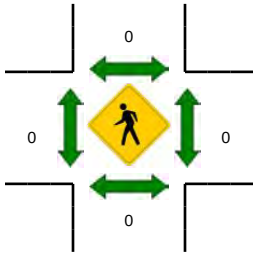
DATE: Tue, Jan 10 2017

Peak-Hour: 8:00 AM -- 9:00 AM

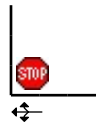
Peak 15-Min: 8:15 AM -- 8:30 AM

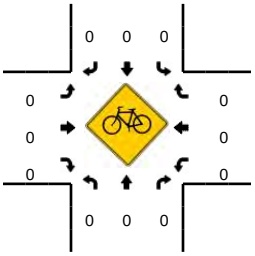


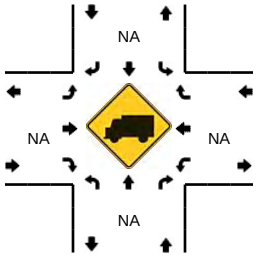


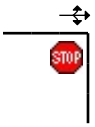


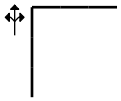


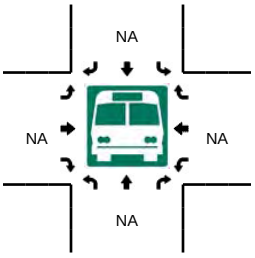












15-Min Count Period Beginning At	Old Woman Springs Rd (Northbound)				Old Woman Springs Rd (Southbound)				Linn Rd (Eastbound)				Linn Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	12	0	0	0	14	0	0	0	0	0	0	1	0	1	0	28	
7:15 AM	0	6	0	0	0	26	0	0	0	0	0	0	7	0	0	0	39	
7:30 AM	0	9	0	0	0	18	0	0	0	0	0	0	2	0	0	0	29	
7:45 AM	0	8	2	0	0	11	1	0	0	0	1	0	1	0	1	0	25	121
8:00 AM	0	16	1	0	1	14	0	0	0	0	0	0	2	0	0	0	34	127
8:15 AM	0	17	0	0	1	20	1	0	0	0	1	0	5	0	0	0	45	133
8:30 AM	0	13	1	0	0	13	0	0	0	0	0	0	5	0	1	0	33	137
8:45 AM	0	17	1	0	0	16	0	0	0	0	0	0	5	0	1	0	40	152

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	68	0	0	4	80	4	0	0	0	4	0	20	0	0	0	180
Heavy Trucks	0	16	0		0	16	0		0	0	0		0	0	0		32
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Old Woman Springs Rd -- Linn Rd

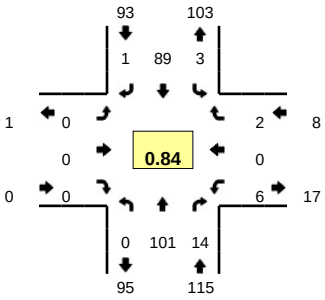
QC JOB #: 13917816

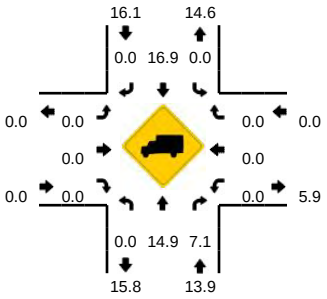
CITY/STATE: San Bernardino, CA

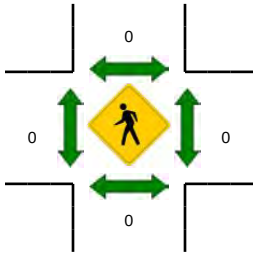
DATE: Tue, Jan 10 2017

Peak-Hour: 4:15 PM -- 5:15 PM

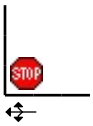
Peak 15-Min: 4:15 PM -- 4:30 PM

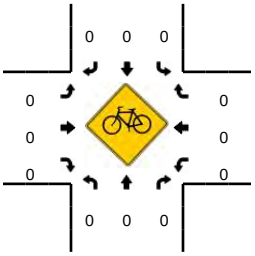


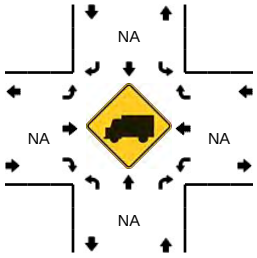


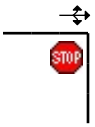


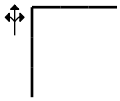


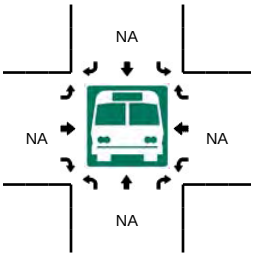












15-Min Count Period Beginning At	Old Woman Springs Rd (Northbound)				Old Woman Springs Rd (Southbound)				Linn Rd (Eastbound)				Linn Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	23	4	0	0	14	0	0	0	0	0	0	2	0	1	0	44	
4:15 PM	0	35	5	0	1	21	0	0	0	0	0	0	2	0	0	0	64	
4:30 PM	0	15	3	0	1	27	1	0	0	0	0	0	1	0	1	0	49	
4:45 PM	0	24	4	0	0	17	0	0	0	0	0	0	1	0	0	0	46	203
5:00 PM	0	27	2	0	1	24	0	0	0	0	0	0	2	0	1	0	57	216
5:15 PM	0	16	8	0	0	19	0	0	0	1	0	0	1	0	0	0	45	197
5:30 PM	0	29	3	0	0	28	0	0	0	0	0	0	4	0	0	0	64	212
5:45 PM	0	17	3	0	0	11	0	0	0	0	0	0	2	0	0	0	33	199

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	140	20	0	4	84	0	0	0	0	0	0	8	0	0	0	256
Heavy Trucks	0	32	0		0	16	0		0	0	0		0	0	0		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

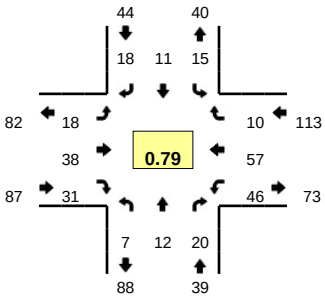
Type of peak hour being reported: Intersection Peak

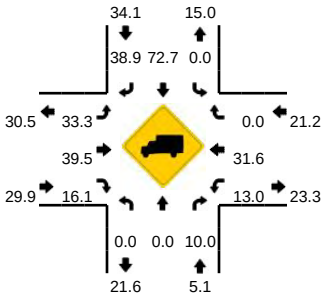
Method for determining peak hour: Total Entering Volume

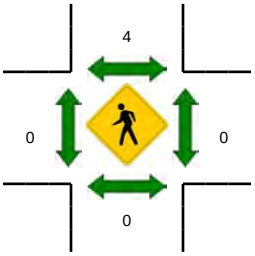
LOCATION: State Hwy 127 -- Baker Blvd
CITY/STATE: San Bernardino, CA

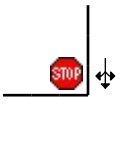
QC JOB #: 13917817
DATE: Wed, Jan 11 2017

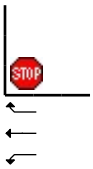
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

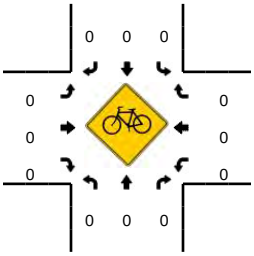


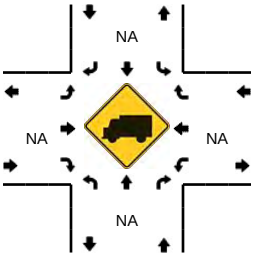


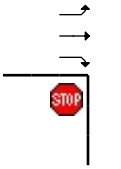


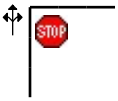


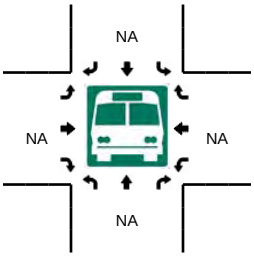












15-Min Count Period Beginning At	State Hwy 127 (Northbound)				State Hwy 127 (Southbound)				Baker Blvd (Eastbound)				Baker Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	1	5	0	2	3	5	0	0	3	8	0	8	9	0	0	47	
7:15 AM	3	2	2	0	5	3	5	0	6	9	7	0	10	7	0	0	59	
7:30 AM	10	0	2	0	3	2	4	0	3	6	6	0	6	6	2	0	50	
7:45 AM	2	1	4	0	2	2	3	0	3	13	12	0	13	16	0	0	71	227
8:00 AM	1	2	3	0	1	2	7	0	2	4	7	0	9	11	1	0	50	230
8:15 AM	0	3	3	0	1	0	2	0	4	12	8	0	12	14	3	0	62	233
8:30 AM	3	6	9	0	7	3	3	0	4	11	6	0	9	17	3	0	81	264
8:45 AM	3	1	5	0	6	6	6	0	8	11	10	0	16	15	3	0	90	283

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	4	20	0	24	24	24	0	32	44	40	0	64	60	12	0	360
Heavy Trucks	0	0	0		0	16	0		12	16	4		8	32	0		88
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

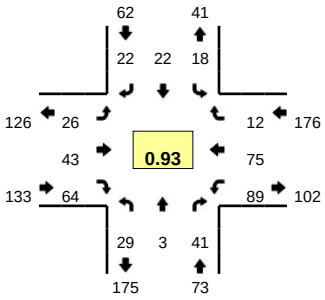
Type of peak hour being reported: Intersection Peak

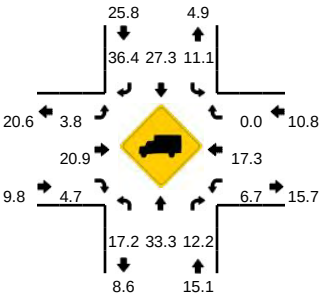
Method for determining peak hour: Total Entering Volume

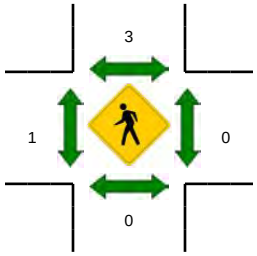
LOCATION: State Hwy 127 -- Baker Blvd
CITY/STATE: San Bernardino, CA

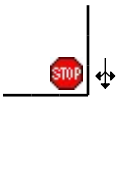
QC JOB #: 13917818
DATE: Wed, Jan 11 2017

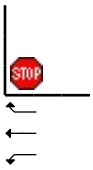
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

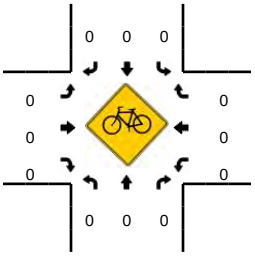


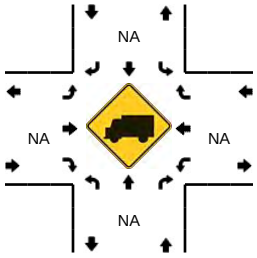


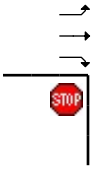


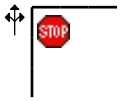


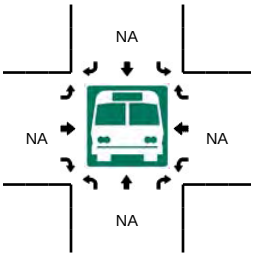












15-Min Count Period Beginning At	State Hwy 127 (Northbound)				State Hwy 127 (Southbound)				Baker Blvd (Eastbound)				Baker Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	2	10	0	6	7	4	0	5	11	16	0	22	22	7	0	120	
4:15 PM	5	1	10	0	5	5	5	0	8	7	13	0	25	20	0	0	104	
4:30 PM	6	0	11	0	2	4	7	0	7	11	14	0	27	17	3	0	109	
4:45 PM	10	0	10	0	5	6	6	0	6	14	21	0	15	16	2	0	111	444
5:00 PM	4	4	9	0	5	4	3	0	8	10	13	0	28	16	2	0	106	430
5:15 PM	7	0	12	0	7	12	7	0	5	15	13	0	10	22	2	1	113	439
5:30 PM	4	1	8	0	3	6	3	0	2	8	8	1	20	17	3	0	84	414
5:45 PM	7	3	10	0	6	2	4	0	4	11	12	0	15	18	5	0	97	400

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	8	40	0	24	28	16	0	20	44	64	0	88	88	28	0	480
Heavy Trucks	4	4	4		4	0	4		0	20	0		0	24	0		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/31/2017 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

LOCATION: Shay Rd East Of Wiebe Rd
QC JOB #: 13862903
SPECIFIC LOCATION: Shay Rd East Of Wiebe Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		2				2			2	
12:30 AM		1				1			1	
12:45 AM		1				1			1	
1:00 AM		1				1			1	
1:15 AM		1				1			1	
1:30 AM		1				1			1	
1:45 AM		0				0			0	
2:00 AM		1				1			1	
2:15 AM		0				0			0	
2:30 AM		1				1			1	
2:45 AM		0				0			0	
3:00 AM		2				2			2	
3:15 AM		1				1			1	
3:30 AM		0				0			0	
3:45 AM		0				0			0	
4:00 AM		0				0			0	
4:15 AM		2				2			2	
4:30 AM		2				2			2	
4:45 AM		8				8			8	
5:00 AM		5				5			5	
5:15 AM		0				0			0	
5:30 AM		1				1			1	
5:45 AM		8				8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shay Rd East Of Wiebe Rd
QC JOB #: 13862903
SPECIFIC LOCATION: Shay Rd East Of Wiebe Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		4				4			4	
6:15 AM		12				12			12	
6:30 AM		16				16			16	
6:45 AM		12				12			12	
7:00 AM		16				16			16	
7:15 AM		23				23			23	
7:30 AM		26				26			26	
7:45 AM		28				28			28	
8:00 AM		29				29			29	
8:15 AM		22				22			22	
8:30 AM		25				25			25	
8:45 AM		23				23			23	
9:00 AM		**38**				**38**			**38**	
9:15 AM		21				21			21	
9:30 AM		29				29			29	
9:45 AM		22				22			22	
10:00 AM		26				26			26	
10:15 AM		20				20			20	
10:30 AM		30				30			30	
10:45 AM		32				32			32	
11:00 AM		29				29			29	
11:15 AM		26				26			26	
11:30 AM		28				28			28	
11:45 AM		36				36			36	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Shay Rd East Of Wiebe Rd
QC JOB #: 13862903
SPECIFIC LOCATION: Shay Rd East Of Wiebe Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		28				28			28	
12:15 PM		34				34			34	
12:30 PM		27				27			27	
12:45 PM		34				34			34	
1:00 PM		34				34			34	
1:15 PM		39				39			39	
1:30 PM		36				36			36	
1:45 PM		34				34			34	
2:00 PM		**44**				**44**			**44**	
2:15 PM		31				31			31	
2:30 PM		32				32			32	
2:45 PM		33				33			33	
3:00 PM		32				32			32	
3:15 PM		38				38			38	
3:30 PM		43				43			43	
3:45 PM		27				27			27	
4:00 PM		31				31			31	
4:15 PM		39				39			39	
4:30 PM		34				34			34	
4:45 PM		30				30			30	
5:00 PM		31				31			31	
5:15 PM		31				31			31	
5:30 PM		32				32			32	
5:45 PM		30				30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Shay Rd East Of Wiebe Rd
QC JOB #: 13862903
SPECIFIC LOCATION: Shay Rd East Of Wiebe Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		24				24			24	
6:15 PM		40				40			40	
6:30 PM		13				13			13	
6:45 PM		36				36			36	
7:00 PM		22				22			22	
7:15 PM		25				25			25	
7:30 PM		17				17			17	
7:45 PM		14				14			14	
8:00 PM		16				16			16	
8:15 PM		19				19			19	
8:30 PM		12				12			12	
8:45 PM		18				18			18	
9:00 PM		9				9			9	
9:15 PM		11				11			11	
9:30 PM		15				15			15	
9:45 PM		7				7			7	
10:00 PM		9				9			9	
10:15 PM		3				3			3	
10:30 PM		7				7			7	
10:45 PM		3				3			3	
11:00 PM		6				6			6	
11:15 PM		2				2			2	
11:30 PM		2				2			2	
11:45 PM		1				1			1	
Day Total		1747				1747			1747	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		9:00 AM				9:00 AM			9:00 AM	
Volume		38				38			38	
PM Peak		2:00 PM				2:00 PM			2:00 PM	
Volume		44				44			44	

Comments:

LOCATION: Grass Valley Rd South Of Peninsula Dr
QC JOB #: 13862904
SPECIFIC LOCATION: Grass Valley Rd South Of Peninsula Dr
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Aug 02 2016 - Aug 03 2016

Start Time	Mon	Tue 02-Aug-16	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			2			2			2	
12:15 AM			5			5			5	
12:30 AM			7			7			7	
12:45 AM			2			2			2	
1:00 AM			5			5			5	
1:15 AM			3			3			3	
1:30 AM			3			3			3	
1:45 AM			2			2			2	
2:00 AM			2			2			2	
2:15 AM			2			2			2	
2:30 AM			2			2			2	
2:45 AM			3			3			3	
3:00 AM			3			3			3	
3:15 AM			1			1			1	
3:30 AM			1			1			1	
3:45 AM			4			4			4	
4:00 AM			3			3			3	
4:15 AM			4			4			4	
4:30 AM			6			6			6	
4:45 AM			11			11			11	
5:00 AM			12			12			12	
5:15 AM			11			11			11	
5:30 AM			14			14			14	
5:45 AM			14			14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Grass Valley Rd South Of Peninsula Dr
QC JOB #: 13862904
SPECIFIC LOCATION: Grass Valley Rd South Of Peninsula Dr
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Aug 02 2016 - Aug 03 2016

Start Time	Mon	Tue 02-Aug-16	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			15			15			15	
6:15 AM			26			26			26	
6:30 AM			35			35			35	
6:45 AM			46			46			46	
7:00 AM			43			43			43	
7:15 AM			40			40			40	
7:30 AM			49			49			49	
7:45 AM			**84**			**84**			**84**	
8:00 AM			65			65			65	
8:15 AM			78			78			78	
8:30 AM			56			56			56	
8:45 AM			70			70			70	
9:00 AM			57			57			57	
9:15 AM			52			52			52	
9:30 AM			53			53			53	
9:45 AM			59			59			59	
10:00 AM		59				59			59	
10:15 AM		55				55			55	
10:30 AM		47				47			47	
10:45 AM		54				54			54	
11:00 AM		53				53			53	
11:15 AM		**63**				63			63	
11:30 AM		63				63			63	
11:45 AM		57				57			57	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Grass Valley Rd South Of Peninsula Dr
QC JOB #: 13862904
SPECIFIC LOCATION: Grass Valley Rd South Of Peninsula Dr
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Aug 02 2016 - Aug 03 2016

Start Time	Mon	Tue 02-Aug-16	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		56				56			56	
12:15 PM		61				61			61	
12:30 PM		53				53			53	
12:45 PM		74				74			74	
1:00 PM		**81**				**81**			**81**	
1:15 PM		54				54			54	
1:30 PM		51				51			51	
1:45 PM		62				62			62	
2:00 PM		52				52			52	
2:15 PM		46				46			46	
2:30 PM		51				51			51	
2:45 PM		55				55			55	
3:00 PM		52				52			52	
3:15 PM		57				57			57	
3:30 PM		57				57			57	
3:45 PM		60				60			60	
4:00 PM		68				68			68	
4:15 PM		67				67			67	
4:30 PM		78				78			78	
4:45 PM		74				74			74	
5:00 PM		66				66			66	
5:15 PM		73				73			73	
5:30 PM		78				78			78	
5:45 PM		66				66			66	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Grass Valley Rd South Of Peninsula Dr
QC JOB #: 13862904
SPECIFIC LOCATION: Grass Valley Rd South Of Peninsula Dr
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Aug 02 2016 - Aug 03 2016

Start Time	Mon	Tue 02-Aug-16	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		50				50			50	
6:15 PM		49				49			49	
6:30 PM		54				54			54	
6:45 PM		55				55			55	
7:00 PM		39				39			39	
7:15 PM		50				50			50	
7:30 PM		51				51			51	
7:45 PM		40				40			40	
8:00 PM		37				37			37	
8:15 PM		28				28			28	
8:30 PM		35				35			35	
8:45 PM		23				23			23	
9:00 PM		18				18			18	
9:15 PM		25				25			25	
9:30 PM		20				20			20	
9:45 PM		25				25			25	
10:00 PM		17				17			17	
10:15 PM		17				17			17	
10:30 PM		10				10			10	
10:45 PM		14				14			14	
11:00 PM		8				8			8	
11:15 PM		18				18			18	
11:30 PM		8				8			8	
11:45 PM		8				8			8	
Day Total		2642	950			3592			3592	
% Weekday Average		73.6%	26.4%							
% Week Average		73.6%	26.4%			100.0%				
AM Peak		11:15 AM	7:45 AM			7:45 AM			7:45 AM	
Volume		63	84			84			84	
PM Peak		1:00 PM				1:00 PM			1:00 PM	
Volume		81				81			81	

Comments:

LOCATION: Bear Springs Rd South Of SH 189 **QC JOB #:** 13862905

SPECIFIC LOCATION: Bear Springs Rd South Of SH 189 **DIRECTION:** EB/WB

CITY/STATE: Rimforest, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		1				1			1	
12:30 AM		3				3			3	
12:45 AM		1				1			1	
1:00 AM		1				1			1	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		2				2			2	
2:30 AM		0				0			0	
2:45 AM		0				0			0	
3:00 AM		0				0			0	
3:15 AM		0				0			0	
3:30 AM		0				0			0	
3:45 AM		0				0			0	
4:00 AM		1				1			1	
4:15 AM		0				0			0	
4:30 AM		1				1			1	
4:45 AM		0				0			0	
5:00 AM		2				2			2	
5:15 AM		0				0			0	
5:30 AM		1				1			1	
5:45 AM		0				0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Bear Springs Rd South Of SH 189 **QC JOB #:** 13862905
SPECIFIC LOCATION: Bear Springs Rd South Of SH 189 **DIRECTION:** EB/WB
CITY/STATE: Rimforest, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		1				1			1	
6:15 AM		1				1			1	
6:30 AM		5				5			5	
6:45 AM		3				3			3	
7:00 AM		4				4			4	
7:15 AM		8				8			8	
7:30 AM		7				7			7	
7:45 AM		11				11			11	
8:00 AM		13				13			13	
8:15 AM		17				17			17	
8:30 AM		10				10			10	
8:45 AM		15				15			15	
9:00 AM		10				10			10	
9:15 AM		5				5			5	
9:30 AM		6				6			6	
9:45 AM		17				17			17	
10:00 AM		9				9			9	
10:15 AM		12				12			12	
10:30 AM		9				9			9	
10:45 AM		9				9			9	
11:00 AM		13				13			13	
11:15 AM		8				8			8	
11:30 AM		**23**				**23**			**23**	
11:45 AM		14				14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Bear Springs Rd South Of SH 189 **QC JOB #:** 13862905
SPECIFIC LOCATION: Bear Springs Rd South Of SH 189 **DIRECTION:** EB/WB
CITY/STATE: Rimforest, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		15				15			15	
12:15 PM		8				8			8	
12:30 PM		14				14			14	
12:45 PM		16				16			16	
1:00 PM		19				19			19	
1:15 PM		15				15			15	
1:30 PM		14				14			14	
1:45 PM		15				15			15	
2:00 PM		19				19			19	
2:15 PM		15				15			15	
2:30 PM		18				18			18	
2:45 PM		19				19			19	
3:00 PM		**22**				**22**			**22**	
3:15 PM		14				14			14	
3:30 PM		12				12			12	
3:45 PM		17				17			17	
4:00 PM		16				16			16	
4:15 PM		9				9			9	
4:30 PM		14				14			14	
4:45 PM		13				13			13	
5:00 PM		17				17			17	
5:15 PM		12				12			12	
5:30 PM		9				9			9	
5:45 PM		9				9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Bear Springs Rd South Of SH 189 **QC JOB #:** 13862905

SPECIFIC LOCATION: Bear Springs Rd South Of SH 189 **DIRECTION:** EB/WB

CITY/STATE: Rimforest, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		15				15			15	
6:15 PM		10				10			10	
6:30 PM		8				8			8	
6:45 PM		9				9			9	
7:00 PM		13				13			13	
7:15 PM		12				12			12	
7:30 PM		2				2			2	
7:45 PM		5				5			5	
8:00 PM		11				11			11	
8:15 PM		7				7			7	
8:30 PM		9				9			9	
8:45 PM		3				3			3	
9:00 PM		3				3			3	
9:15 PM		6				6			6	
9:30 PM		3				3			3	
9:45 PM		6				6			6	
10:00 PM		7				7			7	
10:15 PM		5				5			5	
10:30 PM		7				7			7	
10:45 PM		2				2			2	
11:00 PM		3				3			3	
11:15 PM		0				0			0	
11:30 PM		1				1			1	
11:45 PM		1				1			1	
Day Total		743				743			743	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:30 AM				11:30 AM			11:30 AM	
Volume		23				23			23	
PM Peak		3:00 PM				3:00 PM			3:00 PM	
Volume		22				22			22	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Daley Canyon Rd South Of SH 189 **QC JOB #:** 13862906
SPECIFIC LOCATION: Daley Canyon Rd South Of SH 189 **DIRECTION:** EB/WB
CITY/STATE: Rimforest, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				9		9			9	
12:15 AM				12		12			12	
12:30 AM				9		9			9	
12:45 AM				7		7			7	
1:00 AM				7		7			7	
1:15 AM				5		5			5	
1:30 AM				2		2			2	
1:45 AM				5		5			5	
2:00 AM				5		5			5	
2:15 AM				3		3			3	
2:30 AM				4		4			4	
2:45 AM				5		5			5	
3:00 AM				3		3			3	
3:15 AM				7		7			7	
3:30 AM				4		4			4	
3:45 AM				6		6			6	
4:00 AM				22		22			22	
4:15 AM				8		8			8	
4:30 AM				15		15			15	
4:45 AM				23		23			23	
5:00 AM				13		13			13	
5:15 AM				23		23			23	
5:30 AM				28		28			28	
5:45 AM				35		35			35	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Daley Canyon Rd South Of SH 189 **QC JOB #:** 13862906
SPECIFIC LOCATION: Daley Canyon Rd South Of SH 189 **DIRECTION:** EB/WB
CITY/STATE: Rimforest, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				35		35			35	
6:15 AM				51		51			51	
6:30 AM				60		60			60	
6:45 AM				99		99			99	
7:00 AM				95		95			95	
7:15 AM				108		108			108	
7:30 AM				102		102			102	
7:45 AM				**173**		**173**			**173**	
8:00 AM				155		155			155	
8:15 AM				150		150			150	
8:30 AM				131		131			131	
8:45 AM				159		159			159	
9:00 AM				137		137			137	
9:15 AM				119		119			119	
9:30 AM				124		124			124	
9:45 AM				123		123			123	
10:00 AM				137		137			137	
10:15 AM				142		142			142	
10:30 AM				121		121			121	
10:45 AM				144		144			144	
11:00 AM				130		130			130	
11:15 AM				147		147			147	
11:30 AM				152		152			152	
11:45 AM				146		146			146	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Daley Canyon Rd South Of SH 189 **QC JOB #:** 13862906
SPECIFIC LOCATION: Daley Canyon Rd South Of SH 189 **DIRECTION:** EB/WB
CITY/STATE: Rimforest, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				143		143			143	
12:15 PM				135		135			135	
12:30 PM				156		156			156	
12:45 PM				158		158			158	
1:00 PM				130		130			130	
1:15 PM				154		154			154	
1:30 PM				129		129			129	
1:45 PM				146		146			146	
2:00 PM				142		142			142	
2:15 PM				156		156			156	
2:30 PM				154		154			154	
2:45 PM				150		150			150	
3:00 PM				146		146			146	
3:15 PM				162		162			162	
3:30 PM				165		165			165	
3:45 PM				171		171			171	
4:00 PM				160		160			160	
4:15 PM				150		150			150	
4:30 PM				160		160			160	
4:45 PM				**174**		**174**			**174**	
5:00 PM				162		162			162	
5:15 PM				166		166			166	
5:30 PM				159		159			159	
5:45 PM				146		146			146	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Daley Canyon Rd South Of SH 189
QC JOB #: 13862906
SPECIFIC LOCATION: Daley Canyon Rd South Of SH 189
DIRECTION: EB/WB
CITY/STATE: Rimforest, CA
DATE: Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				137		137			137	
6:15 PM				127		127			127	
6:30 PM				99		99			99	
6:45 PM				125		125			125	
7:00 PM				93		93			93	
7:15 PM				77		77			77	
7:30 PM				78		78			78	
7:45 PM				81		81			81	
8:00 PM				86		86			86	
8:15 PM				70		70			70	
8:30 PM				59		59			59	
8:45 PM				56		56			56	
9:00 PM				53		53			53	
9:15 PM				51		51			51	
9:30 PM				52		52			52	
9:45 PM				58		58			58	
10:00 PM				46		46			46	
10:15 PM				37		37			37	
10:30 PM				36		36			36	
10:45 PM				32		32			32	
11:00 PM				21		21			21	
11:15 PM				26		26			26	
11:30 PM				27		27			27	
11:45 PM				16		16			16	
Day Total				8417		8417			8417	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				173		173			173	
PM Peak				4:45 PM		4:45 PM			4:45 PM	
Volume				174		174			174	

Comments:

Report generated on 8/12/2016 8:30 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Crest Forest Dr West Of Ponderosa Dr
QC JOB #: 13862907
SPECIFIC LOCATION: Crest Forest Dr West Of Ponderosa Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		2				2			2	
12:30 AM		1				1			1	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		5				5			5	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		1				1			1	
2:15 AM		1				1			1	
2:30 AM		2				2			2	
2:45 AM		0				0			0	
3:00 AM		0				0			0	
3:15 AM		0				0			0	
3:30 AM		2				2			2	
3:45 AM		1				1			1	
4:00 AM		2				2			2	
4:15 AM		1				1			1	
4:30 AM		2				2			2	
4:45 AM		3				3			3	
5:00 AM		1				1			1	
5:15 AM		4				4			4	
5:30 AM		4				4			4	
5:45 AM		6				6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Crest Forest Dr West Of Ponderosa Dr
QC JOB #: 13862907
SPECIFIC LOCATION: Crest Forest Dr West Of Ponderosa Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		5				5			5	
6:15 AM		10				10			10	
6:30 AM		4				4			4	
6:45 AM		11				11			11	
7:00 AM		3				3			3	
7:15 AM		2				2			2	
7:30 AM		10				10			10	
7:45 AM		10				10			10	
8:00 AM		6				6			6	
8:15 AM		8				8			8	
8:30 AM		7				7			7	
8:45 AM		**18**				**18**			**18**	
9:00 AM		7				7			7	
9:15 AM		12				12			12	
9:30 AM		17				17			17	
9:45 AM		12				12			12	
10:00 AM		4				4			4	
10:15 AM		7				7			7	
10:30 AM		6				6			6	
10:45 AM		13				13			13	
11:00 AM		10				10			10	
11:15 AM		11				11			11	
11:30 AM		14				14			14	
11:45 AM		13				13			13	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Crest Forest Dr West Of Ponderosa Dr
QC JOB #: 13862907
SPECIFIC LOCATION: Crest Forest Dr West Of Ponderosa Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		11				11			11	
12:15 PM		10				10			10	
12:30 PM		13				13			13	
12:45 PM		12				12			12	
1:00 PM		13				13			13	
1:15 PM		7				7			7	
1:30 PM		10				10			10	
1:45 PM		**20**				**20**			**20**	
2:00 PM		10				10			10	
2:15 PM		7				7			7	
2:30 PM		12				12			12	
2:45 PM		11				11			11	
3:00 PM		7				7			7	
3:15 PM		11				11			11	
3:30 PM		7				7			7	
3:45 PM		13				13			13	
4:00 PM		9				9			9	
4:15 PM		10				10			10	
4:30 PM		19				19			19	
4:45 PM		16				16			16	
5:00 PM		13				13			13	
5:15 PM		14				14			14	
5:30 PM		15				15			15	
5:45 PM		6				6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Crest Forest Dr West Of Ponderosa Dr
QC JOB #: 13862907
SPECIFIC LOCATION: Crest Forest Dr West Of Ponderosa Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		7				7			7	
6:15 PM		13				13			13	
6:30 PM		6				6			6	
6:45 PM		10				10			10	
7:00 PM		12				12			12	
7:15 PM		12				12			12	
7:30 PM		6				6			6	
7:45 PM		5				5			5	
8:00 PM		8				8			8	
8:15 PM		7				7			7	
8:30 PM		5				5			5	
8:45 PM		4				4			4	
9:00 PM		3				3			3	
9:15 PM		4				4			4	
9:30 PM		7				7			7	
9:45 PM		0				0			0	
10:00 PM		2				2			2	
10:15 PM		1				1			1	
10:30 PM		1				1			1	
10:45 PM		4				4			4	
11:00 PM		3				3			3	
11:15 PM		0				0			0	
11:30 PM		1				1			1	
11:45 PM		1				1			1	
Day Total		656				656			656	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:45 AM				8:45 AM			8:45 AM	
Volume		18				18			18	
PM Peak		1:45 PM				1:45 PM			1:45 PM	
Volume		20				20			20	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Lake Dr West Of Lake Gregory Dr
QC JOB #: 13862908
SPECIFIC LOCATION: Lake Dr West Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				22		22			22	
12:15 AM				24		24			24	
12:30 AM				15		15			15	
12:45 AM				6		6			6	
1:00 AM				13		13			13	
1:15 AM				6		6			6	
1:30 AM				12		12			12	
1:45 AM				8		8			8	
2:00 AM				8		8			8	
2:15 AM				3		3			3	
2:30 AM				10		10			10	
2:45 AM				9		9			9	
3:00 AM				4		4			4	
3:15 AM				15		15			15	
3:30 AM				19		19			19	
3:45 AM				12		12			12	
4:00 AM				23		23			23	
4:15 AM				17		17			17	
4:30 AM				20		20			20	
4:45 AM				25		25			25	
5:00 AM				28		28			28	
5:15 AM				49		49			49	
5:30 AM				46		46			46	
5:45 AM				55		55			55	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Lake Dr West Of Lake Gregory Dr
QC JOB #: 13862908
SPECIFIC LOCATION: Lake Dr West Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				80		80			80	
6:15 AM				94		94			94	
6:30 AM				143		143			143	
6:45 AM				117		117			117	
7:00 AM				128		128			128	
7:15 AM				139		139			139	
7:30 AM				146		146			146	
7:45 AM				158		158			158	
8:00 AM				135		135			135	
8:15 AM				142		142			142	
8:30 AM				148		148			148	
8:45 AM				153		153			153	
9:00 AM				159		159			159	
9:15 AM				177		177			177	
9:30 AM				170		170			170	
9:45 AM				169		169			169	
10:00 AM				162		162			162	
10:15 AM				158		158			158	
10:30 AM				182		182			182	
10:45 AM				189		189			189	
11:00 AM				**214**		**214**			**214**	
11:15 AM				185		185			185	
11:30 AM				208		208			208	
11:45 AM				209		209			209	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Lake Dr West Of Lake Gregory Dr
QC JOB #: 13862908
SPECIFIC LOCATION: Lake Dr West Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				198		198			198	
12:15 PM				222		222			222	
12:30 PM				226		226			226	
12:45 PM				202		202			202	
1:00 PM				214		214			214	
1:15 PM				**236**		**236**			**236**	
1:30 PM				216		216			216	
1:45 PM				195		195			195	
2:00 PM				222		222			222	
2:15 PM				201		201			201	
2:30 PM				182		182			182	
2:45 PM				196		196			196	
3:00 PM				220		220			220	
3:15 PM				206		206			206	
3:30 PM				198		198			198	
3:45 PM				217		217			217	
4:00 PM				198		198			198	
4:15 PM				200		200			200	
4:30 PM				224		224			224	
4:45 PM				209		209			209	
5:00 PM				232		232			232	
5:15 PM				187		187			187	
5:30 PM				195		195			195	
5:45 PM				203		203			203	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Lake Dr West Of Lake Gregory Dr
QC JOB #: 13862908
SPECIFIC LOCATION: Lake Dr West Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				188		188			188	
6:15 PM				166		166			166	
6:30 PM				160		160			160	
6:45 PM				168		168			168	
7:00 PM				142		142			142	
7:15 PM				109		109			109	
7:30 PM				122		122			122	
7:45 PM				144		144			144	
8:00 PM				137		137			137	
8:15 PM				128		128			128	
8:30 PM				121		121			121	
8:45 PM				100		100			100	
9:00 PM				89		89			89	
9:15 PM				72		72			72	
9:30 PM				81		81			81	
9:45 PM				64		64			64	
10:00 PM				61		61			61	
10:15 PM				47		47			47	
10:30 PM				47		47			47	
10:45 PM				38		38			38	
11:00 PM				44		44			44	
11:15 PM				29		29			29	
11:30 PM				32		32			32	
11:45 PM				32		32			32	
Day Total				11534		11534			11534	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:00 AM		11:00 AM			11:00 AM	
Volume				214		214			214	
PM Peak				1:15 PM		1:15 PM			1:15 PM	
Volume				236		236			236	

Comments:

LOCATION: Lake Gregory Dr South Of San Moritz Dr

QC JOB #: 13862909

SPECIFIC LOCATION: Lake Gregory Dr South Of San Moritz Dr

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		9				9			9	
12:15 AM		8				8			8	
12:30 AM		6				6			6	
12:45 AM		8				8			8	
1:00 AM		7				7			7	
1:15 AM		2				2			2	
1:30 AM		3				3			3	
1:45 AM		6				6			6	
2:00 AM		4				4			4	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		7				7			7	
3:00 AM		4				4			4	
3:15 AM		5				5			5	
3:30 AM		3				3			3	
3:45 AM		1				1			1	
4:00 AM		3				3			3	
4:15 AM		3				3			3	
4:30 AM		11				11			11	
4:45 AM		10				10			10	
5:00 AM		11				11			11	
5:15 AM		10				10			10	
5:30 AM		32				32			32	
5:45 AM		30				30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Lake Gregory Dr South Of San Moritz Dr

QC JOB #: 13862909

SPECIFIC LOCATION: Lake Gregory Dr South Of San Moritz Dr

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		29				29			29	
6:15 AM		34				34			34	
6:30 AM		57				57			57	
6:45 AM		63				63			63	
7:00 AM		50				50			50	
7:15 AM		78				78			78	
7:30 AM		99				99			99	
7:45 AM		108				108			108	
8:00 AM		74				74			74	
8:15 AM		94				94			94	
8:30 AM		89				89			89	
8:45 AM		104				104			104	
9:00 AM		125				125			125	
9:15 AM		94				94			94	
9:30 AM		107				107			107	
9:45 AM		114				114			114	
10:00 AM		134				134			134	
10:15 AM		113				113			113	
10:30 AM		120				120			120	
10:45 AM		136				136			136	
11:00 AM		116				116			116	
11:15 AM		**151**				**151**			**151**	
11:30 AM		129				129			129	
11:45 AM		141				141			141	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Lake Gregory Dr South Of San Moritz Dr
QC JOB #: 13862909
SPECIFIC LOCATION: Lake Gregory Dr South Of San Moritz Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		139				139			139	
12:15 PM		146				146			146	
12:30 PM		**157**				**157**			**157**	
12:45 PM		126				126			126	
1:00 PM		144				144			144	
1:15 PM		141				141			141	
1:30 PM		126				126			126	
1:45 PM		141				141			141	
2:00 PM		150				150			150	
2:15 PM		151				151			151	
2:30 PM		140				140			140	
2:45 PM		127				127			127	
3:00 PM		120				120			120	
3:15 PM		103				103			103	
3:30 PM		132				132			132	
3:45 PM		138				138			138	
4:00 PM		134				134			134	
4:15 PM		129				129			129	
4:30 PM		130				130			130	
4:45 PM		124				124			124	
5:00 PM		134				134			134	
5:15 PM		121				121			121	
5:30 PM		126				126			126	
5:45 PM		104				104			104	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Lake Gregory Dr South Of San Moritz Dr
QC JOB #: 13862909
SPECIFIC LOCATION: Lake Gregory Dr South Of San Moritz Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		84				84			84	
6:15 PM		80				80			80	
6:30 PM		79				79			79	
6:45 PM		77				77			77	
7:00 PM		72				72			72	
7:15 PM		81				81			81	
7:30 PM		78				78			78	
7:45 PM		57				57			57	
8:00 PM		89				89			89	
8:15 PM		60				60			60	
8:30 PM		49				49			49	
8:45 PM		51				51			51	
9:00 PM		47				47			47	
9:15 PM		32				32			32	
9:30 PM		25				25			25	
9:45 PM		26				26			26	
10:00 PM		26				26			26	
10:15 PM		30				30			30	
10:30 PM		24				24			24	
10:45 PM		20				20			20	
11:00 PM		15				15			15	
11:15 PM		20				20			20	
11:30 PM		12				12			12	
11:45 PM		9				9			9	
Day Total		6868				6868			6868	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:15 AM				11:15 AM			11:15 AM	
Volume		151				151			151	
PM Peak		12:30 PM				12:30 PM			12:30 PM	
Volume		157				157			157	

Comments:

LOCATION: San Moritz Dr East Of Lake Gregory Dr
QC JOB #: 13862910
SPECIFIC LOCATION: San Moritz Dr East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		2				2			2	
12:30 AM		1				1			1	
12:45 AM		2				2			2	
1:00 AM		2				2			2	
1:15 AM		1				1			1	
1:30 AM		1				1			1	
1:45 AM		4				4			4	
2:00 AM		0				0			0	
2:15 AM		2				2			2	
2:30 AM		1				1			1	
2:45 AM		1				1			1	
3:00 AM		0				0			0	
3:15 AM		1				1			1	
3:30 AM		4				4			4	
3:45 AM		0				0			0	
4:00 AM		3				3			3	
4:15 AM		3				3			3	
4:30 AM		0				0			0	
4:45 AM		2				2			2	
5:00 AM		1				1			1	
5:15 AM		2				2			2	
5:30 AM		4				4			4	
5:45 AM		4				4			4	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: San Moritz Dr East Of Lake Gregory Dr
QC JOB #: 13862910
SPECIFIC LOCATION: San Moritz Dr East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		6				6			6	
6:15 AM		14				14			14	
6:30 AM		12				12			12	
6:45 AM		7				7			7	
7:00 AM		12				12			12	
7:15 AM		10				10			10	
7:30 AM		10				10			10	
7:45 AM		14				14			14	
8:00 AM		16				16			16	
8:15 AM		14				14			14	
8:30 AM		7				7			7	
8:45 AM		13				13			13	
9:00 AM		17				17			17	
9:15 AM		16				16			16	
9:30 AM		19				19			19	
9:45 AM		22				22			22	
10:00 AM		25				25			25	
10:15 AM		21				21			21	
10:30 AM		24				24			24	
10:45 AM		22				22			22	
11:00 AM		27				27			27	
11:15 AM		31				31			31	
11:30 AM		32				32			32	
11:45 AM		**35**				**35**			**35**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: San Moritz Dr East Of Lake Gregory Dr
QC JOB #: 13862910
SPECIFIC LOCATION: San Moritz Dr East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		25				25			25	
12:15 PM		18				18			18	
12:30 PM		23				23			23	
12:45 PM		24				24			24	
1:00 PM		44				44			44	
1:15 PM		**49**				**49**			**49**	
1:30 PM		29				29			29	
1:45 PM		24				24			24	
2:00 PM		19				19			19	
2:15 PM		28				28			28	
2:30 PM		42				42			42	
2:45 PM		30				30			30	
3:00 PM		37				37			37	
3:15 PM		26				26			26	
3:30 PM		22				22			22	
3:45 PM		16				16			16	
4:00 PM		15				15			15	
4:15 PM		25				25			25	
4:30 PM		19				19			19	
4:45 PM		21				21			21	
5:00 PM		24				24			24	
5:15 PM		33				33			33	
5:30 PM		24				24			24	
5:45 PM		24				24			24	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: San Moritz Dr East Of Lake Gregory Dr
QC JOB #: 13862910
SPECIFIC LOCATION: San Moritz Dr East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		23				23			23	
6:15 PM		18				18			18	
6:30 PM		19				19			19	
6:45 PM		18				18			18	
7:00 PM		15				15			15	
7:15 PM		23				23			23	
7:30 PM		14				14			14	
7:45 PM		7				7			7	
8:00 PM		19				19			19	
8:15 PM		21				21			21	
8:30 PM		21				21			21	
8:45 PM		2				2			2	
9:00 PM		7				7			7	
9:15 PM		8				8			8	
9:30 PM		6				6			6	
9:45 PM		8				8			8	
10:00 PM		8				8			8	
10:15 PM		6				6			6	
10:30 PM		3				3			3	
10:45 PM		4				4			4	
11:00 PM		0				0			0	
11:15 PM		4				4			4	
11:30 PM		3				3			3	
11:45 PM		1				1			1	
Day Total		1366				1366			1366	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:45 AM				11:45 AM			11:45 AM	
Volume		35				35			35	
PM Peak		1:15 PM				1:15 PM			1:15 PM	
Volume		49				49			49	

Comments:

LOCATION: Stanfield Cutoff South Of N. Shore Drive
QC JOB #: 13862912
SPECIFIC LOCATION: Stanfield Cutoff South Of N. Shore Drive
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6				6			6	
12:15 AM		5				5			5	
12:30 AM		5				5			5	
12:45 AM		3				3			3	
1:00 AM		4				4			4	
1:15 AM		4				4			4	
1:30 AM		2				2			2	
1:45 AM		5				5			5	
2:00 AM		1				1			1	
2:15 AM		1				1			1	
2:30 AM		2				2			2	
2:45 AM		2				2			2	
3:00 AM		3				3			3	
3:15 AM		3				3			3	
3:30 AM		0				0			0	
3:45 AM		3				3			3	
4:00 AM		3				3			3	
4:15 AM		1				1			1	
4:30 AM		8				8			8	
4:45 AM		7				7			7	
5:00 AM		8				8			8	
5:15 AM		20				20			20	
5:30 AM		14				14			14	
5:45 AM		34				34			34	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Stanfield Cutoff South Of N. Shore Drive
QC JOB #: 13862912
SPECIFIC LOCATION: Stanfield Cutoff South Of N. Shore Drive
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		27				27			27	
6:15 AM		29				29			29	
6:30 AM		53				53			53	
6:45 AM		75				75			75	
7:00 AM		82				82			82	
7:15 AM		70				70			70	
7:30 AM		85				85			85	
7:45 AM		110				110			110	
8:00 AM		80				80			80	
8:15 AM		108				108			108	
8:30 AM		137				137			137	
8:45 AM		142				142			142	
9:00 AM		109				109			109	
9:15 AM		124				124			124	
9:30 AM		96				96			96	
9:45 AM		117				117			117	
10:00 AM		123				123			123	
10:15 AM		110				110			110	
10:30 AM		129				129			129	
10:45 AM		109				109			109	
11:00 AM		104				104			104	
11:15 AM		151				151			151	
11:30 AM		154				154			154	
11:45 AM		**156**				**156**			**156**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Stanfield Cutoff South Of N. Shore Drive
QC JOB #: 13862912
SPECIFIC LOCATION: Stanfield Cutoff South Of N. Shore Drive
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		154				154			154	
12:15 PM		116				116			116	
12:30 PM		152				152			152	
12:45 PM		138				138			138	
1:00 PM		152				152			152	
1:15 PM		124				124			124	
1:30 PM		121				121			121	
1:45 PM		152				152			152	
2:00 PM		124				124			124	
2:15 PM		120				120			120	
2:30 PM		**156**				**156**			**156**	
2:45 PM		138				138			138	
3:00 PM		143				143			143	
3:15 PM		122				122			122	
3:30 PM		147				147			147	
3:45 PM		136				136			136	
4:00 PM		128				128			128	
4:15 PM		123				123			123	
4:30 PM		150				150			150	
4:45 PM		126				126			126	
5:00 PM		120				120			120	
5:15 PM		122				122			122	
5:30 PM		126				126			126	
5:45 PM		106				106			106	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Stanfield Cutoff South Of N. Shore Drive
QC JOB #: 13862912
SPECIFIC LOCATION: Stanfield Cutoff South Of N. Shore Drive
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		118				118			118	
6:15 PM		107				107			107	
6:30 PM		114				114			114	
6:45 PM		85				85			85	
7:00 PM		85				85			85	
7:15 PM		73				73			73	
7:30 PM		82				82			82	
7:45 PM		66				66			66	
8:00 PM		56				56			56	
8:15 PM		52				52			52	
8:30 PM		43				43			43	
8:45 PM		40				40			40	
9:00 PM		20				20			20	
9:15 PM		32				32			32	
9:30 PM		32				32			32	
9:45 PM		26				26			26	
10:00 PM		28				28			28	
10:15 PM		20				20			20	
10:30 PM		16				16			16	
10:45 PM		18				18			18	
11:00 PM		14				14			14	
11:15 PM		5				5			5	
11:30 PM		7				7			7	
11:45 PM		5				5			5	
Day Total		6964				6964			6964	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:45 AM				11:45 AM			11:45 AM	
Volume		156				156			156	
PM Peak		2:30 PM				2:30 PM			2:30 PM	
Volume		156				156			156	

Comments:

LOCATION: North Bay Road North Of SH 189 **QC JOB #:** 13862913
SPECIFIC LOCATION: North Bay Road North Of SH 189 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6				6			6	
12:15 AM		3				3			3	
12:30 AM		4				4			4	
12:45 AM		2				2			2	
1:00 AM		2				2			2	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		2				2			2	
2:00 AM		3				3			3	
2:15 AM		0				0			0	
2:30 AM		2				2			2	
2:45 AM		2				2			2	
3:00 AM		2				2			2	
3:15 AM		2				2			2	
3:30 AM		7				7			7	
3:45 AM		4				4			4	
4:00 AM		7				7			7	
4:15 AM		4				4			4	
4:30 AM		8				8			8	
4:45 AM		11				11			11	
5:00 AM		8				8			8	
5:15 AM		11				11			11	
5:30 AM		12				12			12	
5:45 AM		22				22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: North Bay Road North Of SH 189 **QC JOB #:** 13862913
SPECIFIC LOCATION: North Bay Road North Of SH 189 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		23				23			23	
6:15 AM		18				18			18	
6:30 AM		36				36			36	
6:45 AM		45				45			45	
7:00 AM		56				56			56	
7:15 AM		71				71			71	
7:30 AM		65				65			65	
7:45 AM		101				101			101	
8:00 AM		101				101			101	
8:15 AM		128				128			128	
8:30 AM		137				137			137	
8:45 AM		**173**				**173**			**173**	
9:00 AM		145				145			145	
9:15 AM		131				131			131	
9:30 AM		121				121			121	
9:45 AM		167				167			167	
10:00 AM		128				128			128	
10:15 AM		121				121			121	
10:30 AM		145				145			145	
10:45 AM		158				158			158	
11:00 AM		141				141			141	
11:15 AM		162				162			162	
11:30 AM		149				149			149	
11:45 AM		150				150			150	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: North Bay Road North Of SH 189 **QC JOB #:** 13862913
SPECIFIC LOCATION: North Bay Road North Of SH 189 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		164				164			164	
12:15 PM		157				157			157	
12:30 PM		142				142			142	
12:45 PM		131				131			131	
1:00 PM		138				138			138	
1:15 PM		132				132			132	
1:30 PM		154				154			154	
1:45 PM		**165**				**165**			**165**	
2:00 PM		120				120			120	
2:15 PM		162				162			162	
2:30 PM		131				131			131	
2:45 PM		126				126			126	
3:00 PM		117				117			117	
3:15 PM		128				128			128	
3:30 PM		158				158			158	
3:45 PM		133				133			133	
4:00 PM		150				150			150	
4:15 PM		136				136			136	
4:30 PM		142				142			142	
4:45 PM		118				118			118	
5:00 PM		119				119			119	
5:15 PM		124				124			124	
5:30 PM		113				113			113	
5:45 PM		86				86			86	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: North Bay Road North Of SH 189 **QC JOB #:** 13862913
SPECIFIC LOCATION: North Bay Road North Of SH 189 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		101				101			101	
6:15 PM		110				110			110	
6:30 PM		92				92			92	
6:45 PM		70				70			70	
7:00 PM		62				62			62	
7:15 PM		63				63			63	
7:30 PM		60				60			60	
7:45 PM		50				50			50	
8:00 PM		52				52			52	
8:15 PM		53				53			53	
8:30 PM		47				47			47	
8:45 PM		40				40			40	
9:00 PM		49				49			49	
9:15 PM		31				31			31	
9:30 PM		25				25			25	
9:45 PM		26				26			26	
10:00 PM		28				28			28	
10:15 PM		20				20			20	
10:30 PM		9				9			9	
10:45 PM		23				23			23	
11:00 PM		8				8			8	
11:15 PM		14				14			14	
11:30 PM		6				6			6	
11:45 PM		6				6			6	
Day Total		7088				7088			7088	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:45 AM				8:45 AM			8:45 AM	
Volume		173				173			173	
PM Peak		1:45 PM				1:45 PM			1:45 PM	
Volume		165				165			165	

Comments:

Report generated on 8/12/2016 8:30 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kuffel Canyon Rd North Of SH 18 **QC JOB #:** 13862914

SPECIFIC LOCATION: Kuffel Canyon Rd North Of SH 18 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Aug 03 2016 - Aug 03 2016

Start Time	Mon	Tue	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			2			2			2	
12:30 AM			4			4			4	
12:45 AM			0			0			0	
1:00 AM			1			1			1	
1:15 AM			1			1			1	
1:30 AM			4			4			4	
1:45 AM			2			2			2	
2:00 AM			3			3			3	
2:15 AM			2			2			2	
2:30 AM			1			1			1	
2:45 AM			1			1			1	
3:00 AM			2			2			2	
3:15 AM			0			0			0	
3:30 AM			1			1			1	
3:45 AM			1			1			1	
4:00 AM			0			0			0	
4:15 AM			1			1			1	
4:30 AM			7			7			7	
4:45 AM			3			3			3	
5:00 AM			1			1			1	
5:15 AM			3			3			3	
5:30 AM			11			11			11	
5:45 AM			17			17			17	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Kuffel Canyon Rd North Of SH 18 **QC JOB #:** 13862914
SPECIFIC LOCATION: Kuffel Canyon Rd North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 03 2016 - Aug 03 2016

Start Time	Mon	Tue	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			13			13			13	
6:15 AM			12			12			12	
6:30 AM			16			16			16	
6:45 AM			34			34			34	
7:00 AM			24			24			24	
7:15 AM			40			40			40	
7:30 AM			31			31			31	
7:45 AM			59			59			59	
8:00 AM			37			37			37	
8:15 AM			40			40			40	
8:30 AM			33			33			33	
8:45 AM			44			44			44	
9:00 AM			41			41			41	
9:15 AM			34			34			34	
9:30 AM			42			42			42	
9:45 AM			33			33			33	
10:00 AM			52			52			52	
10:15 AM			59			59			59	
10:30 AM			59			59			59	
10:45 AM			62			62			62	
11:00 AM			59			59			59	
11:15 AM			56			56			56	
11:30 AM			56			56			56	
11:45 AM			**67**			**67**			**67**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kuffel Canyon Rd North Of SH 18 **QC JOB #:** 13862914
SPECIFIC LOCATION: Kuffel Canyon Rd North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 03 2016 - Aug 03 2016

Start Time	Mon	Tue	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			70			70			70	
12:15 PM			50			50			50	
12:30 PM			55			55			55	
12:45 PM			69			69			69	
1:00 PM			65			65			65	
1:15 PM			58			58			58	
1:30 PM			56			56			56	
1:45 PM			44			44			44	
2:00 PM			66			66			66	
2:15 PM			61			61			61	
2:30 PM			48			48			48	
2:45 PM			53			53			53	
3:00 PM			54			54			54	
3:15 PM			51			51			51	
3:30 PM			63			63			63	
3:45 PM			52			52			52	
4:00 PM			61			61			61	
4:15 PM			59			59			59	
4:30 PM			**72**			**72**			**72**	
4:45 PM			66			66			66	
5:00 PM			55			55			55	
5:15 PM			63			63			63	
5:30 PM			47			47			47	
5:45 PM			41			41			41	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Kuffel Canyon Rd North Of SH 18 **QC JOB #:** 13862914
SPECIFIC LOCATION: Kuffel Canyon Rd North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 03 2016 - Aug 03 2016

Start Time	Mon	Tue	Wed 03-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			57			57			57	
6:15 PM			36			36			36	
6:30 PM			49			49			49	
6:45 PM			39			39			39	
7:00 PM			40			40			40	
7:15 PM			35			35			35	
7:30 PM			39			39			39	
7:45 PM			29			29			29	
8:00 PM			25			25			25	
8:15 PM			23			23			23	
8:30 PM			23			23			23	
8:45 PM			8			8			8	
9:00 PM			20			20			20	
9:15 PM			11			11			11	
9:30 PM			10			10			10	
9:45 PM			8			8			8	
10:00 PM			8			8			8	
10:15 PM			12			12			12	
10:30 PM			5			5			5	
10:45 PM			7			7			7	
11:00 PM			4			4			4	
11:15 PM			2			2			2	
11:30 PM			6			6			6	
11:45 PM			3			3			3	
Day Total			2950			2950			2950	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:45 AM			11:45 AM			11:45 AM	
Volume			67			67			67	
PM Peak			4:30 PM			4:30 PM			4:30 PM	
Volume			72			72			72	

Comments:

LOCATION: Arrowhead Villa Road North Of SH 18 **QC JOB #:** 13862915

SPECIFIC LOCATION: Arrowhead Villa Road North Of SH 18 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				0		0			0	
12:15 AM				1		1			1	
12:30 AM				1		1			1	
12:45 AM				2		2			2	
1:00 AM				2		2			2	
1:15 AM				0		0			0	
1:30 AM				0		0			0	
1:45 AM				2		2			2	
2:00 AM				0		0			0	
2:15 AM				1		1			1	
2:30 AM				1		1			1	
2:45 AM				0		0			0	
3:00 AM				0		0			0	
3:15 AM				1		1			1	
3:30 AM				1		1			1	
3:45 AM				0		0			0	
4:00 AM				1		1			1	
4:15 AM				1		1			1	
4:30 AM				0		0			0	
4:45 AM				1		1			1	
5:00 AM				2		2			2	
5:15 AM				2		2			2	
5:30 AM				1		1			1	
5:45 AM				1		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Arrowhead Villa Road North Of SH 18 **QC JOB #:** 13862915

SPECIFIC LOCATION: Arrowhead Villa Road North Of SH 18 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				1		1			1	
6:15 AM				1		1			1	
6:30 AM				10		10			10	
6:45 AM				10		10			10	
7:00 AM				6		6			6	
7:15 AM				8		8			8	
7:30 AM				14		14			14	
7:45 AM				26		26			26	
8:00 AM				11		11			11	
8:15 AM				12		12			12	
8:30 AM				8		8			8	
8:45 AM				8		8			8	
9:00 AM				14		14			14	
9:15 AM				18		18			18	
9:30 AM				10		10			10	
9:45 AM				**29**		**29**			**29**	
10:00 AM				13		13			13	
10:15 AM				10		10			10	
10:30 AM				13		13			13	
10:45 AM				14		14			14	
11:00 AM				21		21			21	
11:15 AM				16		16			16	
11:30 AM				15		15			15	
11:45 AM				14		14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Arrowhead Villa Road North Of SH 18 **QC JOB #:** 13862915

SPECIFIC LOCATION: Arrowhead Villa Road North Of SH 18 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				16		16			16	
12:15 PM				15		15			15	
12:30 PM				**42**		**42**			**42**	
12:45 PM				24		24			24	
1:00 PM				26		26			26	
1:15 PM				19		19			19	
1:30 PM				19		19			19	
1:45 PM				36		36			36	
2:00 PM				21		21			21	
2:15 PM				17		17			17	
2:30 PM				25		25			25	
2:45 PM				14		14			14	
3:00 PM				16		16			16	
3:15 PM				20		20			20	
3:30 PM				8		8			8	
3:45 PM				16		16			16	
4:00 PM				16		16			16	
4:15 PM				13		13			13	
4:30 PM				19		19			19	
4:45 PM				25		25			25	
5:00 PM				22		22			22	
5:15 PM				21		21			21	
5:30 PM				15		15			15	
5:45 PM				28		28			28	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Arrowhead Villa Road North Of SH 18 **QC JOB #:** 13862915
SPECIFIC LOCATION: Arrowhead Villa Road North Of SH 18 **DIRECTION:** EB/WB
CITY/STATE: San Bernardino, CA **DATE:** Jul 28 2016 - Jul 28 2016

Start Time	Mon	Tue	Wed	Thu 28-Jul-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				24		24			24	
6:15 PM				21		21			21	
6:30 PM				26		26			26	
6:45 PM				27		27			27	
7:00 PM				15		15			15	
7:15 PM				12		12			12	
7:30 PM				22		22			22	
7:45 PM				16		16			16	
8:00 PM				6		6			6	
8:15 PM				20		20			20	
8:30 PM				12		12			12	
8:45 PM				7		7			7	
9:00 PM				10		10			10	
9:15 PM				14		14			14	
9:30 PM				12		12			12	
9:45 PM				10		10			10	
10:00 PM				7		7			7	
10:15 PM				18		18			18	
10:30 PM				15		15			15	
10:45 PM				7		7			7	
11:00 PM				5		5			5	
11:15 PM				7		7			7	
11:30 PM				0		0			0	
11:45 PM				2		2			2	
Day Total				1131		1131			1131	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				9:45 AM 29		9:45 AM 29			9:45 AM 29	
PM Peak Volume				12:30 PM 42		12:30 PM 42			12:30 PM 42	

Comments:

Report generated on 8/12/2016 8:30 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Cottage Grove Rd North Of SH 18 **QC JOB #:** 13862916

SPECIFIC LOCATION: Cottage Grove Rd North Of SH 18 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		1				1			1	
12:30 AM		0				0			0	
12:45 AM		1				1			1	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		1				1			1	
3:00 AM		0				0			0	
3:15 AM		1				1			1	
3:30 AM		0				0			0	
3:45 AM		0				0			0	
4:00 AM		1				1			1	
4:15 AM		0				0			0	
4:30 AM		1				1			1	
4:45 AM		1				1			1	
5:00 AM		1				1			1	
5:15 AM		0				0			0	
5:30 AM		1				1			1	
5:45 AM		5				5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Cottage Grove Rd North Of SH 18 **QC JOB #:** 13862916
SPECIFIC LOCATION: Cottage Grove Rd North Of SH 18 **DIRECTION:** EB/WB
CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		3				3			3	
6:15 AM		4				4			4	
6:30 AM		2				2			2	
6:45 AM		2				2			2	
7:00 AM		4				4			4	
7:15 AM		6				6			6	
7:30 AM		3				3			3	
7:45 AM		8				8			8	
8:00 AM		6				6			6	
8:15 AM		5				5			5	
8:30 AM		3				3			3	
8:45 AM		8				8			8	
9:00 AM		4				4			4	
9:15 AM		5				5			5	
9:30 AM		8				8			8	
9:45 AM		9				9			9	
10:00 AM		2				2			2	
10:15 AM		2				2			2	
10:30 AM		7				7			7	
10:45 AM		7				7			7	
11:00 AM		**11**				**11**			**11**	
11:15 AM		7				7			7	
11:30 AM		5				5			5	
11:45 AM		8				8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Cottage Grove Rd North Of SH 18 **QC JOB #:** 13862916

SPECIFIC LOCATION: Cottage Grove Rd North Of SH 18 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		6				6			6	
12:15 PM		5				5			5	
12:30 PM		7				7			7	
12:45 PM		**22**				**22**			**22**	
1:00 PM		6				6			6	
1:15 PM		5				5			5	
1:30 PM		9				9			9	
1:45 PM		9				9			9	
2:00 PM		4				4			4	
2:15 PM		3				3			3	
2:30 PM		7				7			7	
2:45 PM		10				10			10	
3:00 PM		13				13			13	
3:15 PM		13				13			13	
3:30 PM		8				8			8	
3:45 PM		9				9			9	
4:00 PM		12				12			12	
4:15 PM		7				7			7	
4:30 PM		3				3			3	
4:45 PM		8				8			8	
5:00 PM		7				7			7	
5:15 PM		3				3			3	
5:30 PM		4				4			4	
5:45 PM		5				5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Cottage Grove Rd North Of SH 18
QC JOB #: 13862916
SPECIFIC LOCATION: Cottage Grove Rd North Of SH 18
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Jul 26 2016 - Jul 26 2016

Start Time	Mon	Tue 26-Jul-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		5				5			5	
6:15 PM		3				3			3	
6:30 PM		5				5			5	
6:45 PM		6				6			6	
7:00 PM		6				6			6	
7:15 PM		2				2			2	
7:30 PM		1				1			1	
7:45 PM		2				2			2	
8:00 PM		3				3			3	
8:15 PM		4				4			4	
8:30 PM		3				3			3	
8:45 PM		5				5			5	
9:00 PM		1				1			1	
9:15 PM		5				5			5	
9:30 PM		6				6			6	
9:45 PM		0				0			0	
10:00 PM		1				1			1	
10:15 PM		1				1			1	
10:30 PM		2				2			2	
10:45 PM		0				0			0	
11:00 PM		0				0			0	
11:15 PM		2				2			2	
11:30 PM		1				1			1	
11:45 PM		1				1			1	
Day Total		393				393			393	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:00 AM				11:00 AM			11:00 AM	
Volume		11				11			11	
PM Peak		12:45 PM				12:45 PM			12:45 PM	
Volume		22				22			22	

Comments:

LOCATION: SH 173 North Of Bay Rd

QC JOB #: 13863017

SPECIFIC LOCATION: SH 173 North Of Bay Rd

DIRECTION: NB/SB

CITY/STATE: Lake Arrowhead, CA

DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				0		0			0	
12:15 AM				0		0			0	
12:30 AM				0		0			0	
12:45 AM				0		0			0	
1:00 AM				0		0			0	
1:15 AM				0		0			0	
1:30 AM				0		0			0	
1:45 AM				0		0			0	
2:00 AM				0		0			0	
2:15 AM				0		0			0	
2:30 AM				0		0			0	
2:45 AM				0		0			0	
3:00 AM				0		0			0	
3:15 AM				0		0			0	
3:30 AM				0		0			0	
3:45 AM				2		2			2	
4:00 AM				0		0			0	
4:15 AM				0		0			0	
4:30 AM				0		0			0	
4:45 AM				1		1			1	
5:00 AM				0		0			0	
5:15 AM				0		0			0	
5:30 AM				0		0			0	
5:45 AM				5		5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 North Of Bay Rd

QC JOB #: 13863017

SPECIFIC LOCATION: SH 173 North Of Bay Rd

DIRECTION: NB/SB

CITY/STATE: Lake Arrowhead, CA

DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				0		0			0	
6:15 AM				2		2			2	
6:30 AM				8		8			8	
6:45 AM				5		5			5	
7:00 AM				1		1			1	
7:15 AM				6		6			6	
7:30 AM				4		4			4	
7:45 AM				11		11			11	
8:00 AM				19		19			19	
8:15 AM				6		6			6	
8:30 AM				7		7			7	
8:45 AM				7		7			7	
9:00 AM				7		7			7	
9:15 AM				8		8			8	
9:30 AM				15		15			15	
9:45 AM				7		7			7	
10:00 AM				6		6			6	
10:15 AM				8		8			8	
10:30 AM				12		12			12	
10:45 AM				**20**		**20**			**20**	
11:00 AM				6		6			6	
11:15 AM				12		12			12	
11:30 AM				5		5			5	
11:45 AM				8		8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 North Of Bay Rd
QC JOB #: 13863017
SPECIFIC LOCATION: SH 173 North Of Bay Rd
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				12		12			12	
12:15 PM				10		10			10	
12:30 PM				2		2			2	
12:45 PM				8		8			8	
1:00 PM				6		6			6	
1:15 PM				6		6			6	
1:30 PM				9		9			9	
1:45 PM				16		16			16	
2:00 PM				8		8			8	
2:15 PM				6		6			6	
2:30 PM				7		7			7	
2:45 PM				13		13			13	
3:00 PM				4		4			4	
3:15 PM				8		8			8	
3:30 PM				8		8			8	
3:45 PM				**17**		**17**			**17**	
4:00 PM				4		4			4	
4:15 PM				11		11			11	
4:30 PM				8		8			8	
4:45 PM				7		7			7	
5:00 PM				11		11			11	
5:15 PM				12		12			12	
5:30 PM				6		6			6	
5:45 PM				14		14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 North Of Bay Rd
QC JOB #: 13863017
SPECIFIC LOCATION: SH 173 North Of Bay Rd
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				3		3			3	
6:15 PM				8		8			8	
6:30 PM				6		6			6	
6:45 PM				8		8			8	
7:00 PM				4		4			4	
7:15 PM				2		2			2	
7:30 PM				3		3			3	
7:45 PM				2		2			2	
8:00 PM				7		7			7	
8:15 PM				1		1			1	
8:30 PM				1		1			1	
8:45 PM				3		3			3	
9:00 PM				5		5			5	
9:15 PM				5		5			5	
9:30 PM				4		4			4	
9:45 PM				2		2			2	
10:00 PM				1		1			1	
10:15 PM				0		0			0	
10:30 PM				1		1			1	
10:45 PM				1		1			1	
11:00 PM				0		0			0	
11:15 PM				1		1			1	
11:30 PM				0		0			0	
11:45 PM				0		0			0	
Day Total				479		479			479	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				10:45 AM		10:45 AM			10:45 AM	
Volume				20		20			20	
PM Peak				3:45 PM		3:45 PM			3:45 PM	
Volume				17		17			17	

Comments:

LOCATION: SH 173 S Of Mountains Hospital Access Rd

QC JOB #: 13863018

SPECIFIC LOCATION: SH 173 S Of Mountains Hospital Access Rd

DIRECTION: NB/SB

CITY/STATE: Lake Arrowhead, CA

DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				2		2			2	
12:15 AM				6		6			6	
12:30 AM				2		2			2	
12:45 AM				3		3			3	
1:00 AM				1		1			1	
1:15 AM				0		0			0	
1:30 AM				0		0			0	
1:45 AM				2		2			2	
2:00 AM				0		0			0	
2:15 AM				0		0			0	
2:30 AM				2		2			2	
2:45 AM				0		0			0	
3:00 AM				1		1			1	
3:15 AM				2		2			2	
3:30 AM				0		0			0	
3:45 AM				0		0			0	
4:00 AM				0		0			0	
4:15 AM				0		0			0	
4:30 AM				4		4			4	
4:45 AM				1		1			1	
5:00 AM				5		5			5	
5:15 AM				8		8			8	
5:30 AM				5		5			5	
5:45 AM				20		20			20	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 S Of Mountains Hospital Access Rd

QC JOB #: 13863018

SPECIFIC LOCATION: SH 173 S Of Mountains Hospital Access Rd

DIRECTION: NB/SB

CITY/STATE: Lake Arrowhead, CA

DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				16		16			16	
6:15 AM				23		23			23	
6:30 AM				23		23			23	
6:45 AM				65		65			65	
7:00 AM				54		54			54	
7:15 AM				53		53			53	
7:30 AM				51		51			51	
7:45 AM				113		113			113	
8:00 AM				**133**		**133**			**133**	
8:15 AM				118		118			118	
8:30 AM				78		78			78	
8:45 AM				85		85			85	
9:00 AM				70		70			70	
9:15 AM				83		83			83	
9:30 AM				70		70			70	
9:45 AM				98		98			98	
10:00 AM				85		85			85	
10:15 AM				68		68			68	
10:30 AM				86		86			86	
10:45 AM				100		100			100	
11:00 AM				75		75			75	
11:15 AM				83		83			83	
11:30 AM				79		79			79	
11:45 AM				90		90			90	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 S Of Mountains Hospital Access Rd
QC JOB #: 13863018
SPECIFIC LOCATION: SH 173 S Of Mountains Hospital Access Rd
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				101		101			101	
12:15 PM				85		85			85	
12:30 PM				85		85			85	
12:45 PM				76		76			76	
1:00 PM				92		92			92	
1:15 PM				100		100			100	
1:30 PM				102		102			102	
1:45 PM				98		98			98	
2:00 PM				89		89			89	
2:15 PM				96		96			96	
2:30 PM				96		96			96	
2:45 PM				**130**		**130**			**130**	
3:00 PM				107		107			107	
3:15 PM				106		106			106	
3:30 PM				101		101			101	
3:45 PM				98		98			98	
4:00 PM				120		120			120	
4:15 PM				85		85			85	
4:30 PM				100		100			100	
4:45 PM				95		95			95	
5:00 PM				89		89			89	
5:15 PM				106		106			106	
5:30 PM				81		81			81	
5:45 PM				75		75			75	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 S Of Mountains Hospital Access Rd
QC JOB #: 13863018
SPECIFIC LOCATION: SH 173 S Of Mountains Hospital Access Rd
DIRECTION: NB/SB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				60		60			60	
6:15 PM				78		78			78	
6:30 PM				58		58			58	
6:45 PM				51		51			51	
7:00 PM				58		58			58	
7:15 PM				53		53			53	
7:30 PM				42		42			42	
7:45 PM				40		40			40	
8:00 PM				30		30			30	
8:15 PM				33		33			33	
8:30 PM				26		26			26	
8:45 PM				26		26			26	
9:00 PM				26		26			26	
9:15 PM				27		27			27	
9:30 PM				19		19			19	
9:45 PM				19		19			19	
10:00 PM				14		14			14	
10:15 PM				7		7			7	
10:30 PM				11		11			11	
10:45 PM				9		9			9	
11:00 PM				7		7			7	
11:15 PM				4		4			4	
11:30 PM				3		3			3	
11:45 PM				2		2			2	
Day Total				4879		4879			4879	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:00 AM		8:00 AM			8:00 AM	
Volume				133		133			133	
PM Peak				2:45 PM		2:45 PM			2:45 PM	
Volume				130		130			130	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 East Of Lakes Edge Rd
QC JOB #: 13863019
SPECIFIC LOCATION: SH 173 East Of Lakes Edge Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				1		1			1	
12:15 AM				8		8			8	
12:30 AM				8		8			8	
12:45 AM				0		0			0	
1:00 AM				2		2			2	
1:15 AM				1		1			1	
1:30 AM				1		1			1	
1:45 AM				3		3			3	
2:00 AM				2		2			2	
2:15 AM				4		4			4	
2:30 AM				3		3			3	
2:45 AM				3		3			3	
3:00 AM				2		2			2	
3:15 AM				2		2			2	
3:30 AM				1		1			1	
3:45 AM				1		1			1	
4:00 AM				2		2			2	
4:15 AM				6		6			6	
4:30 AM				6		6			6	
4:45 AM				6		6			6	
5:00 AM				10		10			10	
5:15 AM				13		13			13	
5:30 AM				15		15			15	
5:45 AM				30		30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 East Of Lakes Edge Rd
QC JOB #: 13863019
SPECIFIC LOCATION: SH 173 East Of Lakes Edge Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				24		24			24	
6:15 AM				30		30			30	
6:30 AM				44		44			44	
6:45 AM				89		89			89	
7:00 AM				76		76			76	
7:15 AM				72		72			72	
7:30 AM				69		69			69	
7:45 AM				101		101			101	
8:00 AM				87		87			87	
8:15 AM				104		104			104	
8:30 AM				100		100			100	
8:45 AM				110		110			110	
9:00 AM				95		95			95	
9:15 AM				96		96			96	
9:30 AM				96		96			96	
9:45 AM				122		122			122	
10:00 AM				101		101			101	
10:15 AM				102		102			102	
10:30 AM				100		100			100	
10:45 AM				127		127			127	
11:00 AM				118		118			118	
11:15 AM				116		116			116	
11:30 AM				110		110			110	
11:45 AM				**131**		**131**			**131**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SH 173 East Of Lakes Edge Rd
QC JOB #: 13863019
SPECIFIC LOCATION: SH 173 East Of Lakes Edge Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				136		136			136	
12:15 PM				123		123			123	
12:30 PM				117		117			117	
12:45 PM				120		120			120	
1:00 PM				151		151			151	
1:15 PM				140		140			140	
1:30 PM				127		127			127	
1:45 PM				124		124			124	
2:00 PM				134		134			134	
2:15 PM				132		132			132	
2:30 PM				128		128			128	
2:45 PM				166		166			166	
3:00 PM				**167**		**167**			**167**	
3:15 PM				147		147			147	
3:30 PM				153		153			153	
3:45 PM				162		162			162	
4:00 PM				145		145			145	
4:15 PM				151		151			151	
4:30 PM				151		151			151	
4:45 PM				144		144			144	
5:00 PM				128		128			128	
5:15 PM				142		142			142	
5:30 PM				115		115			115	
5:45 PM				125		125			125	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 East Of Lakes Edge Rd
QC JOB #: 13863019
SPECIFIC LOCATION: SH 173 East Of Lakes Edge Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				120		120			120	
6:15 PM				126		126			126	
6:30 PM				102		102			102	
6:45 PM				87		87			87	
7:00 PM				66		66			66	
7:15 PM				80		80			80	
7:30 PM				76		76			76	
7:45 PM				70		70			70	
8:00 PM				56		56			56	
8:15 PM				56		56			56	
8:30 PM				47		47			47	
8:45 PM				49		49			49	
9:00 PM				43		43			43	
9:15 PM				32		32			32	
9:30 PM				42		42			42	
9:45 PM				36		36			36	
10:00 PM				27		27			27	
10:15 PM				26		26			26	
10:30 PM				22		22			22	
10:45 PM				13		13			13	
11:00 PM				11		11			11	
11:15 PM				15		15			15	
11:30 PM				9		9			9	
11:45 PM				6		6			6	
Day Total				6895		6895			6895	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:45 AM		11:45 AM			11:45 AM	
Volume				131		131			131	
PM Peak				3:00 PM		3:00 PM			3:00 PM	
Volume				167		167			167	

Comments:

LOCATION: SH 173 West Of Dolly Varden Dr
QC JOB #: 13863020
SPECIFIC LOCATION: SH 173 West Of Dolly Varden Dr
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				2		2			2	
12:15 AM				4		4			4	
12:30 AM				5		5			5	
12:45 AM				2		2			2	
1:00 AM				0		0			0	
1:15 AM				1		1			1	
1:30 AM				2		2			2	
1:45 AM				2		2			2	
2:00 AM				3		3			3	
2:15 AM				2		2			2	
2:30 AM				4		4			4	
2:45 AM				1		1			1	
3:00 AM				1		1			1	
3:15 AM				3		3			3	
3:30 AM				1		1			1	
3:45 AM				2		2			2	
4:00 AM				3		3			3	
4:15 AM				3		3			3	
4:30 AM				4		4			4	
4:45 AM				6		6			6	
5:00 AM				8		8			8	
5:15 AM				9		9			9	
5:30 AM				8		8			8	
5:45 AM				19		19			19	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 West Of Dolly Varden Dr
QC JOB #: 13863020
SPECIFIC LOCATION: SH 173 West Of Dolly Varden Dr
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				21		21			21	
6:15 AM				17		17			17	
6:30 AM				28		28			28	
6:45 AM				75		75			75	
7:00 AM				67		67			67	
7:15 AM				35		35			35	
7:30 AM				65		65			65	
7:45 AM				69		69			69	
8:00 AM				61		61			61	
8:15 AM				50		50			50	
8:30 AM				74		74			74	
8:45 AM				67		67			67	
9:00 AM				57		57			57	
9:15 AM				65		65			65	
9:30 AM				60		60			60	
9:45 AM				68		68			68	
10:00 AM				70		70			70	
10:15 AM				68		68			68	
10:30 AM				53		53			53	
10:45 AM				87		87			87	
11:00 AM				59		59			59	
11:15 AM				**88**		**88**			**88**	
11:30 AM				67		67			67	
11:45 AM				88		88			88	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 173 West Of Dolly Varden Dr
QC JOB #: 13863020
SPECIFIC LOCATION: SH 173 West Of Dolly Varden Dr
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				65		65			65	
12:15 PM				62		62			62	
12:30 PM				79		79			79	
12:45 PM				79		79			79	
1:00 PM				76		76			76	
1:15 PM				97		97			97	
1:30 PM				90		90			90	
1:45 PM				92		92			92	
2:00 PM				93		93			93	
2:15 PM				100		100			100	
2:30 PM				79		79			79	
2:45 PM				81		81			81	
3:00 PM				76		76			76	
3:15 PM				82		82			82	
3:30 PM				93		93			93	
3:45 PM				**101**		**101**			**101**	
4:00 PM				83		83			83	
4:15 PM				94		94			94	
4:30 PM				91		91			91	
4:45 PM				86		86			86	
5:00 PM				76		76			76	
5:15 PM				95		95			95	
5:30 PM				72		72			72	
5:45 PM				64		64			64	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SH 173 West Of Dolly Varden Dr
QC JOB #: 13863020
SPECIFIC LOCATION: SH 173 West Of Dolly Varden Dr
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				68		68			68	
6:15 PM				58		58			58	
6:30 PM				66		66			66	
6:45 PM				50		50			50	
7:00 PM				31		31			31	
7:15 PM				42		42			42	
7:30 PM				42		42			42	
7:45 PM				40		40			40	
8:00 PM				37		37			37	
8:15 PM				30		30			30	
8:30 PM				25		25			25	
8:45 PM				20		20			20	
9:00 PM				26		26			26	
9:15 PM				18		18			18	
9:30 PM				26		26			26	
9:45 PM				25		25			25	
10:00 PM				17		17			17	
10:15 PM				18		18			18	
10:30 PM				8		8			8	
10:45 PM				10		10			10	
11:00 PM				12		12			12	
11:15 PM				9		9			9	
11:30 PM				4		4			4	
11:45 PM				7		7			7	
Day Total				4249		4249			4249	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:15 AM		11:15 AM			11:15 AM	
Volume				88		88			88	
PM Peak				3:45 PM		3:45 PM			3:45 PM	
Volume				101		101			101	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: SH189 West Of Bear Springs Rd
QC JOB #: 13863021
SPECIFIC LOCATION: SH189 West Of Bear Springs Rd
DIRECTION: EB/WB
CITY/STATE: Twin Peaks, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				8		8			8	
12:15 AM				3		3			3	
12:30 AM				3		3			3	
12:45 AM				6		6			6	
1:00 AM				0		0			0	
1:15 AM				4		4			4	
1:30 AM				4		4			4	
1:45 AM				1		1			1	
2:00 AM				3		3			3	
2:15 AM				3		3			3	
2:30 AM				2		2			2	
2:45 AM				7		7			7	
3:00 AM				3		3			3	
3:15 AM				3		3			3	
3:30 AM				6		6			6	
3:45 AM				6		6			6	
4:00 AM				6		6			6	
4:15 AM				5		5			5	
4:30 AM				9		9			9	
4:45 AM				12		12			12	
5:00 AM				15		15			15	
5:15 AM				13		13			13	
5:30 AM				16		16			16	
5:45 AM				24		24			24	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH189 West Of Bear Springs Rd
QC JOB #: 13863021
SPECIFIC LOCATION: SH189 West Of Bear Springs Rd
DIRECTION: EB/WB
CITY/STATE: Twin Peaks, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				35		35			35	
6:15 AM				40		40			40	
6:30 AM				42		42			42	
6:45 AM				55		55			55	
7:00 AM				65		65			65	
7:15 AM				57		57			57	
7:30 AM				56		56			56	
7:45 AM				**90**		**90**			**90**	
8:00 AM				76		76			76	
8:15 AM				67		67			67	
8:30 AM				80		80			80	
8:45 AM				85		85			85	
9:00 AM				88		88			88	
9:15 AM				67		67			67	
9:30 AM				51		51			51	
9:45 AM				68		68			68	
10:00 AM				65		65			65	
10:15 AM				45		45			45	
10:30 AM				49		49			49	
10:45 AM				57		57			57	
11:00 AM				57		57			57	
11:15 AM				51		51			51	
11:30 AM				56		56			56	
11:45 AM				61		61			61	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH189 West Of Bear Springs Rd
QC JOB #: 13863021
SPECIFIC LOCATION: SH189 West Of Bear Springs Rd
DIRECTION: EB/WB
CITY/STATE: Twin Peaks, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				69		69			69	
12:15 PM				64		64			64	
12:30 PM				62		62			62	
12:45 PM				54		54			54	
1:00 PM				60		60			60	
1:15 PM				70		70			70	
1:30 PM				70		70			70	
1:45 PM				69		69			69	
2:00 PM				69		69			69	
2:15 PM				79		79			79	
2:30 PM				71		71			71	
2:45 PM				95		95			95	
3:00 PM				79		79			79	
3:15 PM				83		83			83	
3:30 PM				90		90			90	
3:45 PM				76		76			76	
4:00 PM				93		93			93	
4:15 PM				66		66			66	
4:30 PM				80		80			80	
4:45 PM				**96**		**96**			**96**	
5:00 PM				79		79			79	
5:15 PM				81		81			81	
5:30 PM				67		67			67	
5:45 PM				68		68			68	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH189 West Of Bear Springs Rd
QC JOB #: 13863021
SPECIFIC LOCATION: SH189 West Of Bear Springs Rd
DIRECTION: EB/WB
CITY/STATE: Twin Peaks, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				75		75			75	
6:15 PM				63		63			63	
6:30 PM				78		78			78	
6:45 PM				48		48			48	
7:00 PM				66		66			66	
7:15 PM				59		59			59	
7:30 PM				54		54			54	
7:45 PM				47		47			47	
8:00 PM				34		34			34	
8:15 PM				43		43			43	
8:30 PM				39		39			39	
8:45 PM				48		48			48	
9:00 PM				31		31			31	
9:15 PM				29		29			29	
9:30 PM				25		25			25	
9:45 PM				32		32			32	
10:00 PM				25		25			25	
10:15 PM				15		15			15	
10:30 PM				25		25			25	
10:45 PM				11		11			11	
11:00 PM				12		12			12	
11:15 PM				10		10			10	
11:30 PM				11		11			11	
11:45 PM				7		7			7	
Day Total				4302		4302			4302	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				90		90			90	
PM Peak				4:45 PM		4:45 PM			4:45 PM	
Volume				96		96			96	

Comments:

LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd **QC JOB #:** 13863022

SPECIFIC LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd **DIRECTION:** EB/WB

CITY/STATE: Lake Arrowhead, CA **DATE:** Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				5		5			5	
12:15 AM				2		2			2	
12:30 AM				4		4			4	
12:45 AM				1		1			1	
1:00 AM				2		2			2	
1:15 AM				0		0			0	
1:30 AM				0		0			0	
1:45 AM				3		3			3	
2:00 AM				0		0			0	
2:15 AM				4		4			4	
2:30 AM				3		3			3	
2:45 AM				1		1			1	
3:00 AM				0		0			0	
3:15 AM				4		4			4	
3:30 AM				1		1			1	
3:45 AM				3		3			3	
4:00 AM				5		5			5	
4:15 AM				0		0			0	
4:30 AM				1		1			1	
4:45 AM				8		8			8	
5:00 AM				5		5			5	
5:15 AM				8		8			8	
5:30 AM				15		15			15	
5:45 AM				18		18			18	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd **QC JOB #:** 13863022

SPECIFIC LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd **DIRECTION:** EB/WB

CITY/STATE: Lake Arrowhead, CA **DATE:** Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				19		19			19	
6:15 AM				34		34			34	
6:30 AM				47		47			47	
6:45 AM				85		85			85	
7:00 AM				82		82			82	
7:15 AM				47		47			47	
7:30 AM				75		75			75	
7:45 AM				77		77			77	
8:00 AM				78		78			78	
8:15 AM				73		73			73	
8:30 AM				97		97			97	
8:45 AM				**113**		**113**			**113**	
9:00 AM				73		73			73	
9:15 AM				77		77			77	
9:30 AM				71		71			71	
9:45 AM				98		98			98	
10:00 AM				81		81			81	
10:15 AM				88		88			88	
10:30 AM				73		73			73	
10:45 AM				90		90			90	
11:00 AM				88		88			88	
11:15 AM				94		94			94	
11:30 AM				96		96			96	
11:45 AM				87		87			87	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd
QC JOB #: 13863022
SPECIFIC LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				107		107			107	
12:15 PM				123		123			123	
12:30 PM				96		96			96	
12:45 PM				**157**		**157**			**157**	
1:00 PM				108		108			108	
1:15 PM				102		102			102	
1:30 PM				102		102			102	
1:45 PM				107		107			107	
2:00 PM				98		98			98	
2:15 PM				126		126			126	
2:30 PM				103		103			103	
2:45 PM				151		151			151	
3:00 PM				104		104			104	
3:15 PM				107		107			107	
3:30 PM				97		97			97	
3:45 PM				119		119			119	
4:00 PM				132		132			132	
4:15 PM				119		119			119	
4:30 PM				116		116			116	
4:45 PM				102		102			102	
5:00 PM				118		118			118	
5:15 PM				110		110			110	
5:30 PM				100		100			100	
5:45 PM				100		100			100	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd
QC JOB #: 13863022
SPECIFIC LOCATION: Rim Of The World Hwy West Of Kuffel Canyon Rd
DIRECTION: EB/WB
CITY/STATE: Lake Arrowhead, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				61		61			61	
6:15 PM				59		59			59	
6:30 PM				63		63			63	
6:45 PM				60		60			60	
7:00 PM				58		58			58	
7:15 PM				35		35			35	
7:30 PM				57		57			57	
7:45 PM				61		61			61	
8:00 PM				46		46			46	
8:15 PM				40		40			40	
8:30 PM				29		29			29	
8:45 PM				32		32			32	
9:00 PM				26		26			26	
9:15 PM				33		33			33	
9:30 PM				20		20			20	
9:45 PM				31		31			31	
10:00 PM				33		33			33	
10:15 PM				17		17			17	
10:30 PM				14		14			14	
10:45 PM				7		7			7	
11:00 PM				9		9			9	
11:15 PM				7		7			7	
11:30 PM				6		6			6	
11:45 PM				2		2			2	
Day Total				5446		5446			5446	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:45 AM		8:45 AM			8:45 AM	
Volume				113		113			113	
PM Peak				12:45 PM		12:45 PM			12:45 PM	
Volume				157		157			157	

Comments:

LOCATION: SH 138 East Of Old Mill Rd
QC JOB #: 13863023
SPECIFIC LOCATION: SH 138 East Of Old Mill Rd
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			0			0			0	
12:15 AM			2			2			2	
12:30 AM			1			1			1	
12:45 AM			0			0			0	
1:00 AM			1			1			1	
1:15 AM			0			0			0	
1:30 AM			0			0			0	
1:45 AM			1			1			1	
2:00 AM			0			0			0	
2:15 AM			1			1			1	
2:30 AM			2			2			2	
2:45 AM			0			0			0	
3:00 AM			1			1			1	
3:15 AM			7			7			7	
3:30 AM			1			1			1	
3:45 AM			2			2			2	
4:00 AM			1			1			1	
4:15 AM			3			3			3	
4:30 AM			5			5			5	
4:45 AM			7			7			7	
5:00 AM			6			6			6	
5:15 AM			11			11			11	
5:30 AM			12			12			12	
5:45 AM			15			15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 East Of Old Mill Rd
QC JOB #: 13863023
SPECIFIC LOCATION: SH 138 East Of Old Mill Rd
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			13			13			13	
6:15 AM			17			17			17	
6:30 AM			29			29			29	
6:45 AM			28			28			28	
7:00 AM			**35**			**35**			**35**	
7:15 AM			27			27			27	
7:30 AM			28			28			28	
7:45 AM			16			16			16	
8:00 AM			15			15			15	
8:15 AM			14			14			14	
8:30 AM			26			26			26	
8:45 AM			16			16			16	
9:00 AM			16			16			16	
9:15 AM			19			19			19	
9:30 AM			17			17			17	
9:45 AM			10			10			10	
10:00 AM			20			20			20	
10:15 AM			19			19			19	
10:30 AM			20			20			20	
10:45 AM			9			9			9	
11:00 AM			16			16			16	
11:15 AM			18			18			18	
11:30 AM			24			24			24	
11:45 AM			26			26			26	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 East Of Old Mill Rd
SPECIFIC LOCATION: SH 138 East Of Old Mill Rd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863023
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			28			28			28	
12:15 PM			17			17			17	
12:30 PM			18			18			18	
12:45 PM			9			9			9	
1:00 PM			14			14			14	
1:15 PM			21			21			21	
1:30 PM			26			26			26	
1:45 PM			22			22			22	
2:00 PM			15			15			15	
2:15 PM			16			16			16	
2:30 PM			16			16			16	
2:45 PM			17			17			17	
3:00 PM			32			32			32	
3:15 PM			26			26			26	
3:30 PM			22			22			22	
3:45 PM			30			30			30	
4:00 PM			23			23			23	
4:15 PM			**35**			**35**			**35**	
4:30 PM			26			26			26	
4:45 PM			27			27			27	
5:00 PM			28			28			28	
5:15 PM			33			33			33	
5:30 PM			23			23			23	
5:45 PM			20			20			20	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 East Of Old Mill Rd
QC JOB #: 13863023
SPECIFIC LOCATION: SH 138 East Of Old Mill Rd
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			30			30			30	
6:15 PM			25			25			25	
6:30 PM			13			13			13	
6:45 PM			15			15			15	
7:00 PM			26			26			26	
7:15 PM			10			10			10	
7:30 PM			9			9			9	
7:45 PM			10			10			10	
8:00 PM			8			8			8	
8:15 PM			7			7			7	
8:30 PM			6			6			6	
8:45 PM			9			9			9	
9:00 PM			8			8			8	
9:15 PM			5			5			5	
9:30 PM			3			3			3	
9:45 PM			6			6			6	
10:00 PM			11			11			11	
10:15 PM			6			6			6	
10:30 PM			3			3			3	
10:45 PM			0			0			0	
11:00 PM			3			3			3	
11:15 PM			1			1			1	
11:30 PM			2			2			2	
11:45 PM			3			3			3	
Day Total			1320			1320			1320	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:00 AM			7:00 AM			7:00 AM	
Volume			35			35			35	
PM Peak			4:15 PM			4:15 PM			4:15 PM	
Volume			35			35			35	

Comments:

LOCATION: SH 138 South Of Vista Ln
QC JOB #: 13863024
SPECIFIC LOCATION: SH 138 South Of Vista Ln
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			0			0			0	
12:30 AM			1			1			1	
12:45 AM			0			0			0	
1:00 AM			2			2			2	
1:15 AM			0			0			0	
1:30 AM			0			0			0	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			0			0			0	
2:30 AM			1			1			1	
2:45 AM			0			0			0	
3:00 AM			0			0			0	
3:15 AM			2			2			2	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			2			2			2	
4:45 AM			0			0			0	
5:00 AM			2			2			2	
5:15 AM			4			4			4	
5:30 AM			1			1			1	
5:45 AM			1			1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 South Of Vista Ln
QC JOB #: 13863024
SPECIFIC LOCATION: SH 138 South Of Vista Ln
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			5			5			5	
6:15 AM			5			5			5	
6:30 AM			4			4			4	
6:45 AM			6			6			6	
7:00 AM			9			9			9	
7:15 AM			5			5			5	
7:30 AM			2			2			2	
7:45 AM			9			9			9	
8:00 AM			4			4			4	
8:15 AM			5			5			5	
8:30 AM			6			6			6	
8:45 AM			4			4			4	
9:00 AM			11			11			11	
9:15 AM			7			7			7	
9:30 AM			10			10			10	
9:45 AM			3			3			3	
10:00 AM			10			10			10	
10:15 AM			7			7			7	
10:30 AM			7			7			7	
10:45 AM			5			5			5	
11:00 AM			7			7			7	
11:15 AM			**13**			**13**			**13**	
11:30 AM			7			7			7	
11:45 AM			7			7			7	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 South Of Vista Ln
QC JOB #: 13863024
SPECIFIC LOCATION: SH 138 South Of Vista Ln
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			9			9			9	
12:15 PM			9			9			9	
12:30 PM			5			5			5	
12:45 PM			6			6			6	
1:00 PM			10			10			10	
1:15 PM			7			7			7	
1:30 PM			12			12			12	
1:45 PM			**21**			**21**			**21**	
2:00 PM			3			3			3	
2:15 PM			3			3			3	
2:30 PM			10			10			10	
2:45 PM			9			9			9	
3:00 PM			12			12			12	
3:15 PM			20			20			20	
3:30 PM			4			4			4	
3:45 PM			7			7			7	
4:00 PM			4			4			4	
4:15 PM			8			8			8	
4:30 PM			8			8			8	
4:45 PM			9			9			9	
5:00 PM			9			9			9	
5:15 PM			7			7			7	
5:30 PM			7			7			7	
5:45 PM			7			7			7	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 138 South Of Vista Ln
QC JOB #: 13863024
SPECIFIC LOCATION: SH 138 South Of Vista Ln
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			6			6			6	
6:15 PM			5			5			5	
6:30 PM			12			12			12	
6:45 PM			8			8			8	
7:00 PM			6			6			6	
7:15 PM			7			7			7	
7:30 PM			4			4			4	
7:45 PM			3			3			3	
8:00 PM			6			6			6	
8:15 PM			3			3			3	
8:30 PM			4			4			4	
8:45 PM			5			5			5	
9:00 PM			2			2			2	
9:15 PM			2			2			2	
9:30 PM			2			2			2	
9:45 PM			2			2			2	
10:00 PM			3			3			3	
10:15 PM			1			1			1	
10:30 PM			2			2			2	
10:45 PM			1			1			1	
11:00 PM			1			1			1	
11:15 PM			1			1			1	
11:30 PM			0			0			0	
11:45 PM			3			3			3	
Day Total			470			470			470	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:15 AM			11:15 AM			11:15 AM	
Volume			13			13			13	
PM Peak			1:45 PM			1:45 PM			1:45 PM	
Volume			21			21			21	

Comments:

LOCATION: SH 18 West Of SH 138
QC JOB #: 13863025
SPECIFIC LOCATION: SH 18 West Of SH 138
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				38		38			38	
12:15 AM				24		24			24	
12:30 AM				27		27			27	
12:45 AM				17		17			17	
1:00 AM				13		13			13	
1:15 AM				17		17			17	
1:30 AM				18		18			18	
1:45 AM				18		18			18	
2:00 AM				11		11			11	
2:15 AM				23		23			23	
2:30 AM				11		11			11	
2:45 AM				20		20			20	
3:00 AM				26		26			26	
3:15 AM				32		32			32	
3:30 AM				29		29			29	
3:45 AM				50		50			50	
4:00 AM				45		45			45	
4:15 AM				54		54			54	
4:30 AM				51		51			51	
4:45 AM				77		77			77	
5:00 AM				91		91			91	
5:15 AM				107		107			107	
5:30 AM				107		107			107	
5:45 AM				128		128			128	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of SH 138
QC JOB #: 13863025
SPECIFIC LOCATION: SH 18 West Of SH 138
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				149		149			149	
6:15 AM				233		233			233	
6:30 AM				244		244			244	
6:45 AM				239		239			239	
7:00 AM				**264**		**264**			**264**	
7:15 AM				237		237			237	
7:30 AM				220		220			220	
7:45 AM				243		243			243	
8:00 AM				255		255			255	
8:15 AM				232		232			232	
8:30 AM				228		228			228	
8:45 AM				220		220			220	
9:00 AM				221		221			221	
9:15 AM				231		231			231	
9:30 AM				191		191			191	
9:45 AM				228		228			228	
10:00 AM				182		182			182	
10:15 AM				217		217			217	
10:30 AM				215		215			215	
10:45 AM				210		210			210	
11:00 AM				212		212			212	
11:15 AM				221		221			221	
11:30 AM				197		197			197	
11:45 AM				221		221			221	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of SH 138
SPECIFIC LOCATION: SH 18 West Of SH 138
CITY/STATE: San Bernardino, CA

QC JOB #: 13863025
DIRECTION: EB/WB
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				235		235			235	
12:15 PM				217		217			217	
12:30 PM				239		239			239	
12:45 PM				250		250			250	
1:00 PM				224		224			224	
1:15 PM				236		236			236	
1:30 PM				237		237			237	
1:45 PM				270		270			270	
2:00 PM				281		281			281	
2:15 PM				259		259			259	
2:30 PM				264		264			264	
2:45 PM				264		264			264	
3:00 PM				268		268			268	
3:15 PM				294		294			294	
3:30 PM				269		269			269	
3:45 PM				283		283			283	
4:00 PM				293		293			293	
4:15 PM				307		307			307	
4:30 PM				**339**		**339**			**339**	
4:45 PM				273		273			273	
5:00 PM				274		274			274	
5:15 PM				290		290			290	
5:30 PM				306		306			306	
5:45 PM				285		285			285	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of SH 138
QC JOB #: 13863025
SPECIFIC LOCATION: SH 18 West Of SH 138
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				279		279			279	
6:15 PM				241		241			241	
6:30 PM				240		240			240	
6:45 PM				212		212			212	
7:00 PM				189		189			189	
7:15 PM				163		163			163	
7:30 PM				177		177			177	
7:45 PM				152		152			152	
8:00 PM				167		167			167	
8:15 PM				159		159			159	
8:30 PM				120		120			120	
8:45 PM				137		137			137	
9:00 PM				128		128			128	
9:15 PM				154		154			154	
9:30 PM				129		129			129	
9:45 PM				108		108			108	
10:00 PM				105		105			105	
10:15 PM				90		90			90	
10:30 PM				75		75			75	
10:45 PM				55		55			55	
11:00 PM				61		61			61	
11:15 PM				55		55			55	
11:30 PM				50		50			50	
11:45 PM				44		44			44	
Day Total				16091		16091			16091	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				7:00 AM 264		7:00 AM 264			7:00 AM 264	
PM Peak Volume				4:30 PM 339		4:30 PM 339			4:30 PM 339	

Comments:

LOCATION: SH 18 East Of SH 138
QC JOB #: 13863026
SPECIFIC LOCATION: SH 18 East Of SH 138
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			11			11			11	
12:15 AM			15			15			15	
12:30 AM			8			8			8	
12:45 AM			14			14			14	
1:00 AM			13			13			13	
1:15 AM			11			11			11	
1:30 AM			9			9			9	
1:45 AM			6			6			6	
2:00 AM			9			9			9	
2:15 AM			4			4			4	
2:30 AM			6			6			6	
2:45 AM			7			7			7	
3:00 AM			12			12			12	
3:15 AM			8			8			8	
3:30 AM			18			18			18	
3:45 AM			23			23			23	
4:00 AM			24			24			24	
4:15 AM			23			23			23	
4:30 AM			16			16			16	
4:45 AM			38			38			38	
5:00 AM			39			39			39	
5:15 AM			39			39			39	
5:30 AM			41			41			41	
5:45 AM			60			60			60	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of SH 138
SPECIFIC LOCATION: SH 18 East Of SH 138
CITY/STATE: San Bernardino, CA

QC JOB #: 13863026
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			66			66			66	
6:15 AM			100			100			100	
6:30 AM			135			135			135	
6:45 AM			139			139			139	
7:00 AM			129			129			129	
7:15 AM			**151**			**151**			**151**	
7:30 AM			150			150			150	
7:45 AM			132			132			132	
8:00 AM			107			107			107	
8:15 AM			135			135			135	
8:30 AM			113			113			113	
8:45 AM			132			132			132	
9:00 AM			108			108			108	
9:15 AM			120			120			120	
9:30 AM			98			98			98	
9:45 AM			124			124			124	
10:00 AM			115			115			115	
10:15 AM			129			129			129	
10:30 AM			102			102			102	
10:45 AM			131			131			131	
11:00 AM			123			123			123	
11:15 AM			114			114			114	
11:30 AM			115			115			115	
11:45 AM			101			101			101	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of SH 138
SPECIFIC LOCATION: SH 18 East Of SH 138
CITY/STATE: San Bernardino, CA

QC JOB #: 13863026
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			90			90			90	
12:15 PM			103			103			103	
12:30 PM			113			113			113	
12:45 PM			132			132			132	
1:00 PM			106			106			106	
1:15 PM			117			117			117	
1:30 PM			129			129			129	
1:45 PM			121			121			121	
2:00 PM			102			102			102	
2:15 PM			128			128			128	
2:30 PM			136			136			136	
2:45 PM			104			104			104	
3:00 PM			129			129			129	
3:15 PM			138			138			138	
3:30 PM			162			162			162	
3:45 PM			97			97			97	
4:00 PM			**174**			**174**			**174**	
4:15 PM			131			131			131	
4:30 PM			142			142			142	
4:45 PM			147			147			147	
5:00 PM			127			127			127	
5:15 PM			145			145			145	
5:30 PM			121			121			121	
5:45 PM			121			121			121	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SH 18 East Of SH 138
SPECIFIC LOCATION: SH 18 East Of SH 138
CITY/STATE: San Bernardino, CA

QC JOB #: 13863026
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			116			116			116	
6:15 PM			118			118			118	
6:30 PM			113			113			113	
6:45 PM			106			106			106	
7:00 PM			95			95			95	
7:15 PM			100			100			100	
7:30 PM			86			86			86	
7:45 PM			86			86			86	
8:00 PM			86			86			86	
8:15 PM			94			94			94	
8:30 PM			64			64			64	
8:45 PM			62			62			62	
9:00 PM			54			54			54	
9:15 PM			65			65			65	
9:30 PM			48			48			48	
9:45 PM			50			50			50	
10:00 PM			40			40			40	
10:15 PM			31			31			31	
10:30 PM			34			34			34	
10:45 PM			34			34			34	
11:00 PM			39			39			39	
11:15 PM			19			19			19	
11:30 PM			11			11			11	
11:45 PM			15			15			15	
Day Total			7904			7904			7904	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:15 AM			7:15 AM			7:15 AM	
Volume			151			151			151	
PM Peak			4:00 PM			4:00 PM			4:00 PM	
Volume			174			174			174	

Comments:

LOCATION: SH 189 West Of Pinecrest Rd
QC JOB #: 13863027
SPECIFIC LOCATION: SH 189 West Of Pinecrest Rd
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			3			3			3	
12:15 AM			10			10			10	
12:30 AM			6			6			6	
12:45 AM			8			8			8	
1:00 AM			4			4			4	
1:15 AM			6			6			6	
1:30 AM			5			5			5	
1:45 AM			4			4			4	
2:00 AM			4			4			4	
2:15 AM			3			3			3	
2:30 AM			3			3			3	
2:45 AM			5			5			5	
3:00 AM			4			4			4	
3:15 AM			3			3			3	
3:30 AM			11			11			11	
3:45 AM			3			3			3	
4:00 AM			7			7			7	
4:15 AM			2			2			2	
4:30 AM			7			7			7	
4:45 AM			11			11			11	
5:00 AM			15			15			15	
5:15 AM			16			16			16	
5:30 AM			14			14			14	
5:45 AM			28			28			28	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 189 West Of Pinecrest Rd
SPECIFIC LOCATION: SH 189 West Of Pinecrest Rd
CITY/STATE: Crestline, CA

QC JOB #: 13863027
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			24			24			24	
6:15 AM			41			41			41	
6:30 AM			48			48			48	
6:45 AM			62			62			62	
7:00 AM			58			58			58	
7:15 AM			66			66			66	
7:30 AM			70			70			70	
7:45 AM			87			87			87	
8:00 AM			57			57			57	
8:15 AM			68			68			68	
8:30 AM			**92**			**92**			**92**	
8:45 AM			70			70			70	
9:00 AM			53			53			53	
9:15 AM			83			83			83	
9:30 AM			51			51			51	
9:45 AM			46			46			46	
10:00 AM			52			52			52	
10:15 AM			54			54			54	
10:30 AM			47			47			47	
10:45 AM			49			49			49	
11:00 AM			58			58			58	
11:15 AM			58			58			58	
11:30 AM			53			53			53	
11:45 AM			76			76			76	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 189 West Of Pinecrest Rd
SPECIFIC LOCATION: SH 189 West Of Pinecrest Rd
CITY/STATE: Crestline, CA

QC JOB #: 13863027
DIRECTION: EB/WB
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			54			54			54	
12:15 PM			54			54			54	
12:30 PM			51			51			51	
12:45 PM			57			57			57	
1:00 PM			54			54			54	
1:15 PM			60			60			60	
1:30 PM			69			69			69	
1:45 PM			53			53			53	
2:00 PM			46			46			46	
2:15 PM			61			61			61	
2:30 PM			77			77			77	
2:45 PM			72			72			72	
3:00 PM			60			60			60	
3:15 PM			71			71			71	
3:30 PM			81			81			81	
3:45 PM			85			85			85	
4:00 PM			77			77			77	
4:15 PM			84			84			84	
4:30 PM			**90**			**90**			**90**	
4:45 PM			72			72			72	
5:00 PM			69			69			69	
5:15 PM			77			77			77	
5:30 PM			68			68			68	
5:45 PM			73			73			73	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 189 West Of Pinecrest Rd
QC JOB #: 13863027
SPECIFIC LOCATION: SH 189 West Of Pinecrest Rd
DIRECTION: EB/WB
CITY/STATE: Crestline, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			73			73			73	
6:15 PM			57			57			57	
6:30 PM			69			69			69	
6:45 PM			58			58			58	
7:00 PM			45			45			45	
7:15 PM			50			50			50	
7:30 PM			59			59			59	
7:45 PM			49			49			49	
8:00 PM			43			43			43	
8:15 PM			42			42			42	
8:30 PM			30			30			30	
8:45 PM			35			35			35	
9:00 PM			42			42			42	
9:15 PM			37			37			37	
9:30 PM			20			20			20	
9:45 PM			28			28			28	
10:00 PM			14			14			14	
10:15 PM			14			14			14	
10:30 PM			16			16			16	
10:45 PM			11			11			11	
11:00 PM			11			11			11	
11:15 PM			10			10			10	
11:30 PM			4			4			4	
11:45 PM			4			4			4	
Day Total			4041			4041			4041	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:30 AM			8:30 AM			8:30 AM	
Volume			92			92			92	
PM Peak			4:30 PM			4:30 PM			4:30 PM	
Volume			90			90			90	

Comments:

Report generated on 9/12/2016 11:26 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: SH 18 East Of Lake Gregory Dr
QC JOB #: 13863028
SPECIFIC LOCATION: SH 18 East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			10			10			10	
12:15 AM			17			17			17	
12:30 AM			15			15			15	
12:45 AM			9			9			9	
1:00 AM			8			8			8	
1:15 AM			7			7			7	
1:30 AM			7			7			7	
1:45 AM			10			10			10	
2:00 AM			9			9			9	
2:15 AM			5			5			5	
2:30 AM			5			5			5	
2:45 AM			14			14			14	
3:00 AM			5			5			5	
3:15 AM			10			10			10	
3:30 AM			12			12			12	
3:45 AM			22			22			22	
4:00 AM			22			22			22	
4:15 AM			20			20			20	
4:30 AM			16			16			16	
4:45 AM			37			37			37	
5:00 AM			30			30			30	
5:15 AM			36			36			36	
5:30 AM			41			41			41	
5:45 AM			71			71			71	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of Lake Gregory Dr
QC JOB #: 13863028
SPECIFIC LOCATION: SH 18 East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			60			60			60	
6:15 AM			94			94			94	
6:30 AM			130			130			130	
6:45 AM			186			186			186	
7:00 AM			168			168			168	
7:15 AM			182			182			182	
7:30 AM			172			172			172	
7:45 AM			**218**			**218**			**218**	
8:00 AM			154			154			154	
8:15 AM			155			155			155	
8:30 AM			164			164			164	
8:45 AM			178			178			178	
9:00 AM			151			151			151	
9:15 AM			145			145			145	
9:30 AM			159			159			159	
9:45 AM			156			156			156	
10:00 AM			160			160			160	
10:15 AM			160			160			160	
10:30 AM			162			162			162	
10:45 AM			154			154			154	
11:00 AM			188			188			188	
11:15 AM			153			153			153	
11:30 AM			166			166			166	
11:45 AM			148			148			148	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of Lake Gregory Dr
QC JOB #: 13863028
SPECIFIC LOCATION: SH 18 East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			154			154			154	
12:15 PM			164			164			164	
12:30 PM			168			168			168	
12:45 PM			192			192			192	
1:00 PM			170			170			170	
1:15 PM			171			171			171	
1:30 PM			164			164			164	
1:45 PM			203			203			203	
2:00 PM			152			152			152	
2:15 PM			216			216			216	
2:30 PM			201			201			201	
2:45 PM			177			177			177	
3:00 PM			176			176			176	
3:15 PM			210			210			210	
3:30 PM			194			194			194	
3:45 PM			204			204			204	
4:00 PM			205			205			205	
4:15 PM			198			198			198	
4:30 PM			185			185			185	
4:45 PM			214			214			214	
5:00 PM			188			188			188	
5:15 PM			**248**			**248**			**248**	
5:30 PM			175			175			175	
5:45 PM			146			146			146	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of Lake Gregory Dr
QC JOB #: 13863028
SPECIFIC LOCATION: SH 18 East Of Lake Gregory Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			139			139			139	
6:15 PM			147			147			147	
6:30 PM			146			146			146	
6:45 PM			134			134			134	
7:00 PM			116			116			116	
7:15 PM			111			111			111	
7:30 PM			113			113			113	
7:45 PM			109			109			109	
8:00 PM			93			93			93	
8:15 PM			85			85			85	
8:30 PM			68			68			68	
8:45 PM			82			82			82	
9:00 PM			58			58			58	
9:15 PM			75			75			75	
9:30 PM			62			62			62	
9:45 PM			46			46			46	
10:00 PM			39			39			39	
10:15 PM			48			48			48	
10:30 PM			31			31			31	
10:45 PM			31			31			31	
11:00 PM			30			30			30	
11:15 PM			24			24			24	
11:30 PM			18			18			18	
11:45 PM			26			26			26	
Day Total			10507			10507			10507	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:45 AM			7:45 AM			7:45 AM	
Volume			218			218			218	
PM Peak			5:15 PM			5:15 PM			5:15 PM	
Volume			248			248			248	

Comments:

LOCATION: Big Bear Blvd East Of Shore Dr
QC JOB #: 13863029
SPECIFIC LOCATION: Big Bear Blvd East Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		5				5			5	
12:15 AM		9				9			9	
12:30 AM		5				5			5	
12:45 AM		1				1			1	
1:00 AM		2				2			2	
1:15 AM		7				7			7	
1:30 AM		2				2			2	
1:45 AM		6				6			6	
2:00 AM		3				3			3	
2:15 AM		2				2			2	
2:30 AM		3				3			3	
2:45 AM		1				1			1	
3:00 AM		2				2			2	
3:15 AM		2				2			2	
3:30 AM		7				7			7	
3:45 AM		3				3			3	
4:00 AM		6				6			6	
4:15 AM		12				12			12	
4:30 AM		5				5			5	
4:45 AM		7				7			7	
5:00 AM		10				10			10	
5:15 AM		15				15			15	
5:30 AM		10				10			10	
5:45 AM		14				14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Big Bear Blvd East Of Shore Dr
QC JOB #: 13863029
SPECIFIC LOCATION: Big Bear Blvd East Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		22				22			22	
6:15 AM		26				26			26	
6:30 AM		40				40			40	
6:45 AM		44				44			44	
7:00 AM		40				40			40	
7:15 AM		54				54			54	
7:30 AM		46				46			46	
7:45 AM		52				52			52	
8:00 AM		52				52			52	
8:15 AM		49				49			49	
8:30 AM		51				51			51	
8:45 AM		54				54			54	
9:00 AM		43				43			43	
9:15 AM		54				54			54	
9:30 AM		74				74			74	
9:45 AM		49				49			49	
10:00 AM		64				64			64	
10:15 AM		48				48			48	
10:30 AM		86				86			86	
10:45 AM		84				84			84	
11:00 AM		74				74			74	
11:15 AM		64				64			64	
11:30 AM		73				73			73	
11:45 AM		**94**				**94**			**94**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Big Bear Blvd East Of Shore Dr
QC JOB #: 13863029
SPECIFIC LOCATION: Big Bear Blvd East Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		71				71			71	
12:15 PM		78				78			78	
12:30 PM		71				71			71	
12:45 PM		**104**				**104**			**104**	
1:00 PM		68				68			68	
1:15 PM		93				93			93	
1:30 PM		74				74			74	
1:45 PM		73				73			73	
2:00 PM		97				97			97	
2:15 PM		75				75			75	
2:30 PM		70				70			70	
2:45 PM		82				82			82	
3:00 PM		67				67			67	
3:15 PM		78				78			78	
3:30 PM		83				83			83	
3:45 PM		59				59			59	
4:00 PM		54				54			54	
4:15 PM		70				70			70	
4:30 PM		66				66			66	
4:45 PM		80				80			80	
5:00 PM		64				64			64	
5:15 PM		46				46			46	
5:30 PM		50				50			50	
5:45 PM		50				50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Big Bear Blvd East Of Shore Dr
QC JOB #: 13863029
SPECIFIC LOCATION: Big Bear Blvd East Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		42				42			42	
6:15 PM		52				52			52	
6:30 PM		32				32			32	
6:45 PM		39				39			39	
7:00 PM		33				33			33	
7:15 PM		37				37			37	
7:30 PM		31				31			31	
7:45 PM		36				36			36	
8:00 PM		33				33			33	
8:15 PM		24				24			24	
8:30 PM		24				24			24	
8:45 PM		25				25			25	
9:00 PM		17				17			17	
9:15 PM		18				18			18	
9:30 PM		16				16			16	
9:45 PM		13				13			13	
10:00 PM		10				10			10	
10:15 PM		10				10			10	
10:30 PM		16				16			16	
10:45 PM		13				13			13	
11:00 PM		10				10			10	
11:15 PM		8				8			8	
11:30 PM		16				16			16	
11:45 PM		7				7			7	
Day Total		3761				3761			3761	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:45 AM				11:45 AM			11:45 AM	
Volume		94				94			94	
PM Peak		12:45 PM				12:45 PM			12:45 PM	
Volume		104				104			104	

Comments:

LOCATION: Shore Dr North Of SH 18 **QC JOB #:** 13863030
SPECIFIC LOCATION: Shore Dr North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		3				3			3	
12:15 AM		2				2			2	
12:30 AM		4				4			4	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		2				2			2	
2:15 AM		0				0			0	
2:30 AM		1				1			1	
2:45 AM		3				3			3	
3:00 AM		0				0			0	
3:15 AM		2				2			2	
3:30 AM		2				2			2	
3:45 AM		0				0			0	
4:00 AM		0				0			0	
4:15 AM		1				1			1	
4:30 AM		3				3			3	
4:45 AM		2				2			2	
5:00 AM		1				1			1	
5:15 AM		4				4			4	
5:30 AM		4				4			4	
5:45 AM		5				5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shore Dr North Of SH 18 **QC JOB #:** 13863030

SPECIFIC LOCATION: Shore Dr North Of SH 18 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		7				7			7	
6:15 AM		11				11			11	
6:30 AM		5				5			5	
6:45 AM		15				15			15	
7:00 AM		17				17			17	
7:15 AM		14				14			14	
7:30 AM		11				11			11	
7:45 AM		17				17			17	
8:00 AM		14				14			14	
8:15 AM		21				21			21	
8:30 AM		32				32			32	
8:45 AM		30				30			30	
9:00 AM		19				19			19	
9:15 AM		19				19			19	
9:30 AM		22				22			22	
9:45 AM		26				26			26	
10:00 AM		33				33			33	
10:15 AM		29				29			29	
10:30 AM		25				25			25	
10:45 AM		26				26			26	
11:00 AM		21				21			21	
11:15 AM		24				24			24	
11:30 AM		**34**				**34**			**34**	
11:45 AM		21				21			21	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shore Dr North Of SH 18 **QC JOB #:** 13863030
SPECIFIC LOCATION: Shore Dr North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		26				26			26	
12:15 PM		30				30			30	
12:30 PM		25				25			25	
12:45 PM		34				34			34	
1:00 PM		21				21			21	
1:15 PM		22				22			22	
1:30 PM		29				29			29	
1:45 PM		26				26			26	
2:00 PM		41				41			41	
2:15 PM		33				33			33	
2:30 PM		27				27			27	
2:45 PM		26				26			26	
3:00 PM		29				29			29	
3:15 PM		**42**				**42**			**42**	
3:30 PM		30				30			30	
3:45 PM		23				23			23	
4:00 PM		25				25			25	
4:15 PM		21				21			21	
4:30 PM		19				19			19	
4:45 PM		20				20			20	
5:00 PM		23				23			23	
5:15 PM		15				15			15	
5:30 PM		15				15			15	
5:45 PM		20				20			20	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shore Dr North Of SH 18 **QC JOB #:** 13863030
SPECIFIC LOCATION: Shore Dr North Of SH 18 **DIRECTION:** NB/SB
CITY/STATE: San Bernardino, CA **DATE:** Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		13				13			13	
6:15 PM		18				18			18	
6:30 PM		14				14			14	
6:45 PM		16				16			16	
7:00 PM		12				12			12	
7:15 PM		7				7			7	
7:30 PM		9				9			9	
7:45 PM		9				9			9	
8:00 PM		4				4			4	
8:15 PM		10				10			10	
8:30 PM		3				3			3	
8:45 PM		9				9			9	
9:00 PM		3				3			3	
9:15 PM		3				3			3	
9:30 PM		1				1			1	
9:45 PM		1				1			1	
10:00 PM		4				4			4	
10:15 PM		3				3			3	
10:30 PM		8				8			8	
10:45 PM		3				3			3	
11:00 PM		1				1			1	
11:15 PM		1				1			1	
11:30 PM		5				5			5	
11:45 PM		1				1			1	
Day Total		1313				1313			1313	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:30 AM				11:30 AM			11:30 AM	
Volume		34				34			34	
PM Peak		3:15 PM				3:15 PM			3:15 PM	
Volume		42				42			42	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Shore Dr
QC JOB #: 13863031
SPECIFIC LOCATION: SH 18 West Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		7				7			7	
12:15 AM		9				9			9	
12:30 AM		8				8			8	
12:45 AM		3				3			3	
1:00 AM		2				2			2	
1:15 AM		4				4			4	
1:30 AM		4				4			4	
1:45 AM		5				5			5	
2:00 AM		5				5			5	
2:15 AM		3				3			3	
2:30 AM		2				2			2	
2:45 AM		3				3			3	
3:00 AM		3				3			3	
3:15 AM		3				3			3	
3:30 AM		5				5			5	
3:45 AM		5				5			5	
4:00 AM		6				6			6	
4:15 AM		7				7			7	
4:30 AM		8				8			8	
4:45 AM		12				12			12	
5:00 AM		9				9			9	
5:15 AM		15				15			15	
5:30 AM		21				21			21	
5:45 AM		18				18			18	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Shore Dr
QC JOB #: 13863031
SPECIFIC LOCATION: SH 18 West Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		20				20			20	
6:15 AM		35				35			35	
6:30 AM		35				35			35	
6:45 AM		53				53			53	
7:00 AM		47				47			47	
7:15 AM		55				55			55	
7:30 AM		60				60			60	
7:45 AM		54				54			54	
8:00 AM		50				50			50	
8:15 AM		53				53			53	
8:30 AM		65				65			65	
8:45 AM		54				54			54	
9:00 AM		55				55			55	
9:15 AM		62				62			62	
9:30 AM		82				82			82	
9:45 AM		65				65			65	
10:00 AM		61				61			61	
10:15 AM		69				69			69	
10:30 AM		76				76			76	
10:45 AM		**83**				**83**			**83**	
11:00 AM		71				71			71	
11:15 AM		70				70			70	
11:30 AM		71				71			71	
11:45 AM		80				80			80	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Shore Dr
QC JOB #: 13863031
SPECIFIC LOCATION: SH 18 West Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		90				90			90	
12:15 PM		78				78			78	
12:30 PM		81				81			81	
12:45 PM		91				91			91	
1:00 PM		86				86			86	
1:15 PM		74				74			74	
1:30 PM		85				85			85	
1:45 PM		71				71			71	
2:00 PM		**94**				**94**			**94**	
2:15 PM		94				94			94	
2:30 PM		73				73			73	
2:45 PM		68				68			68	
3:00 PM		72				72			72	
3:15 PM		91				91			91	
3:30 PM		81				81			81	
3:45 PM		71				71			71	
4:00 PM		57				57			57	
4:15 PM		54				54			54	
4:30 PM		71				71			71	
4:45 PM		89				89			89	
5:00 PM		75				75			75	
5:15 PM		50				50			50	
5:30 PM		43				43			43	
5:45 PM		57				57			57	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Shore Dr
QC JOB #: 13863031
SPECIFIC LOCATION: SH 18 West Of Shore Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		43				43			43	
6:15 PM		42				42			42	
6:30 PM		31				31			31	
6:45 PM		49				49			49	
7:00 PM		33				33			33	
7:15 PM		35				35			35	
7:30 PM		30				30			30	
7:45 PM		40				40			40	
8:00 PM		31				31			31	
8:15 PM		33				33			33	
8:30 PM		27				27			27	
8:45 PM		26				26			26	
9:00 PM		18				18			18	
9:15 PM		22				22			22	
9:30 PM		14				14			14	
9:45 PM		15				15			15	
10:00 PM		13				13			13	
10:15 PM		13				13			13	
10:30 PM		23				23			23	
10:45 PM		15				15			15	
11:00 PM		9				9			9	
11:15 PM		8				8			8	
11:30 PM		18				18			18	
11:45 PM		11				11			11	
Day Total		3988				3988			3988	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		10:45 AM				10:45 AM			10:45 AM	
Volume		83				83			83	
PM Peak		2:00 PM				2:00 PM			2:00 PM	
Volume		94				94			94	

Comments:

LOCATION: Shore Dr East Of Holden Ave
QC JOB #: 13863032
SPECIFIC LOCATION: Shore Dr East Of Holden Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM										
12:15 AM										
12:30 AM										
12:45 AM										
1:00 AM										
1:15 AM										
1:30 AM										
1:45 AM										
2:00 AM										
2:15 AM										
2:30 AM										
2:45 AM										
3:00 AM										
3:15 AM										
3:30 AM										
3:45 AM										
4:00 AM										
4:15 AM										
4:30 AM										
4:45 AM										
5:00 AM										
5:15 AM										
5:30 AM										
5:45 AM										
Day Total										
% Weekday Average										
% Week Average										
AM Peak										
Volume										
PM Peak										
Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shore Dr East Of Holden Ave
QC JOB #: 13863032
SPECIFIC LOCATION: Shore Dr East Of Holden Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM										
6:15 AM										
6:30 AM										
6:45 AM										
7:00 AM										
7:15 AM										
7:30 AM										
7:45 AM										
8:00 AM										
8:15 AM										
8:30 AM										
8:45 AM										
9:00 AM										
9:15 AM										
9:30 AM										
9:45 AM										
10:00 AM										
10:15 AM										
10:30 AM										
10:45 AM										
11:00 AM										
11:15 AM										
11:30 AM										
11:45 AM				90		90			90	
Day Total										
% Weekday Average										
% Week Average										
AM Peak										
Volume										
PM Peak										
Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Shore Dr East Of Holden Ave
QC JOB #: 13863032
SPECIFIC LOCATION: Shore Dr East Of Holden Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				101		101			101	
12:15 PM				107		107			107	
12:30 PM				96		96			96	
12:45 PM				135		135			135	
1:00 PM				114		114			114	
1:15 PM				85		85			85	
1:30 PM				105		105			105	
1:45 PM				108		108			108	
2:00 PM				97		97			97	
2:15 PM				109		109			109	
2:30 PM				92		92			92	
2:45 PM				84		84			84	
3:00 PM				98		98			98	
3:15 PM				91		91			91	
3:30 PM				113		113			113	
3:45 PM				116		116			116	
4:00 PM				94		94			94	
4:15 PM				106		106			106	
4:30 PM				**139**		**139**			**139**	
4:45 PM				122		122			122	
5:00 PM				97		97			97	
5:15 PM				126		126			126	
5:30 PM				109		109			109	
5:45 PM				87		87			87	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Shore Dr East Of Holden Ave
QC JOB #: 13863032
SPECIFIC LOCATION: Shore Dr East Of Holden Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Sep 01 2016 - Sep 01 2016

Start Time	Mon	Tue	Wed	Thu 01-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				69		69			69	
6:15 PM				91		91			91	
6:30 PM				84		84			84	
6:45 PM				63		63			63	
7:00 PM				68		68			68	
7:15 PM				54		54			54	
7:30 PM				59		59			59	
7:45 PM				48		48			48	
8:00 PM				53		53			53	
8:15 PM				41		41			41	
8:30 PM				30		30			30	
8:45 PM				26		26			26	
9:00 PM				40		40			40	
9:15 PM				32		32			32	
9:30 PM				28		28			28	
9:45 PM				12		12			12	
10:00 PM				17		17			17	
10:15 PM				18		18			18	
10:30 PM				12		12			12	
10:45 PM				15		15			15	
11:00 PM				4		4			4	
11:15 PM				15		15			15	
11:30 PM				3		3			3	
11:45 PM				4		4			4	
Day Total				3507		3507			3507	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:45 AM		11:45 AM			11:45 AM	
Volume				90		90			90	
PM Peak				4:30 PM		4:30 PM			4:30 PM	
Volume				139		139			139	

Comments:

Report generated on 9/12/2016 11:26 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Greenspot Blvd South Of Clark Ln
QC JOB #: 13863033
SPECIFIC LOCATION: Greenspot Blvd South Of Clark Ln
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			7			7			7	
12:15 AM			5			5			5	
12:30 AM			3			3			3	
12:45 AM			8			8			8	
1:00 AM			4			4			4	
1:15 AM			4			4			4	
1:30 AM			3			3			3	
1:45 AM			2			2			2	
2:00 AM			1			1			1	
2:15 AM			2			2			2	
2:30 AM			4			4			4	
2:45 AM			5			5			5	
3:00 AM			3			3			3	
3:15 AM			5			5			5	
3:30 AM			3			3			3	
3:45 AM			3			3			3	
4:00 AM			3			3			3	
4:15 AM			3			3			3	
4:30 AM			0			0			0	
4:45 AM			9			9			9	
5:00 AM			8			8			8	
5:15 AM			12			12			12	
5:30 AM			22			22			22	
5:45 AM			27			27			27	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Greenspot Blvd South Of Clark Ln
QC JOB #: 13863033
SPECIFIC LOCATION: Greenspot Blvd South Of Clark Ln
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			26			26			26	
6:15 AM			31			31			31	
6:30 AM			62			62			62	
6:45 AM			93			93			93	
7:00 AM			103			103			103	
7:15 AM			76			76			76	
7:30 AM			111			111			111	
7:45 AM			92			92			92	
8:00 AM			91			91			91	
8:15 AM			96			96			96	
8:30 AM			**147**			**147**			**147**	
8:45 AM			126			126			126	
9:00 AM			88			88			88	
9:15 AM			99			99			99	
9:30 AM			112			112			112	
9:45 AM			93			93			93	
10:00 AM			85			85			85	
10:15 AM			95			95			95	
10:30 AM			104			104			104	
10:45 AM			100			100			100	
11:00 AM			96			96			96	
11:15 AM			86			86			86	
11:30 AM			103			103			103	
11:45 AM			122			122			122	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Greenspot Blvd South Of Clark Ln
QC JOB #: 13863033
SPECIFIC LOCATION: Greenspot Blvd South Of Clark Ln
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			115			115			115	
12:15 PM			114			114			114	
12:30 PM			113			113			113	
12:45 PM			107			107			107	
1:00 PM			109			109			109	
1:15 PM			119			119			119	
1:30 PM			90			90			90	
1:45 PM			89			89			89	
2:00 PM			97			97			97	
2:15 PM			133			133			133	
2:30 PM			115			115			115	
2:45 PM			115			115			115	
3:00 PM			128			128			128	
3:15 PM			**144**			**144**			**144**	
3:30 PM			117			117			117	
3:45 PM			110			110			110	
4:00 PM			114			114			114	
4:15 PM			112			112			112	
4:30 PM			122			122			122	
4:45 PM			105			105			105	
5:00 PM			108			108			108	
5:15 PM			114			114			114	
5:30 PM			132			132			132	
5:45 PM			109			109			109	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: Greenspot Blvd South Of Clark Ln
QC JOB #: 13863033
SPECIFIC LOCATION: Greenspot Blvd South Of Clark Ln
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			111			111			111	
6:15 PM			95			95			95	
6:30 PM			86			86			86	
6:45 PM			114			114			114	
7:00 PM			72			72			72	
7:15 PM			64			64			64	
7:30 PM			61			61			61	
7:45 PM			68			68			68	
8:00 PM			56			56			56	
8:15 PM			49			49			49	
8:30 PM			56			56			56	
8:45 PM			42			42			42	
9:00 PM			47			47			47	
9:15 PM			35			35			35	
9:30 PM			29			29			29	
9:45 PM			31			31			31	
10:00 PM			31			31			31	
10:15 PM			16			16			16	
10:30 PM			25			25			25	
10:45 PM			15			15			15	
11:00 PM			13			13			13	
11:15 PM			13			13			13	
11:30 PM			12			12			12	
11:45 PM			12			12			12	
Day Total			6267			6267			6267	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:30 AM			8:30 AM			8:30 AM	
Volume			147			147			147	
PM Peak			3:15 PM			3:15 PM			3:15 PM	
Volume			144			144			144	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 North Of Shore Dr
QC JOB #: 13863034
SPECIFIC LOCATION: SH 18 North Of Shore Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			5			5			5	
12:15 AM			6			6			6	
12:30 AM			1			1			1	
12:45 AM			3			3			3	
1:00 AM			5			5			5	
1:15 AM			1			1			1	
1:30 AM			4			4			4	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			1			1			1	
2:30 AM			1			1			1	
2:45 AM			2			2			2	
3:00 AM			1			1			1	
3:15 AM			2			2			2	
3:30 AM			4			4			4	
3:45 AM			3			3			3	
4:00 AM			4			4			4	
4:15 AM			7			7			7	
4:30 AM			5			5			5	
4:45 AM			10			10			10	
5:00 AM			8			8			8	
5:15 AM			14			14			14	
5:30 AM			11			11			11	
5:45 AM			18			18			18	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 North Of Shore Dr
QC JOB #: 13863034
SPECIFIC LOCATION: SH 18 North Of Shore Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			35			35			35	
6:15 AM			28			28			28	
6:30 AM			40			40			40	
6:45 AM			50			50			50	
7:00 AM			31			31			31	
7:15 AM			38			38			38	
7:30 AM			47			47			47	
7:45 AM			**52**			**52**			**52**	
8:00 AM			34			34			34	
8:15 AM			33			33			33	
8:30 AM			37			37			37	
8:45 AM			48			48			48	
9:00 AM			33			33			33	
9:15 AM			38			38			38	
9:30 AM			40			40			40	
9:45 AM			49			49			49	
10:00 AM			38			38			38	
10:15 AM			38			38			38	
10:30 AM			28			28			28	
10:45 AM			34			34			34	
11:00 AM			30			30			30	
11:15 AM			31			31			31	
11:30 AM			36			36			36	
11:45 AM			38			38			38	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 North Of Shore Dr
QC JOB #: 13863034
SPECIFIC LOCATION: SH 18 North Of Shore Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			31			31			31	
12:15 PM			42			42			42	
12:30 PM			46			46			46	
12:45 PM			33			33			33	
1:00 PM			36			36			36	
1:15 PM			29			29			29	
1:30 PM			37			37			37	
1:45 PM			40			40			40	
2:00 PM			39			39			39	
2:15 PM			45			45			45	
2:30 PM			46			46			46	
2:45 PM			38			38			38	
3:00 PM			44			44			44	
3:15 PM			47			47			47	
3:30 PM			52			52			52	
3:45 PM			59			59			59	
4:00 PM			51			51			51	
4:15 PM			**61**			**61**			**61**	
4:30 PM			43			43			43	
4:45 PM			56			56			56	
5:00 PM			37			37			37	
5:15 PM			50			50			50	
5:30 PM			31			31			31	
5:45 PM			55			55			55	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SH 18 North Of Shore Dr
QC JOB #: 13863034
SPECIFIC LOCATION: SH 18 North Of Shore Dr
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 31 2016 - Aug 31 2016

Start Time	Mon	Tue	Wed 31-Aug-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			41			41			41	
6:15 PM			41			41			41	
6:30 PM			30			30			30	
6:45 PM			24			24			24	
7:00 PM			23			23			23	
7:15 PM			23			23			23	
7:30 PM			28			28			28	
7:45 PM			20			20			20	
8:00 PM			19			19			19	
8:15 PM			28			28			28	
8:30 PM			18			18			18	
8:45 PM			13			13			13	
9:00 PM			12			12			12	
9:15 PM			10			10			10	
9:30 PM			15			15			15	
9:45 PM			17			17			17	
10:00 PM			10			10			10	
10:15 PM			11			11			11	
10:30 PM			4			4			4	
10:45 PM			5			5			5	
11:00 PM			5			5			5	
11:15 PM			7			7			7	
11:30 PM			5			5			5	
11:45 PM			3			3			3	
Day Total			2482			2482			2482	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:45 AM			7:45 AM			7:45 AM	
Volume			52			52			52	
PM Peak			4:15 PM			4:15 PM			4:15 PM	
Volume			61			61			61	

Comments:

LOCATION: SR 18 North Of Hilltop Blvd
QC JOB #: 13863035
SPECIFIC LOCATION: SR 18 North Of Hilltop Blvd
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6				6			6	
12:15 AM		4				4			4	
12:30 AM		3				3			3	
12:45 AM		3				3			3	
1:00 AM		1				1			1	
1:15 AM		2				2			2	
1:30 AM		2				2			2	
1:45 AM		1				1			1	
2:00 AM		2				2			2	
2:15 AM		2				2			2	
2:30 AM		0				0			0	
2:45 AM		2				2			2	
3:00 AM		3				3			3	
3:15 AM		1				1			1	
3:30 AM		2				2			2	
3:45 AM		2				2			2	
4:00 AM		5				5			5	
4:15 AM		2				2			2	
4:30 AM		3				3			3	
4:45 AM		4				4			4	
5:00 AM		9				9			9	
5:15 AM		9				9			9	
5:30 AM		19				19			19	
5:45 AM		28				28			28	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SR 18 North Of Hilltop Blvd
QC JOB #: 13863035
SPECIFIC LOCATION: SR 18 North Of Hilltop Blvd
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		15				15			15	
6:15 AM		39				39			39	
6:30 AM		50				50			50	
6:45 AM		77				77			77	
7:00 AM		60				60			60	
7:15 AM		65				65			65	
7:30 AM		101				101			101	
7:45 AM		73				73			73	
8:00 AM		81				81			81	
8:15 AM		109				109			109	
8:30 AM		97				97			97	
8:45 AM		**111**				**111**			**111**	
9:00 AM		70				70			70	
9:15 AM		69				69			69	
9:30 AM		89				89			89	
9:45 AM		89				89			89	
10:00 AM		76				76			76	
10:15 AM		77				77			77	
10:30 AM		78				78			78	
10:45 AM		69				69			69	
11:00 AM		79				79			79	
11:15 AM		64				64			64	
11:30 AM		78				78			78	
11:45 AM		71				71			71	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SR 18 North Of Hilltop Blvd
SPECIFIC LOCATION: SR 18 North Of Hilltop Blvd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863035
DIRECTION: NB/SB
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		79				79			79	
12:15 PM		85				85			85	
12:30 PM		77				77			77	
12:45 PM		90				90			90	
1:00 PM		76				76			76	
1:15 PM		81				81			81	
1:30 PM		87				87			87	
1:45 PM		93				93			93	
2:00 PM		102				102			102	
2:15 PM		96				96			96	
2:30 PM		100				100			100	
2:45 PM		81				81			81	
3:00 PM		113				113			113	
3:15 PM		107				107			107	
3:30 PM		88				88			88	
3:45 PM		93				93			93	
4:00 PM		116				116			116	
4:15 PM		89				89			89	
4:30 PM		85				85			85	
4:45 PM		80				80			80	
5:00 PM		96				96			96	
5:15 PM		**121**				**121**			**121**	
5:30 PM		113				113			113	
5:45 PM		84				84			84	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SR 18 North Of Hilltop Blvd
QC JOB #: 13863035
SPECIFIC LOCATION: SR 18 North Of Hilltop Blvd
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		70				70			70	
6:15 PM		69				69			69	
6:30 PM		52				52			52	
6:45 PM		45				45			45	
7:00 PM		49				49			49	
7:15 PM		58				58			58	
7:30 PM		51				51			51	
7:45 PM		52				52			52	
8:00 PM		50				50			50	
8:15 PM		47				47			47	
8:30 PM		49				49			49	
8:45 PM		39				39			39	
9:00 PM		26				26			26	
9:15 PM		23				23			23	
9:30 PM		26				26			26	
9:45 PM		19				19			19	
10:00 PM		24				24			24	
10:15 PM		20				20			20	
10:30 PM		8				8			8	
10:45 PM		6				6			6	
11:00 PM		8				8			8	
11:15 PM		10				10			10	
11:30 PM		5				5			5	
11:45 PM		3				3			3	
Day Total		4943				4943			4943	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:45 AM				8:45 AM			8:45 AM	
Volume		111				111			111	
PM Peak		5:15 PM				5:15 PM			5:15 PM	
Volume		121				121			121	

Comments:

LOCATION: City Creek Rd West Of Live Oak Dr
QC JOB #: 13863036
SPECIFIC LOCATION: City Creek Rd West Of Live Oak Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		16				16			16	
12:15 AM		12				12			12	
12:30 AM		7				7			7	
12:45 AM		11				11			11	
1:00 AM		9				9			9	
1:15 AM		8				8			8	
1:30 AM		10				10			10	
1:45 AM		10				10			10	
2:00 AM		5				5			5	
2:15 AM		8				8			8	
2:30 AM		10				10			10	
2:45 AM		7				7			7	
3:00 AM		6				6			6	
3:15 AM		11				11			11	
3:30 AM		15				15			15	
3:45 AM		22				22			22	
4:00 AM		23				23			23	
4:15 AM		31				31			31	
4:30 AM		25				25			25	
4:45 AM		28				28			28	
5:00 AM		47				47			47	
5:15 AM		60				60			60	
5:30 AM		62				62			62	
5:45 AM		50				50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: City Creek Rd West Of Live Oak Dr
QC JOB #: 13863036
SPECIFIC LOCATION: City Creek Rd West Of Live Oak Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		82				82			82	
6:15 AM		124				124			124	
6:30 AM		105				105			105	
6:45 AM		105				105			105	
7:00 AM		128				128			128	
7:15 AM		**136**				**136**			**136**	
7:30 AM		124				124			124	
7:45 AM		131				131			131	
8:00 AM		120				120			120	
8:15 AM		124				124			124	
8:30 AM		117				117			117	
8:45 AM		117				117			117	
9:00 AM		127				127			127	
9:15 AM		101				101			101	
9:30 AM		110				110			110	
9:45 AM		119				119			119	
10:00 AM		136				136			136	
10:15 AM		118				118			118	
10:30 AM		120				120			120	
10:45 AM		128				128			128	
11:00 AM		102				102			102	
11:15 AM		132				132			132	
11:30 AM		117				117			117	
11:45 AM		118				118			118	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: City Creek Rd West Of Live Oak Dr
QC JOB #: 13863036
SPECIFIC LOCATION: City Creek Rd West Of Live Oak Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		111				111			111	
12:15 PM		**148**				**148**			**148**	
12:30 PM		118				118			118	
12:45 PM		116				116			116	
1:00 PM		117				117			117	
1:15 PM		129				129			129	
1:30 PM		129				129			129	
1:45 PM		123				123			123	
2:00 PM		117				117			117	
2:15 PM		109				109			109	
2:30 PM		144				144			144	
2:45 PM		121				121			121	
3:00 PM		125				125			125	
3:15 PM		127				127			127	
3:30 PM		140				140			140	
3:45 PM		106				106			106	
4:00 PM		147				147			147	
4:15 PM		137				137			137	
4:30 PM		127				127			127	
4:45 PM		142				142			142	
5:00 PM		146				146			146	
5:15 PM		144				144			144	
5:30 PM		142				142			142	
5:45 PM		133				133			133	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: City Creek Rd West Of Live Oak Dr
QC JOB #: 13863036
SPECIFIC LOCATION: City Creek Rd West Of Live Oak Dr
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		109				109			109	
6:15 PM		101				101			101	
6:30 PM		95				95			95	
6:45 PM		98				98			98	
7:00 PM		89				89			89	
7:15 PM		80				80			80	
7:30 PM		84				84			84	
7:45 PM		68				68			68	
8:00 PM		80				80			80	
8:15 PM		64				64			64	
8:30 PM		45				45			45	
8:45 PM		63				63			63	
9:00 PM		52				52			52	
9:15 PM		55				55			55	
9:30 PM		42				42			42	
9:45 PM		42				42			42	
10:00 PM		41				41			41	
10:15 PM		36				36			36	
10:30 PM		29				29			29	
10:45 PM		29				29			29	
11:00 PM		32				32			32	
11:15 PM		22				22			22	
11:30 PM		29				29			29	
11:45 PM		11				11			11	
Day Total		7828				7828			7828	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		7:15 AM				7:15 AM			7:15 AM	
Volume		136				136			136	
PM Peak		12:15 PM				12:15 PM			12:15 PM	
Volume		148				148			148	

Comments:

LOCATION: SH 18 East Of Hilltop Blvd
QC JOB #: 13863037
SPECIFIC LOCATION: SH 18 East Of Hilltop Blvd
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		12				12			12	
12:15 AM		13				13			13	
12:30 AM		6				6			6	
12:45 AM		10				10			10	
1:00 AM		9				9			9	
1:15 AM		4				4			4	
1:30 AM		9				9			9	
1:45 AM		7				7			7	
2:00 AM		7				7			7	
2:15 AM		5				5			5	
2:30 AM		9				9			9	
2:45 AM		4				4			4	
3:00 AM		4				4			4	
3:15 AM		5				5			5	
3:30 AM		12				12			12	
3:45 AM		7				7			7	
4:00 AM		13				13			13	
4:15 AM		21				21			21	
4:30 AM		18				18			18	
4:45 AM		16				16			16	
5:00 AM		26				26			26	
5:15 AM		38				38			38	
5:30 AM		42				42			42	
5:45 AM		25				25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of Hilltop Blvd
SPECIFIC LOCATION: SH 18 East Of Hilltop Blvd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863037
DIRECTION: EB/WB
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		55				55			55	
6:15 AM		73				73			73	
6:30 AM		91				91			91	
6:45 AM		78				78			78	
7:00 AM		99				99			99	
7:15 AM		107				107			107	
7:30 AM		126				126			126	
7:45 AM		138				138			138	
8:00 AM		**240**				**240**			**240**	
8:15 AM		182				182			182	
8:30 AM		111				111			111	
8:45 AM		95				95			95	
9:00 AM		125				125			125	
9:15 AM		115				115			115	
9:30 AM		105				105			105	
9:45 AM		129				129			129	
10:00 AM		131				131			131	
10:15 AM		140				140			140	
10:30 AM		136				136			136	
10:45 AM		118				118			118	
11:00 AM		112				112			112	
11:15 AM		139				139			139	
11:30 AM		129				129			129	
11:45 AM		141				141			141	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 East Of Hilltop Blvd
SPECIFIC LOCATION: SH 18 East Of Hilltop Blvd
CITY/STATE: San Bernardino, CA

QC JOB #: 13863037
DIRECTION: EB/WB
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		187				187			187	
12:15 PM		161				161			161	
12:30 PM		130				130			130	
12:45 PM		149				149			149	
1:00 PM		139				139			139	
1:15 PM		146				146			146	
1:30 PM		125				125			125	
1:45 PM		178				178			178	
2:00 PM		132				132			132	
2:15 PM		161				161			161	
2:30 PM		**208**				**208**			**208**	
2:45 PM		161				161			161	
3:00 PM		148				148			148	
3:15 PM		138				138			138	
3:30 PM		148				148			148	
3:45 PM		124				124			124	
4:00 PM		144				144			144	
4:15 PM		136				136			136	
4:30 PM		150				150			150	
4:45 PM		127				127			127	
5:00 PM		163				163			163	
5:15 PM		160				160			160	
5:30 PM		163				163			163	
5:45 PM		118				118			118	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: SH 18 East Of Hilltop Blvd
QC JOB #: 13863037
SPECIFIC LOCATION: SH 18 East Of Hilltop Blvd
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		132				132			132	
6:15 PM		95				95			95	
6:30 PM		96				96			96	
6:45 PM		94				94			94	
7:00 PM		94				94			94	
7:15 PM		85				85			85	
7:30 PM		86				86			86	
7:45 PM		75				75			75	
8:00 PM		80				80			80	
8:15 PM		60				60			60	
8:30 PM		46				46			46	
8:45 PM		43				43			43	
9:00 PM		42				42			42	
9:15 PM		37				37			37	
9:30 PM		40				40			40	
9:45 PM		28				28			28	
10:00 PM		25				25			25	
10:15 PM		22				22			22	
10:30 PM		31				31			31	
10:45 PM		23				23			23	
11:00 PM		18				18			18	
11:15 PM		26				26			26	
11:30 PM		12				12			12	
11:45 PM		13				13			13	
Day Total		8136				8136			8136	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:00 AM				8:00 AM			8:00 AM	
Volume		240				240			240	
PM Peak		2:30 PM				2:30 PM			2:30 PM	
Volume		208				208			208	

Comments:

LOCATION: SH 18 West Of Green Valley Lake Rd
QC JOB #: 13863038
SPECIFIC LOCATION: SH 18 West Of Green Valley Lake Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		10				10			10	
12:15 AM		10				10			10	
12:30 AM		3				3			3	
12:45 AM		3				3			3	
1:00 AM		5				5			5	
1:15 AM		1				1			1	
1:30 AM		6				6			6	
1:45 AM		6				6			6	
2:00 AM		2				2			2	
2:15 AM		6				6			6	
2:30 AM		4				4			4	
2:45 AM		0				0			0	
3:00 AM		4				4			4	
3:15 AM		3				3			3	
3:30 AM		6				6			6	
3:45 AM		7				7			7	
4:00 AM		7				7			7	
4:15 AM		15				15			15	
4:30 AM		12				12			12	
4:45 AM		14				14			14	
5:00 AM		14				14			14	
5:15 AM		29				29			29	
5:30 AM		24				24			24	
5:45 AM		22				22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Green Valley Lake Rd
QC JOB #: 13863038
SPECIFIC LOCATION: SH 18 West Of Green Valley Lake Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		29				29			29	
6:15 AM		36				36			36	
6:30 AM		58				58			58	
6:45 AM		56				56			56	
7:00 AM		67				67			67	
7:15 AM		76				76			76	
7:30 AM		73				73			73	
7:45 AM		74				74			74	
8:00 AM		61				61			61	
8:15 AM		76				76			76	
8:30 AM		76				76			76	
8:45 AM		58				58			58	
9:00 AM		83				83			83	
9:15 AM		91				91			91	
9:30 AM		64				64			64	
9:45 AM		**110**				**110**			**110**	
10:00 AM		79				79			79	
10:15 AM		93				93			93	
10:30 AM		102				102			102	
10:45 AM		94				94			94	
11:00 AM		76				76			76	
11:15 AM		101				101			101	
11:30 AM		104				104			104	
11:45 AM		83				83			83	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Green Valley Lake Rd
QC JOB #: 13863038
SPECIFIC LOCATION: SH 18 West Of Green Valley Lake Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		108				108			108	
12:15 PM		100				100			100	
12:30 PM		110				110			110	
12:45 PM		106				106			106	
1:00 PM		109				109			109	
1:15 PM		89				89			89	
1:30 PM		108				108			108	
1:45 PM		116				116			116	
2:00 PM		94				94			94	
2:15 PM		89				89			89	
2:30 PM		104				104			104	
2:45 PM		80				80			80	
3:00 PM		102				102			102	
3:15 PM		**119**				**119**			**119**	
3:30 PM		108				108			108	
3:45 PM		84				84			84	
4:00 PM		79				79			79	
4:15 PM		82				82			82	
4:30 PM		85				85			85	
4:45 PM		80				80			80	
5:00 PM		97				97			97	
5:15 PM		74				74			74	
5:30 PM		60				60			60	
5:45 PM		53				53			53	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: SH 18 West Of Green Valley Lake Rd
QC JOB #: 13863038
SPECIFIC LOCATION: SH 18 West Of Green Valley Lake Rd
DIRECTION: EB/WB
CITY/STATE: Big Bear, CA
DATE: Aug 30 2016 - Aug 30 2016

Start Time	Mon	Tue 30-Aug-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		76				76			76	
6:15 PM		43				43			43	
6:30 PM		42				42			42	
6:45 PM		45				45			45	
7:00 PM		54				54			54	
7:15 PM		52				52			52	
7:30 PM		51				51			51	
7:45 PM		36				36			36	
8:00 PM		42				42			42	
8:15 PM		34				34			34	
8:30 PM		36				36			36	
8:45 PM		30				30			30	
9:00 PM		32				32			32	
9:15 PM		26				26			26	
9:30 PM		24				24			24	
9:45 PM		19				19			19	
10:00 PM		15				15			15	
10:15 PM		27				27			27	
10:30 PM		16				16			16	
10:45 PM		15				15			15	
11:00 PM		10				10			10	
11:15 PM		19				19			19	
11:30 PM		10				10			10	
11:45 PM		10				10			10	
Day Total		5033				5033			5033	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		9:45 AM				9:45 AM			9:45 AM	
Volume		110				110			110	
PM Peak		3:15 PM				3:15 PM			3:15 PM	
Volume		119				119			119	

Comments:

LOCATION: 109. 3rd Street west of Cajon
QC JOB #: 13917645
SPECIFIC LOCATION: 109. 3rd Street west of Cajon
DIRECTION: EB/WB
CITY/STATE: Muscoy, CA
DATE: Sep 29 2016 - Sep 29 2016

Start Time	Mon	Tue	Wed	Thu 29-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				4		4			4	
12:15 AM				8		8			8	
12:30 AM				6		6			6	
12:45 AM				2		2			2	
1:00 AM				2		2			2	
1:15 AM				3		3			3	
1:30 AM				2		2			2	
1:45 AM				2		2			2	
2:00 AM				1		1			1	
2:15 AM				0		0			0	
2:30 AM				2		2			2	
2:45 AM				6		6			6	
3:00 AM				6		6			6	
3:15 AM				4		4			4	
3:30 AM				10		10			10	
3:45 AM				9		9			9	
4:00 AM				10		10			10	
4:15 AM				11		11			11	
4:30 AM				17		17			17	
4:45 AM				18		18			18	
5:00 AM				14		14			14	
5:15 AM				13		13			13	
5:30 AM				22		22			22	
5:45 AM				21		21			21	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 109. 3rd Street west of Cajon

QC JOB #: 13917645

SPECIFIC LOCATION: 109. 3rd Street west of Cajon

DIRECTION: EB/WB

CITY/STATE: Muscoy, CA

DATE: Sep 29 2016 - Sep 29 2016

Start Time	Mon	Tue	Wed	Thu 29-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				20		20			20	
6:15 AM				31		31			31	
6:30 AM				23		23			23	
6:45 AM				37		37			37	
7:00 AM				32		32			32	
7:15 AM				38		38			38	
7:30 AM				30		30			30	
7:45 AM				31		31			31	
8:00 AM				29		29			29	
8:15 AM				37		37			37	
8:30 AM				34		34			34	
8:45 AM				**49**		**49**			**49**	
9:00 AM				30		30			30	
9:15 AM				23		23			23	
9:30 AM				24		24			24	
9:45 AM				24		24			24	
10:00 AM				39		39			39	
10:15 AM				35		35			35	
10:30 AM				24		24			24	
10:45 AM				25		25			25	
11:00 AM				32		32			32	
11:15 AM				20		20			20	
11:30 AM				40		40			40	
11:45 AM				25		25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 109. 3rd Street west of Cajon
QC JOB #: 13917645
SPECIFIC LOCATION: 109. 3rd Street west of Cajon
DIRECTION: EB/WB
CITY/STATE: Muscoy, CA
DATE: Sep 29 2016 - Sep 29 2016

Start Time	Mon	Tue	Wed	Thu 29-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				35		35			35	
12:15 PM				14		14			14	
12:30 PM				18		18			18	
12:45 PM				46		46			46	
1:00 PM				24		24			24	
1:15 PM				40		40			40	
1:30 PM				21		21			21	
1:45 PM				40		40			40	
2:00 PM				26		26			26	
2:15 PM				22		22			22	
2:30 PM				42		42			42	
2:45 PM				46		46			46	
3:00 PM				38		38			38	
3:15 PM				35		35			35	
3:30 PM				50		50			50	
3:45 PM				44		44			44	
4:00 PM				39		39			39	
4:15 PM				40		40			40	
4:30 PM				38		38			38	
4:45 PM				57		57			57	
5:00 PM				48		48			48	
5:15 PM				42		42			42	
5:30 PM				46		46			46	
5:45 PM				47		47			47	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 109. 3rd Street west of Cajon
QC JOB #: 13917645
SPECIFIC LOCATION: 109. 3rd Street west of Cajon
DIRECTION: EB/WB
CITY/STATE: Muscoy, CA
DATE: Sep 29 2016 - Sep 29 2016

Start Time	Mon	Tue	Wed	Thu 29-Sep-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				42		42			42	
6:15 PM				**60**		**60**			**60**	
6:30 PM				45		45			45	
6:45 PM				46		46			46	
7:00 PM				44		44			44	
7:15 PM				31		31			31	
7:30 PM				29		29			29	
7:45 PM				28		28			28	
8:00 PM				31		31			31	
8:15 PM				31		31			31	
8:30 PM				31		31			31	
8:45 PM				33		33			33	
9:00 PM				15		15			15	
9:15 PM				21		21			21	
9:30 PM				20		20			20	
9:45 PM				16		16			16	
10:00 PM				18		18			18	
10:15 PM				18		18			18	
10:30 PM				15		15			15	
10:45 PM				8		8			8	
11:00 PM				16		16			16	
11:15 PM				6		6			6	
11:30 PM				7		7			7	
11:45 PM				8		8			8	
Day Total				2442		2442			2442	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				8:45 AM 49		8:45 AM 49			8:45 AM 49	
PM Peak Volume				6:15 PM 60		6:15 PM 60			6:15 PM 60	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
QC JOB #: 13917650
SPECIFIC LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				8		8			8	
12:15 AM				3		3			3	
12:30 AM				4		4			4	
12:45 AM				0		0			0	
1:00 AM				1		1			1	
1:15 AM				3		3			3	
1:30 AM				1		1			1	
1:45 AM				1		1			1	
2:00 AM				1		1			1	
2:15 AM				0		0			0	
2:30 AM				1		1			1	
2:45 AM				0		0			0	
3:00 AM				0		0			0	
3:15 AM				1		1			1	
3:30 AM				3		3			3	
3:45 AM				0		0			0	
4:00 AM				4		4			4	
4:15 AM				5		5			5	
4:30 AM				4		4			4	
4:45 AM				2		2			2	
5:00 AM				6		6			6	
5:15 AM				5		5			5	
5:30 AM				7		7			7	
5:45 AM				6		6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
QC JOB #: 13917650
SPECIFIC LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				9		9			9	
6:15 AM				5		5			5	
6:30 AM				10		10			10	
6:45 AM				23		23			23	
7:00 AM				14		14			14	
7:15 AM				12		12			12	
7:30 AM				14		14			14	
7:45 AM				10		10			10	
8:00 AM				20		20			20	
8:15 AM				18		18			18	
8:30 AM				12		12			12	
8:45 AM				18		18			18	
9:00 AM				9		9			9	
9:15 AM				8		8			8	
9:30 AM				6		6			6	
9:45 AM				14		14			14	
10:00 AM				18		18			18	
10:15 AM				16		16			16	
10:30 AM				7		7			7	
10:45 AM				12		12			12	
11:00 AM				**24**		**24**			**24**	
11:15 AM				17		17			17	
11:30 AM				12		12			12	
11:45 AM				10		10			10	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
QC JOB #: 13917650
SPECIFIC LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				18		18			18	
12:15 PM				16		16			16	
12:30 PM				10		10			10	
12:45 PM				16		16			16	
1:00 PM				13		13			13	
1:15 PM				8		8			8	
1:30 PM				8		8			8	
1:45 PM				10		10			10	
2:00 PM				18		18			18	
2:15 PM				14		14			14	
2:30 PM				26		26			26	
2:45 PM				16		16			16	
3:00 PM				26		26			26	
3:15 PM				24		24			24	
3:30 PM				**48**		**48**			**48**	
3:45 PM				31		31			31	
4:00 PM				21		21			21	
4:15 PM				17		17			17	
4:30 PM				17		17			17	
4:45 PM				22		22			22	
5:00 PM				19		19			19	
5:15 PM				17		17			17	
5:30 PM				14		14			14	
5:45 PM				20		20			20	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
QC JOB #: 13917650
SPECIFIC LOCATION: 114. JUNE ST SOUTH OF OGDEN ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				22		22			22	
6:15 PM				28		28			28	
6:30 PM				24		24			24	
6:45 PM				14		14			14	
7:00 PM				14		14			14	
7:15 PM				11		11			11	
7:30 PM				19		19			19	
7:45 PM				13		13			13	
8:00 PM				16		16			16	
8:15 PM				14		14			14	
8:30 PM				9		9			9	
8:45 PM				12		12			12	
9:00 PM				16		16			16	
9:15 PM				6		6			6	
9:30 PM				8		8			8	
9:45 PM				5		5			5	
10:00 PM				4		4			4	
10:15 PM				6		6			6	
10:30 PM				8		8			8	
10:45 PM				5		5			5	
11:00 PM				5		5			5	
11:15 PM				6		6			6	
11:30 PM				4		4			4	
11:45 PM				1		1			1	
Day Total				1103		1103			1103	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:00 AM		11:00 AM			11:00 AM	
Volume				24		24			24	
PM Peak				3:30 PM		3:30 PM			3:30 PM	
Volume				48		48			48	

Comments:

LOCATION: 115. BLAKE ST WEST OF DUFFY ST
QC JOB #: 13917651
SPECIFIC LOCATION: 115. BLAKE ST WEST OF DUFFY ST
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		1				1			1	
12:30 AM		4				4			4	
12:45 AM		2				2			2	
1:00 AM		3				3			3	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		2				2			2	
2:15 AM		2				2			2	
2:30 AM		1				1			1	
2:45 AM		0				0			0	
3:00 AM		3				3			3	
3:15 AM		4				4			4	
3:30 AM		2				2			2	
3:45 AM		2				2			2	
4:00 AM		8				8			8	
4:15 AM		4				4			4	
4:30 AM		10				10			10	
4:45 AM		7				7			7	
5:00 AM		9				9			9	
5:15 AM		3				3			3	
5:30 AM		7				7			7	
5:45 AM		14				14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 115. BLAKE ST WEST OF DUFFY ST
QC JOB #: 13917651
SPECIFIC LOCATION: 115. BLAKE ST WEST OF DUFFY ST
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		10				10			10	
6:15 AM		10				10			10	
6:30 AM		17				17			17	
6:45 AM		24				24			24	
7:00 AM		22				22			22	
7:15 AM		23				23			23	
7:30 AM		34				34			34	
7:45 AM		**61**				**61**			**61**	
8:00 AM		38				38			38	
8:15 AM		32				32			32	
8:30 AM		50				50			50	
8:45 AM		24				24			24	
9:00 AM		21				21			21	
9:15 AM		9				9			9	
9:30 AM		22				22			22	
9:45 AM		15				15			15	
10:00 AM		17				17			17	
10:15 AM		16				16			16	
10:30 AM		16				16			16	
10:45 AM		25				25			25	
11:00 AM		21				21			21	
11:15 AM		19				19			19	
11:30 AM		30				30			30	
11:45 AM		24				24			24	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 115. BLAKE ST WEST OF DUFFY ST
QC JOB #: 13917651
SPECIFIC LOCATION: 115. BLAKE ST WEST OF DUFFY ST
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		38				38			38	
12:15 PM		24				24			24	
12:30 PM		27				27			27	
12:45 PM		18				18			18	
1:00 PM		19				19			19	
1:15 PM		16				16			16	
1:30 PM		22				22			22	
1:45 PM		20				20			20	
2:00 PM		22				22			22	
2:15 PM		27				27			27	
2:30 PM		20				20			20	
2:45 PM		37				37			37	
3:00 PM		**51**				**51**			**51**	
3:15 PM		46				46			46	
3:30 PM		48				48			48	
3:45 PM		20				20			20	
4:00 PM		30				30			30	
4:15 PM		32				32			32	
4:30 PM		34				34			34	
4:45 PM		24				24			24	
5:00 PM		42				42			42	
5:15 PM		33				33			33	
5:30 PM		27				27			27	
5:45 PM		32				32			32	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 115. BLAKE ST WEST OF DUFFY ST
QC JOB #: 13917651
SPECIFIC LOCATION: 115. BLAKE ST WEST OF DUFFY ST
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		26				26			26	
6:15 PM		34				34			34	
6:30 PM		30				30			30	
6:45 PM		20				20			20	
7:00 PM		19				19			19	
7:15 PM		14				14			14	
7:30 PM		18				18			18	
7:45 PM		18				18			18	
8:00 PM		22				22			22	
8:15 PM		16				16			16	
8:30 PM		22				22			22	
8:45 PM		11				11			11	
9:00 PM		10				10			10	
9:15 PM		12				12			12	
9:30 PM		5				5			5	
9:45 PM		9				9			9	
10:00 PM		9				9			9	
10:15 PM		8				8			8	
10:30 PM		2				2			2	
10:45 PM		7				7			7	
11:00 PM		3				3			3	
11:15 PM		6				6			6	
11:30 PM		5				5			5	
11:45 PM		1				1			1	
Day Total		1705				1705			1705	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		7:45 AM				7:45 AM			7:45 AM	
Volume		61				61			61	
PM Peak		3:00 PM				3:00 PM			3:00 PM	
Volume		51				51			51	

Comments:

LOCATION: 117. STATE ST SOUTH OF BLAKE ST
QC JOB #: 13917653
SPECIFIC LOCATION: 117. STATE ST SOUTH OF BLAKE ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				25		25			25	
12:15 AM				26		26			26	
12:30 AM				12		12			12	
12:45 AM				12		12			12	
1:00 AM				40		40			40	
1:15 AM				19		19			19	
1:30 AM				19		19			19	
1:45 AM				12		12			12	
2:00 AM				12		12			12	
2:15 AM				11		11			11	
2:30 AM				13		13			13	
2:45 AM				24		24			24	
3:00 AM				10		10			10	
3:15 AM				24		24			24	
3:30 AM				31		31			31	
3:45 AM				35		35			35	
4:00 AM				53		53			53	
4:15 AM				32		32			32	
4:30 AM				58		58			58	
4:45 AM				57		57			57	
5:00 AM				55		55			55	
5:15 AM				71		71			71	
5:30 AM				89		89			89	
5:45 AM				84		84			84	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 117. STATE ST SOUTH OF BLAKE ST
QC JOB #: 13917653
SPECIFIC LOCATION: 117. STATE ST SOUTH OF BLAKE ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				64		64			64	
6:15 AM				75		75			75	
6:30 AM				117		117			117	
6:45 AM				139		139			139	
7:00 AM				128		128			128	
7:15 AM				169		169			169	
7:30 AM				**196**		**196**			**196**	
7:45 AM				160		160			160	
8:00 AM				136		136			136	
8:15 AM				134		134			134	
8:30 AM				166		166			166	
8:45 AM				134		134			134	
9:00 AM				118		118			118	
9:15 AM				118		118			118	
9:30 AM				144		144			144	
9:45 AM				120		120			120	
10:00 AM				126		126			126	
10:15 AM				97		97			97	
10:30 AM				121		121			121	
10:45 AM				84		84			84	
11:00 AM				120		120			120	
11:15 AM				160		160			160	
11:30 AM				161		161			161	
11:45 AM				144		144			144	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 117. STATE ST SOUTH OF BLAKE ST
QC JOB #: 13917653
SPECIFIC LOCATION: 117. STATE ST SOUTH OF BLAKE ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				128		128			128	
12:15 PM				160		160			160	
12:30 PM				154		154			154	
12:45 PM				133		133			133	
1:00 PM				134		134			134	
1:15 PM				133		133			133	
1:30 PM				179		179			179	
1:45 PM				168		168			168	
2:00 PM				149		149			149	
2:15 PM				175		175			175	
2:30 PM				206		206			206	
2:45 PM				175		175			175	
3:00 PM				164		164			164	
3:15 PM				213		213			213	
3:30 PM				**214**		**214**			**214**	
3:45 PM				209		209			209	
4:00 PM				214		214			214	
4:15 PM				209		209			209	
4:30 PM				194		194			194	
4:45 PM				189		189			189	
5:00 PM				206		206			206	
5:15 PM				178		178			178	
5:30 PM				206		206			206	
5:45 PM				175		175			175	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 117. STATE ST SOUTH OF BLAKE ST
QC JOB #: 13917653
SPECIFIC LOCATION: 117. STATE ST SOUTH OF BLAKE ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				173		173			173	
6:15 PM				179		179			179	
6:30 PM				158		158			158	
6:45 PM				140		140			140	
7:00 PM				142		142			142	
7:15 PM				117		117			117	
7:30 PM				137		137			137	
7:45 PM				127		127			127	
8:00 PM				136		136			136	
8:15 PM				116		116			116	
8:30 PM				87		87			87	
8:45 PM				111		111			111	
9:00 PM				82		82			82	
9:15 PM				94		94			94	
9:30 PM				83		83			83	
9:45 PM				85		85			85	
10:00 PM				66		66			66	
10:15 PM				69		69			69	
10:30 PM				68		68			68	
10:45 PM				52		52			52	
11:00 PM				66		66			66	
11:15 PM				50		50			50	
11:30 PM				42		42			42	
11:45 PM				35		35			35	
Day Total				10635		10635			10635	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				196		196			196	
PM Peak				3:30 PM		3:30 PM			3:30 PM	
Volume				214		214			214	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 118. MACY ST SOUTH OF DARBY ST
QC JOB #: 13917654
SPECIFIC LOCATION: 118. MACY ST SOUTH OF DARBY ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		15				15			15	
12:15 AM		12				12			12	
12:30 AM		11				11			11	
12:45 AM		6				6			6	
1:00 AM		7				7			7	
1:15 AM		5				5			5	
1:30 AM		8				8			8	
1:45 AM		4				4			4	
2:00 AM		10				10			10	
2:15 AM		10				10			10	
2:30 AM		20				20			20	
2:45 AM		11				11			11	
3:00 AM		12				12			12	
3:15 AM		16				16			16	
3:30 AM		17				17			17	
3:45 AM		18				18			18	
4:00 AM		34				34			34	
4:15 AM		29				29			29	
4:30 AM		47				47			47	
4:45 AM		55				55			55	
5:00 AM		49				49			49	
5:15 AM		57				57			57	
5:30 AM		52				52			52	
5:45 AM		65				65			65	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 118. MACY ST SOUTH OF DARBY ST
QC JOB #: 13917654
SPECIFIC LOCATION: 118. MACY ST SOUTH OF DARBY ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		60				60			60	
6:15 AM		64				64			64	
6:30 AM		99				99			99	
6:45 AM		106				106			106	
7:00 AM		121				121			121	
7:15 AM		128				128			128	
7:30 AM		**135**				**135**			**135**	
7:45 AM		128				128			128	
8:00 AM		110				110			110	
8:15 AM		119				119			119	
8:30 AM		111				111			111	
8:45 AM		121				121			121	
9:00 AM		74				74			74	
9:15 AM		84				84			84	
9:30 AM		80				80			80	
9:45 AM		83				83			83	
10:00 AM		89				89			89	
10:15 AM		72				72			72	
10:30 AM		69				69			69	
10:45 AM		91				91			91	
11:00 AM		70				70			70	
11:15 AM		94				94			94	
11:30 AM		89				89			89	
11:45 AM		74				74			74	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 118. MACY ST SOUTH OF DARBY ST
QC JOB #: 13917654
SPECIFIC LOCATION: 118. MACY ST SOUTH OF DARBY ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		88				88			88	
12:15 PM		74				74			74	
12:30 PM		84				84			84	
12:45 PM		87				87			87	
1:00 PM		85				85			85	
1:15 PM		86				86			86	
1:30 PM		93				93			93	
1:45 PM		102				102			102	
2:00 PM		98				98			98	
2:15 PM		126				126			126	
2:30 PM		137				137			137	
2:45 PM		165				165			165	
3:00 PM		134				134			134	
3:15 PM		155				155			155	
3:30 PM		136				136			136	
3:45 PM		175				175			175	
4:00 PM		**180**				**180**			**180**	
4:15 PM		134				134			134	
4:30 PM		144				144			144	
4:45 PM		166				166			166	
5:00 PM		140				140			140	
5:15 PM		140				140			140	
5:30 PM		156				156			156	
5:45 PM		138				138			138	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 118. MACY ST SOUTH OF DARBY ST
QC JOB #: 13917654
SPECIFIC LOCATION: 118. MACY ST SOUTH OF DARBY ST
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		148				148			148	
6:15 PM		134				134			134	
6:30 PM		136				136			136	
6:45 PM		120				120			120	
7:00 PM		112				112			112	
7:15 PM		102				102			102	
7:30 PM										
7:45 PM										
8:00 PM										
8:15 PM										
8:30 PM										
8:45 PM										
9:00 PM		54				54			54	
9:15 PM		41				41			41	
9:30 PM										
9:45 PM										
10:00 PM		39				39			39	
10:15 PM										
10:30 PM										
10:45 PM										
11:00 PM										
11:15 PM										
11:30 PM										
11:45 PM										
Day Total		6750				6750			6750	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		7:30 AM				7:30 AM			7:30 AM	
Volume		135				135			135	
PM Peak		4:00 PM				4:00 PM			4:00 PM	
Volume		180				180			180	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
QC JOB #: 13917657
SPECIFIC LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
DIRECTION: EB/WB
CITY/STATE: Colton, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				11		11			11	
12:15 AM				8		8			8	
12:30 AM				3		3			3	
12:45 AM				4		4			4	
1:00 AM				2		2			2	
1:15 AM				2		2			2	
1:30 AM				5		5			5	
1:45 AM				3		3			3	
2:00 AM				1		1			1	
2:15 AM				3		3			3	
2:30 AM				4		4			4	
2:45 AM				5		5			5	
3:00 AM				7		7			7	
3:15 AM				5		5			5	
3:30 AM				3		3			3	
3:45 AM				8		8			8	
4:00 AM				7		7			7	
4:15 AM				12		12			12	
4:30 AM				12		12			12	
4:45 AM				14		14			14	
5:00 AM				8		8			8	
5:15 AM				10		10			10	
5:30 AM				23		23			23	
5:45 AM				21		21			21	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
QC JOB #: 13917657
SPECIFIC LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
DIRECTION: EB/WB
CITY/STATE: Colton, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				23		23			23	
6:15 AM				31		31			31	
6:30 AM				31		31			31	
6:45 AM				48		48			48	
7:00 AM				62		62			62	
7:15 AM				63		63			63	
7:30 AM				90		90			90	
7:45 AM				74		74			74	
8:00 AM				64		64			64	
8:15 AM				67		67			67	
8:30 AM				46		46			46	
8:45 AM				55		55			55	
9:00 AM				59		59			59	
9:15 AM				64		64			64	
9:30 AM				64		64			64	
9:45 AM				48		48			48	
10:00 AM				55		55			55	
10:15 AM				37		37			37	
10:30 AM				40		40			40	
10:45 AM				64		64			64	
11:00 AM				**101**		**101**			**101**	
11:15 AM				64		64			64	
11:30 AM				68		68			68	
11:45 AM				63		63			63	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
QC JOB #: 13917657
SPECIFIC LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
DIRECTION: EB/WB
CITY/STATE: Colton, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				67		67			67	
12:15 PM				58		58			58	
12:30 PM				59		59			59	
12:45 PM				65		65			65	
1:00 PM				73		73			73	
1:15 PM				60		60			60	
1:30 PM				74		74			74	
1:45 PM				82		82			82	
2:00 PM				86		86			86	
2:15 PM				82		82			82	
2:30 PM				90		90			90	
2:45 PM				83		83			83	
3:00 PM				96		96			96	
3:15 PM				106		106			106	
3:30 PM				91		91			91	
3:45 PM				106		106			106	
4:00 PM				92		92			92	
4:15 PM				86		86			86	
4:30 PM				111		111			111	
4:45 PM				**114**		**114**			**114**	
5:00 PM				98		98			98	
5:15 PM				100		100			100	
5:30 PM				101		101			101	
5:45 PM				78		78			78	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
QC JOB #: 13917657
SPECIFIC LOCATION: 120. OLIVE ST WEST OF RANCHO AVE
DIRECTION: EB/WB
CITY/STATE: Colton, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				84		84			84	
6:15 PM				92		92			92	
6:30 PM				82		82			82	
6:45 PM				70		70			70	
7:00 PM				66		66			66	
7:15 PM				58		58			58	
7:30 PM				54		54			54	
7:45 PM				50		50			50	
8:00 PM				62		62			62	
8:15 PM				43		43			43	
8:30 PM				43		43			43	
8:45 PM				38		38			38	
9:00 PM				45		45			45	
9:15 PM				40		40			40	
9:30 PM				36		36			36	
9:45 PM				31		31			31	
10:00 PM				15		15			15	
10:15 PM				20		20			20	
10:30 PM				22		22			22	
10:45 PM				20		20			20	
11:00 PM				14		14			14	
11:15 PM				13		13			13	
11:30 PM				11		11			11	
11:45 PM				6		6			6	
Day Total				4635		4635			4635	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:00 AM		11:00 AM			11:00 AM	
Volume				101		101			101	
PM Peak				4:45 PM		4:45 PM			4:45 PM	
Volume				114		114			114	

Comments:

LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
QC JOB #: 13917659
SPECIFIC LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				5		5			5	
12:15 AM				1		1			1	
12:30 AM				0		0			0	
12:45 AM				0		0			0	
1:00 AM				2		2			2	
1:15 AM				0		0			0	
1:30 AM				0		0			0	
1:45 AM				0		0			0	
2:00 AM				1		1			1	
2:15 AM				0		0			0	
2:30 AM				0		0			0	
2:45 AM				1		1			1	
3:00 AM				0		0			0	
3:15 AM				1		1			1	
3:30 AM				2		2			2	
3:45 AM				1		1			1	
4:00 AM				1		1			1	
4:15 AM				2		2			2	
4:30 AM				2		2			2	
4:45 AM				7		7			7	
5:00 AM				4		4			4	
5:15 AM				10		10			10	
5:30 AM				6		6			6	
5:45 AM				6		6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
QC JOB #: 13917659
SPECIFIC LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				6		6			6	
6:15 AM				8		8			8	
6:30 AM				16		16			16	
6:45 AM				20		20			20	
7:00 AM				**68**		**68**			**68**	
7:15 AM				64		64			64	
7:30 AM				17		17			17	
7:45 AM				25		25			25	
8:00 AM				7		7			7	
8:15 AM				16		16			16	
8:30 AM				11		11			11	
8:45 AM				11		11			11	
9:00 AM				10		10			10	
9:15 AM				6		6			6	
9:30 AM				14		14			14	
9:45 AM				9		9			9	
10:00 AM				13		13			13	
10:15 AM				14		14			14	
10:30 AM				10		10			10	
10:45 AM				10		10			10	
11:00 AM				10		10			10	
11:15 AM				15		15			15	
11:30 AM				11		11			11	
11:45 AM				10		10			10	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
QC JOB #: 13917659
SPECIFIC LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				24		24			24	
12:15 PM				13		13			13	
12:30 PM				13		13			13	
12:45 PM				15		15			15	
1:00 PM				16		16			16	
1:15 PM				9		9			9	
1:30 PM				15		15			15	
1:45 PM				19		19			19	
2:00 PM				27		27			27	
2:15 PM				23		23			23	
2:30 PM				33		33			33	
2:45 PM				**41**		**41**			**41**	
3:00 PM				19		19			19	
3:15 PM				13		13			13	
3:30 PM				21		21			21	
3:45 PM				23		23			23	
4:00 PM				19		19			19	
4:15 PM				10		10			10	
4:30 PM				13		13			13	
4:45 PM				22		22			22	
5:00 PM				19		19			19	
5:15 PM				13		13			13	
5:30 PM				16		16			16	
5:45 PM				14		14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
QC JOB #: 13917659
SPECIFIC LOCATION: 123. OPAL AVE SOUTH OF Nice AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				8		8			8	
6:15 PM				14		14			14	
6:30 PM				14		14			14	
6:45 PM				14		14			14	
7:00 PM				8		8			8	
7:15 PM				5		5			5	
7:30 PM				3		3			3	
7:45 PM				9		9			9	
8:00 PM				10		10			10	
8:15 PM				5		5			5	
8:30 PM				8		8			8	
8:45 PM				11		11			11	
9:00 PM				8		8			8	
9:15 PM				2		2			2	
9:30 PM				2		2			2	
9:45 PM				2		2			2	
10:00 PM				3		3			3	
10:15 PM				1		1			1	
10:30 PM				3		3			3	
10:45 PM				3		3			3	
11:00 PM				0		0			0	
11:15 PM				5		5			5	
11:30 PM				4		4			4	
11:45 PM				1		1			1	
Day Total				1046		1046			1046	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:00 AM		7:00 AM			7:00 AM	
Volume				68		68			68	
PM Peak				2:45 PM		2:45 PM			2:45 PM	
Volume				41		41			41	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 124. Crafton Ave south of Colton Ave
QC JOB #: 13917660
SPECIFIC LOCATION: 124. Crafton Ave south of Colton Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				15		15			15	
12:15 AM				4		4			4	
12:30 AM				6		6			6	
12:45 AM				6		6			6	
1:00 AM				2		2			2	
1:15 AM				6		6			6	
1:30 AM				1		1			1	
1:45 AM				7		7			7	
2:00 AM				4		4			4	
2:15 AM				6		6			6	
2:30 AM				6		6			6	
2:45 AM				6		6			6	
3:00 AM				5		5			5	
3:15 AM				1		1			1	
3:30 AM				2		2			2	
3:45 AM				2		2			2	
4:00 AM				14		14			14	
4:15 AM				5		5			5	
4:30 AM				12		12			12	
4:45 AM				24		24			24	
5:00 AM				11		11			11	
5:15 AM				16		16			16	
5:30 AM				11		11			11	
5:45 AM				30		30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 124. Crafton Ave south of Colton Ave
QC JOB #: 13917660
SPECIFIC LOCATION: 124. Crafton Ave south of Colton Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				33		33			33	
6:15 AM				44		44			44	
6:30 AM				52		52			52	
6:45 AM				103		103			103	
7:00 AM				108		108			108	
7:15 AM				146		146			146	
7:30 AM				**150**		**150**			**150**	
7:45 AM				130		130			130	
8:00 AM				124		124			124	
8:15 AM				104		104			104	
8:30 AM				102		102			102	
8:45 AM				94		94			94	
9:00 AM				75		75			75	
9:15 AM				90		90			90	
9:30 AM				82		82			82	
9:45 AM				66		66			66	
10:00 AM				62		62			62	
10:15 AM				70		70			70	
10:30 AM				82		82			82	
10:45 AM				91		91			91	
11:00 AM				86		86			86	
11:15 AM				72		72			72	
11:30 AM				80		80			80	
11:45 AM				92		92			92	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 124. Crafton Ave south of Colton Ave
QC JOB #: 13917660
SPECIFIC LOCATION: 124. Crafton Ave south of Colton Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				92		92			92	
12:15 PM				95		95			95	
12:30 PM				91		91			91	
12:45 PM				72		72			72	
1:00 PM				78		78			78	
1:15 PM				100		100			100	
1:30 PM				92		92			92	
1:45 PM				116		116			116	
2:00 PM				100		100			100	
2:15 PM				89		89			89	
2:30 PM				127		127			127	
2:45 PM				100		100			100	
3:00 PM				100		100			100	
3:15 PM				145		145			145	
3:30 PM				150		150			150	
3:45 PM				132		132			132	
4:00 PM				112		112			112	
4:15 PM				138		138			138	
4:30 PM				116		116			116	
4:45 PM				116		116			116	
5:00 PM				138		138			138	
5:15 PM				130		130			130	
5:30 PM				137		137			137	
5:45 PM				**152**		**152**			**152**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 124. Crafton Ave south of Colton Ave
QC JOB #: 13917660
SPECIFIC LOCATION: 124. Crafton Ave south of Colton Ave
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 13 2016 - Oct 13 2016

Start Time	Mon	Tue	Wed	Thu 13-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				130		130			130	
6:15 PM				125		125			125	
6:30 PM				100		100			100	
6:45 PM				92		92			92	
7:00 PM				70		70			70	
7:15 PM				84		84			84	
7:30 PM				60		60			60	
7:45 PM				64		64			64	
8:00 PM				70		70			70	
8:15 PM				58		58			58	
8:30 PM				50		50			50	
8:45 PM				47		47			47	
9:00 PM				54		54			54	
9:15 PM				45		45			45	
9:30 PM				42		42			42	
9:45 PM				35		35			35	
10:00 PM				31		31			31	
10:15 PM				26		26			26	
10:30 PM				24		24			24	
10:45 PM				23		23			23	
11:00 PM				30		30			30	
11:15 PM				6		6			6	
11:30 PM				6		6			6	
11:45 PM				12		12			12	
Day Total				6342		6342			6342	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				150		150			150	
PM Peak				5:45 PM		5:45 PM			5:45 PM	
Volume				152		152			152	

Comments:

LOCATION: 126. Sand Canyon east of Crafton
QC JOB #: 13917662
SPECIFIC LOCATION: 126. Sand Canyon east of Crafton
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				14		14			14	
12:15 AM				8		8			8	
12:30 AM				6		6			6	
12:45 AM				5		5			5	
1:00 AM				5		5			5	
1:15 AM				6		6			6	
1:30 AM				3		3			3	
1:45 AM				4		4			4	
2:00 AM				9		9			9	
2:15 AM				4		4			4	
2:30 AM				6		6			6	
2:45 AM				5		5			5	
3:00 AM				4		4			4	
3:15 AM				6		6			6	
3:30 AM				5		5			5	
3:45 AM				5		5			5	
4:00 AM				4		4			4	
4:15 AM				14		14			14	
4:30 AM				11		11			11	
4:45 AM				19		19			19	
5:00 AM				29		29			29	
5:15 AM				26		26			26	
5:30 AM				33		33			33	
5:45 AM				46		46			46	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 126. Sand Canyon east of Crafton
QC JOB #: 13917662
SPECIFIC LOCATION: 126. Sand Canyon east of Crafton
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				46		46			46	
6:15 AM				84		84			84	
6:30 AM				117		117			117	
6:45 AM				192		192			192	
7:00 AM				264		264			264	
7:15 AM				**320**		**320**			**320**	
7:30 AM				263		263			263	
7:45 AM				263		263			263	
8:00 AM				196		196			196	
8:15 AM				167		167			167	
8:30 AM				200		200			200	
8:45 AM				195		195			195	
9:00 AM				132		132			132	
9:15 AM				112		112			112	
9:30 AM				118		118			118	
9:45 AM				109		109			109	
10:00 AM				130		130			130	
10:15 AM				120		120			120	
10:30 AM				170		170			170	
10:45 AM				190		190			190	
11:00 AM				117		117			117	
11:15 AM				130		130			130	
11:30 AM				142		142			142	
11:45 AM				145		145			145	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 126. Sand Canyon east of Crafton
QC JOB #: 13917662
SPECIFIC LOCATION: 126. Sand Canyon east of Crafton
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				166		166			166	
12:15 PM				184		184			184	
12:30 PM				169		169			169	
12:45 PM				170		170			170	
1:00 PM				142		142			142	
1:15 PM				153		153			153	
1:30 PM				154		154			154	
1:45 PM				151		151			151	
2:00 PM				171		171			171	
2:15 PM				163		163			163	
2:30 PM				187		187			187	
2:45 PM				150		150			150	
3:00 PM				207		207			207	
3:15 PM				219		219			219	
3:30 PM				234		234			234	
3:45 PM				261		261			261	
4:00 PM				213		213			213	
4:15 PM				189		189			189	
4:30 PM				217		217			217	
4:45 PM				234		234			234	
5:00 PM				**298**		**298**			**298**	
5:15 PM				268		268			268	
5:30 PM				292		292			292	
5:45 PM				260		260			260	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 126. Sand Canyon east of Crafton
QC JOB #: 13917662
SPECIFIC LOCATION: 126. Sand Canyon east of Crafton
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				210		210			210	
6:15 PM				203		203			203	
6:30 PM				176		176			176	
6:45 PM				170		170			170	
7:00 PM				142		142			142	
7:15 PM				112		112			112	
7:30 PM				120		120			120	
7:45 PM				109		109			109	
8:00 PM				114		114			114	
8:15 PM				82		82			82	
8:30 PM				74		74			74	
8:45 PM				67		67			67	
9:00 PM				72		72			72	
9:15 PM				46		46			46	
9:30 PM				60		60			60	
9:45 PM				39		39			39	
10:00 PM				56		56			56	
10:15 PM				45		45			45	
10:30 PM				36		36			36	
10:45 PM				28		28			28	
11:00 PM				18		18			18	
11:15 PM				22		22			22	
11:30 PM				21		21			21	
11:45 PM				27		27			27	
Day Total				11100		11100			11100	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:15 AM		7:15 AM			7:15 AM	
Volume				320		320			320	
PM Peak				5:00 PM		5:00 PM			5:00 PM	
Volume				298		298			298	

Comments:

LOCATION: 127. Garnet Street at bridge
QC JOB #: 13917663
SPECIFIC LOCATION: 127. Garnet Street at bridge
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Dec 07 2017 - Dec 07 2017

Start Time	Mon	Tue	Wed	Thu 07-Dec-17	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				4		4			4	
12:15 AM				5		5			5	
12:30 AM				1		1			1	
12:45 AM				2		2			2	
1:00 AM				5		5			5	
1:15 AM				2		2			2	
1:30 AM				1		1			1	
1:45 AM				2		2			2	
2:00 AM				0		0			0	
2:15 AM				0		0			0	
2:30 AM				3		3			3	
2:45 AM				0		0			0	
3:00 AM				2		2			2	
3:15 AM				1		1			1	
3:30 AM				4		4			4	
3:45 AM				0		0			0	
4:00 AM				7		7			7	
4:15 AM				7		7			7	
4:30 AM				0		0			0	
4:45 AM				2		2			2	
5:00 AM				5		5			5	
5:15 AM				8		8			8	
5:30 AM				12		12			12	
5:45 AM				15		15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 127. Garnet Street at bridge

QC JOB #: 13917663

SPECIFIC LOCATION: 127. Garnet Street at bridge

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Dec 07 2017 - Dec 07 2017

Start Time	Mon	Tue	Wed	Thu 07-Dec-17	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				22		22			22	
6:15 AM				33		33			33	
6:30 AM				48		48			48	
6:45 AM				71		71			71	
7:00 AM				98		98			98	
7:15 AM				102		102			102	
7:30 AM				**109**		**109**			**109**	
7:45 AM				98		98			98	
8:00 AM				78		78			78	
8:15 AM				62		62			62	
8:30 AM				53		53			53	
8:45 AM				43		43			43	
9:00 AM				36		36			36	
9:15 AM				33		33			33	
9:30 AM				33		33			33	
9:45 AM				30		30			30	
10:00 AM				27		27			27	
10:15 AM				38		38			38	
10:30 AM				31		31			31	
10:45 AM				33		33			33	
11:00 AM				31		31			31	
11:15 AM				40		40			40	
11:30 AM				68		68			68	
11:45 AM				54		54			54	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 127. Garnet Street at bridge
QC JOB #: 13917663
SPECIFIC LOCATION: 127. Garnet Street at bridge
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Dec 07 2017 - Dec 07 2017

Start Time	Mon	Tue	Wed	Thu 07-Dec-17	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				55		55			55	
12:15 PM				52		52			52	
12:30 PM				55		55			55	
12:45 PM				29		29			29	
1:00 PM				53		53			53	
1:15 PM				48		48			48	
1:30 PM				49		49			49	
1:45 PM				42		42			42	
2:00 PM				47		47			47	
2:15 PM				73		73			73	
2:30 PM				69		69			69	
2:45 PM				51		51			51	
3:00 PM				65		65			65	
3:15 PM				56		56			56	
3:30 PM				59		59			59	
3:45 PM				65		65			65	
4:00 PM				73		73			73	
4:15 PM				90		90			90	
4:30 PM				95		95			95	
4:45 PM				104		104			104	
5:00 PM				89		89			89	
5:15 PM				**123**		**123**			**123**	
5:30 PM				99		99			99	
5:45 PM				71		71			71	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 127. Garnet Street at bridge
QC JOB #: 13917663
SPECIFIC LOCATION: 127. Garnet Street at bridge
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Dec 07 2017 - Dec 07 2017

Start Time	Mon	Tue	Wed	Thu 07-Dec-17	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				66		66			66	
6:15 PM				61		61			61	
6:30 PM				41		41			41	
6:45 PM				42		42			42	
7:00 PM				32		32			32	
7:15 PM				33		33			33	
7:30 PM				20		20			20	
7:45 PM				21		21			21	
8:00 PM				28		28			28	
8:15 PM				16		16			16	
8:30 PM				20		20			20	
8:45 PM				22		22			22	
9:00 PM				18		18			18	
9:15 PM				23		23			23	
9:30 PM				22		22			22	
9:45 PM				10		10			10	
10:00 PM				16		16			16	
10:15 PM				8		8			8	
10:30 PM				9		9			9	
10:45 PM				10		10			10	
11:00 PM				11		11			11	
11:15 PM				6		6			6	
11:30 PM				8		8			8	
11:45 PM				5		5			5	
Day Total				3519		3519			3519	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				109		109			109	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				123		123			123	

Comments:

Report generated on 12/15/2017 9:16 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
QC JOB #: 13917667
SPECIFIC LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2				2			2	
12:15 AM		4				4			4	
12:30 AM		1				1			1	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		1				1			1	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		0				0			0	
3:00 AM		1				1			1	
3:15 AM		0				0			0	
3:30 AM		1				1			1	
3:45 AM		2				2			2	
4:00 AM		2				2			2	
4:15 AM		0				0			0	
4:30 AM		2				2			2	
4:45 AM		4				4			4	
5:00 AM		1				1			1	
5:15 AM		7				7			7	
5:30 AM		6				6			6	
5:45 AM		9				9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
QC JOB #: 13917667
SPECIFIC LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		4				4			4	
6:15 AM		12				12			12	
6:30 AM		7				7			7	
6:45 AM		16				16			16	
7:00 AM		12				12			12	
7:15 AM		17				17			17	
7:30 AM		16				16			16	
7:45 AM		9				9			9	
8:00 AM		15				15			15	
8:15 AM		30				30			30	
8:30 AM		39				39			39	
8:45 AM		**41**				**41**			**41**	
9:00 AM		16				16			16	
9:15 AM		17				17			17	
9:30 AM		21				21			21	
9:45 AM		23				23			23	
10:00 AM		20				20			20	
10:15 AM		24				24			24	
10:30 AM		19				19			19	
10:45 AM		27				27			27	
11:00 AM		22				22			22	
11:15 AM		19				19			19	
11:30 AM		28				28			28	
11:45 AM		31				31			31	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
QC JOB #: 13917667
SPECIFIC LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		14				14			14	
12:15 PM		21				21			21	
12:30 PM		34				34			34	
12:45 PM		21				21			21	
1:00 PM		24				24			24	
1:15 PM		31				31			31	
1:30 PM		24				24			24	
1:45 PM		17				17			17	
2:00 PM		26				26			26	
2:15 PM		**38**				**38**			**38**	
2:30 PM		26				26			26	
2:45 PM		36				36			36	
3:00 PM		24				24			24	
3:15 PM		31				31			31	
3:30 PM		23				23			23	
3:45 PM		28				28			28	
4:00 PM		17				17			17	
4:15 PM		29				29			29	
4:30 PM		16				16			16	
4:45 PM		26				26			26	
5:00 PM		27				27			27	
5:15 PM		24				24			24	
5:30 PM		19				19			19	
5:45 PM		26				26			26	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
QC JOB #: 13917667
SPECIFIC LOCATION: 133. RECHE RD WEST OF BELFIELD BLVD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		23				23			23	
6:15 PM		17				17			17	
6:30 PM		21				21			21	
6:45 PM		21				21			21	
7:00 PM		8				8			8	
7:15 PM		11				11			11	
7:30 PM		10				10			10	
7:45 PM		10				10			10	
8:00 PM		14				14			14	
8:15 PM		12				12			12	
8:30 PM		8				8			8	
8:45 PM		7				7			7	
9:00 PM		10				10			10	
9:15 PM		3				3			3	
9:30 PM		7				7			7	
9:45 PM		3				3			3	
10:00 PM		4				4			4	
10:15 PM		8				8			8	
10:30 PM		3				3			3	
10:45 PM		8				8			8	
11:00 PM		4				4			4	
11:15 PM		7				7			7	
11:30 PM		3				3			3	
11:45 PM		1				1			1	
Day Total		1353				1353			1353	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:45 AM				8:45 AM			8:45 AM	
Volume		41				41			41	
PM Peak		2:15 PM				2:15 PM			2:15 PM	
Volume		38				38			38	

Comments:

LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD **QC JOB #:** 13917668

SPECIFIC LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		0				0			0	
12:30 AM		0				0			0	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		1				1			1	
3:00 AM		0				0			0	
3:15 AM		0				0			0	
3:30 AM		0				0			0	
3:45 AM		0				0			0	
4:00 AM		0				0			0	
4:15 AM		0				0			0	
4:30 AM		0				0			0	
4:45 AM		0				0			0	
5:00 AM		0				0			0	
5:15 AM		0				0			0	
5:30 AM		1				1			1	
5:45 AM		0				0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
QC JOB #: 13917668
SPECIFIC LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		2				2			2	
6:15 AM		4				4			4	
6:30 AM		3				3			3	
6:45 AM		2				2			2	
7:00 AM		4				4			4	
7:15 AM		6				6			6	
7:30 AM		7				7			7	
7:45 AM		5				5			5	
8:00 AM		4				4			4	
8:15 AM		7				7			7	
8:30 AM		3				3			3	
8:45 AM		10				10			10	
9:00 AM		12				12			12	
9:15 AM		9				9			9	
9:30 AM		3				3			3	
9:45 AM		12				12			12	
10:00 AM		8				8			8	
10:15 AM		6				6			6	
10:30 AM		7				7			7	
10:45 AM		10				10			10	
11:00 AM		6				6			6	
11:15 AM		8				8			8	
11:30 AM		**13**				**13**			**13**	
11:45 AM		7				7			7	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
QC JOB #: 13917668
SPECIFIC LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		6				6			6	
12:15 PM		7				7			7	
12:30 PM		7				7			7	
12:45 PM		6				6			6	
1:00 PM		11				11			11	
1:15 PM		2				2			2	
1:30 PM		13				13			13	
1:45 PM		5				5			5	
2:00 PM		4				4			4	
2:15 PM		9				9			9	
2:30 PM		12				12			12	
2:45 PM		3				3			3	
3:00 PM		10				10			10	
3:15 PM		4				4			4	
3:30 PM		**14**				**14**			**14**	
3:45 PM		7				7			7	
4:00 PM		9				9			9	
4:15 PM		4				4			4	
4:30 PM		7				7			7	
4:45 PM		7				7			7	
5:00 PM		4				4			4	
5:15 PM		4				4			4	
5:30 PM		6				6			6	
5:45 PM		11				11			11	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
QC JOB #: 13917668
SPECIFIC LOCATION: 135. PIPES CANYON RD EAST OF PIONEERTOWN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		5				5			5	
6:15 PM		5				5			5	
6:30 PM		9				9			9	
6:45 PM		8				8			8	
7:00 PM		2				2			2	
7:15 PM		1				1			1	
7:30 PM		3				3			3	
7:45 PM		0				0			0	
8:00 PM		2				2			2	
8:15 PM		1				1			1	
8:30 PM		3				3			3	
8:45 PM		0				0			0	
9:00 PM		4				4			4	
9:15 PM		0				0			0	
9:30 PM		3				3			3	
9:45 PM		2				2			2	
10:00 PM		3				3			3	
10:15 PM		0				0			0	
10:30 PM		0				0			0	
10:45 PM		0				0			0	
11:00 PM		0				0			0	
11:15 PM		2				2			2	
11:30 PM		0				0			0	
11:45 PM		0				0			0	
Day Total		385				385			385	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:30 AM				11:30 AM			11:30 AM	
Volume		13				13			13	
PM Peak		3:30 PM				3:30 PM			3:30 PM	
Volume		14				14			14	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **QC JOB #:** 13917669

SPECIFIC LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		0				0			0	
12:30 AM		1				1			1	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		1				1			1	
3:00 AM		0				0			0	
3:15 AM		0				0			0	
3:30 AM		1				1			1	
3:45 AM		0				0			0	
4:00 AM		0				0			0	
4:15 AM		0				0			0	
4:30 AM		1				1			1	
4:45 AM		0				0			0	
5:00 AM		3				3			3	
5:15 AM		0				0			0	
5:30 AM		4				4			4	
5:45 AM		1				1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **QC JOB #:** 13917669

SPECIFIC LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		6				6			6	
6:15 AM		6				6			6	
6:30 AM		4				4			4	
6:45 AM		3				3			3	
7:00 AM		6				6			6	
7:15 AM		6				6			6	
7:30 AM		10				10			10	
7:45 AM		8				8			8	
8:00 AM		10				10			10	
8:15 AM		8				8			8	
8:30 AM		9				9			9	
8:45 AM		15				15			15	
9:00 AM		**18**				**18**			**18**	
9:15 AM		9				9			9	
9:30 AM		12				12			12	
9:45 AM		10				10			10	
10:00 AM		10				10			10	
10:15 AM		10				10			10	
10:30 AM		11				11			11	
10:45 AM		12				12			12	
11:00 AM		12				12			12	
11:15 AM		13				13			13	
11:30 AM		11				11			11	
11:45 AM		11				11			11	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **QC JOB #:** 13917669

SPECIFIC LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		6				6			6	
12:15 PM		11				11			11	
12:30 PM		7				7			7	
12:45 PM		14				14			14	
1:00 PM		13				13			13	
1:15 PM		6				6			6	
1:30 PM		11				11			11	
1:45 PM		8				8			8	
2:00 PM		9				9			9	
2:15 PM		15				15			15	
2:30 PM		12				12			12	
2:45 PM		7				7			7	
3:00 PM		13				13			13	
3:15 PM		8				8			8	
3:30 PM		14				14			14	
3:45 PM		4				4			4	
4:00 PM		15				15			15	
4:15 PM		8				8			8	
4:30 PM		9				9			9	
4:45 PM		8				8			8	
5:00 PM		4				4			4	
5:15 PM		12				12			12	
5:30 PM		12				12			12	
5:45 PM		13				13			13	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **QC JOB #:** 13917669

SPECIFIC LOCATION: 136. PIONEERTOWN RD SOUTH OF PIPES CANYON RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		8				8			8	
6:15 PM		6				6			6	
6:30 PM		6				6			6	
6:45 PM		**16**				**16**			**16**	
7:00 PM		4				4			4	
7:15 PM		3				3			3	
7:30 PM		5				5			5	
7:45 PM		1				1			1	
8:00 PM		3				3			3	
8:15 PM		0				0			0	
8:30 PM		3				3			3	
8:45 PM		3				3			3	
9:00 PM		6				6			6	
9:15 PM		1				1			1	
9:30 PM		4				4			4	
9:45 PM		4				4			4	
10:00 PM		3				3			3	
10:15 PM		0				0			0	
10:30 PM		1				1			1	
10:45 PM		0				0			0	
11:00 PM		2				2			2	
11:15 PM		2				2			2	
11:30 PM		1				1			1	
11:45 PM		1				1			1	
Day Total		565				565			565	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		9:00 AM				9:00 AM			9:00 AM	
Volume		18				18			18	
PM Peak		6:45 PM				6:45 PM			6:45 PM	
Volume		16				16			16	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
QC JOB #: 13917671
SPECIFIC LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		0				0			0	
12:30 AM		1				1			1	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		2				2			2	
2:15 AM		0				0			0	
2:30 AM		1				1			1	
2:45 AM		0				0			0	
3:00 AM		1				1			1	
3:15 AM		1				1			1	
3:30 AM		0				0			0	
3:45 AM		0				0			0	
4:00 AM		2				2			2	
4:15 AM		0				0			0	
4:30 AM		0				0			0	
4:45 AM		4				4			4	
5:00 AM		4				4			4	
5:15 AM		3				3			3	
5:30 AM		7				7			7	
5:45 AM		6				6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
QC JOB #: 13917671
SPECIFIC LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		6				6			6	
6:15 AM		7				7			7	
6:30 AM		10				10			10	
6:45 AM		13				13			13	
7:00 AM		12				12			12	
7:15 AM		13				13			13	
7:30 AM		19				19			19	
7:45 AM		16				16			16	
8:00 AM		14				14			14	
8:15 AM		16				16			16	
8:30 AM		22				22			22	
8:45 AM		13				13			13	
9:00 AM		11				11			11	
9:15 AM		16				16			16	
9:30 AM		13				13			13	
9:45 AM		13				13			13	
10:00 AM		23				23			23	
10:15 AM		**24**				**24**			**24**	
10:30 AM		17				17			17	
10:45 AM		18				18			18	
11:00 AM		14				14			14	
11:15 AM		14				14			14	
11:30 AM		16				16			16	
11:45 AM		13				13			13	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
QC JOB #: 13917671
SPECIFIC LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		16				16			16	
12:15 PM		20				20			20	
12:30 PM		14				14			14	
12:45 PM		13				13			13	
1:00 PM		12				12			12	
1:15 PM		17				17			17	
1:30 PM		16				16			16	
1:45 PM		12				12			12	
2:00 PM		16				16			16	
2:15 PM		18				18			18	
2:30 PM		19				19			19	
2:45 PM		26				26			26	
3:00 PM		39				39			39	
3:15 PM		**40**				**40**			**40**	
3:30 PM		16				16			16	
3:45 PM		21				21			21	
4:00 PM		27				27			27	
4:15 PM		24				24			24	
4:30 PM		18				18			18	
4:45 PM		16				16			16	
5:00 PM		26				26			26	
5:15 PM		19				19			19	
5:30 PM		24				24			24	
5:45 PM		12				12			12	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
QC JOB #: 13917671
SPECIFIC LOCATION: 140. ABERDEEN DR WEST OF AVALON AVE
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		15				15			15	
6:15 PM		16				16			16	
6:30 PM		14				14			14	
6:45 PM		13				13			13	
7:00 PM		14				14			14	
7:15 PM		6				6			6	
7:30 PM		6				6			6	
7:45 PM		7				7			7	
8:00 PM		9				9			9	
8:15 PM		6				6			6	
8:30 PM		7				7			7	
8:45 PM		6				6			6	
9:00 PM		9				9			9	
9:15 PM		3				3			3	
9:30 PM		4				4			4	
9:45 PM		4				4			4	
10:00 PM		3				3			3	
10:15 PM		6				6			6	
10:30 PM		3				3			3	
10:45 PM		1				1			1	
11:00 PM		5				5			5	
11:15 PM		0				0			0	
11:30 PM		1				1			1	
11:45 PM		4				4			4	
Day Total		1028				1028			1028	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		10:15 AM				10:15 AM			10:15 AM	
Volume		24				24			24	
PM Peak		3:15 PM				3:15 PM			3:15 PM	
Volume		40				40			40	

Comments:

LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

QC JOB #: 13917672

SPECIFIC LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2				2			2	
12:15 AM		1				1			1	
12:30 AM		2				2			2	
12:45 AM		2				2			2	
1:00 AM		1				1			1	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		2				2			2	
2:15 AM		0				0			0	
2:30 AM		0				0			0	
2:45 AM		0				0			0	
3:00 AM		0				0			0	
3:15 AM		2				2			2	
3:30 AM		5				5			5	
3:45 AM		3				3			3	
4:00 AM		2				2			2	
4:15 AM		3				3			3	
4:30 AM		3				3			3	
4:45 AM		5				5			5	
5:00 AM		2				2			2	
5:15 AM		8				8			8	
5:30 AM		8				8			8	
5:45 AM		14				14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

QC JOB #: 13917672

SPECIFIC LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		11				11			11	
6:15 AM		13				13			13	
6:30 AM		18				18			18	
6:45 AM		26				26			26	
7:00 AM		18				18			18	
7:15 AM		18				18			18	
7:30 AM		21				21			21	
7:45 AM		22				22			22	
8:00 AM		23				23			23	
8:15 AM		23				23			23	
8:30 AM		**43**				**43**			**43**	
8:45 AM		31				31			31	
9:00 AM		28				28			28	
9:15 AM		20				20			20	
9:30 AM		36				36			36	
9:45 AM		28				28			28	
10:00 AM		35				35			35	
10:15 AM		32				32			32	
10:30 AM		39				39			39	
10:45 AM		34				34			34	
11:00 AM		32				32			32	
11:15 AM		34				34			34	
11:30 AM		43				43			43	
11:45 AM		26				26			26	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

QC JOB #: 13917672

SPECIFIC LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		35				35			35	
12:15 PM		28				28			28	
12:30 PM		30				30			30	
12:45 PM		40				40			40	
1:00 PM		40				40			40	
1:15 PM		36				36			36	
1:30 PM		32				32			32	
1:45 PM		40				40			40	
2:00 PM		37				37			37	
2:15 PM		**45**				**45**			**45**	
2:30 PM		36				36			36	
2:45 PM		42				42			42	
3:00 PM		36				36			36	
3:15 PM		40				40			40	
3:30 PM		32				32			32	
3:45 PM		30				30			30	
4:00 PM		37				37			37	
4:15 PM		26				26			26	
4:30 PM		36				36			36	
4:45 PM		33				33			33	
5:00 PM		31				31			31	
5:15 PM		15				15			15	
5:30 PM		32				32			32	
5:45 PM		34				34			34	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR **QC JOB #:** 13917672

SPECIFIC LOCATION: 141. AVALON AVE NORTH OF ABERDEEN DR **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		34				34			34	
6:15 PM		16				16			16	
6:30 PM		18				18			18	
6:45 PM		26				26			26	
7:00 PM		14				14			14	
7:15 PM		18				18			18	
7:30 PM		16				16			16	
7:45 PM		15				15			15	
8:00 PM		14				14			14	
8:15 PM		9				9			9	
8:30 PM		15				15			15	
8:45 PM		8				8			8	
9:00 PM		10				10			10	
9:15 PM		10				10			10	
9:30 PM		8				8			8	
9:45 PM		5				5			5	
10:00 PM		7				7			7	
10:15 PM		5				5			5	
10:30 PM		4				4			4	
10:45 PM		3				3			3	
11:00 PM		10				10			10	
11:15 PM		7				7			7	
11:30 PM		3				3			3	
11:45 PM		3				3			3	
Day Total		1821				1821			1821	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:30 AM				8:30 AM			8:30 AM	
Volume		43				43			43	
PM Peak		2:15 PM				2:15 PM			2:15 PM	
Volume		45				45			45	

Comments:

LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD **QC JOB #:** 13917673

SPECIFIC LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		3				3			3	
12:30 AM		3				3			3	
12:45 AM		0				0			0	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		0				0			0	
1:45 AM		2				2			2	
2:00 AM		0				0			0	
2:15 AM		0				0			0	
2:30 AM		3				3			3	
2:45 AM		0				0			0	
3:00 AM		0				0			0	
3:15 AM		1				1			1	
3:30 AM		3				3			3	
3:45 AM		2				2			2	
4:00 AM		1				1			1	
4:15 AM		2				2			2	
4:30 AM		3				3			3	
4:45 AM		5				5			5	
5:00 AM		4				4			4	
5:15 AM		3				3			3	
5:30 AM		8				8			8	
5:45 AM		5				5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD

QC JOB #: 13917673

SPECIFIC LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		14				14			14	
6:15 AM		17				17			17	
6:30 AM		14				14			14	
6:45 AM		22				22			22	
7:00 AM		23				23			23	
7:15 AM		27				27			27	
7:30 AM		36				36			36	
7:45 AM		23				23			23	
8:00 AM		21				21			21	
8:15 AM		31				31			31	
8:30 AM		**43**				**43**			**43**	
8:45 AM		32				32			32	
9:00 AM		22				22			22	
9:15 AM		24				24			24	
9:30 AM		26				26			26	
9:45 AM		19				19			19	
10:00 AM		20				20			20	
10:15 AM		26				26			26	
10:30 AM		22				22			22	
10:45 AM		20				20			20	
11:00 AM		20				20			20	
11:15 AM		21				21			21	
11:30 AM		24				24			24	
11:45 AM		30				30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD

QC JOB #: 13917673

SPECIFIC LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		34				34			34	
12:15 PM		32				32			32	
12:30 PM		24				24			24	
12:45 PM		20				20			20	
1:00 PM		28				28			28	
1:15 PM		28				28			28	
1:30 PM		26				26			26	
1:45 PM		20				20			20	
2:00 PM		22				22			22	
2:15 PM		30				30			30	
2:30 PM		31				31			31	
2:45 PM		32				32			32	
3:00 PM		29				29			29	
3:15 PM		36				36			36	
3:30 PM		**41**				**41**			**41**	
3:45 PM		27				27			27	
4:00 PM		40				40			40	
4:15 PM		34				34			34	
4:30 PM		39				39			39	
4:45 PM		32				32			32	
5:00 PM		34				34			34	
5:15 PM		33				33			33	
5:30 PM		23				23			23	
5:45 PM		23				23			23	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD **QC JOB #:** 13917673

SPECIFIC LOCATION: 142. ABERDEEN DR EAST OF YUCCA MESA RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		23				23			23	
6:15 PM		25				25			25	
6:30 PM		32				32			32	
6:45 PM		26				26			26	
7:00 PM		23				23			23	
7:15 PM		12				12			12	
7:30 PM		27				27			27	
7:45 PM		18				18			18	
8:00 PM		21				21			21	
8:15 PM		15				15			15	
8:30 PM		12				12			12	
8:45 PM		14				14			14	
9:00 PM		16				16			16	
9:15 PM		6				6			6	
9:30 PM		6				6			6	
9:45 PM		4				4			4	
10:00 PM		9				9			9	
10:15 PM		6				6			6	
10:30 PM		5				5			5	
10:45 PM		4				4			4	
11:00 PM		4				4			4	
11:15 PM		6				6			6	
11:30 PM		2				2			2	
11:45 PM		3				3			3	
Day Total		1663				1663			1663	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:30 AM				8:30 AM			8:30 AM	
Volume		43				43			43	
PM Peak		3:30 PM				3:30 PM			3:30 PM	
Volume		41				41			41	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR

QC JOB #: 13917674

SPECIFIC LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR

DIRECTION: NB/SB

CITY/STATE: Joshua Tree, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		1				1			1	
12:30 AM		3				3			3	
12:45 AM		3				3			3	
1:00 AM		0				0			0	
1:15 AM		0				0			0	
1:30 AM		1				1			1	
1:45 AM		2				2			2	
2:00 AM		2				2			2	
2:15 AM		2				2			2	
2:30 AM		0				0			0	
2:45 AM		0				0			0	
3:00 AM		1				1			1	
3:15 AM		1				1			1	
3:30 AM		2				2			2	
3:45 AM		5				5			5	
4:00 AM		2				2			2	
4:15 AM		0				0			0	
4:30 AM		4				4			4	
4:45 AM		4				4			4	
5:00 AM		4				4			4	
5:15 AM		4				4			4	
5:30 AM		4				4			4	
5:45 AM		4				4			4	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR

QC JOB #: 13917674

SPECIFIC LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR

DIRECTION: NB/SB

CITY/STATE: Joshua Tree, CA

DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		10				10			10	
6:15 AM		11				11			11	
6:30 AM		12				12			12	
6:45 AM		16				16			16	
7:00 AM		9				9			9	
7:15 AM		9				9			9	
7:30 AM		20				20			20	
7:45 AM		20				20			20	
8:00 AM		16				16			16	
8:15 AM		**33**				**33**			**33**	
8:30 AM		27				27			27	
8:45 AM		23				23			23	
9:00 AM		24				24			24	
9:15 AM		16				16			16	
9:30 AM		12				12			12	
9:45 AM		21				21			21	
10:00 AM		17				17			17	
10:15 AM		21				21			21	
10:30 AM		26				26			26	
10:45 AM		27				27			27	
11:00 AM		27				27			27	
11:15 AM		14				14			14	
11:30 AM		26				26			26	
11:45 AM		22				22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR
QC JOB #: 13917674
SPECIFIC LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR
DIRECTION: NB/SB
CITY/STATE: Joshua Tree, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		22				22			22	
12:15 PM		27				27			27	
12:30 PM		24				24			24	
12:45 PM		19				19			19	
1:00 PM		28				28			28	
1:15 PM		20				20			20	
1:30 PM		27				27			27	
1:45 PM		21				21			21	
2:00 PM		16				16			16	
2:15 PM		30				30			30	
2:30 PM		26				26			26	
2:45 PM		34				34			34	
3:00 PM		29				29			29	
3:15 PM		26				26			26	
3:30 PM		20				20			20	
3:45 PM		21				21			21	
4:00 PM		31				31			31	
4:15 PM		32				32			32	
4:30 PM		34				34			34	
4:45 PM		29				29			29	
5:00 PM		26				26			26	
5:15 PM		30				30			30	
5:30 PM		**35**				**35**			**35**	
5:45 PM		22				22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR
QC JOB #: 13917674
SPECIFIC LOCATION: 143. BORDER AVE NORTH OF ABERDEEN DR
DIRECTION: NB/SB
CITY/STATE: Joshua Tree, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		32				32			32	
6:15 PM		12				12			12	
6:30 PM		21				21			21	
6:45 PM		17				17			17	
7:00 PM		16				16			16	
7:15 PM		12				12			12	
7:30 PM		12				12			12	
7:45 PM		8				8			8	
8:00 PM		9				9			9	
8:15 PM		11				11			11	
8:30 PM		8				8			8	
8:45 PM		11				11			11	
9:00 PM		14				14			14	
9:15 PM		7				7			7	
9:30 PM		6				6			6	
9:45 PM		8				8			8	
10:00 PM		9				9			9	
10:15 PM		7				7			7	
10:30 PM		5				5			5	
10:45 PM		5				5			5	
11:00 PM		3				3			3	
11:15 PM		6				6			6	
11:30 PM		3				3			3	
11:45 PM		7				7			7	
Day Total		1387				1387			1387	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:15 AM				8:15 AM			8:15 AM	
Volume		33				33			33	
PM Peak		5:30 PM				5:30 PM			5:30 PM	
Volume		35				35			35	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
QC JOB #: 13917676
SPECIFIC LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		1				1			1	
12:30 AM		1				1			1	
12:45 AM		2				2			2	
1:00 AM		1				1			1	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		0				0			0	
2:15 AM		1				1			1	
2:30 AM		1				1			1	
2:45 AM		0				0			0	
3:00 AM		0				0			0	
3:15 AM		1				1			1	
3:30 AM		1				1			1	
3:45 AM		1				1			1	
4:00 AM		2				2			2	
4:15 AM		0				0			0	
4:30 AM		0				0			0	
4:45 AM		10				10			10	
5:00 AM		7				7			7	
5:15 AM		6				6			6	
5:30 AM		5				5			5	
5:45 AM		16				16			16	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
QC JOB #: 13917676
SPECIFIC LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		11				11			11	
6:15 AM		22				22			22	
6:30 AM		85				85			85	
6:45 AM		**206**				**206**			**206**	
7:00 AM		123				123			123	
7:15 AM		33				33			33	
7:30 AM		37				37			37	
7:45 AM		26				26			26	
8:00 AM		26				26			26	
8:15 AM		34				34			34	
8:30 AM		36				36			36	
8:45 AM		29				29			29	
9:00 AM		24				24			24	
9:15 AM		36				36			36	
9:30 AM		23				23			23	
9:45 AM		22				22			22	
10:00 AM		30				30			30	
10:15 AM		42				42			42	
10:30 AM		20				20			20	
10:45 AM		24				24			24	
11:00 AM		32				32			32	
11:15 AM		21				21			21	
11:30 AM		23				23			23	
11:45 AM		35				35			35	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
QC JOB #: 13917676
SPECIFIC LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		23				23			23	
12:15 PM		27				27			27	
12:30 PM		50				50			50	
12:45 PM		22				22			22	
1:00 PM		35				35			35	
1:15 PM		16				16			16	
1:30 PM		70				70			70	
1:45 PM		**125**				**125**			**125**	
2:00 PM		105				105			105	
2:15 PM		26				26			26	
2:30 PM		21				21			21	
2:45 PM		36				36			36	
3:00 PM		37				37			37	
3:15 PM		25				25			25	
3:30 PM		43				43			43	
3:45 PM		36				36			36	
4:00 PM		32				32			32	
4:15 PM		43				43			43	
4:30 PM		38				38			38	
4:45 PM		36				36			36	
5:00 PM		28				28			28	
5:15 PM		23				23			23	
5:30 PM		31				31			31	
5:45 PM		25				25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD **QC JOB #:** 13917676

SPECIFIC LOCATION: 145. LA CONTENTA RD NORTH OF ALTA LOMA RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		30				30			30	
6:15 PM		29				29			29	
6:30 PM		21				21			21	
6:45 PM		14				14			14	
7:00 PM		15				15			15	
7:15 PM		18				18			18	
7:30 PM		9				9			9	
7:45 PM		9				9			9	
8:00 PM		16				16			16	
8:15 PM		9				9			9	
8:30 PM		10				10			10	
8:45 PM		13				13			13	
9:00 PM		19				19			19	
9:15 PM		8				8			8	
9:30 PM		6				6			6	
9:45 PM		2				2			2	
10:00 PM		6				6			6	
10:15 PM		6				6			6	
10:30 PM		3				3			3	
10:45 PM		4				4			4	
11:00 PM		4				4			4	
11:15 PM		2				2			2	
11:30 PM		1				1			1	
11:45 PM		2				2			2	
Day Total		2266				2266			2266	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		6:45 AM				6:45 AM			6:45 AM	
Volume		206				206			206	
PM Peak		1:45 PM				1:45 PM			1:45 PM	
Volume		125				125			125	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
QC JOB #: 13917677
SPECIFIC LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4				4			4	
12:15 AM		6				6			6	
12:30 AM		2				2			2	
12:45 AM		4				4			4	
1:00 AM		0				0			0	
1:15 AM		3				3			3	
1:30 AM		1				1			1	
1:45 AM		4				4			4	
2:00 AM		1				1			1	
2:15 AM		5				5			5	
2:30 AM		1				1			1	
2:45 AM		3				3			3	
3:00 AM		1				1			1	
3:15 AM		4				4			4	
3:30 AM		6				6			6	
3:45 AM		5				5			5	
4:00 AM		4				4			4	
4:15 AM		5				5			5	
4:30 AM		9				9			9	
4:45 AM		13				13			13	
5:00 AM		20				20			20	
5:15 AM		18				18			18	
5:30 AM		24				24			24	
5:45 AM		30				30			30	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
QC JOB #: 13917677
SPECIFIC LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		46				46			46	
6:15 AM		38				38			38	
6:30 AM		86				86			86	
6:45 AM		106				106			106	
7:00 AM		92				92			92	
7:15 AM		91				91			91	
7:30 AM		126				126			126	
7:45 AM		113				113			113	
8:00 AM		90				90			90	
8:15 AM		73				73			73	
8:30 AM		106				106			106	
8:45 AM		90				90			90	
9:00 AM		134				134			134	
9:15 AM		**142**				**142**			**142**	
9:30 AM		85				85			85	
9:45 AM		81				81			81	
10:00 AM		92				92			92	
10:15 AM		98				98			98	
10:30 AM		66				66			66	
10:45 AM		75				75			75	
11:00 AM		94				94			94	
11:15 AM		98				98			98	
11:30 AM		82				82			82	
11:45 AM		109				109			109	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
QC JOB #: 13917677
SPECIFIC LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		106				106			106	
12:15 PM		101				101			101	
12:30 PM		90				90			90	
12:45 PM		112				112			112	
1:00 PM		95				95			95	
1:15 PM		96				96			96	
1:30 PM		108				108			108	
1:45 PM		89				89			89	
2:00 PM		85				85			85	
2:15 PM		87				87			87	
2:30 PM		113				113			113	
2:45 PM		104				104			104	
3:00 PM		121				121			121	
3:15 PM		101				101			101	
3:30 PM		**155**				**155**			**155**	
3:45 PM		136				136			136	
4:00 PM		106				106			106	
4:15 PM		145				145			145	
4:30 PM		121				121			121	
4:45 PM		126				126			126	
5:00 PM		142				142			142	
5:15 PM		128				128			128	
5:30 PM		127				127			127	
5:45 PM		110				110			110	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
QC JOB #: 13917677
SPECIFIC LOCATION: 146. ALTA LOMA RD WEST OF OLYMPIC RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		94				94			94	
6:15 PM		91				91			91	
6:30 PM		90				90			90	
6:45 PM		77				77			77	
7:00 PM		76				76			76	
7:15 PM		74				74			74	
7:30 PM		60				60			60	
7:45 PM		47				47			47	
8:00 PM		57				57			57	
8:15 PM		55				55			55	
8:30 PM		32				32			32	
8:45 PM		50				50			50	
9:00 PM		65				65			65	
9:15 PM		22				22			22	
9:30 PM		23				23			23	
9:45 PM		26				26			26	
10:00 PM		19				19			19	
10:15 PM		22				22			22	
10:30 PM		16				16			16	
10:45 PM		7				7			7	
11:00 PM		13				13			13	
11:15 PM		14				14			14	
11:30 PM		11				11			11	
11:45 PM		7				7			7	
Day Total		6138				6138			6138	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		9:15 AM				9:15 AM			9:15 AM	
Volume		142				142			142	
PM Peak		3:30 PM				3:30 PM			3:30 PM	
Volume		155				155			155	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **QC JOB #:** 13917678

SPECIFIC LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		1				1			1	
12:30 AM		1				1			1	
12:45 AM		1				1			1	
1:00 AM		0				0			0	
1:15 AM		2				2			2	
1:30 AM		0				0			0	
1:45 AM		0				0			0	
2:00 AM		1				1			1	
2:15 AM		1				1			1	
2:30 AM		0				0			0	
2:45 AM		1				1			1	
3:00 AM		0				0			0	
3:15 AM		0				0			0	
3:30 AM		0				0			0	
3:45 AM		1				1			1	
4:00 AM		1				1			1	
4:15 AM		1				1			1	
4:30 AM		3				3			3	
4:45 AM		0				0			0	
5:00 AM		1				1			1	
5:15 AM		2				2			2	
5:30 AM		1				1			1	
5:45 AM		5				5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **QC JOB #:** 13917678

SPECIFIC LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		3				3			3	
6:15 AM		7				7			7	
6:30 AM		10				10			10	
6:45 AM		15				15			15	
7:00 AM		19				19			19	
7:15 AM		20				20			20	
7:30 AM		22				22			22	
7:45 AM		28				28			28	
8:00 AM		16				16			16	
8:15 AM		28				28			28	
8:30 AM		27				27			27	
8:45 AM		36				36			36	
9:00 AM		36				36			36	
9:15 AM		42				42			42	
9:30 AM		38				38			38	
9:45 AM		32				32			32	
10:00 AM		46				46			46	
10:15 AM		40				40			40	
10:30 AM		50				50			50	
10:45 AM		42				42			42	
11:00 AM		**54**				**54**			**54**	
11:15 AM		42				42			42	
11:30 AM		52				52			52	
11:45 AM		42				42			42	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR
QC JOB #: 13917678
SPECIFIC LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		**61**				**61**			**61**	
12:15 PM		38				38			38	
12:30 PM		48				48			48	
12:45 PM		50				50			50	
1:00 PM		50				50			50	
1:15 PM		50				50			50	
1:30 PM		60				60			60	
1:45 PM		44				44			44	
2:00 PM		37				37			37	
2:15 PM		45				45			45	
2:30 PM		54				54			54	
2:45 PM		45				45			45	
3:00 PM		55				55			55	
3:15 PM		42				42			42	
3:30 PM		53				53			53	
3:45 PM		46				46			46	
4:00 PM		42				42			42	
4:15 PM		41				41			41	
4:30 PM		56				56			56	
4:45 PM		39				39			39	
5:00 PM		50				50			50	
5:15 PM		42				42			42	
5:30 PM		42				42			42	
5:45 PM		33				33			33	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **QC JOB #:** 13917678

SPECIFIC LOCATION: 149. QUAIL SPRINGS RD SOUTH OF ALTA LOMA DR **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 25 2016 - Oct 25 2016

Start Time	Mon	Tue 25-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		34				34			34	
6:15 PM		44				44			44	
6:30 PM		44				44			44	
6:45 PM		45				45			45	
7:00 PM		28				28			28	
7:15 PM		20				20			20	
7:30 PM		14				14			14	
7:45 PM		13				13			13	
8:00 PM		10				10			10	
8:15 PM		22				22			22	
8:30 PM		11				11			11	
8:45 PM		7				7			7	
9:00 PM		6				6			6	
9:15 PM		10				10			10	
9:30 PM		6				6			6	
9:45 PM		9				9			9	
10:00 PM		6				6			6	
10:15 PM		4				4			4	
10:30 PM		8				8			8	
10:45 PM		3				3			3	
11:00 PM		4				4			4	
11:15 PM		3				3			3	
11:30 PM		9				9			9	
11:45 PM		1				1			1	
Day Total		2254				2254			2254	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		11:00 AM				11:00 AM			11:00 AM	
Volume		54				54			54	
PM Peak		12:00 PM				12:00 PM			12:00 PM	
Volume		61				61			61	

Comments:

Report generated on 12/6/2016 5:50 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 151. AMBOY RD EAST OF GODWIN RD
QC JOB #: 13917680
SPECIFIC LOCATION: 151. AMBOY RD EAST OF GODWIN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			1			1			1	
12:30 AM			3			3			3	
12:45 AM			1			1			1	
1:00 AM			2			2			2	
1:15 AM			2			2			2	
1:30 AM			1			1			1	
1:45 AM			3			3			3	
2:00 AM			2			2			2	
2:15 AM			2			2			2	
2:30 AM			0			0			0	
2:45 AM			2			2			2	
3:00 AM			1			1			1	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			2			2			2	
4:15 AM			5			5			5	
4:30 AM			2			2			2	
4:45 AM			2			2			2	
5:00 AM			4			4			4	
5:15 AM			7			7			7	
5:30 AM			6			6			6	
5:45 AM			8			8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 151. AMBOY RD EAST OF GODWIN RD

QC JOB #: 13917680

SPECIFIC LOCATION: 151. AMBOY RD EAST OF GODWIN RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			5			5			5	
6:15 AM			7			7			7	
6:30 AM			14			14			14	
6:45 AM			3			3			3	
7:00 AM			6			6			6	
7:15 AM			9			9			9	
7:30 AM			10			10			10	
7:45 AM			16			16			16	
8:00 AM			18			18			18	
8:15 AM			6			6			6	
8:30 AM			16			16			16	
8:45 AM			21			21			21	
9:00 AM			11			11			11	
9:15 AM			8			8			8	
9:30 AM			17			17			17	
9:45 AM			15			15			15	
10:00 AM			24			24			24	
10:15 AM			17			17			17	
10:30 AM			23			23			23	
10:45 AM			18			18			18	
11:00 AM			22			22			22	
11:15 AM			25			25			25	
11:30 AM			20			20			20	
11:45 AM			**26**			**26**			**26**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 151. AMBOY RD EAST OF GODWIN RD
QC JOB #: 13917680
SPECIFIC LOCATION: 151. AMBOY RD EAST OF GODWIN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			30			30			30	
12:15 PM			25			25			25	
12:30 PM			37			37			37	
12:45 PM			26			26			26	
1:00 PM			**42**			**42**			**42**	
1:15 PM			26			26			26	
1:30 PM			30			30			30	
1:45 PM			24			24			24	
2:00 PM			34			34			34	
2:15 PM			42			42			42	
2:30 PM			28			28			28	
2:45 PM			24			24			24	
3:00 PM			34			34			34	
3:15 PM			25			25			25	
3:30 PM			39			39			39	
3:45 PM			34			34			34	
4:00 PM			26			26			26	
4:15 PM			22			22			22	
4:30 PM			20			20			20	
4:45 PM			16			16			16	
5:00 PM			29			29			29	
5:15 PM			18			18			18	
5:30 PM			26			26			26	
5:45 PM			16			16			16	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 151. AMBOY RD EAST OF GODWIN RD
QC JOB #: 13917680
SPECIFIC LOCATION: 151. AMBOY RD EAST OF GODWIN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			20			20			20	
6:15 PM			13			13			13	
6:30 PM			17			17			17	
6:45 PM			13			13			13	
7:00 PM			9			9			9	
7:15 PM			16			16			16	
7:30 PM			11			11			11	
7:45 PM			7			7			7	
8:00 PM			4			4			4	
8:15 PM			5			5			5	
8:30 PM			7			7			7	
8:45 PM			2			2			2	
9:00 PM			8			8			8	
9:15 PM			12			12			12	
9:30 PM			5			5			5	
9:45 PM			2			2			2	
10:00 PM			4			4			4	
10:15 PM			5			5			5	
10:30 PM			6			6			6	
10:45 PM			3			3			3	
11:00 PM			1			1			1	
11:15 PM			5			5			5	
11:30 PM			3			3			3	
11:45 PM			2			2			2	
Day Total			1267			1267			1267	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:45 AM			11:45 AM			11:45 AM	
Volume			26			26			26	
PM Peak			1:00 PM			1:00 PM			1:00 PM	
Volume			42			42			42	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **QC JOB #:** 13917681
SPECIFIC LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **DIRECTION:** NB/SB
CITY/STATE: Twentynine Palms, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			0			0			0	
12:15 AM			0			0			0	
12:30 AM			2			2			2	
12:45 AM			3			3			3	
1:00 AM			2			2			2	
1:15 AM			0			0			0	
1:30 AM			1			1			1	
1:45 AM			0			0			0	
2:00 AM			3			3			3	
2:15 AM			1			1			1	
2:30 AM			2			2			2	
2:45 AM			1			1			1	
3:00 AM			1			1			1	
3:15 AM			0			0			0	
3:30 AM			1			1			1	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			1			1			1	
4:30 AM			3			3			3	
4:45 AM			1			1			1	
5:00 AM			6			6			6	
5:15 AM			3			3			3	
5:30 AM			4			4			4	
5:45 AM			5			5			5	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **QC JOB #:** 13917681
SPECIFIC LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **DIRECTION:** NB/SB
CITY/STATE: Twentynine Palms, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			2			2			2	
6:15 AM			6			6			6	
6:30 AM			0			0			0	
6:45 AM			6			6			6	
7:00 AM			7			7			7	
7:15 AM			5			5			5	
7:30 AM			5			5			5	
7:45 AM			2			2			2	
8:00 AM			7			7			7	
8:15 AM			8			8			8	
8:30 AM			13			13			13	
8:45 AM			8			8			8	
9:00 AM			11			11			11	
9:15 AM			5			5			5	
9:30 AM			8			8			8	
9:45 AM			9			9			9	
10:00 AM			7			7			7	
10:15 AM			10			10			10	
10:30 AM			15			15			15	
10:45 AM			13			13			13	
11:00 AM			**26**			**26**			**26**	
11:15 AM			13			13			13	
11:30 AM			24			24			24	
11:45 AM			15			15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **QC JOB #:** 13917681
SPECIFIC LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **DIRECTION:** NB/SB
CITY/STATE: Twentynine Palms, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			16			16			16	
12:15 PM			24			24			24	
12:30 PM			21			21			21	
12:45 PM			24			24			24	
1:00 PM			**33**			**33**			**33**	
1:15 PM			30			30			30	
1:30 PM			21			21			21	
1:45 PM			18			18			18	
2:00 PM			24			24			24	
2:15 PM			27			27			27	
2:30 PM			25			25			25	
2:45 PM			23			23			23	
3:00 PM			17			17			17	
3:15 PM			29			29			29	
3:30 PM			18			18			18	
3:45 PM			20			20			20	
4:00 PM			14			14			14	
4:15 PM			9			9			9	
4:30 PM			17			17			17	
4:45 PM			13			13			13	
5:00 PM			16			16			16	
5:15 PM			10			10			10	
5:30 PM			16			16			16	
5:45 PM			12			12			12	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **QC JOB #:** 13917681
SPECIFIC LOCATION: 152. AMBOY RD SOUTH OF NATIONAL TRAILS HWY **DIRECTION:** NB/SB
CITY/STATE: Twentynine Palms, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			16			16			16	
6:15 PM			11			11			11	
6:30 PM			8			8			8	
6:45 PM			6			6			6	
7:00 PM			13			13			13	
7:15 PM			3			3			3	
7:30 PM			6			6			6	
7:45 PM			4			4			4	
8:00 PM			7			7			7	
8:15 PM			7			7			7	
8:30 PM			2			2			2	
8:45 PM			2			2			2	
9:00 PM			7			7			7	
9:15 PM			0			0			0	
9:30 PM			5			5			5	
9:45 PM			2			2			2	
10:00 PM			1			1			1	
10:15 PM			1			1			1	
10:30 PM			2			2			2	
10:45 PM			2			2			2	
11:00 PM			2			2			2	
11:15 PM			2			2			2	
11:30 PM			1			1			1	
11:45 PM			1			1			1	
Day Total			853			853			853	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:00 AM			11:00 AM			11:00 AM	
Volume			26			26			26	
PM Peak			1:00 PM			1:00 PM			1:00 PM	
Volume			33			33			33	

Comments:

LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD

QC JOB #: 13917682

SPECIFIC LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			1			1			1	
12:30 AM			1			1			1	
12:45 AM			2			2			2	
1:00 AM			2			2			2	
1:15 AM			0			0			0	
1:30 AM			0			0			0	
1:45 AM			1			1			1	
2:00 AM			1			1			1	
2:15 AM			3			3			3	
2:30 AM			1			1			1	
2:45 AM			1			1			1	
3:00 AM			0			0			0	
3:15 AM			2			2			2	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			1			1			1	
4:45 AM			5			5			5	
5:00 AM			1			1			1	
5:15 AM			3			3			3	
5:30 AM			3			3			3	
5:45 AM			0			0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD **QC JOB #:** 13917682

SPECIFIC LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			1			1			1	
6:15 AM			2			2			2	
6:30 AM			4			4			4	
6:45 AM			6			6			6	
7:00 AM			16			16			16	
7:15 AM			8			8			8	
7:30 AM			2			2			2	
7:45 AM			4			4			4	
8:00 AM			6			6			6	
8:15 AM			11			11			11	
8:30 AM			7			7			7	
8:45 AM			14			14			14	
9:00 AM			12			12			12	
9:15 AM			22			22			22	
9:30 AM			18			18			18	
9:45 AM			9			9			9	
10:00 AM			6			6			6	
10:15 AM			17			17			17	
10:30 AM			16			16			16	
10:45 AM			26			26			26	
11:00 AM			22			22			22	
11:15 AM			**38**			**38**			**38**	
11:30 AM			29			29			29	
11:45 AM			17			17			17	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD

QC JOB #: 13917682

SPECIFIC LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			21			21			21	
12:15 PM			22			22			22	
12:30 PM			17			17			17	
12:45 PM			29			29			29	
1:00 PM			29			29			29	
1:15 PM			17			17			17	
1:30 PM			25			25			25	
1:45 PM			30			30			30	
2:00 PM			20			20			20	
2:15 PM			17			17			17	
2:30 PM			30			30			30	
2:45 PM			19			19			19	
3:00 PM			24			24			24	
3:15 PM			17			17			17	
3:30 PM			14			14			14	
3:45 PM			21			21			21	
4:00 PM			12			12			12	
4:15 PM			18			18			18	
4:30 PM			20			20			20	
4:45 PM			18			18			18	
5:00 PM			11			11			11	
5:15 PM			12			12			12	
5:30 PM			10			10			10	
5:45 PM			**32**			**32**			**32**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD **QC JOB #:** 13917682
SPECIFIC LOCATION: 153. NATIONAL TRAILS HWY EAST OF AMBOY RD **DIRECTION:** EB/WB
CITY/STATE: San Bernardino, CA **DATE:** Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			8			8			8	
6:15 PM			13			13			13	
6:30 PM			17			17			17	
6:45 PM			10			10			10	
7:00 PM			7			7			7	
7:15 PM			6			6			6	
7:30 PM			6			6			6	
7:45 PM			9			9			9	
8:00 PM			7			7			7	
8:15 PM			6			6			6	
8:30 PM			5			5			5	
8:45 PM			4			4			4	
9:00 PM			1			1			1	
9:15 PM			4			4			4	
9:30 PM			3			3			3	
9:45 PM			4			4			4	
10:00 PM			2			2			2	
10:15 PM			1			1			1	
10:30 PM			1			1			1	
10:45 PM			4			4			4	
11:00 PM			1			1			1	
11:15 PM			1			1			1	
11:30 PM			1			1			1	
11:45 PM			2			2			2	
Day Total			950			950			950	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:15 AM			11:15 AM			11:15 AM	
Volume			38			38			38	
PM Peak			5:45 PM			5:45 PM			5:45 PM	
Volume			32			32			32	

Comments:

Report generated on 12/6/2016 5:50 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 154. ESSEX RD SOUTH OF I-40
QC JOB #: 13917683
SPECIFIC LOCATION: 154. ESSEX RD SOUTH OF I-
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			0			0			0	
12:15 AM			0			0			0	
12:30 AM			0			0			0	
12:45 AM			0			0			0	
1:00 AM			0			0			0	
1:15 AM			0			0			0	
1:30 AM			0			0			0	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			0			0			0	
2:30 AM			0			0			0	
2:45 AM			0			0			0	
3:00 AM			0			0			0	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			0			0			0	
4:00 AM			0			0			0	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			0			0			0	
5:00 AM			0			0			0	
5:15 AM			0			0			0	
5:30 AM			1			1			1	
5:45 AM			2			2			2	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 154. ESSEX RD SOUTH OF I-40
QC JOB #: 13917683
SPECIFIC LOCATION: 154. ESSEX RD SOUTH OF I-
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			2			2			2	
6:15 AM			1			1			1	
6:30 AM			3			3			3	
6:45 AM			0			0			0	
7:00 AM			1			1			1	
7:15 AM			2			2			2	
7:30 AM			2			2			2	
7:45 AM			0			0			0	
8:00 AM			4			4			4	
8:15 AM			1			1			1	
8:30 AM			2			2			2	
8:45 AM			3			3			3	
9:00 AM			3			3			3	
9:15 AM			1			1			1	
9:30 AM			1			1			1	
9:45 AM			**6**			**6**			**6**	
10:00 AM			2			2			2	
10:15 AM			4			4			4	
10:30 AM			0			0			0	
10:45 AM			1			1			1	
11:00 AM			2			2			2	
11:15 AM			1			1			1	
11:30 AM			0			0			0	
11:45 AM			0			0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 154. ESSEX RD SOUTH OF I-40
QC JOB #: 13917683
SPECIFIC LOCATION: 154. ESSEX RD SOUTH OF I-
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			1			1			1	
12:15 PM			2			2			2	
12:30 PM			5			5			5	
12:45 PM			2			2			2	
1:00 PM			1			1			1	
1:15 PM			2			2			2	
1:30 PM			0			0			0	
1:45 PM			1			1			1	
2:00 PM			0			0			0	
2:15 PM			3			3			3	
2:30 PM			0			0			0	
2:45 PM			3			3			3	
3:00 PM			**7**			**7**			**7**	
3:15 PM			1			1			1	
3:30 PM			3			3			3	
3:45 PM			0			0			0	
4:00 PM			1			1			1	
4:15 PM			1			1			1	
4:30 PM			0			0			0	
4:45 PM			0			0			0	
5:00 PM			0			0			0	
5:15 PM			0			0			0	
5:30 PM			0			0			0	
5:45 PM			2			2			2	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 154. ESSEX RD SOUTH OF I-40
QC JOB #: 13917683
SPECIFIC LOCATION: 154. ESSEX RD SOUTH OF I-
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			0			0			0	
6:15 PM			1			1			1	
6:30 PM			0			0			0	
6:45 PM			1			1			1	
7:00 PM			0			0			0	
7:15 PM			0			0			0	
7:30 PM			0			0			0	
7:45 PM			0			0			0	
8:00 PM			0			0			0	
8:15 PM			0			0			0	
8:30 PM			0			0			0	
8:45 PM			0			0			0	
9:00 PM			0			0			0	
9:15 PM			0			0			0	
9:30 PM			0			0			0	
9:45 PM			0			0			0	
10:00 PM			0			0			0	
10:15 PM			0			0			0	
10:30 PM			0			0			0	
10:45 PM			0			0			0	
11:00 PM			0			0			0	
11:15 PM			0			0			0	
11:30 PM			0			0			0	
11:45 PM			1			1			1	
Day Total			83			83			83	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			9:45 AM			9:45 AM			9:45 AM	
Volume			6			6			6	
PM Peak			3:00 PM			3:00 PM			3:00 PM	
Volume			7			7			7	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 155. Goffs Road
SPECIFIC LOCATION: 155. Goffs Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917684
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			3			3			3	
12:15 AM			2			2			2	
12:30 AM			0			0			0	
12:45 AM			0			0			0	
1:00 AM			0			0			0	
1:15 AM			0			0			0	
1:30 AM			2			2			2	
1:45 AM			0			0			0	
2:00 AM			0			0			0	
2:15 AM			0			0			0	
2:30 AM			0			0			0	
2:45 AM			0			0			0	
3:00 AM			3			3			3	
3:15 AM			0			0			0	
3:30 AM			1			1			1	
3:45 AM			2			2			2	
4:00 AM			1			1			1	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			1			1			1	
5:00 AM			0			0			0	
5:15 AM			2			2			2	
5:30 AM			0			0			0	
5:45 AM			6			6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 155. Goffs Road
SPECIFIC LOCATION: 155. Goffs Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917684
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			3			3			3	
6:15 AM			2			2			2	
6:30 AM			1			1			1	
6:45 AM			0			0			0	
7:00 AM			2			2			2	
7:15 AM			1			1			1	
7:30 AM			4			4			4	
7:45 AM			3			3			3	
8:00 AM			4			4			4	
8:15 AM			1			1			1	
8:30 AM			2			2			2	
8:45 AM			3			3			3	
9:00 AM			2			2			2	
9:15 AM			8			8			8	
9:30 AM			**22**			**22**			**22**	
9:45 AM			1			1			1	
10:00 AM			11			11			11	
10:15 AM			6			6			6	
10:30 AM			5			5			5	
10:45 AM			8			8			8	
11:00 AM			9			9			9	
11:15 AM			11			11			11	
11:30 AM			4			4			4	
11:45 AM			12			12			12	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 155. Goffs Road
SPECIFIC LOCATION: 155. Goffs Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917684
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			10			10			10	
12:15 PM			14			14			14	
12:30 PM			5			5			5	
12:45 PM			9			9			9	
1:00 PM			6			6			6	
1:15 PM			6			6			6	
1:30 PM			14			14			14	
1:45 PM			7			7			7	
2:00 PM			8			8			8	
2:15 PM			7			7			7	
2:30 PM			**18**			**18**			**18**	
2:45 PM			2			2			2	
3:00 PM			6			6			6	
3:15 PM			3			3			3	
3:30 PM			6			6			6	
3:45 PM			8			8			8	
4:00 PM			5			5			5	
4:15 PM			15			15			15	
4:30 PM			9			9			9	
4:45 PM			13			13			13	
5:00 PM			8			8			8	
5:15 PM			8			8			8	
5:30 PM			2			2			2	
5:45 PM			4			4			4	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 155. Goffs Road
SPECIFIC LOCATION: 155. Goffs Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917684
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			7			7			7	
6:15 PM			3			3			3	
6:30 PM			3			3			3	
6:45 PM			2			2			2	
7:00 PM			4			4			4	
7:15 PM			6			6			6	
7:30 PM			3			3			3	
7:45 PM			3			3			3	
8:00 PM			2			2			2	
8:15 PM			0			0			0	
8:30 PM			0			0			0	
8:45 PM			0			0			0	
9:00 PM			5			5			5	
9:15 PM			4			4			4	
9:30 PM			2			2			2	
9:45 PM			8			8			8	
10:00 PM			2			2			2	
10:15 PM			0			0			0	
10:30 PM			1			1			1	
10:45 PM			1			1			1	
11:00 PM			1			1			1	
11:15 PM			0			0			0	
11:30 PM			2			2			2	
11:45 PM			0			0			0	
Day Total			400			400			400	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			9:30 AM			9:30 AM			9:30 AM	
Volume			22			22			22	
PM Peak			2:30 PM			2:30 PM			2:30 PM	
Volume			18			18			18	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD

QC JOB #: 13917690

SPECIFIC LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD

DIRECTION: NB/SB

CITY/STATE: San Bernardino, LA

DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			4			4			4	
12:15 AM			2			2			2	
12:30 AM			3			3			3	
12:45 AM			1			1			1	
1:00 AM			5			5			5	
1:15 AM			2			2			2	
1:30 AM			4			4			4	
1:45 AM			3			3			3	
2:00 AM			1			1			1	
2:15 AM			1			1			1	
2:30 AM			2			2			2	
2:45 AM			1			1			1	
3:00 AM			1			1			1	
3:15 AM			1			1			1	
3:30 AM			0			0			0	
3:45 AM			2			2			2	
4:00 AM			2			2			2	
4:15 AM			5			5			5	
4:30 AM			4			4			4	
4:45 AM			10			10			10	
5:00 AM			5			5			5	
5:15 AM			5			5			5	
5:30 AM			6			6			6	
5:45 AM			10			10			10	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD

QC JOB #: 13917690

SPECIFIC LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD

DIRECTION: NB/SB

CITY/STATE: San Bernardino, LA

DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			10			10			10	
6:15 AM			20			20			20	
6:30 AM			13			13			13	
6:45 AM			10			10			10	
7:00 AM			17			17			17	
7:15 AM			20			20			20	
7:30 AM			22			22			22	
7:45 AM			26			26			26	
8:00 AM			28			28			28	
8:15 AM			30			30			30	
8:30 AM			28			28			28	
8:45 AM			36			36			36	
9:00 AM			32			32			32	
9:15 AM			45			45			45	
9:30 AM			40			40			40	
9:45 AM			38			38			38	
10:00 AM			32			32			32	
10:15 AM			28			28			28	
10:30 AM			40			40			40	
10:45 AM			30			30			30	
11:00 AM			**46**			**46**			**46**	
11:15 AM			37			37			37	
11:30 AM			35			35			35	
11:45 AM			23			23			23	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD
QC JOB #: 13917690
SPECIFIC LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, LA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			28			28			28	
12:15 PM			34			34			34	
12:30 PM			25			25			25	
12:45 PM			20			20			20	
1:00 PM			34			34			34	
1:15 PM			29			29			29	
1:30 PM			24			24			24	
1:45 PM			30			30			30	
2:00 PM			40			40			40	
2:15 PM			34			34			34	
2:30 PM			**42**			**42**			**42**	
2:45 PM			30			30			30	
3:00 PM			30			30			30	
3:15 PM			28			28			28	
3:30 PM			28			28			28	
3:45 PM			29			29			29	
4:00 PM			31			31			31	
4:15 PM			26			26			26	
4:30 PM			23			23			23	
4:45 PM			31			31			31	
5:00 PM			28			28			28	
5:15 PM			23			23			23	
5:30 PM			22			22			22	
5:45 PM			15			15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD
QC JOB #: 13917690
SPECIFIC LOCATION: 161. NEEDLES HWY NORTH OF RIVER RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, LA
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			16			16			16	
6:15 PM			14			14			14	
6:30 PM			22			22			22	
6:45 PM			11			11			11	
7:00 PM			10			10			10	
7:15 PM			13			13			13	
7:30 PM			16			16			16	
7:45 PM			10			10			10	
8:00 PM			10			10			10	
8:15 PM			7			7			7	
8:30 PM			12			12			12	
8:45 PM			4			4			4	
9:00 PM			5			5			5	
9:15 PM			9			9			9	
9:30 PM			6			6			6	
9:45 PM			5			5			5	
10:00 PM			5			5			5	
10:15 PM			14			14			14	
10:30 PM			10			10			10	
10:45 PM			6			6			6	
11:00 PM			7			7			7	
11:15 PM			8			8			8	
11:30 PM			7			7			7	
11:45 PM			4			4			4	
Day Total			1681			1681			1681	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:00 AM			11:00 AM			11:00 AM	
Volume			46			46			46	
PM Peak			2:30 PM			2:30 PM			2:30 PM	
Volume			42			42			42	

Comments:

LOCATION: 162. Parker Dam Road
SPECIFIC LOCATION: 162. Parker Dam Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917691
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			4			4			4	
12:15 AM			2			2			2	
12:30 AM			4			4			4	
12:45 AM			0			0			0	
1:00 AM			1			1			1	
1:15 AM			2			2			2	
1:30 AM			0			0			0	
1:45 AM			2			2			2	
2:00 AM			3			3			3	
2:15 AM			2			2			2	
2:30 AM			0			0			0	
2:45 AM			1			1			1	
3:00 AM			1			1			1	
3:15 AM			0			0			0	
3:30 AM			0			0			0	
3:45 AM			2			2			2	
4:00 AM			1			1			1	
4:15 AM			0			0			0	
4:30 AM			0			0			0	
4:45 AM			2			2			2	
5:00 AM			3			3			3	
5:15 AM			5			5			5	
5:30 AM			3			3			3	
5:45 AM			8			8			8	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 162. Parker Dam Road
SPECIFIC LOCATION: 162. Parker Dam Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917691
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			12			12			12	
6:15 AM			13			13			13	
6:30 AM			15			15			15	
6:45 AM			11			11			11	
7:00 AM			8			8			8	
7:15 AM			16			16			16	
7:30 AM			26			26			26	
7:45 AM			38			38			38	
8:00 AM			19			19			19	
8:15 AM			23			23			23	
8:30 AM			40			40			40	
8:45 AM			30			30			30	
9:00 AM			25			25			25	
9:15 AM			40			40			40	
9:30 AM			22			22			22	
9:45 AM			52			52			52	
10:00 AM			43			43			43	
10:15 AM			40			40			40	
10:30 AM			32			32			32	
10:45 AM			**60**			**60**			**60**	
11:00 AM			42			42			42	
11:15 AM			41			41			41	
11:30 AM			53			53			53	
11:45 AM			47			47			47	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 162. Parker Dam Road
SPECIFIC LOCATION: 162. Parker Dam Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917691
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			39			39			39	
12:15 PM			**53**			**53**			**53**	
12:30 PM			44			44			44	
12:45 PM			38			38			38	
1:00 PM			40			40			40	
1:15 PM			36			36			36	
1:30 PM			40			40			40	
1:45 PM			42			42			42	
2:00 PM			38			38			38	
2:15 PM			42			42			42	
2:30 PM			38			38			38	
2:45 PM			44			44			44	
3:00 PM			35			35			35	
3:15 PM			35			35			35	
3:30 PM			30			30			30	
3:45 PM			41			41			41	
4:00 PM			29			29			29	
4:15 PM			36			36			36	
4:30 PM			23			23			23	
4:45 PM			30			30			30	
5:00 PM			18			18			18	
5:15 PM			20			20			20	
5:30 PM			24			24			24	
5:45 PM			16			16			16	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 162. Parker Dam Road
SPECIFIC LOCATION: 162. Parker Dam Road
CITY/STATE: San Bernardino, CA

QC JOB #: 13917691
DIRECTION: EB/WB
DATE: Oct 26 2016 - Oct 26 2016

Start Time	Mon	Tue	Wed 26-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			21			21			21	
6:15 PM			28			28			28	
6:30 PM			15			15			15	
6:45 PM			18			18			18	
7:00 PM			15			15			15	
7:15 PM			5			5			5	
7:30 PM			13			13			13	
7:45 PM			13			13			13	
8:00 PM			12			12			12	
8:15 PM			9			9			9	
8:30 PM			10			10			10	
8:45 PM			2			2			2	
9:00 PM			7			7			7	
9:15 PM			9			9			9	
9:30 PM			6			6			6	
9:45 PM			7			7			7	
10:00 PM			1			1			1	
10:15 PM			4			4			4	
10:30 PM			5			5			5	
10:45 PM			5			5			5	
11:00 PM			1			1			1	
11:15 PM			3			3			3	
11:30 PM			1			1			1	
11:45 PM			5			5			5	
Day Total			1840			1840			1840	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			10:45 AM			10:45 AM			10:45 AM	
Volume			60			60			60	
PM Peak			12:15 PM			12:15 PM			12:15 PM	
Volume			53			53			53	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **QC JOB #:** 13917694

SPECIFIC LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 20 2016 - Oct 20 2016

Start Time	Mon	Tue	Wed	Thu 20-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				12		12			12	
12:15 AM				17		17			17	
12:30 AM				12		12			12	
12:45 AM				7		7			7	
1:00 AM				11		11			11	
1:15 AM				6		6			6	
1:30 AM				3		3			3	
1:45 AM				5		5			5	
2:00 AM				1		1			1	
2:15 AM				5		5			5	
2:30 AM				8		8			8	
2:45 AM				1		1			1	
3:00 AM				6		6			6	
3:15 AM				3		3			3	
3:30 AM				2		2			2	
3:45 AM				12		12			12	
4:00 AM				12		12			12	
4:15 AM				19		19			19	
4:30 AM				32		32			32	
4:45 AM				58		58			58	
5:00 AM				90		90			90	
5:15 AM				150		150			150	
5:30 AM				163		163			163	
5:45 AM				149		149			149	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **QC JOB #:** 13917694

SPECIFIC LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 20 2016 - Oct 20 2016

Start Time	Mon	Tue	Wed	Thu 20-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				162		162			162	
6:15 AM				248		248			248	
6:30 AM				**250**		**250**			**250**	
6:45 AM				182		182			182	
7:00 AM				176		176			176	
7:15 AM				160		160			160	
7:30 AM				122		122			122	
7:45 AM				103		103			103	
8:00 AM				58		58			58	
8:15 AM				80		80			80	
8:30 AM				92		92			92	
8:45 AM				76		76			76	
9:00 AM				64		64			64	
9:15 AM				78		78			78	
9:30 AM				94		94			94	
9:45 AM				58		58			58	
10:00 AM				74		74			74	
10:15 AM				94		94			94	
10:30 AM				82		82			82	
10:45 AM				68		68			68	
11:00 AM				54		54			54	
11:15 AM				88		88			88	
11:30 AM				72		72			72	
11:45 AM				57		57			57	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **QC JOB #:** 13917694

SPECIFIC LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 20 2016 - Oct 20 2016

Start Time	Mon	Tue	Wed	Thu 20-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				80		80			80	
12:15 PM				90		90			90	
12:30 PM				70		70			70	
12:45 PM				79		79			79	
1:00 PM				78		78			78	
1:15 PM				90		90			90	
1:30 PM				71		71			71	
1:45 PM				76		76			76	
2:00 PM				70		70			70	
2:15 PM				102		102			102	
2:30 PM				112		112			112	
2:45 PM				134		134			134	
3:00 PM				131		131			131	
3:15 PM				132		132			132	
3:30 PM				107		107			107	
3:45 PM				228		228			228	
4:00 PM				166		166			166	
4:15 PM				**260**		**260**			**260**	
4:30 PM				160		160			160	
4:45 PM				238		238			238	
5:00 PM				131		131			131	
5:15 PM				149		149			149	
5:30 PM				93		93			93	
5:45 PM				80		80			80	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD
QC JOB #: 13917694
SPECIFIC LOCATION: 2. FORT IRWIN RD SOUTH OF STARBRIGHT RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 20 2016 - Oct 20 2016

Start Time	Mon	Tue	Wed	Thu 20-Oct-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				94		94			94	
6:15 PM				162		162			162	
6:30 PM				68		68			68	
6:45 PM				51		51			51	
7:00 PM				50		50			50	
7:15 PM				56		56			56	
7:30 PM				32		32			32	
7:45 PM				42		42			42	
8:00 PM				42		42			42	
8:15 PM				46		46			46	
8:30 PM				30		30			30	
8:45 PM				38		38			38	
9:00 PM				33		33			33	
9:15 PM				34		34			34	
9:30 PM				33		33			33	
9:45 PM				20		20			20	
10:00 PM				20		20			20	
10:15 PM				25		25			25	
10:30 PM				19		19			19	
10:45 PM				21		21			21	
11:00 PM				10		10			10	
11:15 PM				19		19			19	
11:30 PM				15		15			15	
11:45 PM				6		6			6	
Day Total				7269		7269			7269	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				6:30 AM 250		6:30 AM 250			6:30 AM 250	
PM Peak Volume				4:15 PM 260		4:15 PM 260			4:15 PM 260	

Comments:

Report generated on 10/31/2016 5:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 163. Baker Blvd
SPECIFIC LOCATION: 163. Baker Blvd
CITY/STATE: Baker, CA

QC JOB #: 13917822
DIRECTION: EB/WB
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			15			15			15	
12:15 AM			10			10			10	
12:30 AM			12			12			12	
12:45 AM			21			21			21	
1:00 AM			10			10			10	
1:15 AM			15			15			15	
1:30 AM			8			8			8	
1:45 AM			8			8			8	
2:00 AM			18			18			18	
2:15 AM			10			10			10	
2:30 AM			8			8			8	
2:45 AM			6			6			6	
3:00 AM			6			6			6	
3:15 AM			2			2			2	
3:30 AM			10			10			10	
3:45 AM			16			16			16	
4:00 AM			15			15			15	
4:15 AM			12			12			12	
4:30 AM			17			17			17	
4:45 AM			13			13			13	
5:00 AM			16			16			16	
5:15 AM			19			19			19	
5:30 AM			12			12			12	
5:45 AM			15			15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 163. Baker Blvd
SPECIFIC LOCATION: 163. Baker Blvd
CITY/STATE: Baker, CA

QC JOB #: 13917822
DIRECTION: EB/WB
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			26			26			26	
6:15 AM			30			30			30	
6:30 AM			35			35			35	
6:45 AM			33			33			33	
7:00 AM			42			42			42	
7:15 AM			44			44			44	
7:30 AM			44			44			44	
7:45 AM			42			42			42	
8:00 AM			73			73			73	
8:15 AM			46			46			46	
8:30 AM			51			51			51	
8:45 AM			73			73			73	
9:00 AM			68			68			68	
9:15 AM			42			42			42	
9:30 AM			46			46			46	
9:45 AM			50			50			50	
10:00 AM			55			55			55	
10:15 AM			68			68			68	
10:30 AM			75			75			75	
10:45 AM			79			79			79	
11:00 AM			76			76			76	
11:15 AM			70			70			70	
11:30 AM			79			79			79	
11:45 AM			**101**			**101**			**101**	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 163. Baker Blvd
SPECIFIC LOCATION: 163. Baker Blvd
CITY/STATE: Baker, CA

QC JOB #: 13917822
DIRECTION: EB/WB
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			80			80			80	
12:15 PM			95			95			95	
12:30 PM			**112**			**112**			**112**	
12:45 PM			100			100			100	
1:00 PM			105			105			105	
1:15 PM			95			95			95	
1:30 PM			88			88			88	
1:45 PM			77			77			77	
2:00 PM			91			91			91	
2:15 PM			60			60			60	
2:30 PM			63			63			63	
2:45 PM			67			67			67	
3:00 PM			58			58			58	
3:15 PM			76			76			76	
3:30 PM			77			77			77	
3:45 PM			59			59			59	
4:00 PM			73			73			73	
4:15 PM			58			58			58	
4:30 PM			46			46			46	
4:45 PM			57			57			57	
5:00 PM			50			50			50	
5:15 PM			61			61			61	
5:30 PM			57			57			57	
5:45 PM			53			53			53	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 163. Baker Blvd
SPECIFIC LOCATION: 163. Baker Blvd
CITY/STATE: Baker, CA

QC JOB #: 13917822
DIRECTION: EB/WB
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			60			60			60	
6:15 PM			67			67			67	
6:30 PM			56			56			56	
6:45 PM			36			36			36	
7:00 PM			32			32			32	
7:15 PM			41			41			41	
7:30 PM			38			38			38	
7:45 PM			35			35			35	
8:00 PM			46			46			46	
8:15 PM			29			29			29	
8:30 PM			34			34			34	
8:45 PM			33			33			33	
9:00 PM			23			23			23	
9:15 PM			14			14			14	
9:30 PM			35			35			35	
9:45 PM			28			28			28	
10:00 PM			26			26			26	
10:15 PM			21			21			21	
10:30 PM			26			26			26	
10:45 PM			27			27			27	
11:00 PM			25			25			25	
11:15 PM			26			26			26	
11:30 PM			15			15			15	
11:45 PM			21			21			21	
Day Total			4194			4194			4194	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			11:45 AM			11:45 AM			11:45 AM	
Volume			101			101			101	
PM Peak			12:30 PM			12:30 PM			12:30 PM	
Volume			112			112			112	

Comments:

LOCATION: 28. STATE HWY 138 WEST OF OASIS RD

QC JOB #: 13917830

SPECIFIC LOCATION: 28. STATE HWY 138 WEST OF OASIS RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				69		69			69	
12:15 AM				41		41			41	
12:30 AM				44		44			44	
12:45 AM				25		25			25	
1:00 AM				36		36			36	
1:15 AM				34		34			34	
1:30 AM				26		26			26	
1:45 AM				20		20			20	
2:00 AM				28		28			28	
2:15 AM				25		25			25	
2:30 AM				21		21			21	
2:45 AM				20		20			20	
3:00 AM				35		35			35	
3:15 AM				27		27			27	
3:30 AM				23		23			23	
3:45 AM				26		26			26	
4:00 AM				26		26			26	
4:15 AM				54		54			54	
4:30 AM				58		58			58	
4:45 AM				65		65			65	
5:00 AM				88		88			88	
5:15 AM				91		91			91	
5:30 AM				115		115			115	
5:45 AM				141		141			141	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
QC JOB #: 13917830
SPECIFIC LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				183		183			183	
6:15 AM				189		189			189	
6:30 AM				181		181			181	
6:45 AM				179		179			179	
7:00 AM				214		214			214	
7:15 AM				214		214			214	
7:30 AM				209		209			209	
7:45 AM				209		209			209	
8:00 AM				206		206			206	
8:15 AM				193		193			193	
8:30 AM				192		192			192	
8:45 AM				183		183			183	
9:00 AM				**242**		**242**			**242**	
9:15 AM				194		194			194	
9:30 AM				208		208			208	
9:45 AM				203		203			203	
10:00 AM				214		214			214	
10:15 AM				224		224			224	
10:30 AM				206		206			206	
10:45 AM				190		190			190	
11:00 AM				198		198			198	
11:15 AM				177		177			177	
11:30 AM				211		211			211	
11:45 AM				203		203			203	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
QC JOB #: 13917830
SPECIFIC LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				186		186			186	
12:15 PM				199		199			199	
12:30 PM				222		222			222	
12:45 PM				219		219			219	
1:00 PM				217		217			217	
1:15 PM				220		220			220	
1:30 PM				220		220			220	
1:45 PM				209		209			209	
2:00 PM				219		219			219	
2:15 PM				224		224			224	
2:30 PM				284		284			284	
2:45 PM				230		230			230	
3:00 PM				188		188			188	
3:15 PM				202		202			202	
3:30 PM				234		234			234	
3:45 PM				220		220			220	
4:00 PM				182		182			182	
4:15 PM				262		262			262	
4:30 PM				273		273			273	
4:45 PM				301		301			301	
5:00 PM				220		220			220	
5:15 PM				275		275			275	
5:30 PM				207		207			207	
5:45 PM				277		277			277	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
QC JOB #: 13917830
SPECIFIC LOCATION: 28. STATE HWY 138 WEST OF OASIS RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				309		309			309	
6:15 PM				**323**		**323**			**323**	
6:30 PM				282		282			282	
6:45 PM				207		207			207	
7:00 PM				190		190			190	
7:15 PM				187		187			187	
7:30 PM				195		195			195	
7:45 PM				186		186			186	
8:00 PM				315		315			315	
8:15 PM				182		182			182	
8:30 PM				171		171			171	
8:45 PM				174		174			174	
9:00 PM				154		154			154	
9:15 PM				175		175			175	
9:30 PM				151		151			151	
9:45 PM				119		119			119	
10:00 PM				104		104			104	
10:15 PM				97		97			97	
10:30 PM				89		89			89	
10:45 PM				84		84			84	
11:00 PM				93		93			93	
11:15 PM				66		66			66	
11:30 PM				72		72			72	
11:45 PM				75		75			75	
Day Total				15450		15450			15450	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				9:00 AM 242		9:00 AM 242			9:00 AM 242	
PM Peak Volume				6:15 PM 323		6:15 PM 323			6:15 PM 323	

Comments:

LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
QC JOB #: 13917831
SPECIFIC LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				9		9			9	
12:15 AM				6		6			6	
12:30 AM				3		3			3	
12:45 AM				7		7			7	
1:00 AM				2		2			2	
1:15 AM				4		4			4	
1:30 AM				4		4			4	
1:45 AM				4		4			4	
2:00 AM				7		7			7	
2:15 AM				7		7			7	
2:30 AM				2		2			2	
2:45 AM				1		1			1	
3:00 AM				4		4			4	
3:15 AM				10		10			10	
3:30 AM				11		11			11	
3:45 AM				14		14			14	
4:00 AM				13		13			13	
4:15 AM				17		17			17	
4:30 AM				25		25			25	
4:45 AM				21		21			21	
5:00 AM				23		23			23	
5:15 AM				37		37			37	
5:30 AM				24		24			24	
5:45 AM				32		32			32	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD **QC JOB #:** 13917831

SPECIFIC LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				31		31			31	
6:15 AM				38		38			38	
6:30 AM				43		43			43	
6:45 AM				48		48			48	
7:00 AM				50		50			50	
7:15 AM				40		40			40	
7:30 AM				**59**		**59**			**59**	
7:45 AM				57		57			57	
8:00 AM				42		42			42	
8:15 AM				46		46			46	
8:30 AM				40		40			40	
8:45 AM				36		36			36	
9:00 AM				34		34			34	
9:15 AM				47		47			47	
9:30 AM				38		38			38	
9:45 AM				46		46			46	
10:00 AM				53		53			53	
10:15 AM				52		52			52	
10:30 AM				50		50			50	
10:45 AM				43		43			43	
11:00 AM				45		45			45	
11:15 AM				51		51			51	
11:30 AM				46		46			46	
11:45 AM				47		47			47	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
QC JOB #: 13917831
SPECIFIC LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				63		63			63	
12:15 PM				56		56			56	
12:30 PM				46		46			46	
12:45 PM				45		45			45	
1:00 PM				60		60			60	
1:15 PM				55		55			55	
1:30 PM				46		46			46	
1:45 PM				64		64			64	
2:00 PM				60		60			60	
2:15 PM				47		47			47	
2:30 PM				55		55			55	
2:45 PM				54		54			54	
3:00 PM				70		70			70	
3:15 PM				62		62			62	
3:30 PM				60		60			60	
3:45 PM				91		91			91	
4:00 PM				**102**		**102**			**102**	
4:15 PM				87		87			87	
4:30 PM				63		63			63	
4:45 PM				74		74			74	
5:00 PM				86		86			86	
5:15 PM				81		81			81	
5:30 PM				74		74			74	
5:45 PM				85		85			85	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
QC JOB #: 13917831
SPECIFIC LOCATION: 26. PALMDALE RD WEST OF SHEEP CREEK RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				94		94			94	
6:15 PM				91		91			91	
6:30 PM				71		71			71	
6:45 PM				77		77			77	
7:00 PM				67		67			67	
7:15 PM				69		69			69	
7:30 PM				55		55			55	
7:45 PM				38		38			38	
8:00 PM				63		63			63	
8:15 PM				21		21			21	
8:30 PM				31		31			31	
8:45 PM				36		36			36	
9:00 PM				45		45			45	
9:15 PM				32		32			32	
9:30 PM				24		24			24	
9:45 PM				22		22			22	
10:00 PM				12		12			12	
10:15 PM				9		9			9	
10:30 PM				18		18			18	
10:45 PM				11		11			11	
11:00 PM				11		11			11	
11:15 PM				11		11			11	
11:30 PM				5		5			5	
11:45 PM				14		14			14	
Day Total				3882		3882			3882	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				59		59			59	
PM Peak				4:00 PM		4:00 PM			4:00 PM	
Volume				102		102			102	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
QC JOB #: 13917832
SPECIFIC LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				48		48			48	
12:15 AM				53		53			53	
12:30 AM				48		48			48	
12:45 AM				46		46			46	
1:00 AM				50		50			50	
1:15 AM				49		49			49	
1:30 AM				48		48			48	
1:45 AM				44		44			44	
2:00 AM				40		40			40	
2:15 AM				48		48			48	
2:30 AM				51		51			51	
2:45 AM				48		48			48	
3:00 AM				50		50			50	
3:15 AM				34		34			34	
3:30 AM				49		49			49	
3:45 AM				35		35			35	
4:00 AM				49		49			49	
4:15 AM				38		38			38	
4:30 AM				42		42			42	
4:45 AM				49		49			49	
5:00 AM				78		78			78	
5:15 AM				88		88			88	
5:30 AM				76		76			76	
5:45 AM				76		76			76	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
QC JOB #: 13917832
SPECIFIC LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				104		104			104	
6:15 AM				118		118			118	
6:30 AM				93		93			93	
6:45 AM				101		101			101	
7:00 AM				112		112			112	
7:15 AM				134		134			134	
7:30 AM				146		146			146	
7:45 AM				142		142			142	
8:00 AM				134		134			134	
8:15 AM				146		146			146	
8:30 AM				132		132			132	
8:45 AM				161		161			161	
9:00 AM				145		145			145	
9:15 AM				177		177			177	
9:30 AM				170		170			170	
9:45 AM				162		162			162	
10:00 AM				231		231			231	
10:15 AM				160		160			160	
10:30 AM				209		209			209	
10:45 AM				173		173			173	
11:00 AM				**240**		**240**			**240**	
11:15 AM				213		213			213	
11:30 AM				181		181			181	
11:45 AM				211		211			211	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
QC JOB #: 13917832
SPECIFIC LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				204		204			204	
12:15 PM				222		222			222	
12:30 PM				240		240			240	
12:45 PM				207		207			207	
1:00 PM				243		243			243	
1:15 PM				**256**		**256**			**256**	
1:30 PM				198		198			198	
1:45 PM				229		229			229	
2:00 PM				222		222			222	
2:15 PM				217		217			217	
2:30 PM				226		226			226	
2:45 PM				229		229			229	
3:00 PM				228		228			228	
3:15 PM				243		243			243	
3:30 PM				203		203			203	
3:45 PM				218		218			218	
4:00 PM				226		226			226	
4:15 PM				194		194			194	
4:30 PM				233		233			233	
4:45 PM				188		188			188	
5:00 PM				222		222			222	
5:15 PM				206		206			206	
5:30 PM				193		193			193	
5:45 PM				161		161			161	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
QC JOB #: 13917832
SPECIFIC LOCATION: 4. STATE HWY 58 WEST OF HINKLEY RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				179		179			179	
6:15 PM				135		135			135	
6:30 PM				171		171			171	
6:45 PM				157		157			157	
7:00 PM				163		163			163	
7:15 PM				178		178			178	
7:30 PM				143		143			143	
7:45 PM				147		147			147	
8:00 PM				150		150			150	
8:15 PM				110		110			110	
8:30 PM				145		145			145	
8:45 PM				139		139			139	
9:00 PM				120		120			120	
9:15 PM				110		110			110	
9:30 PM				93		93			93	
9:45 PM				109		109			109	
10:00 PM				99		99			99	
10:15 PM				86		86			86	
10:30 PM				92		92			92	
10:45 PM				86		86			86	
11:00 PM				52		52			52	
11:15 PM				66		66			66	
11:30 PM				72		72			72	
11:45 PM				69		69			69	
Day Total				13111		13111			13111	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:00 AM		11:00 AM			11:00 AM	
Volume				240		240			240	
PM Peak				1:15 PM		1:15 PM			1:15 PM	
Volume				256		256			256	

Comments:

LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
QC JOB #: 13917833
SPECIFIC LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				29		29			29	
12:15 AM				27		27			27	
12:30 AM				22		22			22	
12:45 AM				34		34			34	
1:00 AM				27		27			27	
1:15 AM				14		14			14	
1:30 AM				20		20			20	
1:45 AM				18		18			18	
2:00 AM				18		18			18	
2:15 AM				19		19			19	
2:30 AM				19		19			19	
2:45 AM				20		20			20	
3:00 AM				17		17			17	
3:15 AM				19		19			19	
3:30 AM				23		23			23	
3:45 AM				14		14			14	
4:00 AM				12		12			12	
4:15 AM				31		31			31	
4:30 AM				28		28			28	
4:45 AM				20		20			20	
5:00 AM				42		42			42	
5:15 AM				23		23			23	
5:30 AM				46		46			46	
5:45 AM				59		59			59	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
QC JOB #: 13917833
SPECIFIC LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				52		52			52	
6:15 AM				73		73			73	
6:30 AM				75		75			75	
6:45 AM				77		77			77	
7:00 AM				107		107			107	
7:15 AM				126		126			126	
7:30 AM				129		129			129	
7:45 AM				107		107			107	
8:00 AM				128		128			128	
8:15 AM				156		156			156	
8:30 AM				**171**		**171**			**171**	
8:45 AM				143		143			143	
9:00 AM				126		126			126	
9:15 AM				146		146			146	
9:30 AM				112		112			112	
9:45 AM				134		134			134	
10:00 AM				114		114			114	
10:15 AM				132		132			132	
10:30 AM				143		143			143	
10:45 AM				129		129			129	
11:00 AM				113		113			113	
11:15 AM				124		124			124	
11:30 AM				124		124			124	
11:45 AM				134		134			134	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
QC JOB #: 13917833
SPECIFIC LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				143		143			143	
12:15 PM				127		127			127	
12:30 PM				121		121			121	
12:45 PM				127		127			127	
1:00 PM				123		123			123	
1:15 PM				122		122			122	
1:30 PM				144		144			144	
1:45 PM				117		117			117	
2:00 PM				130		130			130	
2:15 PM				139		139			139	
2:30 PM				152		152			152	
2:45 PM				171		171			171	
3:00 PM				161		161			161	
3:15 PM				152		152			152	
3:30 PM				161		161			161	
3:45 PM				186		186			186	
4:00 PM				153		153			153	
4:15 PM				**216**		**216**			**216**	
4:30 PM				191		191			191	
4:45 PM				167		167			167	
5:00 PM				169		169			169	
5:15 PM				153		153			153	
5:30 PM				151		151			151	
5:45 PM				175		175			175	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
QC JOB #: 13917833
SPECIFIC LOCATION: 68. STATE HWY 18 WEST OF HIGH RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				168		168			168	
6:15 PM				164		164			164	
6:30 PM				164		164			164	
6:45 PM				124		124			124	
7:00 PM				146		146			146	
7:15 PM				124		124			124	
7:30 PM				113		113			113	
7:45 PM				115		115			115	
8:00 PM				64		64			64	
8:15 PM				78		78			78	
8:30 PM				76		76			76	
8:45 PM				79		79			79	
9:00 PM				69		69			69	
9:15 PM				80		80			80	
9:30 PM				61		61			61	
9:45 PM				52		52			52	
10:00 PM				51		51			51	
10:15 PM				39		39			39	
10:30 PM				48		48			48	
10:45 PM				40		40			40	
11:00 PM				47		47			47	
11:15 PM				46		46			46	
11:30 PM				35		35			35	
11:45 PM				32		32			32	
Day Total				9142		9142			9142	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:30 AM		8:30 AM			8:30 AM	
Volume				171		171			171	
PM Peak				4:15 PM		4:15 PM			4:15 PM	
Volume				216		216			216	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **QC JOB #:** 13917834

SPECIFIC LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **DIRECTION:** NB/SB

CITY/STATE: Lucerne Valley, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				0		0			0	
12:15 AM				2		2			2	
12:30 AM				1		1			1	
12:45 AM				2		2			2	
1:00 AM				5		5			5	
1:15 AM				5		5			5	
1:30 AM				0		0			0	
1:45 AM				0		0			0	
2:00 AM				0		0			0	
2:15 AM				2		2			2	
2:30 AM				1		1			1	
2:45 AM				1		1			1	
3:00 AM				4		4			4	
3:15 AM				5		5			5	
3:30 AM				1		1			1	
3:45 AM				5		5			5	
4:00 AM				14		14			14	
4:15 AM				10		10			10	
4:30 AM				8		8			8	
4:45 AM				6		6			6	
5:00 AM				14		14			14	
5:15 AM				24		24			24	
5:30 AM				17		17			17	
5:45 AM				9		9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **QC JOB #:** 13917834

SPECIFIC LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **DIRECTION:** NB/SB

CITY/STATE: Lucerne Valley, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				10		10			10	
6:15 AM				8		8			8	
6:30 AM				11		11			11	
6:45 AM				14		14			14	
7:00 AM				23		23			23	
7:15 AM				16		16			16	
7:30 AM				15		15			15	
7:45 AM				16		16			16	
8:00 AM				16		16			16	
8:15 AM				21		21			21	
8:30 AM				24		24			24	
8:45 AM				20		20			20	
9:00 AM				14		14			14	
9:15 AM				**34**		**34**			**34**	
9:30 AM				22		22			22	
9:45 AM				19		19			19	
10:00 AM				34		34			34	
10:15 AM				20		20			20	
10:30 AM				22		22			22	
10:45 AM				29		29			29	
11:00 AM				27		27			27	
11:15 AM				32		32			32	
11:30 AM				25		25			25	
11:45 AM				34		34			34	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **QC JOB #:** 13917834

SPECIFIC LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **DIRECTION:** NB/SB

CITY/STATE: Lucerne Valley, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				22		22			22	
12:15 PM				30		30			30	
12:30 PM				**43**		**43**			**43**	
12:45 PM				24		24			24	
1:00 PM				20		20			20	
1:15 PM				27		27			27	
1:30 PM				23		23			23	
1:45 PM				24		24			24	
2:00 PM				31		31			31	
2:15 PM				26		26			26	
2:30 PM				22		22			22	
2:45 PM				30		30			30	
3:00 PM				24		24			24	
3:15 PM				20		20			20	
3:30 PM				35		35			35	
3:45 PM				25		25			25	
4:00 PM				24		24			24	
4:15 PM				16		16			16	
4:30 PM				32		32			32	
4:45 PM				28		28			28	
5:00 PM				17		17			17	
5:15 PM				23		23			23	
5:30 PM				20		20			20	
5:45 PM				24		24			24	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **QC JOB #:** 13917834

SPECIFIC LOCATION: 62. BARSTOW RD NORTH OF LUCERNCE VALLEY CUTOFF **DIRECTION:** NB/SB

CITY/STATE: Lucerne Valley, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				11		11			11	
6:15 PM				20		20			20	
6:30 PM				19		19			19	
6:45 PM				15		15			15	
7:00 PM				14		14			14	
7:15 PM				7		7			7	
7:30 PM				15		15			15	
7:45 PM				9		9			9	
8:00 PM				15		15			15	
8:15 PM				8		8			8	
8:30 PM				6		6			6	
8:45 PM				6		6			6	
9:00 PM				10		10			10	
9:15 PM				5		5			5	
9:30 PM				6		6			6	
9:45 PM				8		8			8	
10:00 PM				7		7			7	
10:15 PM				5		5			5	
10:30 PM				2		2			2	
10:45 PM				6		6			6	
11:00 PM				5		5			5	
11:15 PM				2		2			2	
11:30 PM				2		2			2	
11:45 PM				4		4			4	
Day Total				1459		1459			1459	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				9:15 AM		9:15 AM			9:15 AM	
Volume				34		34			34	
PM Peak				12:30 PM		12:30 PM			12:30 PM	
Volume				43		43			43	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **QC JOB #:** 13917835

SPECIFIC LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				2		2			2	
12:15 AM				1		1			1	
12:30 AM				2		2			2	
12:45 AM				5		5			5	
1:00 AM				7		7			7	
1:15 AM				2		2			2	
1:30 AM				3		3			3	
1:45 AM				3		3			3	
2:00 AM				4		4			4	
2:15 AM				1		1			1	
2:30 AM				7		7			7	
2:45 AM				1		1			1	
3:00 AM				4		4			4	
3:15 AM				4		4			4	
3:30 AM				5		5			5	
3:45 AM				6		6			6	
4:00 AM				5		5			5	
4:15 AM				10		10			10	
4:30 AM				15		15			15	
4:45 AM				13		13			13	
5:00 AM				21		21			21	
5:15 AM				9		9			9	
5:30 AM				16		16			16	
5:45 AM				22		22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **QC JOB #:** 13917835

SPECIFIC LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				25		25			25	
6:15 AM				17		17			17	
6:30 AM				33		33			33	
6:45 AM				33		33			33	
7:00 AM				35		35			35	
7:15 AM				30		30			30	
7:30 AM				38		38			38	
7:45 AM				31		31			31	
8:00 AM				42		42			42	
8:15 AM				43		43			43	
8:30 AM				**52**		**52**			**52**	
8:45 AM				39		39			39	
9:00 AM				33		33			33	
9:15 AM				40		40			40	
9:30 AM				32		32			32	
9:45 AM				38		38			38	
10:00 AM				30		30			30	
10:15 AM				43		43			43	
10:30 AM				42		42			42	
10:45 AM				39		39			39	
11:00 AM				42		42			42	
11:15 AM				36		36			36	
11:30 AM				37		37			37	
11:45 AM				49		49			49	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD
QC JOB #: 13917835
SPECIFIC LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				52		52			52	
12:15 PM				38		38			38	
12:30 PM				49		49			49	
12:45 PM				46		46			46	
1:00 PM				42		42			42	
1:15 PM				45		45			45	
1:30 PM				56		56			56	
1:45 PM				53		53			53	
2:00 PM				45		45			45	
2:15 PM				57		57			57	
2:30 PM				42		42			42	
2:45 PM				**60**		**60**			**60**	
3:00 PM				43		43			43	
3:15 PM				56		56			56	
3:30 PM				41		41			41	
3:45 PM				52		52			52	
4:00 PM				46		46			46	
4:15 PM				49		49			49	
4:30 PM				42		42			42	
4:45 PM				44		44			44	
5:00 PM				55		55			55	
5:15 PM				46		46			46	
5:30 PM				56		56			56	
5:45 PM				41		41			41	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **QC JOB #:** 13917835

SPECIFIC LOCATION: 70. OLD WOMAN SPRINGS RD WEST OF CAMP ROCK RD **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				58		58			58	
6:15 PM				34		34			34	
6:30 PM				41		41			41	
6:45 PM				31		31			31	
7:00 PM				19		19			19	
7:15 PM				23		23			23	
7:30 PM				35		35			35	
7:45 PM				22		22			22	
8:00 PM				26		26			26	
8:15 PM				21		21			21	
8:30 PM				13		13			13	
8:45 PM				15		15			15	
9:00 PM				8		8			8	
9:15 PM				11		11			11	
9:30 PM				22		22			22	
9:45 PM				14		14			14	
10:00 PM				15		15			15	
10:15 PM				11		11			11	
10:30 PM				11		11			11	
10:45 PM				15		15			15	
11:00 PM				6		6			6	
11:15 PM				13		13			13	
11:30 PM				10		10			10	
11:45 PM				12		12			12	
Day Total				2689		2689			2689	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:30 AM		8:30 AM			8:30 AM	
Volume				52		52			52	
PM Peak				2:45 PM		2:45 PM			2:45 PM	
Volume				60		60			60	

Comments:

LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
QC JOB #: 13917836
SPECIFIC LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				2		2			2	
12:15 AM				1		1			1	
12:30 AM				2		2			2	
12:45 AM				3		3			3	
1:00 AM				4		4			4	
1:15 AM				6		6			6	
1:30 AM				1		1			1	
1:45 AM				0		0			0	
2:00 AM				2		2			2	
2:15 AM				2		2			2	
2:30 AM				3		3			3	
2:45 AM				5		5			5	
3:00 AM				5		5			5	
3:15 AM				2		2			2	
3:30 AM				1		1			1	
3:45 AM				10		10			10	
4:00 AM				5		5			5	
4:15 AM				17		17			17	
4:30 AM				7		7			7	
4:45 AM				12		12			12	
5:00 AM				29		29			29	
5:15 AM				17		17			17	
5:30 AM				21		21			21	
5:45 AM				9		9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD **QC JOB #:** 13917836

SPECIFIC LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				10		10			10	
6:15 AM				17		17			17	
6:30 AM				17		17			17	
6:45 AM				15		15			15	
7:00 AM				30		30			30	
7:15 AM				25		25			25	
7:30 AM				21		21			21	
7:45 AM				25		25			25	
8:00 AM				30		30			30	
8:15 AM				28		28			28	
8:30 AM				29		29			29	
8:45 AM				33		33			33	
9:00 AM				33		33			33	
9:15 AM				29		29			29	
9:30 AM				35		35			35	
9:45 AM				31		31			31	
10:00 AM				28		28			28	
10:15 AM				38		38			38	
10:30 AM				24		24			24	
10:45 AM				33		33			33	
11:00 AM				39		39			39	
11:15 AM				36		36			36	
11:30 AM				**41**		**41**			**41**	
11:45 AM				32		32			32	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
QC JOB #: 13917836
SPECIFIC LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				29		29			29	
12:15 PM				45		45			45	
12:30 PM				38		38			38	
12:45 PM				24		24			24	
1:00 PM				38		38			38	
1:15 PM				32		32			32	
1:30 PM				35		35			35	
1:45 PM				34		34			34	
2:00 PM				31		31			31	
2:15 PM				28		28			28	
2:30 PM				30		30			30	
2:45 PM				32		32			32	
3:00 PM				35		35			35	
3:15 PM				32		32			32	
3:30 PM				48		48			48	
3:45 PM				**49**		**49**			**49**	
4:00 PM				26		26			26	
4:15 PM				32		32			32	
4:30 PM				24		24			24	
4:45 PM				37		37			37	
5:00 PM				28		28			28	
5:15 PM				29		29			29	
5:30 PM				34		34			34	
5:45 PM				25		25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
QC JOB #: 13917836
SPECIFIC LOCATION: 65. BARSTOW RD NORTH OF RABBIT SPRINGS RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				18		18			18	
6:15 PM				27		27			27	
6:30 PM				30		30			30	
6:45 PM				20		20			20	
7:00 PM				11		11			11	
7:15 PM				13		13			13	
7:30 PM				16		16			16	
7:45 PM				14		14			14	
8:00 PM				14		14			14	
8:15 PM				14		14			14	
8:30 PM				8		8			8	
8:45 PM				9		9			9	
9:00 PM				7		7			7	
9:15 PM				7		7			7	
9:30 PM				6		6			6	
9:45 PM				12		12			12	
10:00 PM				11		11			11	
10:15 PM				7		7			7	
10:30 PM				5		5			5	
10:45 PM				7		7			7	
11:00 PM				1		1			1	
11:15 PM				2		2			2	
11:30 PM				4		4			4	
11:45 PM				6		6			6	
Day Total				1909		1909			1909	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:30 AM		11:30 AM			11:30 AM	
Volume				41		41			41	
PM Peak				3:45 PM		3:45 PM			3:45 PM	
Volume				49		49			49	

Comments:

LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
QC JOB #: 13917838
SPECIFIC LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				5		5			5	
12:15 AM				2		2			2	
12:30 AM				7		7			7	
12:45 AM				5		5			5	
1:00 AM				0		0			0	
1:15 AM				2		2			2	
1:30 AM				1		1			1	
1:45 AM				3		3			3	
2:00 AM				4		4			4	
2:15 AM				3		3			3	
2:30 AM				0		0			0	
2:45 AM				0		0			0	
3:00 AM				0		0			0	
3:15 AM				2		2			2	
3:30 AM				1		1			1	
3:45 AM				3		3			3	
4:00 AM				3		3			3	
4:15 AM				3		3			3	
4:30 AM				0		0			0	
4:45 AM				7		7			7	
5:00 AM				10		10			10	
5:15 AM				14		14			14	
5:30 AM				6		6			6	
5:45 AM				9		9			9	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
QC JOB #: 13917838
SPECIFIC LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				14		14			14	
6:15 AM				24		24			24	
6:30 AM				16		16			16	
6:45 AM				12		12			12	
7:00 AM				6		6			6	
7:15 AM				14		14			14	
7:30 AM				13		13			13	
7:45 AM				16		16			16	
8:00 AM				27		27			27	
8:15 AM				20		20			20	
8:30 AM				18		18			18	
8:45 AM				19		19			19	
9:00 AM				13		13			13	
9:15 AM				24		24			24	
9:30 AM				**30**		**30**			**30**	
9:45 AM				20		20			20	
10:00 AM				29		29			29	
10:15 AM				25		25			25	
10:30 AM				25		25			25	
10:45 AM				23		23			23	
11:00 AM				25		25			25	
11:15 AM				27		27			27	
11:30 AM				24		24			24	
11:45 AM				29		29			29	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
QC JOB #: 13917838
SPECIFIC LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				29		29			29	
12:15 PM				**40**		**40**			**40**	
12:30 PM				32		32			32	
12:45 PM				34		34			34	
1:00 PM				22		22			22	
1:15 PM				30		30			30	
1:30 PM				38		38			38	
1:45 PM				30		30			30	
2:00 PM				29		29			29	
2:15 PM				29		29			29	
2:30 PM				27		27			27	
2:45 PM				29		29			29	
3:00 PM				34		34			34	
3:15 PM				25		25			25	
3:30 PM				26		26			26	
3:45 PM				28		28			28	
4:00 PM				26		26			26	
4:15 PM				22		22			22	
4:30 PM				35		35			35	
4:45 PM				40		40			40	
5:00 PM				29		29			29	
5:15 PM				24		24			24	
5:30 PM				27		27			27	
5:45 PM				32		32			32	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
QC JOB #: 13917838
SPECIFIC LOCATION: 63. BARSTOW RD NORTH OF NORTHSIDE RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				25		25			25	
6:15 PM				28		28			28	
6:30 PM				31		31			31	
6:45 PM				22		22			22	
7:00 PM				18		18			18	
7:15 PM				26		26			26	
7:30 PM				22		22			22	
7:45 PM				19		19			19	
8:00 PM				14		14			14	
8:15 PM				12		12			12	
8:30 PM				11		11			11	
8:45 PM				18		18			18	
9:00 PM				10		10			10	
9:15 PM				11		11			11	
9:30 PM				7		7			7	
9:45 PM				7		7			7	
10:00 PM				6		6			6	
10:15 PM				7		7			7	
10:30 PM				5		5			5	
10:45 PM				11		11			11	
11:00 PM				8		8			8	
11:15 PM				4		4			4	
11:30 PM				4		4			4	
11:45 PM				6		6			6	
Day Total				1632		1632			1632	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				9:30 AM		9:30 AM			9:30 AM	
Volume				30		30			30	
PM Peak				12:15 PM		12:15 PM			12:15 PM	
Volume				40		40			40	

Comments:

Report generated on 12/6/2016 5:31 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

QC JOB #: 13917839

SPECIFIC LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				23		23			23	
12:15 AM				15		15			15	
12:30 AM				11		11			11	
12:45 AM				12		12			12	
1:00 AM				12		12			12	
1:15 AM				17		17			17	
1:30 AM				14		14			14	
1:45 AM				10		10			10	
2:00 AM				6		6			6	
2:15 AM				14		14			14	
2:30 AM				9		9			9	
2:45 AM				3		3			3	
3:00 AM				6		6			6	
3:15 AM				17		17			17	
3:30 AM				26		26			26	
3:45 AM				32		32			32	
4:00 AM				37		37			37	
4:15 AM				26		26			26	
4:30 AM				59		59			59	
4:45 AM				50		50			50	
5:00 AM				88		88			88	
5:15 AM				98		98			98	
5:30 AM				96		96			96	
5:45 AM				82		82			82	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

QC JOB #: 13917839

SPECIFIC LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				82		82			82	
6:15 AM				126		126			126	
6:30 AM				112		112			112	
6:45 AM				117		117			117	
7:00 AM				134		134			134	
7:15 AM				120		120			120	
7:30 AM				**151**		**151**			**151**	
7:45 AM				112		112			112	
8:00 AM				131		131			131	
8:15 AM				108		108			108	
8:30 AM				95		95			95	
8:45 AM				105		105			105	
9:00 AM				91		91			91	
9:15 AM				101		101			101	
9:30 AM				84		84			84	
9:45 AM				92		92			92	
10:00 AM				106		106			106	
10:15 AM				105		105			105	
10:30 AM				112		112			112	
10:45 AM				83		83			83	
11:00 AM				107		107			107	
11:15 AM				122		122			122	
11:30 AM				95		95			95	
11:45 AM				99		99			99	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

QC JOB #: 13917839

SPECIFIC LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD

DIRECTION: EB/WB

CITY/STATE: San Bernardino, CA

DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				148		148			148	
12:15 PM				97		97			97	
12:30 PM				112		112			112	
12:45 PM				104		104			104	
1:00 PM				126		126			126	
1:15 PM				131		131			131	
1:30 PM				138		138			138	
1:45 PM				122		122			122	
2:00 PM				136		136			136	
2:15 PM				144		144			144	
2:30 PM				126		126			126	
2:45 PM				127		127			127	
3:00 PM				146		146			146	
3:15 PM				148		148			148	
3:30 PM				154		154			154	
3:45 PM				**228**		**228**			**228**	
4:00 PM				211		211			211	
4:15 PM				210		210			210	
4:30 PM				200		200			200	
4:45 PM				168		168			168	
5:00 PM				226		226			226	
5:15 PM				194		194			194	
5:30 PM				180		180			180	
5:45 PM				180		180			180	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD
QC JOB #: 13917839
SPECIFIC LOCATION: 27. PALMDALE RD WEST OF CAUGHLIN RD
DIRECTION: EB/WB
CITY/STATE: San Bernardino, CA
DATE: Nov 17 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				155		155			155	
6:15 PM				168		168			168	
6:30 PM				126		126			126	
6:45 PM				120		120			120	
7:00 PM				117		117			117	
7:15 PM				123		123			123	
7:30 PM				108		108			108	
7:45 PM				71		71			71	
8:00 PM				102		102			102	
8:15 PM				71		71			71	
8:30 PM				77		77			77	
8:45 PM				71		71			71	
9:00 PM				77		77			77	
9:15 PM				45		45			45	
9:30 PM				53		53			53	
9:45 PM				43		43			43	
10:00 PM				41		41			41	
10:15 PM				27		27			27	
10:30 PM				39		39			39	
10:45 PM				25		25			25	
11:00 PM				33		33			33	
11:15 PM				26		26			26	
11:30 PM				22		22			22	
11:45 PM				33		33			33	
Day Total				8882		8882			8882	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				151		151			151	
PM Peak				3:45 PM		3:45 PM			3:45 PM	
Volume				228		228			228	

Comments:

LOCATION: 30.Beekley Rd north of Phelan Rd
QC JOB #: 13947503
SPECIFIC LOCATION: 30.Beekley Rd north of Phelan Rd
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			2	0		1			1	
12:15 AM			0	0		0			0	
12:30 AM			4	0		2			2	
12:45 AM			0	0		0			0	
1:00 AM			2	0		1			1	
1:15 AM			0	0		0			0	
1:30 AM			0	0		0			0	
1:45 AM			0	0		0			0	
2:00 AM			0	2		1			1	
2:15 AM			0	0		0			0	
2:30 AM			0	0		0			0	
2:45 AM			0	0		0			0	
3:00 AM			1	0		1			1	
3:15 AM			0	0		0			0	
3:30 AM			1	1		1			1	
3:45 AM			0	1		1			1	
4:00 AM			1	0		1			1	
4:15 AM			2	0		1			1	
4:30 AM			1	1		1			1	
4:45 AM			0	0		0			0	
5:00 AM			2	1		2			2	
5:15 AM			2	3		3			3	
5:30 AM			0	1		1			1	
5:45 AM			4	1		3			3	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 30.Beekley Rd north of Phelan Rd
QC JOB #: 13947503
SPECIFIC LOCATION: 30.Beekley Rd north of Phelan Rd
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			4	4		4			4	
6:15 AM			6	0		3			3	
6:30 AM			2	**6**		4			4	
6:45 AM			7	1		4			4	
7:00 AM			3	4		4			4	
7:15 AM			2	2		2			2	
7:30 AM			6	0		3			3	
7:45 AM			3	0		2			2	
8:00 AM			1	3		2			2	
8:15 AM			5	1		3			3	
8:30 AM			4	0		2			2	
8:45 AM			3	5		4			4	
9:00 AM			5	4		5			5	
9:15 AM			4	5		5			5	
9:30 AM			0	4		2			2	
9:45 AM			2	3		3			3	
10:00 AM			4	0		2			2	
10:15 AM			1	0		1			1	
10:30 AM			4	0		2			2	
10:45 AM			8	6		**7**			**7**	
11:00 AM			5	0		3			3	
11:15 AM			**9**	4		7			7	
11:30 AM			2	6		4			4	
11:45 AM			6	6		6			6	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 30.Beekley Rd north of Phelan Rd
QC JOB #: 13947503
SPECIFIC LOCATION: 30.Beekley Rd north of Phelan Rd
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			4	2		3			3	
12:15 PM			4	4		4			4	
12:30 PM			3	1		2			2	
12:45 PM			0	3		2			2	
1:00 PM			**7**	3		5			5	
1:15 PM			3	**8**		6			6	
1:30 PM			4	3		4			4	
1:45 PM			7	0		4			4	
2:00 PM			5	0		3			3	
2:15 PM			2	4		3			3	
2:30 PM			0	0		0			0	
2:45 PM			0	2		1			1	
3:00 PM			4	4		4			4	
3:15 PM			1	4		3			3	
3:30 PM			4	4		4			4	
3:45 PM			4	6		5			5	
4:00 PM			5	2		4			4	
4:15 PM			5	8		**7**			**7**	
4:30 PM			4	2		3			3	
4:45 PM			4	2		3			3	
5:00 PM			0	5		3			3	
5:15 PM			4	3		4			4	
5:30 PM			6	6		6			6	
5:45 PM			0	6		3			3	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 30.Beekley Rd north of Phelan Rd
QC JOB #: 13947503
SPECIFIC LOCATION: 30.Beekley Rd north of Phelan Rd
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 17 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu 17-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			0	2		1			1	
6:15 PM			2	1		2			2	
6:30 PM			4	0		2			2	
6:45 PM			6	1		4			4	
7:00 PM			3	2		3			3	
7:15 PM			0	2		1			1	
7:30 PM			1	3		2			2	
7:45 PM			2	0		1			1	
8:00 PM			3	0		2			2	
8:15 PM			0	4		2			2	
8:30 PM			1	4		3			3	
8:45 PM			4	1		3			3	
9:00 PM			3	3		3			3	
9:15 PM			0	0		0			0	
9:30 PM			0	0		0			0	
9:45 PM			0	0		0			0	
10:00 PM			2	0		1			1	
10:15 PM			0	0		0			0	
10:30 PM			3	0		2			2	
10:45 PM			0	0		0			0	
11:00 PM			0	0		0			0	
11:15 PM			4	1		3			3	
11:30 PM			0	0		0			0	
11:45 PM			0	2		1			1	
Day Total			236	183		226			226	
% Weekday Average			104.4%	81.0%						
% Week Average			104.4%	81.0%		100.0%				
AM Peak			11:15 AM	6:30 AM		10:45 AM			10:45 AM	
Volume			9	6		7			7	
PM Peak			1:00 PM	1:15 PM		4:15 PM			4:15 PM	
Volume			7	8		7			7	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD **QC JOB #:** 13947504

SPECIFIC LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD **DIRECTION:** NB/SB

CITY/STATE: Phelan, CA **DATE:** Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			4			4			4	
12:15 AM			2			2			2	
12:30 AM			3			3			3	
12:45 AM			1			1			1	
1:00 AM			4			4			4	
1:15 AM			1			1			1	
1:30 AM			2			2			2	
1:45 AM			2			2			2	
2:00 AM			5			5			5	
2:15 AM			1			1			1	
2:30 AM			5			5			5	
2:45 AM			6			6			6	
3:00 AM			5			5			5	
3:15 AM			4			4			4	
3:30 AM			4			4			4	
3:45 AM			14			14			14	
4:00 AM			14			14			14	
4:15 AM			16			16			16	
4:30 AM			12			12			12	
4:45 AM			13			13			13	
5:00 AM			16			16			16	
5:15 AM			28			28			28	
5:30 AM			24			24			24	
5:45 AM			25			25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD **QC JOB #:** 13947504

SPECIFIC LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD **DIRECTION:** NB/SB

CITY/STATE: Phelan, CA **DATE:** Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			32			32			32	
6:15 AM			52			52			52	
6:30 AM			86			86			86	
6:45 AM			44			44			44	
7:00 AM			48			48			48	
7:15 AM			50			50			50	
7:30 AM			78			78			78	
7:45 AM			**100**			**100**			**100**	
8:00 AM			66			66			66	
8:15 AM			46			46			46	
8:30 AM			55			55			55	
8:45 AM			56			56			56	
9:00 AM			50			50			50	
9:15 AM			36			36			36	
9:30 AM			38			38			38	
9:45 AM			22			22			22	
10:00 AM			35			35			35	
10:15 AM			46			46			46	
10:30 AM			49			49			49	
10:45 AM			46			46			46	
11:00 AM			44			44			44	
11:15 AM			54			54			54	
11:30 AM			56			56			56	
11:45 AM			50			50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD
QC JOB #: 13947504
SPECIFIC LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			43			43			43	
12:15 PM			49			49			49	
12:30 PM			42			42			42	
12:45 PM			56			56			56	
1:00 PM			42			42			42	
1:15 PM			40			40			40	
1:30 PM			44			44			44	
1:45 PM			59			59			59	
2:00 PM			64			64			64	
2:15 PM			60			60			60	
2:30 PM			84			84			84	
2:45 PM			58			58			58	
3:00 PM			83			83			83	
3:15 PM			76			76			76	
3:30 PM			50			50			50	
3:45 PM			**86**			**86**			**86**	
4:00 PM			72			72			72	
4:15 PM			68			68			68	
4:30 PM			62			62			62	
4:45 PM			64			64			64	
5:00 PM			65			65			65	
5:15 PM			84			84			84	
5:30 PM			68			68			68	
5:45 PM			58			58			58	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD
QC JOB #: 13947504
SPECIFIC LOCATION: 31. JOHNSON RD NORTH OF SMOKE TREE RD
DIRECTION: NB/SB
CITY/STATE: Phelan, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			52			52			52	
6:15 PM			60			60			60	
6:30 PM			59			59			59	
6:45 PM			36			36			36	
7:00 PM			48			48			48	
7:15 PM			37			37			37	
7:30 PM			33			33			33	
7:45 PM			29			29			29	
8:00 PM			33			33			33	
8:15 PM			22			22			22	
8:30 PM			22			22			22	
8:45 PM			29			29			29	
9:00 PM			22			22			22	
9:15 PM			20			20			20	
9:30 PM			16			16			16	
9:45 PM			22			22			22	
10:00 PM			16			16			16	
10:15 PM			10			10			10	
10:30 PM			14			14			14	
10:45 PM			12			12			12	
11:00 PM			8			8			8	
11:15 PM			10			10			10	
11:30 PM			4			4			4	
11:45 PM			6			6			6	
Day Total			3547			3547			3547	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:45 AM			7:45 AM			7:45 AM	
Volume			100			100			100	
PM Peak			3:45 PM			3:45 PM			3:45 PM	
Volume			86			86			86	

Comments:

LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
QC JOB #: 13947505
SPECIFIC LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
DIRECTION: EB/WB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			37			37			37	
12:15 AM			32			32			32	
12:30 AM			11			11			11	
12:45 AM			23			23			23	
1:00 AM			18			18			18	
1:15 AM			20			20			20	
1:30 AM			21			21			21	
1:45 AM			10			10			10	
2:00 AM			12			12			12	
2:15 AM			9			9			9	
2:30 AM			5			5			5	
2:45 AM			8			8			8	
3:00 AM			10			10			10	
3:15 AM			15			15			15	
3:30 AM			12			12			12	
3:45 AM			15			15			15	
4:00 AM			20			20			20	
4:15 AM			19			19			19	
4:30 AM			30			30			30	
4:45 AM			34			34			34	
5:00 AM			36			36			36	
5:15 AM			45			45			45	
5:30 AM			46			46			46	
5:45 AM			65			65			65	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
QC JOB #: 13947505
SPECIFIC LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
DIRECTION: EB/WB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			88			88			88	
6:15 AM			91			91			91	
6:30 AM			95			95			95	
6:45 AM			107			107			107	
7:00 AM			149			149			149	
7:15 AM			255			255			255	
7:30 AM			346			346			346	
7:45 AM			256			256			256	
8:00 AM			230			230			230	
8:15 AM			233			233			233	
8:30 AM			298			298			298	
8:45 AM			**362**			**362**			**362**	
9:00 AM			287			287			287	
9:15 AM			246			246			246	
9:30 AM			232			232			232	
9:45 AM			231			231			231	
10:00 AM			191			191			191	
10:15 AM			183			183			183	
10:30 AM			240			240			240	
10:45 AM			188			188			188	
11:00 AM			188			188			188	
11:15 AM			183			183			183	
11:30 AM			192			192			192	
11:45 AM			223			223			223	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
QC JOB #: 13947505
SPECIFIC LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
DIRECTION: EB/WB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			233			233			233	
12:15 PM			261			261			261	
12:30 PM			288			288			288	
12:45 PM			242			242			242	
1:00 PM			218			218			218	
1:15 PM			231			231			231	
1:30 PM			237			237			237	
1:45 PM			225			225			225	
2:00 PM			229			229			229	
2:15 PM			212			212			212	
2:30 PM			295			295			295	
2:45 PM			297			297			297	
3:00 PM			382			382			382	
3:15 PM			317			317			317	
3:30 PM			301			301			301	
3:45 PM			338			338			338	
4:00 PM			**415**			**415**			**415**	
4:15 PM			330			330			330	
4:30 PM			317			317			317	
4:45 PM			350			350			350	
5:00 PM			363			363			363	
5:15 PM			340			340			340	
5:30 PM			320			320			320	
5:45 PM			313			313			313	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
QC JOB #: 13947505
SPECIFIC LOCATION: 32. PHELAN RD EAST OF JOHNSON RD
DIRECTION: EB/WB
CITY/STATE: Phelan, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			303			303			303	
6:15 PM			300			300			300	
6:30 PM			277			277			277	
6:45 PM			249			249			249	
7:00 PM			246			246			246	
7:15 PM			212			212			212	
7:30 PM			187			187			187	
7:45 PM			164			164			164	
8:00 PM			163			163			163	
8:15 PM			129			129			129	
8:30 PM			124			124			124	
8:45 PM			100			100			100	
9:00 PM			113			113			113	
9:15 PM			114			114			114	
9:30 PM			77			77			77	
9:45 PM			91			91			91	
10:00 PM			96			96			96	
10:15 PM			64			64			64	
10:30 PM			55			55			55	
10:45 PM			42			42			42	
11:00 PM			52			52			52	
11:15 PM			41			41			41	
11:30 PM			55			55			55	
11:45 PM			40			40			40	
Day Total			15995			15995			15995	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			8:45 AM			8:45 AM			8:45 AM	
Volume			362			362			362	
PM Peak			4:00 PM			4:00 PM			4:00 PM	
Volume			415			415			415	

Comments:

LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD
QC JOB #: 13947507
SPECIFIC LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			8			8			8	
12:15 AM			9			9			9	
12:30 AM			7			7			7	
12:45 AM			6			6			6	
1:00 AM			2			2			2	
1:15 AM			3			3			3	
1:30 AM			9			9			9	
1:45 AM			5			5			5	
2:00 AM			3			3			3	
2:15 AM			7			7			7	
2:30 AM			7			7			7	
2:45 AM			2			2			2	
3:00 AM			5			5			5	
3:15 AM			7			7			7	
3:30 AM			8			8			8	
3:45 AM			7			7			7	
4:00 AM			12			12			12	
4:15 AM			8			8			8	
4:30 AM			14			14			14	
4:45 AM			20			20			20	
5:00 AM			27			27			27	
5:15 AM			44			44			44	
5:30 AM			30			30			30	
5:45 AM			26			26			26	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD

QC JOB #: 13947507

SPECIFIC LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			47			47			47	
6:15 AM			56			56			56	
6:30 AM			66			66			66	
6:45 AM			66			66			66	
7:00 AM			51			51			51	
7:15 AM			62			62			62	
7:30 AM			**89**			**89**			**89**	
7:45 AM			78			78			78	
8:00 AM			65			65			65	
8:15 AM			67			67			67	
8:30 AM			63			63			63	
8:45 AM			55			55			55	
9:00 AM			54			54			54	
9:15 AM			42			42			42	
9:30 AM			46			46			46	
9:45 AM			52			52			52	
10:00 AM			61			61			61	
10:15 AM			63			63			63	
10:30 AM			55			55			55	
10:45 AM			49			49			49	
11:00 AM			52			52			52	
11:15 AM			70			70			70	
11:30 AM			70			70			70	
11:45 AM			56			56			56	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD

QC JOB #: 13947507

SPECIFIC LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD

DIRECTION: NB/SB

CITY/STATE: San Bernardino, CA

DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			73			73			73	
12:15 PM			54			54			54	
12:30 PM			60			60			60	
12:45 PM			55			55			55	
1:00 PM			77			77			77	
1:15 PM			69			69			69	
1:30 PM			70			70			70	
1:45 PM			67			67			67	
2:00 PM			58			58			58	
2:15 PM			95			95			95	
2:30 PM			76			76			76	
2:45 PM			97			97			97	
3:00 PM			118			118			118	
3:15 PM			122			122			122	
3:30 PM			108			108			108	
3:45 PM			110			110			110	
4:00 PM			99			99			99	
4:15 PM			99			99			99	
4:30 PM			83			83			83	
4:45 PM			103			103			103	
5:00 PM			87			87			87	
5:15 PM			**140**			**140**			**140**	
5:30 PM			108			108			108	
5:45 PM			101			101			101	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD **QC JOB #:** 13947507

SPECIFIC LOCATION: 34. SHEEP CREEK RD SOUTH OF NIELSON RD **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			90			90			90	
6:15 PM			67			67			67	
6:30 PM			86			86			86	
6:45 PM			55			55			55	
7:00 PM			56			56			56	
7:15 PM			34			34			34	
7:30 PM			55			55			55	
7:45 PM			37			37			37	
8:00 PM			42			42			42	
8:15 PM			46			46			46	
8:30 PM			31			31			31	
8:45 PM			31			31			31	
9:00 PM			30			30			30	
9:15 PM			33			33			33	
9:30 PM			21			21			21	
9:45 PM			17			17			17	
10:00 PM			18			18			18	
10:15 PM			23			23			23	
10:30 PM			27			27			27	
10:45 PM			17			17			17	
11:00 PM			8			8			8	
11:15 PM			13			13			13	
11:30 PM			13			13			13	
11:45 PM			5			5			5	
Day Total			4695			4695			4695	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:30 AM			7:30 AM			7:30 AM	
Volume			89			89			89	
PM Peak			5:15 PM			5:15 PM			5:15 PM	
Volume			140			140			140	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

Report generated on 12/6/2016 5:34 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: 37. Caliente Rd north of ranchero
QC JOB #: 13947509
SPECIFIC LOCATION: 37. Caliente Rd north of ranchero
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
12:15 AM			2			2			2	
12:30 AM			1			1			1	
12:45 AM			3			3			3	
1:00 AM			1			1			1	
1:15 AM			2			2			2	
1:30 AM			3			3			3	
1:45 AM			0			0			0	
2:00 AM			1			1			1	
2:15 AM			2			2			2	
2:30 AM			0			0			0	
2:45 AM			0			0			0	
3:00 AM			1			1			1	
3:15 AM			0			0			0	
3:30 AM			2			2			2	
3:45 AM			2			2			2	
4:00 AM			0			0			0	
4:15 AM			3			3			3	
4:30 AM			2			2			2	
4:45 AM			3			3			3	
5:00 AM			4			4			4	
5:15 AM			6			6			6	
5:30 AM			7			7			7	
5:45 AM			3			3			3	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 37. Caliente Rd north of ranchero
QC JOB #: 13947509
SPECIFIC LOCATION: 37. Caliente Rd north of ranchero
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			16			16			16	
6:15 AM			12			12			12	
6:30 AM			20			20			20	
6:45 AM			15			15			15	
7:00 AM			9			9			9	
7:15 AM			13			13			13	
7:30 AM			12			12			12	
7:45 AM			10			10			10	
8:00 AM			14			14			14	
8:15 AM			64			64			64	
8:30 AM			153			153			153	
8:45 AM			181			181			181	
9:00 AM			134			134			134	
9:15 AM			**197**			**197**			**197**	
9:30 AM			124			124			124	
9:45 AM			159			159			159	
10:00 AM			153			153			153	
10:15 AM			172			172			172	
10:30 AM			136			136			136	
10:45 AM			127			127			127	
11:00 AM			135			135			135	
11:15 AM			112			112			112	
11:30 AM			109			109			109	
11:45 AM			144			144			144	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 37. Caliente Rd north of ranchero
QC JOB #: 13947509
SPECIFIC LOCATION: 37. Caliente Rd north of ranchero
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			**130**			**130**			**130**	
12:15 PM			116			116			116	
12:30 PM			19			19			19	
12:45 PM			15			15			15	
1:00 PM			9			9			9	
1:15 PM			17			17			17	
1:30 PM			17			17			17	
1:45 PM			13			13			13	
2:00 PM			10			10			10	
2:15 PM			14			14			14	
2:30 PM			11			11			11	
2:45 PM			11			11			11	
3:00 PM			15			15			15	
3:15 PM			17			17			17	
3:30 PM			20			20			20	
3:45 PM			24			24			24	
4:00 PM			8			8			8	
4:15 PM			13			13			13	
4:30 PM			25			25			25	
4:45 PM			12			12			12	
5:00 PM			25			25			25	
5:15 PM			14			14			14	
5:30 PM			10			10			10	
5:45 PM			15			15			15	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 37. Caliente Rd north of ranchero
QC JOB #: 13947509
SPECIFIC LOCATION: 37. Caliente Rd north of ranchero
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Oct 19 2016 - Oct 19 2016

Start Time	Mon	Tue	Wed 19-Oct-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			19			19			19	
6:15 PM			11			11			11	
6:30 PM			11			11			11	
6:45 PM			7			7			7	
7:00 PM			6			6			6	
7:15 PM			8			8			8	
7:30 PM			5			5			5	
7:45 PM			4			4			4	
8:00 PM			11			11			11	
8:15 PM			5			5			5	
8:30 PM			3			3			3	
8:45 PM			9			9			9	
9:00 PM			14			14			14	
9:15 PM			5			5			5	
9:30 PM			2			2			2	
9:45 PM			3			3			3	
10:00 PM			0			0			0	
10:15 PM			1			1			1	
10:30 PM			0			0			0	
10:45 PM			2			2			2	
11:00 PM			0			0			0	
11:15 PM			1			1			1	
11:30 PM			2			2			2	
11:45 PM			1			1			1	
Day Total			2980			2980			2980	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			9:15 AM			9:15 AM			9:15 AM	
Volume			197			197			197	
PM Peak			12:00 PM			12:00 PM			12:00 PM	
Volume			130			130			130	

Comments:

LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **QC JOB #:** 13947510

SPECIFIC LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			5			5			5	
12:15 AM			9			9			9	
12:30 AM			4			4			4	
12:45 AM			2			2			2	
1:00 AM			1			1			1	
1:15 AM			3			3			3	
1:30 AM			4			4			4	
1:45 AM			6			6			6	
2:00 AM			2			2			2	
2:15 AM			4			4			4	
2:30 AM			0			0			0	
2:45 AM			4			4			4	
3:00 AM			2			2			2	
3:15 AM			2			2			2	
3:30 AM			5			5			5	
3:45 AM			2			2			2	
4:00 AM			5			5			5	
4:15 AM			1			1			1	
4:30 AM			4			4			4	
4:45 AM			8			8			8	
5:00 AM			10			10			10	
5:15 AM			14			14			14	
5:30 AM			14			14			14	
5:45 AM			10			10			10	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **QC JOB #:** 13947510

SPECIFIC LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			25			25			25	
6:15 AM			18			18			18	
6:30 AM			19			19			19	
6:45 AM			23			23			23	
7:00 AM			24			24			24	
7:15 AM			35			35			35	
7:30 AM			33			33			33	
7:45 AM			**43**			**43**			**43**	
8:00 AM			39			39			39	
8:15 AM			33			33			33	
8:30 AM			27			27			27	
8:45 AM			25			25			25	
9:00 AM			31			31			31	
9:15 AM			22			22			22	
9:30 AM			23			23			23	
9:45 AM			34			34			34	
10:00 AM			23			23			23	
10:15 AM			26			26			26	
10:30 AM			28			28			28	
10:45 AM			14			14			14	
11:00 AM			17			17			17	
11:15 AM			29			29			29	
11:30 AM			17			17			17	
11:45 AM			20			20			20	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **QC JOB #:** 13947510

SPECIFIC LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			13			13			13	
12:15 PM			20			20			20	
12:30 PM			21			21			21	
12:45 PM			22			22			22	
1:00 PM			23			23			23	
1:15 PM			29			29			29	
1:30 PM			25			25			25	
1:45 PM			28			28			28	
2:00 PM			19			19			19	
2:15 PM			17			17			17	
2:30 PM			30			30			30	
2:45 PM			18			18			18	
3:00 PM			25			25			25	
3:15 PM			17			17			17	
3:30 PM			24			24			24	
3:45 PM			26			26			26	
4:00 PM			31			31			31	
4:15 PM			27			27			27	
4:30 PM			26			26			26	
4:45 PM			26			26			26	
5:00 PM			24			24			24	
5:15 PM			**49**			**49**			**49**	
5:30 PM			34			34			34	
5:45 PM			38			38			38	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY
QC JOB #: 13947510
SPECIFIC LOCATION: 38. LONE PINE CANYON RD SOUTH OF ANGELES CREST HWY
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 16 2016 - Nov 16 2016

Start Time	Mon	Tue	Wed 16-Nov-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			37			37			37	
6:15 PM			41			41			41	
6:30 PM			36			36			36	
6:45 PM			34			34			34	
7:00 PM			38			38			38	
7:15 PM			25			25			25	
7:30 PM			23			23			23	
7:45 PM			23			23			23	
8:00 PM			25			25			25	
8:15 PM			18			18			18	
8:30 PM			23			23			23	
8:45 PM			24			24			24	
9:00 PM			11			11			11	
9:15 PM			16			16			16	
9:30 PM			20			20			20	
9:45 PM			7			7			7	
10:00 PM			11			11			11	
10:15 PM			18			18			18	
10:30 PM			11			11			11	
10:45 PM			11			11			11	
11:00 PM			9			9			9	
11:15 PM			8			8			8	
11:30 PM			7			7			7	
11:45 PM			5			5			5	
Day Total			1842			1842			1842	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			7:45 AM			7:45 AM			7:45 AM	
Volume			43			43			43	
PM Peak			5:15 PM			5:15 PM			5:15 PM	
Volume			49			49			49	

Comments:

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4				4			4	
12:15 AM		12				12			12	
12:30 AM		10				10			10	
12:45 AM		2				2			2	
1:00 AM		11				11			11	
1:15 AM		5				5			5	
1:30 AM		0				0			0	
1:45 AM		2				2			2	
2:00 AM		6				6			6	
2:15 AM		0				0			0	
2:30 AM		2				2			2	
2:45 AM		0				0			0	
3:00 AM		2				2			2	
3:15 AM		4				4			4	
3:30 AM		4				4			4	
3:45 AM		5				5			5	
4:00 AM		10				10			10	
4:15 AM		9				9			9	
4:30 AM		8				8			8	
4:45 AM		6				6			6	
5:00 AM		10				10			10	
5:15 AM		13				13			13	
5:30 AM		20				20			20	
5:45 AM		14				14			14	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		24				24			24	
6:15 AM		18				18			18	
6:30 AM		38				38			38	
6:45 AM		56				56			56	
7:00 AM		77				77			77	
7:15 AM		58				58			58	
7:30 AM		46				46			46	
7:45 AM		55				55			55	
8:00 AM		52				52			52	
8:15 AM		81				81			81	
8:30 AM		**82**				**82**			**82**	
8:45 AM		74				74			74	
9:00 AM		42				42			42	
9:15 AM		36				36			36	
9:30 AM		22				22			22	
9:45 AM		20				20			20	
10:00 AM		24				24			24	
10:15 AM		28				28			28	
10:30 AM		24				24			24	
10:45 AM		25				25			25	
11:00 AM		21				21			21	
11:15 AM		34				34			34	
11:30 AM		23				23			23	
11:45 AM		25				25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		32				32			32	
12:15 PM		28				28			28	
12:30 PM		28				28			28	
12:45 PM		22				22			22	
1:00 PM		31				31			31	
1:15 PM		32				32			32	
1:30 PM		33				33			33	
1:45 PM		30				30			30	
2:00 PM		30				30			30	
2:15 PM		28				28			28	
2:30 PM		40				40			40	
2:45 PM		32				32			32	
3:00 PM		40				40			40	
3:15 PM		58				58			58	
3:30 PM		**81**				**81**			**81**	
3:45 PM		42				42			42	
4:00 PM		38				38			38	
4:15 PM		42				42			42	
4:30 PM		42				42			42	
4:45 PM		45				45			45	
5:00 PM		48				48			48	
5:15 PM		48				48			48	
5:30 PM		42				42			42	
5:45 PM		50				50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** EB/WB

CITY/STATE: San Bernardino, CA **DATE:** Oct 11 2016 - Oct 11 2016

Start Time	Mon	Tue 11-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		42				42			42	
6:15 PM		47				47			47	
6:30 PM		34				34			34	
6:45 PM		28				28			28	
7:00 PM		20				20			20	
7:15 PM		20				20			20	
7:30 PM		31				31			31	
7:45 PM		14				14			14	
8:00 PM		18				18			18	
8:15 PM		23				23			23	
8:30 PM		20				20			20	
8:45 PM		22				22			22	
9:00 PM		17				17			17	
9:15 PM		19				19			19	
9:30 PM		17				17			17	
9:45 PM		24				24			24	
10:00 PM		12				12			12	
10:15 PM		4				4			4	
10:30 PM		5				5			5	
10:45 PM		20				20			20	
11:00 PM		7				7			7	
11:15 PM		11				11			11	
11:30 PM		5				5			5	
11:45 PM		2				2			2	
Day Total		2548				2548			2548	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:30 AM				8:30 AM			8:30 AM	
Volume		82				82			82	
PM Peak		3:30 PM				3:30 PM			3:30 PM	
Volume		81				81			81	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				9		9			9	
12:15 AM				8		8			8	
12:30 AM				9		9			9	
12:45 AM				2		2			2	
1:00 AM				4		4			4	
1:15 AM				2		2			2	
1:30 AM				3		3			3	
1:45 AM				0		0			0	
2:00 AM				3		3			3	
2:15 AM				0		0			0	
2:30 AM				2		2			2	
2:45 AM				2		2			2	
3:00 AM				4		4			4	
3:15 AM				8		8			8	
3:30 AM				4		4			4	
3:45 AM				3		3			3	
4:00 AM				5		5			5	
4:15 AM				14		14			14	
4:30 AM				12		12			12	
4:45 AM				12		12			12	
5:00 AM				15		15			15	
5:15 AM				21		21			21	
5:30 AM				29		29			29	
5:45 AM				22		22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				31		31			31	
6:15 AM				31		31			31	
6:30 AM				40		40			40	
6:45 AM				54		54			54	
7:00 AM				62		62			62	
7:15 AM				62		62			62	
7:30 AM				60		60			60	
7:45 AM				55		55			55	
8:00 AM				65		65			65	
8:15 AM				72		72			72	
8:30 AM				**74**		**74**			**74**	
8:45 AM				66		66			66	
9:00 AM				48		48			48	
9:15 AM				43		43			43	
9:30 AM				45		45			45	
9:45 AM				37		37			37	
10:00 AM				38		38			38	
10:15 AM				36		36			36	
10:30 AM				39		39			39	
10:45 AM				35		35			35	
11:00 AM				41		41			41	
11:15 AM				51		51			51	
11:30 AM				51		51			51	
11:45 AM				42		42			42	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				53		53			53	
12:15 PM				68		68			68	
12:30 PM				47		47			47	
12:45 PM				76		76			76	
1:00 PM				120		120			120	
1:15 PM				**127**		**127**			**127**	
1:30 PM				76		76			76	
1:45 PM				63		63			63	
2:00 PM				64		64			64	
2:15 PM				58		58			58	
2:30 PM				79		79			79	
2:45 PM				62		62			62	
3:00 PM				92		92			92	
3:15 PM				71		71			71	
3:30 PM				94		94			94	
3:45 PM				71		71			71	
4:00 PM				63		63			63	
4:15 PM				64		64			64	
4:30 PM				70		70			70	
4:45 PM				91		91			91	
5:00 PM				80		80			80	
5:15 PM				76		76			76	
5:30 PM				72		72			72	
5:45 PM				68		68			68	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **QC JOB #:** 13947513

SPECIFIC LOCATION: 41. GLEN HELEN PKWY NORTH OF I-215 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				66		66			66	
6:15 PM				67		67			67	
6:30 PM				56		56			56	
6:45 PM				42		42			42	
7:00 PM				45		45			45	
7:15 PM				42		42			42	
7:30 PM				29		29			29	
7:45 PM				20		20			20	
8:00 PM				20		20			20	
8:15 PM				19		19			19	
8:30 PM				26		26			26	
8:45 PM				31		31			31	
9:00 PM				34		34			34	
9:15 PM				18		18			18	
9:30 PM				24		24			24	
9:45 PM				16		16			16	
10:00 PM				16		16			16	
10:15 PM				7		7			7	
10:30 PM				12		12			12	
10:45 PM				9		9			9	
11:00 PM				10		10			10	
11:15 PM				12		12			12	
11:30 PM				8		8			8	
11:45 PM				8		8			8	
Day Total				3813		3813			3813	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				8:30 AM 74		8:30 AM 74			8:30 AM 74	
PM Peak Volume				1:15 PM 127		1:15 PM 127			1:15 PM 127	

Comments:

LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **QC JOB #:** 13947522

SPECIFIC LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 18 2016 - Oct 18 2016

Start Time	Mon	Tue 18-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6				6			6	
12:15 AM		0				0			0	
12:30 AM		8				8			8	
12:45 AM		0				0			0	
1:00 AM		1				1			1	
1:15 AM		1				1			1	
1:30 AM		0				0			0	
1:45 AM		1				1			1	
2:00 AM		1				1			1	
2:15 AM		1				1			1	
2:30 AM		0				0			0	
2:45 AM		1				1			1	
3:00 AM		1				1			1	
3:15 AM		0				0			0	
3:30 AM		0				0			0	
3:45 AM		1				1			1	
4:00 AM		6				6			6	
4:15 AM		5				5			5	
4:30 AM		9				9			9	
4:45 AM		13				13			13	
5:00 AM		28				28			28	
5:15 AM		37				37			37	
5:30 AM		28				28			28	
5:45 AM		42				42			42	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **QC JOB #:** 13947522

SPECIFIC LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 18 2016 - Oct 18 2016

Start Time	Mon	Tue 18-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM		**49**				**49**			**49**	
6:15 AM		38				38			38	
6:30 AM		36				36			36	
6:45 AM		36				36			36	
7:00 AM		32				32			32	
7:15 AM		22				22			22	
7:30 AM		18				18			18	
7:45 AM		8				8			8	
8:00 AM		21				21			21	
8:15 AM		20				20			20	
8:30 AM		14				14			14	
8:45 AM		13				13			13	
9:00 AM		13				13			13	
9:15 AM		14				14			14	
9:30 AM		12				12			12	
9:45 AM		12				12			12	
10:00 AM		6				6			6	
10:15 AM		8				8			8	
10:30 AM		11				11			11	
10:45 AM		10				10			10	
11:00 AM		16				16			16	
11:15 AM		9				9			9	
11:30 AM		17				17			17	
11:45 AM		13				13			13	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **QC JOB #:** 13947522

SPECIFIC LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 18 2016 - Oct 18 2016

Start Time	Mon	Tue 18-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM		11				11			11	
12:15 PM		14				14			14	
12:30 PM		12				12			12	
12:45 PM		8				8			8	
1:00 PM		9				9			9	
1:15 PM		16				16			16	
1:30 PM		16				16			16	
1:45 PM		20				20			20	
2:00 PM		13				13			13	
2:15 PM		21				21			21	
2:30 PM		17				17			17	
2:45 PM		24				24			24	
3:00 PM		25				25			25	
3:15 PM		22				22			22	
3:30 PM		26				26			26	
3:45 PM		44				44			44	
4:00 PM		64				64			64	
4:15 PM		49				49			49	
4:30 PM		**78**				**78**			**78**	
4:45 PM		40				40			40	
5:00 PM		63				63			63	
5:15 PM		38				38			38	
5:30 PM		38				38			38	
5:45 PM		23				23			23	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **QC JOB #:** 13947522

SPECIFIC LOCATION: 5. IRWIN RD NORTH OF OLD HWY 58 **DIRECTION:** NB/SB

CITY/STATE: San Bernardino, CA **DATE:** Oct 18 2016 - Oct 18 2016

Start Time	Mon	Tue 18-Oct-16	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM		20				20			20	
6:15 PM		18				18			18	
6:30 PM		46				46			46	
6:45 PM		17				17			17	
7:00 PM		9				9			9	
7:15 PM		6				6			6	
7:30 PM		10				10			10	
7:45 PM		11				11			11	
8:00 PM		7				7			7	
8:15 PM		4				4			4	
8:30 PM		10				10			10	
8:45 PM		3				3			3	
9:00 PM		3				3			3	
9:15 PM		2				2			2	
9:30 PM		3				3			3	
9:45 PM		1				1			1	
10:00 PM		3				3			3	
10:15 PM		3				3			3	
10:30 PM		3				3			3	
10:45 PM		2				2			2	
11:00 PM		0				0			0	
11:15 PM		1				1			1	
11:30 PM		1				1			1	
11:45 PM		3				3			3	
Day Total		1515				1515			1515	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		6:00 AM				6:00 AM			6:00 AM	
Volume		49				49			49	
PM Peak		4:30 PM				4:30 PM			4:30 PM	
Volume		78				78			78	

Comments:

Quality Counts TRANSPORTATION DATA COLLECTION

LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
QC JOB #: 13947527
SPECIFIC LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				86		86			86	
12:15 AM				80		80			80	
12:30 AM				72		72			72	
12:45 AM				72		72			72	
1:00 AM				56		56			56	
1:15 AM				64		64			64	
1:30 AM				59		59			59	
1:45 AM				49		49			49	
2:00 AM				54		54			54	
2:15 AM				65		65			65	
2:30 AM				79		79			79	
2:45 AM				105		105			105	
3:00 AM				97		97			97	
3:15 AM				98		98			98	
3:30 AM				150		150			150	
3:45 AM				150		150			150	
4:00 AM				140		140			140	
4:15 AM				216		216			216	
4:30 AM				287		287			287	
4:45 AM				219		219			219	
5:00 AM				226		226			226	
5:15 AM				272		272			272	
5:30 AM				316		316			316	
5:45 AM				259		259			259	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
QC JOB #: 13947527
SPECIFIC LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				289		289			289	
6:15 AM				352		352			352	
6:30 AM				438		438			438	
6:45 AM				378		378			378	
7:00 AM				**448**		**448**			**448**	
7:15 AM				444		444			444	
7:30 AM				432		432			432	
7:45 AM				415		415			415	
8:00 AM				393		393			393	
8:15 AM				403		403			403	
8:30 AM				368		368			368	
8:45 AM				328		328			328	
9:00 AM				317		317			317	
9:15 AM				314		314			314	
9:30 AM				322		322			322	
9:45 AM				316		316			316	
10:00 AM				300		300			300	
10:15 AM				271		271			271	
10:30 AM				319		319			319	
10:45 AM				337		337			337	
11:00 AM				330		330			330	
11:15 AM				326		326			326	
11:30 AM				355		355			355	
11:45 AM				353		353			353	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
QC JOB #: 13947527
SPECIFIC LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				337		337			337	
12:15 PM				360		360			360	
12:30 PM				348		348			348	
12:45 PM				355		355			355	
1:00 PM				317		317			317	
1:15 PM				382		382			382	
1:30 PM				404		404			404	
1:45 PM				400		400			400	
2:00 PM				404		404			404	
2:15 PM				410		410			410	
2:30 PM				439		439			439	
2:45 PM				445		445			445	
3:00 PM				421		421			421	
3:15 PM				419		419			419	
3:30 PM				448		448			448	
3:45 PM				432		432			432	
4:00 PM				399		399			399	
4:15 PM				393		393			393	
4:30 PM				**466**		**466**			**466**	
4:45 PM				430		430			430	
5:00 PM				436		436			436	
5:15 PM				425		425			425	
5:30 PM				465		465			465	
5:45 PM				441		441			441	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
QC JOB #: 13947527
SPECIFIC LOCATION: 54. CEDAR AVE NORTH OF BLOOMINGTON AVE
DIRECTION: NB/SB
CITY/STATE: San Bernardino, CA
DATE: Nov 10 2016 - Nov 10 2016

Start Time	Mon	Tue	Wed	Thu 10-Nov-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				416		416			416	
6:15 PM				424		424			424	
6:30 PM				373		373			373	
6:45 PM				392		392			392	
7:00 PM				382		382			382	
7:15 PM				366		366			366	
7:30 PM				295		295			295	
7:45 PM				334		334			334	
8:00 PM				296		296			296	
8:15 PM				269		269			269	
8:30 PM				284		284			284	
8:45 PM				232		232			232	
9:00 PM				247		247			247	
9:15 PM				284		284			284	
9:30 PM				229		229			229	
9:45 PM				214		214			214	
10:00 PM				220		220			220	
10:15 PM				191		191			191	
10:30 PM				183		183			183	
10:45 PM				170		170			170	
11:00 PM				198		198			198	
11:15 PM				126		126			126	
11:30 PM				137		137			137	
11:45 PM				123		123			123	
Day Total				27980		27980			27980	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				7:00 AM 448		7:00 AM 448			7:00 AM 448	
PM Peak Volume				4:30 PM 466		4:30 PM 466			4:30 PM 466	

Comments:

Appendix C:
Existing Conditions Report



San Bernardino Countywide Plan

Transportation Existing Conditions Report

Prepared for:
County of San Bernardino

March 2017

OC15-0399

FEHR PEERS

DRAFT

Table of Contents

INTRODUCTION **1**

EXISTING CONDITIONS **2**

Roadway System 2
Roadway Designations 2
Public Transit 54
Fixed-Route Transit Service 54
Paratransit Service 57
Transit Facilities 58
Airports 75
Goods Movement 75
Non-Motorized Transportation Facilities 92
Pedestrian Environment 92
Bicycle Facilities 94
Transportation System Performance 108
Mode Choice 108
Travel Time to Work 109
Work Trips Inside San Bernardino County 109
Land Use Place Types and Active Transportation 110
Traffic Congestion 127
Collision Analysis 145

REGULATORY SETTING **146**

State Regulations 146
AB 1358 – Complete Streets Act 146
AB 32 – Global Warming Solutions Act 146
SB 375 – Sustainable Communities and Climate Protection Act 147
SB 743 – General CEQA Reform 148
AB 417 – CEQA and Bicycle Transportation Plans 149
Caltrans Guide for the Preparation of Traffic Impact Studies 149

DRAFT

OPR General Plan Guidelines Update 149
Regional Regulations and Plans 150
Congestion Management Program for San Bernardino County 150
San Bernardino Countywide Transportation Plan 150
San Bernardino County Non-Motorized Transportation Plan 150
SANBAG Short Range Transit Plan (SRTP) 151
SANBAG Long Range Transit Plan (LRTP) 151
San Bernardino Countywide Points of Interest Pedestrian Plan 151
Local Regulations and Plans 152
County of San Bernardino Community plans 152
OmniTrans OmniConnects Short Range Transit Plan 153
Best Practices and Emerging Trends 154
Complete Streets 154
Active Transportation 154
Multi-Modal LOS 154
Layered Networks 155
KEY ISSUES 156

DRAFT

Appendices

Appendix A: SANBAG CTP Project List

DRAFT

List of Figures

Figure 1.1 – Countywide Roadway Designations 4
Figure 1.2 – Desert Region Roadway Designations 5
Figure 1.3 – Mountain Region Roadway Designations 6
Figure 1.4 – Valley Region Roadway Designations 7
Figure 1.5 – Bear Valley Community Plan Roadway Designations 8
Figure 1.6 – Bloomington Community Plan Roadway Designations 9
Figure 1.7 – Crest Forest Community Plan Roadway Designations 10
Figure 1.8 – Helendale Community Plan Roadway Designations 11
Figure 1.9 – Hilltop Community Plan Roadway Designations 12
Figure 1.10 – Joshua Tree Community Plan Roadway Designations 13
Figure 1.11 – Lake Arrowhead Community Plan Roadway Designations 14
Figure 1.12 – Lucerne Valley Community Plan Roadway Designations 15
Figure 1.13 – Mentone Community Plan Roadway Designations 16
Figure 1.14 – Muscoy Community Plan Roadway Designations 17
Figure 1.15 – Oak Glen Community Plan Roadway Designations 18
Figure 1.16 – Phelan/Pinon Hills Community Plan Roadway Designations 19
Figure 2.1 – Countywide Existing Counts 38
Figure 2.2 – Desert Region Existing Counts 39
Figure 2.3 – Mountain Region Existing Counts 40
Figure 2.4 – Valley Region Existing Counts 41
Figure 2.5 – Bear Valley Community Plan Existing Counts 42
Figure 2.6 – Bloomington Community Plan Existing Counts 43
Figure 2.7 – Crest Forest Community Plan Existing Counts 44
Figure 2.8 – Helendale Community Plan Existing Counts 45
Figure 2.9 – Hilltop Community Plan Existing Counts 46
Figure 2.10 – Joshua Tree Community Plan Existing Counts 47
Figure 2.11 – Lake Arrowhead Community Plan Existing Counts 48
Figure 2.12 – Lucerne Valley Community Plan Existing Counts 49
Figure 2.13 – Mentone Community Plan Existing Counts 50
Figure 2.14 – Muscoy Community Plan Existing Counts 51
Figure 2.15 – Oak Glen Community Plan Existing Counts 52

DRAFT

Figure 2.16 – Phelan/Pinon Hills Community Plan Existing Counts 53
Figure 3.1 – Countywide Transit Routes 59
Figure 3.2 – Desert Region Transit Routes 60
Figure 3.3 – Mountain Region Transit Routes 61
Figure 3.4 – Valley Region Transit Routes 62
Figure 3.5 – Bear Valley Community Plan Transit Routes 63
Figure 3.6 – Bloomington Community Plan Transit Routes 64
Figure 3.7 – Crest Forest Community Plan Transit Routes 65
Figure 3.8 – Helendale Community Plan Transit Routes 66
Figure 3.9 – Hilltop Community Plan Transit Routes 67
Figure 3.10 – Joshua Tree Community Plan Transit Routes 68
Figure 3.11 – Lake Arrowhead Community Plan Transit Routes 69
Figure 3.12 – Lucerne Valley Community Plan Transit Routes 70
Figure 3.13 – Mentone Community Plan Transit Routes 71
Figure 3.14 – Muscoy Community Plan Transit Routes 72
Figure 3.15 – Oak Glen Community Plan Transit Routes 73
Figure 3.16 – Phelan/Pinon Hills Community Plan Transit Routes 74
Figure 4.1 – Countywide Goods Movement 77
Figure 4.2 – Desert Region Goods Movement 78
Figure 4.3 – Mountain Region Goods Movement 79
Figure 4.4 – Valley Region Goods Movement 80
Figure 4.5 – Bear Valley Community Plan Goods Movement 81
Figure 4.6 – Bloomington Community Plan Goods Movement 82
Figure 4.7 – Crest Forest Community Plan Goods Movement 83
Figure 4.8 – Helendale Community Plan Goods Movement 84
Figure 4.9 – Hilltop Community Plan Goods Movement 85
Figure 4.10 – Joshua Tree Community Plan Goods Movement 86
Figure 4.11 – Lake Arrowhead Community Plan Goods Movement 87
Figure 4.12 – Lucerne Valley Community Plan Goods Movement 88
Figure 4.13 – Mentone Community Plan Goods Movement 89
Figure 4.14 – Muscoy Community Plan Goods Movement 90
Figure 4.15 – Phelan/Pinon Hills Community Plan Goods Movement 91

DRAFT

Figure 5.1 – Countywide Bicycle Facilities 96
Figure 5.2 – Desert Region Bicycle Facilities 97
Figure 5.3 – Mountain Region Bicycle Facilities 98
Figure 5.4 – Valley Region Bicycle Facilities 99
Figure 5.5 – Bear Valley Community Plan Bicycle Facilities 100
Figure 5.6 – Bloomington Community Plan Bicycle Facilities 101
Figure 5.7 – Joshua Tree Community Plan Bicycle Facilities 102
Figure 5.8 – Lucerne Valley Community Plan Bicycle Facilities 103
Figure 5.9 – Mentone Community Plan Bicycle Facilities 104
Figure 5.10 – Muscoy Community Plan Bicycle Facilities 105
Figure 5.11 – Oak Glen Community Plan Bicycle Facilities 106
Figure 5.12 – Phelan/Pinon Hills Community Plan Bicycle Facilities 107
Figure 6.1 – Countywide Place Type Grouping 112
Figure 6.2 – Desert Region Place Type Grouping 113
Figure 6.3 – Mountain Region Place Type Grouping 114
Figure 6.4 – Valley Region Place Type Grouping 115
Figure 6.5 – Bear Valley Community Plan Place Type Grouping 116
Figure 6.6 – Bloomington Community Plan Place Type Grouping 117
Figure 6.7 – Crest Forest Community Plan Place Type Grouping 118
Figure 6.8 – Hilltop Community Plan Place Type Grouping 119
Figure 6.9 – Joshua Tree Community Plan Place Type Grouping 120
Figure 6.10 – Lake Arrowhead Community Plan Place Type Grouping 121
Figure 6.11 – Lucerne Valley Community Plan Place Type Grouping 122
Figure 6.12 – Mentone Community Plan Place Type Grouping 123
Figure 6.13 – Muscoy Community Plan Place Type Grouping 124
Figure 6.14 – Oak Glen Community Plan Place Type Grouping 125
Figure 6.15 – Phelan/Pinon Hills Community Plan Place Type Grouping 126
Figure 7.1 – Desert Region Unacceptable Roadway Level of Service 143
Figure 7.2 – Valley Region Unacceptable Roadway Level of Service 144

DRAFT

List of Tables

Table 1 – County of San Bernardino General Plan Roadway Designations....3
Table 2 – SANBAG Ten-Year Delivery Plan Projects....20
Table 3 – San Bernardino County Existing ADT Counts....22
Table 4 – Existing Pedestrian Facilities....93
Table 5 – Commuter Modal Split....108
Table 6 – Percentage of Residents Traveling Outside County for Work....110
Table 7 – SCAG Place Types....111
Table 8 – Roadway Daily Volume Thresholds....127
Table 9 – Existing Roadway Level of Service....128
Table 10 – Community Plans....152

List of Charts

Chart 1: Travel Time to Work....109
Chart 2: Collisions by Type....145

DRAFT

INTRODUCTION

The availability and affordability of transportation options shape not only the way in which people navigate the physical environment, but also the environment itself. Mobility within a community involves multiple modes of transportation, including automobile, public transit, bicycle, and others. Offering multiple modes of transportation can improve utility, social connectivity, and provide a range of choices for the individual traveler.

This chapter describes the physical and operational conditions of the circulation network in San Bernardino County, including roadways, pedestrian and bicycle circulation, public transit, and goods movement. This chapter also summarizes the regulatory framework affecting transportation in the county, including State, regional and local regulations and plans. Finally, this chapter identifies key issues and opportunities for consideration in developing the San Bernardino County General Plan Update.

DRAFT

EXISTING CONDITIONS

San Bernardino County lies in the southeastern portion of the State of California. It borders Inyo County to the north, Kern and Los Angeles Counties to the west, Orange County to the southwest, Riverside County to the south, and Nevada and Arizona to the east. San Bernardino County is the largest county in the nation by area, the fifth most populous in the state, and the twelfth most populous in the country. There are twenty four cities, the newest being Chino Hills and Yucca Valley which incorporated in 1991. Additionally there are several unincorporated communities in the county.

The transportation system in San Bernardino County includes diverse elements including roadway systems and bicycle systems as well as multiple public transit systems providing both local and regional bus service. The transportation elements within San Bernardino County are discussed in greater detail below.

ROADWAY SYSTEM

The roadway system is comprised of seven roadway designations: Major Divided Highway, Major Arterial Highway, Major Highway, Secondary Highway, Controlled/Limited Access Collector, Mountain Major Highway, and Mountain Secondary Highway. Other roadways in the network generally are freeways or local roads. The designation of roadways varies by the number of travel lanes, roadway width (curb to curb), right-of-way (public property line to public property line), and traffic volumes. This network provides connectivity within the county and to neighboring communities.

Regional connectivity to San Bernardino County is provided by the Interstate 15 (I-15), Interstate 40 (I-40), Interstate 10 (I-10), U.S. Route 395 (US 395), and State Route 58 (SR-58).

ROADWAY DESIGNATIONS

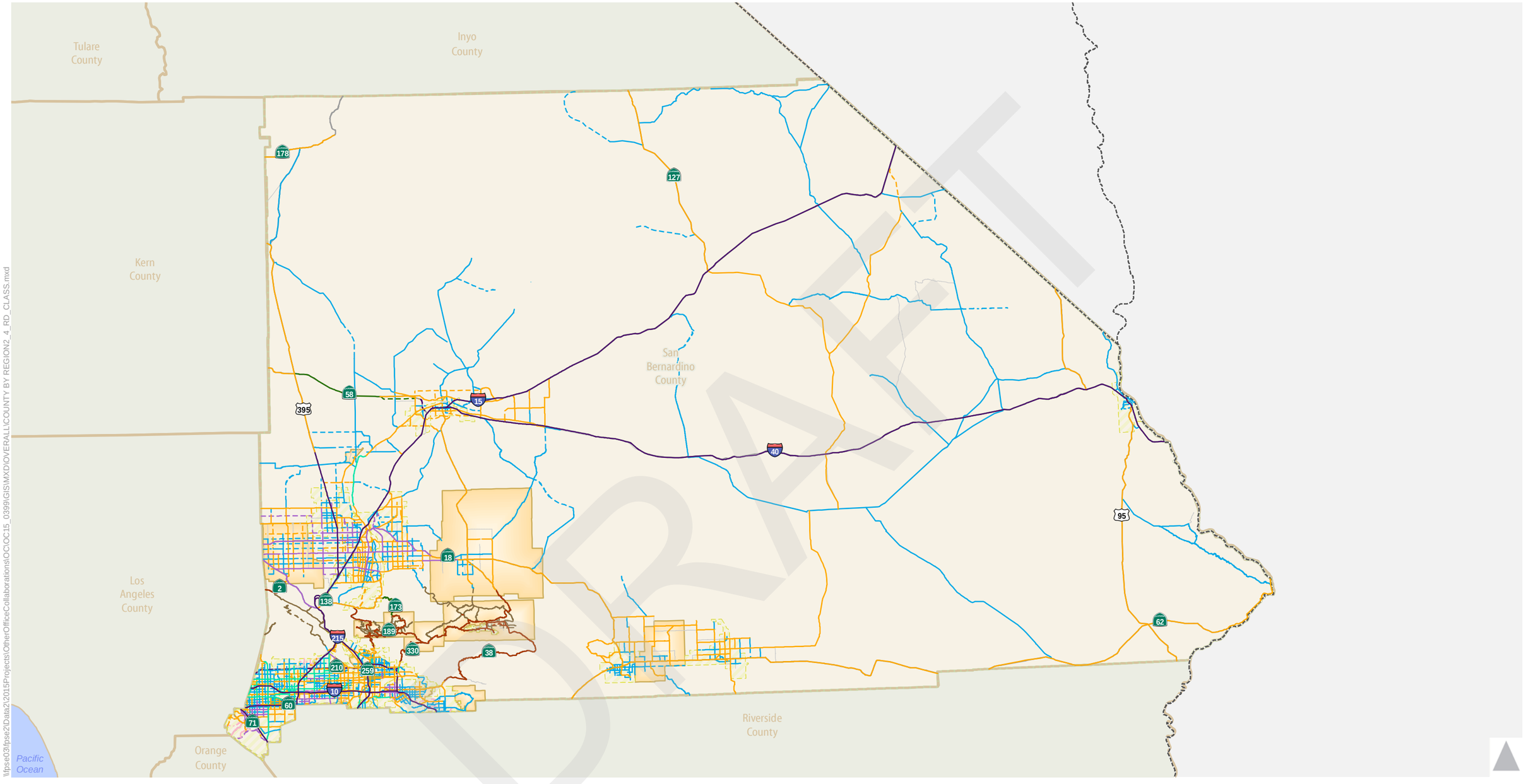
The existing San Bernardino County General Plan's Circulation and Infrastructure Element designates seven different roadway types in the county's unincorporated areas. These designations refers to how a road accommodates two characteristics: the extent to which the roadway prioritizes the through movement of traffic and the level of access provided to adjacent properties. Based on these generalized characteristics, roadways often vary in terms of right-of-way, roadway width, number of lanes, intersection and traffic signal spacing, speed, and other factors. A roadway's designation is generally determined in the Circulation and Infrastructure Element of the County's General Plan. Table 1 below identifies these roadway types for San Bernardino County and provides the general geometric cross sectional characteristics of each. Figures 1.1 through 1.16 show the San Bernardino County roadway network by functional type.

TABLE 1 – COUNTY OF SAN BERNARDINO GENERAL PLAN ROADWAY DESIGNATIONS

Roadway Type	Description of Typical Street Cross Section Characteristics
Major Divided Highway	A major divided highway generally consists of a minimum of 120 feet of right-of-way with 94 feet curb separation. This roadway designation is present in the county's Valley and Desert regions.
Major Arterial Highway	A major arterial highway generally consists of a minimum of 120 feet of right-of-way with 104 feet curb separation. This roadway designation is present in the county's Valley and Desert regions.
Major Highway	A major highway generally consists of a minimum of 80 feet of right-of-way with 104 feet curb separation. This roadway designation is present in the county's Valley and Desert regions.
Secondary Highway	A secondary highway generally consists of a minimum of 88 feet of right-of-way with 64 feet curb separation. This roadway designation is present in the county's Valley and Desert regions.
Controlled/Limited Access Collector	A controlled/limited access collector generally consists of a minimum of 66 feet of right-of-way with 44 feet curb separation. This roadway designation is present in the county's Valley and Desert regions.
Mountain Major Highway	A mountain major highway generally consists of a minimum of 80 feet of right-of-way with 64 feet curb separation. This roadway designation is present in the county's Mountain region.
Mountain Secondary Highway	A mountain Secondary Highway generally consists of a minimum of 60 feet of right-of-way with 44 feet curb separation. This roadway designation is present in the county's Mountain region.

Sources: County of San Bernardino General Plan Circulation and Infrastructure Element, 2007
County of San Bernardino Master Plan of Highways

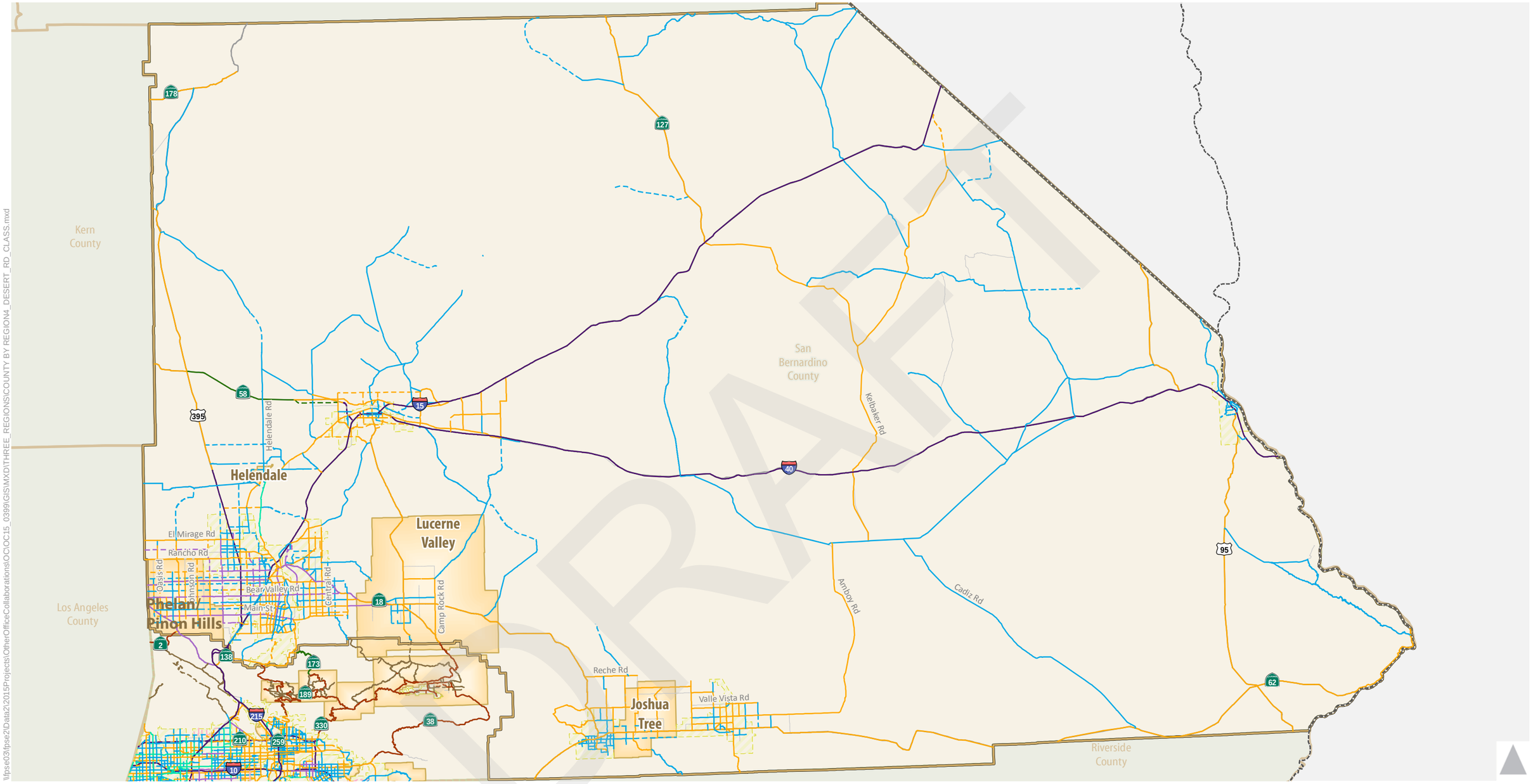
DRAFT



Freeway
Major Highway
Mountain Major Highway
Community Plan Boundaries
County Boundaries
Major Divided Highway
Secondary Highway
Mountain Secondary Highway
City Boundaries
State Boundaries
Major Arterial Highway
Controlled/Limited Access Collector
State Highway (Special Standards or Conditions)
San Bernardino County
Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.1

Countywide Roadway Designations



Freeway
Major Highway
Mountain Major Highway
Desert Region
San Bernardino County
Note: Dashed Roadway Line Denotes Proposed Roadway

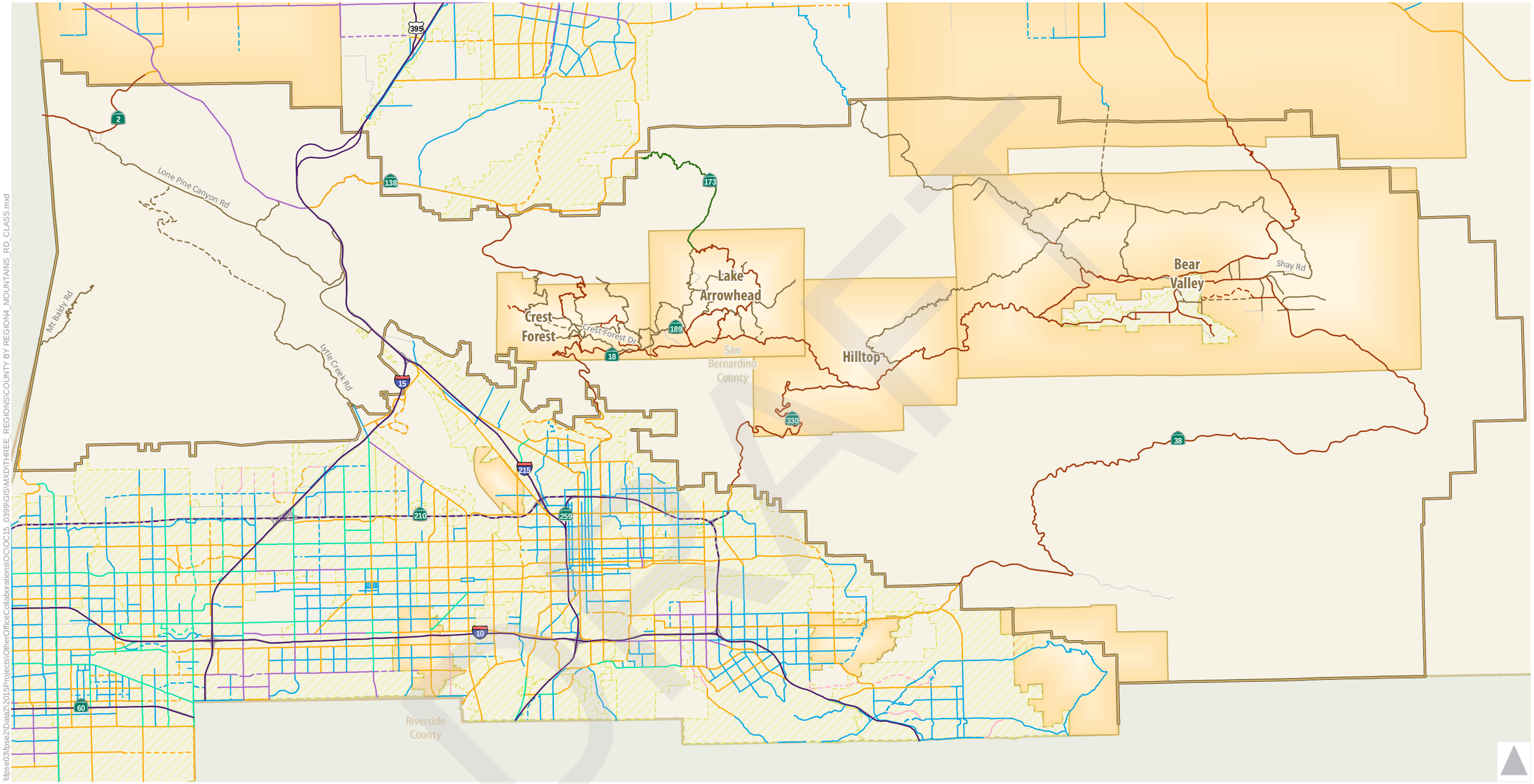
Major Divided Highway
Secondary Highway
Mountain Secondary Highway
Community Plan Boundaries
County Boundaries

Major Arterial Highway
Controlled/Limited Access Collector
State Highway (Special Standards or Conditions)
City Boundaries
State Boundaries

Figure 1.2

Desert Region Roadway Designations

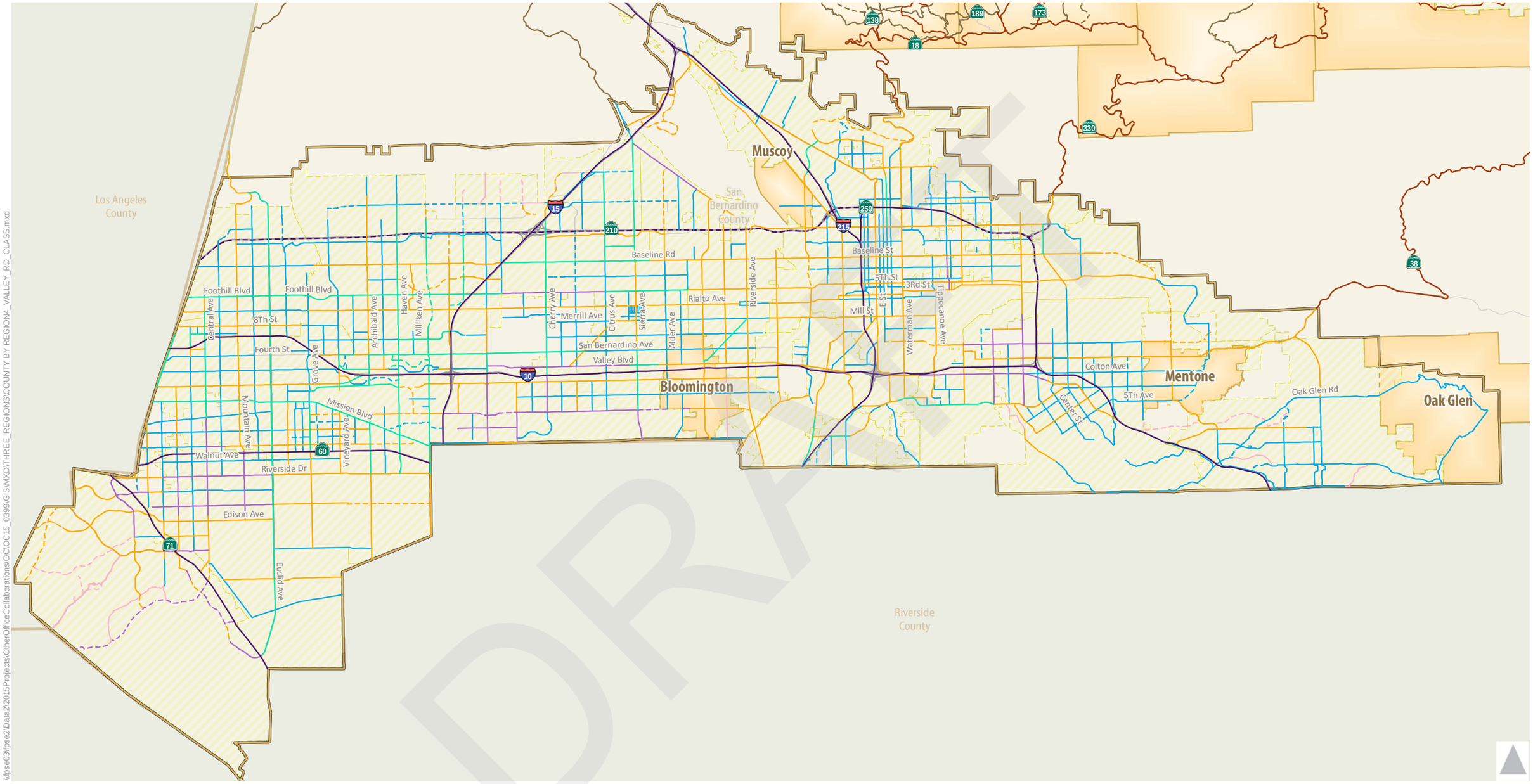
\\rpse03\rpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_DESERT_RD_CLASS.mxd



- Freeway
- Major Divided Highway
- Major Arterial Highway
- Major Highway
- Secondary Highway
- Controlled/Limited Access Collector
- Mountain Major Highway
- Mountain Secondary Highway
- State Highway (Special Standards or Conditions)
- Mountain Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries
- Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.3

Mountain Region Roadway Designations



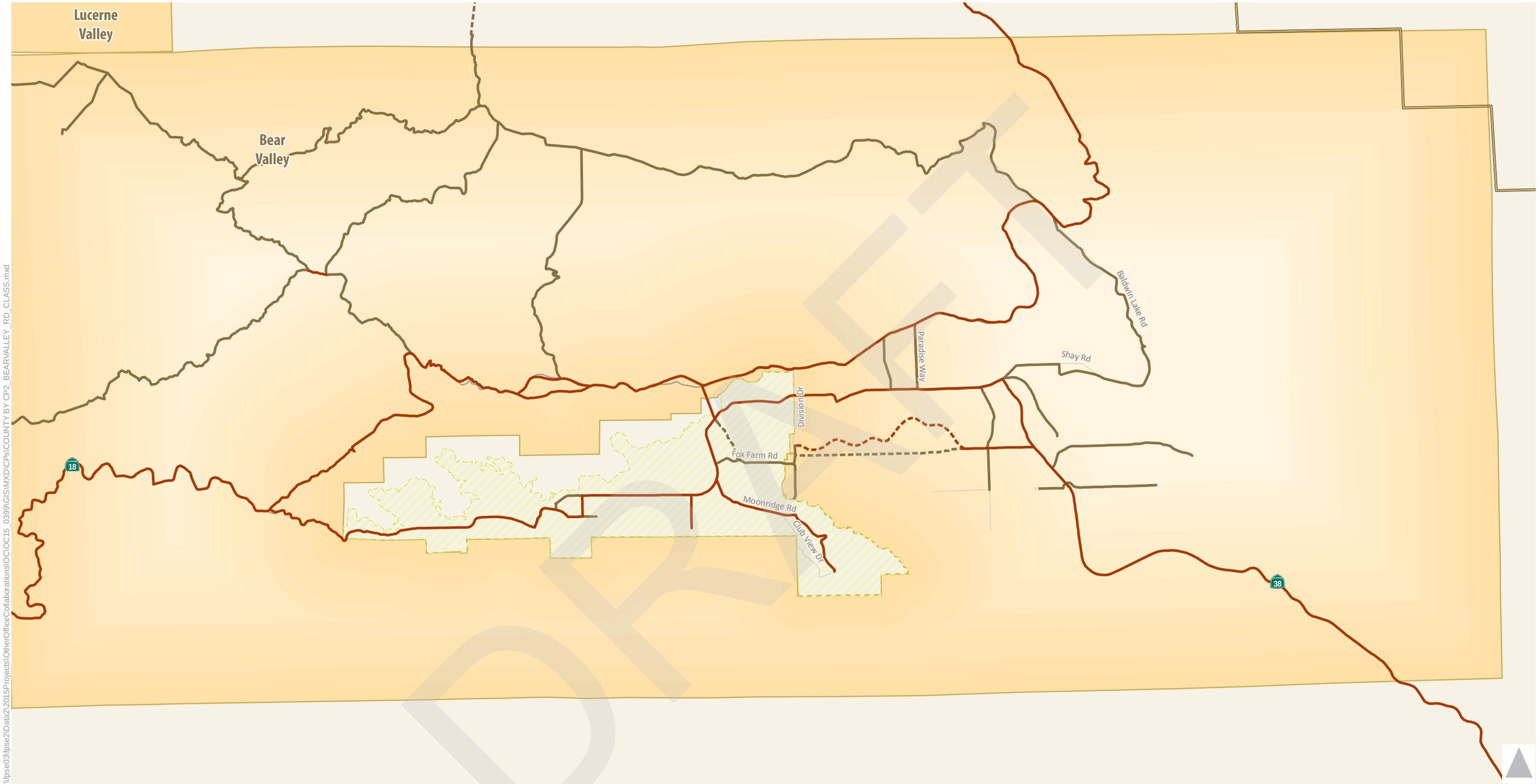
Freeway
Major Highway
Mountain Major Highway
Valley Region
San Bernardino County
Major Divided Highway
Secondary Highway
Mountain Secondary Highway
Community Plan Boundaries
County Boundaries
Major Arterial Highway
Controlled/Limited Access Collector
City Boundaries
Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.4

Valley Region Roadway Designations

DRAFT

\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_VALLEY_RD_CLASS.mxd



Mountain Major Highway
Mountain Secondary Highway
Mountain Region
Community Plan Boundary
City Boundary
San Bernardino County

Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.5

Bear Valley Community Plan Roadway Designations

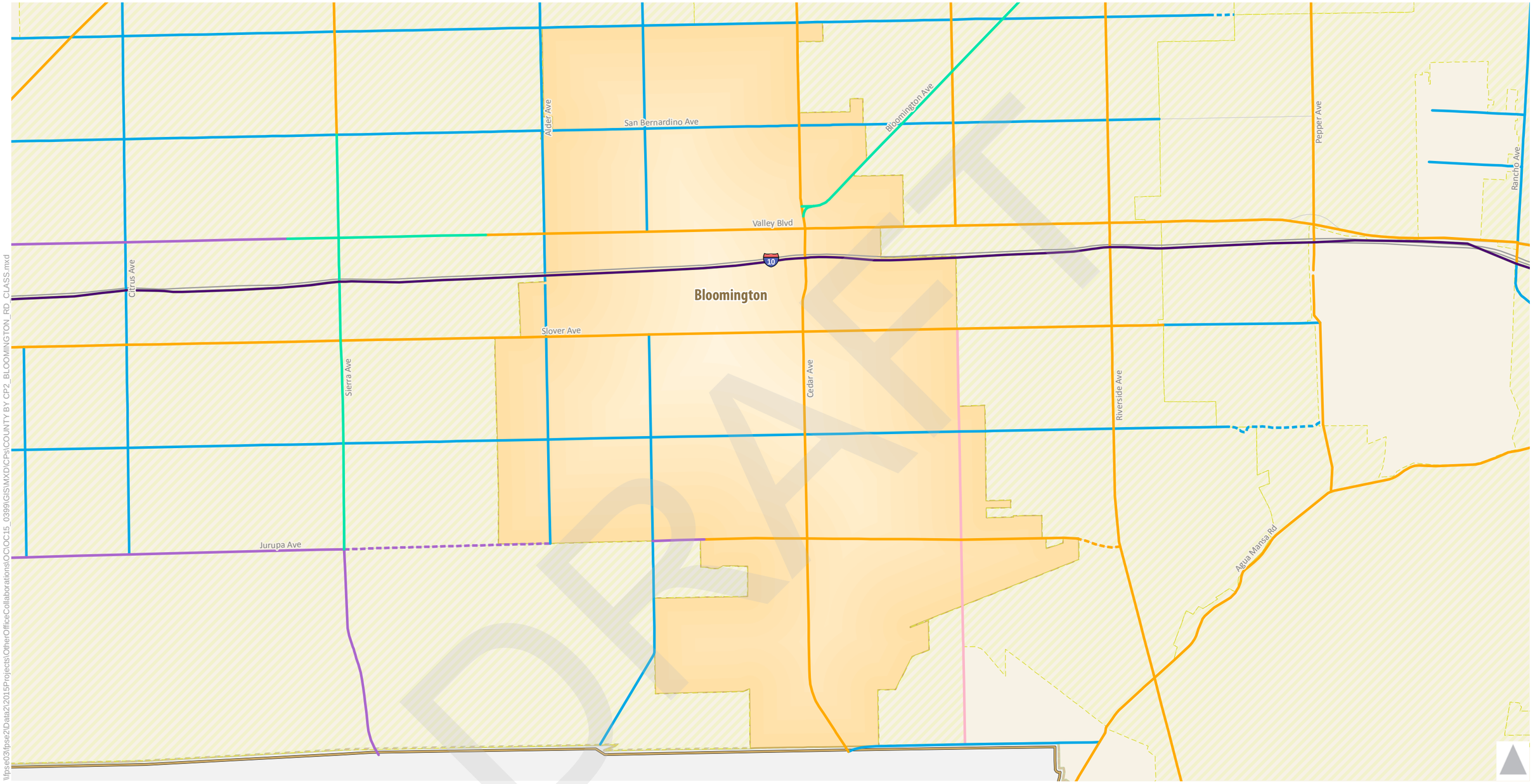
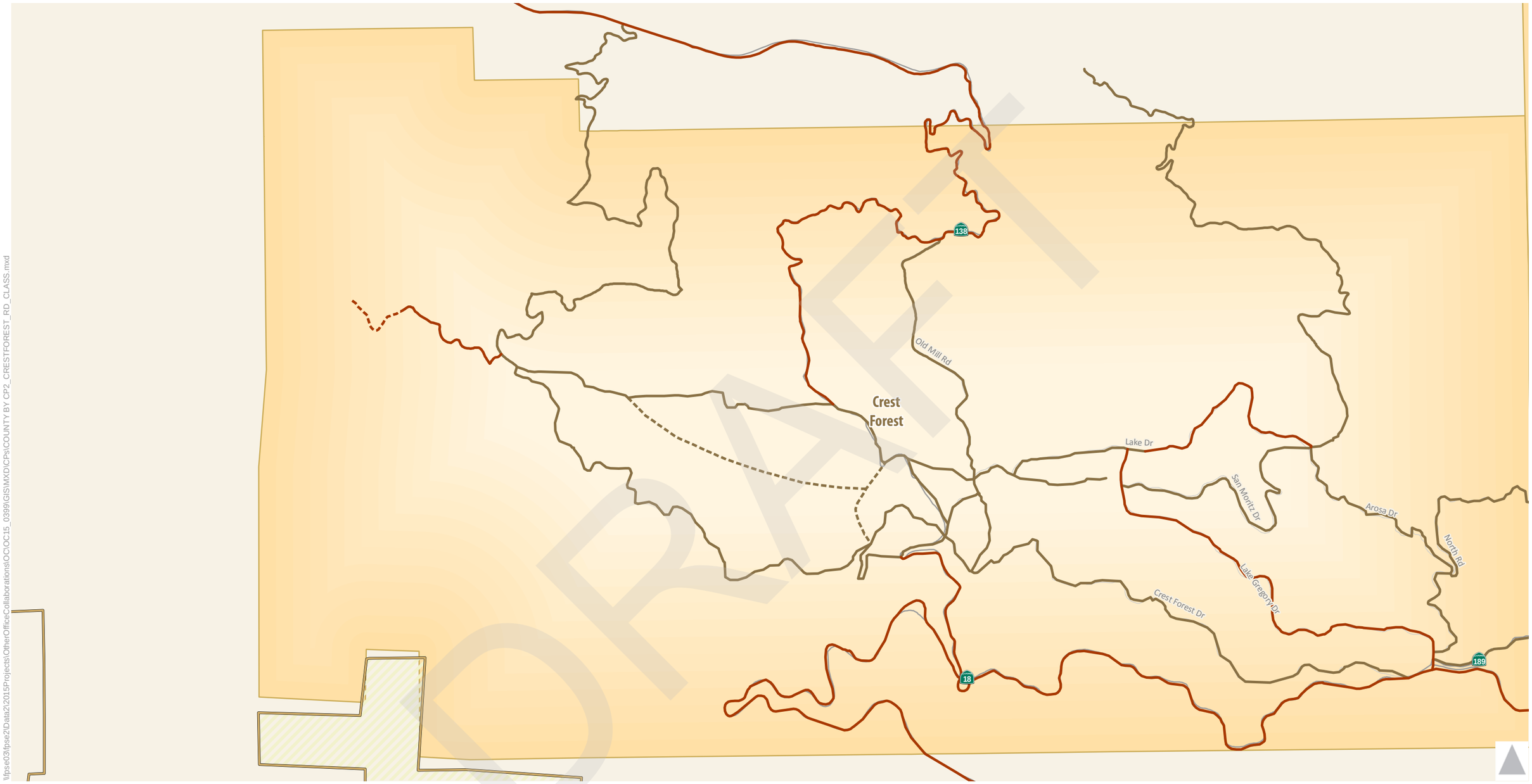


Figure 1.6

Bloomington Community Plan Roadway Designations

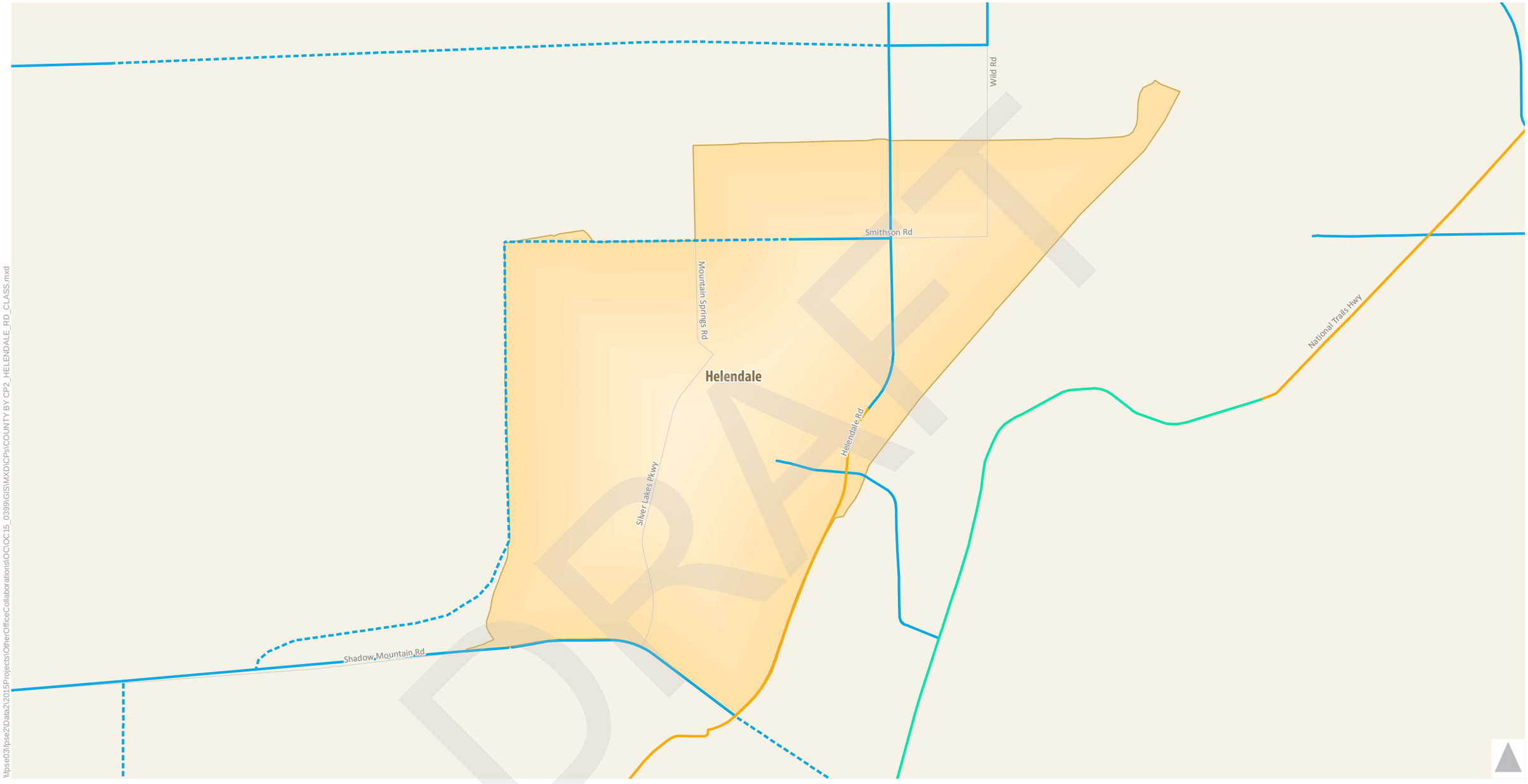


Mountain Major Highway
Mountain Secondary Highway
Mountain Region
Community Plan Boundary
City Boundary
San Bernardino County

Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.7

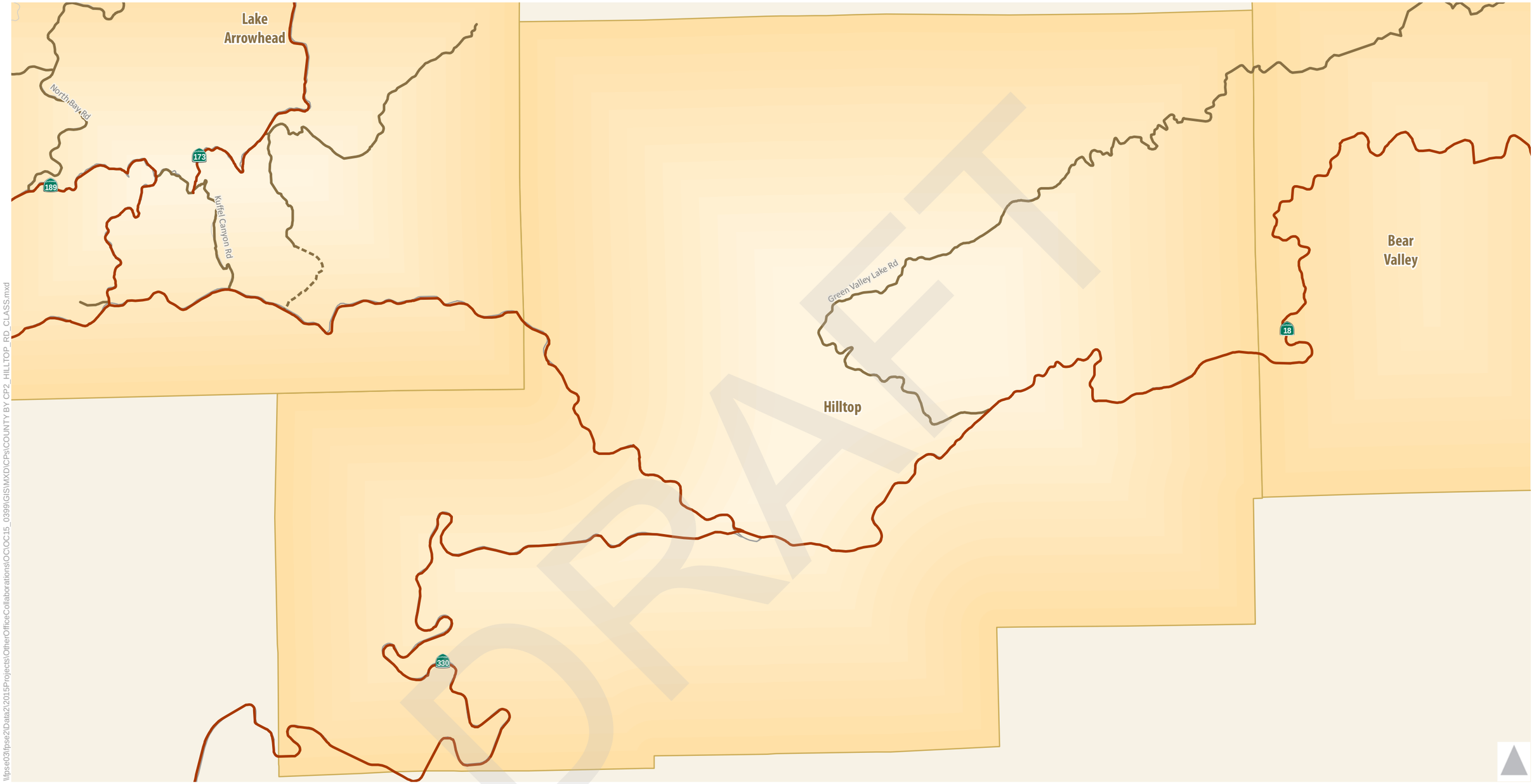
Crest Forest Community Plan Roadway Designations



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\CP's\COUNTY BY CP2_HELENDALE_RD_CLASS.mxd

Figure 1.8

Helendale Community Plan Roadway Designations



\\pse03\pse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\CPs\COUNTY BY CP2_HILLTOP_RD_CLASS.mxd

Mountain Major Highway

Mountain Secondary Highway

Community Plan Boundary

San Bernardino County

Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.9

Hilltop Community Plan Roadway Designations

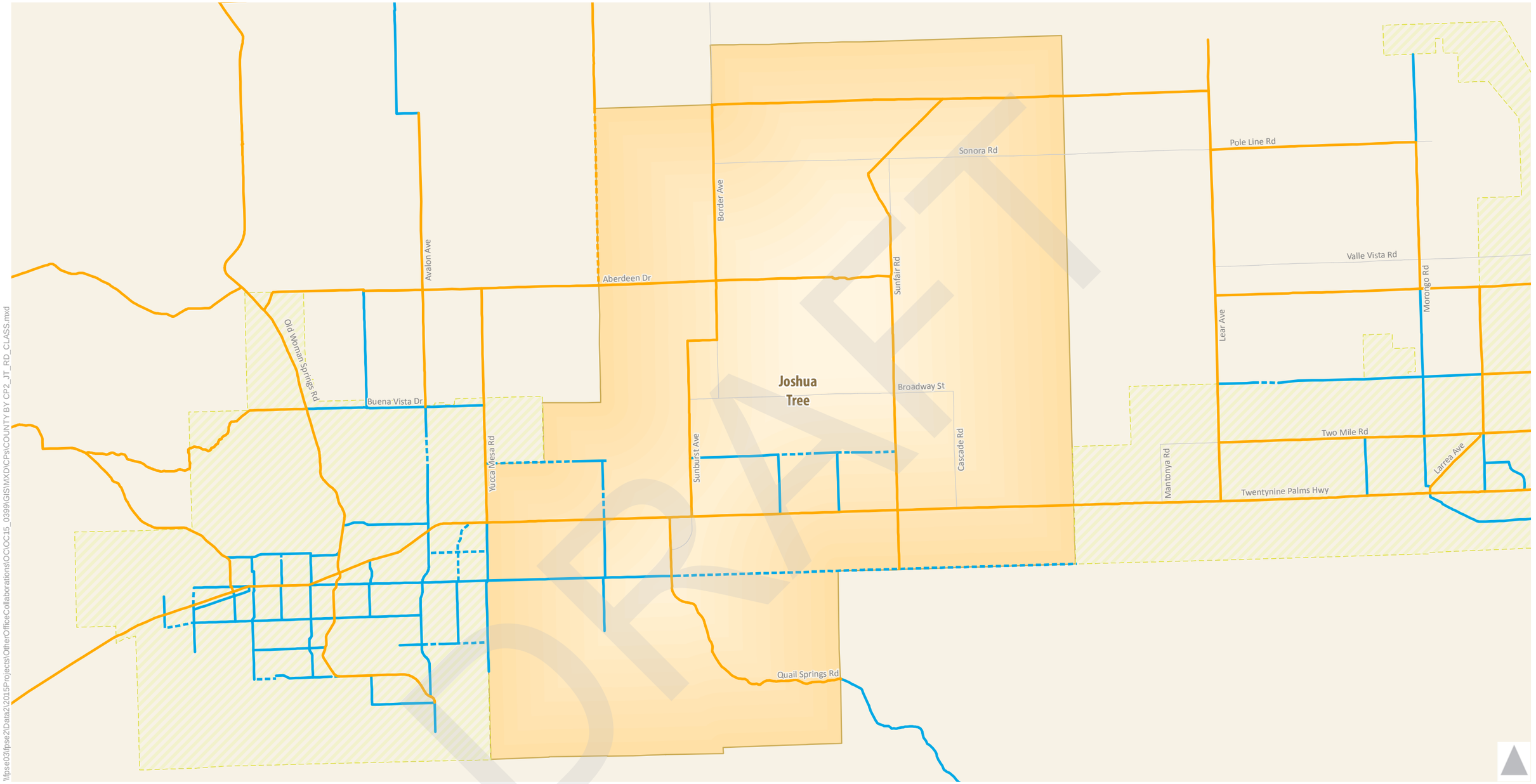
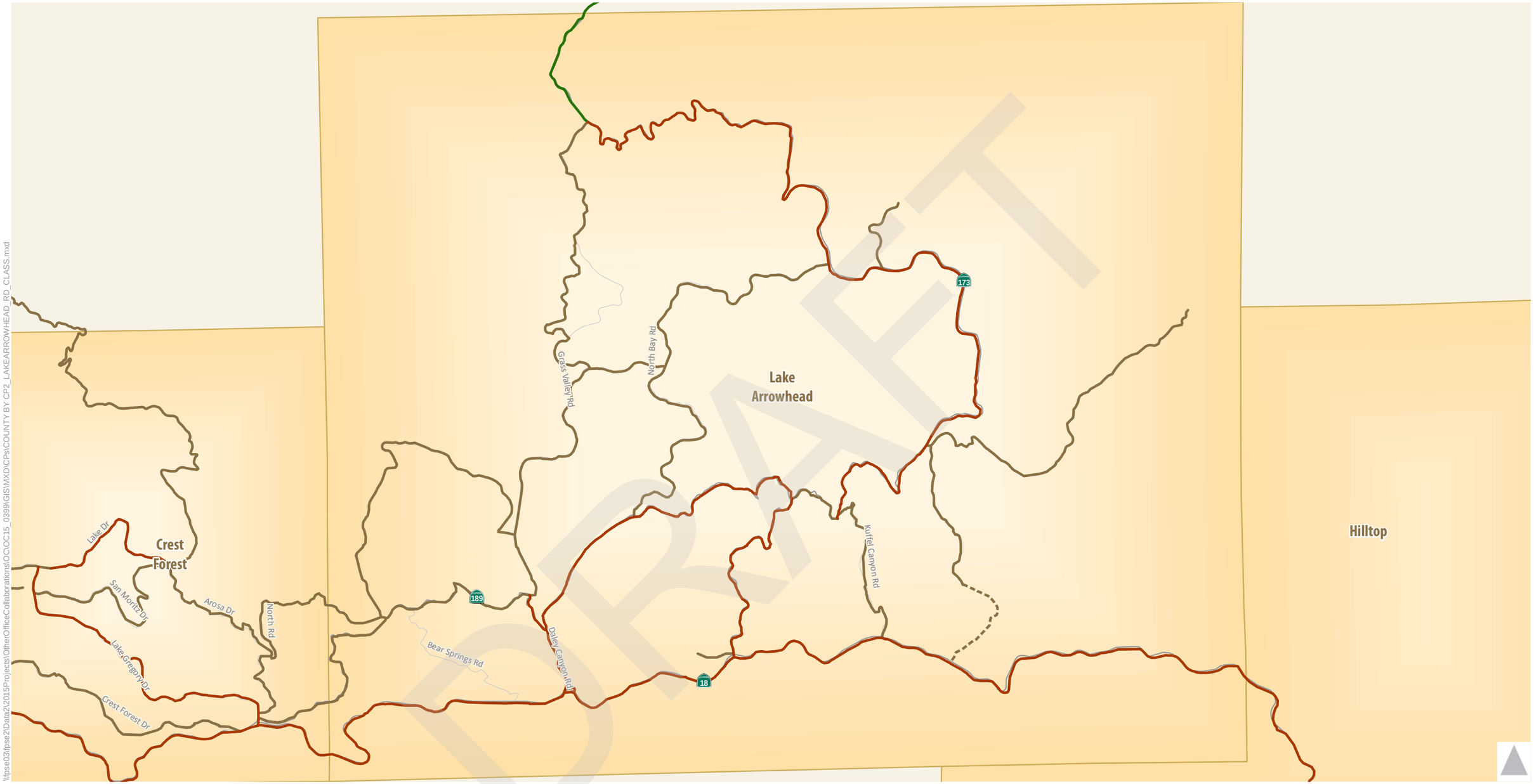


Figure 1.10

Joshua Tree Community Plan Roadway Designations



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OCLOC15_0399\GIS\MXD\CPs\COUNTY BY CP2_LAKEARROWHEAD_RD_CLASS.mxd

Mountain Major Highway

Mountain Secondary Highway

State Highway (Special Standards or Conditions)

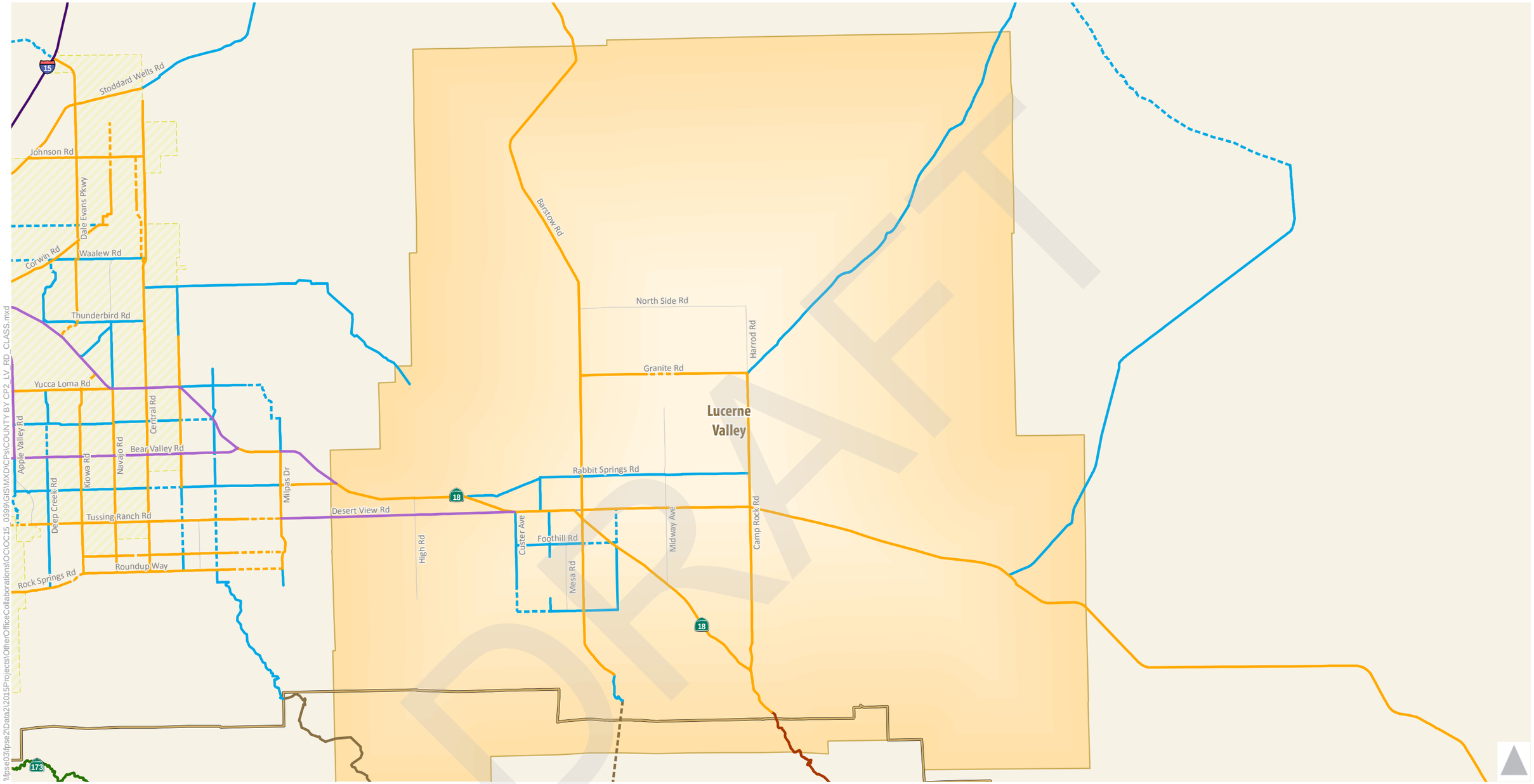
Community Plan Boundary

San Bernardino County

Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.11

Lake Arrowhead Community Plan Roadway Designations



Freeway
Major Arterial Highway
Major Highway
Secondary Highway
Mountain Major Highway
Mountain Secondary Highway
State Highway (Special Standards or Conditions)
Desert Region
Community Plan Boundary
City Boundary
San Bernardino County
Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.12

Lucerne Valley Community Plan Roadway Designations

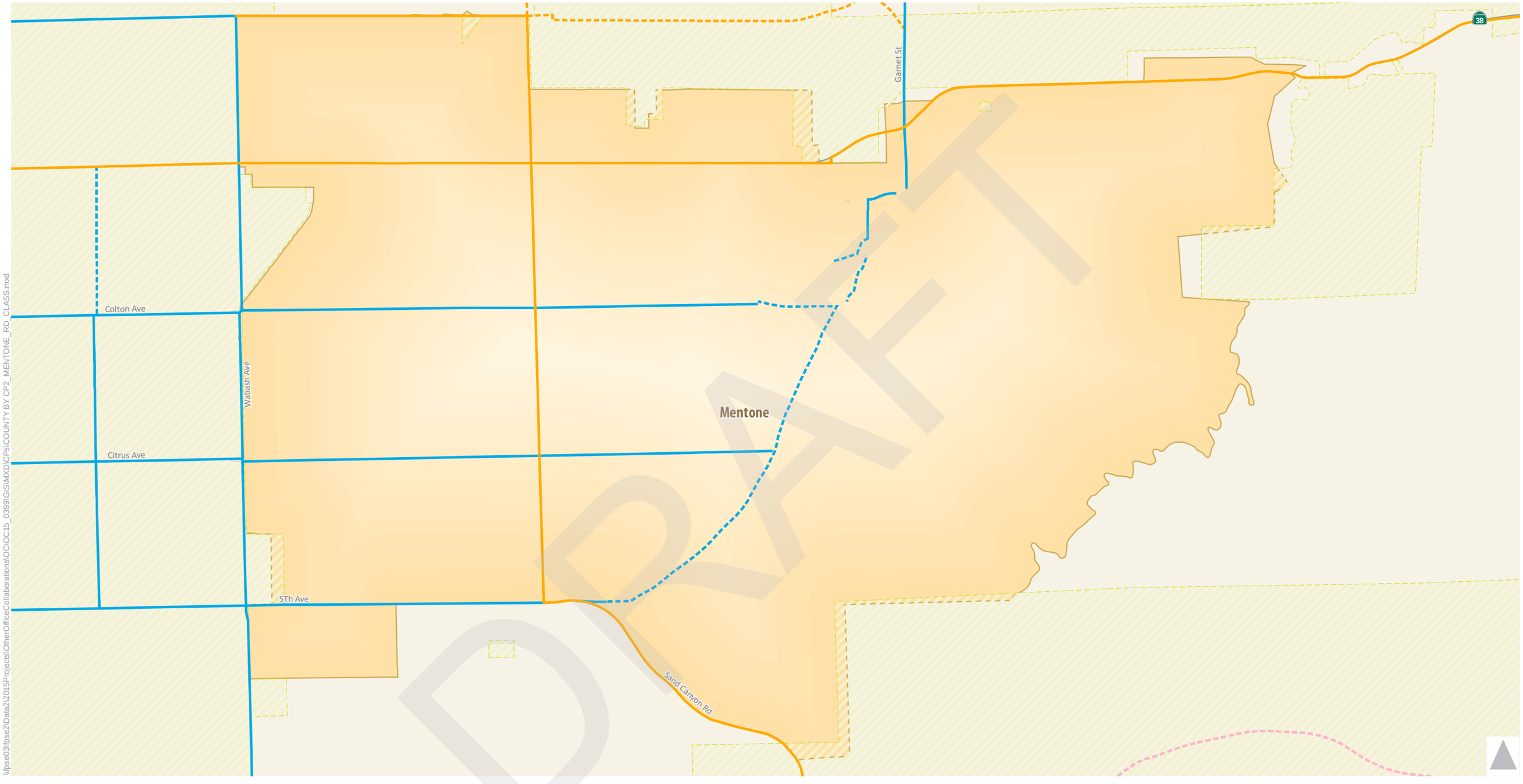


Figure 1.13

Mentone Community Plan Roadway Designations

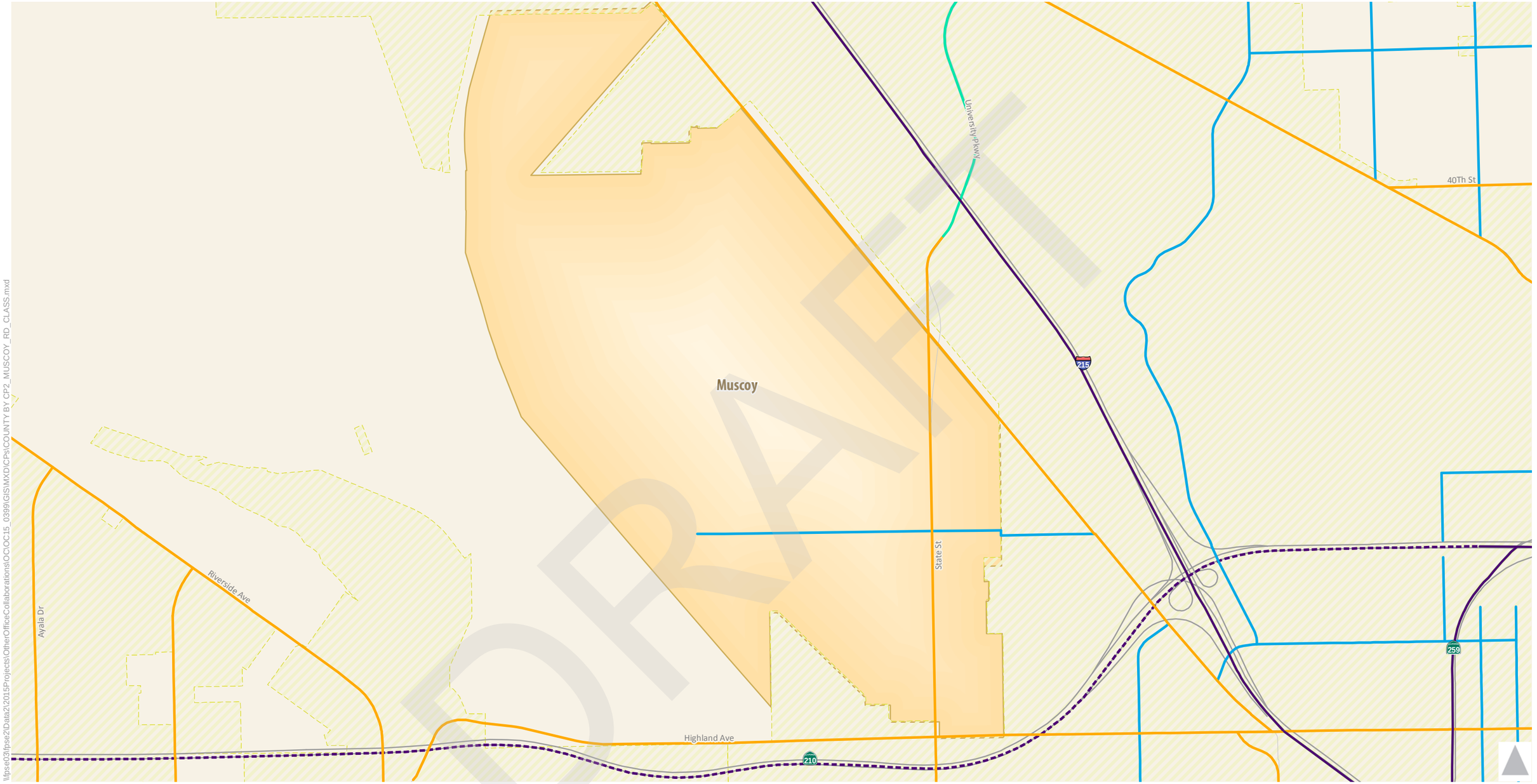
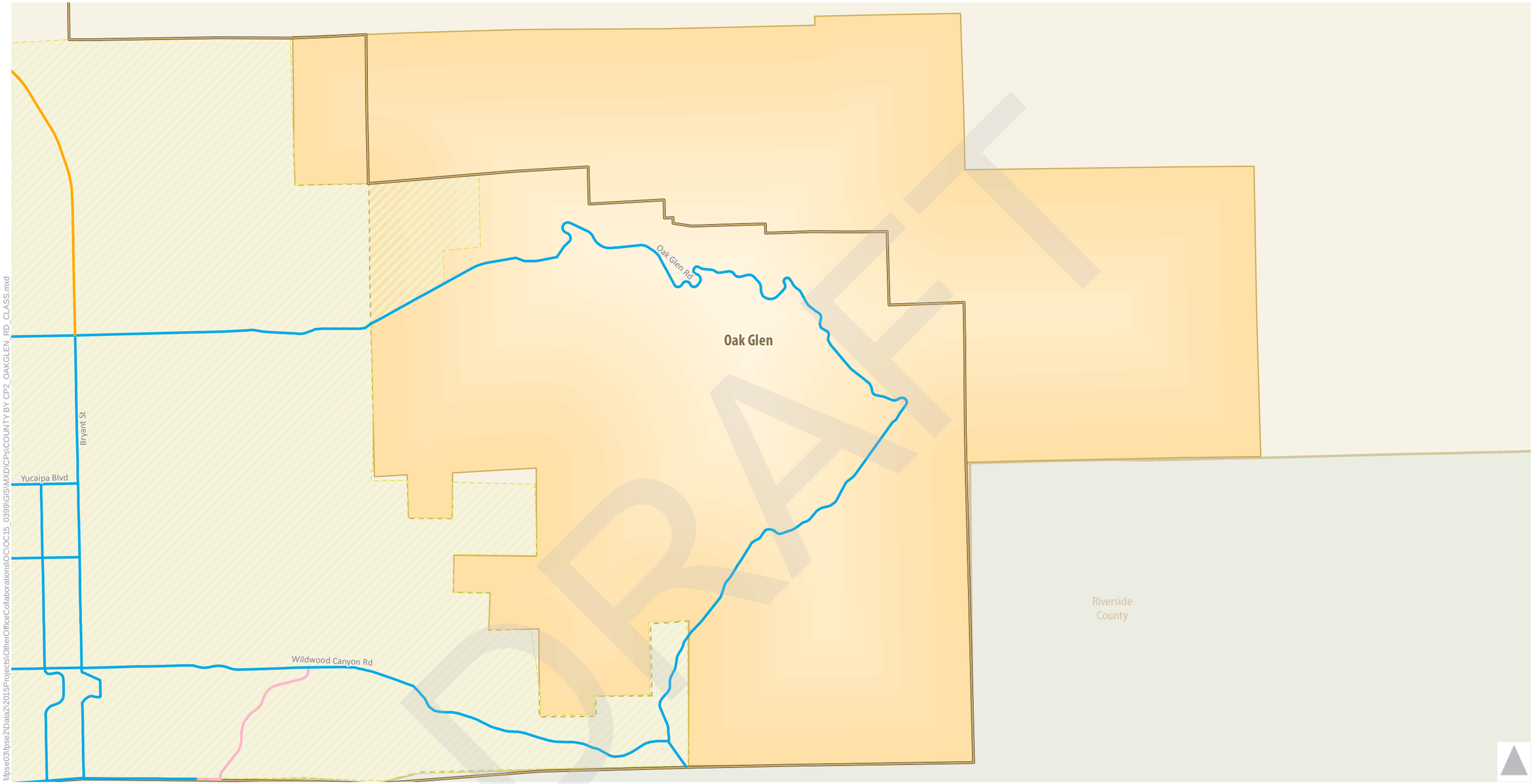


Figure 1.14

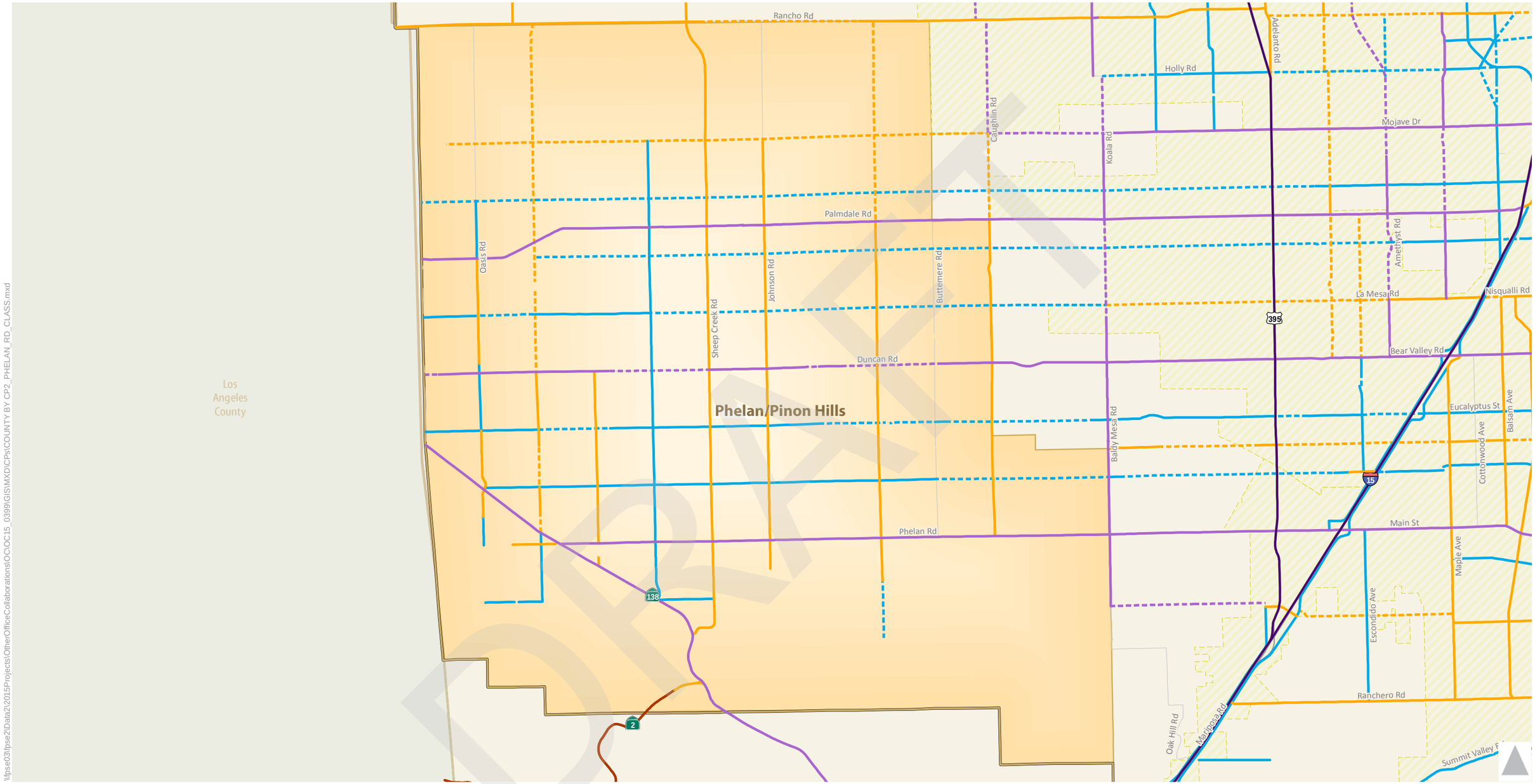
Muscoy Community Plan Roadway Designations



Major Highway
Secondary Highway
Controlled/Limited Access Collector
Valley Region
Community Plan Boundary
City Boundary
San Bernardino County
County Boundaries
Note: Dashed Roadway Line Denotes Proposed Roadway

Figure 1.15

Oak Glen Community Plan Roadway Designations



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OCtoOC15_0399\GIS\MXD\CP\COUNTY BY CP2_PHELAN_RD_CLASS.mxd

Figure 1.16

Phelan/Pinon Hills Community Plan Roadway Designations

While the majority of roads under the County's jurisdiction are maintained by the County Transportation Department's maintenance program, a subset of roads (approximately 580 miles) is maintained and funded as part of the Special Districts Department Road Division's 40 Road Improvement Districts. A Road Improvement District is a program designed to provide specific services within boundaries established by residents requesting the road maintenance service. Improvements and services are determined by the resident's stated needs and desires and what they are willing to pay on an annual basis. Unlike roads within the rest of the County Transportation Department's maintenance system, roads within Road Improvement Districts do not receive gas tax revenues; all funds are generated by parcels within the District boundaries. Services can include periodic road grading, snow plowing, road paving, and ongoing maintenance.

Several roadway improvement programs are slated for County roadways in the next ten years, as shown in Table 2. Table 2 displays various approved improvement projects funded under Measure I as a ten-year delivery program. A comprehensive listing of roadway improvements in the County through the year 2040 is provided in Appendix A. Improvements on County roadways include:

- Glen Helen Parkway at UPRR and BNSF grade separation (Completion Year 2015)
- I-10/Pepper interchange bridge widening (Completion Year 2017)
- Glen Helen Parkway at Cajon Creek bridge replacement (Completion Year 2018)
- Phelan Road widening from Sheep Creek Road to Baldy Mesa Road (Completion Year 2020)
- Bear Valley Road Cutoff widening from Joshua Road to SR-18 (Completion Year 2023)
- Traffic signal projects throughout the County (Completion Year 2023)

TABLE 2 – SANBAG TEN-YEAR DELIVERY PLAN PROJECTS

Cajon Pass Subarea Program
I-15/I-215 (Devore) Interchange
San Bernardino Valley Freeway Program
I-10 Widening (HOV or Express Lanes) from LA County Line to Ford Street
I-15 Express Lanes from Riverside County Line to I-215
I-215 Widening from Riverside County Line to I-10
I-10 Truck Climbing Lane from Live Oak to Riverside County Line
SR-210 Widening from Highland Avenue to I-10
San Bernardino Valley Freeway Interchange Program
I-10/Cherry Avenue I-10/Alabama Street

TABLE 2 – SANBAG TEN-YEAR DELIVERY PLAN PROJECTS

I-10/Citrus Avenue	I-15/Baseline Road
I-10/Tippecanoe Avenue Phase 1 & 2	I-10/Mount Vernon Avenue
I-10/Cedar Avenue	SR-60/Archibald Avenue
SR-210/Baseline Road	I-10/Monte Vista Avenue
SR-60/Central Avenue	I-10/Pepper Avenue Phase 2
I-10/University Avenue	I-10/Riverside Avenue Phase 2
I-215/University Parkway	
San Bernardino Valley Major Street Program	
North Vineyard Avenue Grade Separation (Union Pacific)	
South Milliken Avenue Grade Separation (Union Pacific)	
Glen Helen Parkway Grade Separation (Burlington Northern-Santa Fe)	
Palm Avenue Grade Separation (Burlington Northern-Santa Fe)	
Laurel Avenue Grade Separation (Burlington Northern-Santa Fe)	
San Bernardino Valley Metrolink/Passenger Rail Program	
Downtown San Bernardino Rail	
Redlands Passenger Rail	
San Bernardino Line Double Track (Preliminary Engineering)	
Gold Line to Montclair (Environmental Documentation/Preliminary Engineering)	
Valley Express Bus & Bus Rapid Transit Program	
E Street Bus Rapid Transit	
Victor Valley Major Local Highway Program	
Yucca Loma Corridor – Yucca Loma Bridge and Yates Road	
I-15/Ranchero Road Interchange	
Yucca Loma Corridor – Green Tree Boulevard Extension	
US-395 Widening from SR-18 to Chamberlaine Way	
Ranchero Road Corridor	

TABLE 2 – SANBAG TEN-YEAR DELIVERY PLAN PROJECTS

North Desert Major Local Highway Program
Lenwood Road Grade Separation
Source: SANBAG Countywide Transportation Plan (2015)

Table 3 shows the Average Daily Traffic (ADT) volumes along roadways in the county. Figures 2.1 through 2.16 show ADT count locations.

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
Desert Region		
A STREET	N SH 40 WB ON RAMP	2,501
ABERDEEN DRIVE	E SH 247	1,120
	W YUCCA MESA DR	1,415
ALTA LOMA DRIVE	W SUNNY VISTA RD W JCT	4,147
AVALON AVENUE	S ABERDEEN DRIVE	1,414
BAKER BOULEVARD	E SH 127	7,829
	W SH 127	5,541
BALDY MESA ROAD	N PHELAN ROAD	6,801
	S DUNCAN ROAD	5,205
	S PHELAN ROAD	2,540
BEEKLEY ROAD	N, SH138	5,803
BELLFLOWER STREET	N MOJAVE DRIVE	5,775
BORDER AVENUE	N GOLDEN STREET	1,415
BROADWAY	W SUNFAIR ROAD	154
CAMP ROCK ROAD	N GRANITE ROAD	1,057

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
CENTRAL ROAD	N SH 247	1,268
	S SH 247	507
	S DEL ORO RD	4,221
CRUCERO ROAD	N NATIONAL TRS HWY	2,671
CRYSTAL CREEK ROAD	N AZURITE RD	1,033
	S SH 18	1,600
CUSTER AVENUE	S SH 18	1,156
DAGGETT YERMO ROAD	N SANTA FE STREET	2,919
	S YERMO RD	3,225
DALE EVANS PARKWAY	N, JOHNSON RD	2,396
DEEP CREEK ROAD	S ROCK SPRINGS RD	1,324
	S TUSSING RANCH RD	5,065
DOS PALMAS ROAD	W PACOIMA ROAD	4,084
EL EVADO ROAD	N DOS PALMAS ROAD	9,146
EL MIRAGE ROAD	W RICHARDSON RD	2,492
ESCONDIDO AVENUE	N, RANCHERO ST	5,356
FIRST STREET	E NATIONAL TRAILS HWY	1,549
	N PORTLAND STREET	1,037
FORT IRWIN ROAD	E IRWIN RD	5,827
	N YERMO ROAD	4,569
	S IRWIN RD	4,564
	S OH 15 NORTH	4,227
GHOST TOWN ROAD	N YERMO RD	7,026

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
GOLDEN STREET	W BORDER AVENUE	1,523
HELENDALE ROAD	N VISTA RD	3,024
	S SMITHSON RD	1,076
HIGH ROAD	S SH 18	713
HIGHLAND ROAD	S SH 18	2,036
IRWIN ROAD	N SH 58 N JCT	3,134
	S SH58 S JCT	6,781
JOHNSON ROAD	E STODDARD WELLS RD	1,801
	S SH 18	1,419
	S SMOKETREE RD	3,093
JOSHUA ROAD	N SH 18	1,901
JUNIPER AVENUE	N SENILIS AVE	1,602
KIOWA ROAD	N ROCK SPRINGS RD	4,987
L STREET	N RIMROCK RD	3,152
LA CONTENTA ROAD	N YUCCA TR	2,602
LAKEVIEW DRIVE	S VISTA ROAD	3,157
	W SILVER LAKES PKWY	1,283
LANDERS LANE	S RECHE ROAD	955
LENWOOD ROAD	N MAIN STREET	2,831
	S MAIN STREET	3,070
LUNA ROAD	W EL EVADO RD	5,965
	W PACOIMA ROAD	4,753
MAIN STREET	N HINKLEY ROAD	2,236

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
MESA ROAD	S FOOTHILL ROAD	1,012
MESQUITE STREET	E FUENTE AVE	3,765
MILPAS DRIVE	S SH 18	1,178
MORONGO ROAD	N INDIAN TRAIL	3,247
	S POLE LINE RD	1,885
MOUNTAIN ROAD	S SH 138	1,394
MOUNTAIN SPRINGS ROAD	N SILVER LAKES PKWY	1,644
NATIONAL TRAILS HIGHWAY	E DAGGETT-YERMO ROAD	1,052
	N MOJAVE RIVER	8,450
	S FIRST ST	7,278
	S VISTA RD	5,244
NEEDLES HIGHWAY	N RIVER RD	1,608
	NORTH OF AHA MACAV PKWY	1,054
NEWBERRY ROAD	N PIONEER ROAD	1,102
OAK HILL ROAD	N CALIENTE RD	2,663
	N RANCHERO	1,427
OASIS ROAD	N SH 138	3,017
	S SH 138	1,594
OLD HIGHWAY 58	E, IRWIN RD	1,608
	W, IRWIN RD	2,714
PARK BOULEVARD	S SH 62	4,740
PARKER DAM ROAD	N ARIZONA ST	1,090
PHELAN ROAD	E BALDY MESA RD	15,175

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
	E SH 138	4,908
	E BEEKLEY RD	9,004
	W BUTTEMER RD	15,285
	W SHEEP CREEK RD	13,241
PIONEER DRIVE	E HESS BLVD	737
POLE LINE ROAD	E LEAR AVE	1,273
RABBIT SPRINGS ROAD	E SH 247	1,545
RANCHERO ROAD	E, ESCONDIDO AVENUE	9,508
	W, ESCONDIDO AVE	10,282
RECHE ROAD	E SH 247	1,533
RIDGE CREST ROAD	N,ELMWOOD DR.	5,987
RIMROCK ROAD	W H ST	3,904
RIO VISTA DRIVE	W TENAYA COURT	1,783
ROCK SPRINGS ROAD	W DEEP CREEK ROAD	10,278
ROTARY WAY	N SH 62	661
ROUNDUP WAY	W CENTRAL RD	2,452
SHADOW MOUNTAIN ROAD	W HELENDALE ROAD	834
SHEEP CREEK ROAD	N PHELAN ROAD	7,875
	N SH 18	2,471
	S EL MIRAGE RD	1,832
	S PHELAN ROAD	8,075
	S SH 18	2,941
	S SUNNSLOPE RD	5,198

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
SILVER LAKES PARKWAY	N MOUNTAIN SPRINGS ROAD	2,471
	S MOUNTAIN SPRINGS ROAD	2,161
SOAP MINE ROAD	S SH 58	1,101
STANDING ROCK ROAD	E JOSHUA ROAD	2,148
SUNBURST AVENUE	N SH 62	4,393
SUNFAIR ROAD	N BROADWAY	530
	N SH 62	1,198
SUNSET ROAD	N SH 62	1,019
	S SH 62	1,207
VISALIA AVENUE	S SH 247	887
VISTA ROAD	E HELENDALE ROAD	7,266
	W HELENDALE RD	4,214
	W NATIONAL TRAILS HWY	5,959
WHITE FEATHER ROAD	S SH 62	1,984
YERMO ROAD	E DAGGET-YERMO RD	4,005
	W DAGGET-YERMO RD	2,051
YUCCA MESA ROAD	N SH 62	4,690
	S ABERDEEN DRIVE	1,777
YUCCA TRAIL	E LA CONTENTA ST	5,485
Mountain Region		
AROSA DRIVE	N NORTH RD	1,008
	S DART CANYON RD	1,391
BALDWIN LAKE ROAD	N CARBON LANE	919

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
	S SH 18	960
BARTON LANE	W MAPLE LANE	3,254
BEAR SPRINGS ROAD	N SH 18	1,353
CAJON BOULEVARD	N KENWOOD AVENUE	1,230
CREST FOREST DRIVE	E FERN DRIVE	1,708
	W PLAYGROUND DRIVE	391
DALEY CANYON ROAD	N SH 18	6,174
DEEP CREEK DRIVE	N COUGAR LANE	1,147
DIVISION DRIVE	N SH 18	4,087
	S SH 18	2,485
FERN DRIVE	N CREST FOREST DRIVE	1,020
GRASS VALLEY ROAD	E SH 189	7,330
	N CLUBHOUSE DR	4,257
	N JAGERHORN DR	1,673
GREEN VALLEY LAKE ROAD	N SH 18	849
	S LAKESIDE DR	778
	S RIDGE WAY	346
HOOK CREEK ROAD	E CUMBERLAND DRIVE	3,335
HOSPITAL ROAD	E SH 173	2,923
KNAPPS CUTOFF	E SH 138	4,024
KUFFEL CANYON ROAD	E SH 173	1,852
LAKE DRIVE	E LAKE GREGORY DR	3,624
	E WILDROSE LANE	10,312

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
LAKE GREGORY DRIVE	N SH 189	5,749
	S LAKE DRIVE	7,861
LIVE OAK DRIVE	N SH 330	2,138
	S SH 18	2,004
LONE PINE CANYON ROAD	N ORCHARD DRIVE	1,828
	N SWARTHOUT CANYON RD	1,400
	S SH 138	1,417
	S SWARTHOUT CANYON RD	1,397
LYTLE CREEK ROAD	E ENTRANCE TO RANGER STATION	2,077
	N SYCAMORE DR	289
MAPLE LANE	N BARTON LANE	3,608
	S SH 38	6,011
MILL CREEK ROAD	E TULIP LN	435
NOB HILL DRIVE	E SH 18	438
NORTH BAY ROAD	N PENINSULA DR	4,263
	N SH 189	6,979
	S PENINSULA DR	4,690
	W SH 173	3,236
NORTH ROAD	N AROSA DRIVE	1,398
	N LAKE GREGORY DR	718
	W SH 189	983
PALO ALTO WAY	N SH 18	2,750
PENINSULA DRIVE	E GRASSVALLEY RD	3,006

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
RIM OF THE WORLD DRIV	S SH 18	444
RUNNING SPRINGS SCHOOL ROAD	S SH 18	1,629
SAN MORITZ DRIVE	E LAKE GREGORY DRIVE	1,591
SHAY ROAD	E BARRANCA BLVD	2,159
	W BALDWIN LAKE RD	1,102
SOUTH FORK ROAD	W LYTLE CREEK ROAD	150
STANFIELD CUTOFF	N SH 18	5,380
STATE LANE	E SH 38	3,728
TULIP LANE	N JAY BIRD LN	241
VALLEY OF THE FALLS DRIVE	E SH 38	1,683
VALLEY VISTA DRIVE	E LYTLE CREEK DR	295
VOLTAIRE DRIVE	S NORTH BAY ROAD	1,215
WATERS DRIVE	E CREST FOREST DR	1,584
	W SH 138	4,203
WHISPERING PINES DRIVE	E PALO ALTO WAY	1,746
Valley Region		
AGUA MANSA ROAD	E, EL RIVINO RD	10,981
	S HOLLY LANE	7,100
ALABAMA STREET	N SAN BERNARDINO AVE	11,873
ALDER AVENUE	N MARYGOLD AVE	9,334
	S SLOVER AVE	1,178
ARDEN AVENUE	N PUMALO ST	8,113
	S PUMALO STREET	10,159

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
ARROW ROUTE	E BEECH AVENUE	11,689
	E ILEX STREET	12,992
	E LIVE OAK AVE	14,585
	E REDWOOD AVE	12,212
BARTON ROAD	E NEW JERSEY ST	34,196
BEAUMONT AVENUE	W NEVADA STREET	2,925
BEECH AVENUE	N RANDALL AVENUE	5,990
BLAKE STREET	E VERMONT ST	1,140
	W STATE STREET	2,285
BLOOMINGTON AVENUE	E LARCH AVE	11,520
	W LARCH AVE	12,999
BRYANT STREET	S SH38	6,634
CAJON BOULEVARD	N STATE ST	9,081
	S DEVORE RD	4,586
	S STATE ST	9,153
	S, SHELTER WAY	1,937
CALIFORNIA STREET	N HIGHLAND AVENUE	6,567
CASMALIA STREET	E LILAC AVE	1,402
	W CACTUS AVENUE	2,926
CEDAR AVENUE	N BLOOMINGTON AVE	27,654
	N EL RIVINO RD	20,533
	S VALLEY BLVD	51,931
CENTRAL AVENUE	N PHILLIPS BLVD	28,918

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
CHINO AVENUE	E EAST END AVE	14,239
	E SH 71	13,460
CITRUS AVENUE	E WABASH AVE	3,806
COLTON AVENUE	W OPAL AVE	4,565
COUNTRY CLUB DRIVE	N RIVERSIDE OHN	1,473
CRAFTON AVENUE	N FIFTH AVE	4,358
	N SH 38	3,774
	S SH 38	5,443
DARBY STREET	E DUFFY STREET	4,368
DATE PLACE	W STERLING AVE	7,001
DEL ROSA AVENUE	S FOOTHILL DR	4,208
	S MARSHALL BLVD	10,171
DEL ROSA DRIVE	N PACIFIC ST	21,655
DEVORE ROAD	N CAJON BLVD	4,908
	N CAJON BLVD	4,707
	S NEDLEE AVE	2,659
DUFFY STREET	S DARBY STREET	1,884
EAST END AVENUE	N CHINO AVE	7,332
	N RIVERSIDE DR	7,556
	S GRAND AVE	5,987
EASTON STREET	E CACTUS AVE	3,150
ELECTRIC AVENUE	N 40TH STREET 0006M	13,018
ETIWANDA AVENUE	S SAN BERNARDINO AVE	19,989

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
EUCLID AVENUE	S TWENTY-FIFTH ST	1,540
	S VISTA DR	2,753
FIFTH AVENUE	E WABASH AVE	4,253
	W CRAFTON AVE	5,347
FLORIDA STREET	E GREENSPOT RD	2,202
FORTIETH STREET	E THIRD AVE	8,992
	W GOLDEN AVE	4,878
FORTY-EIGHTH STREET	W THIRD AVENUE	4,191
FRANCIS AVENUE	E NORTON AVE	3,596
	E RAMONA AVE	4,052
GLEN HELEN PARKWAY	E LYTLE CREEK RD	3,310
GOLDEN AVENUE	N MARSHALL BLVD	3,656
GREENSPOT ROAD	N FLORIDA ST	2,202
HARRISON STREET	N MARSHALL BLVD	3,612
	S MARSHALL BLVD	4,771
HIGHLAND AVENUE	E MERITO PLACE	23,842
JUNE STREET	N OGDEN ST	1,454
JURUPA AVENUE	E CEDAR AVE	4,709
	E LINDEN AVE	2,474
KENWOOD AVENUE	E KIMBARK AVE	1,625
LOCUST AVENUE	N JURUPA AVENUE	5,263
	N SAN BERNARDINO AVE	5,291
	S ELEVENTH ST	3,596

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
	S SLOVER AVE	3,890
LUGONIA AVENUE	W ALABAMA ST	5,440
	W NEVADA ST	5,069
LYNWOOD DRIVE	E ARDEN AVENUE	5,677
	E DEL ROSA AVE	7,801
	E STERLING AVENUE	5,010
	W GOLDEN AVE	8,428
LYTLE CREEK ROAD	N GLEN HELEN PARKWAY	2,442
MACY STREET	S DARBY ST	4,720
MERRILL AVENUE	W CATAWBA AVE	11,754
	W REDWOOD	5,926
MOUNTAIN AVENUE	S TWENTY-FIFTH ST	2,127
	W EUCLID AVE	1,329
MULBERRY AVENUE	S SLOVER AVENUE	6,010
NOLAN STREET	S OGDEN STREET	2,590
OAK GLEN ROAD	S HARRIS RD	1,351
	W POTATO CYN RD	1,792
	S PINE BENCH	661
OGDEN STREET	W BRONSON ST	1,012
	W MACY ST	4,226
OPAL AVENUE	N COLTON AVENUE	1,470
	N SH 38	1,965
	S CITRUS AVE	1,982

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
	S SAN BERNARDINO AVE	2,219
PACIFIC STREET	E DEL ROSA AVENUE	11,180
PALM AVENUE	N CAJON BLVD	3,995
PHILADELPHIA STREET	E PIPELINE AVE	8,790
	E RAMONA AVE	11,270
PHILLIPS BOULEVARD	E EAST END AVE	4,389
	W EAST END AVE	3,578
PIPE LINE AVENUE	N CHINO AVENUE	9,679
POTATO CANYON ROAD	E OAK GLEN ROAD W JCT	1,130
PUMALO STREET	W ARDEN AVENUE	3,352
RAMONA AVENUE	N FRANCIS AVENUE	13,437
RANCHO AVENUE	S SH 10	14,295
RANDALL AVENUE	E ALDER AVE	4,570
	E CEDAR AVENUE	4,958
	E HEMLOCK	6,792
RECHE CANYON ROAD	N RIVERSIDE COUNTY LINE	13,713
	S PLACID LANE	19,833
RIVERSIDE AVENUE	S COUNTRY CLUB DR	11,838
RIVERSIDE DRIVE	E RESERVOIR ST	12,467
SAN ANTONIO AVENUE	N TWENTY-THIRD ST	1,701
SAN BERNARDINO AVENUE	E ALABAMA ST	13,012
	E ALDER AVENUE	9,803
	E ETIWANDA AVENUE	11,245

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

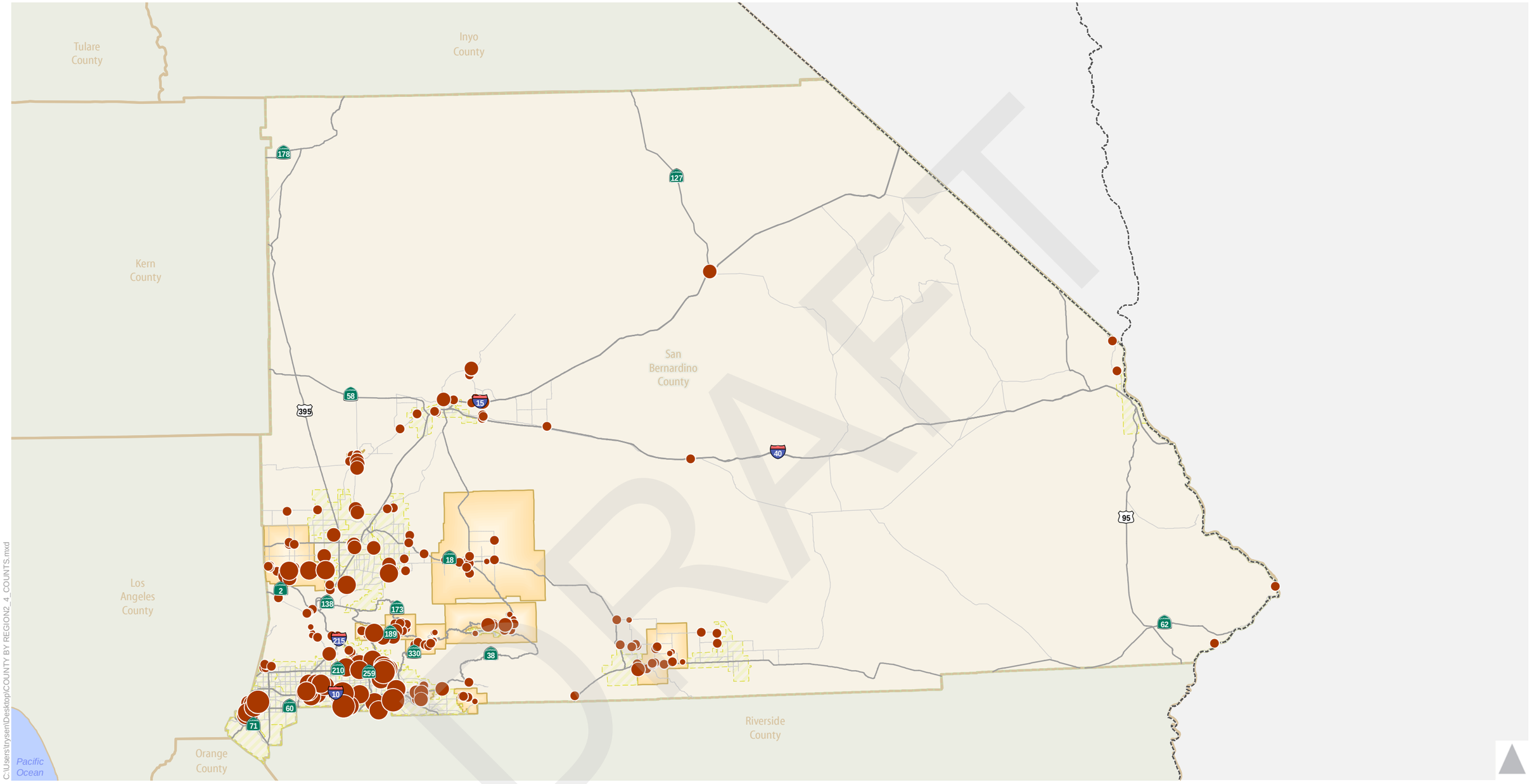
Road Name	Count Location	ADT
	E LOCUST AVE	4,445
	E,COMMERECE DR	12,540
	W BEECH AVE	7,851
	W OPAL AVE	2,131
SAN TIMOTEO CANYON ROAD	S BARTON RD	5,783
SAND CANYON ROAD	E CRAFTON AVENUE	9,131
SANTA ANA AVENUE	W CEDAR AVENUE	6,985
	W LOCUST AVENUE	7,503
SEVENTH STREET	W, ELM STREET	1,814
SIERRA AVENUE	S LYTLE CREEK RD	8,860
SLOVER AVENUE	E ALDER AVE	8,921
	E LOCUST AVE	10,368
	E MULBERRY AVENUE	15,112
STATE STREET	N HIGHLAND AVE	10,679
STERLING AVENUE	S DATE ST	9,156
TAMARIND AVENUE	S SLOVER AVENUE	1,090
THIRD AVENUE	E VERMONT ST	1,495
	W CAJON BLVD	2,134
TIPPECANOE AVENUE	N FIFTH STREET	14,217
TWENTY-FOURTH STREET	E CAMPUS ST	1,098
	E SAN ANTONIO AVE	2,017
TWENTY-THIRD STREET	E MOUNTAIN AVE	3,752
UNIVERSITY PARKWAY	SHORT ST N .27M	15,152

TABLE 3 – SAN BERNARDINO COUNTY EXISTING ADT COUNTS

Road Name	Count Location	ADT
VALLEY BOULEVARD	E CEDAR AVE	15,520
	E REDWOOD AVE	17,899
	W CALABASH AVENUE	9,859
	W LOCUST AVE	17,514
WABASH AVENUE	N SH 38	3,681
	S FIFTH AVENUE	1,025
	S SH 38	6,121

Source: County of San Bernardino

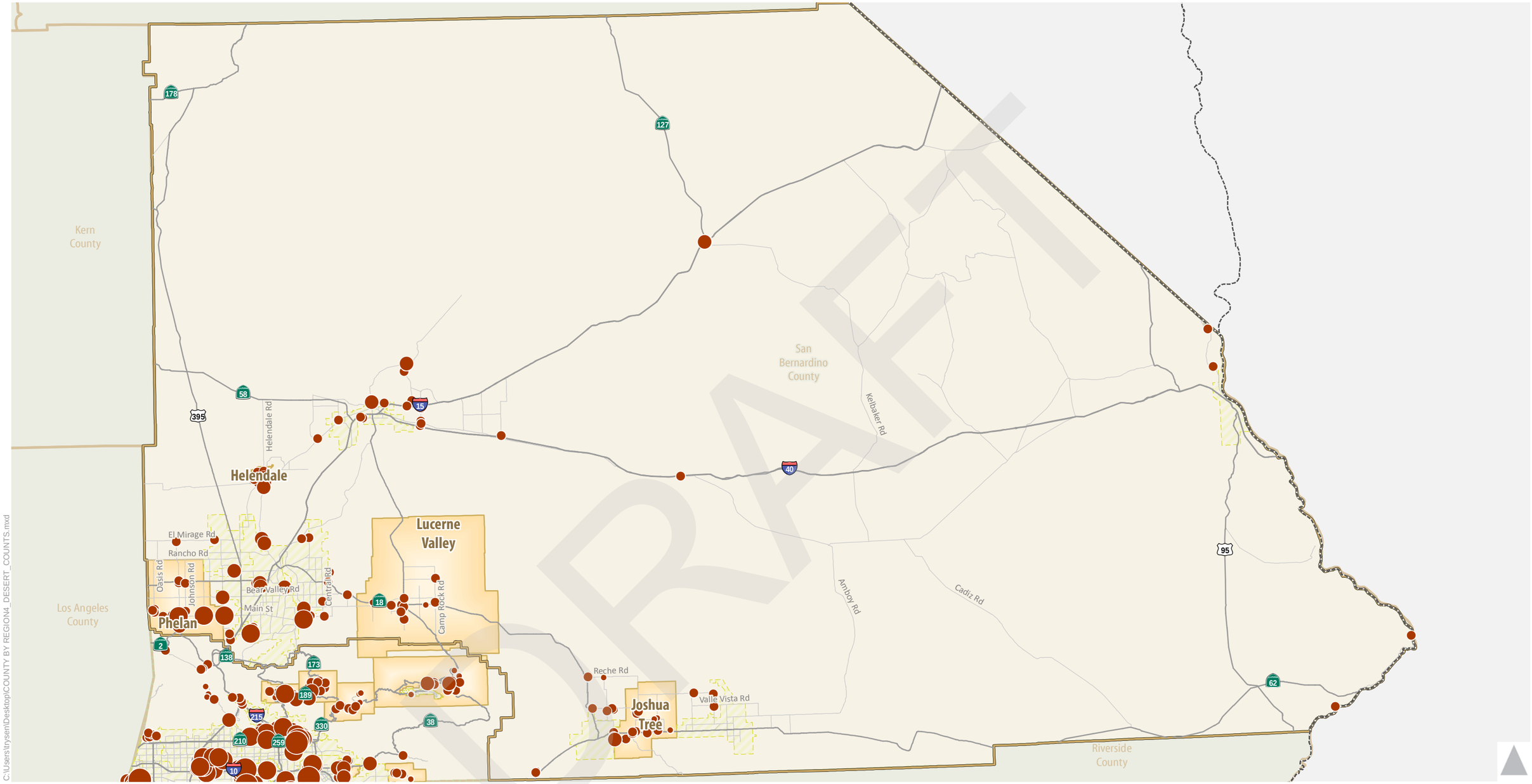
DRAFT



Source: San Bernardino County

Figure 2.1

Existing Counts



Existing Counts

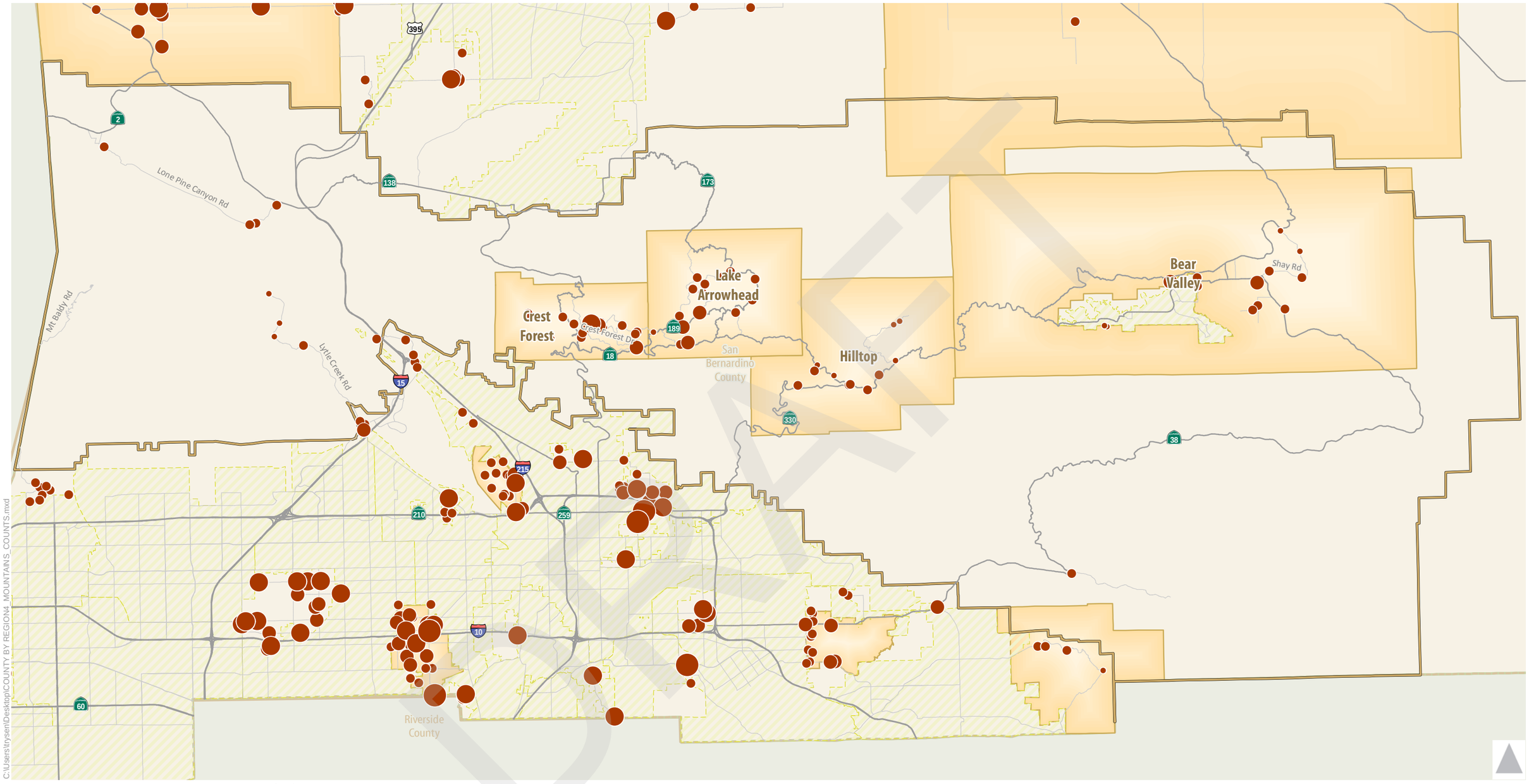
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000
- > 20,000

- Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries
- State Boundaries

Source: San Bernardino County

Figure 2.2

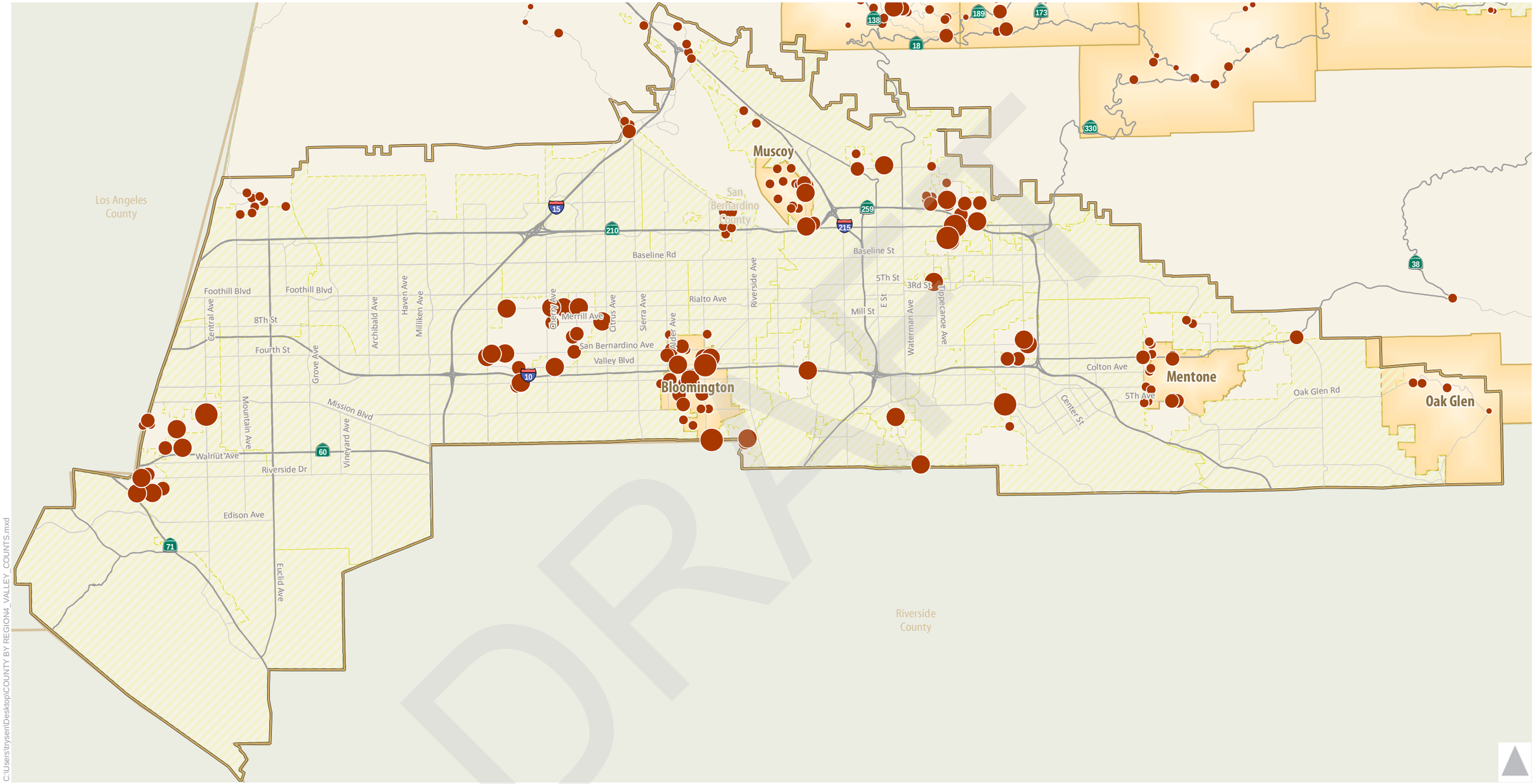
Desert Region Existing Counts



Source: San Bernardino County

Figure 2.3

Mountain Region Existing Counts



C:\Users\trysen\Desktop\COUNTY BY REGION4_VALLEY_COUNTS.mxd

Existing Counts

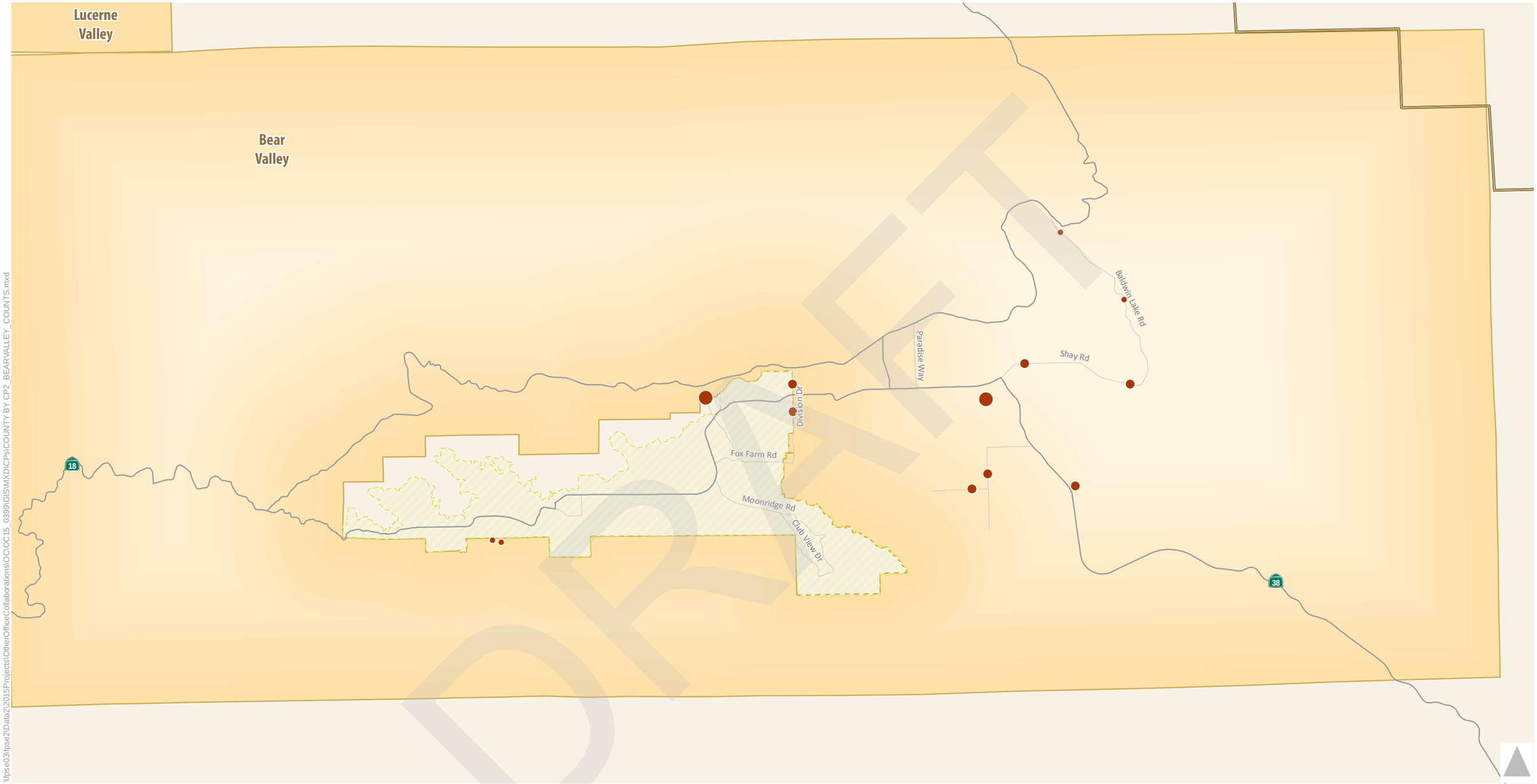
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000
- > 20,000

- Valley Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries

Source: San Bernardino County

Figure 2.4

Valley Region Existing Counts



Existing Counts

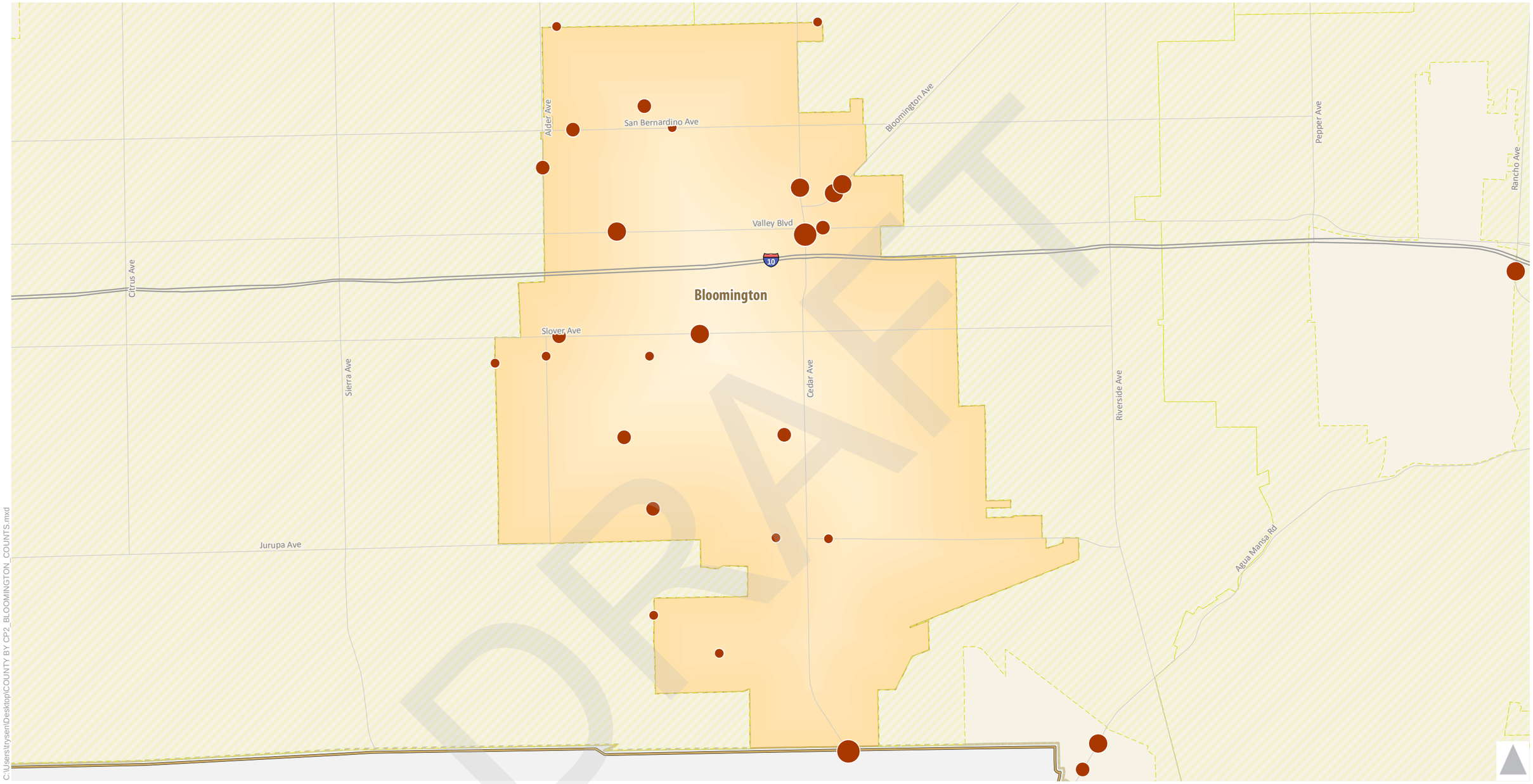
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000

Mountain Region
Community Plan Boundary
City Boundary
San Bernardino County

Source: San Bernardino County

Figure 2.5

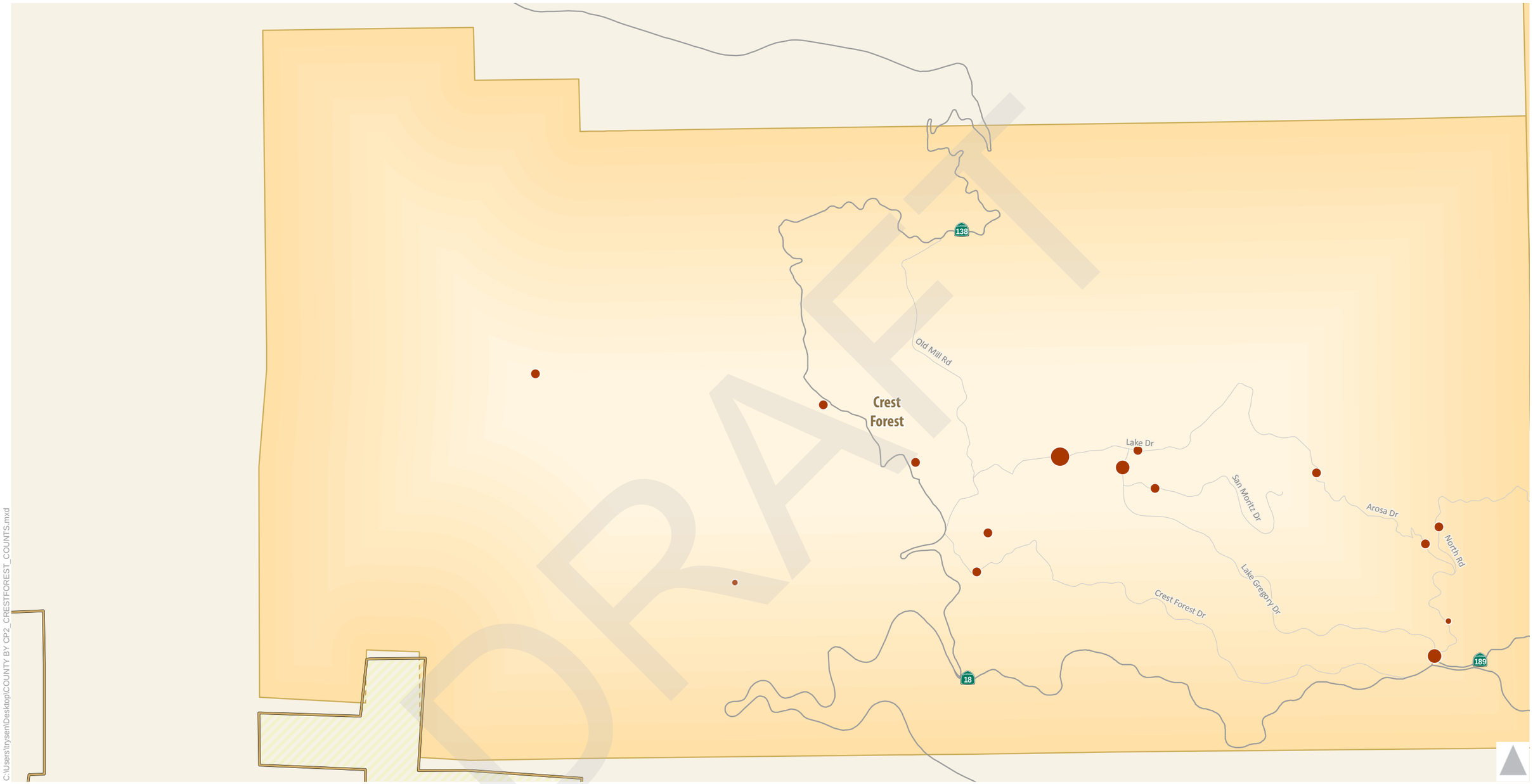
Bear Valley Community Plan Existing Counts



Source: San Bernardino County

Figure 2.6

Bloomington Community Plan Existing Counts



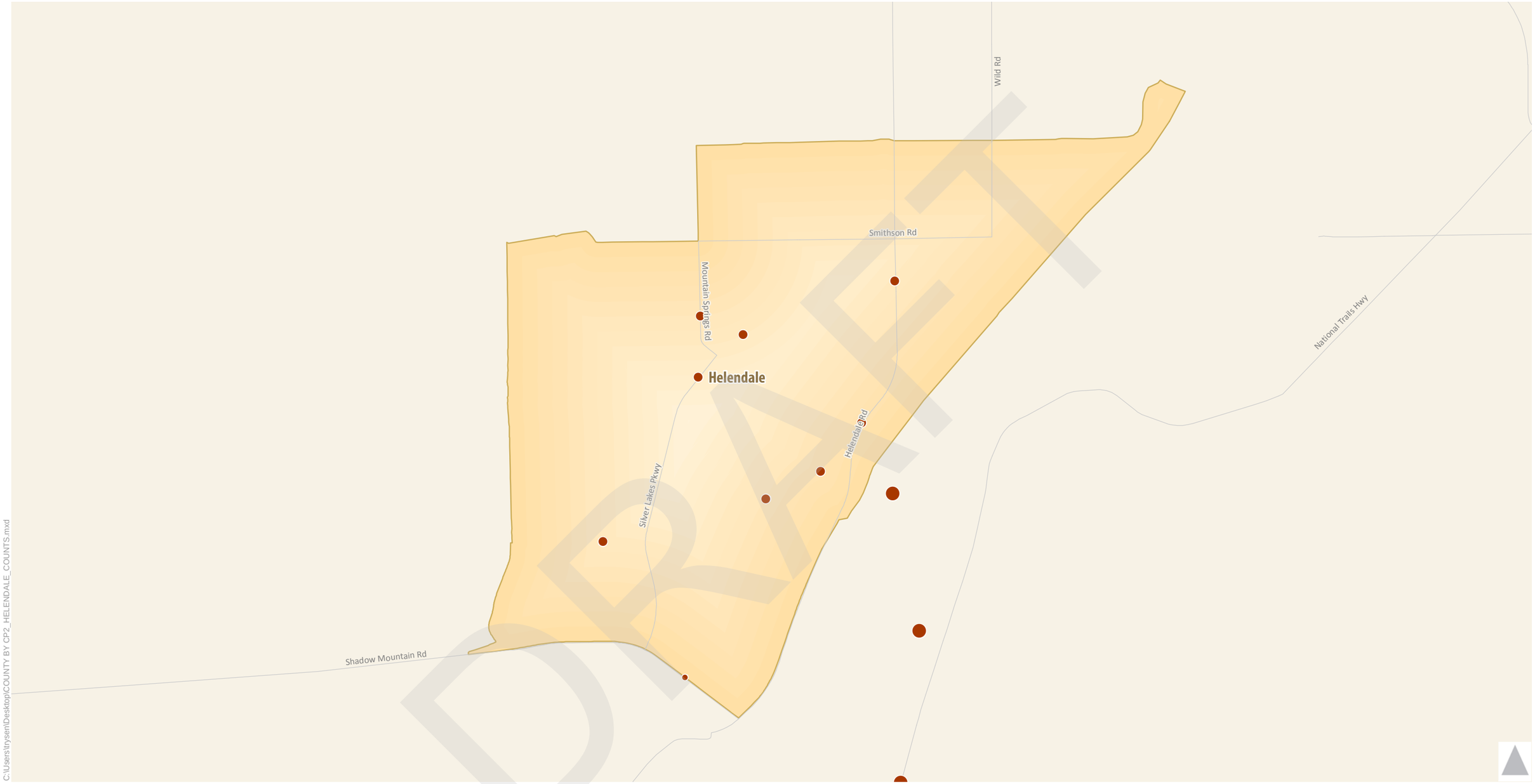
Existing Counts

- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000
- Mountain Region
- Community Plan Boundary
- City Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.7

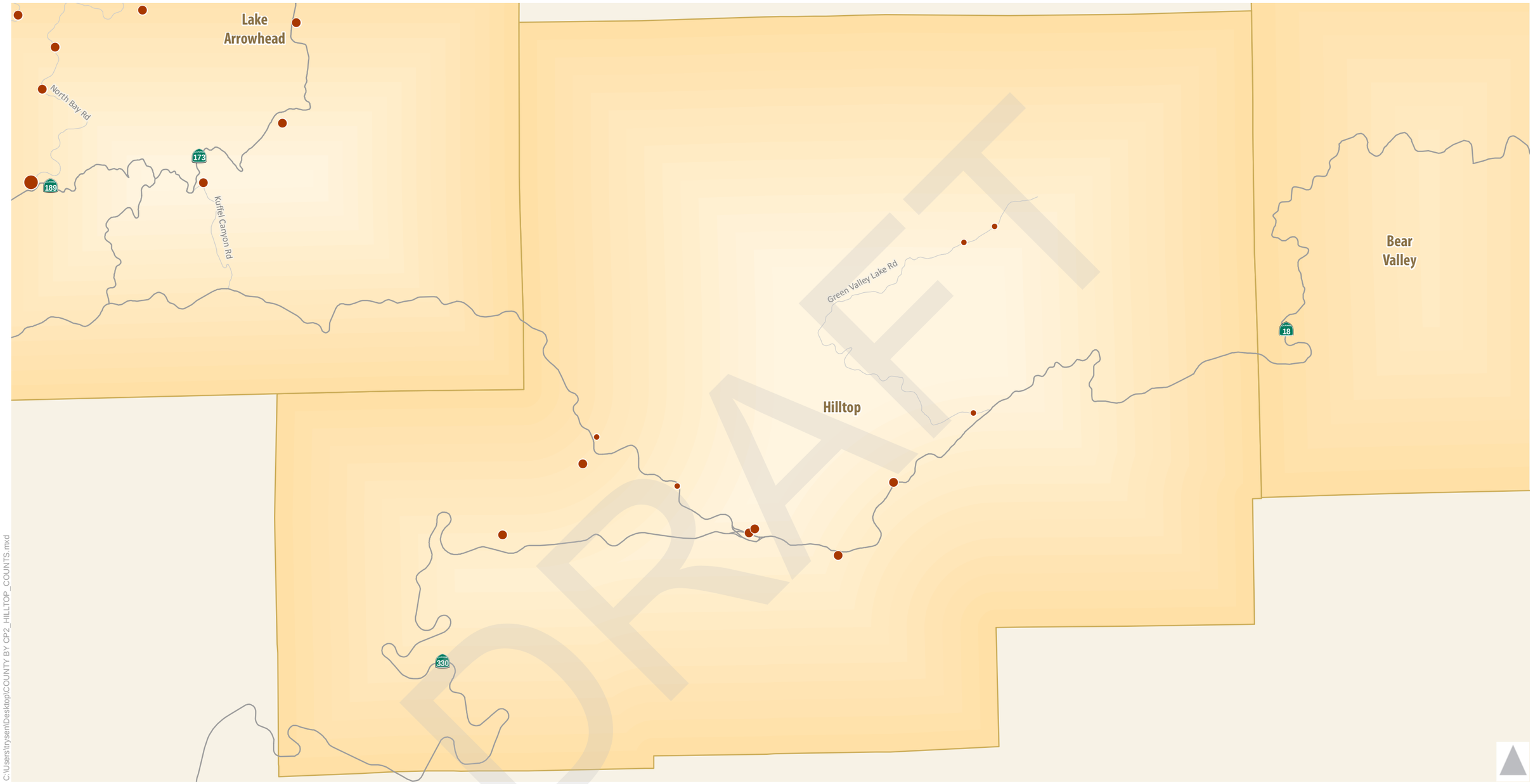
Crest Forest Community Plan Existing Counts



Source: San Bernardino County

Figure 2.8

Helendale Community Plan Existing Counts



Existing Counts

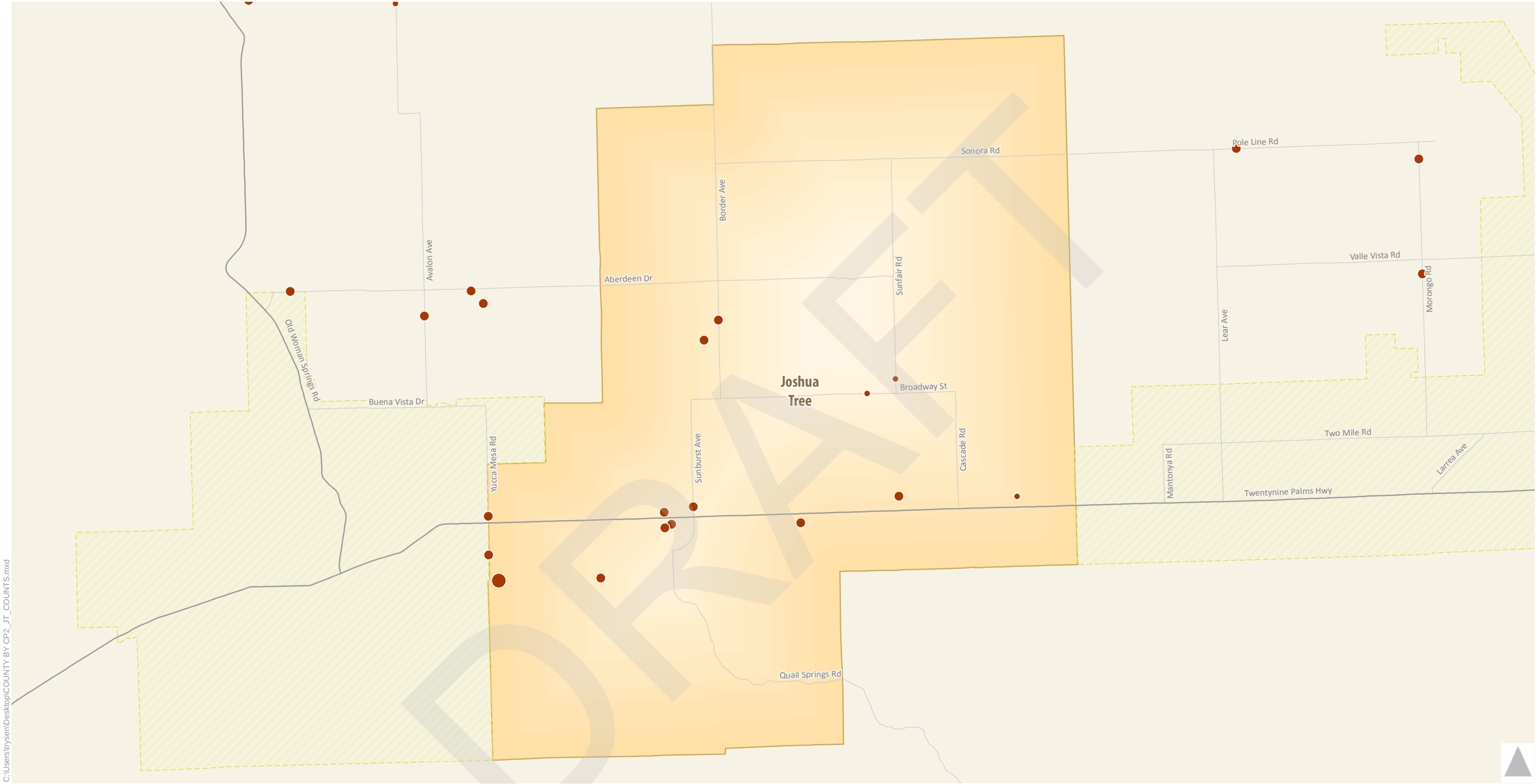
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000

- Community Plan Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.9

Hilltop Community Plan Existing Counts



Existing Counts

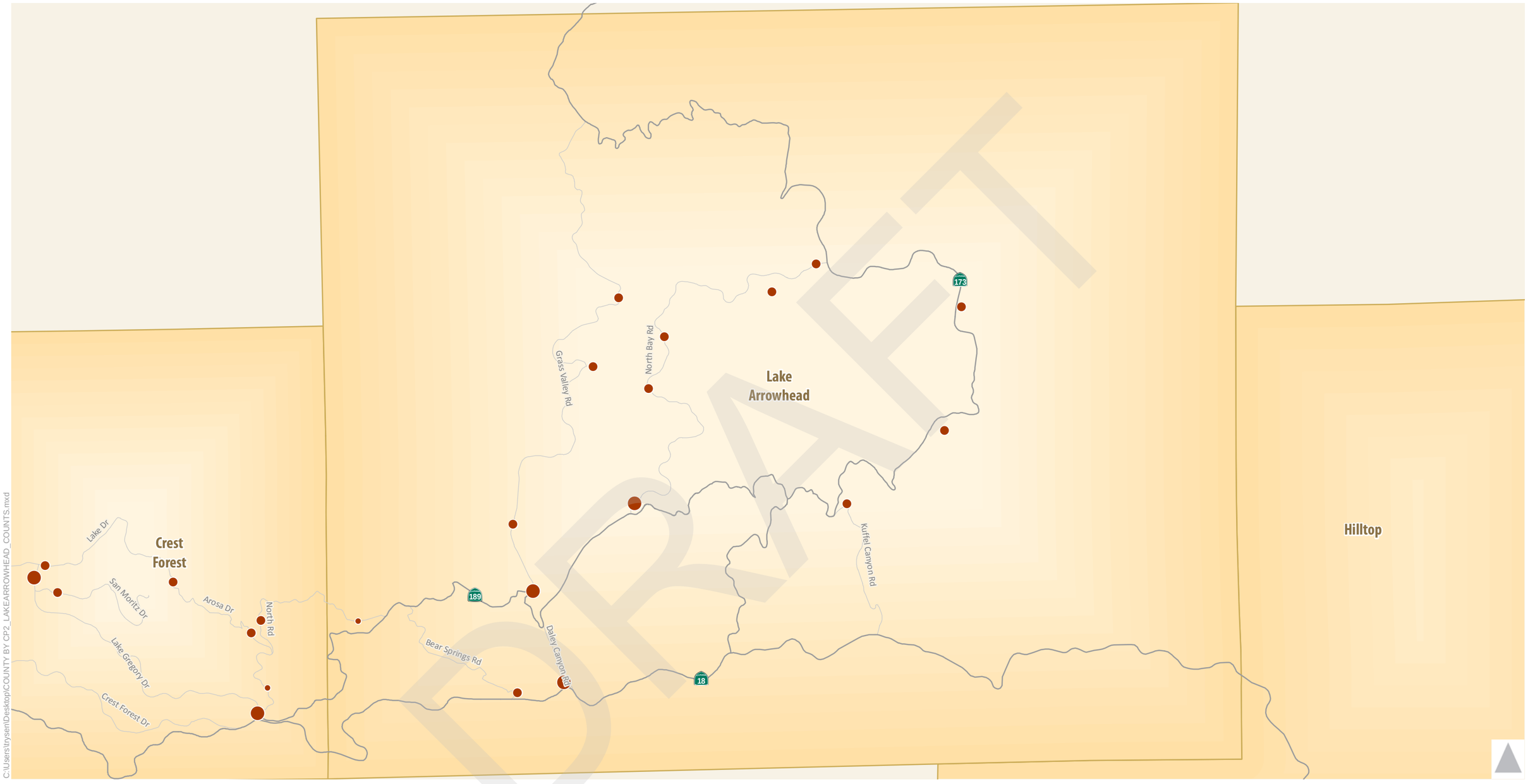
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000

- Community Plan Boundary
- City Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.10

Joshua Tree Community Plan Existing Counts



Existing Counts

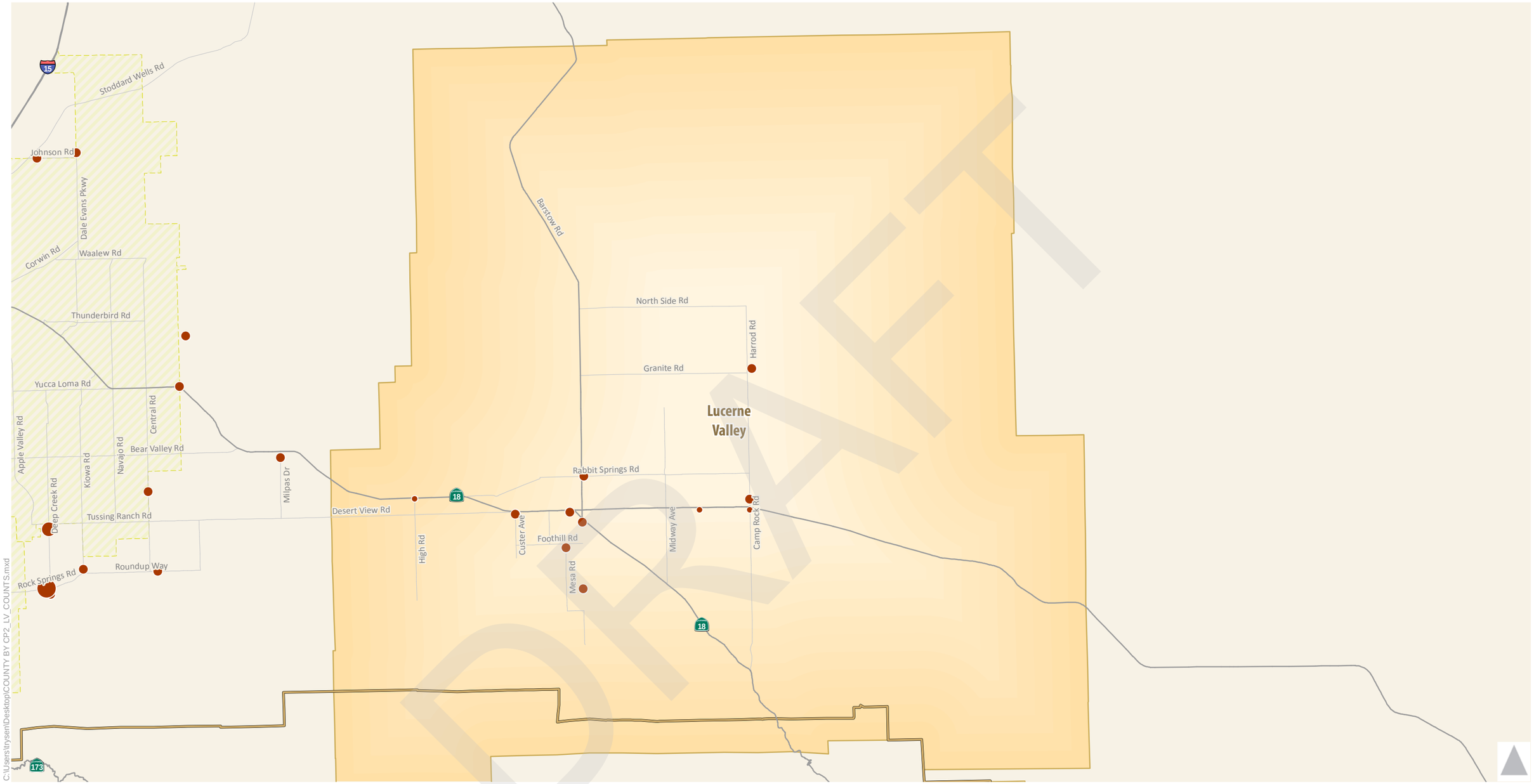
- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000

- Community Plan Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.11

Lake Arrowhead Community Plan Existing Counts



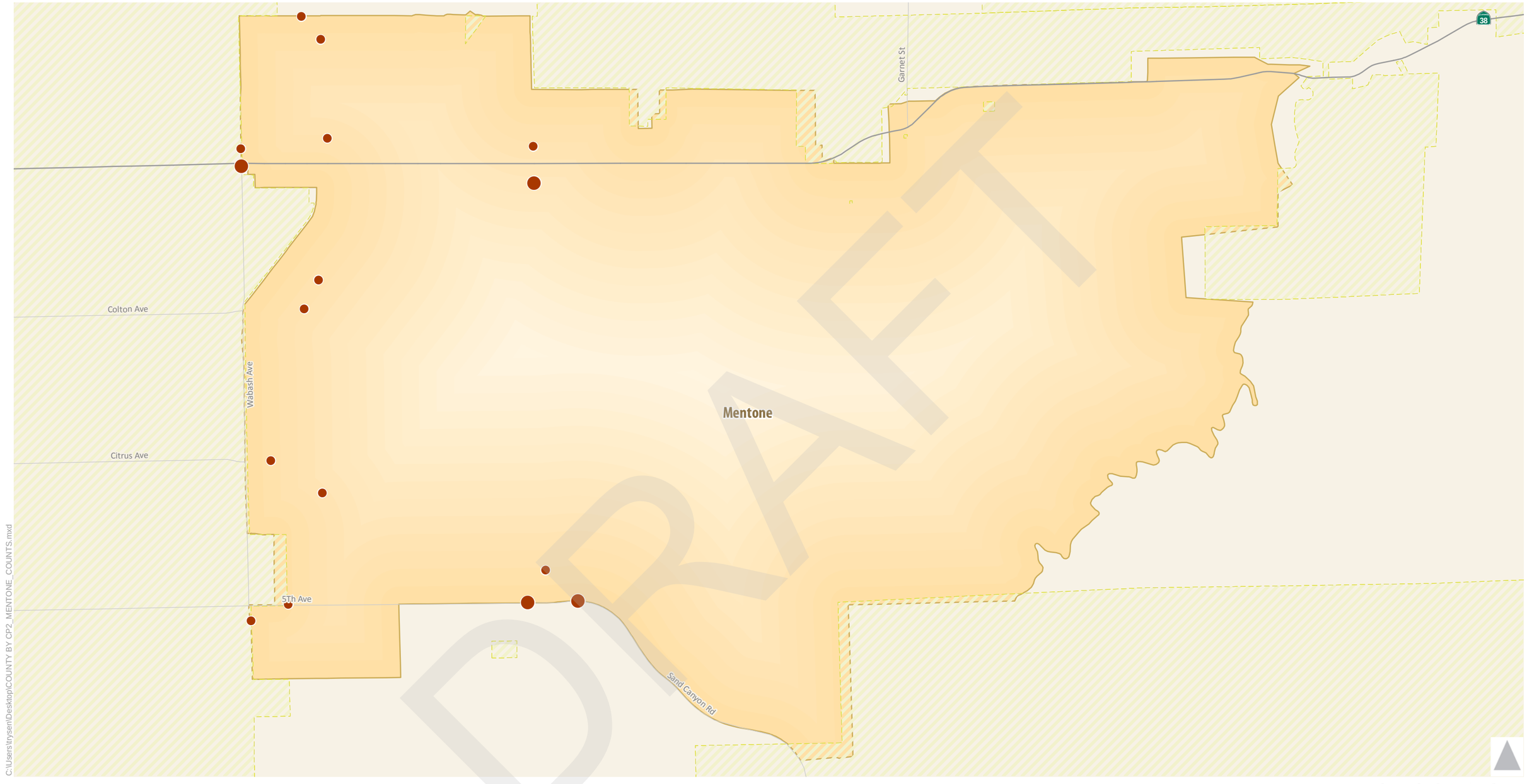
Existing Counts

- < 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000
- Desert Region
- Community Plan Boundary
- City Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.12

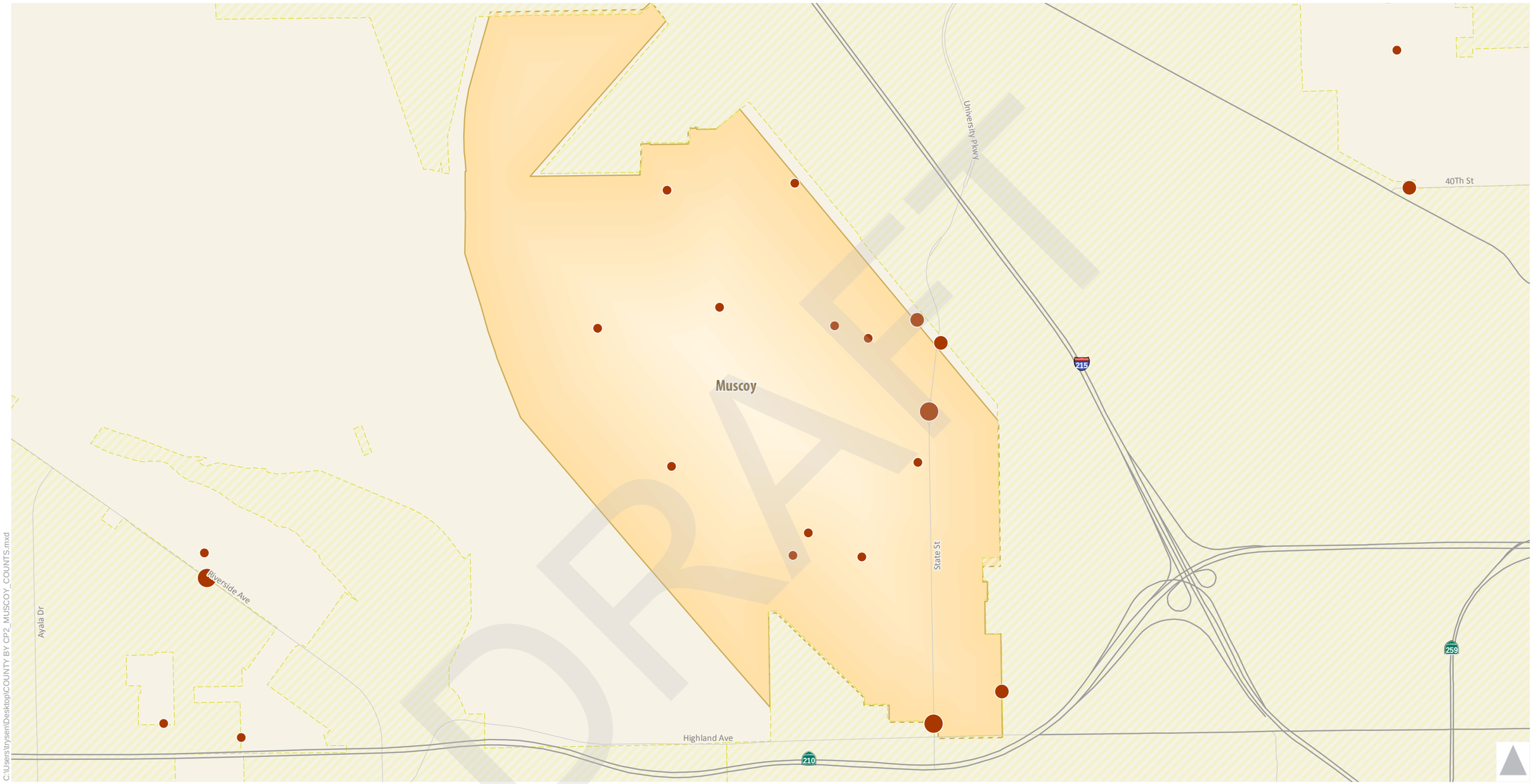
Lucerne Valley Community Plan Existing Counts



Source: San Bernardino County

Figure 2.13

Mentone Community Plan Existing Counts



Existing Counts

- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000

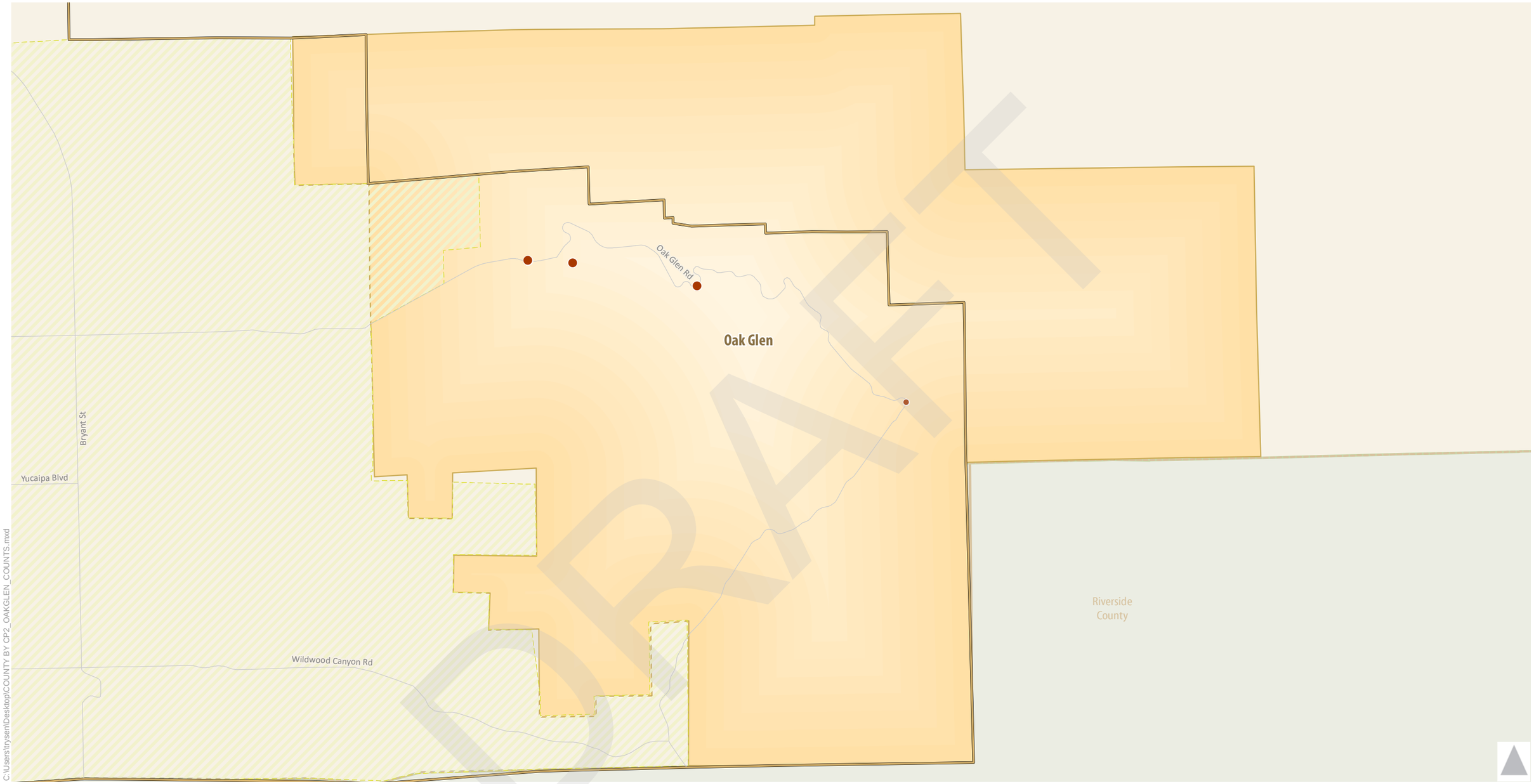
- Community Plan Boundary
- City Boundary
- San Bernardino County

Source: San Bernardino County

Figure 2.14

Muscoy Community Plan Existing Counts

DRAFT



Source: San Bernardino County

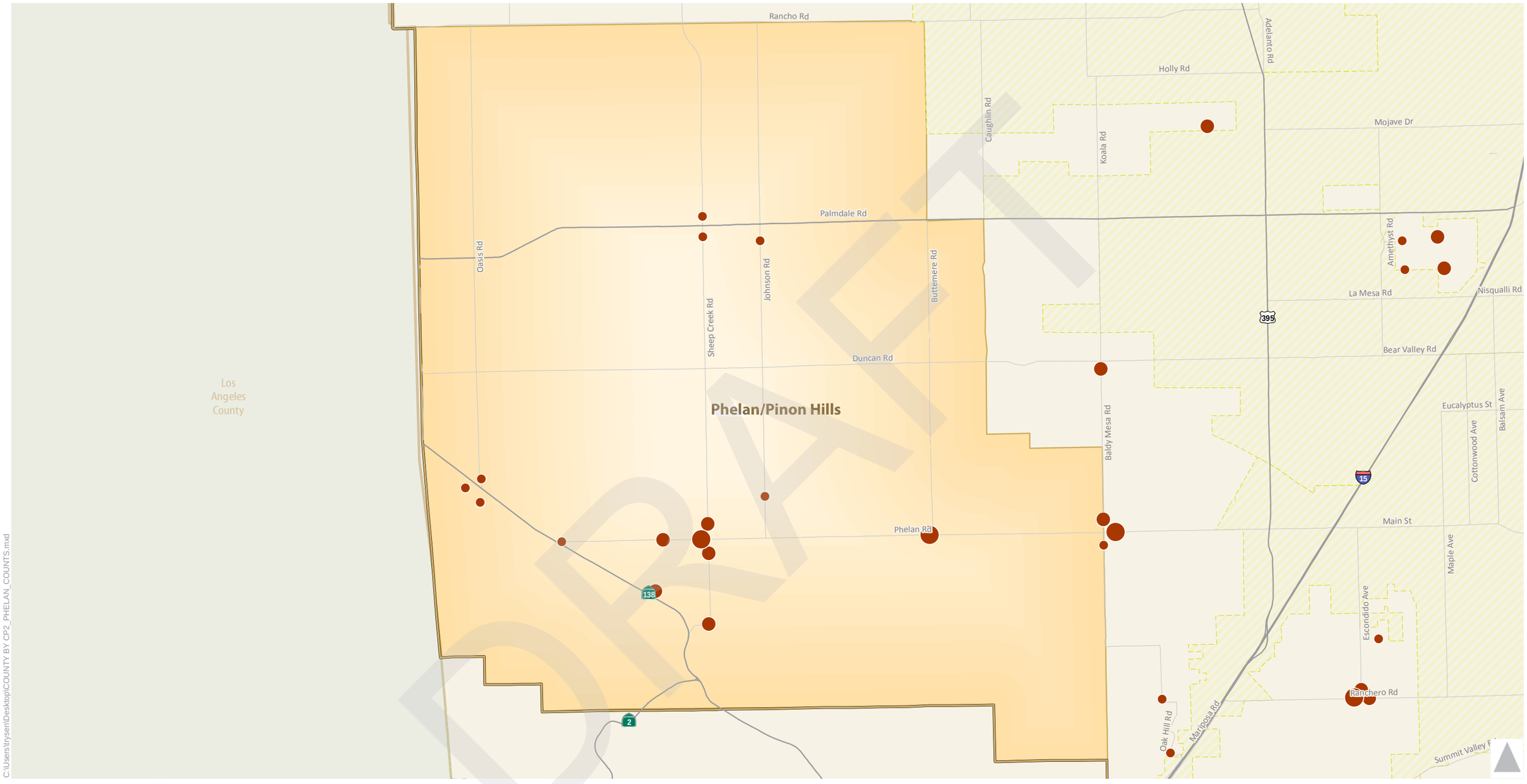
Existing Counts

- < 1,000
- 1,000 - 5,000

- Valley Region
- Community Plan Boundary
- City Boundary
- San Bernardino County
- County Boundaries

Figure 2.15

Oak Glen Community Plan Existing Counts



C:\Users\trysen\Desktop\COUNTY BY CP2_PHELAN_COUNTS.mxd

Existing Counts

- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000

- Desert Region
- Community Plan Boundary
- City Boundary
- San Bernardino County
- County Boundaries

Source: San Bernardino County

Figure 2.16

Phelan/Pinon Hills Community Plan Existing Counts

PUBLIC TRANSIT

Public transit in the County of San Bernardino's unincorporated communities is provided through several agencies with local bus service, demand-responsive paratransit service, and rail service. Figures 3.1 through 3.16 display fixed-route transit service in the county.

FIXED-ROUTE TRANSIT SERVICE

OmniTrans – The following OmniTrans bus routes provide service to unincorporated communities in San Bernardino County:

- Route 8 (San Bernardino—Mentone—Crafton Hills College): This route travels between San Bernardino Transit Center and Crafton Hills College, with stops in Loma Linda, Redlands, and Mentone. There is service between San Bernardino Transit Center and Redlands mall every 30 minutes during weekdays, and between San Bernardino Transit Center and Crafton Hills College every 60 minutes during weekdays and weekends. Weekday service runs between 5:11 AM to 10:33 PM, with 25 to 60 minute morning and evening headways. Saturday service runs between 6:20 AM and 7:23 PM with 60 minute headways. Sunday service runs between 7:22 AM and 6:56 PM with 60 minute headways. This route also provides connectivity with Route sbX.
- Route 11 (San Bernardino—Muscoy—Cal State): This route travels between Cal State San Bernardino and San Bernardino Transit Center. Weekday service runs between 5:28 AM and 10:18 with 60 minute morning headways and 30 to 60 minute evening headways. Saturday service runs between 6:50 AM and 6:45PM with 60 minute headways. Sunday service runs from 7:17AM to 7:23PM with 60 minute headways. This route provides connectivity to Route sbX.
- Route 19 (Fontana—Colton—Redlands—Yucaipa): This route travels between Fontana and Yucaipa, with stops in Colton, Loma Linda, Grand Terrace, Redlands, Mentone, and Bloomington. Weekday service runs from 4:50 AM to 10:28PM with 30 minute morning and evening headways. Saturday service runs from 5:20 AM to 9:45PM with 60 minute headways. Sunday service runs from 6:40 AM to 7:13 PM with 60 minute headways.
- Route 29 (Bloomington—Valley Blvd.—Kaiser): This route travels between Fontana and Bloomington, including stops in Bloomington. Weekday service runs from 6:45AM to 6:35PM with 60 minute headways. Saturday service runs from 7:45 AM to 6:35 PM with 60 minute headways.

Barstow Area Transport – The following Barstow Area Transport bus route provides service to unincorporated communities in San Bernardino County:

- Route 3 (Barstow Library—Tanger Mall—Jasper Park): This route travels between Barstow Library Jasper Park and includes service in Lenwood. Weekday service runs from 7:00AM to 6:50 PM with

60 minute headways. Saturday service runs from 9:00AM to 4:50 PM and Sunday service runs from 8:00 AM to 3:50 PM, both with 60 minute headways.

Morongo Basin Transit Authority – The following Morongo Basin Transit Authority bus routes provide service to unincorporated communities in San Bernardino County:

- Route 1 (Yucca Valley—Marine Base): This route provides service between Twentynine Palms and Joshua Tree, with extended service between Twentynine Palms Marine Base and Yucca Valley in evenings and weekends. Weekday service runs from 6:00 AM to 10:05 PM with 60 minute headways in the morning and 60 to 120 minute headways in the evening. Saturday service runs from 7:15 AM to 9:49 PM with 60 to 120 minute headways. Sunday service runs from 9:00 AM to 4:40 PM; two buses run in each direction.
- Route 12/15 (Yucca Valley—Palm Springs—MCAGCC Airport): This route provides service between Twentynine Palms Marine Corps Base and Palm Springs, with stops in Twentynine Palms, Joshua Tree, Yucca Valley, and Morongo Valley. Weekday service runs from 7:00 AM to 6:45 PM, with one morning bus and one evening bus. Friday service runs from 5:00 PM to 8:30 PM with one evening. Saturday and Sunday service runs from 10:00 AM to 7:35 PM with one morning and one evening bus each day.
- Route 21 (Landers Loop): This route provides service between Landers and Yucca Valley, including service in Homestead Valley. Service is only provided on weekdays, from 6:45 AM to 5:55 PM. Morning headways are between 90 minutes and two hours. Afternoon headways are two hours.

Mountain Area Regional Transit Authority – The following Mountain Area Regional Transit Authority bus routes provide service to unincorporated communities in San Bernardino County:

- Big Bear Route 1 (Boulder Bay to Erwin Lake): This route includes service to and from Big Bear City. Service is provided seven days a week from 5:30 AM to 7:30 PM (6:30 AM to 6:30 PM on Sundays) with 60 minute headways.
- RIM Route 2 (Valley of Enchantment—Crestline—Lake Arrowhead): This route includes service through Crestline and Lake Arrowhead. This route runs Monday through Friday from 6:15 AM to 7:05 PM with 90 minute headways.
- Big Bear Route 3 (Mountain Meadows to Gold Mountain): This route includes service to and from Big Bear City. Service is provided on weekdays from 10:00 AM to 4:00 PM with 60 minute headways.
- RIM Route 4 (Lake Arrowhead to Running Springs): This route runs weekdays from 6:50 AM to 7:10 PM with 90 minute headways.
- Big Bear Off the Mountain (Big Bear Valley—Running Springs—San Bernardino): This route includes service to and from Running Springs. Service is provided six days a week. Weekday buses

run from 6:30 AM to 7:00 PM; there are three buses in each direction with 4.5 hour headways. Sunday service consist of one bus in each direction, running from 11:00 AM to 2:30 PM.

- RIM Off the Mountain (Lake Arrowhead—Crestline—San Bernardino): This route provides service on weekdays from 5:30 AM to 8:10 PM with two morning and two evening buses in each direction. Morning and evening headways are two hours. Saturday service runs from 8:45 AM to 5:20 PM, with one morning and one evening bus in each direction.

Victor Valley Transit Authority – The following Victor Valley Transit Authority bus routes provide service to unincorporated communities in San Bernardino County:

- Route 21 (Tri-Community): This route provides service between Victorville and Phelan/Pinon Hills, including service through Oak Hills. Weekday service runs from 5:15 AM to 8:54 PM with 75 to 90 minute morning headways and 90 minute evening headways. Saturday service runs from 6:36 AM to 7:54 PM with 90 to 120 minute morning and 90 minute evening headways. Sunday service runs from 8:00 AM to 5:51 PM with 120 minute headways.
- Route 22 (Helendale): This route provides service in Northgate Village, Oro Grande, Silver Lakes, and Spring Valley Lake. Weekday service is provided from 5:46 AM to 8:06 PM, Saturday service is provided from 7:00 AM to 7:46 PM, and Sunday service is provided from 9:00 AM to 6:49 PM. Weekday and weekend headways are two hours.
- Route 23 (Lucerne Valley): This route provides service between Lucerne Valley and Apple Valley. Weekday service is provided from 5:22 AM to 8:51 PM, Saturday service is provided from 7:00 AM to 8:51 PM, and Sunday service is provided from 9:00 AM to 6:51 PM. Weekday and weekend headways are two hours.
- Route 52 (Victorville/Mall): This route includes service through Mountain View Acres. Weekday service is provided from 6:00 AM to 8:54 PM with 30 minute morning and 60 minute evening headways. Saturday service is provided from 7:00 AM to 7:54 PM with 60 minute headways and Sunday service is provided from 8:00 AM to 5:54 PM, also with 60 minute headways.
- NTC Commuter: This route provides service to Fort Irwin's National Training Center with stops in Hesperia, Victorville, Helendale, and Barstow. Morning inbound service and afternoon/evening outbound service is provided to and from Fort Irwin. Weekday service, starting and ending points, and stops vary among the various lines listed below.
    - 101 (Barstow): Runs from 4:15 AM to 7:45 AM and from 3:45 PM to 8:12 PM. Inbound and outbound service each have two buses with approximately two hour headways
    - 102 (Barstow): Runs from 5:25AM to 6:30 AM and from 3:45 PM to 5:57 PM. Inbound and outbound routes are each serviced by one bus.
    - 103 (Victorville): Runs from 4:45 AM to 6:35 AM and from 4:15 PM to 6:27 PM. Inbound and outbound routes are each serviced by one bus.

- 104 (Hesperia): Runs from 4:15 AM to 6:25 AM and from 4:15PM to 5:42 PM. Inbound and outbound routes are each serviced by one bus.
- 105 (Helendale): Runs from 4:45 AM to 6:35 AM and from 4:45 PM to 6:27 PM. Inbound and outbound routes are each serviced by one bus.
- 106 (Barstow): Runs from 5:50 AM to 7:20 AM and from 4:45 PM to 5:52 PM. Inbound and outbound routes are each serviced by one bus.
- 107 (Hesperia): Runs from 5:15 AM to 7:50 AM and from 4:45PM to 7:02 PM. Inbound and outbound routes are each serviced by one bus.

PARATRANSIT SERVICE

Unlike fixed-route transit service, paratransit service does not follow fixed routes or schedules. Paratransit can consist of vans or mini-buses that provide on-demand curb-to-curb service from any origin to destination within the service's specified service area. Demand-responsive paratransit service in the county's unincorporated areas is provided by Barstow Area Transit, OmniTrans, Mountain Area Regional Transit Authority, Morongo Basin Transit Authority and Victor Valley Transit Authority:

- Barstow Area Transit provides its Dial A Ride Paratransit (BAT DAR), a shared-ride transportation service, within 0.75 miles of fixed-route bus service in the greater Barstow area.
- Mountain Area Regional Transit Authority provides Dial-A-Ride as a shared-ride, curb-to-curb service available to senior citizens and persons with disabilities in the Mountain Area service area. It is available to anyone who lives more than 0.75 miles from a Mountain Area Transit fixed-route stop but within the Dial-A-Ride service area. Reservations can be made on the same day or in advance.
- Morongo Basin Transit Authority provides its Ready Ride service as an origin to destination service available primarily for senior and disabled passengers at discounted rates, but also available to all passengers at a premium rate. Twenty four hour advanced reservation is required and is available in Yucca Valley, Morongo Valley, Joshua Tree, Twentynine Palms, Wonder Valley, and Landers.
- The Omnitrans Access Service provides curb-to-curb service to complement the Omnitrans fixed-route bus system. It is available during any time period that fixed-route service operates, up to 0.75 miles on either side of an existing bus route. Service is available outside of the standard service area for an additional fee. Fares are based on distance and the number of zones covered per trip. Riders can make reservations or arrange a subscription service.
- Victor Valley Transit Authority's Direct Access service requires a reservation one to fourteen days in advance and charges fares based on zones. An ADA eligibility certification is required.

TRANSIT FACILITIES

Transit facilities in the county's communities consist of bus stops for local bus service; these stops can include amenities such as benches and shelters. Generally, a large portion of bus stops in the county's communities lack any amenities. In many locations with bus service available, bus stops do not provide any amenities beyond a post with agency and route signage and perhaps schedule information. Occasionally, sidewalks are not provided to and from the bus stop. In some locations, such as in Bloomington, Joshua Tree, Mentone, and Mountain View Acres, there are bus stops with a bench and/or shelter.

DRAFT

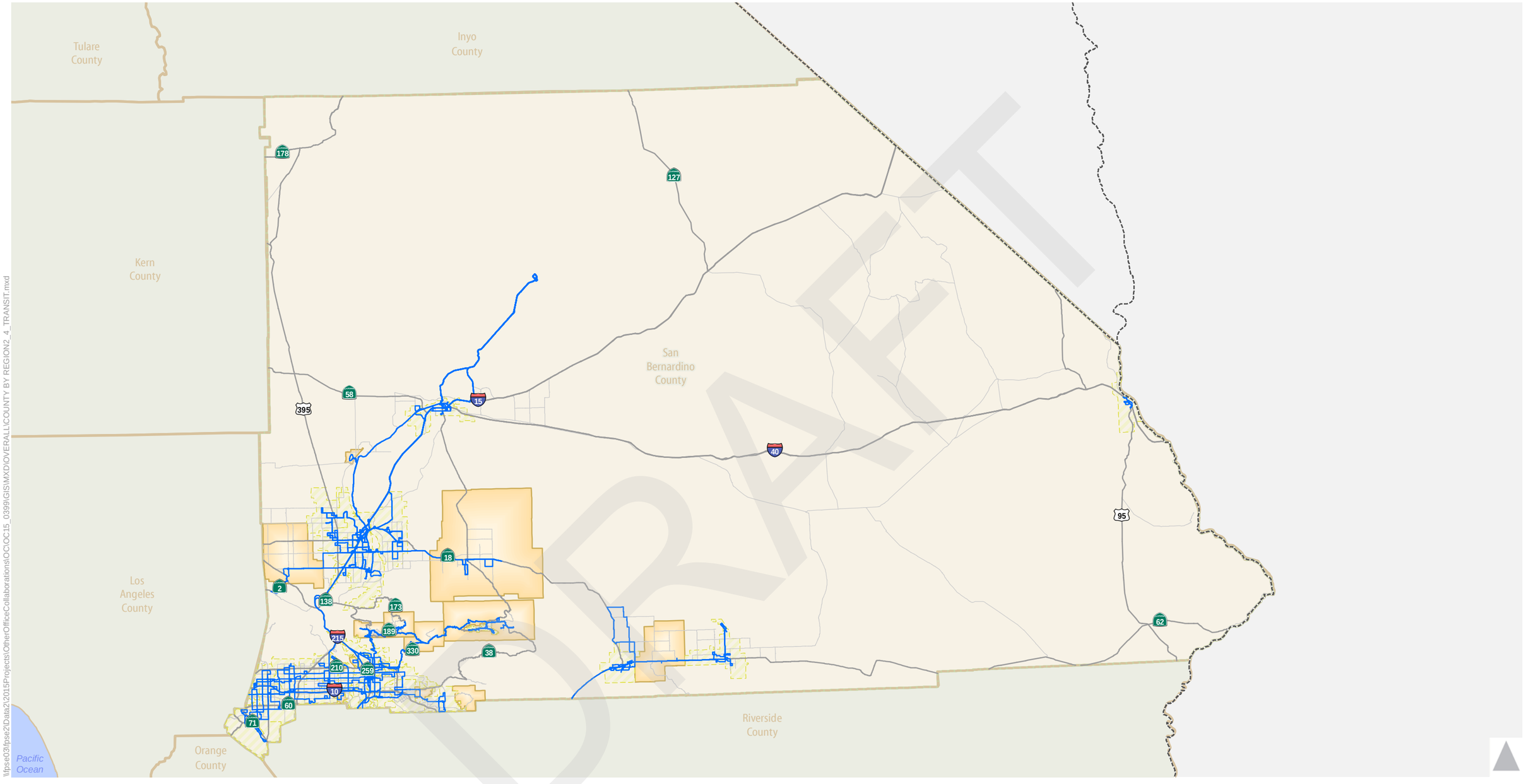
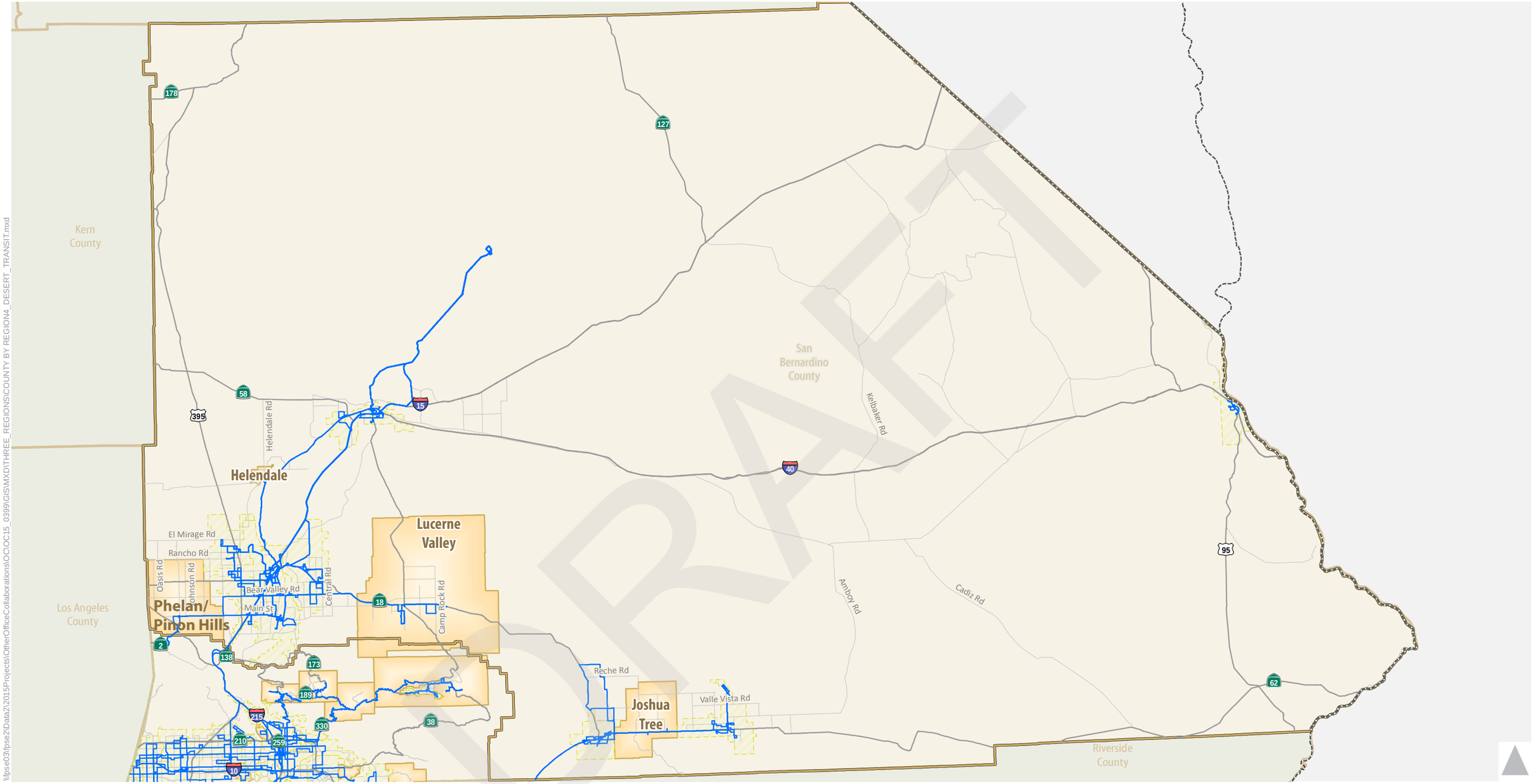


Figure 3.1

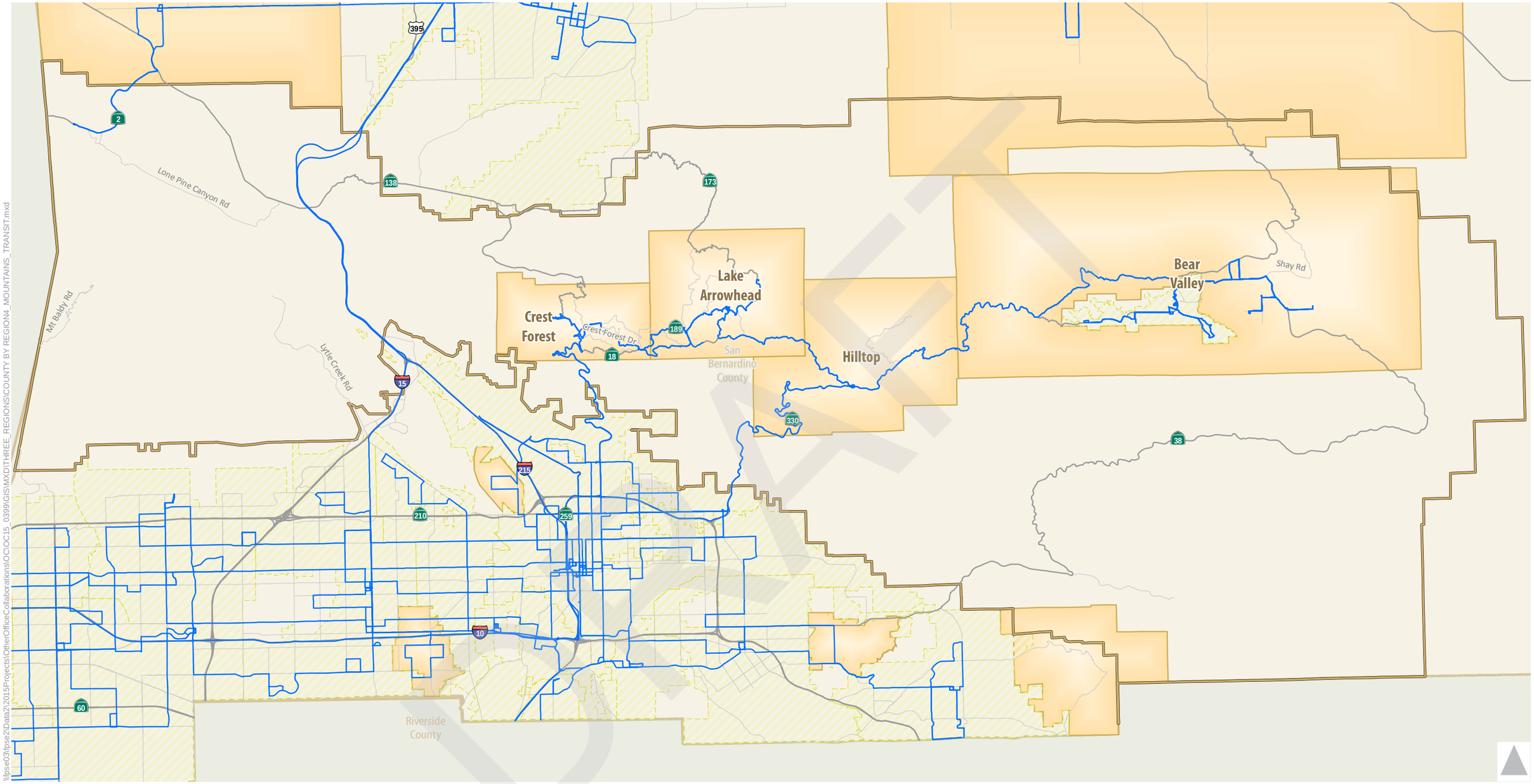
Countywide Transit Routes



\\lpse03\lpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_DESERT_TRANSIT.mxd

Figure 3.2

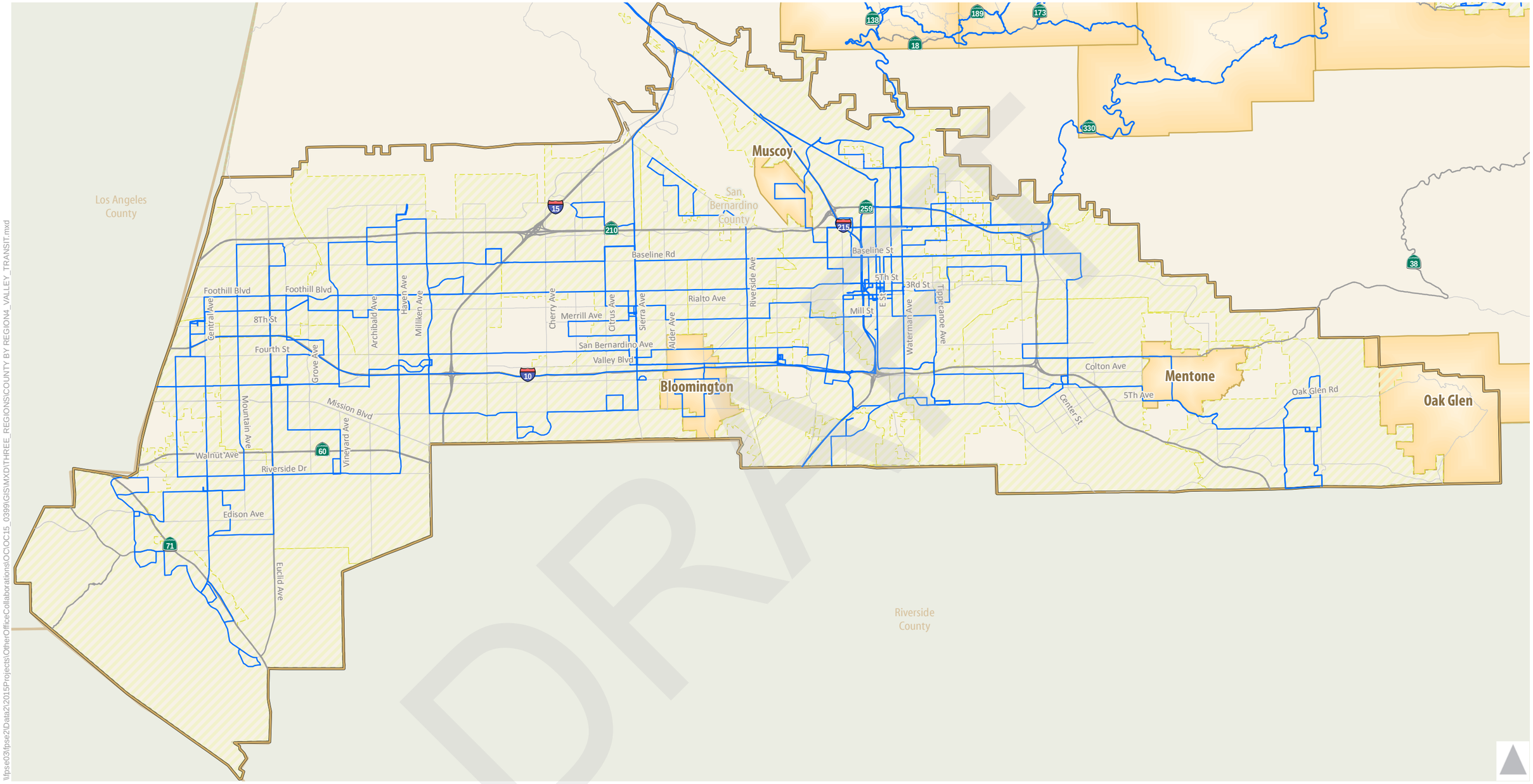
Desert Region Transit Routes



Transit Route
Mountain Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Figure 3.3

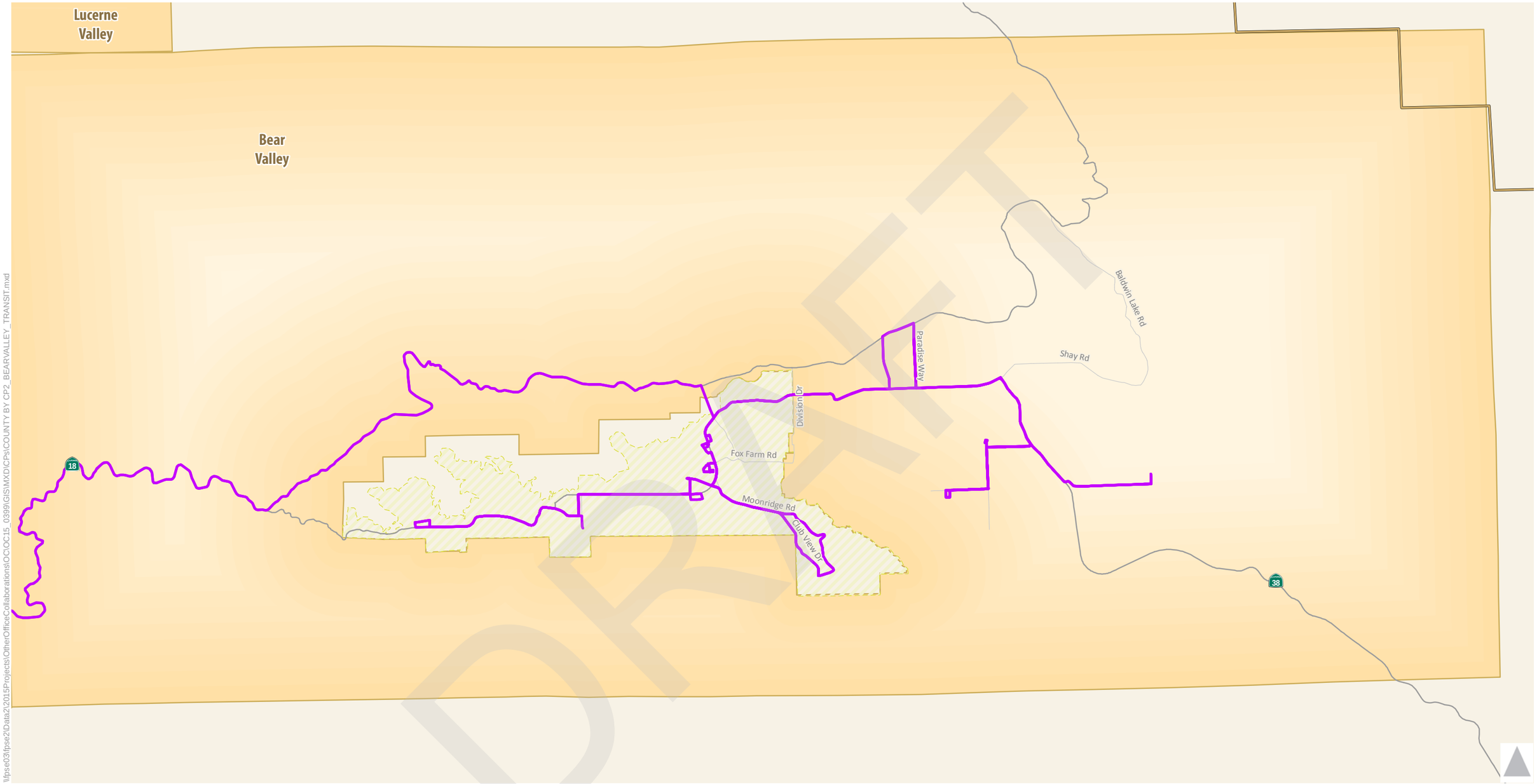
Mountain Region Transit Routes



Transit Route
Valley Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Figure 3.4

Valley Region Transit Routes



Transit Agency

- Mountain Area Regional Transit Authority
- Mountain Region
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 3.5

Bear Valley Community Plan Transit Routes

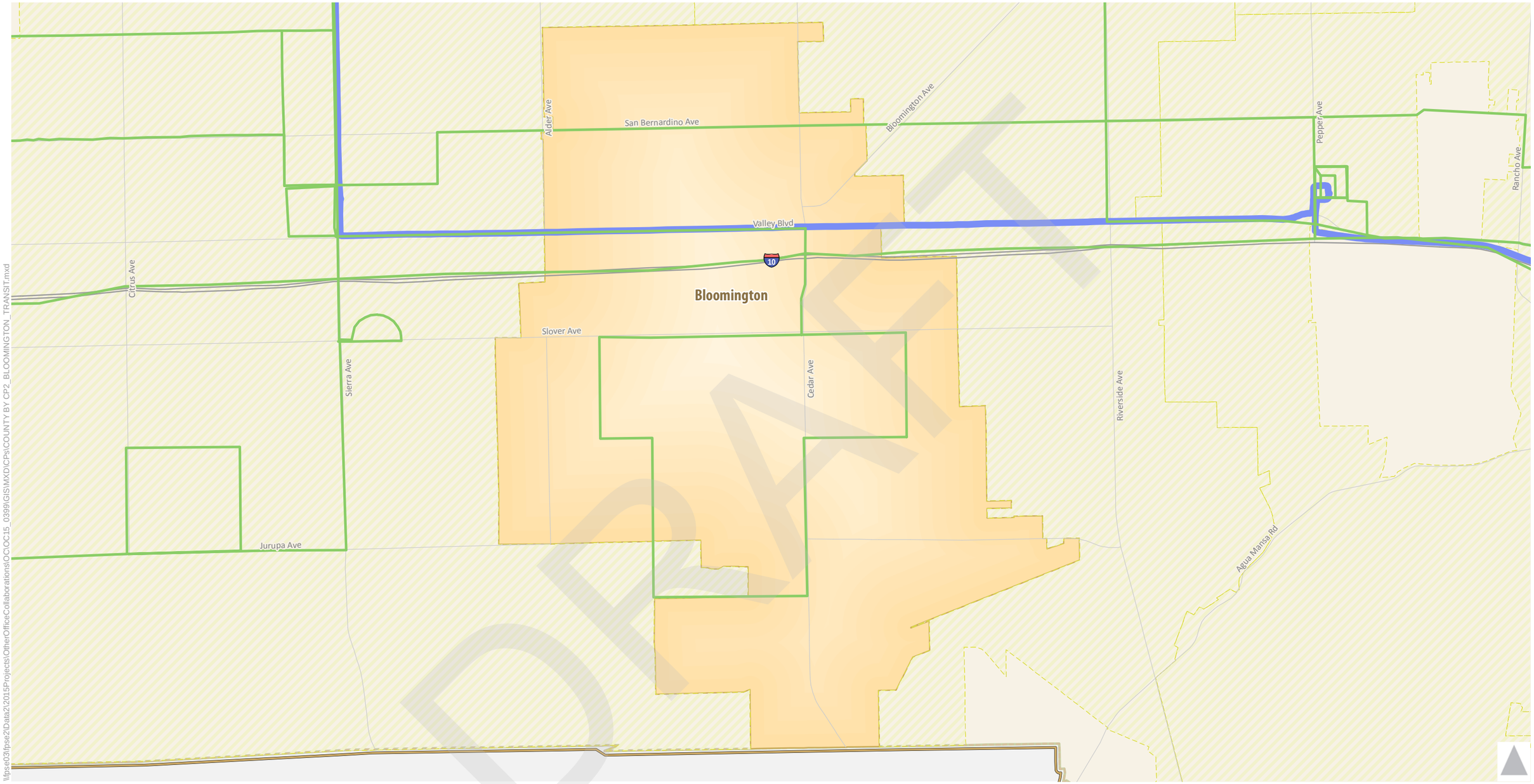


Figure 3.6

Bloomington Community Plan Transit Routes

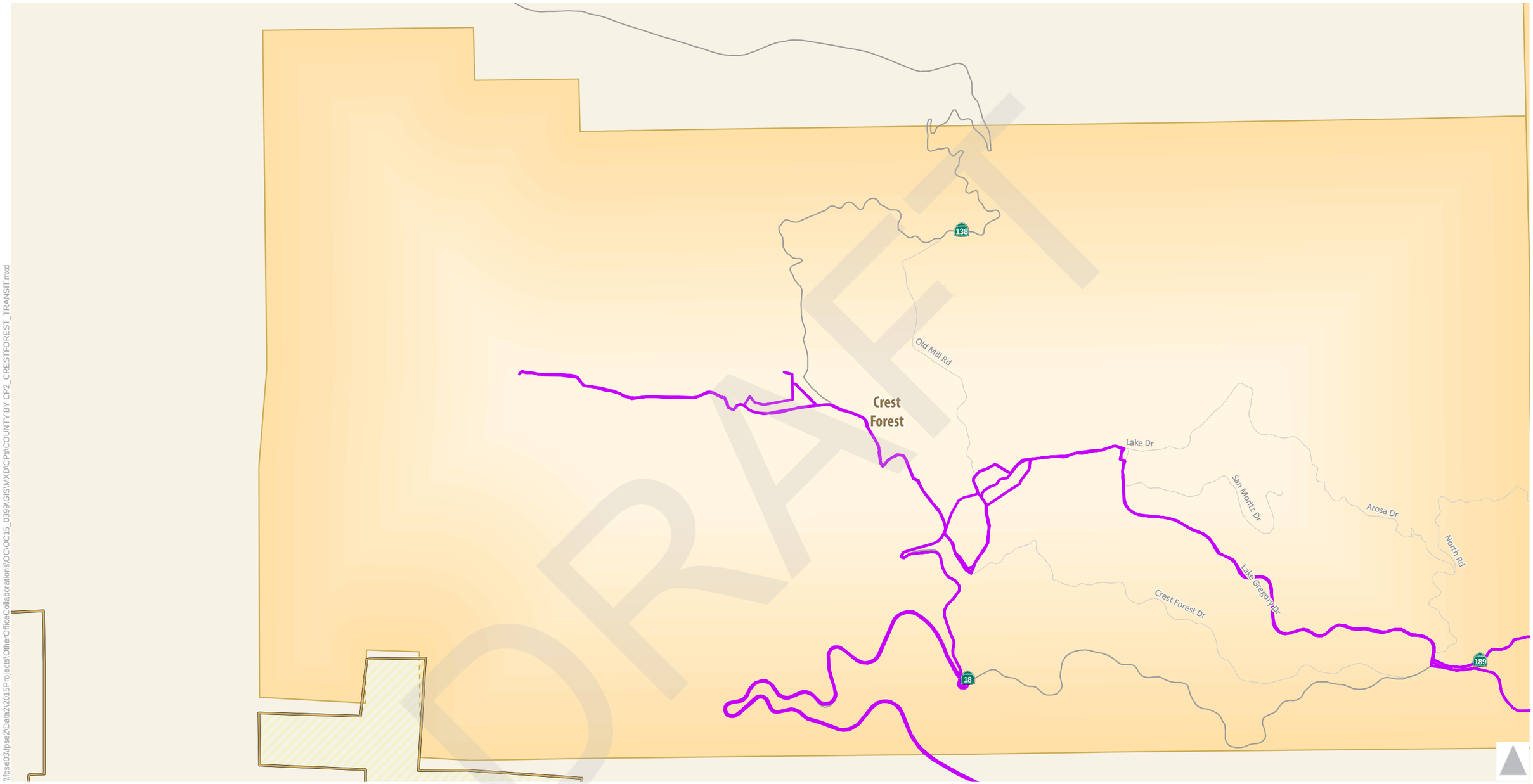


Figure 3.7

Crest Forest Community Plan Transit Routes

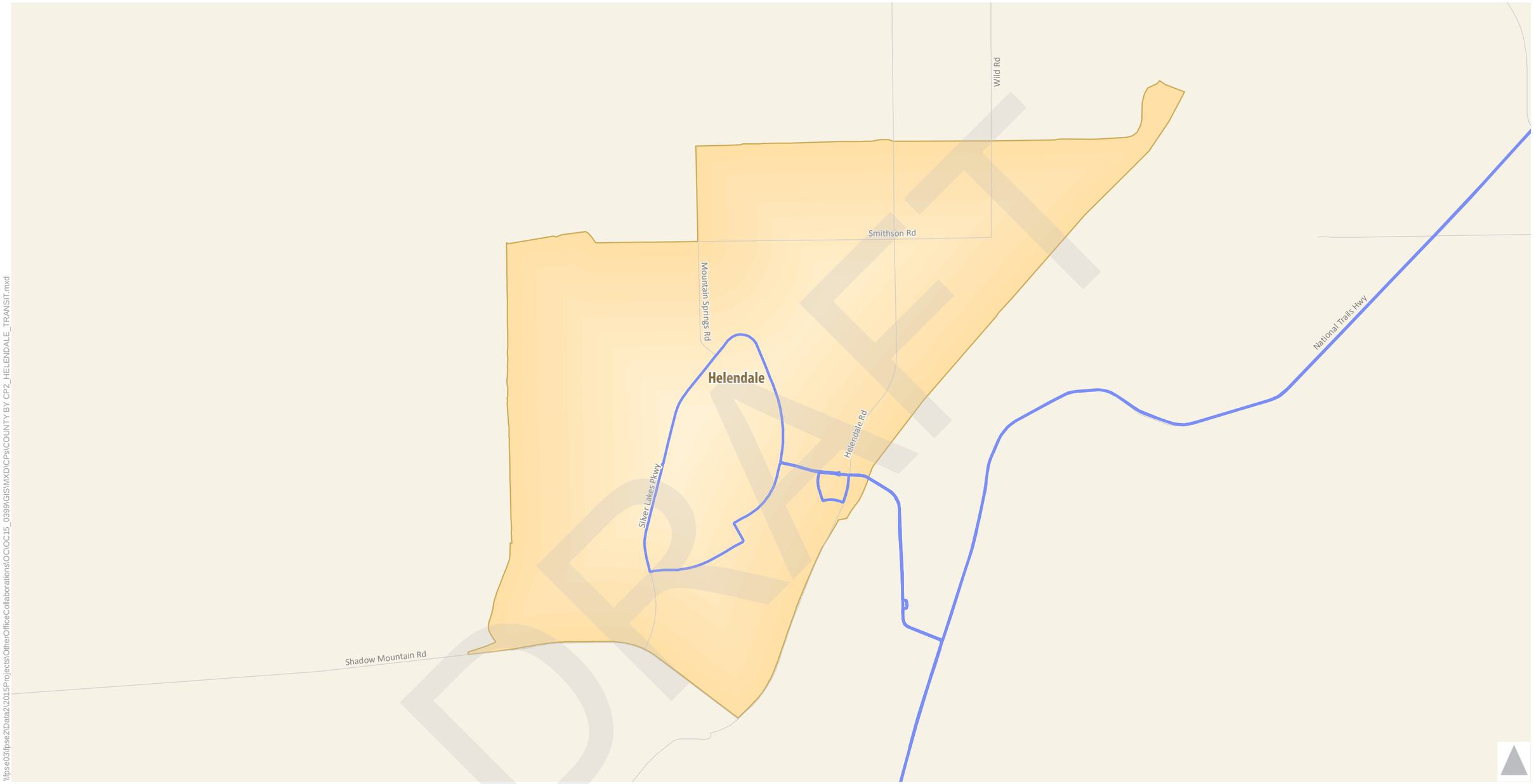
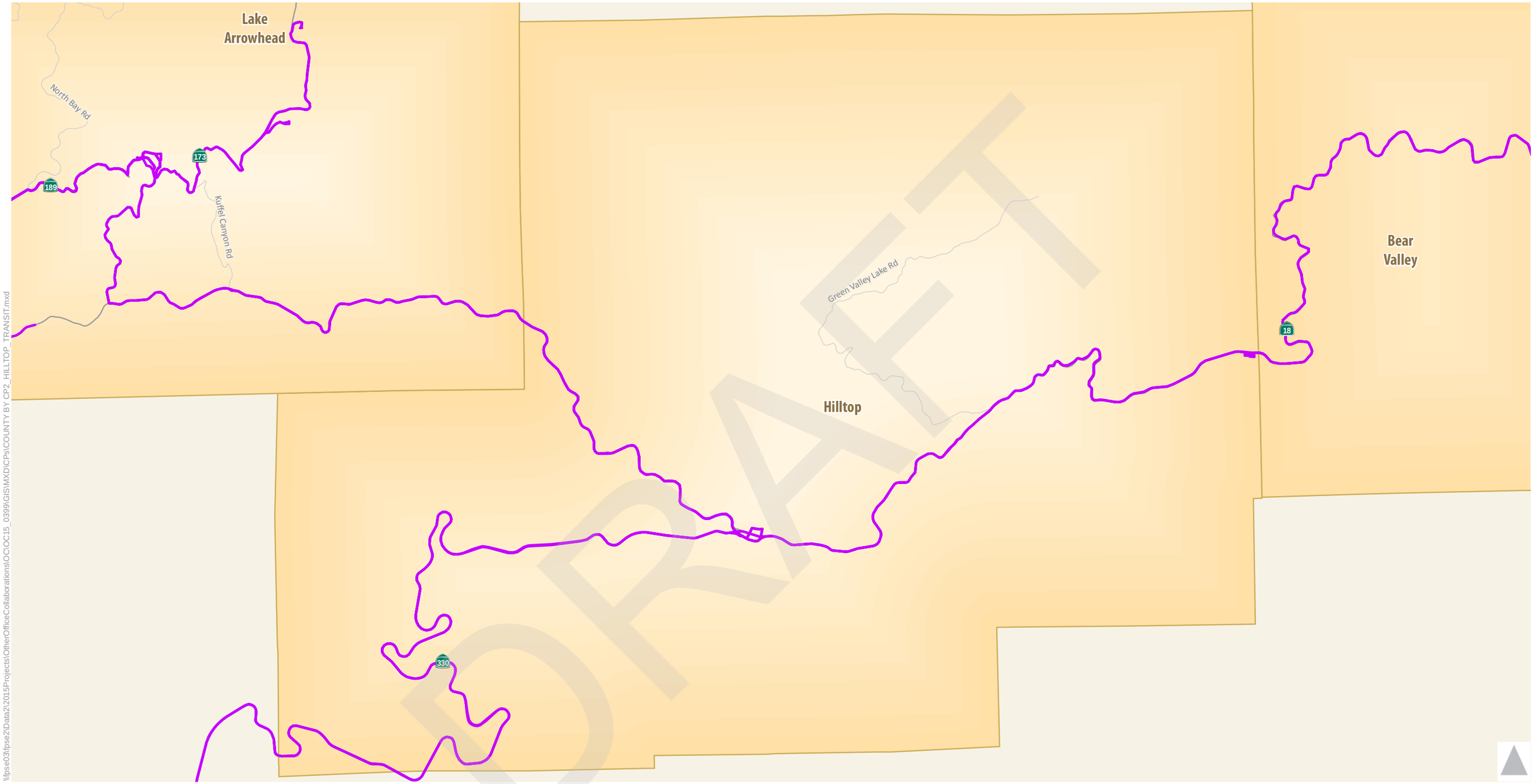


Figure 3.8

Helendale Community Plan Transit Routes



Transit Agency

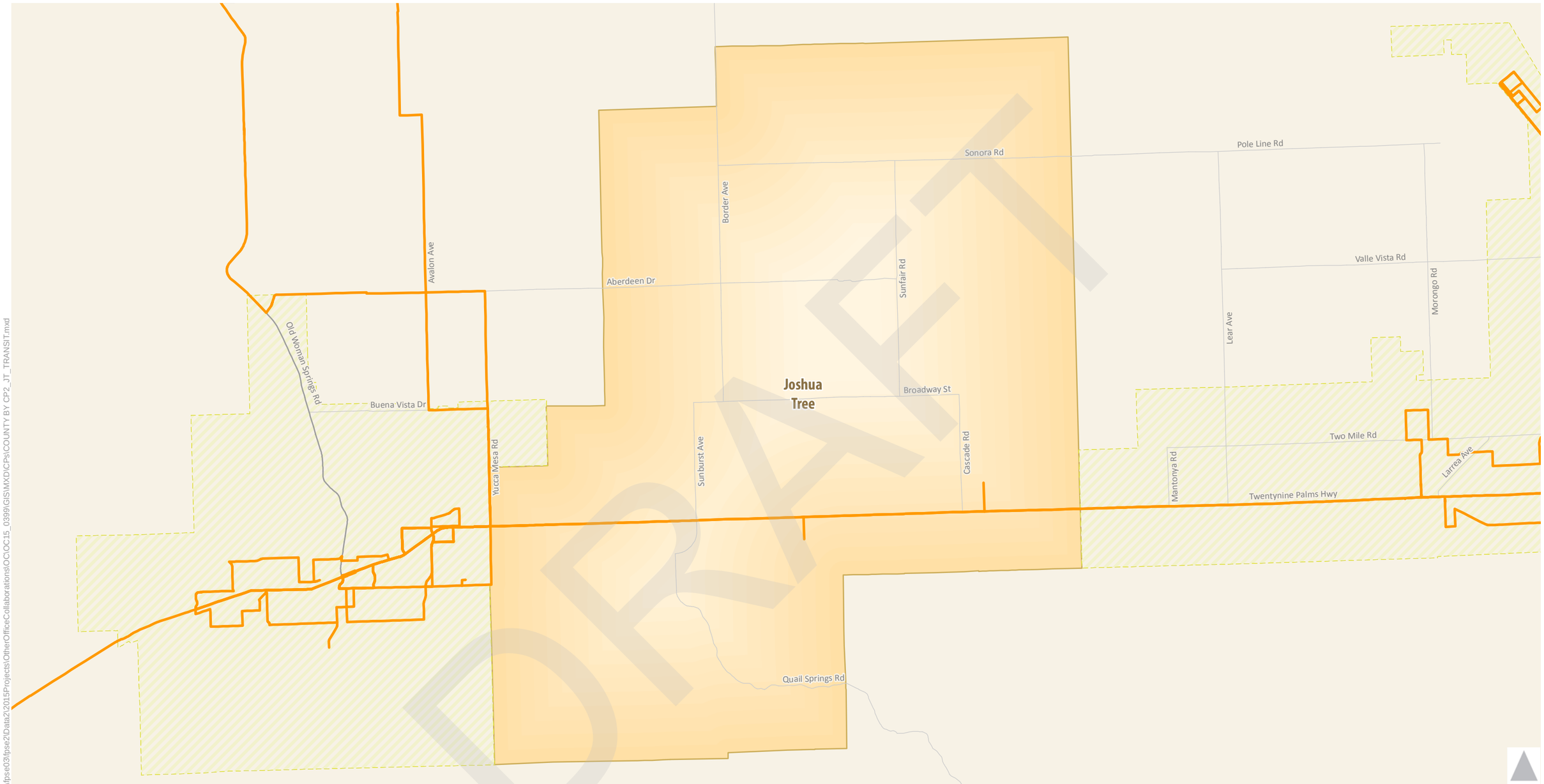
Mountain Area Regional Transit Authority

Community Plan Boundary

San Bernardino County

Figure 3.9

Hilltop Community Plan Transit Routes

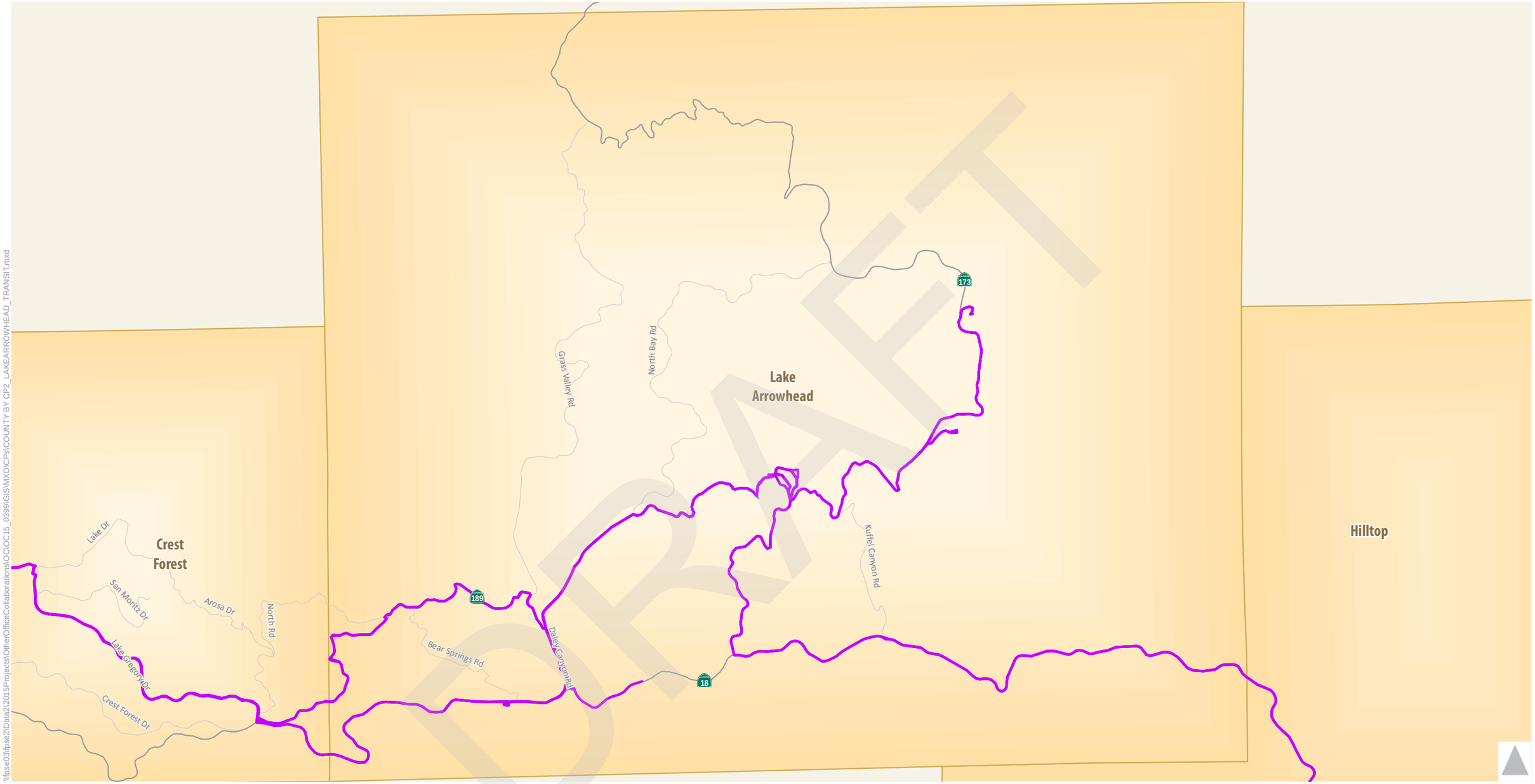


Transit Agency

- Morongo Basin Transit Authority
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 3.10

Joshua Tree Community Plan Transit Routes



Transit Agency

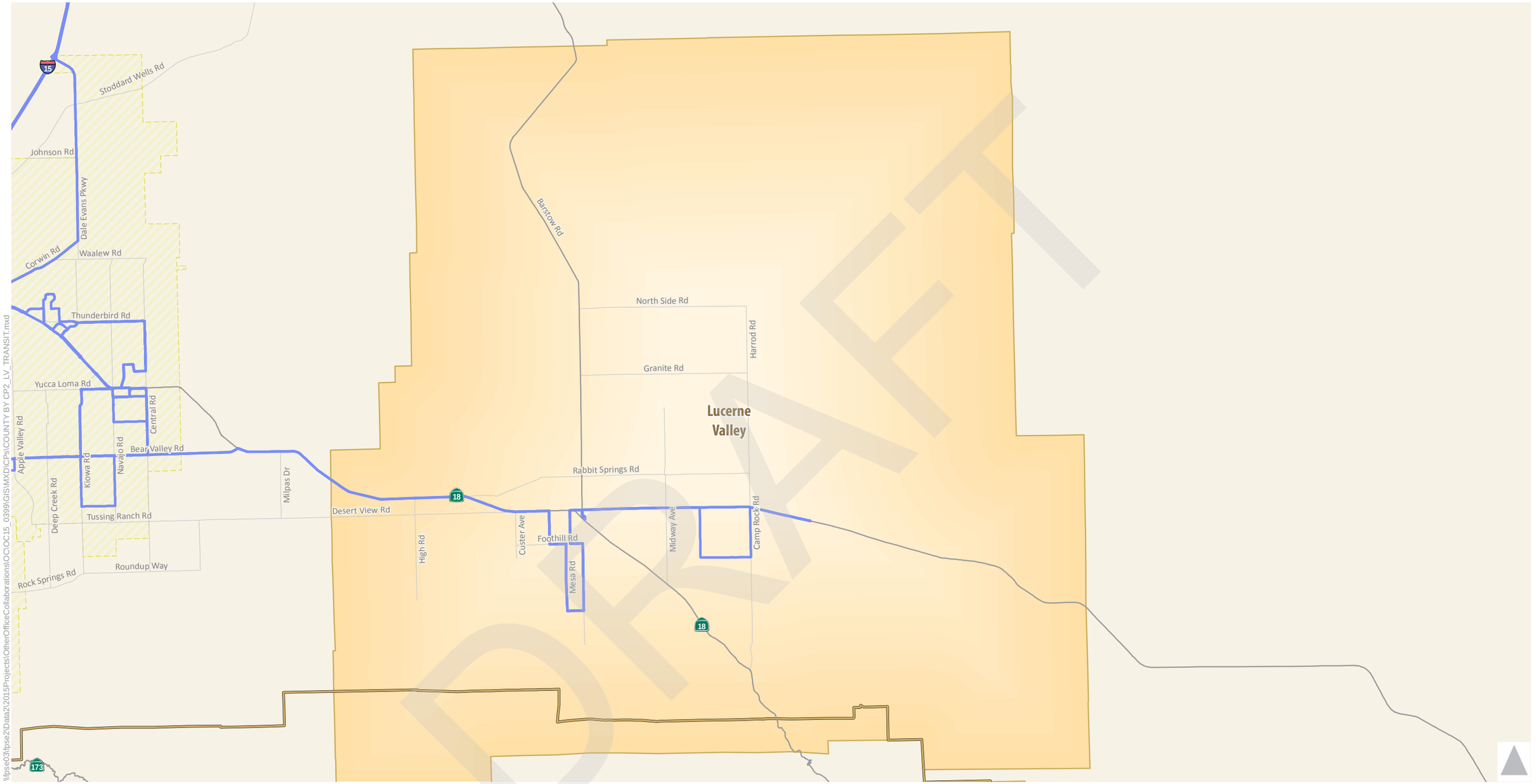
Mountain Area Regional Transit Authority

Community Plan Boundary

San Bernardino County

Figure 3.11

Lake Arrowhead Community Plan Transit Routes



Transit Agency

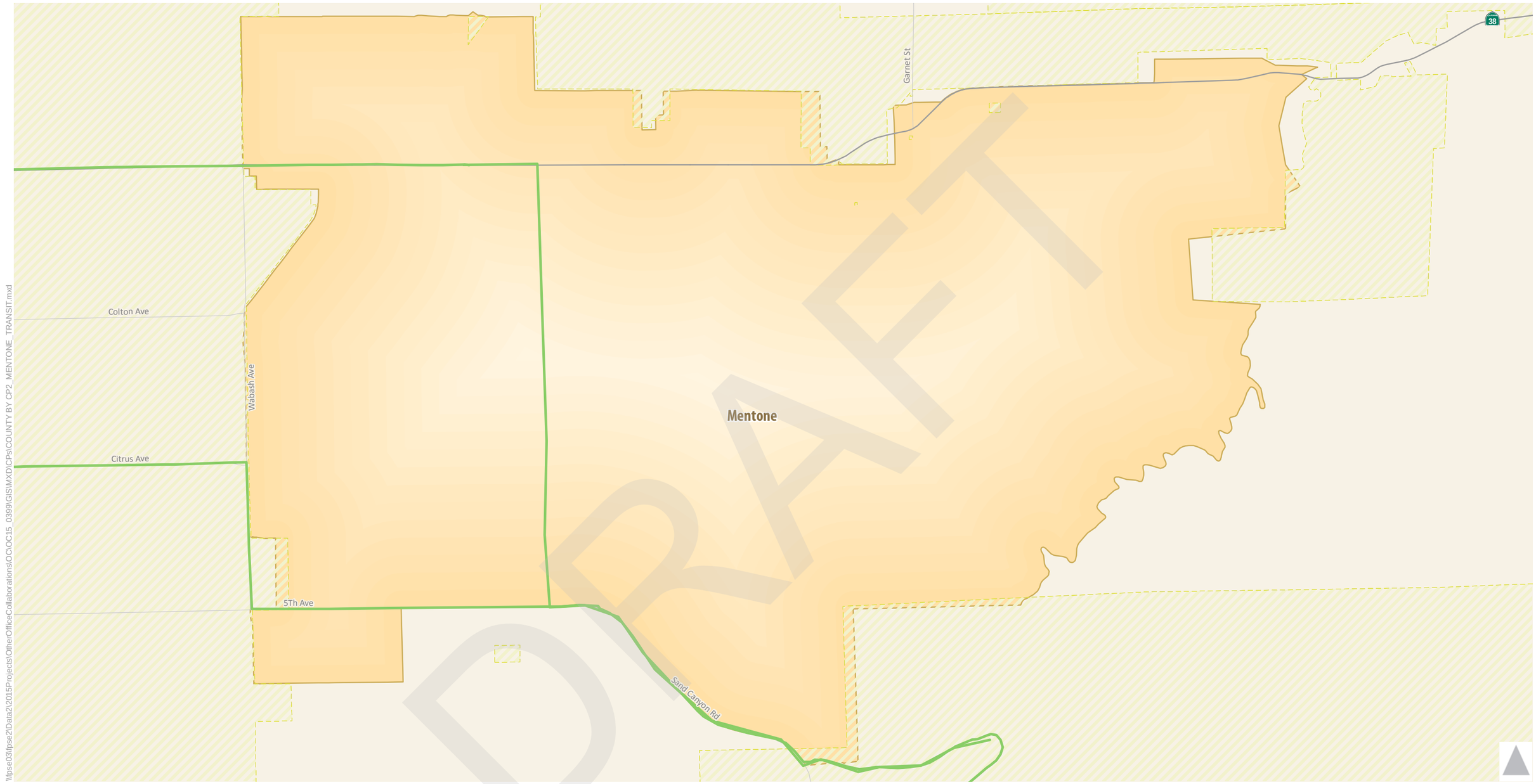
- Victor Valley Transit Authority

- Desert Region
- Community Plan Boundary

- City Boundary
- San Bernardino County

Figure 3.12

Lucerne Valley Community Plan Transit Routes

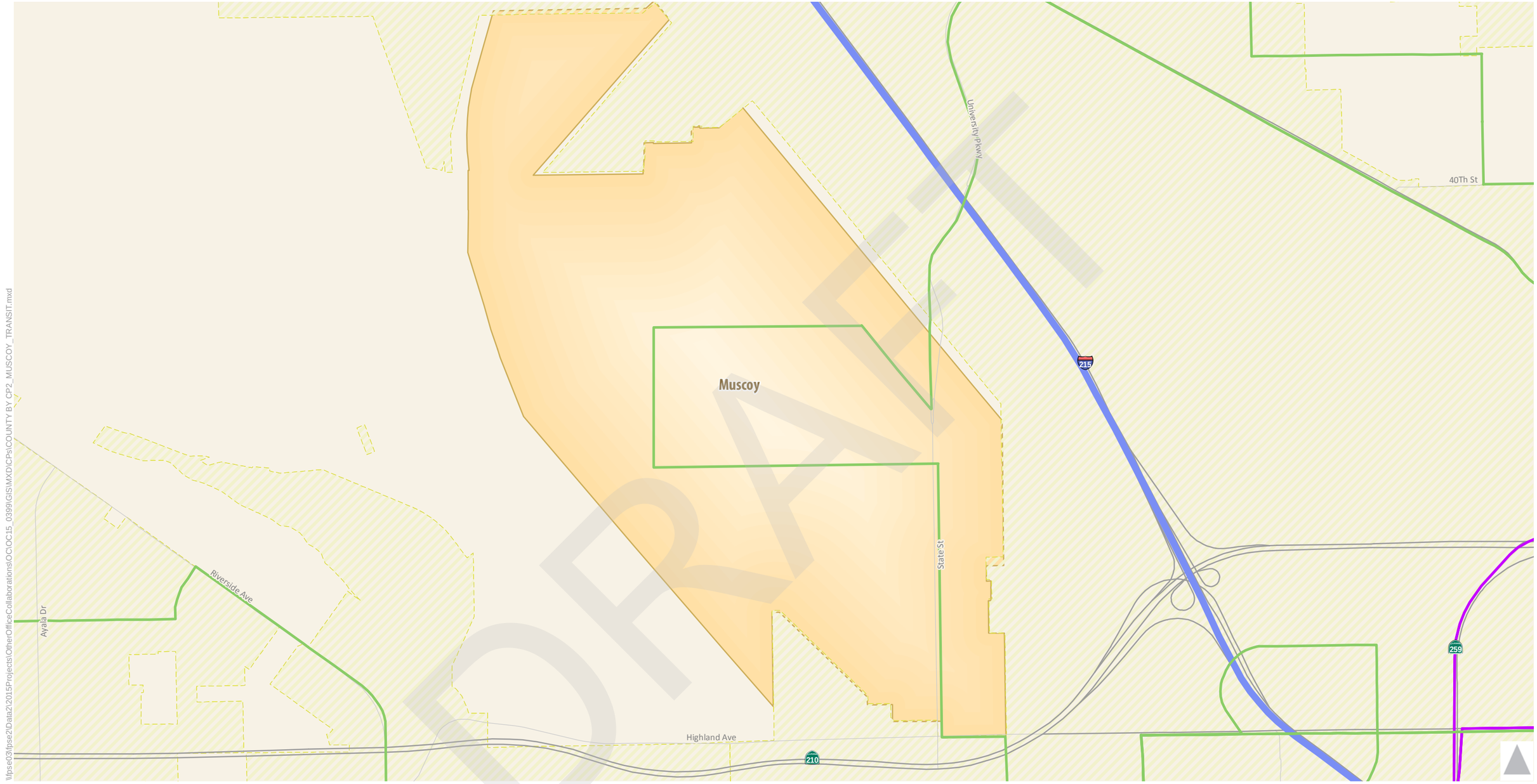


Transit Agency

- Omnitrans
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 3.13

Mentone Community Plan Transit Routes



Transit Agency

- Mountain Area Regional Transit Authority
- Omnitrans
- Victor Valley Transit Authority

- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 3.14

Muscoy Community Plan Transit Routes

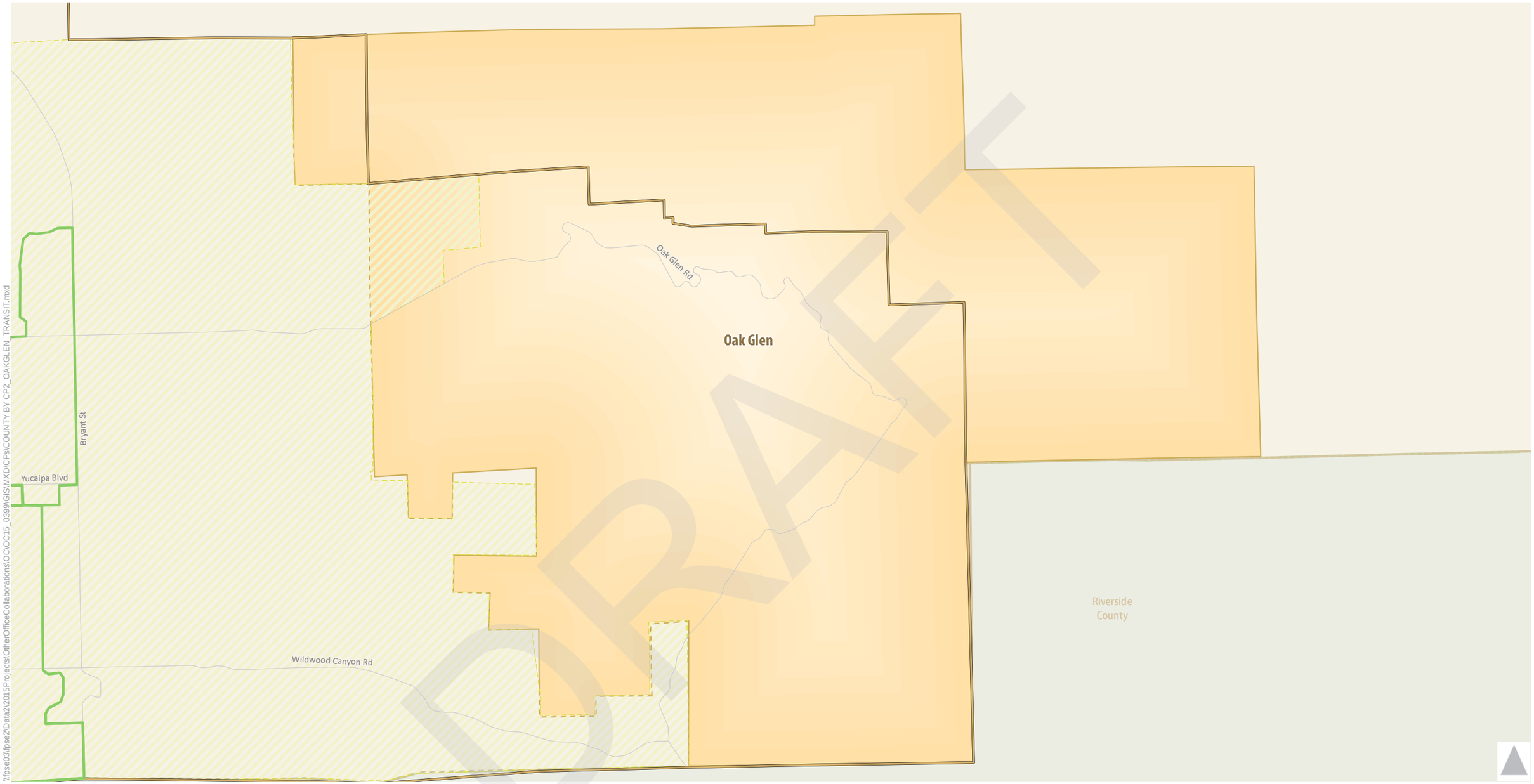
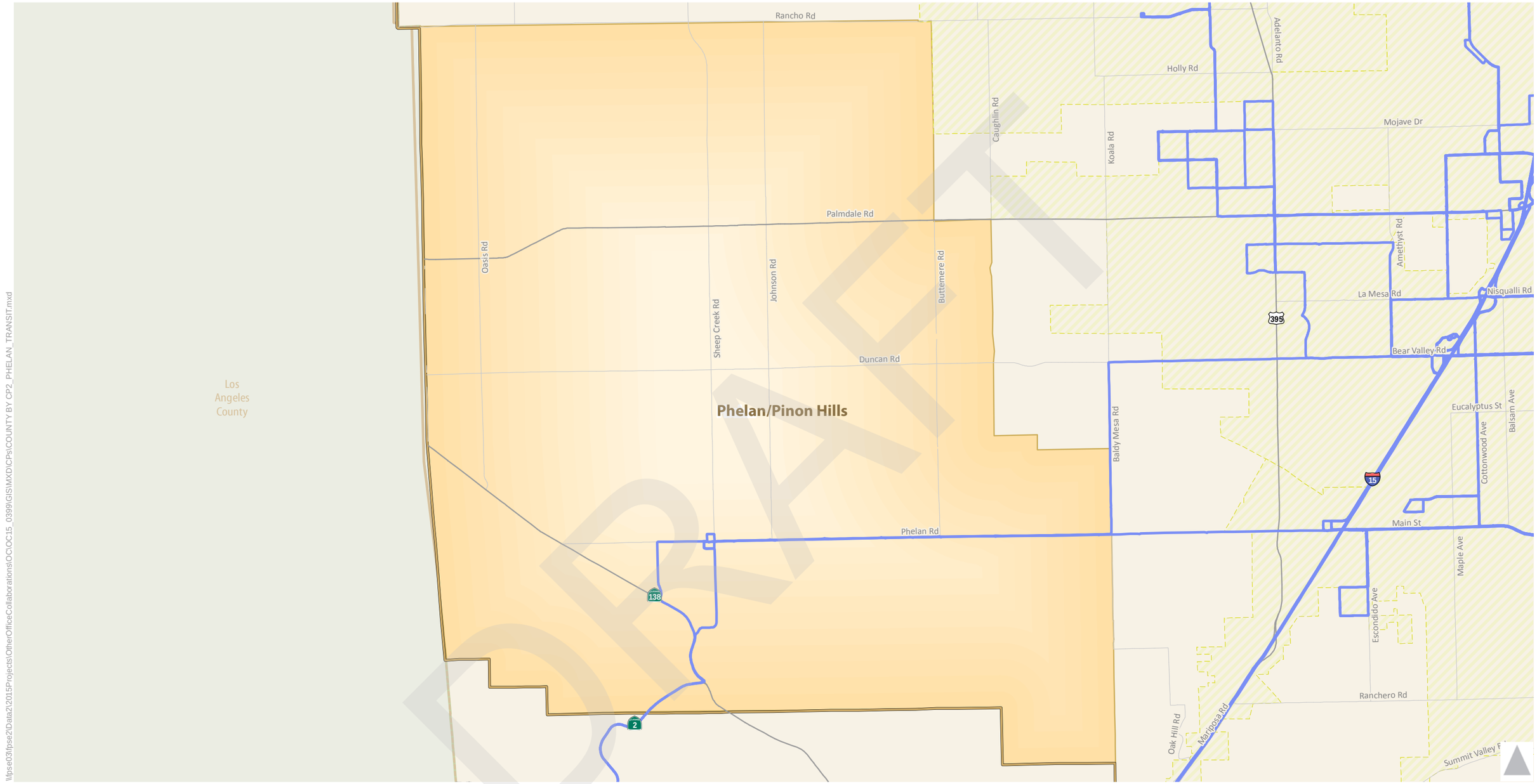


Figure 3.15

Oak Glen Community Plan Transit Routes



Transit Agency

- Victor Valley Transit Authority
- Desert Region
- Community Plan Boundary
- City Boundary
- San Bernardino County
- County Boundaries

Figure 3.16

Phelan/Pinon Hills Community Plan Transit Routes

AIRPORTS

The San Bernardino County Department of Airports provides for the management, maintenance, and operation of six County-owned airports. These airports are listed below.

- Apple Valley Airport (APV): Services at this general aviation airport include fuel, maintenance, rentals, and flight training. Two runways are provided.
- Baker Airport (0O2): Baker Airport is an emergency airfield with one runway.
- Barstow-Daggett Airport (DAG): This is a general aviation airport that can also support military training conducted at the nearby Fort Irwin Training Center. Two runways are provided.
- Chino Airport (CNO): Chino Airport is a general aviation facility and a base for business jets and air taxi services with three aviation groups providing business aviation operations. This airport also provides fuel, repair, and avionics services. Three runways are available.
- Needles Airport (EED): This is a general aviation airport with services including fuel and minor airframe and power plan service. There are two runways.
- Twentynine Palms Airport (TNP): This is a general aviation airport with some military aircraft operations. Two runways are provided.

In addition to operating these six County-owned airports, the Department assists private and municipal airport operators in the county with planning, interpretation, and implementation of Federal Aviation Administration (FAA) general aviation requirements.

GOODS MOVEMENT

Goods movement plays an important role in both the circulation network and the economy of a county such as San Bernardino. Often, it can be difficult to balance accommodating trucks and other vehicles without impeding other modes or the well-being of residents of the county's communities. Due to its important location among numerous freeways and highways, San Bernardino should incorporate goods movement along its roadways into effective transportation planning.

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of highways as truck routes. Large trucks are allowed to operate on these routes. Goods movement into and through the county is currently accommodated by several STAA-designated routes including Interstate 40, Interstate 15, Interstate 10, US Route 395, and State Route 127. The STAA also encourages local governments to accommodate trucks on roadways beyond those designated by the Act.

Additionally, goods movement in San Bernardino County includes freight railways such as the Burlington Northern and Santa Fe Railway, the Union Pacific Railroad, the Trona Railway, and the Arizona and California Railroad. The county's goods movement network is shown on Figures 4.1 through 4.15.

DRAFT

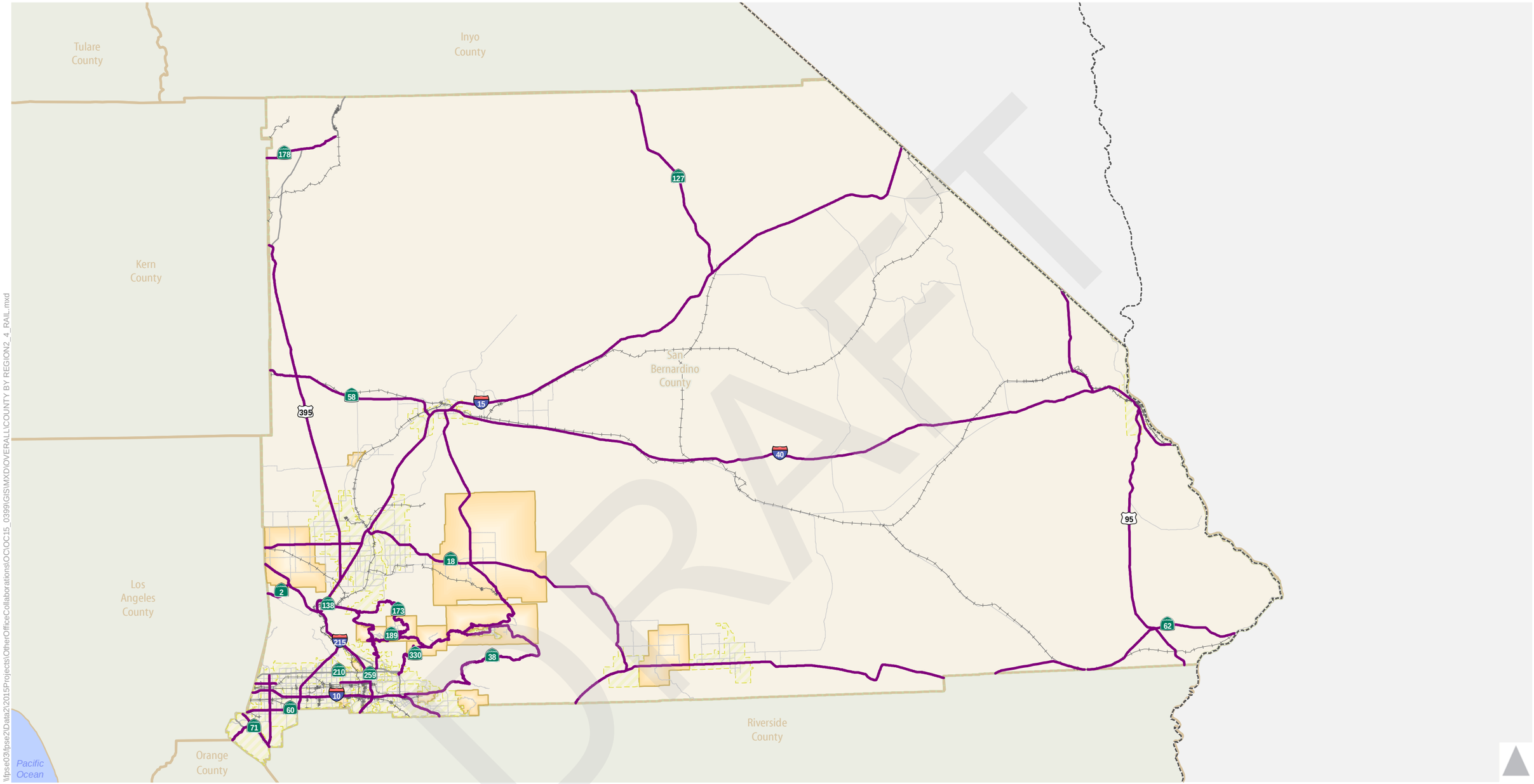


Figure 4.1

Countywide Goods Movement

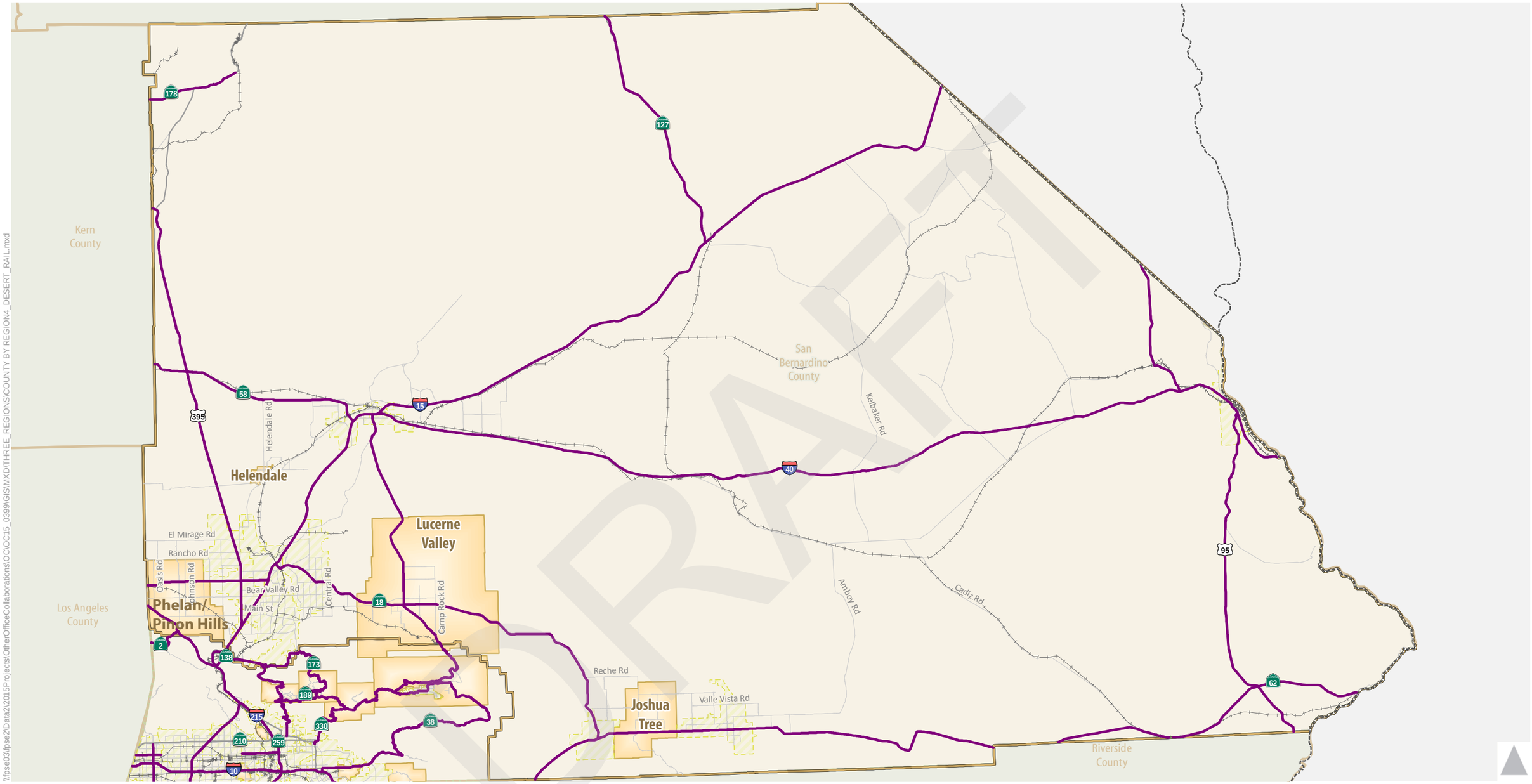


Figure 4.2

Desert Region Goods Movement

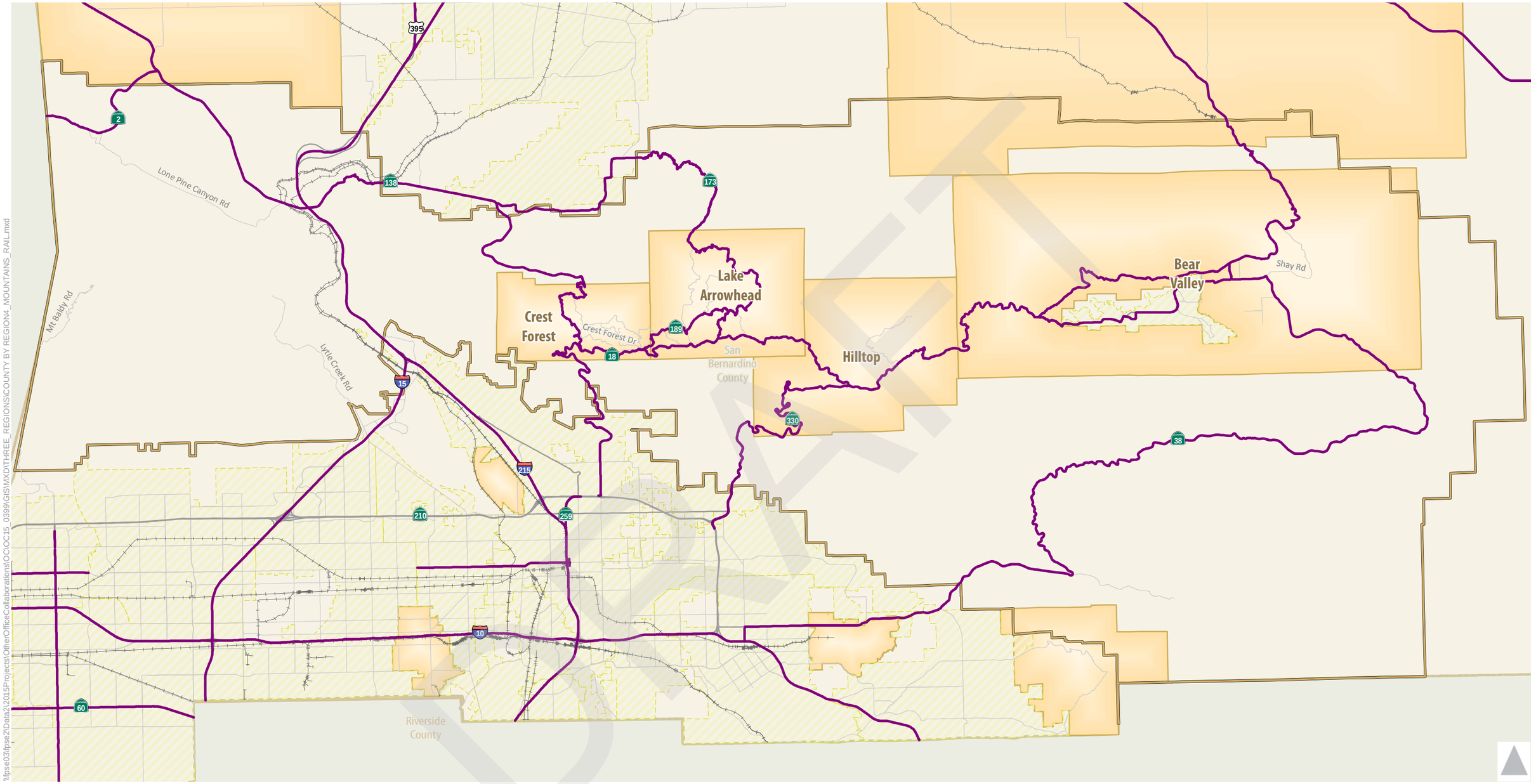
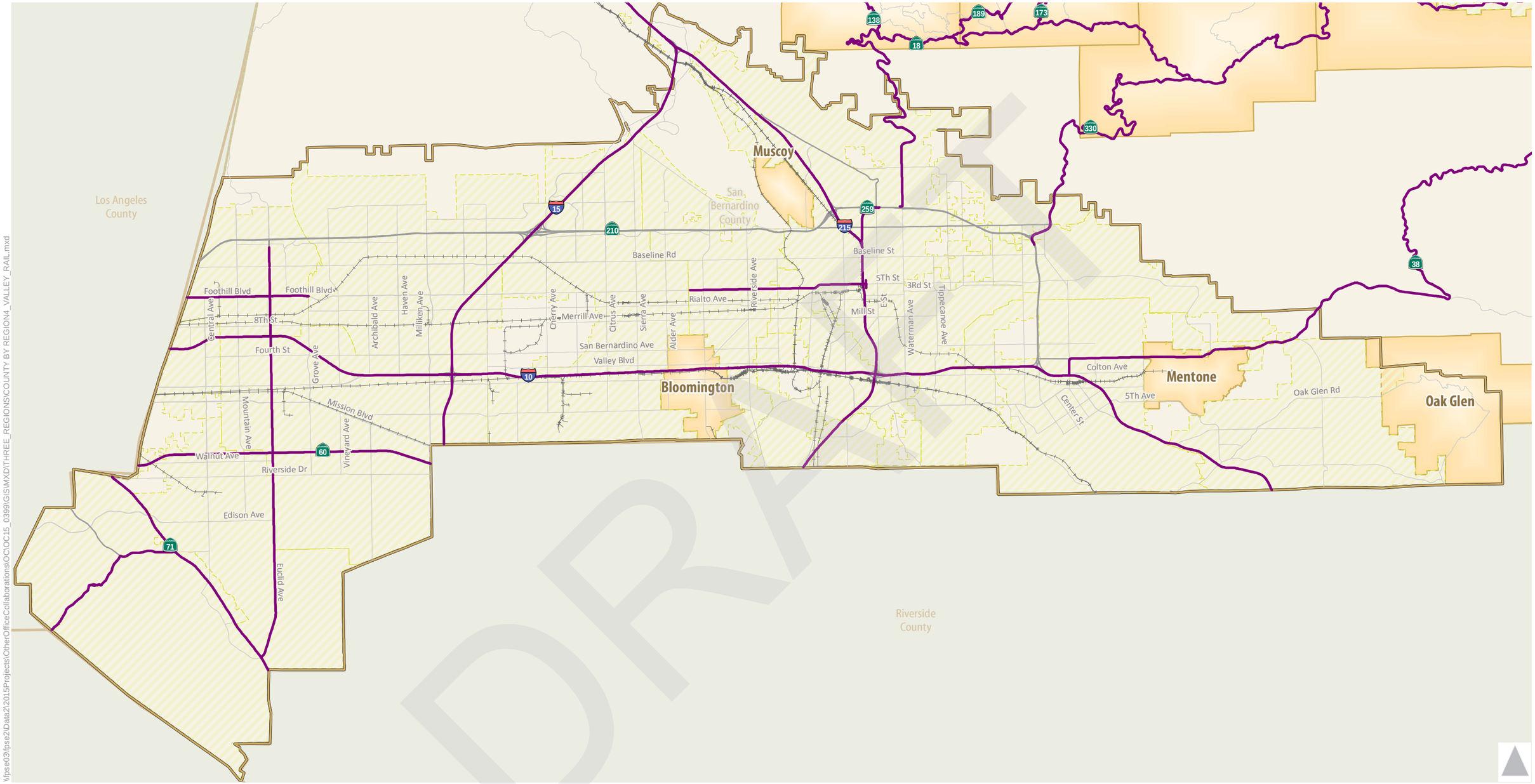


Figure 4.3

Mountain Region Goods Movement

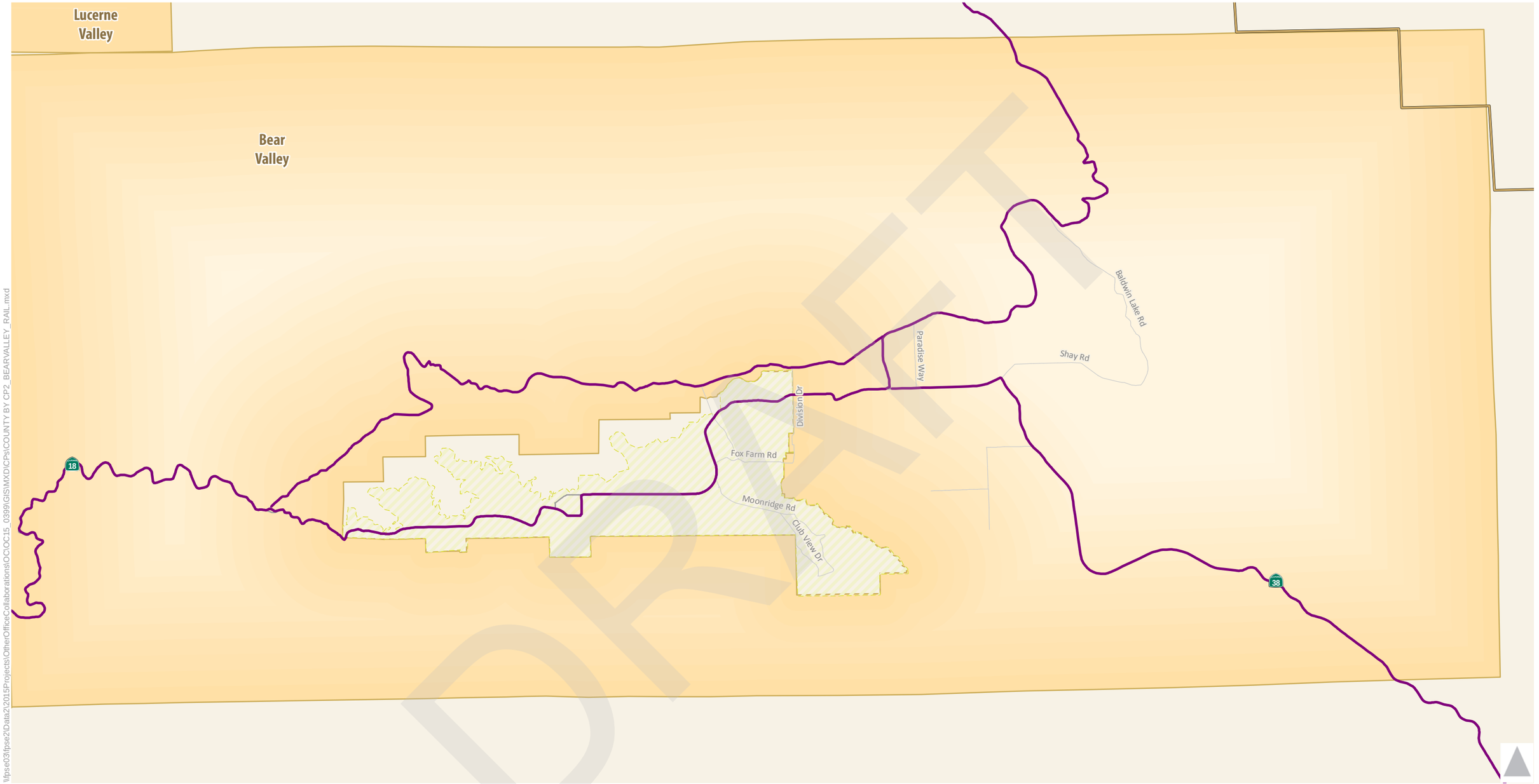


DRAFT

\\lpse03\lpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_VALLEY_RAIL.mxd

Figure 4.4

Valley Region Goods Movement



Truck Route
Mountain Region
Community Plan Boundary
City Boundary
San Bernardino County

Figure 4.5

Bear Valley Community Plan Goods Movement

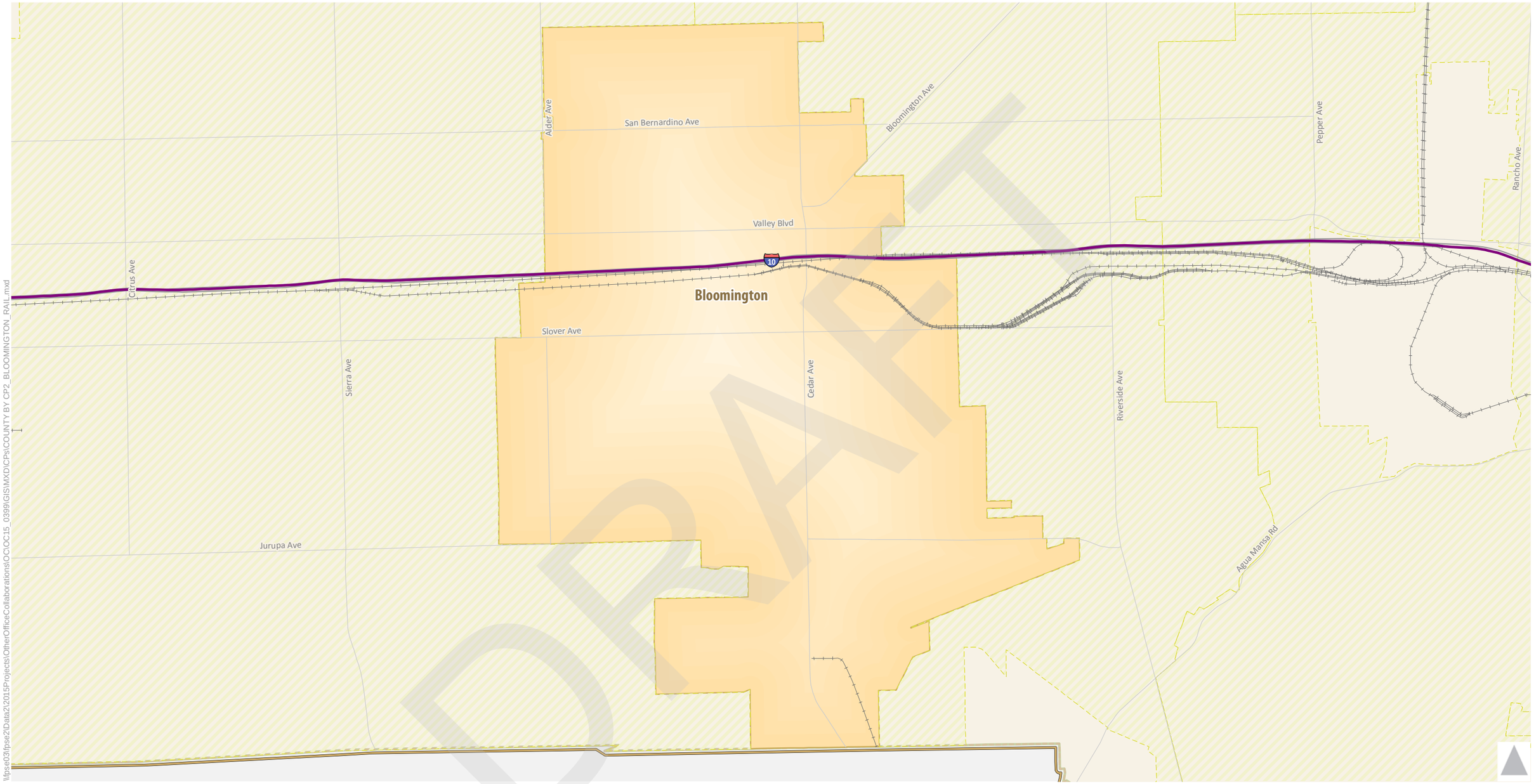
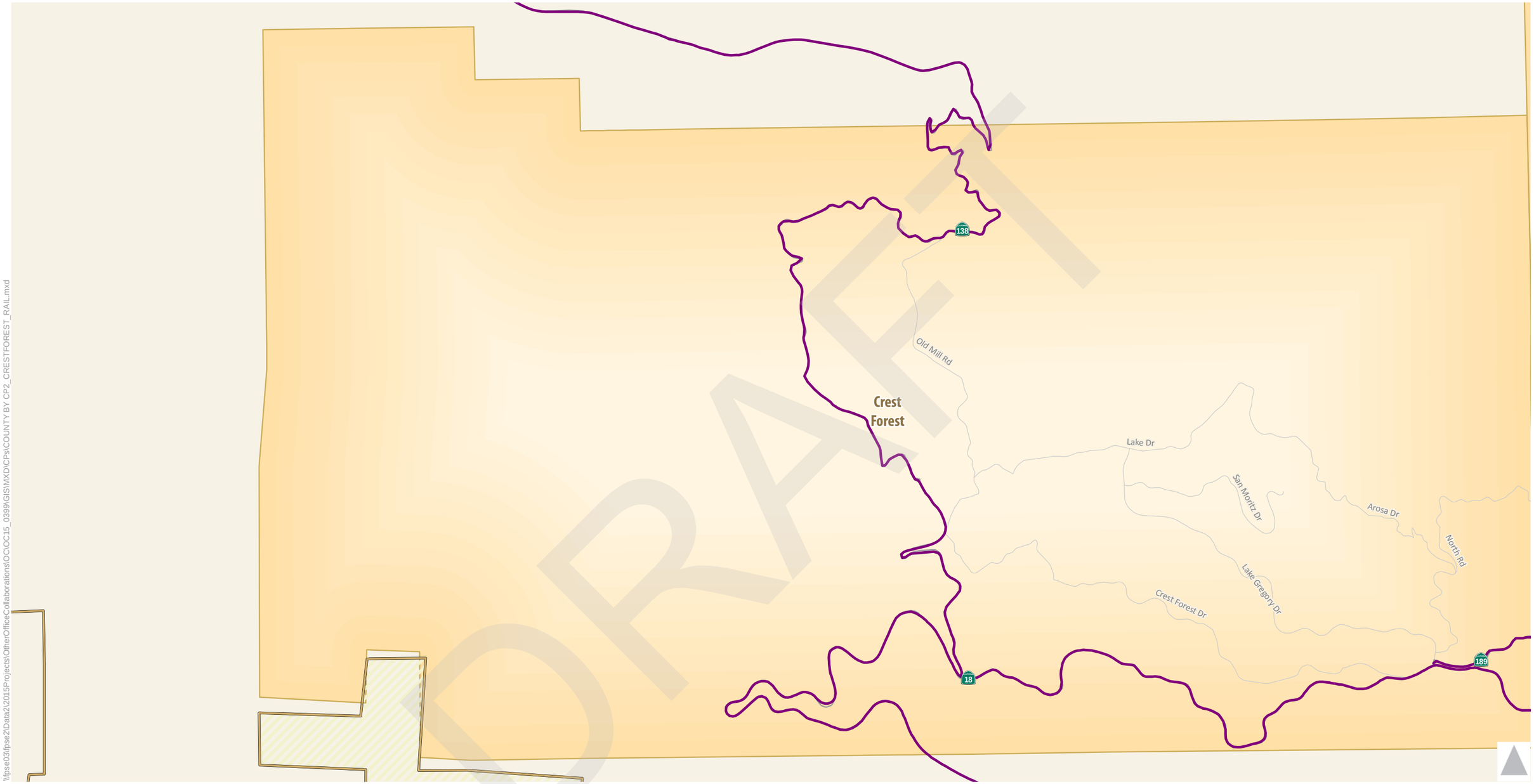


Figure 4.6

Bloomington Community Plan Goods Movement

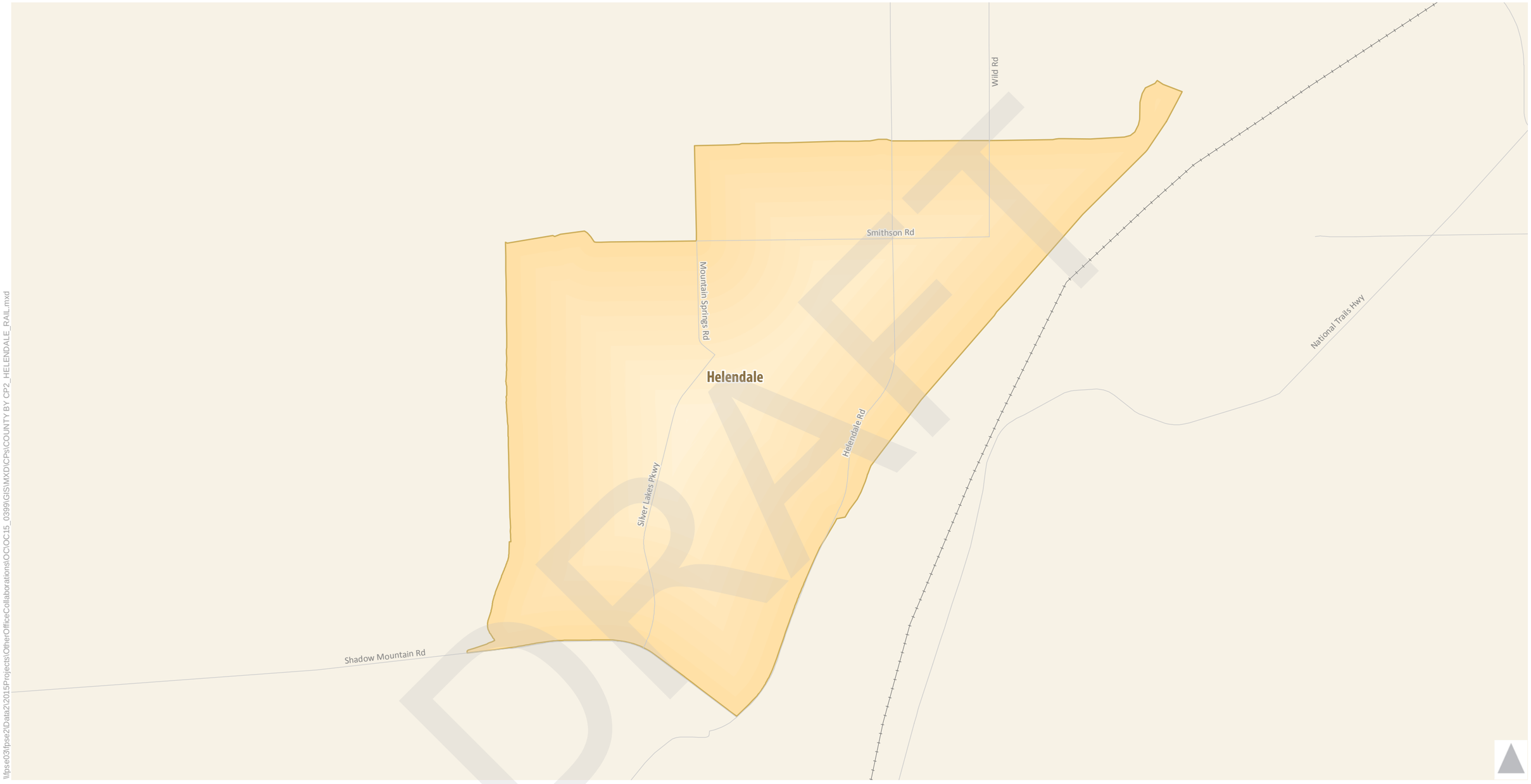


DRAFT

\\pse03\pse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\CPs\COUNTY BY CP2_CRESTFOREST_RAIL.mxd

Figure 4.7

Crest Forest Community Plan Goods Movement



Rail

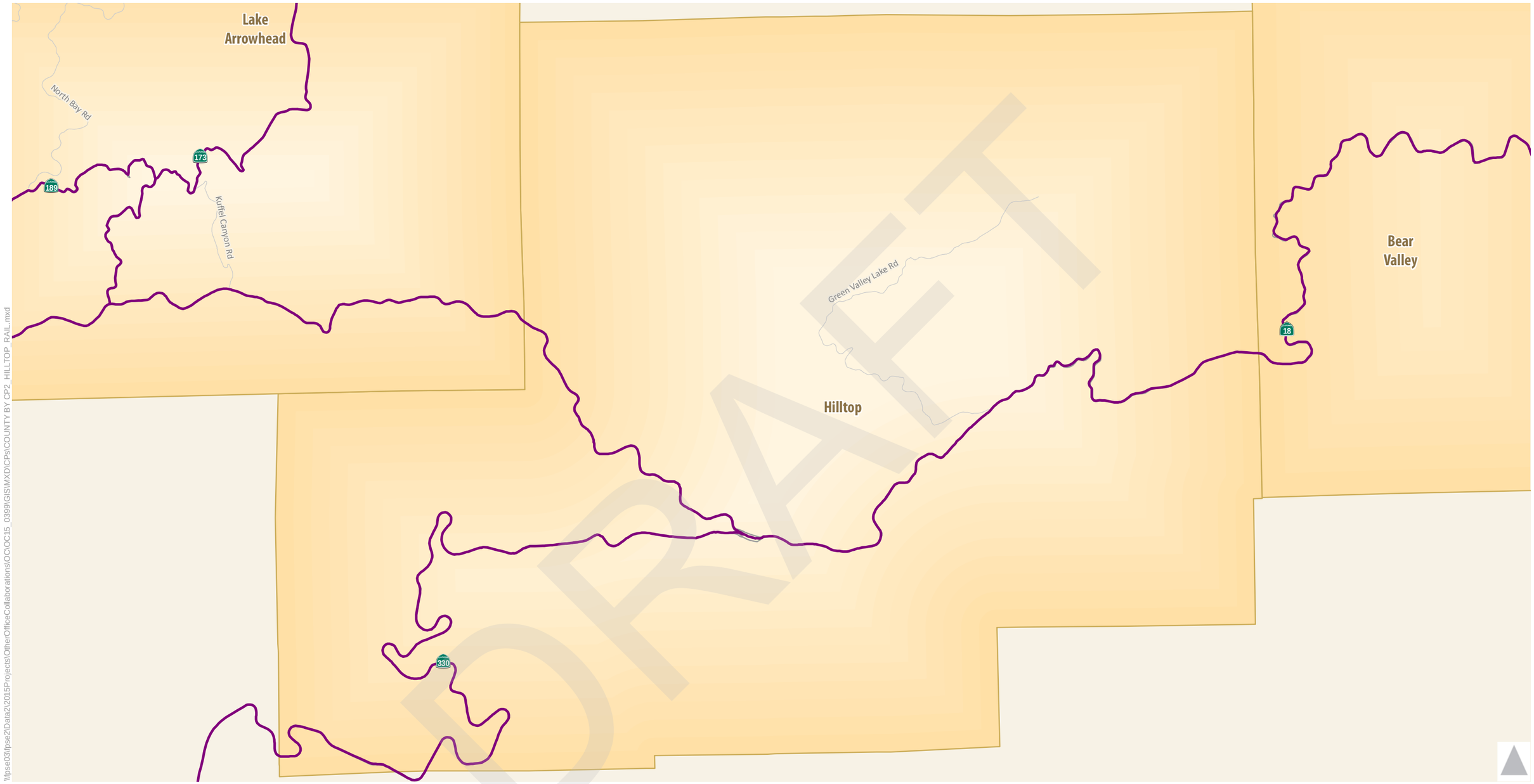
Community Plan Boundary

San Bernardino County

Figure 4.8

Helendale Community Plan Goods Movement

\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\CPs\COUNTY BY CP2_HELENDALE_RAIL.mxd



Truck Route

Community Plan Boundary

San Bernardino County

Figure 4.9

Hilltop Community Plan Goods Movement

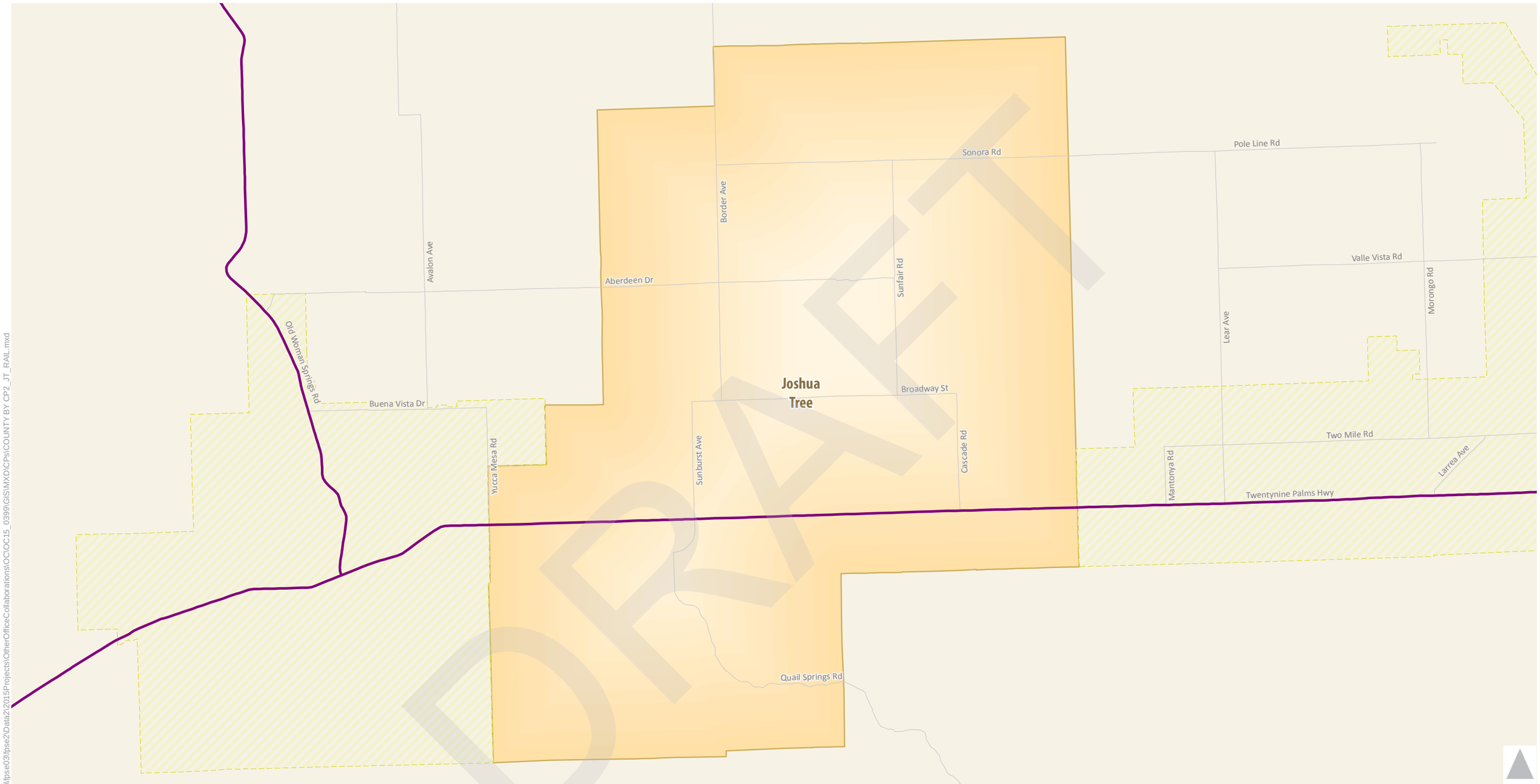
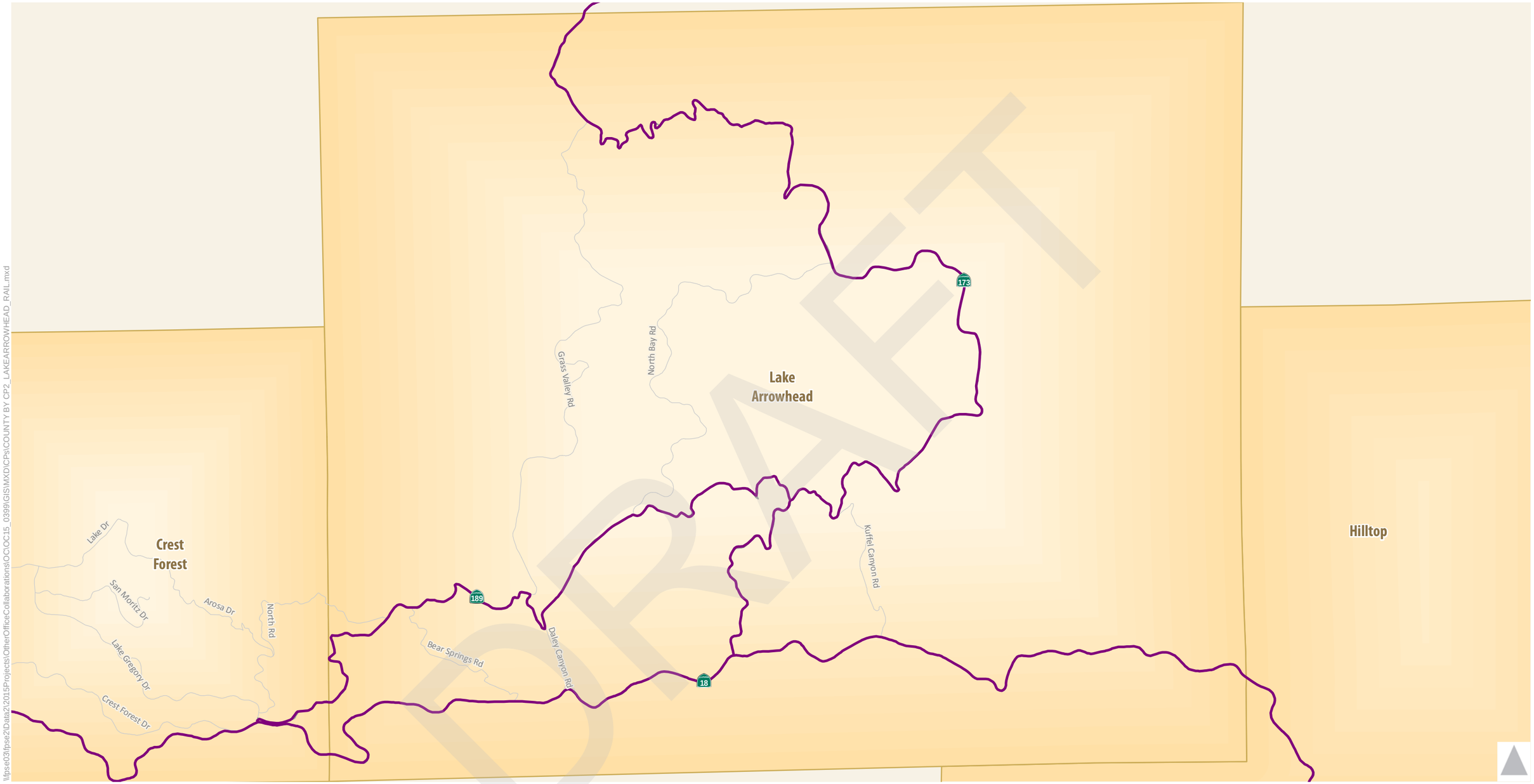


Figure 4.10

Joshua Tree Community Plan Goods Movement



Truck Route

Community Plan Boundary

San Bernardino County

Figure 4.11

Lake Arrowhead Community Plan Goods Movement

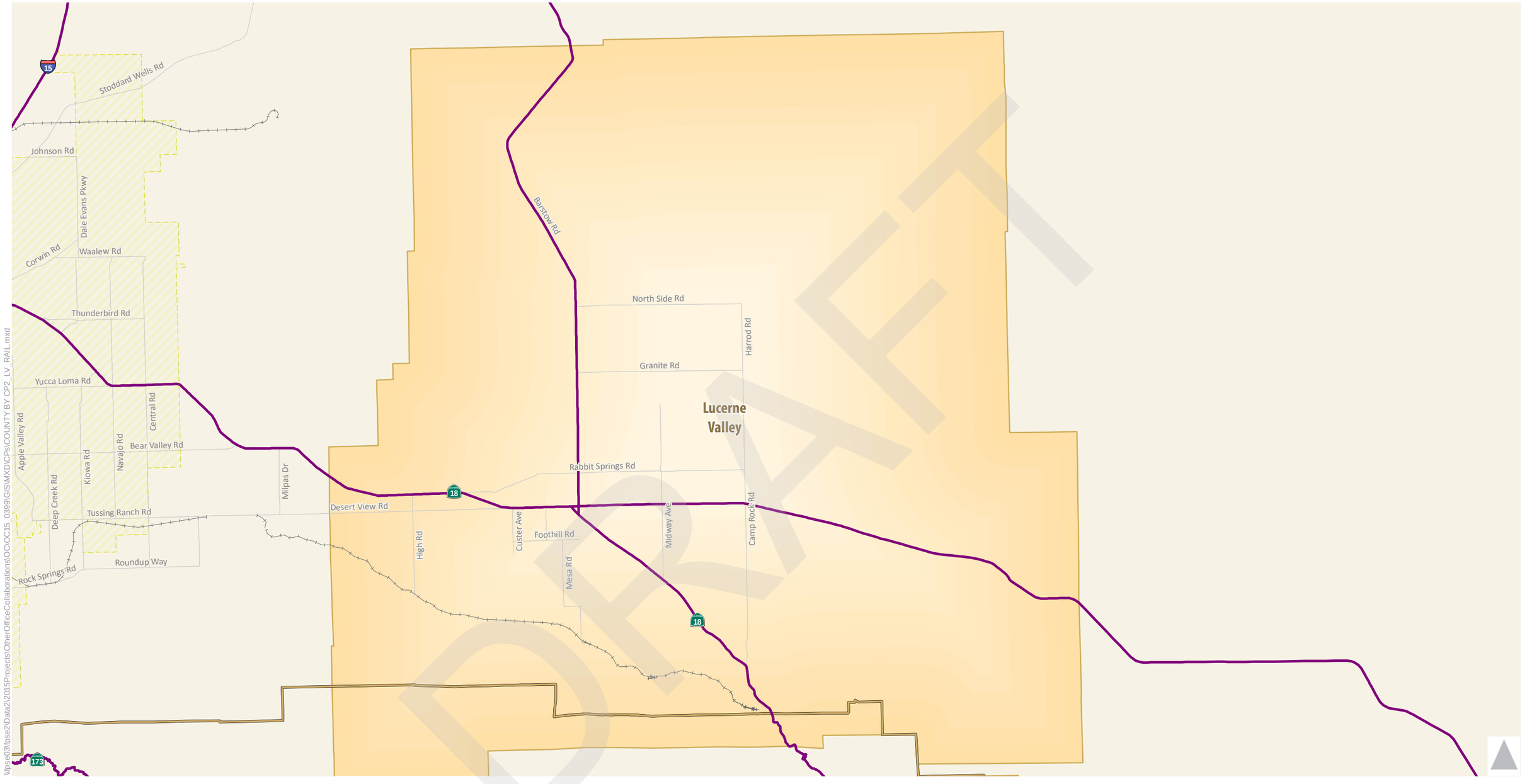
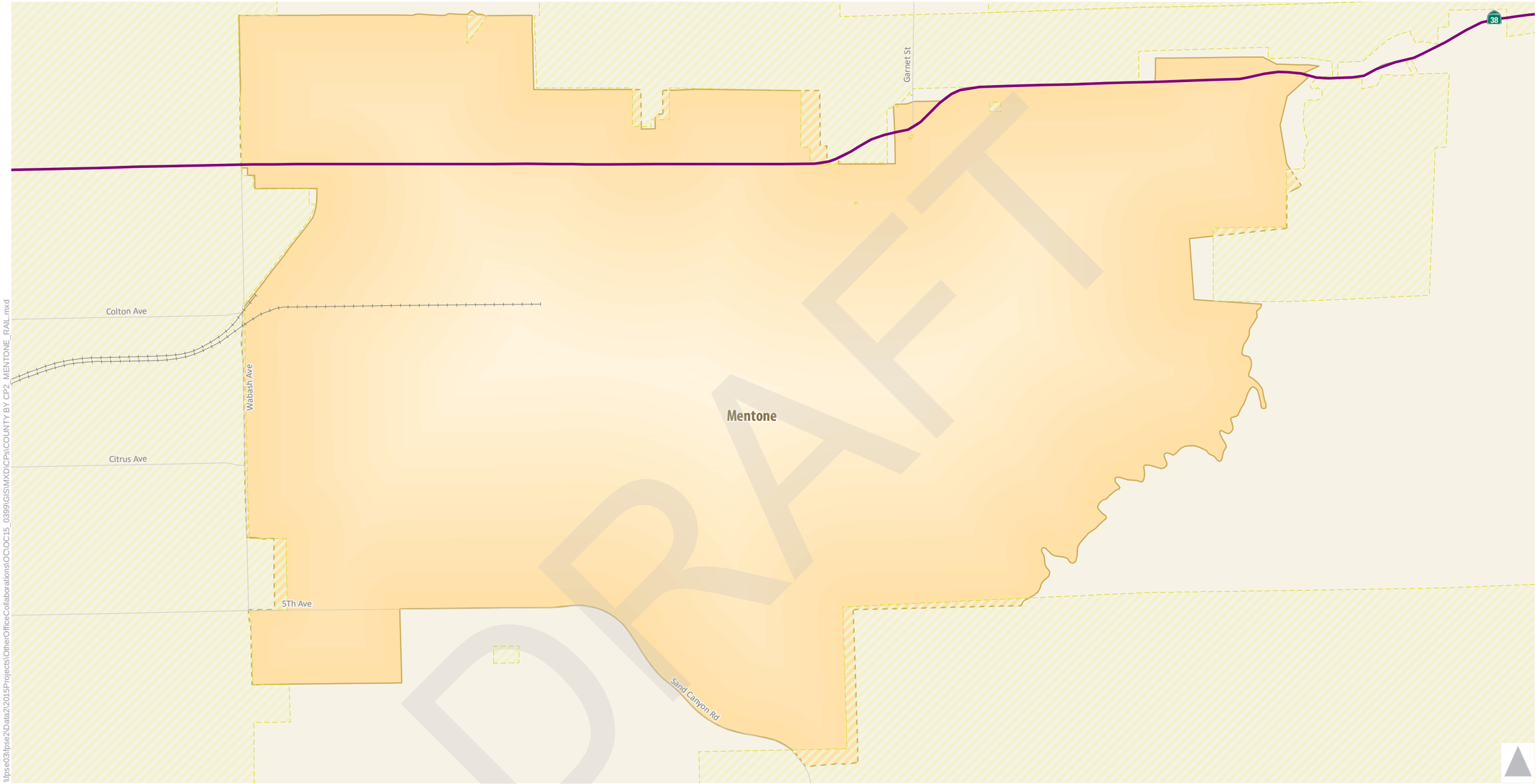


Figure 4.12

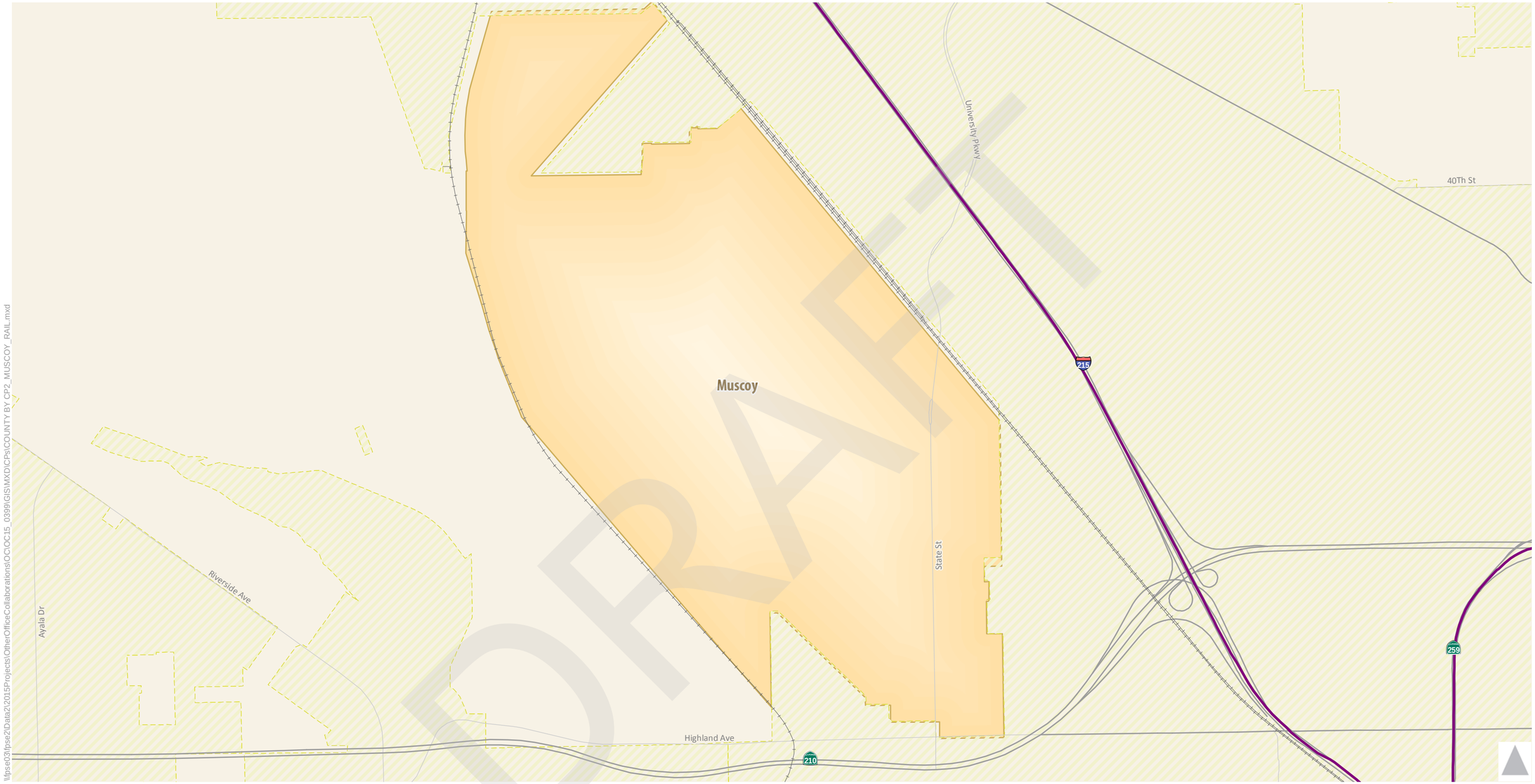
Lucerne Valley Community Plan Goods Movement



DRAFT

Figure 4.13

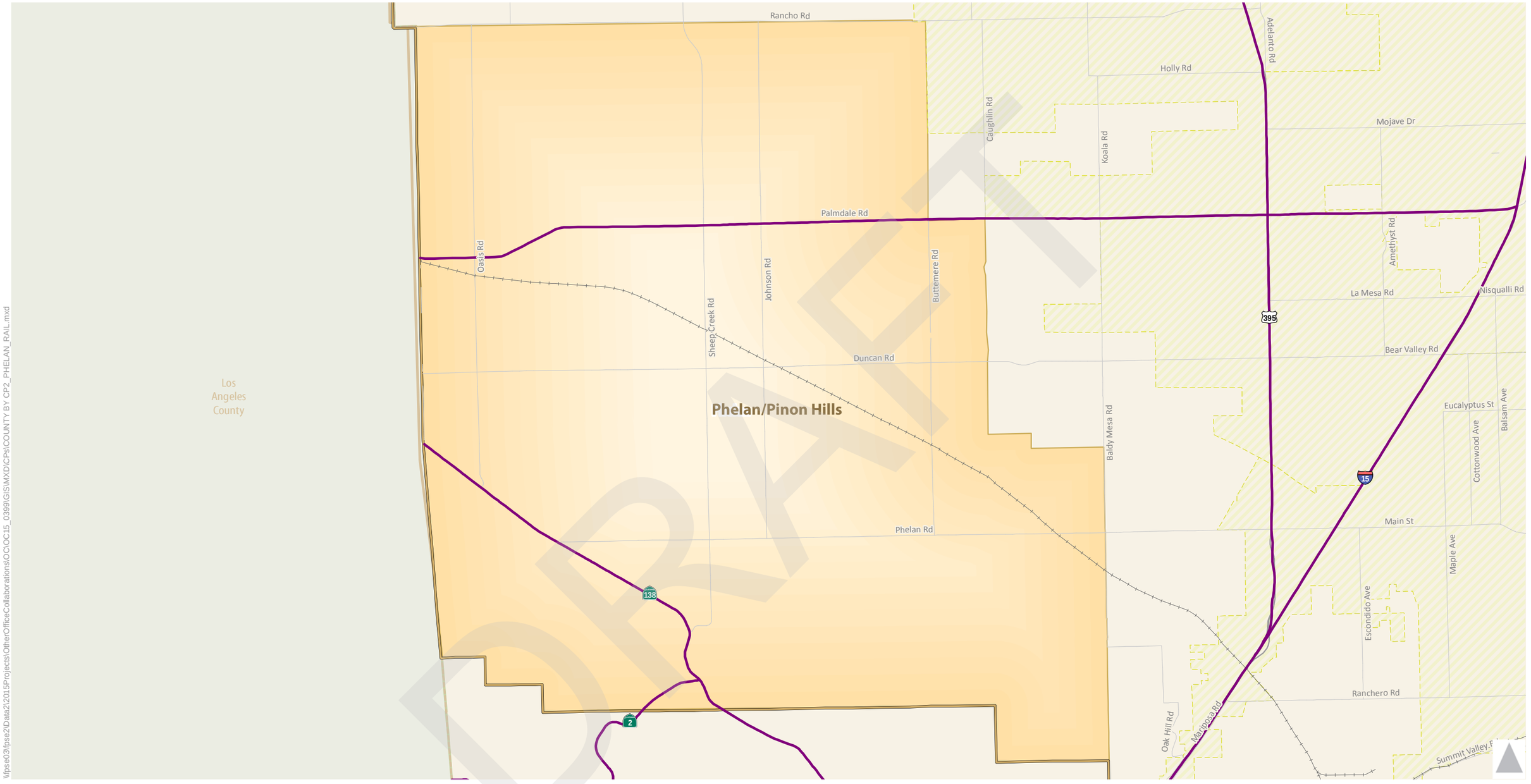
Mentone Community Plan Goods Movement



Truck Route
Rail
Community Plan Boundary
City Boundary
San Bernardino County

Figure 4.14

Muscoy Community Plan Goods Movement



\\fpse03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\CPs\COUNTY BY CP2_PHELAN_RAIL.mxd

Figure 4.15

Phelan/Pinon Hills Community Plan Goods Movement

NON-MOTORIZED TRANSPORTATION FACILITIES

Non-motorized modes of transportation are environmentally friendly alternatives to motor vehicles that enhance both personal and social well-being. The current General Plan's Circulation and Infrastructure Element recognizes the importance of accommodating pedestrians and bicyclist in addition to automobile users. The General Plan sets out a goal to create a multimodal transportation system which promotes alternative modes of transportation and meets the needs of all users.

Safe, convenient, attractive, and well-designed pedestrian, bicycle, and equestrian facilities are essential if these modes are to be properly accommodated and encouraged. Inadequate facilities discourage users and waste money and resources on unnecessary facilities. The County has been well aware of this need and has several policies to continue this effort. This includes SANBAG's San Bernardino County Non-Motorized Transportation Plan (Revised May 2015), which aims to incorporate bicyclists and pedestrians into the planning process and increase travel by bicycling and walking.

PEDESTRIAN ENVIRONMENT

The rural layout comprising a notable portion of the county's unincorporated communities has resulted in somewhat automobile dominant communities. The current General Plan's Circulation and Infrastructure Element concedes that much attention has been paid to automotive infrastructure at the cost of pedestrian facilities.

Six factors that might affect walkability and the pedestrian experience in the county at large have been analyzed, including:

- Sidewalk Continuity – Communities are more walkable if sidewalks do not end abruptly and are present on the entire segment and both sides of a roadway. This is especially important for the mobility-impaired or those pushing small children in strollers.
- Sidewalk Conditions - This refers to the physical condition of sidewalk surfaces. Sidewalks that are broken or cracked can deter walkability and pose a safety hazard, particularly for the mobility impaired, such as those in wheel chairs and persons using walkers or strollers.
- Shading - Persons are more inclined to walk in areas where there is shade present, particularly in Southern California and San Bernardino County with its relatively warm weather and limited rainfall as compared to other locations. Additionally, shade trees create an aesthetic value that is pleasing to the pedestrian.
- Grade - Persons are more inclined to walk in areas that are relatively flat or have limited grade changes.

- Amenities Offered - All items being equal, persons are more inclined to walk in areas that are interesting environments with shopping, retail, restaurants, and other similar uses. Pedestrian-friendly amenities include street furniture, attractive paving, way-finding signage, enhanced landscaping, and improved lighting.
- Buffers - A more walkable environment is one in which there is some degree of separation between the pedestrian and the motorist. This typically includes wider sidewalks, street parking and sidewalk bulb-outs at intersections where feasible. Crosswalks with appropriate signage serve as an important buffer as well.

A general evaluation of the pedestrian environment in the county's communities is provided in Table 4 below.

TABLE 4 – EXISTING PEDESTRIAN FACILITIES

Criteria	Evaluation
Sidewalk Continuity	Generally, sidewalks in the county's communities are discontinuous or lacking altogether. In communities that do provide sidewalks, these facilities are still generally lacking in side streets in neighborhood areas. Communities such as Bloomington, Crestline, Joshua Tree, Lake Arrowhead, Lenwood, and Phelan/Pinon Hills tend to provide sidewalks on one side or both sides on major roadways and in more urban areas.
Sidewalk Conditions	Where sidewalks are present, they are generally in good condition, free of cracks, fissures, or uplift. Some locations such as Lenwood and Searles Valley do suffer from light to heavy sidewalk cracks.
Shading	Generally, shading is not provided along sidewalks in the county's communities. However, some shading is available in locations such as Crestline and Lake Arrowhead.
Grade	Where pedestrian facilities are present, there is generally flat grade. Some areas such as Crestline and Lake Arrowhead do have mild grade at sidewalk locations.
Amenities Offered	Amenities for pedestrians are normally not offered. Some areas offer shopping and other retail uses along sidewalks.
Buffers	Where sidewalks are available, buffers are usually not provided. In communities such as Lake Arrowhead, Lenwood, Mentone, and Silver Lakes, a small dirt or grass buffer is provided for some sidewalks.

Source: Fehr & Peers, 2015

DRAFT

BICYCLE FACILITIES

The County has made a concerted effort to expand the ease of alternative transportation options for residents, recognizing both health and environmental benefits. This includes the expansion of bicycle facilities that increase connectivity between residential, recreational, commercial, and other community amenities throughout the county. According to the SANBAG Non-Motorized Transportation Plan, the combined total of centerline miles of bicycle infrastructure in the county increased from 53 miles to 468 miles between 2001 and 2011.

Currently, the following bikeways are available in or adjacent to the county's unincorporated communities:

- Approximately 4.5 miles of Class I bike paths are provided adjacent to Searles Valley along Trona Road.
- Approximately 0.6 miles of Class II bike lanes are provided along Muscalet Street, running from Hesperia into Oak Hills.
- Approximately 3.8 miles of Class I bike paths are provided along Yucca Loma Road starting from Spring Valley Lake into Apple Valley.
- Approximately 4.4 miles of Class III shared roadways are provided in Big Bear City, along roads such as Mountain View Boulevard, Country Club Boulevard, and Big Bear Boulevard.
- The 1.5 mile Alpine Pedal Path (a Class I bike path) is provided east of Big Bear Lake/City.
- Approximately 0.6 miles of Class I bike paths are provided along Sunburst Street in Joshua Tree.
- Approximately three miles of Class III shared roadways are provided adjacent to Joshua Tree along Yucca Mesa Road and La Contenta Road.

Figures 5.1 through 5.12 illustrate existing bicycle facilities in the county.

Additionally, there are several regional trails designated by the County which provide public access to open space lands for pedestrian, bicycle, and equestrian users. The following ten facilities are designated regional trails:

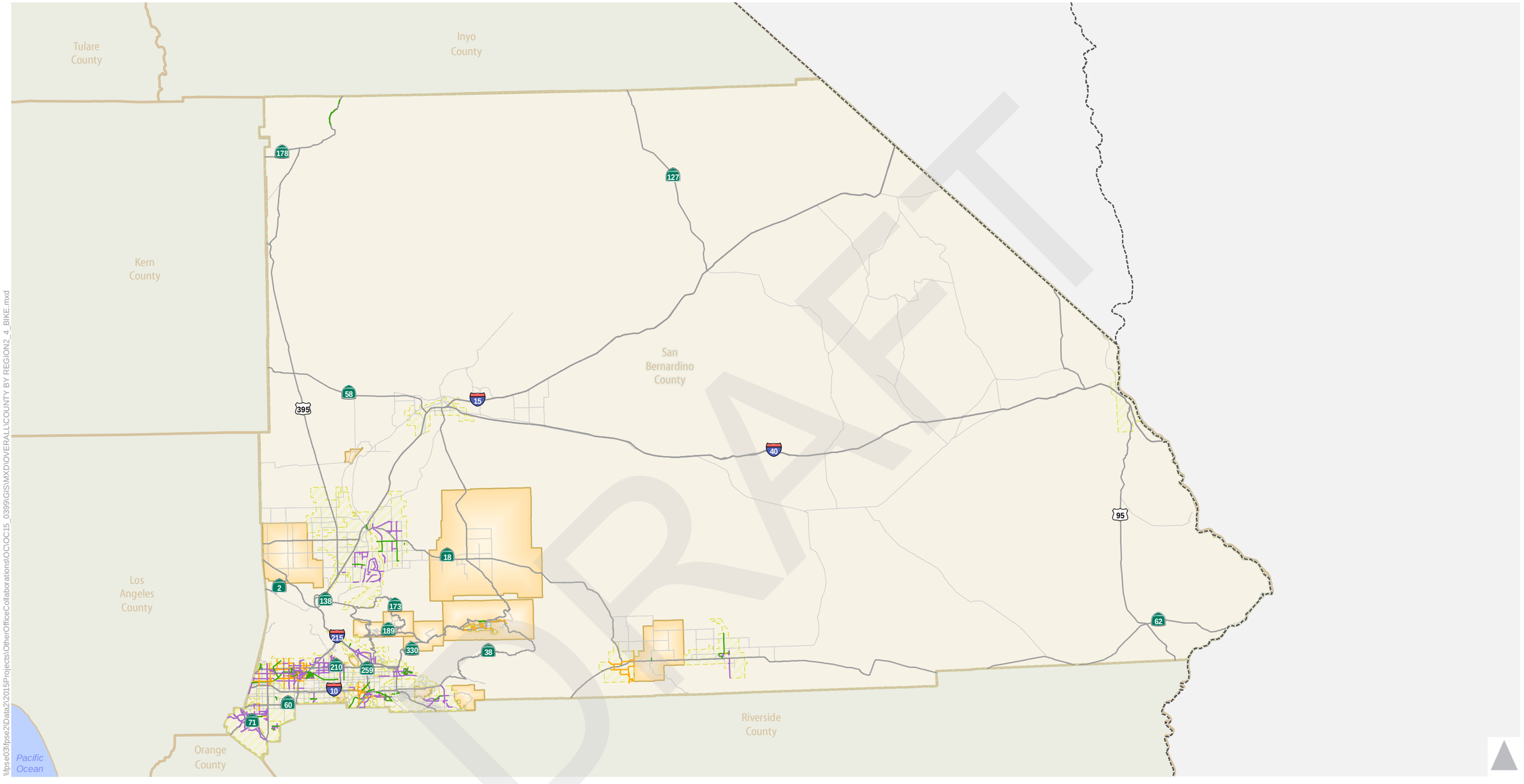
- East Calico Hiking Trail
- Cucamonga Creek Trail
- Ecology Interpretive Trail
- Joshua Tree Connector Trail
- Lake Gregory Fitness Trail

- Handicap Nature Trail
- Morongo Canyon Preserve
- Prado Trails
- Mill Creek Levee Trail (also known as the Santa Ana River Trail)
- Meadows Trail/Zania Peak Trail

The Pacific Crest National Scenic Trail, maintained by the United States Forest Service, runs from the Canadian border to the Mexican border and includes approximately 114 miles in San Bernardino County.

Figures 5.1 through 5.12 do not display the Pacific Crest National Scenic Trail and County-designated regional trails. At this time, SANBAG's Non-Motorized Transportation Plan (NMTP) geographic datasets do not contain these facilities. The exhibits in this report can be updated to include these facilities if the NMTP dataset is updated to include them or if the County's 2007 trails geographic dataset is made available.

DRAFT

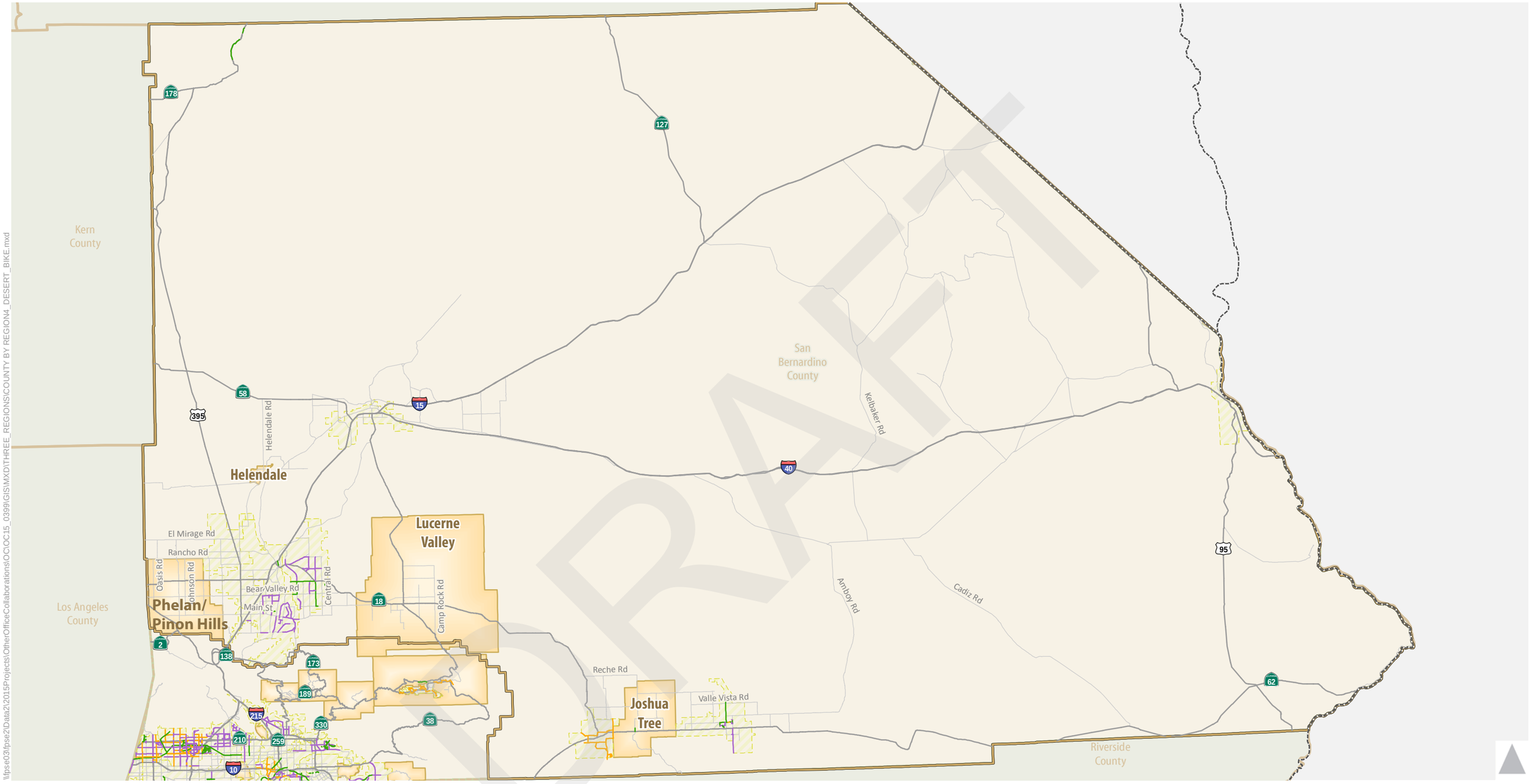


Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries
- State Boundaries

Figure 5.1

Countywide Bicycle Facilities

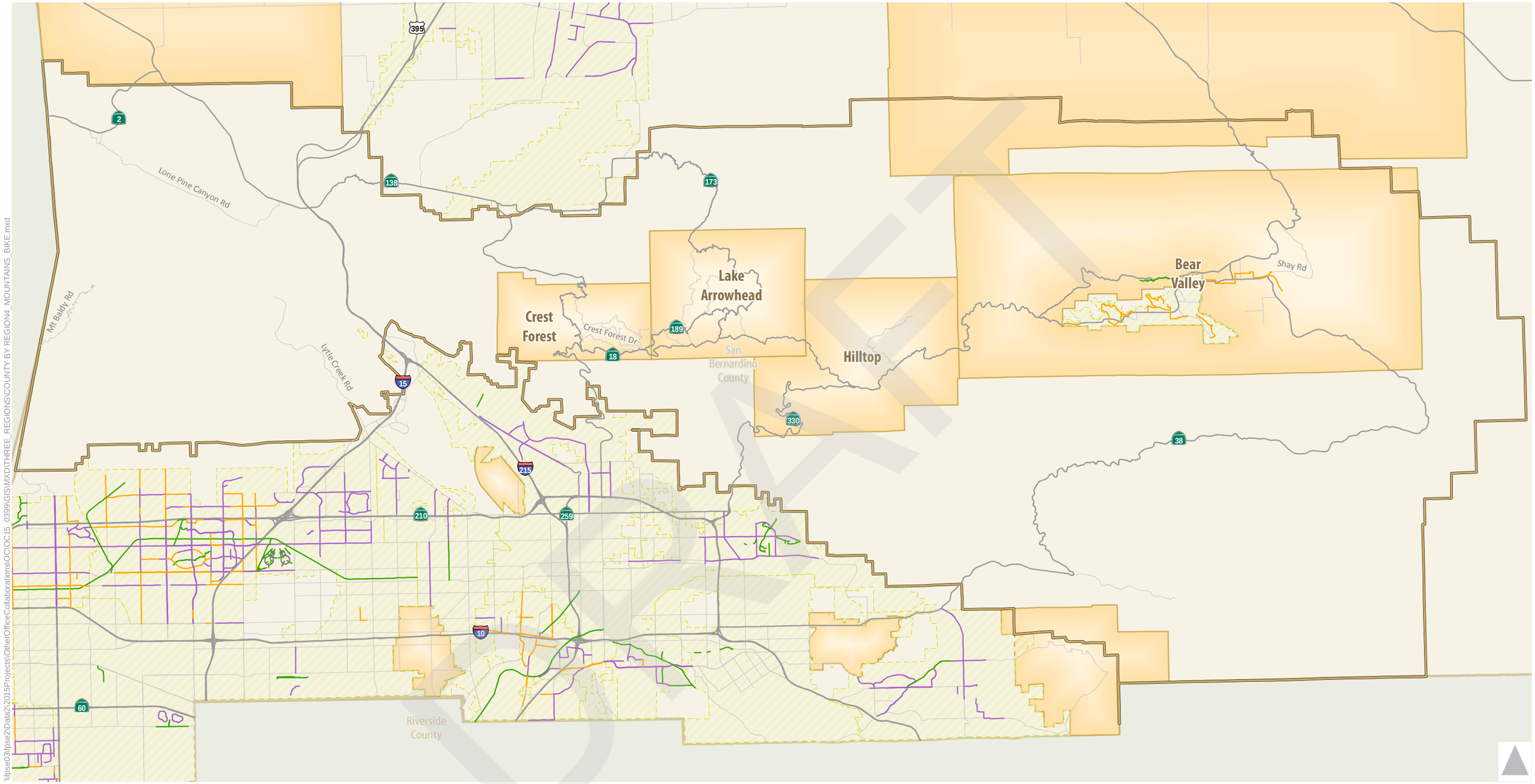


Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries
- State Boundaries

Figure 5.2

Desert Region Bicycle Facilities

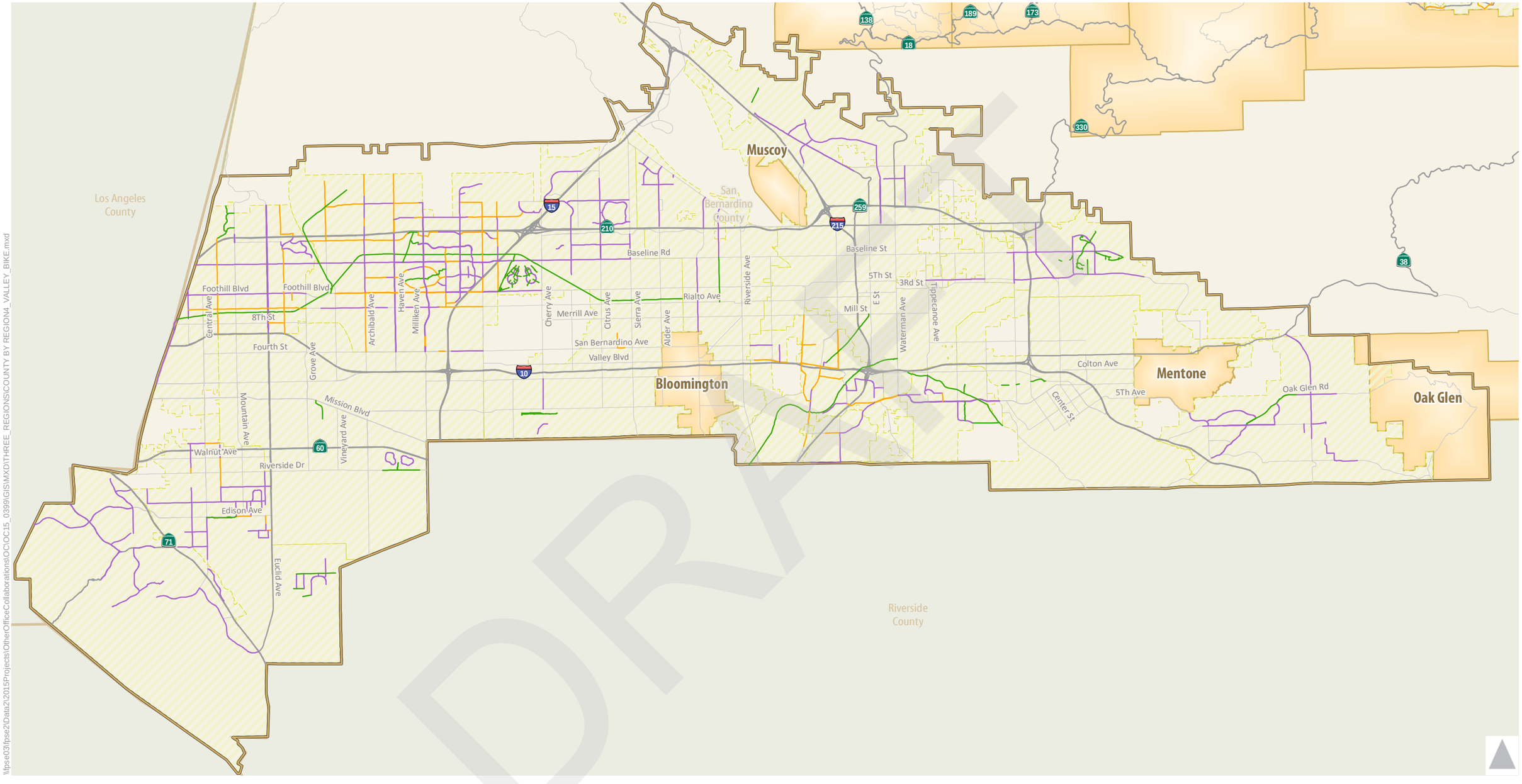


Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Mountain Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries

Figure 5.3

Mountain Region Bicycle Facilities



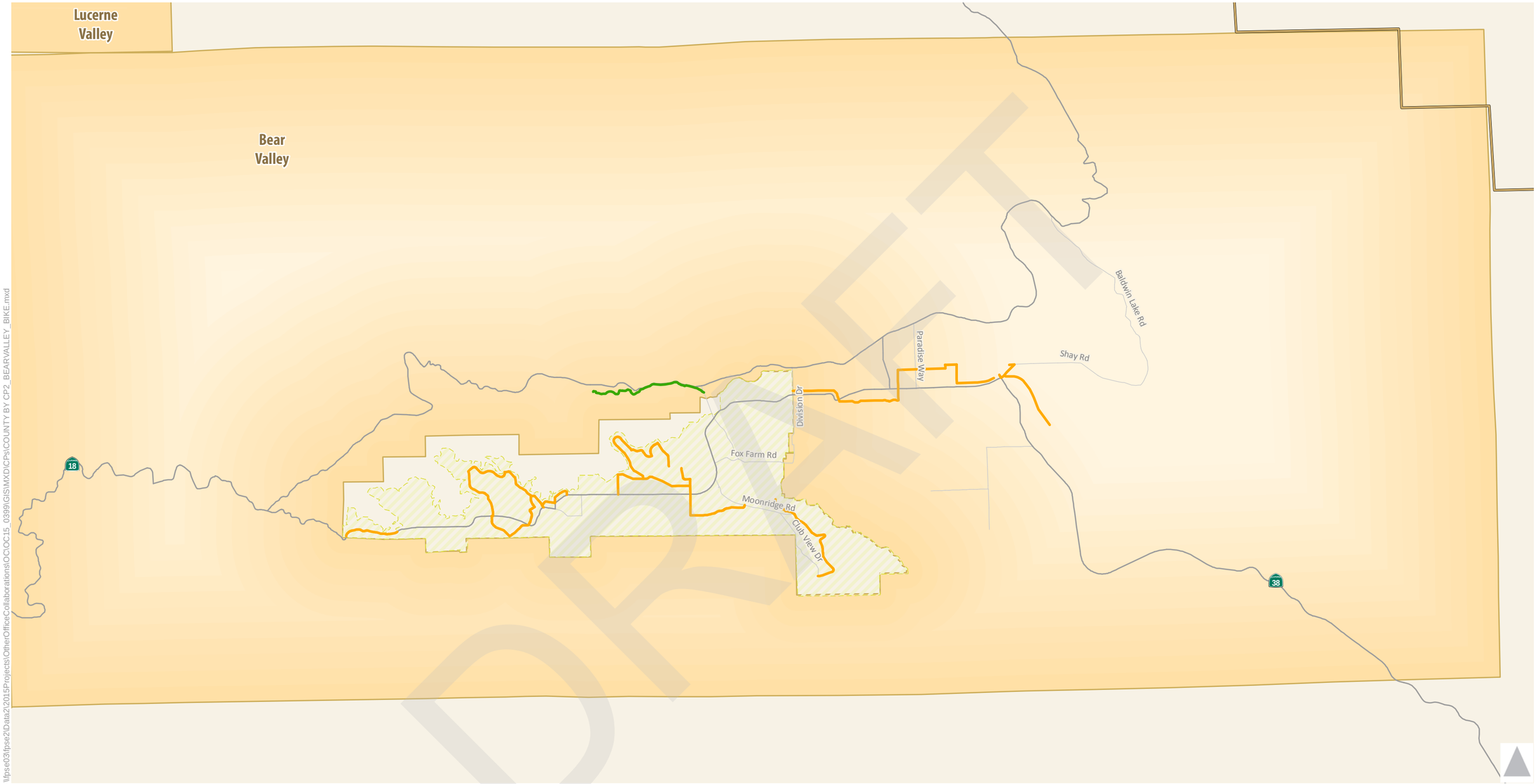
\\fps03\fpse2\Data2\2015Projects\OtherOfficeCollaborations\OC\OC15_0399\GIS\MXD\THREE_REGIONS\COUNTY BY REGION4_VALLEY_BIKE.mxd

Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Valley Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County
- County Boundaries

Figure 5.4

Valley Region Bicycle Facilities



Existing Bicycle Facilities

- Class I Bike Path
- Class III Bike Route
- Mountain Region
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 5.5

Bear Valley Community Plan Bicycle Facilities

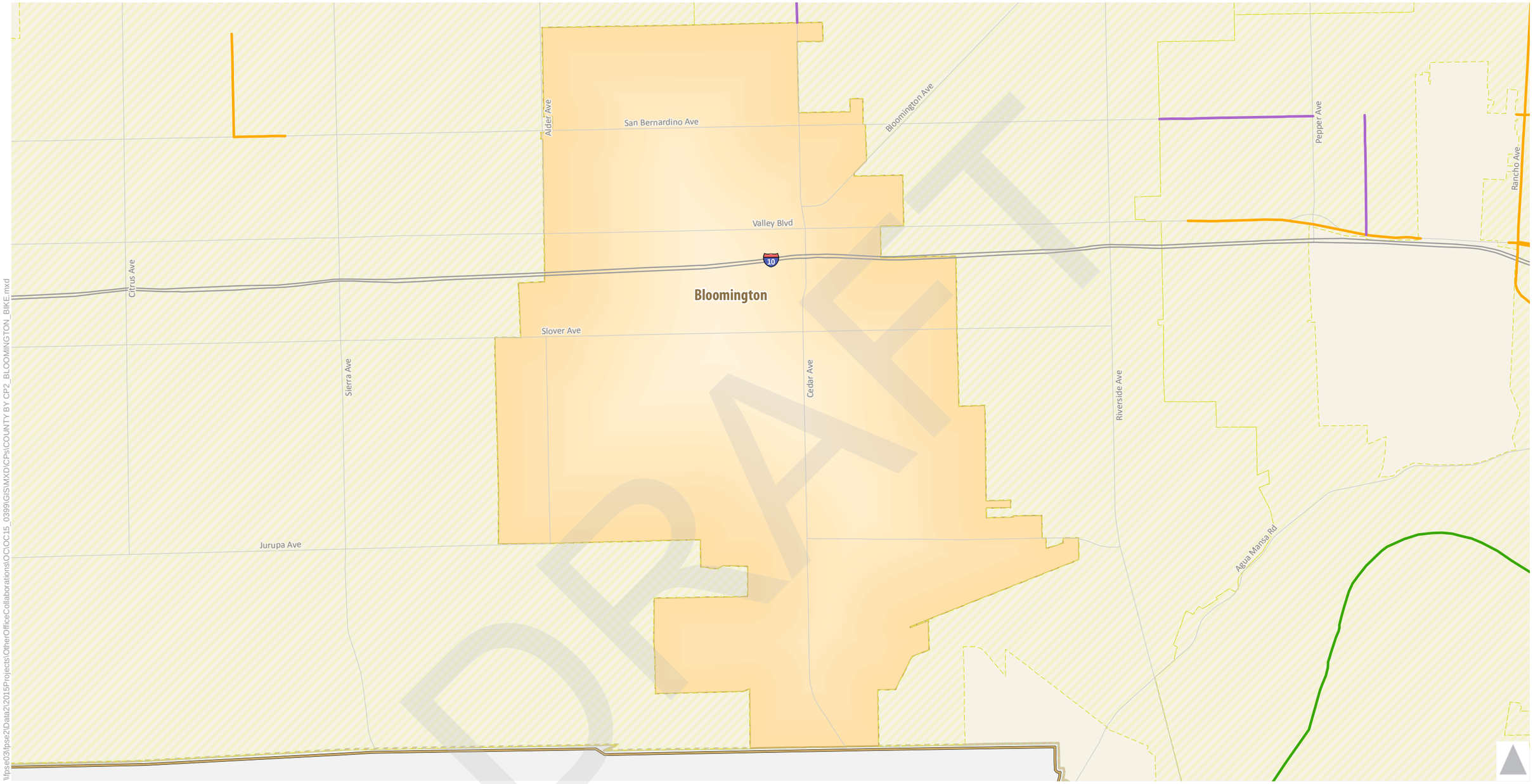
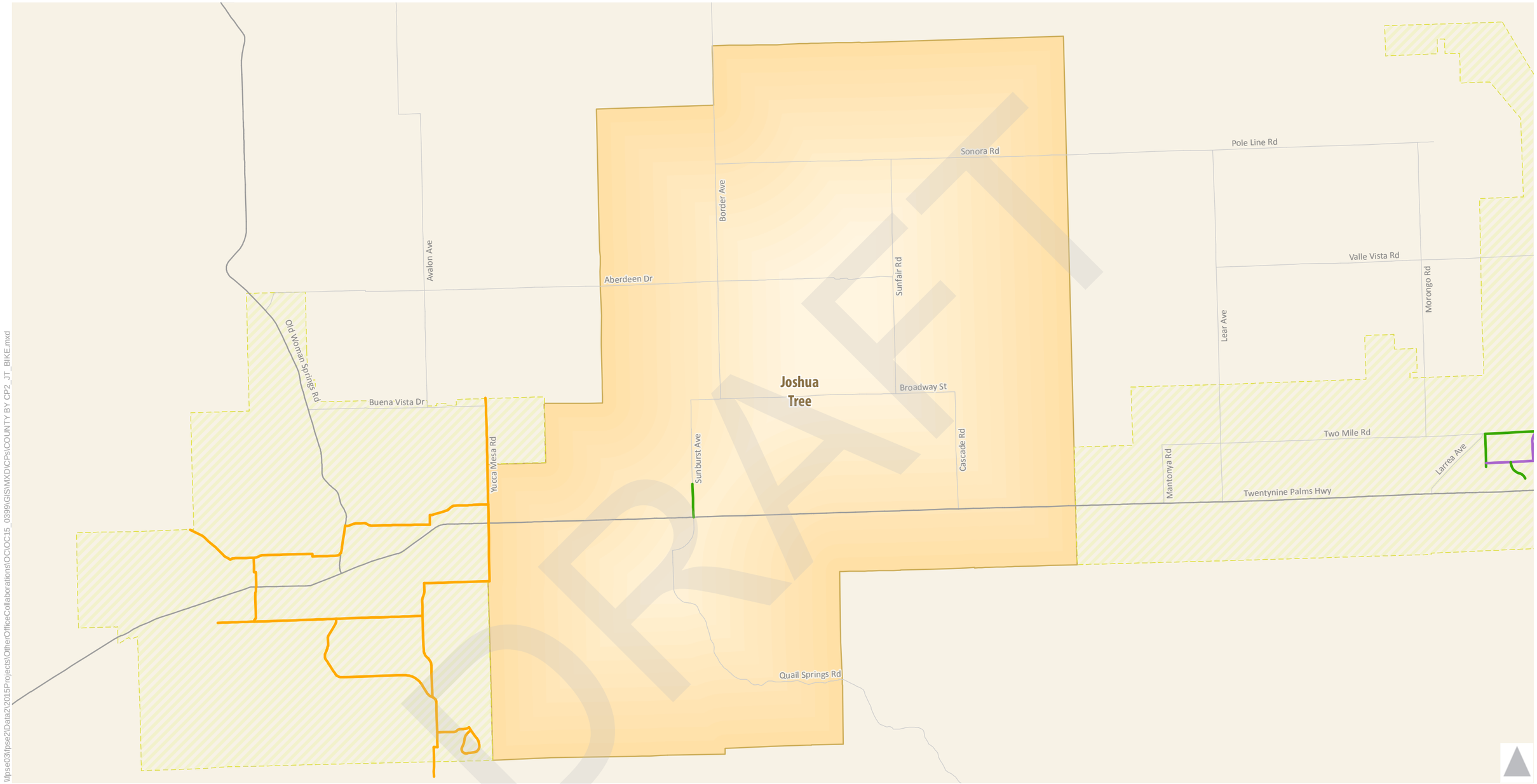


Figure 5.6

Bloomington Community Plan Bicycle Facilities



Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 5.7

Joshua Tree Community Plan Bicycle Facilities

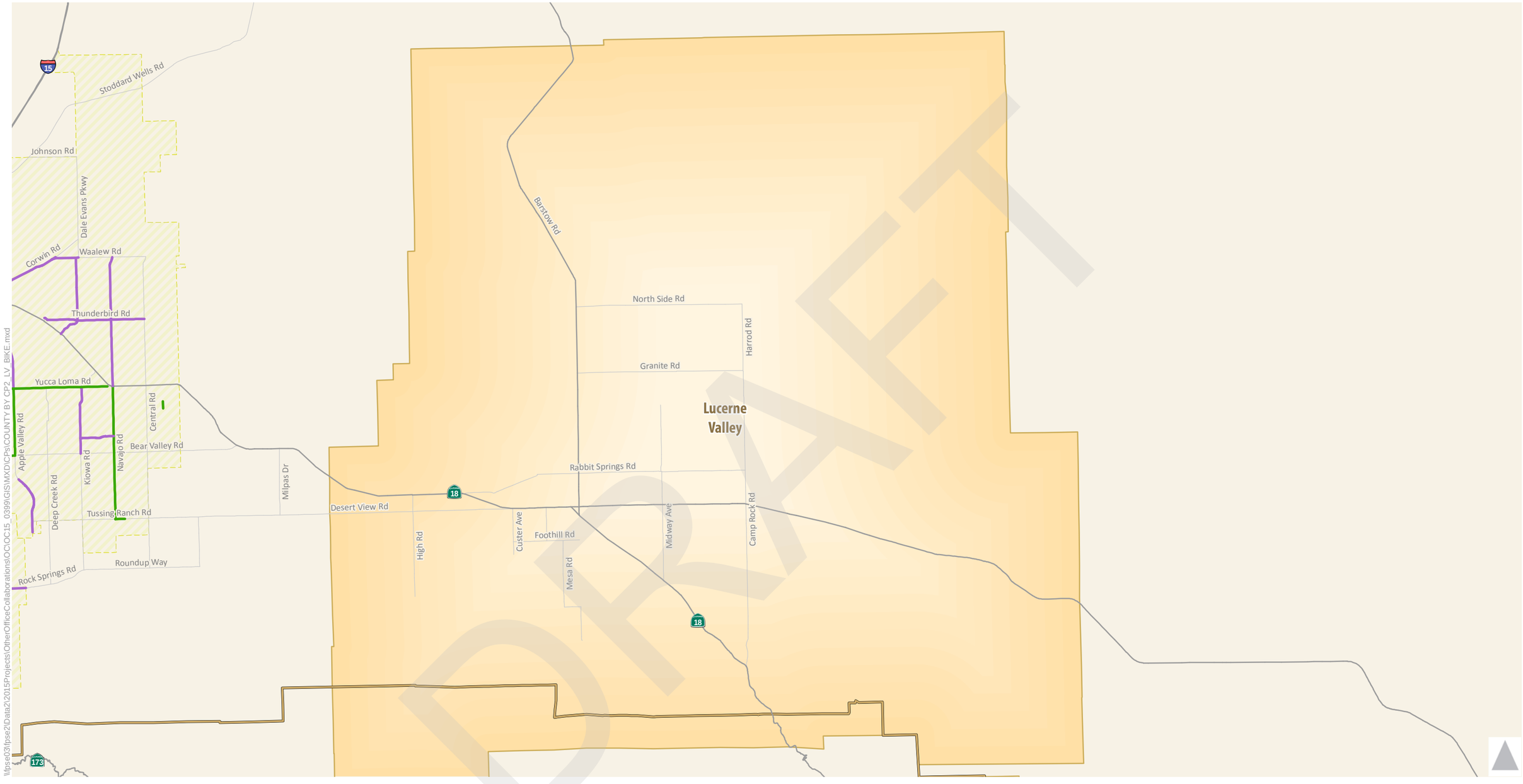
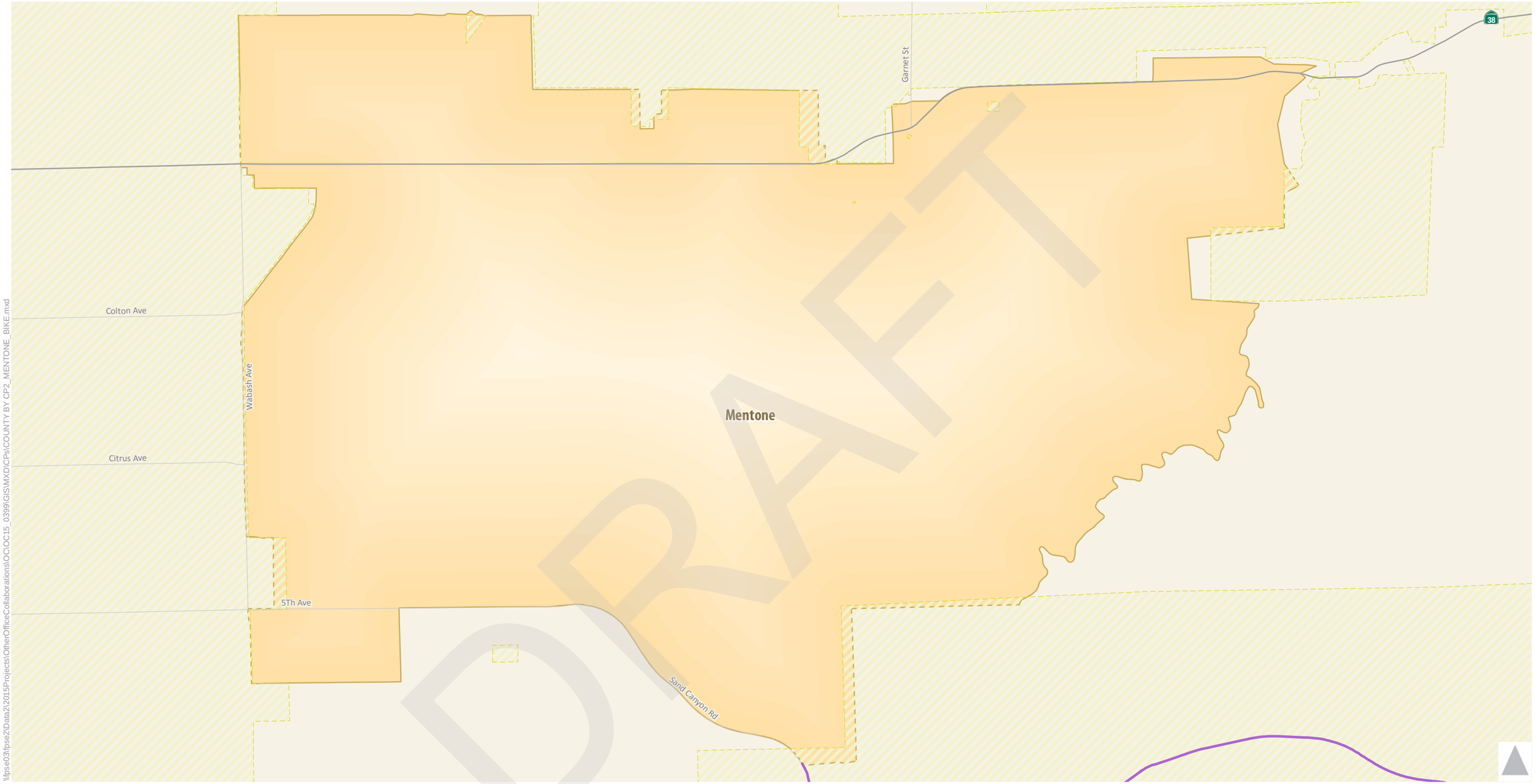


Figure 5.8

Lucerne Valley Community Plan Bicycle Facilities



Existing Bicycle Facilities

- Class II Bike Lane
- Community Plan Boundary
- City Boundary
- San Bernardino County

Figure 5.9

Mentone Community Plan Bicycle Facilities

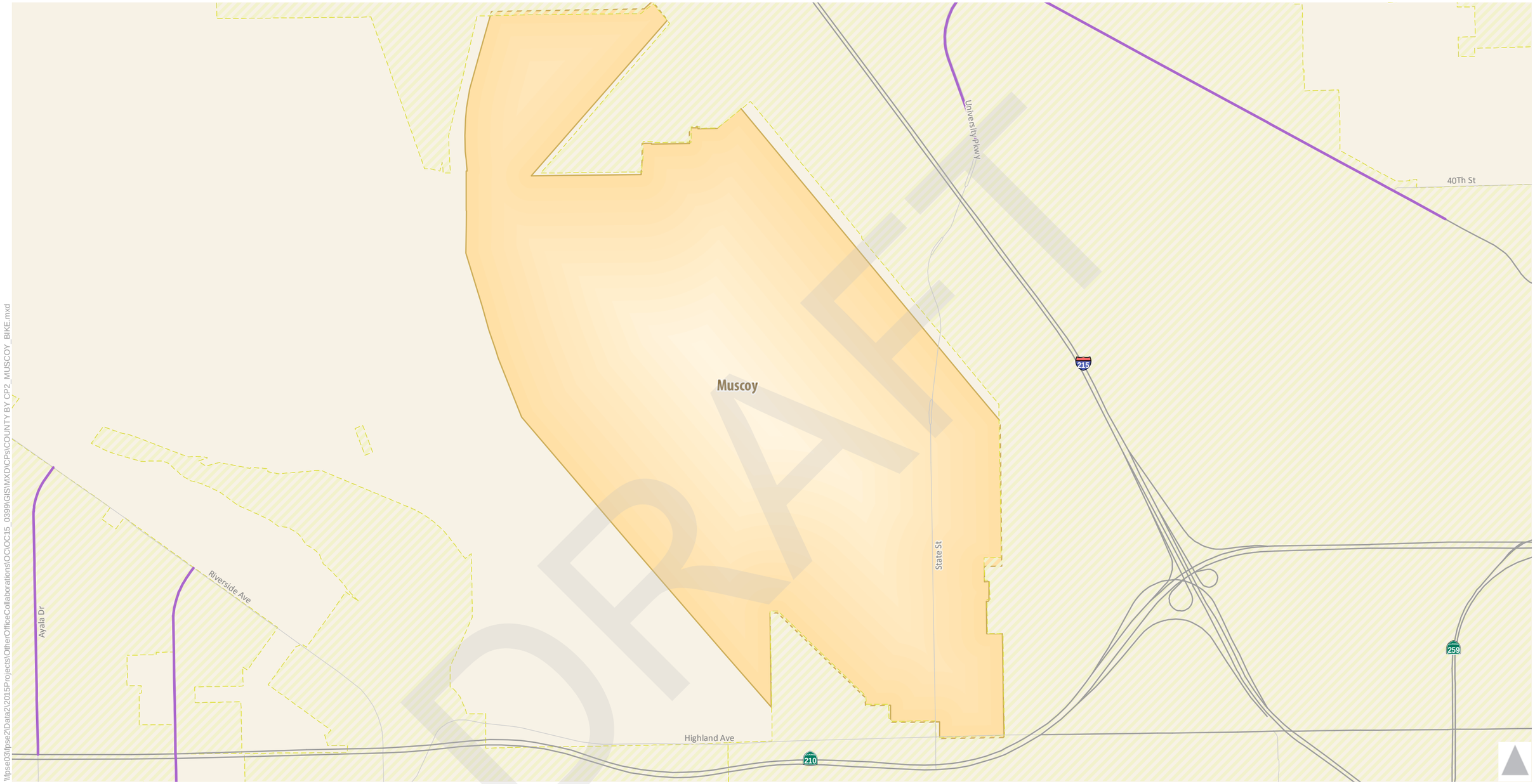


Figure 5.10

Muscoy Community Plan Bicycle Facilities

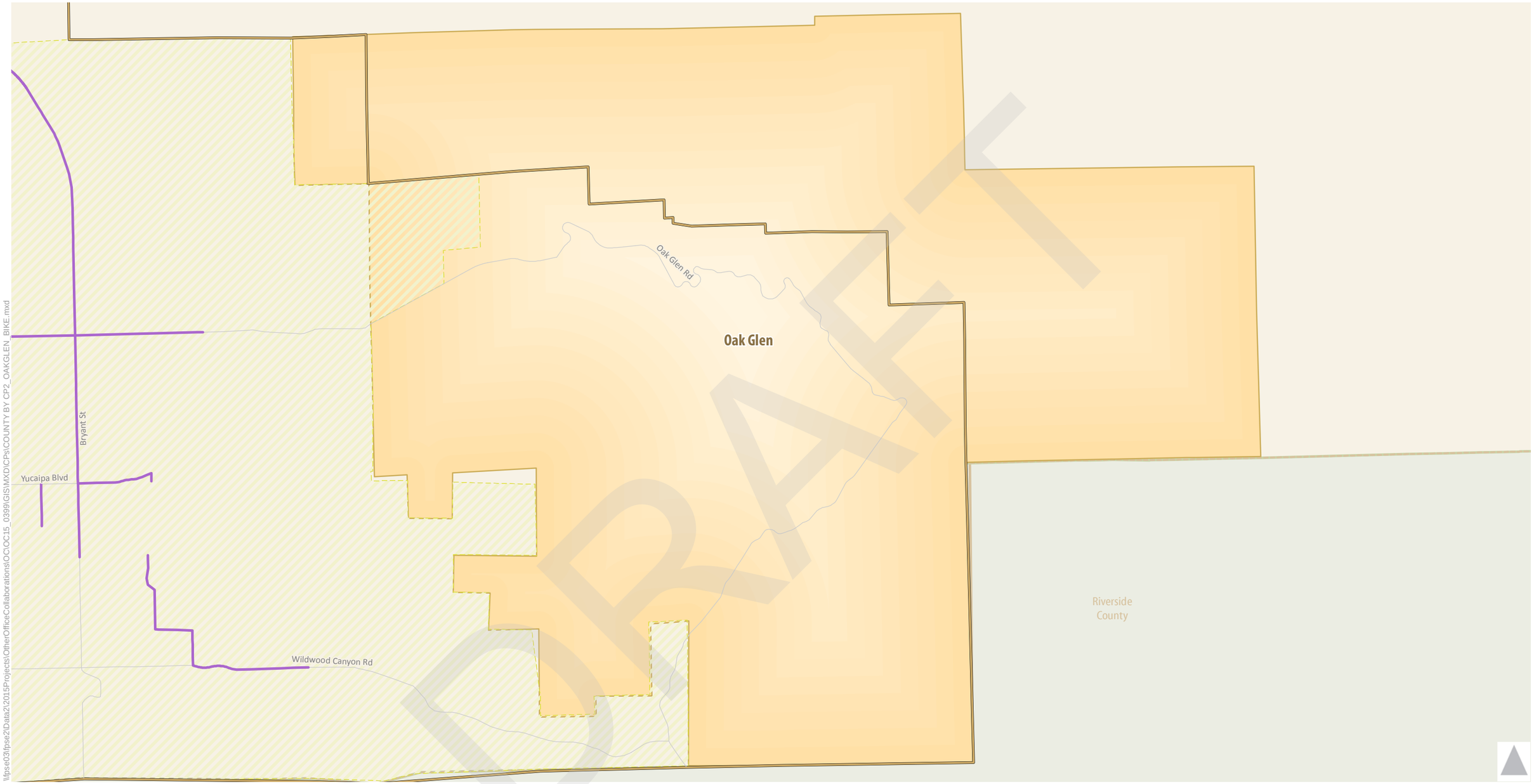
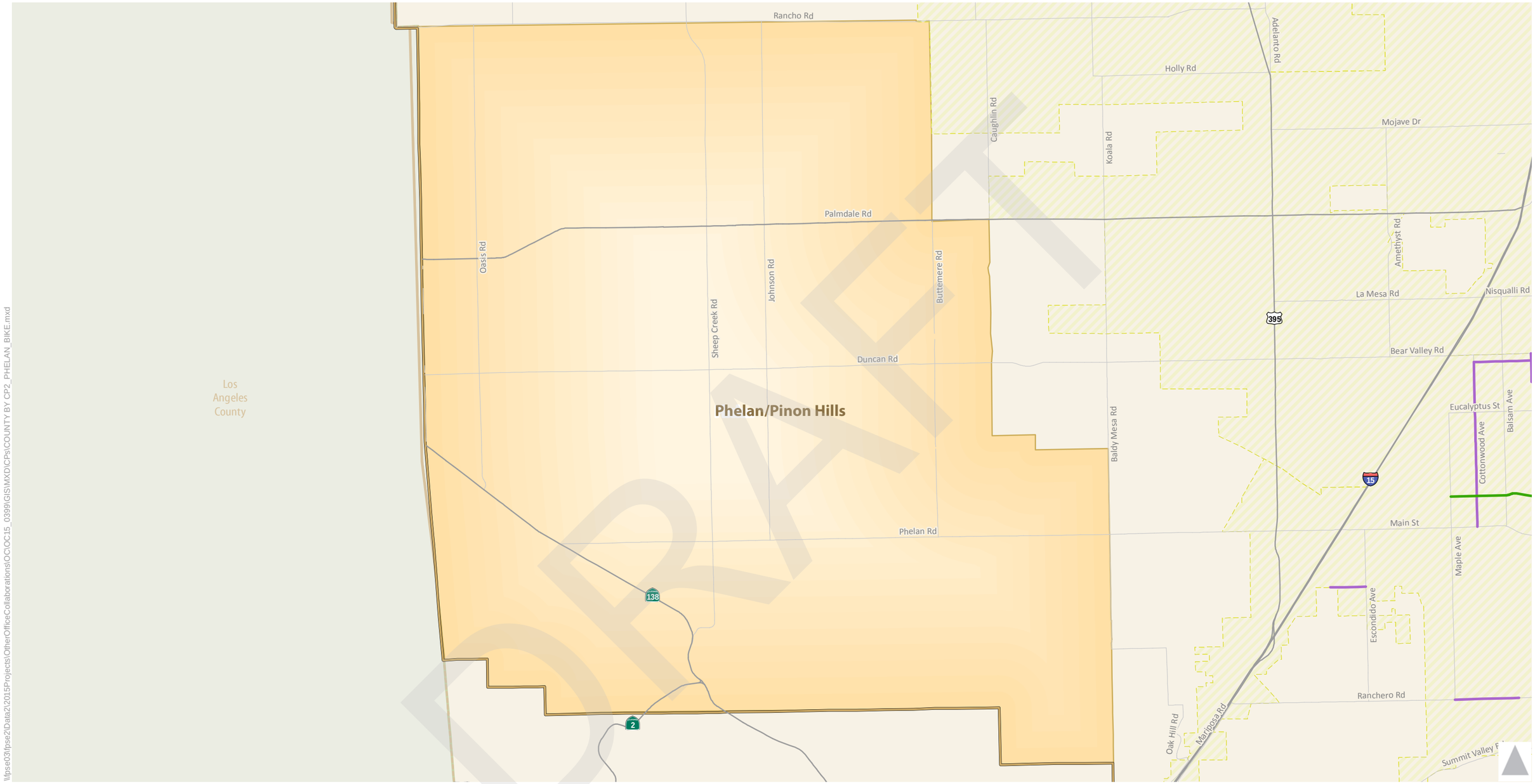


Figure 5.11

Oak Glen Community Plan Bicycle Facilities



Existing Bicycle Facilities

- Class I Bike Path
- Class II Bike Lane
- Desert Region
- Community Plan Boundary
- City Boundary
- San Bernardino County
- County Boundaries

Figure 5.12

Phelan/Pinon Hills Community Plan Bicycle Facilities

TRANSPORTATION SYSTEM PERFORMANCE

Using available data from a variety of sources including the U.S. Census Bureau, current traffic counts, and the Statewide Integrated Traffic Records System (SWITRS), this section presents an overview of how the transportation system within the county and its unincorporated communities currently performs.

MODE CHOICE

Mode choice refers to the mode of travel which is used for any particular trip. The US Census Department through the American Community Survey regularly reports mode choice for travel to work. The results for San Bernardino County are provided in Table 5 below.

TABLE 5 – COMMUTER MODAL SPLIT

Commute Mode Choice	Unincorporated Communities	San Bernardino County	California	United States
Single Occupant Auto	75.4%	75.7%	73.2%	76.3%
Carpool	14.0%	15.2%	11.3%	9.8%
Public Transit	1.0%	1.8%	5.2%	5.0%
Bicycling/Walking	2.8%	1.9%	2.7%	2.8%
Other Means	0.4%	0.4%	1.1%	0.6%
Work at Home	1.1%	1.0%	1.3%	1.2%

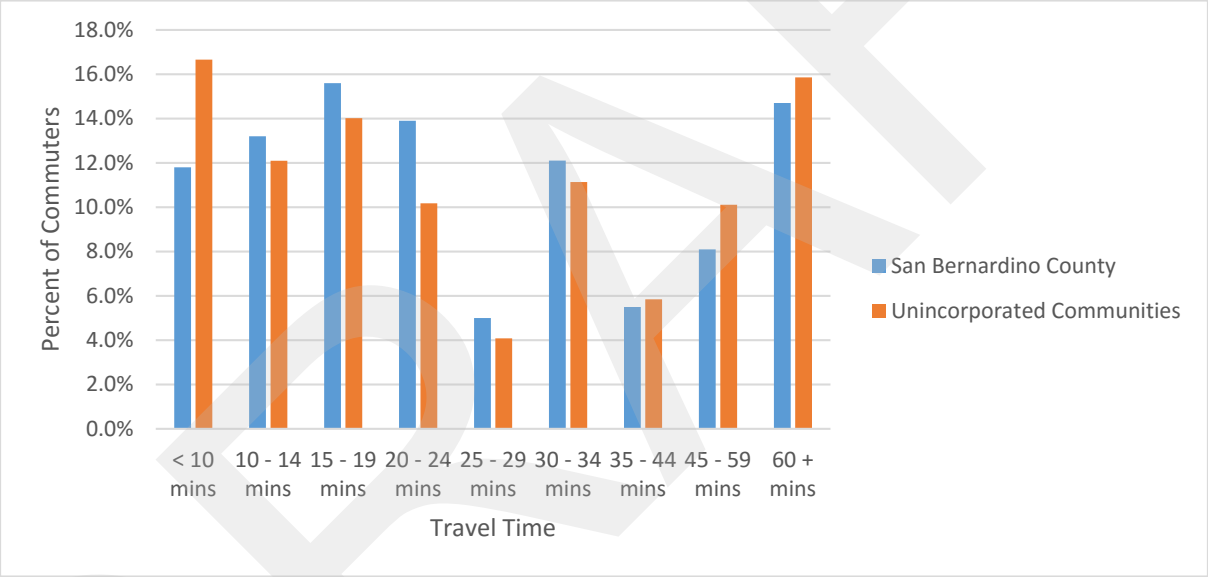
Source: American Community Survey (2009 – 2013)

As shown in the table, residents of the county's unincorporated communities use single-occupant vehicles to travel to work substantially more than other modes (75.4 percent). Carpooling is much lower (14.0 percent). Other modes also have low usage, such as public transit (1.0 percent) and bicycling and walking (2.8 percent). Mode choice patterns in unincorporated communities generally follow those of the county as a whole. However, residents in unincorporated communities tend to use transit less (1.0 percent versus 1.8 percent) and bicycling and walking more (2.8 percent versus 1.9 percent). Additionally, public transit use is substantially lower than in the state and nation as a whole (5.2 percent and 5.0 percent, respectively). However, carpooling is higher than at the state and national level (11.3 percent and 9.8 percent, respectively).

TRAVEL TIME TO WORK

Chart 1 below presents comparative travel time information for unincorporated communities and San Bernardino County for travel to work for a one way-trip. More than 16 percent of unincorporated residents travel less than 10 minutes, compared to approximately 12 percent countywide. Approximately 16 percent of unincorporated residents travel 60 minutes or longer, compared to under 15 percent countywide. The mean travel time for unincorporated communities is approximately 31 minutes; this is comparable to the countywide mean of approximately 30 minutes.

Chart 1: Travel Time to Work



WORK TRIPS INSIDE SAN BERNARDINO COUNTY

Another aspect of travel behavior relates to the propensity for residents to either remain within their community or travel outside of their community for their work trips. One data source for this information is the U.S. Census Bureau's Longitudinal Employer Household Dynamics (LEHD). According to the LEHD database, as presented in Table 6, the percentage of persons living in the county's unincorporated communities who work outside the county has increased steadily between 2004 and 2013 from 46.9 percent to 53.3 percent. This pattern generally follows that for county residents as a whole.

TABLE 6 – PERCENTAGE OF RESIDENTS TRAVELING OUTSIDE COUNTY FOR WORK

Year	San Bernardino County	Unincorporated Communities
2004	50.2%	46.9%
2005	51.0%	48.2%
2006	50.8%	47.8%
2007	52.7%	50.3%
2008	53.0%	53.2%
2009	53.2%	52.8%
2010	53.4%	52.1%
2011	54.1%	52.8%
2012	53.6%	52.4%
2013	54.0%	53.3%

Source: LEHD (2004 – 2013)

LAND USE PLACE TYPES AND ACTIVE TRANSPORTATION

The Southern California Association of Governments (SCAG) is currently in the process of integrating Active Transportation benefits and costs into its Scenario Planning Model (SPM). As part of this effort, SCAG's team developed a correlation between land use types and walking/bicycling trips as denoted by a travel survey. The Scenario Planning Model consists of thirty five place types, which SCAG aggregated into six place type groupings; three of these place type groups and their active transportation mode shares are described in Table 7. Figures 6.1 through 6.12 illustrate place type groupings in the county.

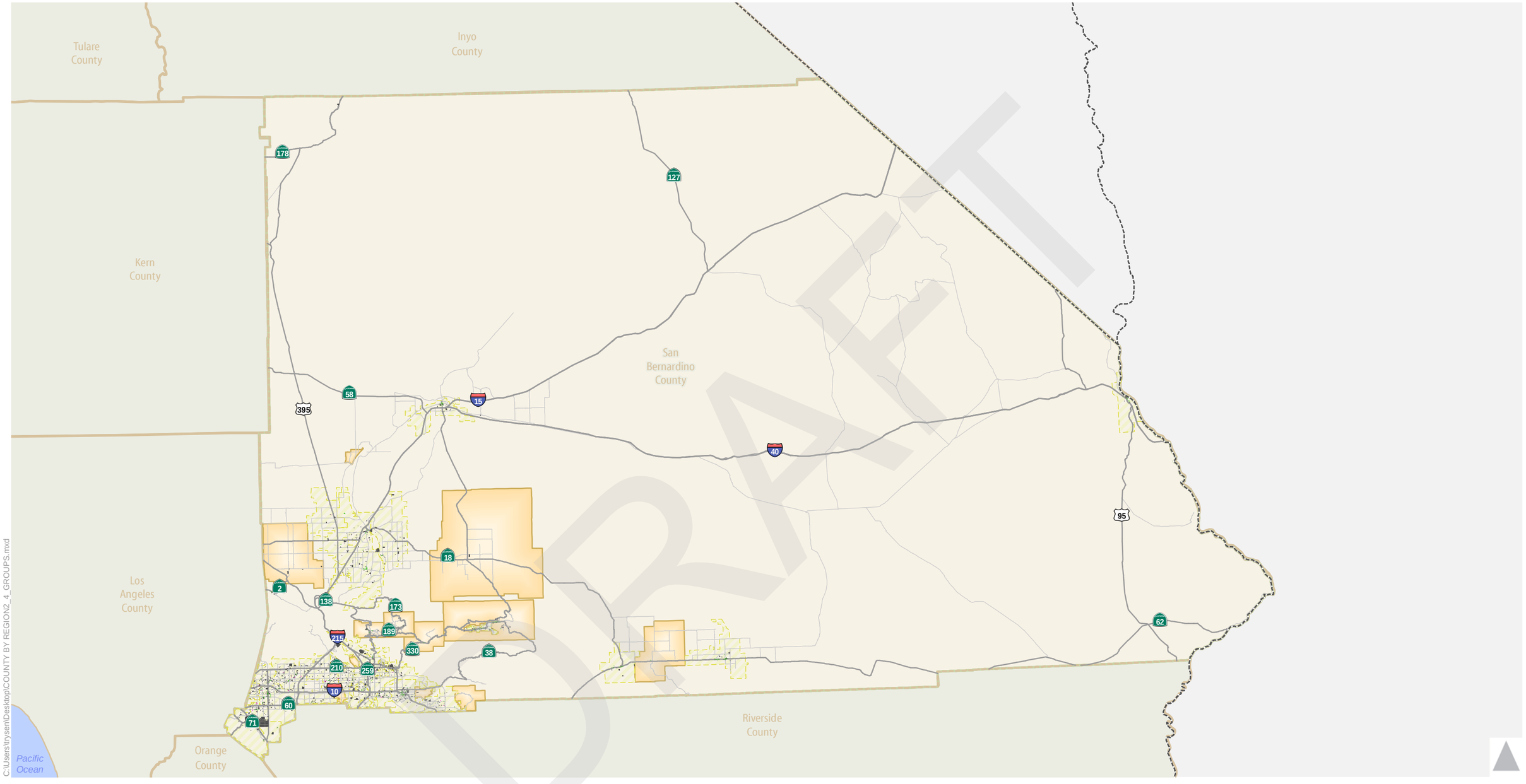
DRAFT

TABLE 7 – SCAG PLACE TYPES

Grouping	Place Types	Observed AT Mode Share		
		Range	Average	Median
1	City Mixed Use, City Residential, Town Mixed Use, Urban Commercial, Urban Mixed Use, High Intensity Activity Center	25-44%	30%	27%
2	Village Commercial, Town Residential, Village Mixed Use, City Commercial, Town Commercial, Urban Residential, Industrial/Office/Residential Mixed High	18-27%	23%	24%
3	Neighborhood Residential, Village Residential, Campus Residential, Institutional, Suburban Multi-Family	14-23%	20%	20%

Source: SCAG

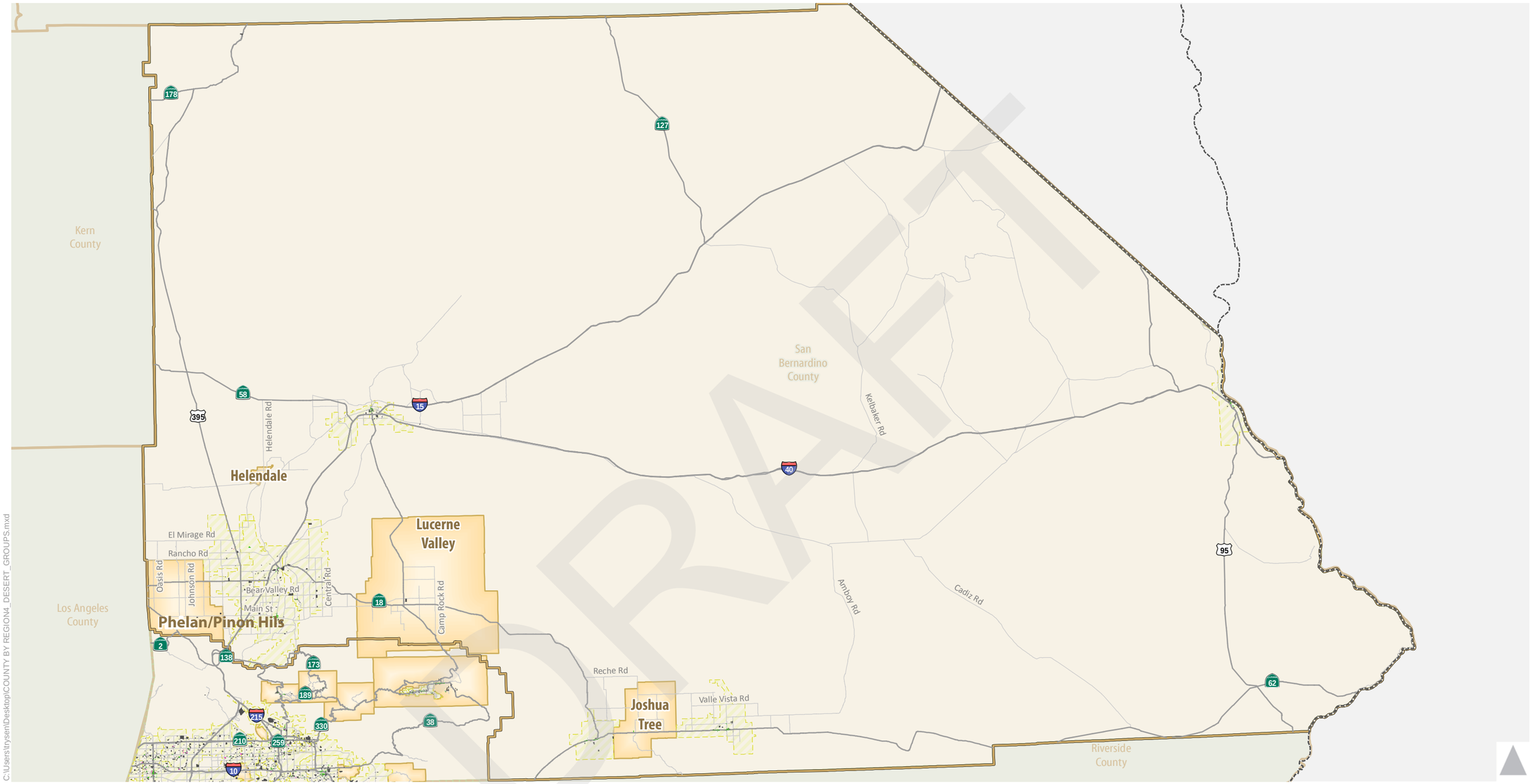
DRAFT



C:\Users\tysen\Desktop\COUNTY BY REGION2_4_GROUPS.mxd

Figure 6.1

Countywide Placetype Grouping



C:\Users\trysen\Desktop\COUNTY BY REGION\4_DESERT_GROUPS.mxd

Figure 6.2

Desert Region Placetype Grouping

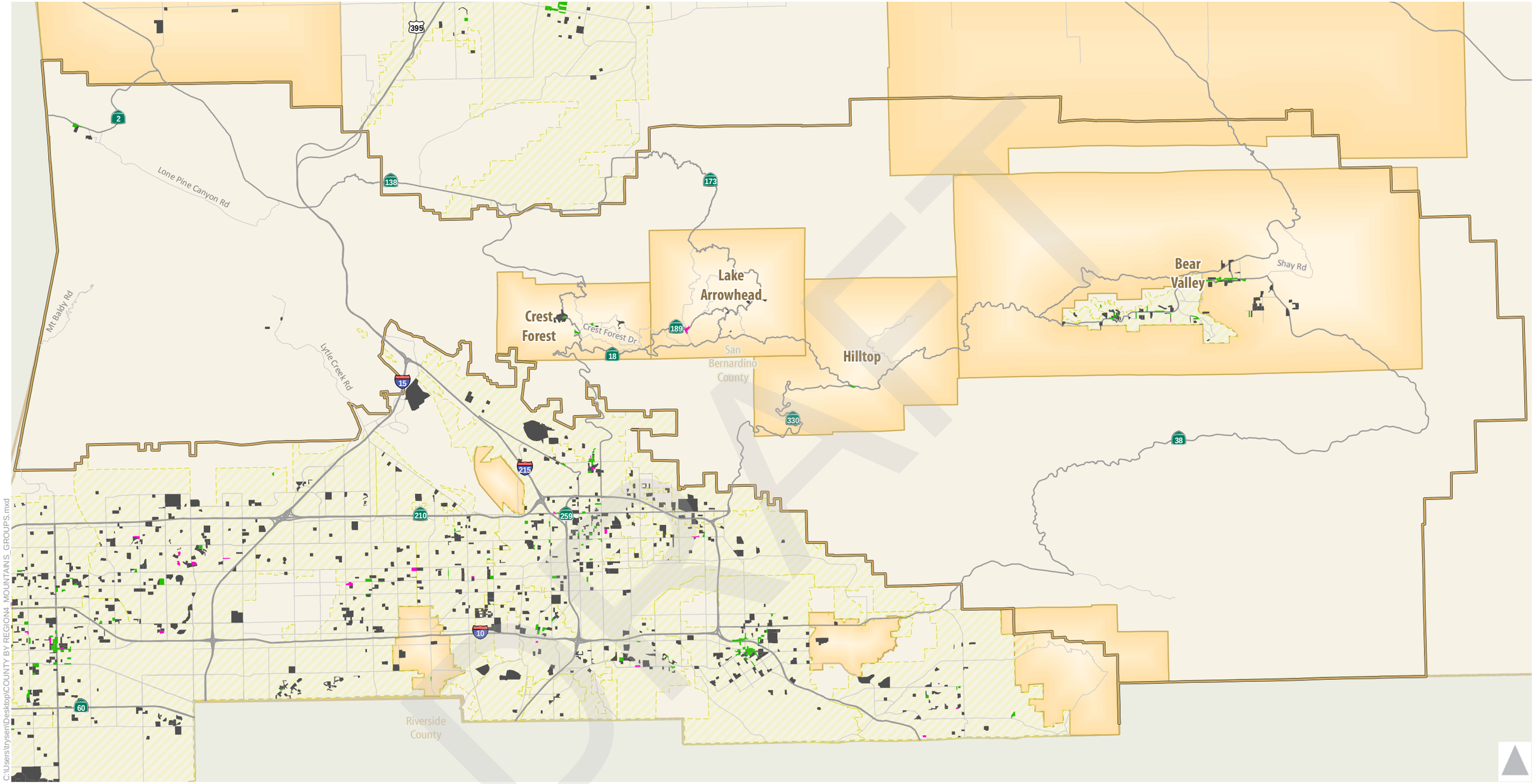
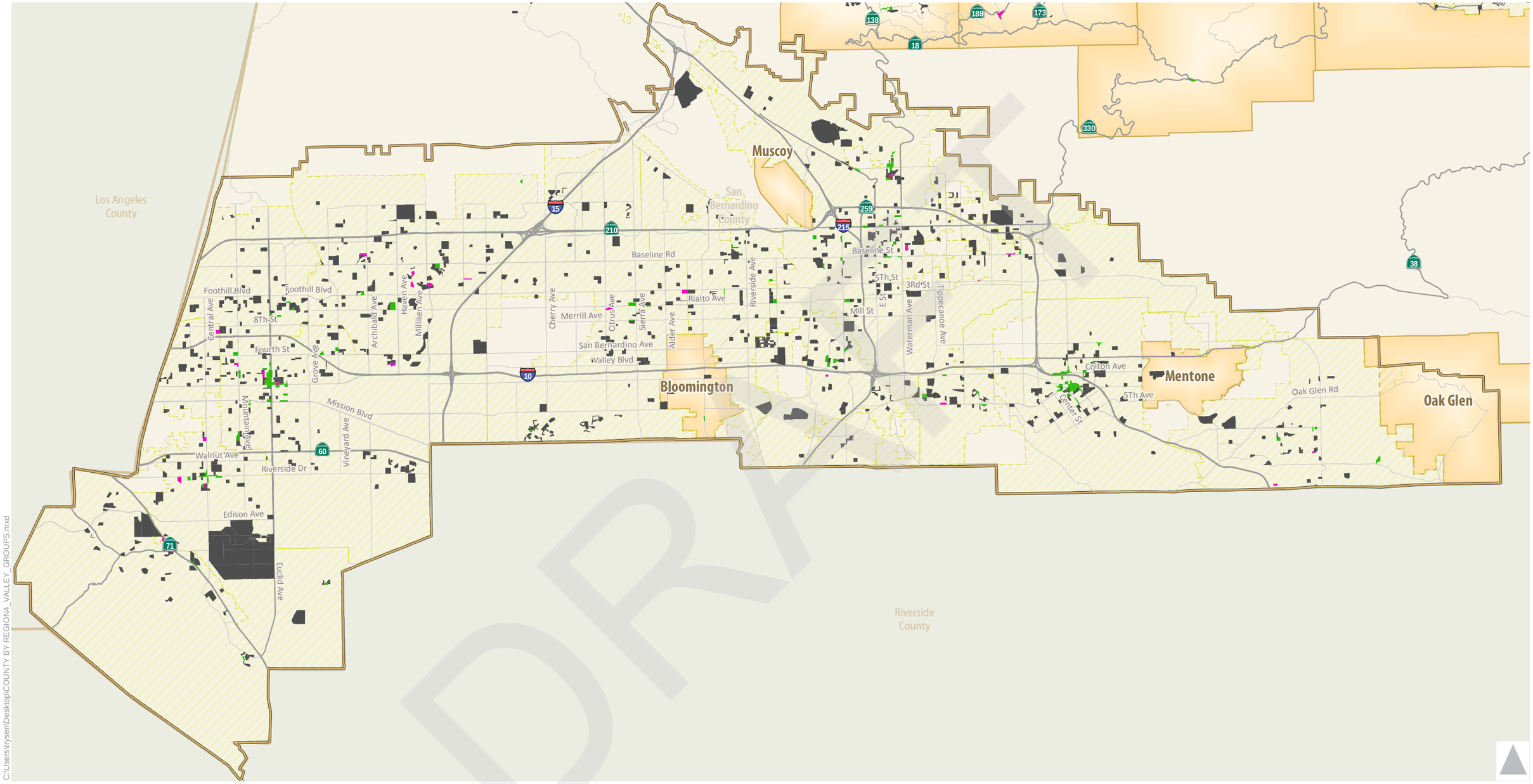


Figure 6.3

Mountain Region Placetype Grouping



Valley Region
Community Plan Boundaries
City Boundaries
San Bernardino County
County Boundaries

Placetype Grouping

Group 1 (Urban/Mixed Use/High Intensity Activity)
Group 2 (Commercial/Residential/Mixed Use)
Group 3 (Residential/Institutional)

Figure 6.4

Valley Region Placetype Grouping

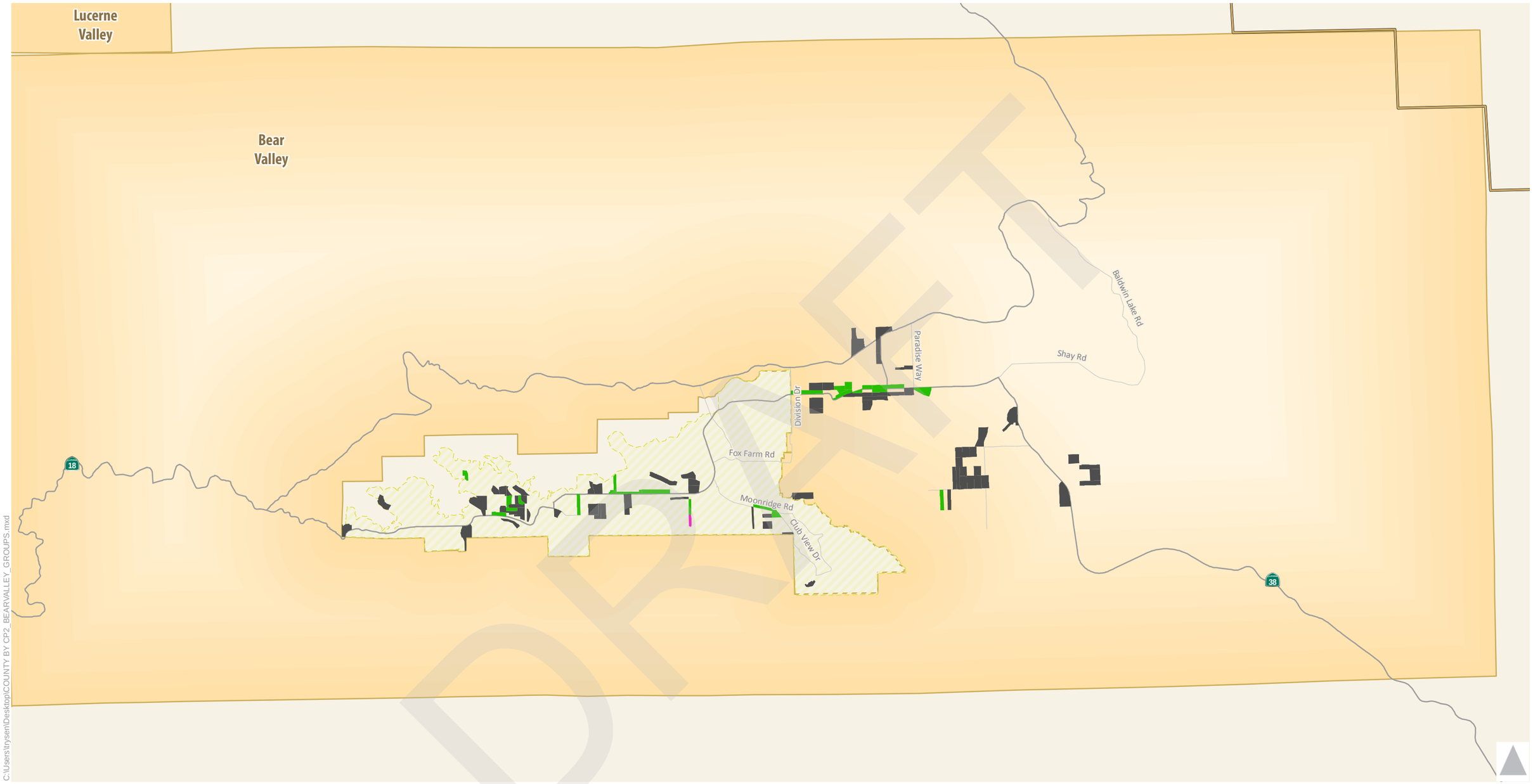


Figure 6.5

Bear Valley Community Plan Placetype Grouping

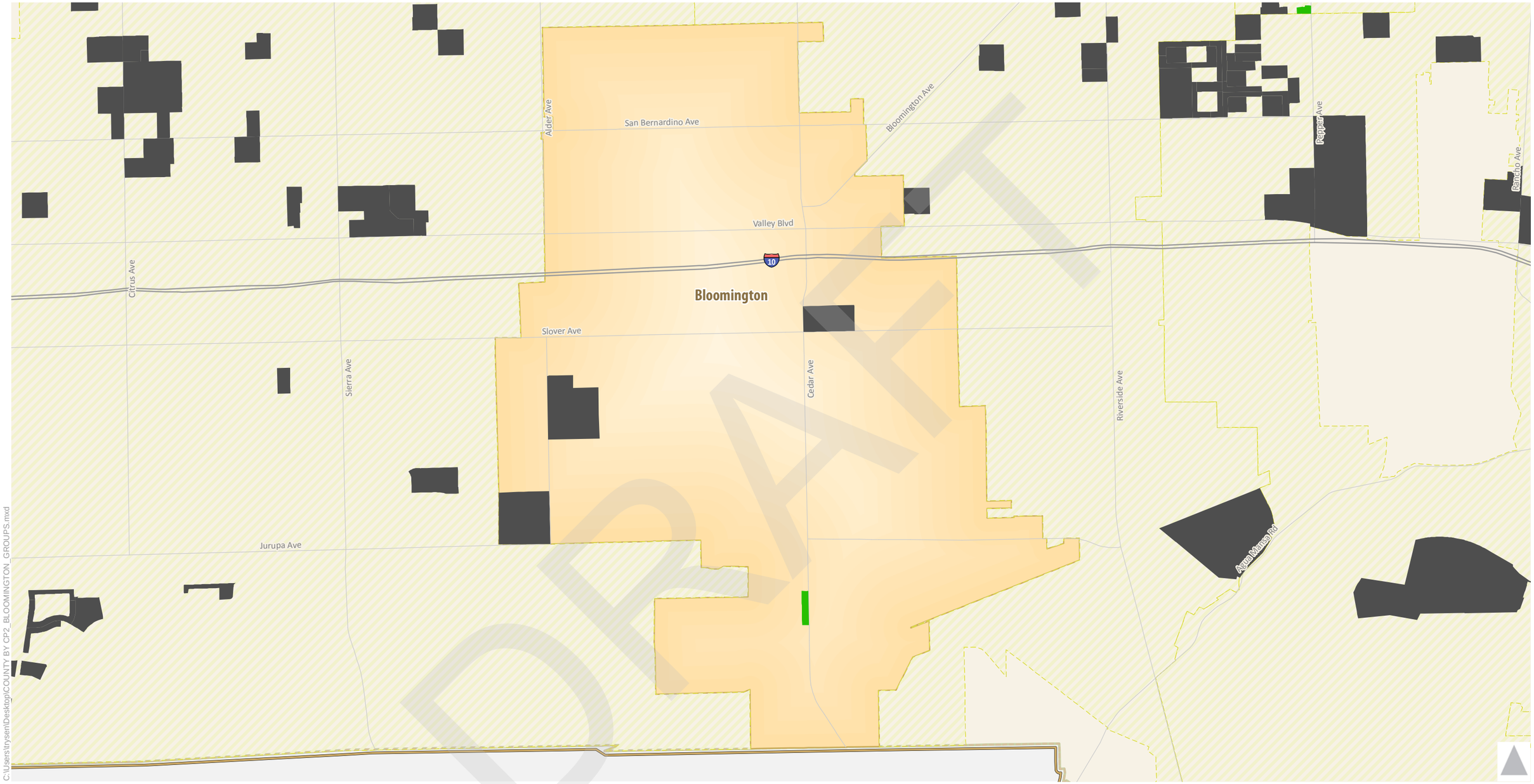


Figure 6.6

Bloomington Community Plan Placetype Grouping

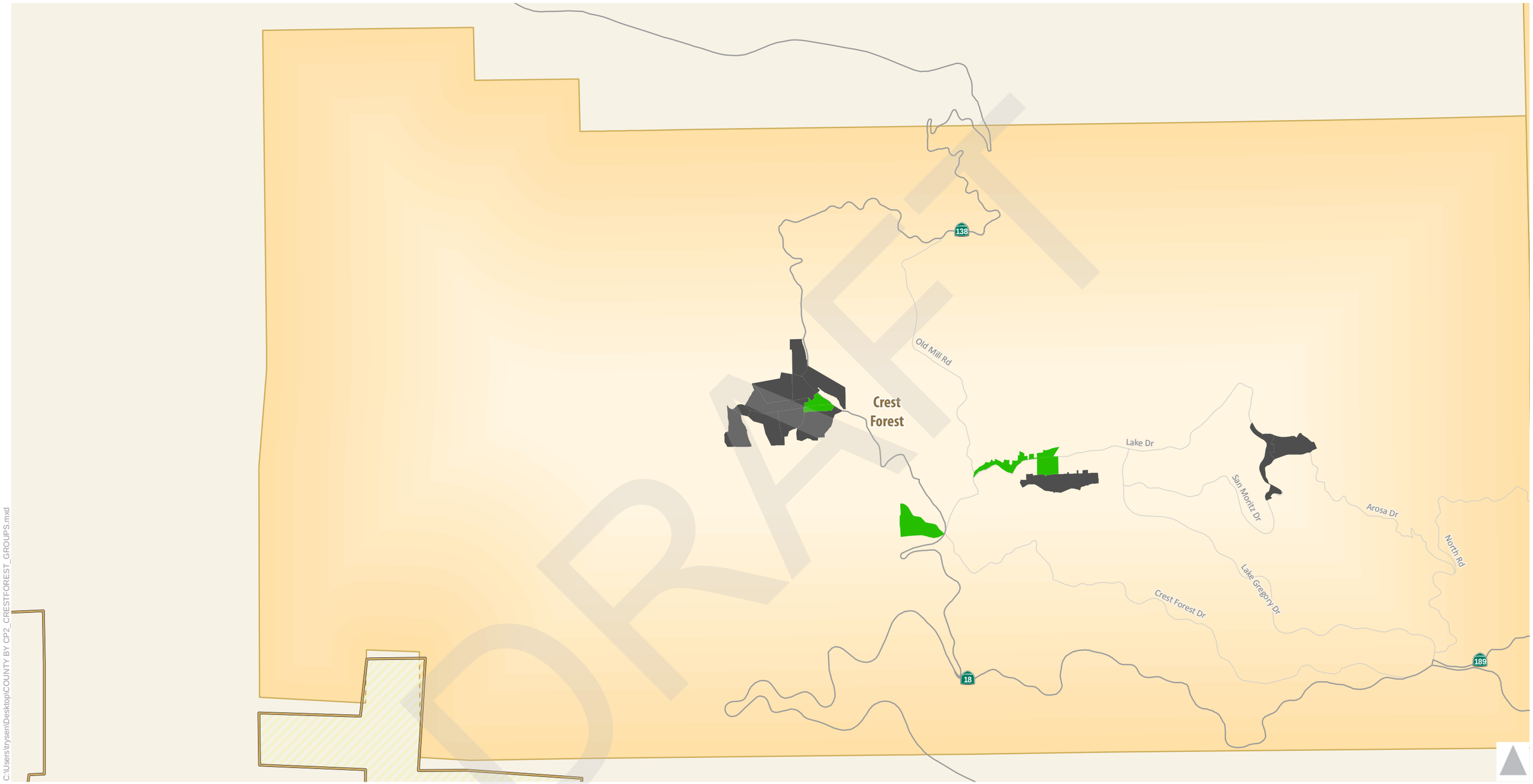


Figure 6.7

Crest Forest Community Plan Placetype Grouping

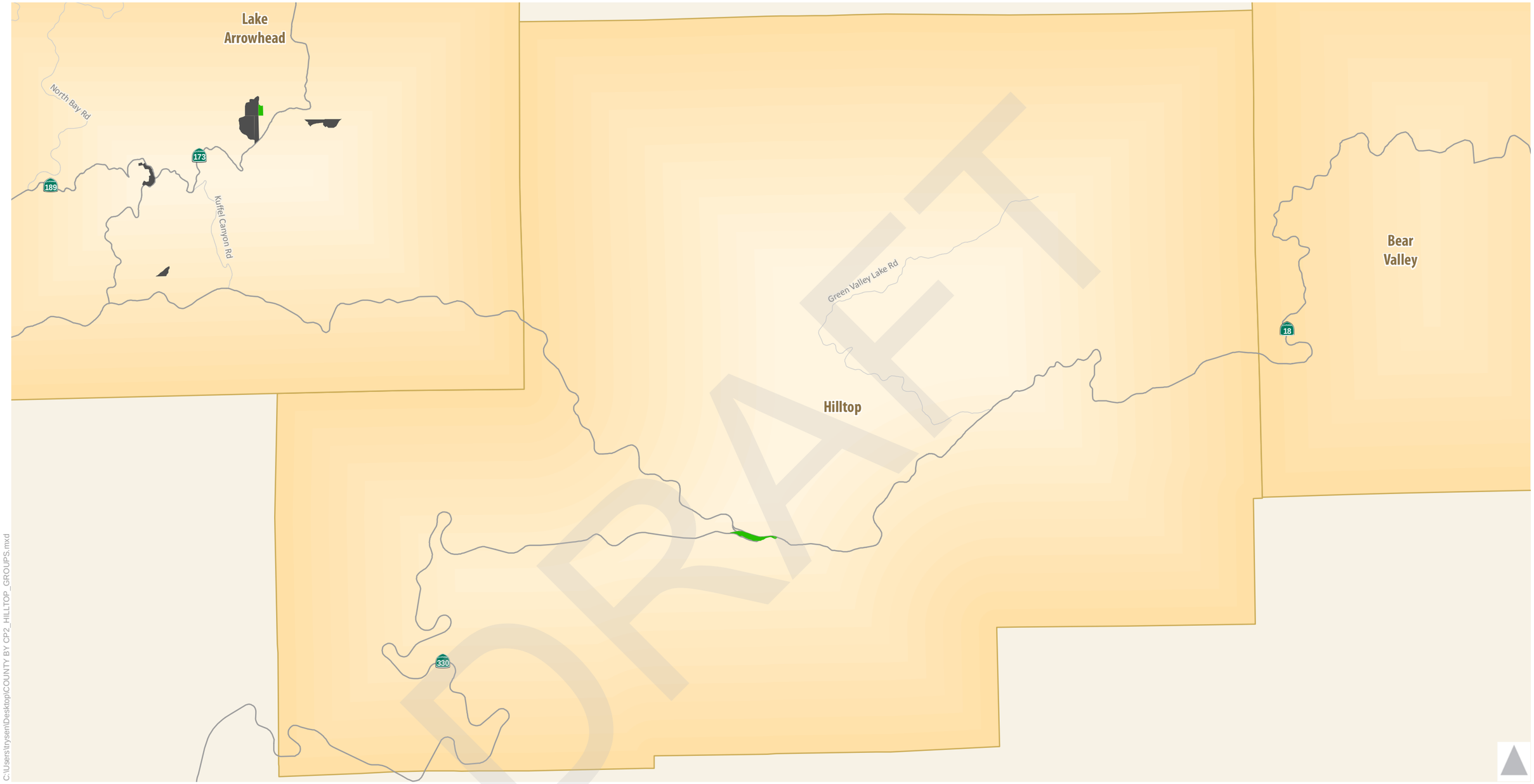


Figure 6.8

Hilltop Community Plan Placetype Grouping

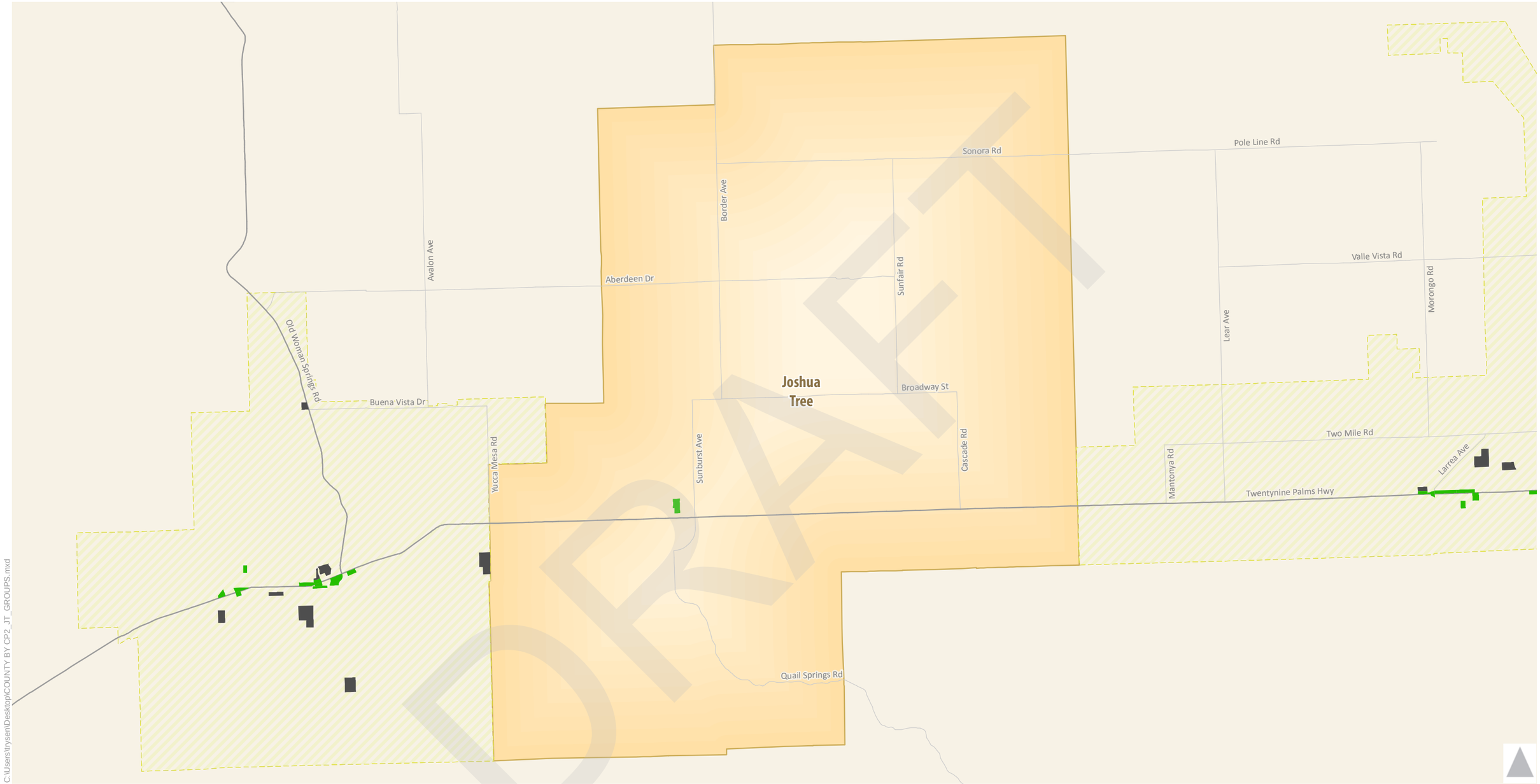


Figure 6.9

Joshua Tree Community Plan Placetype Grouping

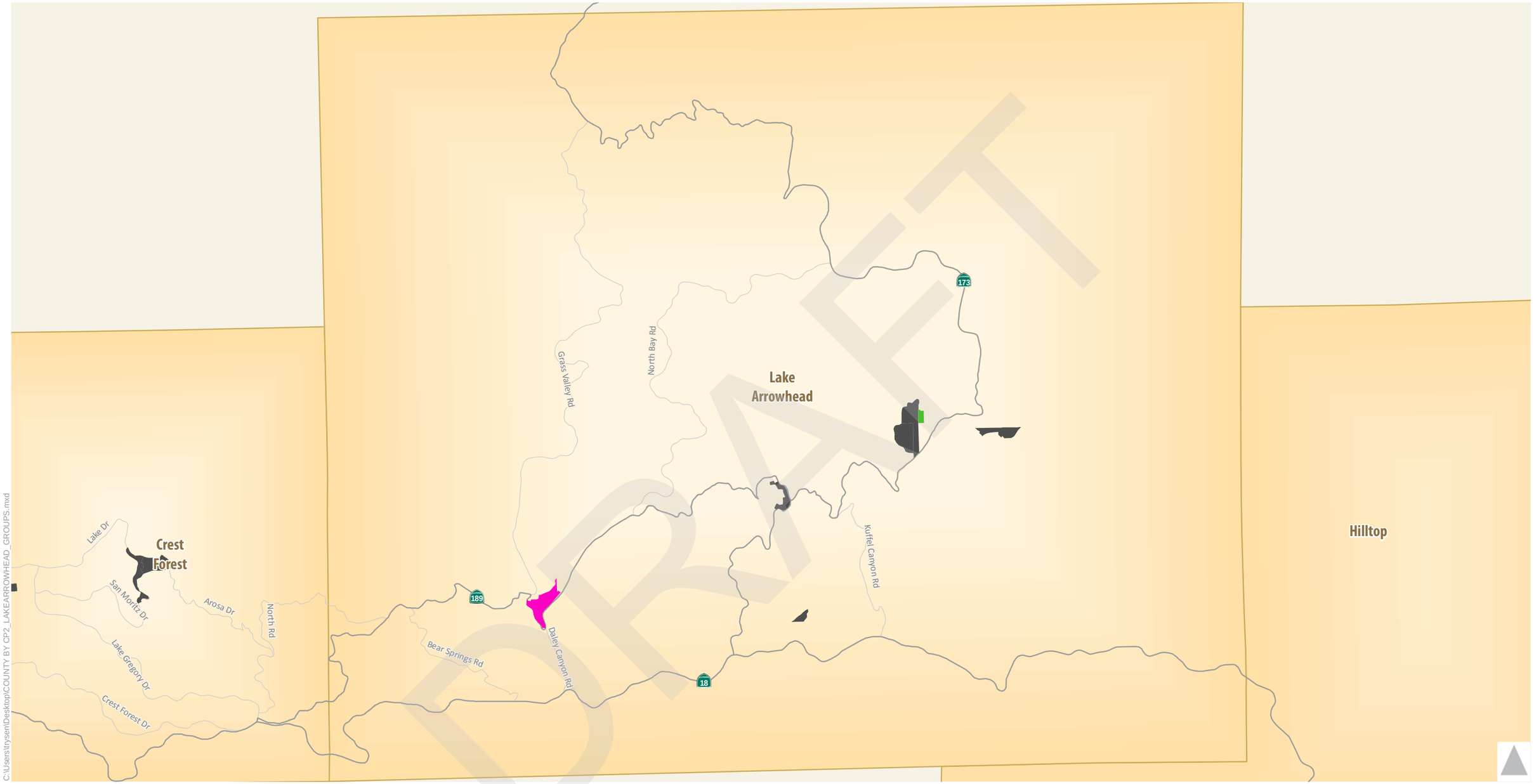


Figure 6.10

Lake Arrowhead Community Plan Placetype Grouping

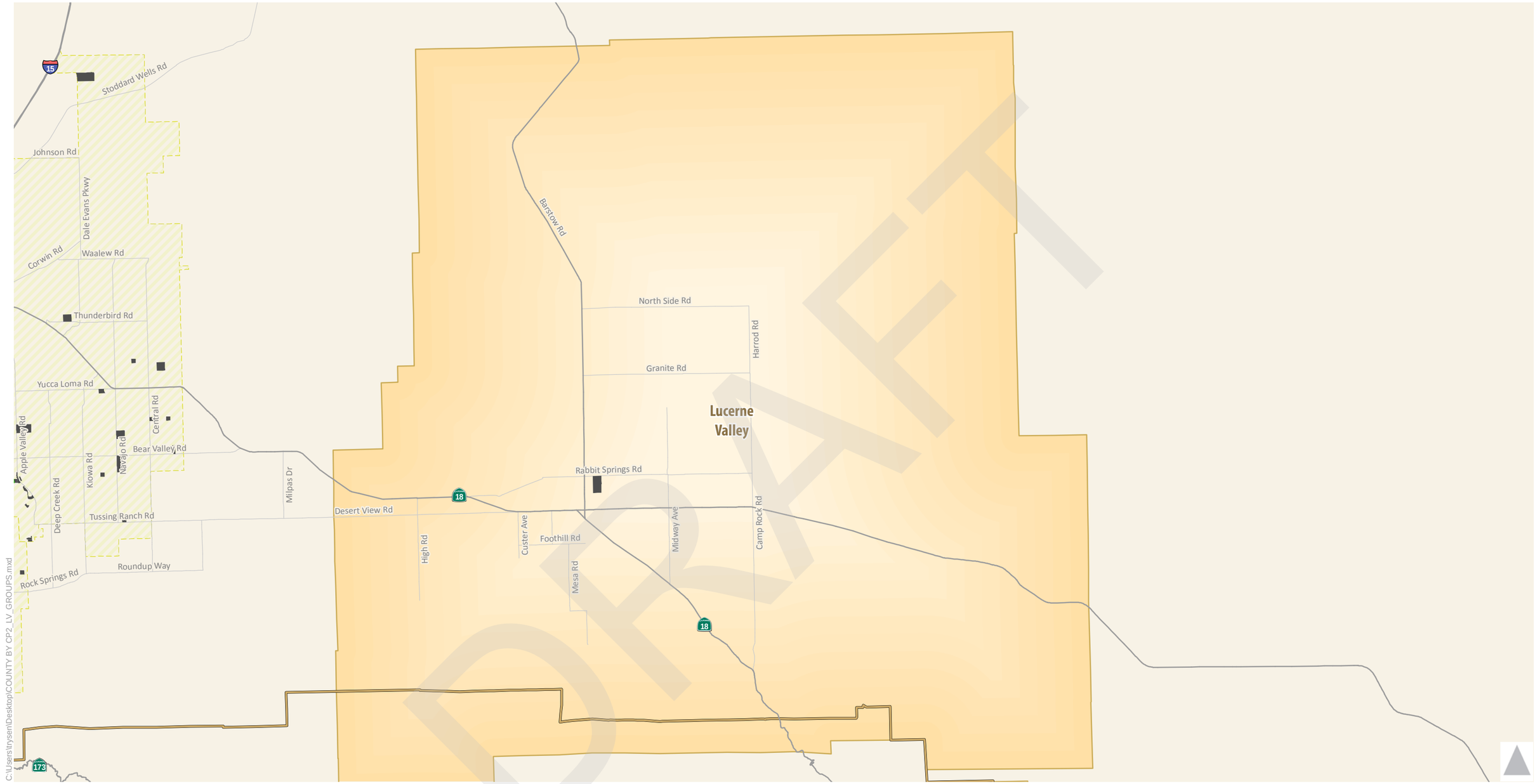


Figure 6.11

Lucerne Valley Community Plan Placetype Grouping

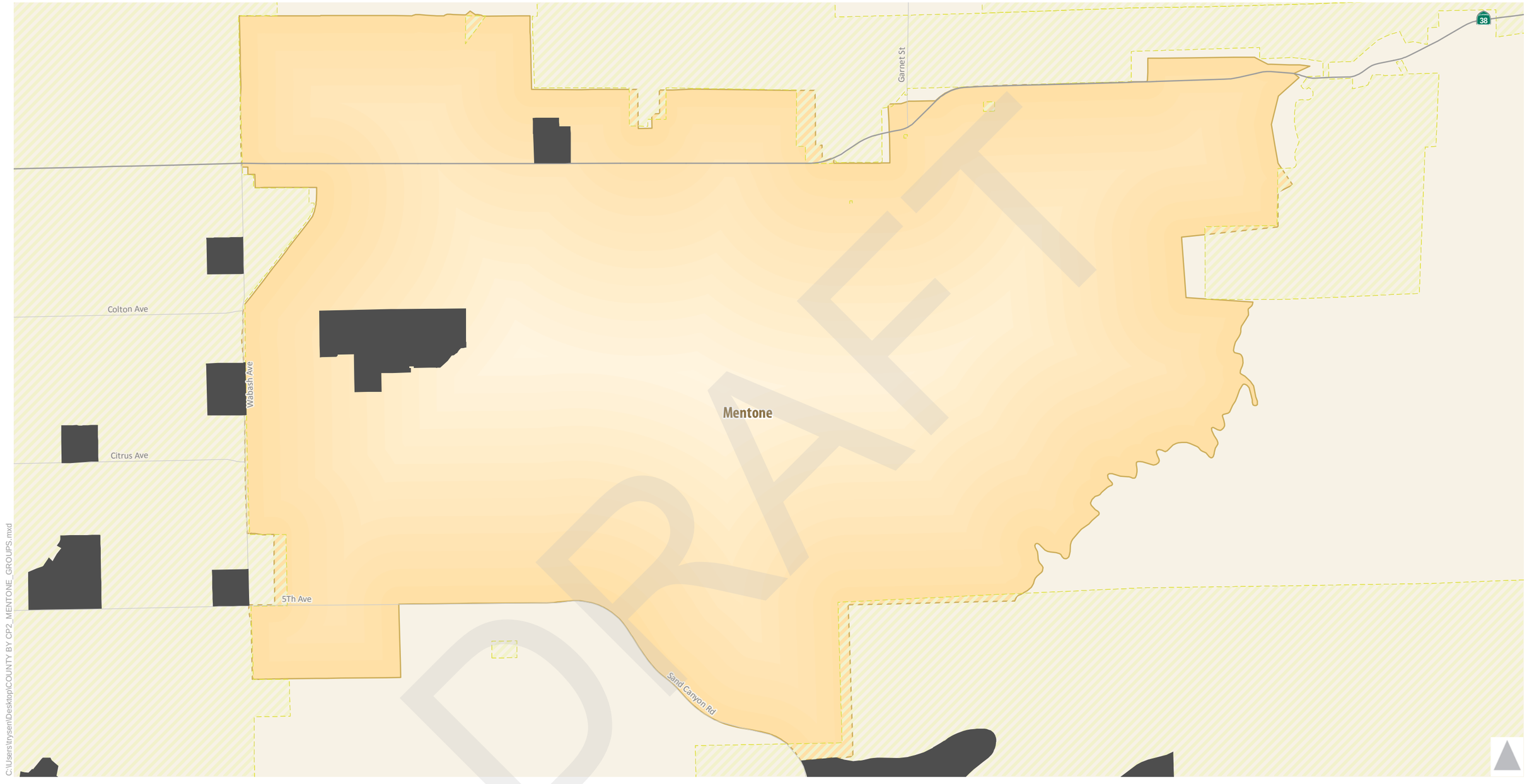


Figure 6.12

Mentone Community Plan Placetype Grouping

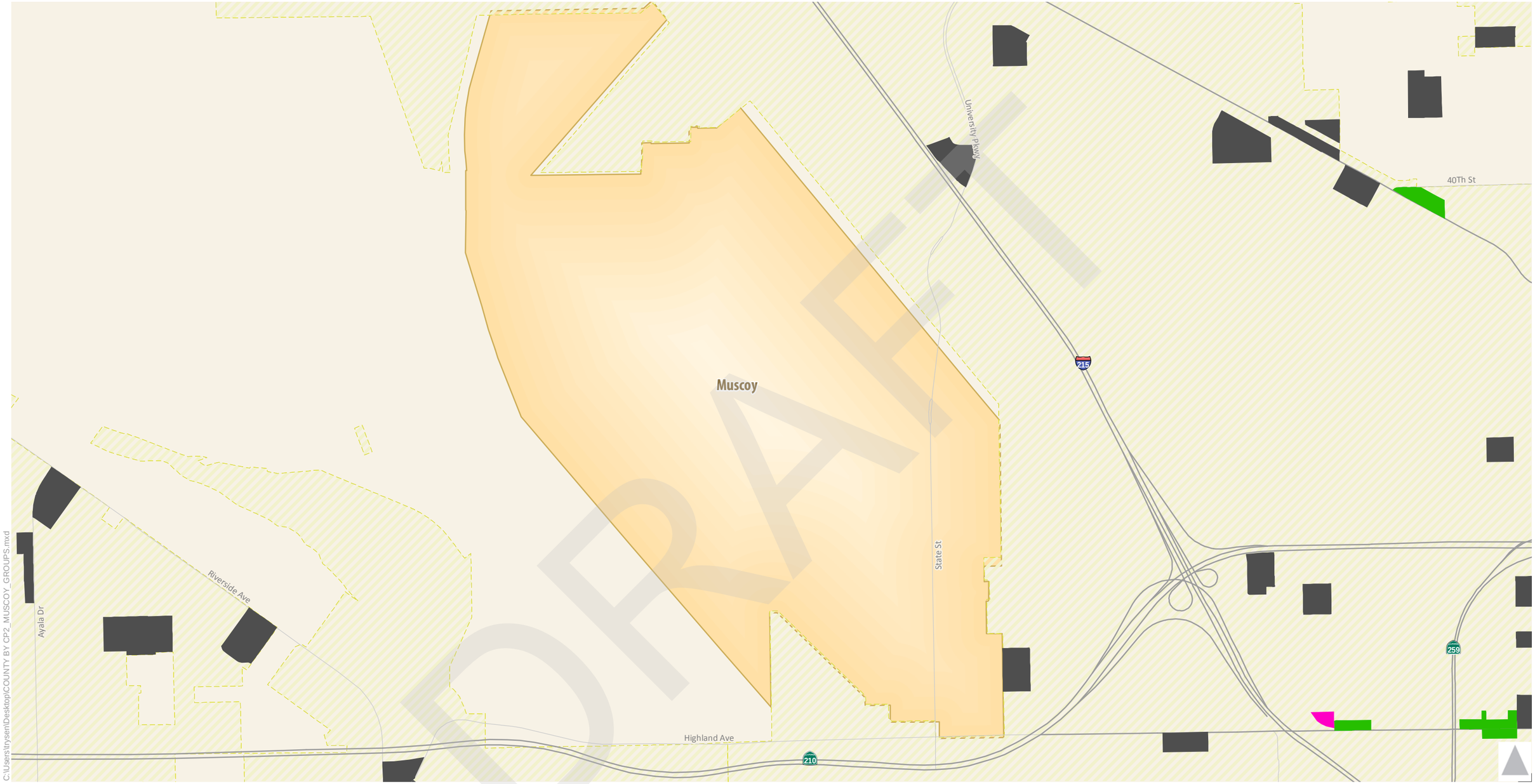


Figure 6.13

Muscoy Community Plan Placetype Grouping

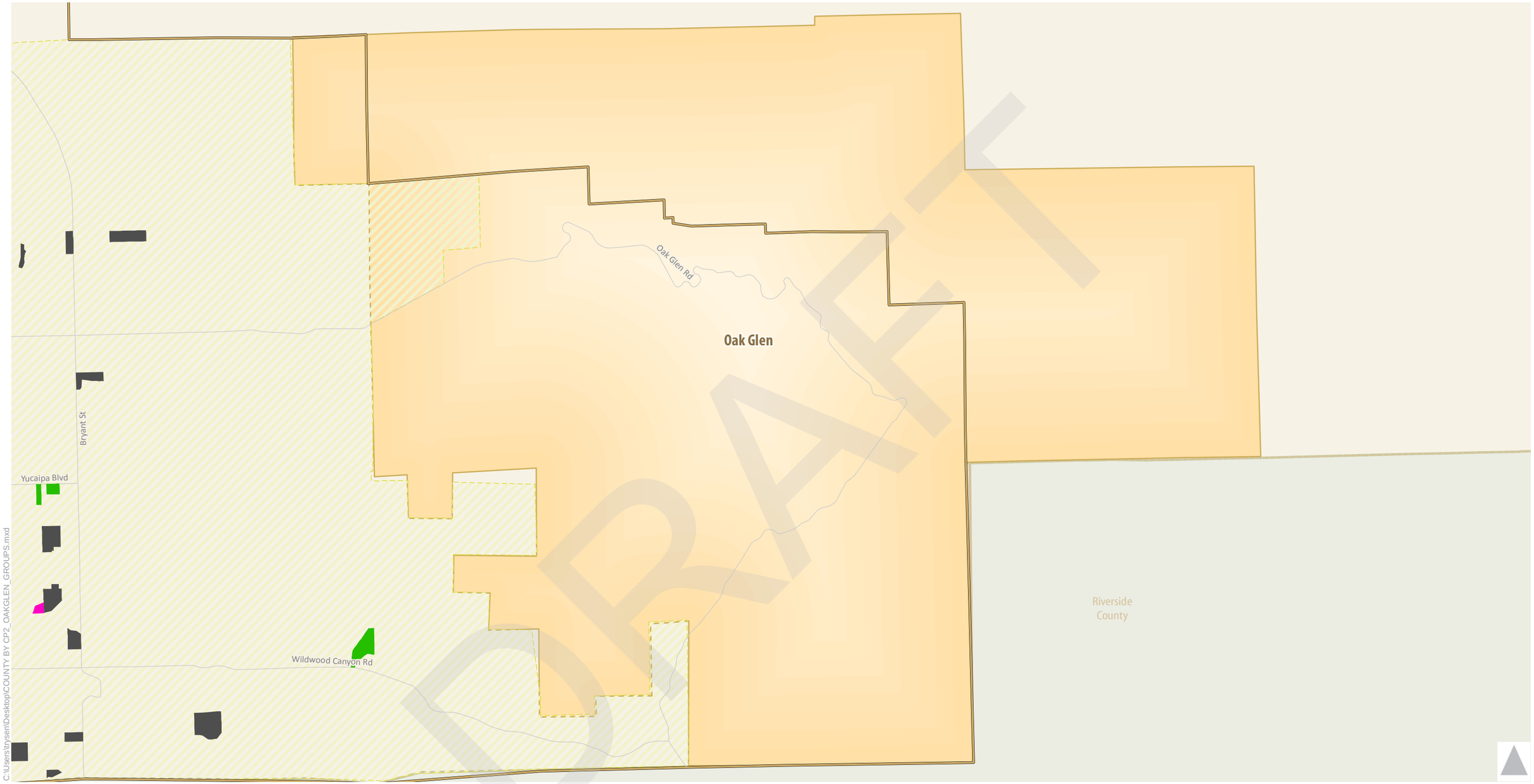


Figure 6.14

Oak Glen Community Plan Placetype Grouping

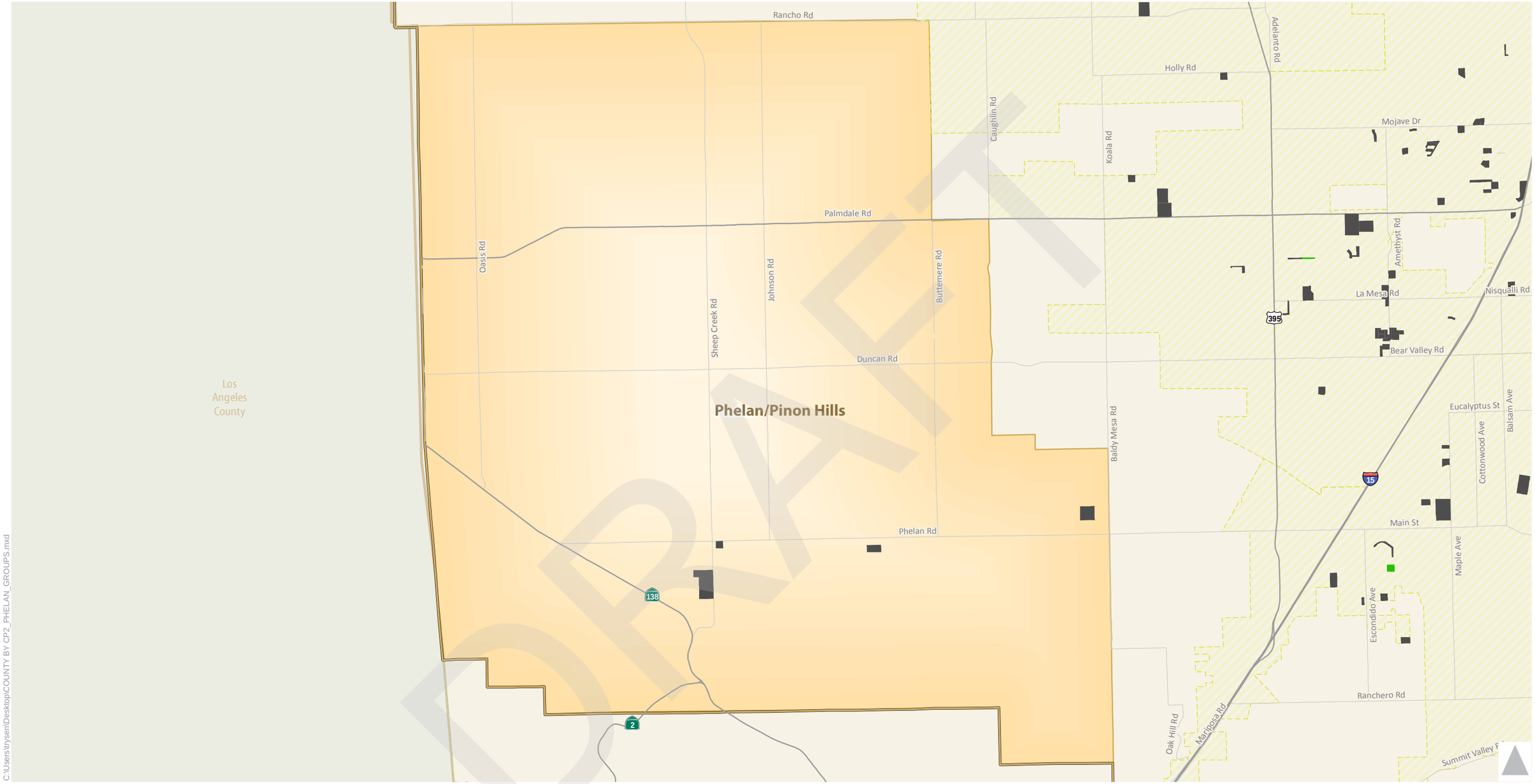


Figure 6.15

Phelan/Pinon Hills Community Plan Placetype Grouping

TRAFFIC CONGESTION

Regional congestion can be assessed using a variety of approaches. One common approach is Level of Service (LOS), which assigns a letter grade based on quantitative or qualitative performance metrics based on volume and capacity. LOS D is considered to be acceptable at County roadway segments in the Valley and Mountain Regions. LOS C is considered to be acceptable at County roadway segments in the Desert Region. ADT volume thresholds are shown in Table 8. LOS for County roadway segments is shown in Table 9. Roadway segments performing at an unacceptable level of service are shown on Figures 7.1 and 7.2; please note that this assessment did not find any roadway segments performing unacceptably in the Mountain Region.

TABLE 8 – ROADWAY DAILY VOLUME THRESHOLDS

Number of Lanes	Valley[1]	Mountain[2]	Desert[3]
2	14,600	13,600	7,000
4	31,100	29,300	16,400
6	46,800	44,100	25,700

Source: County of San Bernardino General Plan, 2007
1. LOS D Threshold
2. LOS D Threshold
3. LOS C Threshold

DRAFT

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
Desert Region					
A STREET	N SH 40 WB ON RAMP	2	2,501	7,000	C or better
ABERDEEN DRIVE	E SH 247	2	1,120	7,000	C or better
	W YUCCA MESA DR	2	1,415	7,000	C or better
ALTA LOMA DRIVE	W SUNNY VISTA RD W JCT	2	4,147	7,000	C or better
AVALON AVENUE	S ABERDEEN DRIVE	2	1,414	7,000	C or better
BAKER BOULEVARD	E SH 127	2	7,829	7,000	**D or worse**
	W SH 127	2	5,541	7,000	C or better
BALDY MESA ROAD	N PHELAN ROAD	2	6,801	7,000	C or better
	S DUNCAN ROAD	2	5,205	7,000	C or better
	S PHELAN ROAD	2	2,540	7,000	C or better
BEEKLEY ROAD	N, SH138	2	5,803	7,000	C or better
BELLFLOWER STREET	N MOJAVE DRIVE	2	5,775	7,000	C or better
BORDER AVENUE	N GOLDEN STREET	2	1,415	7,000	C or better
BROADWAY	W SUNFAIR ROAD	2	154	7,000	C or better
CAMP ROCK ROAD	N GRANITE ROAD	2	1,057	7,000	C or better
	N SH 247	2	1,268	7,000	C or better
	S SH 247	2	507	7,000	C or better
CENTRAL ROAD	S DEL ORO RD	2	4,221	7,000	C or better
CRUCERO ROAD	N NATIONAL TRS HWY	2	2,671	7,000	C or better
CRYSTAL CREEK ROAD	N AZURITE RD	2	1,033	7,000	C or better
	S SH 18	2	1,600	7,000	C or better
CUSTER AVENUE	S SH 18	2	1,156	7,000	C or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
DAGGETT YERMO ROAD	N SANTA FE STREET	2	2,919	7,000	C or better
	S YERMO RD	2	3,225	7,000	C or better
DALE EVANS PARKWAY	N, JOHNSON RD	2	2,396	7,000	C or better
DEEP CREEK ROAD	S ROCK SPRINGS RD	2	1,324	7,000	C or better
	S TUSSING RANCH RD	2	5,065	7,000	C or better
DOS PALMAS ROAD	W PACOIMA ROAD	2	4,084	7,000	C or better
EL EVADO ROAD	N DOS PALMAS ROAD	2	9,146	7,000	**D or worse**
EL MIRAGE ROAD	W RICHARDSON RD	2	2,492	7,000	C or better
ESCONDIDO AVENUE	N, RANCHERO ST	2	5,356	7,000	C or better
FIRST STREET	E NATIONAL TRAILS HWY	2	1,549	7,000	C or better
	N PORTLAND STREET	2	1,037	7,000	C or better
FORT IRWIN ROAD	E IRWIN RD	3	5,827	11,700	C or better
	N YERMO ROAD	2	4,569	7,000	C or better
	S IRWIN RD	3	4,564	11,700	C or better
	S OH 15 NORTH	2	4,227	7,000	C or better
GHOST TOWN ROAD	N YERMO RD	2	7,026	7,000	**D or worse**
GOLDEN STREET	W BORDER AVENUE	2	1,523	7,000	C or better
HELENDALE ROAD	N VISTA RD	2	3,024	7,000	C or better
	S SMITHSON RD	2	1,076	7,000	C or better
HIGH ROAD	S SH 18	2	713	7,000	C or better
HIGHLAND ROAD	S SH 18	2	2,036	7,000	C or better
IRWIN ROAD	N SH 58 N JCT	2	3,134	7,000	C or better
	S SH58 S JCT	2	6,781	7,000	C or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
JOHNSON ROAD	E STODDARD WELLS RD	2	1,801	7,000	C or better
	S SH 18	2	1,419	7,000	C or better
	S SMOKETREE RD	2	3,093	7,000	C or better
JOSHUA ROAD	N SH 18	2	1,901	7,000	C or better
JUNIPER AVENUE	N SENILIS AVE	2	1,602	7,000	C or better
KIOWA ROAD	N ROCK SPRINGS RD	2	4,987	7,000	C or better
L STREET	N RIMROCK RD	2	3,152	7,000	C or better
LA CONTENTA ROAD	N YUCCA TR	2	2,602	7,000	C or better
LAKEVIEW DRIVE	S VISTA ROAD	2	3,157	7,000	C or better
	W SILVER LAKES PKWY	2	1,283	7,000	C or better
LANDERS LANE	S RECHE ROAD	2	955	7,000	C or better
LENWOOD ROAD	N MAIN STREET	2	2,831	7,000	C or better
	S MAIN STREET	2	3,070	7,000	C or better
LUNA ROAD	W EL EVADO RD	2	5,965	7,000	C or better
	W PACOIMA ROAD	2	4,753	7,000	C or better
MAIN STREET	N HINKLEY ROAD	2	2,236	7,000	C or better
MESA ROAD	S FOOTHILL ROAD	2	1,012	7,000	C or better
MESQUITE STREET	E FUENTE AVE	2	3,765	7,000	C or better
MILPAS DRIVE	S SH 18	2	1,178	7,000	C or better
MORONGO ROAD	N INDIAN TRAIL	2	3,247	7,000	C or better
	S POLE LINE RD	2	1,885	7,000	C or better
MOUNTAIN ROAD	S SH 138	2	1,394	7,000	C or better
MOUNTAIN SPRINGS ROAD	N SILVER LAKES PKWY	2	1,644	7,000	C or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
NATIONAL TRAILS HIGHWAY	E DAGGETT-YERMO ROAD	2	1,052	7,000	C or better
	N MOJAVE RIVER	2	8,450	7,000	**D or worse**
	S FIRST ST	2	7,278	7,000	**D or worse**
	S VISTA RD	2	5,244	7,000	C or better
NEEDLES HIGHWAY	N RIVER RD	2	1,608	7,000	C or better
	NORTH OF AHA MACAV PKWY	2	1,054	7,000	C or better
NEWBERRY ROAD	N PIONEER ROAD	2	1,102	7,000	C or better
OAK HILL ROAD	N CALIENTE RD	2	2,663	7,000	C or better
	N RANCHERO	2	1,427	7,000	C or better
OASIS ROAD	N SH 138	2	3,017	7,000	C or better
	S SH 138	2	1,594	7,000	C or better
OLD HIGHWAY 58	E, IRWIN RD	2	1,608	7,000	C or better
	W, IRWIN RD	2	2,714	7,000	C or better
PARK BOULEVARD	S SH 62	2	4,740	7,000	C or better
PARKER DAM ROAD	N ARIZONA ST	2	1,090	7,000	C or better
PHELAN ROAD	E BALDY MESA RD	2	15,175	7,000	**D or worse**
	E SH 138	2	4,908	7,000	C or better
	E, BEEKLEY RD	2	9,004	7,000	**D or worse**
	W BUTTEMER RD	2	15,285	7,000	**D or worse**
	W SHEEP CREEK RD	2	13,241	7,000	**D or worse**
PIONEER DRIVE	E HESS BLVD	2	737	7,000	C or better
POLE LINE ROAD	E LEAR AVE	2	1,273	7,000	C or better
RABBIT SPRINGS ROAD	E SH 247	2	1,545	7,000	C or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
RANCHERO ROAD	E, ESCONDIDO AVENUE	4	9,508	16,400	C or better
	W, ESCONDIDO AVE	4	10,282	16,400	C or better
RECHE ROAD	E SH 247	2	1,533	7,000	C or better
RIDGE CREST ROAD	N,ELMWOOD DR.	4	5,987	16,400	C or better
RIMROCK ROAD	W H ST	2	3,904	7,000	C or better
RIO VISTA DRIVE	W TENAYA COURT	2	1,783	7,000	C or better
ROCK SPRINGS ROAD	W DEEP CREEK ROAD	2	10,278	7,000	**D or worse**
ROTARY WAY	N SH 62	2	661	7,000	C or better
ROUNDUP WAY	W CENTRAL RD	2	2,452	7,000	C or better
SHADOW MOUNTAIN ROAD	W HELENDALE ROAD	2	834	7,000	C or better
SHEEP CREEK ROAD	N PHELAN ROAD	2	7,875	7,000	**D or worse**
	N SH 18	2	2,471	7,000	C or better
	S EL MIRAGE RD	2	1,832	7,000	C or better
	S PHELAN ROAD	2	8,075	7,000	**D or worse**
	S SH 18	2	2,941	7,000	C or better
	S SUNNSLOPE RD	2	5,198	7,000	C or better
SILVER LAKES PARKWAY	N MOUNTAIN SPRINGS ROAD	2	2,471	7,000	C or better
	S MOUNTAIN SPRINGS ROAD	2	2,161	7,000	C or better
SOAP MINE ROAD	S SH 58	2	1,101	7,000	C or better
STANDING ROCK ROAD	E JOSHUA ROAD	2	2,148	7,000	C or better
SUNBURST AVENUE	N SH 62	2	4,393	7,000	C or better
SUNFAIR ROAD	N BROADWAY	2	530	7,000	C or better
	N SH 62	2	1,198	7,000	C or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
SUNSET ROAD	N SH 62	2	1,019	7,000	C or better
	S SH 62	2	1,207	7,000	C or better
VISALIA AVENUE	S SH 247	2	887	7,000	C or better
VISTA ROAD	E HELENDALE ROAD	2	7,266	7,000	**D or worse**
	W HELENDALE RD	2	4,214	7,000	C or better
	W NATIONAL TRAILS HWY	2	5,959	7,000	C or better
WHITE FEATHER ROAD	S SH 62	2	1,984	7,000	C or better
YERMO ROAD	E DAGGET-YERMO RD	2	4,005	7,000	C or better
	W DAGGET-YERMO RD	2	2,051	7,000	C or better
YUCCA MESA ROAD	N SH 62	2	4,690	7,000	C or better
	S ABERDEEN DRIVE	2	1,777	7,000	C or better
YUCCA TRAIL	E LA CONTENTA ST	2	5,485	7,000	C or better
Mountain Region					
AROSA DRIVE	N NORTH RD	2	1,008	13,600	D or better
	S DART CANYON RD	2	1,391	13,600	D or better
BALDWIN LAKE ROAD	N CARBON LANE	2	919	13,600	D or better
	S SH 18	2	960	13,600	D or better
BARTON LANE	W MAPLE LANE	2	3,254	13,600	D or better
BEAR SPRINGS ROAD	N SH 18	2	1,353	13,600	D or better
CAJON BOULEVARD	N KENWOOD AVENUE	2	1,230	13,600	D or better
CREST FOREST DRIVE	E FERN DRIVE	2	1,708	13,600	D or better
	W PLAYGROUND DRIVE	2	391	13,600	D or better
DALEY CANYON ROAD	N SH 18	2	6,174	13,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
DEEP CREEK DRIVE	N COUGAR LANE	2	1,147	13,600	D or better
DIVISION DRIVE	N SH 18	2	4,087	13,600	D or better
	S SH 18	2	2,485	13,600	D or better
FERN DRIVE	N CREST FOREST DRIVE	2	1,020	13,600	D or better
GRASS VALLEY ROAD	E SH 189	2	7,330	13,600	D or better
	N CLUBHOUSE DR	2	4,257	13,600	D or better
	N JAGERHORN DR	2	1,673	13,600	D or better
GREEN VALLEY LAKE ROAD	N SH 18	2	849	13,600	D or better
	S LAKESIDE DR	2	778	13,600	D or better
	S RIDGE WAY	2	346	13,600	D or better
HOOK CREEK ROAD	E CUMBERLAND DRIVE	2	3,335	13,600	D or better
HOSPITAL ROAD	E SH 173	2	2,923	13,600	D or better
KNAPPS CUTOFF	E SH 138	2	4,024	13,600	D or better
KUFFEL CANYON ROAD	E SH 173	2	1,852	13,600	D or better
LAKE DRIVE	E LAKE GREGORY DR	2	3,624	13,600	D or better
LAKE DRIVE	E WILDROSE LANE	2	10,312	13,600	D or better
LAKE GREGORY DRIVE	N SH 189	2	5,749	13,600	D or better
	S LAKE DRIVE	2	7,861	13,600	D or better
LIVE OAK DRIVE	N SH 330	2	2,138	13,600	D or better
	S SH 18	2	2,004	13,600	D or better
LONE PINE CANYON ROAD	N ORCHARD DRIVE	2	1,828	13,600	D or better
	N SWARTHOUT CANYON RD	2	1,400	13,600	D or better
	S SH 138	2	1,417	13,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
	S SWARTHOUT CANYON RD	2	1,397	13,600	D or better
LYTLE CREEK ROAD	E ENTRANCE TO RANGER STATION	2	2,077	13,600	D or better
	N SYCAMORE DR	2	289	13,600	D or better
MAPLE LANE	N BARTON LANE	2	3,608	13,600	D or better
	S SH 38	2	6,011	13,600	D or better
MILL CREEK ROAD	E TULIP LN	2	435	13,600	D or better
NOB HILL DRIVE	E SH 18	2	438	13,600	D or better
NORTH BAY ROAD	N PENINSULA DR	2	4,263	13,600	D or better
	N SH 189	2	6,979	13,600	D or better
	S PENINSULA DR	2	4,690	13,600	D or better
	W SH 173	2	3,236	13,600	D or better
NORTH ROAD	N AROSA DRIVE	2	1,398	13,600	D or better
	N LAKE GREGORY DR	2	718	13,600	D or better
	W SH 189	2	983	13,600	D or better
PALO ALTO WAY	N SH 18	2	2,750	13,600	D or better
PENINSULA DRIVE	E GRASSVALLEY RD	2	3,006	13,600	D or better
RIM OF THE WORLD DRIV	S SH 18	2	444	13,600	D or better
RUNNING SPRINGS SCHOOL ROAD	S SH 18	2	1,629	13,600	D or better
SAN MORITZ DRIVE	E LAKE GREGORY DRIVE	2	1,591	13,600	D or better
SHAY ROAD	E BARRANCA BLVD	2	2,159	13,600	D or better
	W BALDWIN LAKE RD	2	1,102	13,600	D or better
SOUTH FORK ROAD	W LYTLE CREEK ROAD	2	150	13,600	D or better
STANFIELD CUTOFF	N SH 18	2	5,380	13,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
STATE LANE	E SH 38	2	3,728	13,600	D or better
TULIP LANE	N JAY BIRD LN	2	241	13,600	D or better
VALLEY OF THE FALLS DRIVE	E SH 38	2	1,683	13,600	D or better
VALLEY VISTA DRIVE	E LYTLE CREEK DR	2	295	13,600	D or better
VOLTAIRE DRIVE	S NORTH BAY ROAD	2	1,215	13,600	D or better
WATERS DRIVE	E CREST FOREST DR	2	1,584	13,600	D or better
	W SH 138	2	4,203	13,600	D or better
WHISPERING PINES DRIVE	E PALO ALTO WAY	2	1,746	13,600	D or better
Valley Region					
AGUA MANSA ROAD	E, EL RIVINO RD	4	10,981	31,100	D or better
	S HOLLY LANE	2	7,100	14,600	D or better
ALABAMA STREET	N SAN BERNARDINO AVE	4	11,873	31,100	D or better
ALDER AVENUE	N MARYGOLD AVE	3	9,334	22,850	D or better
	S SLOVER AVE	2	1,178	14,600	D or better
ARDEN AVENUE	N PUMALO ST	2	8,113	14,600	D or better
	S PUMALO STREET	2	10,159	14,600	D or better
ARROW ROUTE	E BEECH AVENUE	2	11,689	14,600	D or better
	E ILEX STREET	2	12,992	14,600	D or better
	E LIVE OAK AVE	2	14,585	14,600	D or better
	E REDWOOD AVE	2	12,212	14,600	D or better
BARTON ROAD	E NEW JERSEY ST	4	34,196	31,100	**E or worse**
BEAUMONT AVENUE	W NEVADA STREET	2	2,925	14,600	D or better
BEECH AVENUE	N RANDALL AVENUE	2	5,990	14,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
BLAKE STREET	E VERMONT ST	2	1,140	14,600	D or better
	W STATE STREET	2	2,285	14,600	D or better
BLOOMINGTON AVENUE	E LARCH AVE	4	11,520	31,100	D or better
	W LARCH AVE	4	12,999	31,100	D or better
BRYANT STREET	S SH38	2	6,634	14,600	D or better
CAJON BOULEVARD	N STATE ST	2	9,081	14,600	D or better
	S DEVORE RD	4	4,586	31,100	D or better
	S STATE ST	2	9,153	14,600	D or better
	S, SHELTER WAY	2	1,937	14,600	D or better
CALIFORNIA STREET	N HIGHLAND AVENUE	2	6,567	14,600	D or better
CASMALIA STREET	E LILAC AVE	2	1,402	14,600	D or better
	W CACTUS AVENUE	2	2,926	14,600	D or better
CEDAR AVENUE	N BLOOMINGTON AVE	4	27,654	31,100	D or better
	N EL RIVINO RD	4	20,533	31,100	D or better
	S VALLEY BLVD	4	51,931	31,100	**E or worse**
CENTRAL AVENUE	N PHILLIPS BLVD	4	28,918	31,100	D or better
CHINO AVENUE	E EAST END AVE	4	14,239	31,100	D or better
	E SH 71	6	13,460	46,800	D or better
CITRUS AVENUE	E WABASH AVE	2	3,806	14,600	D or better
COLTON AVENUE	W OPAL AVE	4	4,565	31,100	D or better
COUNTRY CLUB DRIVE	N RIVERSIDE OHN	4	1,473	31,100	D or better
CRAFTON AVENUE	N FIFTH AVE	2	4,358	14,600	D or better
CRAFTON AVENUE	N SH 38	2	3,774	14,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
	S SH 38	2	5,443	14,600	D or better
DARBY STREET	E DUFFY STREET	2	4,368	14,600	D or better
DATE PLACE	W STERLING AVE	2	7,001	14,600	D or better
DEL ROSA AVENUE	S FOOTHILL DR	4	4,208	31,100	D or better
	S MARSHALL BLVD	4	10,171	31,100	D or better
DEL ROSA DRIVE	N PACIFIC ST	2	21,655	14,600	**E or worse**
DEVORE ROAD	N CAJON BLVD	4	4,908	31,100	D or better
	N CAJON BLVD	4	4,707	31,100	D or better
	S NEDLEE AVE	2	2,659	14,600	D or better
DUFFY STREET	S DARBY STREET	2	1,884	14,600	D or better
EAST END AVENUE	N CHINO AVE	2	7,332	14,600	D or better
	N RIVERSIDE DR	2	7,556	14,600	D or better
	S GRAND AVE	2	5,987	14,600	D or better
EASTON STREET	E CACTUS AVE	2	3,150	14,600	D or better
ELECTRIC AVENUE	N 40TH STREET 0006M	2	13,018	14,600	D or better
ETIWANDA AVENUE	S SAN BERNARDINO AVE	4	19,989	31,100	D or better
EUCLID AVENUE	S TWENTY-FIFTH ST	2	1,540	14,600	D or better
	S VISTA DR	2	2,753	14,600	D or better
FIFTH AVENUE	E WABASH AVE	2	4,253	14,600	D or better
	W CRAFTON AVE	2	5,347	14,600	D or better
FLORIDA STREET	E GREENSPOT RD	2	2,202	14,600	D or better
FORTIETH STREET	E THIRD AVE	4	8,992	31,100	D or better
	W GOLDEN AVE	2	4,878	14,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
FORTY-EIGHTH STREET	W THIRD AVENUE	2	4,191	14,600	D or better
FRANCIS AVENUE	E NORTON AVE	2	3,596	14,600	D or better
	E RAMONA AVE	2	4,052	14,600	D or better
GLEN HELEN PARKWAY	E LYTLE CREEK RD	4	3,310	31,100	D or better
GOLDEN AVENUE	N MARSHALL BLVD	2	3,656	14,600	D or better
GREENSPOT ROAD	N FLORIDA ST	2	2,202	14,600	D or better
HARRISON STREET	N MARSHALL BLVD	2	3,612	14,600	D or better
	S MARSHALL BLVD	2	4,771	14,600	D or better
HIGHLAND AVENUE	E MERITO PLACE	4	23,842	31,100	D or better
JUNE STREET	N OGDEN ST	2	1,454	14,600	D or better
JURUPA AVENUE	E CEDAR AVE	2	4,709	14,600	D or better
	E LINDEN AVE	2	2,474	14,600	D or better
KENWOOD AVENUE	E KIMBARK AVE	2	1,625	14,600	D or better
LOCUST AVENUE	N JURUPA AVENUE	2	5,263	14,600	D or better
	N SAN BERNARDINO AVE	2	5,291	14,600	D or better
	S ELEVENTH ST	2	3,596	14,600	D or better
	S SLOVER AVE	2	3,890	14,600	D or better
LUGONIA AVENUE	W ALABAMA ST	2	5,440	14,600	D or better
	W NEVADA ST	2	5,069	14,600	D or better
LYNWOOD DRIVE	E ARDEN AVENUE	2	5,677	14,600	D or better
	E DEL ROSA AVE	4	7,801	31,100	D or better
	E STERLING AVENUE	2	5,010	14,600	D or better
	W GOLDEN AVE	4	8,428	31,100	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

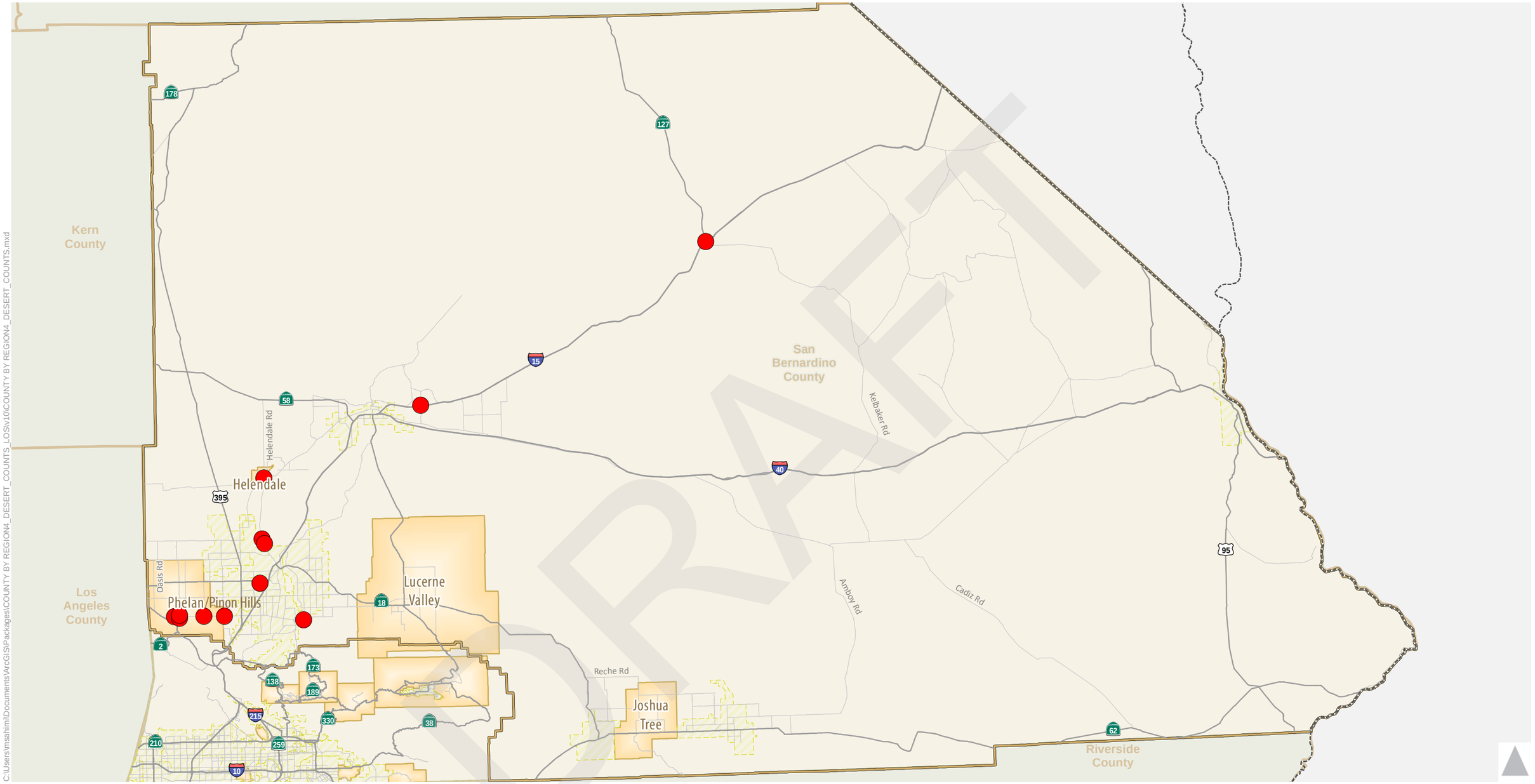
Road Name	Segment	Lanes	ADT	Threshold	LOS
LYTLE CREEK ROAD	N GLEN HELEN PARKWAY	2	2,442	14,600	D or better
MACY STREET	S DARBY ST	2	4,720	14,600	D or better
MERRILL AVENUE	W CATAWBA AVE	2	11,754	14,600	D or better
	W REDWOOD	2	5,926	14,600	D or better
MOUNTAIN AVENUE	S TWENTY-FIFTH ST	2	2,127	14,600	D or better
	W EUCLID AVE	2	1,329	14,600	D or better
MULBERRY AVENUE	S SLOVER AVENUE	4	6,010	31,100	D or better
NOLAN STREET	S OGDEN STREET	2	2,590	14,600	D or better
OAK GLEN ROAD	S HARRIS RD	2	1,351	14,600	D or better
	W POTATO CYN RD	2	1,792	14,600	D or better
OAK GLEN ROAD SOUTH	S PINE BENCH	2	661	14,600	D or better
OGDEN STREET	W BRONSON ST	2	1,012	14,600	D or better
	W MACY ST	2	4,226	14,600	D or better
OPAL AVENUE	N COLTON AVENUE	2	1,470	14,600	D or better
	N SH 38	2	1,965	14,600	D or better
	S CITRUS AVE	2	1,982	14,600	D or better
	S SAN BERNARDINO AVE	2	2,219	14,600	D or better
PACIFIC STREET	E DEL ROSA AVENUE	4	11,180	31,100	D or better
PALM AVENUE	N CAJON BLVD	2	3,995	14,600	D or better
PHILADELPHIA STREET	E PIPELINE AVE	2	8,790	14,600	D or better
	E RAMONA AVE	2	11,270	14,600	D or better
PHILLIPS BOULEVARD	E EAST END AVE	2	4,389	14,600	D or better
	W EAST END AVE	2	3,578	14,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
PIPE LINE AVENUE	N CHINO AVENUE	2	9,679	14,600	D or better
POTATO CANYON ROAD	E OAK GLEN ROAD W JCT	2	1,130	14,600	D or better
PUMALO STREET	W ARDEN AVENUE	2	3,352	14,600	D or better
RAMONA AVENUE	N FRANCIS AVENUE	2	13,437	14,600	D or better
	S SH 10	4	14,295	31,100	D or better
RANDALL AVENUE	E ALDER AVE	2	4,570	14,600	D or better
	E CEDAR AVENUE	2	4,958	14,600	D or better
	E HEMLOCK	2	6,792	14,600	D or better
RECHE CANYON ROAD	N RIVERSIDE COUNTY LINE	2	13,713	14,600	D or better
	S PLACID LANE	2	19,833	14,600	**E or worse**
RIVERSIDE AVENUE	S COUNTRY CLUB DR	4	11,838	31,100	D or better
RIVERSIDE DRIVE	E RESERVOIR ST	4	12,467	31,100	D or better
SAN ANTONIO AVENUE	N TWENTY-THIRD ST	4	1,701	31,100	D or better
SAN BERNARDINO AVENUE	E ALABAMA ST	2	13,012	14,600	D or better
	E ALDER AVENUE	2	9,803	14,600	D or better
	E ETIWANDA AVENUE	4	11,245	31,100	D or better
	E LOCUST AVE	2	4,445	14,600	D or better
	E,COMMERECE DR	4	12,540	31,100	D or better
	W BEECH AVE	4	7,851	31,100	D or better
	W OPAL AVE	2	2,131	14,600	D or better
SAN TIMOTEO CANYON ROAD	S BARTON RD	2	5,783	14,600	D or better
SAND CANYON ROAD	E CRAFTON AVENUE	4	9,131	31,100	D or better
SANTA ANA AVENUE	W CEDAR AVENUE	2	6,985	14,600	D or better

TABLE 9 – EXISTING ROADWAY LEVEL OF SERVICE

Road Name	Segment	Lanes	ADT	Threshold	LOS
	W LOCUST AVENUE	2	7,503	14,600	D or better
SEVENTH STREET	W, ELM STREET	2	1,814	14,600	D or better
SIERRA AVENUE	S LYTLE CREEK RD	2	8,860	14,600	D or better
SLOVER AVENUE	E ALDER AVE	2	8,921	14,600	D or better
	E LOCUST AVE	2	10,368	14,600	D or better
	E MULBERRY AVENUE	4	15,112	31,100	D or better
STATE STREET	N HIGHLAND AVE	2	10,679	14,600	D or better
STERLING AVENUE	S DATE ST	4	9,156	31,100	D or better
TAMARIND AVENUE	S SLOVER AVENUE	2	1,090	14,600	D or better
THIRD AVENUE	E VERMONT ST	2	1,495	14,600	D or better
	W CAJON BLVD	2	2,134	14,600	D or better
TIPPECANOE AVENUE	N FIFTH STREET	4	14,217	31,100	D or better
TWENTY-FOURTH STREET	E CAMPUS ST	2	1,098	14,600	D or better
	E SAN ANTONIO AVE	4	2,017	31,100	D or better
TWENTY-THIRD STREET	E MOUNTAIN AVE	2	3,752	14,600	D or better
UNIVERSITY PARKWAY	SHORT ST N .27M	2	15,152	14,600	**E or worse**
VALLEY BOULEVARD	E CEDAR AVE	4	15,520	31,100	D or better
	E REDWOOD AVE	4	17,899	31,100	D or better
	W CALABASH AVENUE	5	9,859	38,950	D or better
	W LOCUST AVE	4	17,514	31,100	D or better
WABASH AVENUE	N SH 38	2	3,681	14,600	D or better
	S FIFTH AVENUE	2	1,025	14,600	D or better
	S SH 38	2	6,121	14,600	D or better



Unacceptable Level of Service

Desert Region

Community Plan Boundaries

City Boundaries

San Bernardino County

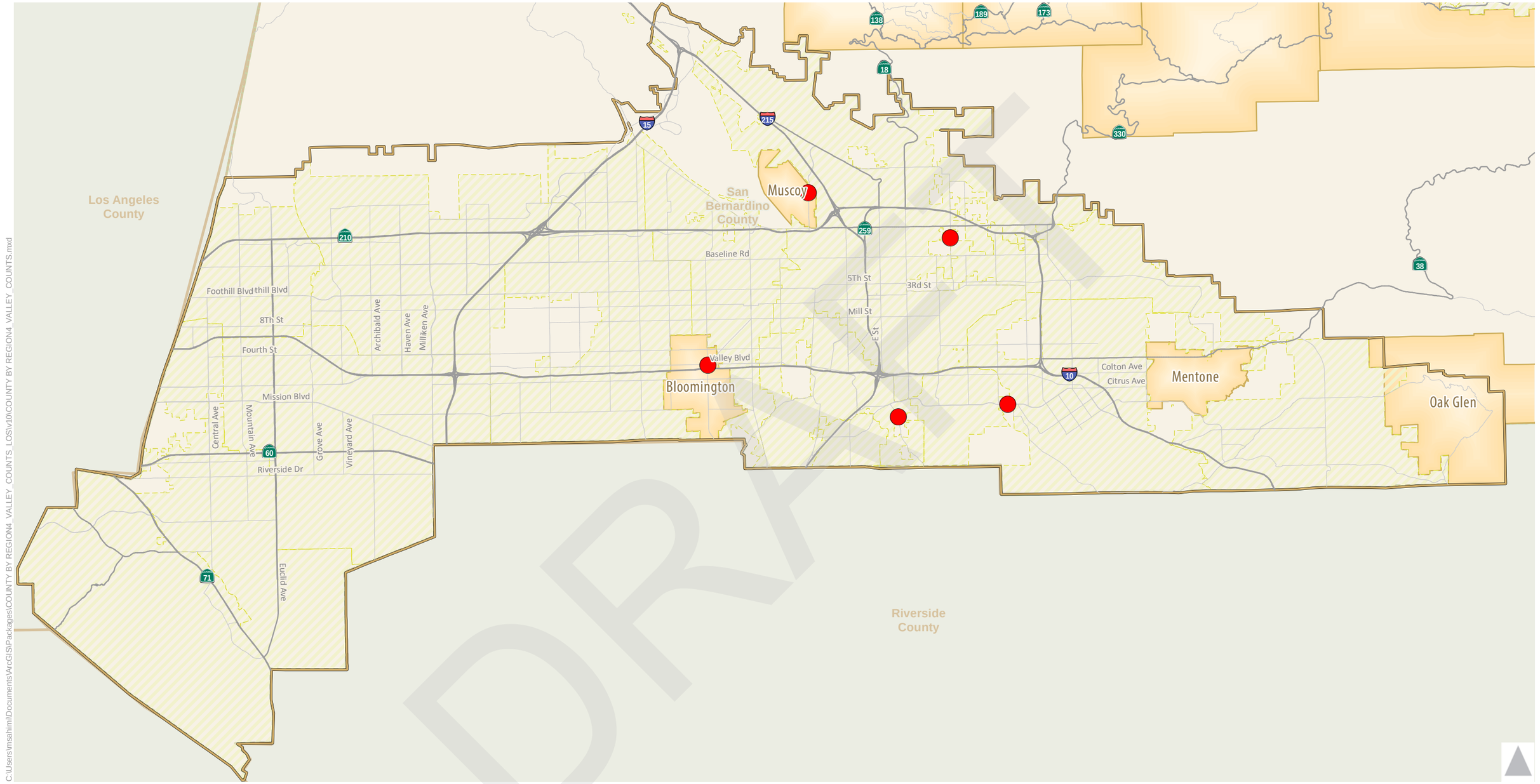
County Boundaries

State Boundaries

Source: San Bernardino County

Figure 7.1

Desert Region Unacceptable Roadway Level of Service



Unacceptable Level of Service

Valley Region

Community Plan Boundaries

City Boundaries

San Bernardino County

County Boundaries

Source: San Bernardino County

Figure 7.2

Valley Region Unacceptable Roadway Level of Service

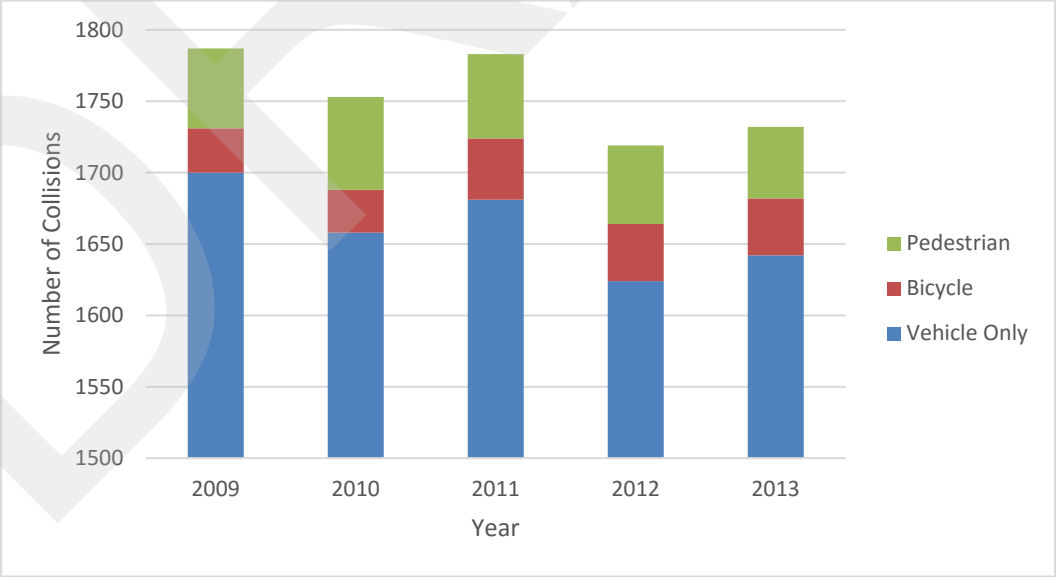
COLLISION ANALYSIS

A traffic collision is considered to be any event where a vehicle strikes any object while moving. That object could be another car, a pedestrian, or something fixed in place like a light post. When collisions cause damage or injury, the details are recorded by the local law enforcement agency and loaded into the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS). The latest SWITRS report was used to analyze collision data in the county's unincorporated communities.

From 2009 through 2013, there were a total of 8,774 vehicle collisions in unincorporated San Bernardino County. Of those, 426 collisions resulted in at least one fatality and 914 collisions resulted in in severe injuries. The most common cited factor for collisions was improper turning (33 percent), followed by unsafe speed (27 percent), driving under the influence of alcohol (12 percent), and automobile right of way violations (9 percent).

During the five year period from 2009 through 2013, the number of yearly vehicle collisions remained constant with a slight decrease, ranging from 1,624 per year to 1,700 per year. The number of collisions involving a bicycle ranged from 30 per year to 43 per year, accounting for 1.7 percent to 2.4 percent of all collisions per year. The number of collisions involving a pedestrian ranged from 50 to 65 per year, accounting for 2.9 to 3.7 percent of all collisions per year.

Chart 2: Collisions by Type



REGULATORY SETTING

The regulatory framework is used to inform decision makers about the regulatory agencies/policies that affect transportation in the county. This enables them to make informed decisions about planning improvements to transportation systems in the county. This document includes a discussion of funding as well as regulation. Major policy documents impacting the transportation system in San Bernardino County include laws at the state level and planning documents at a regional and local level.

STATE REGULATIONS

AB 1358 – COMPLETE STREETS ACT

The California Complete Streets Act of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 required circulation elements to address the transportation system from a multi-modal perspective. The bill states that streets, roads, and highways must "meet the needs of all users…in a manner suitable to the rural, suburban, or urban context of the general plan." Essentially, this bill requires a circulation element to plan for all modes of transportation where appropriate – including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. For further clarity, AB 1358 tasks the Governor's Office of Planning and Research to release guidelines for compliance, which were released in December 2010.

AB 32 – GLOBAL WARMING SOLUTIONS ACT

With the passage of the Global Warming Solutions Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resource Board (ARB), which is coordinating the response to comply with AB 32, is currently on schedule to meet this deadline.

In 2007, ARB adopted a list of early action programs that could be put in place by January 1, 2010. In 2008, ARB defined its 1990 baseline level of emissions, and by 2011 it completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, came into effect January 1, 2012. The cap and trade program controls pollution by a governing agency selling permits on the amount of pollutants a firm can emit. A firm's pollutants cannot

exceed the limit. Firms requiring the need to increase their emissions must purchase permits from other firms requiring fewer permits.

SB 375 – SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT

On December 11, 2008, the ARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of SB 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

There are five major components to SB 375. First, SB 375 will address regional GHG emission targets. ARB's Regional Targets Advisory Committee will guide the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, will be updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs will be required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Residential or mixed-use projects qualify if they conform to the SCS. Transit-oriented developments (TODs) also qualify if they (1) are at least 50% residential, (2) meet density requirements, and (3) are within one-half mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emission modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC). Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

SB 743 – GENERAL CEQA REFORM

On September 27, 2013, Governor Jerry Brown signed SB 743 into law. A key element of this law is the potential elimination or deemphasizing of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of the State. According to the legislative intent contained in SB 743, these changes to current practice were necessary to *"More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."*

To implement this intent, SB 743 contains amendments to current congestion management law that allows cities and counties to effectively opt-out of the LOS standards that would otherwise apply in areas where Congestion Management Plans (CMPs) are still used. Further, SB 743 requires the Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines and establish, *"... criteria for determining the significance of transportation impacts of projects within transit priority areas."* The new criteria, *"... shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."* Once the Secretary of the Natural Resources Agency certifies the new guidelines, then *"...automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment..., except in locations specifically identified in the guidelines, if any."* OPR is in the process of investigating alternative metrics, but a preliminary metrics evaluation suggested that auto delay and LOS may work against goals such as greenhouse gas reduction and accommodation of all modes. OPR released a preliminary discussion draft of changes to CEQA guidelines in August 2014. After a public engagement and outreach process, OPR released a summary of the feedback on the draft guidelines in May 2015. In January 2016, OPR released a second set of guidelines based on feedback with the public, public agencies, and various organizations and individuals. This second set of guidelines continues to recommend VMT as the most appropriate measure of project transportation impacts.

As noted, SB 743 requires impacts to transportation network performance to be viewed through a filter that promotes *the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses*. Some alternative metrics were identified in the law including VMT or automobile trip generation rates. SB 743 does not prevent a city or county from continuing to analyze delay or LOS as part of other plans (i.e., the general plan), studies, or ongoing network monitoring, but these metrics may no longer constitute the sole basis for CEQA impacts.

AB 417 – CEQA AND BICYCLE TRANSPORTATION PLANS

Prior to AB 417, California cities and counties that prepared a bicycle transportation plan were required to conduct a CEQA review of the plan before approval. The requirement imposed high and sometimes prohibitive costs and delays, resulting in fewer improvements to bicycle safety in California.

AB Bill 417 creates a statutory exemption from CEQA for bicycle transportation plans for an urbanized area for restriping of streets and highways, bicycle parking and storage, signal timing to improve street and highway intersection operations, and related signage for bicycles, pedestrians, and vehicles. Specifically, the bill exempts the following types of bicycle transportation plans or projects prepared pursuant to Streets and Highways Code Section 891.2 for an urbanized area if those projects have been described at a reasonably high level of detail: re-striping of streets and highways, bicycle parking and storage, signal timing to improve street and highway intersection operations, and related signage for bicycles, pedestrians, and vehicles. It does not exempt all potential impacts of a bike plan, such as a new path through a natural area, for example. Prior to determining that a bicycle plan is exempt, the lead agency shall do both of the following: (1) hold properly noticed public hearings in areas affected by the bicycle transportation plan to hear and respond to public comments, and (2) include measures in the bicycle transportation plan to mitigate potential bicycle and pedestrian safety and traffic impacts.

CALTRANS GUIDE FOR THE PREPARATION OF TRAFFIC IMPACT STUDIES

The Caltrans Traffic Impact Study Guide provides a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The guide provides information on when a traffic impact study is needed, the scope of a traffic impact study (i.e. the boundaries of the traffic study and the analysis scenarios), the required data for a traffic impact study, analysis methodologies for various types of state facilities, and guidelines for mitigating impacts.

OPR GENERAL PLAN GUIDELINES UPDATE

The Governor's Office of Planning and Research (OPR) provides its General Plan Guidelines as guidance to local governments as they develop their general plans. The OPR is currently in the process of developing its update of the guidelines. This update will include guidance on fiscally-constrained circulation elements. Namely, a general plan's circulation element must take into consideration costs such as capital, maintenance, and labor. The update will also include guidance on how the general plan can address issues such as greenhouse gas emissions reductions and climate adaptation, renewable energy, infill development, public health, and regional planning.

REGIONAL REGULATIONS AND PLANS

CONGESTION MANAGEMENT PROGRAM FOR SAN BERNARDINO COUNTY

The Congestion Management Program for San Bernardino County, published and periodically updated by SANBAG, defines a network of state highways and arterials in the county and provides guidelines regarding level of service standards, impact criteria, and a process for mitigation of impacts on CMP facilities in the county. The Congestion Management Program is currently in the process of being updated.

SAN BERNARDINO COUNTYWIDE TRANSPORTATION PLAN

SANBAG recently developed the county's Countywide Transportation Plan (CTP), which was released in September 2015. The Plan has a horizon year of 2040 and serves as the county's input into SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The purpose of the CTP is to lay out a strategy for long term investment in and management of the County's transportation system. Key issues addressed by the CTP include transportation funding, congestion relief, economic competitiveness, system preservation and operations, transit system interconnectivity, air quality, sustainability, and greenhouse gas emission reductions. The CTP analyses a Year 2040 baseline scenario with traditional revenue sources and an aggressive scenario that assumes added revenue sources defined in the SCAG RTP/SCS. The CTP has developed a set of strategies to address issues such as air quality, goods movement, sustainability, and active transportation.

SAN BERNARDINO COUNTY NON-MOTORIZED TRANSPORTATION PLAN

SANBAG developed the San Bernardino County Non-Motorized Transportation Plan in March 2011, with the most recent update in May 2015. The goal of the Plan is to develop "a cohesive, integrated plan and identify sources of funds to implement that plan." Other goals include increased bicycle and pedestrian access, increased travel by cycling and walking, routine accommodation in transportation and land use planning, and improved bicycle and pedestrian safety. The Plan lays out design guidelines, bikeway and pedestrian system recommendations, implementation strategies and priorities, and funding opportunities. The Plan points out that local jurisdictions are ultimately responsible for implementing projects included in the NMTP. SANBAG will serve an advisory role, including identifying projects on the regional network, providing advisory support for project development, supporting local education and safety efforts, encouraging the incorporation of non-motorized facilities into general and specific plans, and working to identify grant opportunities, among support.

SANBAG SHORT RANGE TRANSIT PLAN (SRTP)

SANBAG is in the process of developing a new Short Range Transit Plan to help guide transit service improvements in the region over the next five years. The SRTP will identify transit service plans and help prioritize major capital improvement projects for the region's transit needs. Goals of the SRTP include connectivity between the various transit agencies in the county, facilitating inter-regional transit travel between regions of the county and between San Bernardino and surrounding counties, and cost-effective accessibility programs for seniors and persons with disabilities. A draft SRTP was released in December 2014.

SANBAG LONG RANGE TRANSIT PLAN (LRTP)

SANBAG is in the process of developing a Long Range Transit Plan (LRTP). The purpose of the LRTP is to address the county's current and future travel challenges and create a transportation system that can increase the role of transit in the future. The Draft LRTP establishes a transit vision for the next twenty five years, prioritizes goals and projects for transit growth, and prioritizes connecting land use and transportation strategies. The Draft LRTP develops four alternatives: Baseline (with existing transit services), Plan (existing transit and currently planned improvements), Vision (existing transit, planned improvements, and rapid bus and rail), and Sustainable Land Use (redistributing growth to transit corridors and creating Transit Oriented Developments at station areas). The Final LRTP will choose one of these four alternatives.

SAN BERNARDINO COUNTYWIDE POINTS OF INTEREST PEDESTRIAN PLAN

SANBAG is developing a Countywide Points of Interest Pedestrian Plan (PIPP) to assist member agencies with the development of tools and guidelines for identifying and prioritizing pedestrian improvements. The project's goals include connecting various SANBAG member agencies and synchronizing project planning and implementation given that each agency has varying pedestrian accommodations, capital improvement program, and maintenance regime.

DRAFT

LOCAL REGULATIONS AND PLANS

COUNTY OF SAN BERNARDINO COMMUNITY PLANS

The purpose of a Community Plan is to guide the future use, character and independent identity of a community. Community plans currently identify land use goals and policies unique to each community. They outline how the County of San Bernardino will manage and address growth issues while recognizing the special attributes unique to each unincorporated community. The County has 14 Community Plans currently in use, which were adopted in 2007, except for Oak Hills, which was adopted in 2013.

TABLE 10 – COMMUNITY PLANS

Plan Type	Community Planning Area	
Detailed	Bear Valley Communities	Lucerne Valley
	Crest Forest Communities	Mentone
	Helendale	Muscoy
	Hilltop Communities	Oak Glen
	Joshua Tree	Phelan/Pinion Hills
	Lake Arrowhead Communities	
Framework	Baker	Oak Hills
	Homestead Valley Communities	Wrightwood
	Morongo Valley	
Foundation	Angelus Oaks	Newberry Springs
	Daggett	Oro Grande
	El Mirage	Pioneertown
	Lytle Creek	San Antonio Heights
	Mount Baldy	Yermo
Fundamental	Fundamental Plans include any communities not listed above.	

The Community Plans Continuum (CPC) is an all new system of community planning that will guide local expectations for County services and set a clear direction for the future of each unincorporated community. It will consist of updates to existing plans and the addition of new plans, all of which will be web-based, living documents that will be refined regularly to reflect progress and change.

The CPC will provide planning and implementation guidance for all unincorporated communities as they pursue their own unique lifestyle choices and goals. The CPC will include a hierarchy of plan-types (see below) that will ensure that planning details, tools, and resources match the conditions and needs of each community.

Detailed Plans. Applies to communities that contain, or have the potential for, a variety of housing opportunities and supporting uses, such as commercial and industrial businesses, schools, a library, parks and recreation facilities, and religious and civic organizations.

Framework Plans. Applies to communities that are primarily characterized by single-family residential properties and a limited number of supporting uses, such as a school, post office, and commercial businesses.

Foundation Plans. Applies to communities that are primarily characterized by single-family residential properties. Residents of these communities typically drive to nearby towns or cities for employment, shopping, entertainment, education, and recreation opportunities.

Fundamental Plans. Applies to communities that are primarily characterized by open space or farmland with a scattering of residential homes and/or highway commercial uses, or an area where growth is constrained by adjacent land ownership, such as federal lands and state park lands.

OMNITRANS OMNICONNECTS SHORT RANGE TRANSIT PLAN

The OmniTrans SRTP, also known as OmniConnects, is the agency's short range business plan for the 2015 through 2020 fiscal years. The SRTP establishes a path for service enhancements while taking into account the agency's budget and resources by reducing service duplications to improve service frequency and reliability and improving travel directness to reduce travel times. The STRP's goals include reliable and frequent service, increased ridership, minimized costs, increased connections, maximized cost recovery, and financial and environmental sustainability.

BEST PRACTICES AND EMERGING TRENDS

COMPLETE STREETS

The term Complete Streets describes a comprehensive approach to the practice of mobility planning, as opposed to planning exclusively for automobiles and trucks. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences, such as drivers, bicyclists, pedestrians, and transit users. Complete streets apply equally to downtown main streets and high-capacity commercial corridors. Complete streets policies encourage street connectivity with the aim of creating a comprehensive, integrated, and connected network for all modes, and they consider the range of users, including children, the disabled, and seniors. Complete streets can be safer for everyone, support livable communities, and have positive public health and economic impacts.

ACTIVE TRANSPORTATION

Active transportation (AT) is any means of getting around powered by human energy, primarily walking and bicycling, but also skateboarding, riding a scooter, and other modes. AT is often referred to as "non-motorized transportation." Just as motorized transportation networks connect destinations via an interconnected system of roadways, AT networks allow people to do the same via walking or bicycling. Sidewalks and bicycle facilities are the primary components of AT networks. AT benefits health and the environment, can reduce VMT, and is proven to provide substantial economic benefits to communities. Federal funding for non-motorized transportation is provided in the Transportation Alternatives program under the current transportation bill, MAP-21, through the Congestion Mitigation and Air Quality Improvement Program, as well as the Highway Safety Improvement Program, the Strategic Highway Safety Plan, and the Surface Transportation Program. SB-99, the California Active Transportation Program bill, established various transportation programs and associated funds and accounts, including the Bicycle Transportation Account, the Bikeway Account, and the Safe Routes to School Program.

MULTI-MODAL LOS

Conventional methods for calculating LOS for a road or intersection only address the experience of one set of users: vehicle drivers. This simple fact has broad implications, because LOS is often used as the primary (or sometimes the only) metric of transportation system performance. Over the past several years, the transportation planning field has seen a profusion of new methods for calculating LOS designed to account for the experiences of a much wider range of road users.

LAYERED NETWORKS

In cases where it is difficult for a single roadway to meet the needs of all users, layered networks, which provide priority to particular modes on different roadways, can improve the efficiency and/or safety of a roadway or network. There are many situations where the needs of one mode can negatively affect another mode:

- Increased automobile speeds reduce pedestrian safety
- Expanded automobile capacity can result in wider and less pedestrian-friendly roadways
- Creation of bicycle facilities may create conflicts with buses
- Light Rail Transit or streetcar tracks can be confusing for turning vehicles and bicyclists
- Pedestrian priority treatments can increase delays for vehicles
- Roadway designs that accommodate trucks can result in large intersections that increase pedestrian crossing times and reduce automobile LOS

Improving connectivity is important for each mode using the roadway system. A layered network concept allows certain roadways to be continuous for a particular mode, while discouraging use by other modes. For example, a collector street can provide continuity for pedestrians, bicyclists or transit vehicles, while discouraging use by 'cut-through' traffic.

DRAFT

KEY ISSUES

Based on this assessment of existing transportation conditions in San Bernardino County, important findings and issues are summarized below. These issues can offer guidance and a glimpse of how transportation facilities in San Bernardino County can be improved moving forward.

The predominant mode of travel is the automobile. Similar to other locations in California, the vast majority of work trips in the county and its unincorporated communities occur through automobiles, especially single-occupant automobiles. There are low levels of walking, biking, and transit work trips within both the county and its communities. Reasons for this high level of vehicular travel include the county's land use form, climate, and lack of alternative mode facilities. The County may want to consider either incentives for non-automotive use or potential disincentives to driving in selected areas.

Bicycle and pedestrian facilities are lacking in several areas. This is reflected in low walking and biking mode share for unincorporated communities (although the share is higher than the countywide average). Most unincorporated communities do not provide either on- or off-road facilities for bicyclists. Additionally, several communities provide low levels of pedestrian accommodation, including sidewalk availability. In the cases where sidewalks are available, they suffer from issues such as discontinuity or lacking shading, amenities, or buffers. The County may want to focus on increasing these types of facilities in its communities.

There is little to no transit service in many communities. This is reflected in the low public transit mode share in the county's communities, much lower than the countywide, state, and national averages. In some communities, public transit service is not provided at all. In others, transit service may be provided but only in very limited days or times and with large headways. Issues also exist with the infrastructure provided. For example, there can be a lack of bus stops or markers where service is provided, or a lack of facility amenities where stops do exist. This can also include insufficient sidewalks to and from the bus stops. The County can work with local communities and transit agencies to extend service and improve facilities for transit users.

There is a significant level of residents leaving to work outside of the county. This includes both countywide residents and unincorporated residents. Approximately half of county residents travel outside of the county for work, and this percentage has steadily increased from 2004 through 2013. This can result in increased congestion on roads and higher vehicle miles traveled and greenhouse gas emissions. The County may want to consider strategies that increase employment opportunities in the county.

New CEQA reform is phasing out automobile delay-based level of service metrics. A key element of SB 743 is the potential elimination or phasing out of automobile delay-based level of service metrics. Alternative metrics suggested include vehicle miles traveled (VMT) and automobile trip generation rates.

The County may want to consider new alternative level of service metrics as the General Plan Update is analyzed.

Development in neighboring agencies can impact transportation facilities in San Bernardino County. Development in surrounding counties and cities can create impacts on the roadway network and other transportation facilities in the county. The County can work with these neighboring agencies to mitigate impacts that potentially affect facilities in the county. The County should also be aware of neighboring development in future forecasts to incorporate outside project volumes and potential impacts on its roadway system.

There should be consistency between land use zoning and travel forecasting tools. Consistency should be maintained between land use zoning in the County and land uses in the SBTAM model used for future traffic forecasts in the county. Accuracy and consistency between zoning and the model ensures future volume forecasts and potential impacts are accurate and utilize the best available data.

DRAFT

APPENDIX A: SANBAG CTP PROJECT LIST

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
200201	Adelanto	El Mirage Rd from SR 395 to 1 Mile east to Adelanto Rd and on Adelanto Rd from El Mirage Rd to 1 mile south - Auburn Ave pave existing 2 lane road	2015	FTIP	$560
200049	Apple Valley	Mojave River Bridge crossing from terminus of Yucca Loma Rd to terminus of Green Tree Blvd includes widening Yates Rd 2 to 4 lanes from .24 mile north of Chinquapin to Fortuna - includes a bridge over the BNSF RR to Hesperia Rd	2016	FTIP	$46,477
20110602	Apple Valley	SR18 at Apple Valley Rd Intersection Realignment	2016	FTIP	$4,650
4A07071	Apple Valley	Widen Navajo Rd from SR-18 to Thunderbird Rd from 2 to 4 lanes	2020	RTP	$4,800
SBD55011	Apple Valley	Widen Yucca Loma Rd from Apple Valley Rd to Navajo Rd from 2 to 4 lanes	2016	FTIP	$6,500
20150003	Apple Valley	Widen Yucca Loma Rd from western terminis of Yucca Loma Rd to Apple Valley Rd from 2 to 4 lanes	2017	FTIP	$13,965
20150015	Barstow	In Barstow: I-15/Morton St Interchange; construct new Interchange. Includes a 6 lane bridge over I-15, 2 through lanes each direction, construction of new 4 lane roadway from IC to Outlet Center Dr (PA&ED only)	2021	FTIP	$43,000
200622	Barstow	Lenwood Grade Separation - North of West Main St - construct 4-lane grade separation	2015	FTIP	$31,590
20060606	Barstow Transit	Operating Expenses	2015	FTIP	$24,900
20040701	Barstow Transit	Paratransit - Vehicles 22 Passenger Replacement	2015	FTIP	$533
4A07195	Big Bear Lake	Intersection Signalization and Synchronization on Big Bear Blvd from West City Limits to East City Limits	2020	RTP	$1,600
4A01025	Big Bear Lake	Widen Big Bear Blvd from West Big Bear City Limits to East Big Bear City Limits from 2 to 4 lanes	2020	RTP	$18,634
0P240	CalTrans	Construct a new Vista Point at Route 138 with 10 parking spaces	2015	FTIP	$575
35558	CalTrans	Gateway Enhancements on I-15 from Mojave Dr. in Victorville to Stoddard Wells Rd in Barstow	2017	FTIP	$2,446
SBDLS07	CalTrans	Grouped projects for bridge rehabilitation and reconstruction (No new capacity) - SHOPP Program	2020	FTIP	$120,631
SBDLS09	CalTrans	Grouped projects for emergency response projects at various locations	2015	FTIP	$10,956
SBDLS02	CalTrans	Grouped projects for Pavement resurfacing and/or rehabilitation	2019	FTIP	$234,459
SBDLS14	CalTrans	Grouped projects for pavement resurfacing and/or rehabilitation on the State Highway System	2016	FTIP	$10,511
SBDLS05	CalTrans	Grouped projects for safety improvements	2015	FTIP	$9,402
SBDLS01	CalTrans	Grouped projects for safety improvements - SHOPP Collision Reduction Program	2019	FTIP	$296,051
SBDLS04	CalTrans	Grouped projects for safety improvements - SHOPP Mobility Program	2016	FTIP	$3,616
SBDLS011	CalTrans	Grouped projects for safey improvements - SHOPP Mandates Program	2020	FTIP	$20,314
SBDLS03	CalTrans	Grouped projects for shoulder improvements - SHOPP Roadside Preservation Program	2015	FTIP	$16,961
35556	CalTrans	I-15 - 0.5 miles north of Mojave Drive to 1.5 North of existing Stoddard Wells Road Overcrossing. Reconstruct D/E/Stoddard Wells Rd ICs. Construct new collector distributor road over D/E/and BNSF RR to parrallel I-15 NB, reconstruct/realign east/west frontage roads	2017	FTIP	$119,325
20061201	CalTrans	I-15/I-215 interchange improvements	2017	FTIP	$324,460
SBD31850	Caltrans	I-215 Barton Rd interchange reconstruction	2018	FTIP	$78,600
4H01008	Caltrans	I-215 from SR-210 to I-15, Add 1 HOV lane each direction	2035	RTP	$179,335
0G841	CalTrans	Install Interpretive displays at the C.V. Kane Safety Roadside Rest Area (SCRRA) near the City of Barstow	2015	FTIP	$260
34770	CalTrans	Kern Co Line to 7.5 miles east of US-395 junction - construct 4-lane expressway on new alignment, new interchange at US-395 and SR-58	2019	FTIP	$194,838

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
34040	CalTrans	Realign & widen US-395 to a 6-lane freeway from I-15 to SR-18 (PH1) & 4-lane freeway from SR-18 to Purple Sage (PH 2) & widen to 4-lane expressway from Purple Sage to 0.5 mi S/O Farmington Rd (PH 3). (PA&ED only)	2020	FTIP	$2,629
4351	CalTrans	SR-58 Expressway-Realign and widen from 2 to 4 lane expressway. New interchanges at Lenwood Rd and Hinkley Rd. 2.4 miles west of Hidden River Rd to 0.7 miles east of Lenwood Road (Phase 2)	2016	FTIP	$194,925
4M07008	Caltrans	SR-60: Widen aux lanes in each direction, widen connector from SB-15 to WB-60 and EB-60 to NB/SB-15, widen ramps from one to two lanes	2021	RTP	$71,000
34042	CalTrans	US 395 - new alignment construct 4-lane expressway from 1.8 miles south of Desert Flower Rd to 0.5 miles south of Farmington Rd (northerly alignment)	2020	FTIP	$459,978
34013	CalTrans	Widen 2 BNSF bridge structures on SR-138 1/2-mile west of I-15 from 2 to 4 lanes	2018	FTIP	$13,550
34011	CalTrans	Widen SR-138 from Phelan Rd to I-15 from 2 to 4 lanes with median	2016	FTIP	$87,181
200452	CalTrans	Widen US-395 from Chamberline Way to 1.8 miles S/O Desert Flower Rd as interim widening from 2 to 4 lanes	2019	FTIP	$28,838
200453	CalTrans	Widen US-395 from I-15 to SR-18 as interim widening from 2 to 4 lanes	2022	FTIP	$7,223
200451	CalTrans	Widen US-395 from SR-18 to Chamberlaine Way from 2 to 4 lanes	2019	FTIP	$55,191
4A01026	Chino	Widen Central Ave from Francis Ave to Riverside Dr from 6 to 8 lanes	2020	RTP	$2,642
4A01266	Chino	Widen Central Ave from Phillips Blvd to State St from 4 to 6 lanes	2020	RTP	$2,093
4120104	Chino	Widen Central Ave from Riverside Dr to SR-71 from 4 to 6 lanes	2020	RTP	$7,796
4A01028	Chino	Widen Chino Ave from Central Ave to Mountain Ave from 2 to 4 lanes	2020	RTP	$6,100
4A01030	Chino	Widen Chino Ave from Fern Ave to Euclid Ave from 2 to 4 lanes	2020	RTP	$4,043
4A07205	Chino	Widen Chino Ave from Mountain Ave to Fern Ave from 2 to 4 lanes	2020	RTP	$1,500
4A01062	Chino	Widen Chino Hills Pkwy from Ramona Ave to Chino Creek Bridge from 4 to 6 lanes	2020	RTP	$203
4A01033	Chino	Widen Edison Ave from Pipeline Ave to Ramona Ave from 4 to 6 lanes	2020	RTP	$2,907
SBD031118	Chino	Widen Edison Ave Ramona Ave to Central Ave from 4 to 6 lanes	2022	FTIP	$2,000
4A04035	Chino	Widen Euclid Ave from Kimball Ave to Pine Ave from 4 to 8 lanes	2020	RTP	$2,430
4A01272	Chino	Widen Francis Ave from 0.11 miles w/o East End to 0.13 miles e/o Telephone Ave from 2 to 4 lanes	2020	RTP	$5,255
4120100	Chino	Widen Francis Ave from Snyder Ave to Benson Ave from 2 to 4 lanes	2020	RTP	$507
4A01040	Chino	Widen Merrill Ave from Euclid Ave to East Chino City Limit from 2 to 3 lanes (eastbound only)	2020	RTP	$1,159
4A07329	Chino	Widen Mountain Ave from Bickmore Ave to El Prado Rd from 2 to 4 lanes	2020	RTP	$347
4A04045	Chino	Widen Pine Ave from Euclid Ave to Hellman Ave from 2 to 6 lanes	2020	RTP	$5,368
4A07303	Chino	Widen Pipeline Ave from Walnut Ave to 0.25 miles n/o Walnut Ave from 2 to 4 lanes	2020	RTP	$506
SBD031152	Chino	Widen Riverside Dr at San Antonio Flood Control Channel bridge from 4 to 6 lanes	2022	FTIP	$20,000
200202	Chino	widenChino Ave from Monte Vista Ave to Sixth St from 2 to 4 lanes and install signal at intersection of Chino Ave and Monte Vista Ave	2022	FTIP	$584
201114	Chino	Widening of Central Ave bridge crossing SR-60 to accommodate widening of ramps	2021	FTIP	$16,445
200207	Chino	widenPine Ave Extension bridge from SR 71 to Euclid Ave in the City of Chino from 2 to 4 lanes	2021	FTIP	$25,000
200401	Chino Hills	Extend Fairfield Ranch Rd from Franch Rd to Pine Ave intersection - construct new 2 lane road with bike lanes	2017	FTIP	$4,581
20083402	Chino Hills	Widen Peyton Dr from Eucalyptus to SR-142 from 2 to 4 lanes with marked bike lanes in each direction	2014	FTIP	$11,942
4A07116	Chino Hills	Widen Pine Ave from SR-71 to Chino Creek (north side only) in conjunction with Chino Project ID 200207	2020	RTP	$3,250

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
201157	Colton	Construct new 4-lane roadway Washington St from 0.90 miles west of Mt. Vernon Ave to La Cadena Dr (PA&ED Only)	2018	FTIP	$28,000
20110601	Colton	Replace La Cadena Dr 4 lane bridge over Santa Ana River, 1.5 miles south of I-10 with 6 lane bridge	2019	FTIP	$27,535
200064	Colton	Washington St from Reche Canyon to Hunts Ln - Eliminate bottleneck by adding NB turn pocket at Reche Canyon Rd (Exclusive Left and Right) through restriping and widening	2016	FTIP	$570
201158	Colton	Widen Agua Mansa from Rialto Channel to Rancho Ave from 2 to 4 lanes	2018	FTIP	$6,652
4A04071	Colton	Widen Mt. Vernon Ave from La Cadena Dr to Eastbound I-10 Ramps from 4 to 6 lanes	2020	RTP	$2,305
200856	Colton	Widen Mt. Vernon Bridge over UPRR from "M" St to I-10 on-ramp from 2 to 4 lanes	2019	FTIP	$9,038
200843	Colton	Widen Reche Canyon Rd from 1.20 miles of S. Barton Rd to 0.42 miles south of Barton Rd from 2 to 4 lanes	2017	FTIP	$5,650
20150302	Fontana	I-10 @ Beech Ave; Construct new 4-lane interchange (2 lanes each direction) (PA&ED Only)	2023	FTIP	$426
201139	Fontana	Construct 4-lane Casa Grande Ave from Lytle Creek Rd to Mango Ave	2021	FTIP	$10,500
201143	Fontana	Construct 4-lane Duncan Canyon Rd from Citrus Ave to Sierra Ave	2020	FTIP	$5,251
SBD031227	Fontana	Construct 6-lane Jurupa Ave Etiwanda Ave to Sierra Ave	2016	FTIP	$24,462
201142	Fontana	Construct new 2-lane Cypress Ave from Duncan Canyon Rd to Frontage Rd (I-15)	2021	FTIP	$3,200
4A01104	Fontana	Construct new 4-lane I-15 Frontage Rd from Duncan Canyon Rd to Riverside Ave	2020	RTP	$4,900
20131506	Fontana	San Sevaine Trail Connectivity; from just N of I-15/Cherry Ave IC along the San Sevaine Flood Control Basin S to County Line (PA&ED ONLY)	2020	FTIP	$170
SBD031218	Fontana	Widen Alder Ave Baseline to Foothill Blvd from 2 to 4 lanes	2020	FTIP	$2,624
SBD031233	Fontana	Widen Arrow Blvd Alder to Maple Ave from 2 to 4 lanes	2019	FTIP	$5,830
4120125	Fontana	Widen Arrow Blvd from Almeria Ave to Citrus Ave from 2 to 4 lanes	2020	RTP	$1,265
4A07024	Fontana	Widen Arrow Blvd from Hickory Ave to Tokay Ave from 2 to 4 lanes	2020	RTP	$5,969
SBD031235	Fontana	Widen Arrow Hwy Almeria to Citrus Ave from 2 to 4 lanes	2023	FTIP	$1,265
4A07066	Fontana	Widen Arrow Hwy from Alder Ave to Maple Ave from 2 to 4 lanes	2018	RTP	$5,000
SBD031217	Fontana	Widen Beech Ave Foothill to Miller Ave from 2 to 4 lanes	2020	FTIP	$4,630
4A07185	Fontana	Widen Beech Ave from Arrow Rte to Foothill Blvd from 2 to 4 lanes	2020	RTP	$1,721
4A07157	Fontana	Widen Beech Ave from Valley Blvd to Randall Ave from 2 to 4 lanes	2020	RTP	$2,531
4A07048	Fontana	Widen Ceres Ave from Mango Ave to Catawba Ave from 2 to 4 lanes	2020	RTP	$6,143
200409	Fontana	Widen Cherry Ave at SCRRA RR crossing bridge from 4 to 6 lanes on Cherry Ave over RR crossing (from Merrill St to Whittram Ave)	2015	FTIP	$8,829
201107	Fontana	Widen Cherry Ave from south Highland Ave to I-15 from 2 to 6 lanes	2020	FTIP	$2,625
4A07040	Fontana	Widen Cherry Ave from Valley Blvd to Foothill Blvd from 4 to 6 lanes	2020	RTP	$7,796
20150005	Fontana	Widen Citrus Ave from Jurupa Ave to Slover Ave from 2 to 4 lanes	2020	FTIP	$1,865
201140	Fontana	Widen Citrus Ave from Summit Ave to I-15 from 2 to 4 lanes	2021	FTIP	$2,625
201141	Fontana	Widen Cypress Ave from Slover Ave to Jurupa Ave from 2 to 4 lanes	2018	FTIP	$2,498
4120129	Fontana	Widen Duncan Canyon Rd from Citrus Ave to Sierra Ave from 0 to 4 lanes	2025	RTP	$5,251
4120130	Fontana	Widen Duncan Canyon Rd from I-15 to Citrus Ave from 0 to 4 lanes	2025	RTP	$1,312
201166	Fontana	Widen Duncan Canyon Rd from I-15 to Citrus Ave from 2 to 4 lanes	2019	FTIP	$1,312
SBD031228	Fontana	Widen Etiwanda Ave Riverside County Line to I-10 from 4 to 6 lanes	2020	FTIP	$2,635
SBD031246	Fontana	Widen Foothill Blvd Citrus Ave to Maple Ave from 4 to 6 lanes	2021	FTIP	$7,218
4A04102	Fontana	Widen Foothill Blvd from Hemlock Ave to Almeria Ave from 4 to 6 lanes	2020	RTP	$7,560

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
201144	Fontana	Widen Jurupa Ave from Tamarind Ave to Alder Ave from 2 to 4 lanes	2020	FTIP	$958
SBD031254	Fontana	Widen Merrill Ave Alder Ave to Maple Ave from 2 to 4 lanes	2019	FTIP	$2,065
4A04114	Fontana	Widen Merrill Ave from Catawba Ave to Fontana Ave from 2 to 4 lanes	2020	RTP	$1,400
4A07055	Fontana	Widen Merrill Ave from Cherry Ave to Catawba Ave from 2 to 4 lanes	2020	RTP	$5,771
4A07222	Fontana	Widen Randall Ave from Alder Ave to Cedar Ave from 2 to 4 lanes	2020	RTP	$1,266
200835	Fontana	Widen San Bernardino Ave from Cherry Ave to Fontana City Limits (Lime Ave) from 2 to 4 lanes	2016	FTIP	$4,065
4A07109	Fontana	Widen San Bernardino Ave from Etiwanda Ave to Cherry Ave from 4 to 6 lanes	2020	RTP	$3,375
SBD031266	Fontana	Widen Sierra Ave Foothill Blvd to Baseline Ave from 4 to 6 lanes	2021	FTIP	$8,129
4A04123	Fontana	Widen Sierra Ave from Slover Ave to Valley Blvd from 6 to 8 lanes	2020	RTP	$1,120
201146	Fontana	Widen Sierra Lakes Pkwy from Beech Ave to Citrus Ave from 2 to 4 lanes	2019	FTIP	$4,290
201147	Fontana	Widen Slover Ave from Etiwanda Ave to 800 feet east of Etiwanda Ave from 2 to 4 lanes	2020	FTIP	$2,095
201148	Fontana	Widen South Highland Ave from Cherry Ave to Citrus Ave from 2 to 4 lanes	2020	FTIP	$5,250
201162	Fontana	Widen Valley Blvd from Beech Ave to Citrus Ave from 4 to 6 lanes	2021	FTIP	$2,418
201149	Fontana	Widen Valley Blvd from Cherry Ave to Beech Ave from 4 ot 6 lanes	2021	FTIP	$2,418
201163	Fontana	Widen Valley Blvd from Citrus Ave to Sierra Ave from 4 to 6 lanes	2021	FTIP	$2,418
201164	Fontana	Widen Valley Blvd from Sierra Ave to Alder Ave from 4 to 6 lanes	2021	FTIP	$724
4A07027	Grand Terrace	Construct 4-lane Commerce Way extension from 900' n/o Pico St to Main St	2020	RTP	$14,388
201106	Grand Terrace	Construct 4-lane Commerce Way extension from Michigan Ave to Barton Rd at Vivienda Ave	2018	FTIP	$1,553
4A01139	Grand Terrace	Widen Barton Rd from Honey Hill Dr to NE Grand Terrace City Limits from 2 to 4 lanes	2018	RTP	$2,534
4A01141	Grand Terrace	Widen Barton Rd from I-215 to Southern Pacific RR from 2 to 4 lanes	2020	RTP	$1,798
4A07356	Grand Terrace	Widen Main St (WB Only) from SFRR to SPRR from 1 to 2 lanes	2020	RTP	$226
201105	Grand Terrace	Widen Michigan Ave from Commerce Way to Main St from 2 to 4 lanes	2019	FTIP	$1,423
4A01146	Grand Terrace	Widen Mt. Vernon Ave from Canal St to North Grand Terrace City Limits from 2 to 4 lanes	2018	RTP	$579
4160007	Hesperia	Construct 6-lane interchange for I-15 @ Muscatel St	2023	RTP	$21,100
4160006	Hesperia	Construct new interchange at I-15 @ Eucalyptus	2024	RTP	$61,100
20084104	Hesperia	Joshua St Park & Ride Expansion - on Joshua St west of US-395, City of Hesperia, add 200 spaces	2016	FTIP	$743
4A01147	Hesperia	Widen 7th Ave from Ranchero Rd to Bear Valley Rd from 2 to 4 lanes	2023	RTP	$11,370
20150008	Hesperia	Widen and reconstruct Main St from I-15 to Maple (Phase 1)/Maple to 11th (Phase 2)/ I-15 to SR-395 (Phase 3) from 4 to 6 lanes, including widening of bridge over California Aqueduct	2019	FTIP	$17,950
4160038	Hesperia	Widen I Ave from Ranchero Rd to Main St from 2 to 4 lanes	2020	RTP	$7,610
4160051	Hesperia	Widen Ranchero Rd from Danbury Ave to Arrowhead Lake Rd from 2 to 4 lanes	2022	RTP	$11,000
4160053	Hesperia	Widen Ranchero Rd from Mariposa Rd to BNSF RR from 2 to 4 lanes	2020	RTP	$15,000
SBD55030	Hesperia	Widen Ranchero Rd from Topaz Ave to 7th St from 2 to 4 lanes	2018	FTIP	$3,000
4160052	Hesperia	Widen Ranchero Rd from Topaz Ave to 7th St from 2 to 5 lanes	2017	RTP	$20,000
SBD55026	Hesperia	Widen/Reconstruct Eucalyptus St from I-15 to Peach Ave from 2 to 4 lanes and construct railroad crossing	2015	FTIP	$8,546
20130306	Highland	Construct City Creek Levee Trails - non-motorized trails along the easterly and westerly city creek flood control levees between Highland Ave and Base Line	2018	FTIP	$42
20061015	Highland	Construct new 4-lane Greenspot Rd Bridge at Santa Ana River - existing bridge will be preserved and rehabilitated for pedestrian, bicycle, and equestrian uses	2015	FTIP	$14,464

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
20131503	Highland	Palm Ave Historic District Improvements; Palm Ave (Base Line to Highland Ave) & Pacific St (Church Ave to 350 ft West of Palm) Shoulder improvements, new roundabout at Palm/Pacific Int, bike lanes (PA&ED Only)(Intersection improvements - no new lanes)	2018	FTIP	$79
200019	Highland	Reconstruct Base Line Bridge No. 54C0035 over City Creek (no new capacity)	2018	FTIP	$22,810
20130401	Highland	Replace 2-lane Orange St Bridge No. 54C0592 over Plunge Creek Overflow, 1.5 miles N of Pioneer Ave with 4-lane bridge	2018	FTIP	$4,630
201185	Highland	Shoulder and storm drain improvements on 3rd St from Victoria Ave to Palm Ave (remains 4 lanes)	2018	FTIP	$3,400
20131502	Highland	Shoulder improvements on 5th St from Victoria Ave to Palm Ave (no additional lanes)(PA&ED Only)	2017	FTIP	$4,000
20150401	Highland	Shoulder improvements on Del Rosa Dr from 3rd St to 5th St (non-capacity)	2020	FTIP	$680
20150306	Highland	Shoulder improvements on Pacific St from Palm Ave to Church Ave (non-capacity enhancing)	2017	FTIP	$1,100
2011105	Highland	Shoulder improvements Palm Ave from 3rd St to 5th St (No Widening)	2017	FTIP	$818
2011104	Highland	Shoulder improvements Victoria Ave from 3rd St to 6th St (No Widening)	2017	FTIP	$3,075
2011154	Highland	SR 210 @ 5th St/Greenspot Rd; On and Off Ramps widening; add lanes - Project adds 1 lane N/B to existing 2 lanes and adding 2 lanes to existing to lanes to N/B off ramp and adding 1 lane to Existing 2 lane S/B off ramp	2017	FTIP	$6,225
201186	Highland	SR-210/Base Line IC: Reconstruct/widen Base Line between Church Ave and Boulder Ave from 4 to 6 lanes	2021	FTIP	$15,512
20131501	Highland	Street and landscaping improvements on Boulder Ave from San Manuel Village Entrance to Greenspot Rd (non-capacity enhancements)	2018	FTIP	$2,500
200213	Highland	Widen 3rd St from Palm Ave to 5th St from 2 to 3 lanes and extend 3rd St easterly to connect 5th St	2018	FTIP	$1,571
201153	Highland	Widen 5th St from City Creek to SR-210 from 4-6 lanes; Restripe SR-210 Undercrossing from 4 to 5 lanes between ramps with additional turn lane	2019	FTIP	$5,070
201183	Highland	Widen 5th St from Tippecanoe Ave to Del Rosa Dr from 2 to 4 lanes	2020	FTIP	$5,255
4A07062	Highland	Widen 9th St from Eucalyptus Dr to Victoria Ave from 2 to 4 lanes	2020	RTP	$381
20082402	Highland	Widen Base Line between Church Ave and Seine Ave from 4 to 6 lanes (excluding freeway bridge over SR-210)	2020	FTIP	$1,200
201191	Highland	Widen Base Line from Seine Ave to Stoney Creek Dr from 4 to 6 lanes	2021	FTIP	$583
SBD55033	Highland	Widen Boulder Ave from Greenspot to South City Limits from 2 to 4 lanes	2019	FTIP	$2,350
201180	Highland	Widen Del Rosa Drive from 5th Street to 6th Street from 2 to 4 lanes	2021	FTIP	$673
4160033	Highland	Widen Greenspot Rd from Boulder Ave to Valencia Ct from 4 to 6 lanes	2022	RTP	$1,798
4A01173	Highland	Widen Greenspot Rd from Gold Buckle Rd to Santa Ana River from 2 to 4 lanes (Excluding Bridge)	2022	RTP	$9,603
201156	Highland	Widen Greenspot Rd from Santa Paula St to south City Limit from 2 to 4 lanes	2020	FTIP	$22,530
201184	Highland	Widen Sterling Ave from 3rd Street to 5th Street from 2 to 4 lanes	2018	FTIP	$400
201182	Highland	Widen Tippecanoe Ave from 3rd Street to 5th St from 2 to 4 lanes	2020	FTIP	$798
SBD31876	Loma Linda	Widen California St Barton Rd to Redlands Blvd from 2 to 4 lanes	2018	FTIP	$1,090
SBD031294	Loma Linda	Widen Redlands Blvd at California St intersection and install traffic signals and drainage and curb and gutters	2016	FTIP	$6,000
SBD41055	MARTA	Bus System - Operating Assistance	2017	FTIP	$21,548
200423	MARTA	Paratransit Vehicles - Replacement	2016	FTIP	$3,923
20150013	MARTA	Rehab/Repair/Retrofit Transit Facilities	2015	FTIP	$729
20010120	MARTA	Transit Service/Rehab Equipment - Purchase of various maintenance equipment	2016	FTIP	$63
SBD31037	MBTA	Bus System - Operating Assistance	2017	FTIP	$21,933
20110104	MBTA	Dispatch & Maintenance Office Equipment	2017	FTIP	$85

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
20110105	MBTA	Replace Cummins Engines at midlife to ensure they are kept in top performing order. The engine overhauls for 28-33 passenger vehicles only.	2017	FTIP	$180
20130601	MBTA	Replacement Buses Type 3 Class C. 18 pax CNG Vehicles	2017	FTIP	$1,189
20010135	Montclair	Monte Vista @ UP RR Crossing - Grade Separation	2016	FTIP	$20,262
20150001	Montclair	Widen Central Ave Bridge No. 54C0112 over UP RR Amtrak Metrolink from 4 to 6 lanes bridge with sidewalks	2020	FTIP	$17,167
SBD31612	Needles	Bus System - Operating Assistance	2016	FTIP	$3,679
R589TA	Needles	El Garces Station Multimodal Improvement Design	2016	FTIP	$8,290
20112007	Needles	I-40 Needles Connector: Roadway/Sidewalk improvements : J St from I-40 Off-ramps to W Broadway; W Broadway from J St to Needles Hwy; Needles Hwy from W Broadway to N K St; N K St; N K St To S/Abutment of CO River Bridge Intersecton Improvements at J St/W Broadway, W Broadway/Needles Hwy, Needles Hwy/N K St	2017	FTIP	$5,521
SBD44003	Needles	Paratransit Vehicle Replacement	2017	FTIP	$387
SBD90105	OmniTrans	Bus System - Buses Bus Replacements Alt Fuel, 15 coaches per year	2015	FTIP	$63,012
SBD31084	OmniTrans	Bus System - Service Vehicles, purchase replacement service vehicles	2016	FTIP	$2,862
20060601	OmniTrans	Capitalization of Leases - for Contractors, Radio, Sites, APC, Tire Leases	2016	FTIP	$5,359
981122	OmniTrans	Capitalization of Preventive Maintenance	2016	FTIP	$90,153
20080206	OmniTrans	Chino Transit Center Phase II - additional Bus Bays for future Inter-County routes	2016	FTIP	$2,527
20061701	OmniTrans	Jobs Access and Reverse Commute Administration Operations and Capital Section 5316 various projects	2015	FTIP	$5,227
20061901	OmniTrans	New Freedom Program Administration, operations and capital	2015	FTIP	$1,395
20111201	OmniTrans	Operations of the access service	2018	FTIP	$10,000
20060603	OmniTrans	Passenger Facilites San Bernardino Valley - Purchase equipment for stop and zone improvements	2015	FTIP	$972
20150109	OmniTrans	Pedestrian & Bicycle Access Improvements within 1/2 mile of Rapid Transit Stations (Terminis at Pomona Downtown Metrolink Station & Kaiser Medical Center Fontana, following Holt Ave/Blvd, Archibald Ave, Milliken Ave, Foothill Blvd, & Sierra Ave)	2018	FTIP	$25,125
20040211	OmniTrans	Replacement Paratransit vehicles replacing Paratransit Vehicles on Omnitrans Access Fleet	2015	FTIP	$11,884
981111	OmniTrans	Transit - Enhancement: 1% Transit Enhancements to increase accessibility to Bus Stops (ongoing)	2016	FTIP	$1,748
20020806	OmniTrans	Transit - Facilities - Improvement/Upkeep of existing facilities	2015	FTIP	$8,013
981114	OmniTrans	Transit - Security capitalization of security costs	2016	FTIP	$1,493
SBD31055	OmniTrans	Transit Administration Equipment purchase computer hardware & software	2016	FTIP	$32,893
4A07227	Ontario	Construct 4-lane bridge on Francis St over West Cucamonga Creek	2017	RTP	$108
4A07260	Ontario	Construct bridge on 6th St over Cucamonga Creek-Sidewalk only	2020	RTP	$740
4160002	Ontario	I-10 @ Vineyard Ave interchange widening from 4 to 6 lanes, widen on/off ramps	2030	RTP	$84,000
200805	Ontario	North Vineyard Ave UPRR Grade Separation between Holt Blvd and Airport Dr (no new capacity)	2017	FTIP	$55,195
4160009	Ontario	Reconstruct SR-60 @ Grove Ave interchange	2040	RTP	$51,000
200602	Ontario	Reconstruct SR-60 and Vineyard Ave interchange - lengthen bridge to accommodate Vineyard Ave widening from 4 to 6 lanes and ramp widening	2022	FTIP	$7,621
2002160	Ontario	Relocate I-10 & 4th St IC to Grove Ave and widen Grove Ave between I-10 to Holt Blvd (4 to 6 lanes): Widen Grove Ave from State St to 350 ft N of Holt Blvd includding RR Bridge (4 to 6 lanes) (PA&ED)	2025	FTIP	$13,034
200405	Ontario	S. Milliken Ave Grade Separation - On Milliken from UPR to North of Mission Blvd RR Grade Separation	2018	FTIP	$81,986

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
200804	Ontario	South Archibald Ave grade separation (at Mission Blvd). Construct grade separtion at existing at-grade crossing south of Archibald Ave and the UPPR-Los Angeles Line. Widen from 2 to 6 Lanes	2023	RTP	$57,932
201132	Ontario	SR-60 at Archibald Ave interchange widen on- and off-ramps (2 to 3 lanes each way) (non-capacity enhancing along Archibald Ave)	2021	FTIP	$7,900
200604	Ontario	SR-60 at Grove Ave Interchange reconstruction and widen Grove Ave from 4 to 6 lanes	2022	FTIP	$7,621
4A04192	Ontario	Widen Bellegrave Ave from Sumner Ave to Milliken Ave (Hamner Ave) from 2 to 4 lanes	2020	RTP	$11,869
4A04194	Ontario	Widen Chino Ave from Euclid to Milliken Blvd from 2 to 4 lanes	2020	RTP	$15,211
4A01203	Ontario	Widen Francis St from Benson Ave to Campus Ave from 2 to 4 lanes	2017	RTP	$3,225
20150201	Ontario	Widen Grove Ave from I-10 to Airport Dr (4 lanes) concurrent with I-10/ Grove Ave IC Project (2002160)	2025	FTIP	$2,293
4A01210	Ontario	Widen Holt Blvd from Benson Ave to Vineyard Ave from 4 to 6 lanes	2020	RTP	$9,746
4A01213	Ontario	Widen Jurupa St from Turner Ave to Hofer Ranch Rd from 2 to 6 lanes	2017	RTP	$734
4A07233	Ontario	Widen Mission Blvd from Benson Ave to Milliken Ave from 4 to 6 lanes	2017	RTP	$13,600
4120147	Ontario	Widen Mountain Ave from Brooks St to 6th St from 4 to 6 lanes	2018	RTP	$6,449
4A07138	Ontario	Widen Philadelphia St from Vineyard Ave to Cucamonga Creek from 2 to 4 lanes, including bridge over Cucamonga Creek	2017	RTP	$1,865
200048	Rancho Cucamonga	I-15 at Baseline Rd interchange improvement; widen Baseline Rd from 4 to 6 lanes, widen East Ave from 2 to 4 lanes, realign and widen SB and NB Diamond ramps from 1 to 2 lanes, add SB loop on ramp	2016	FTIP	$57,504
201137	Rancho Cucamonga	Intersection improvements at Foothill Blvd/Archibald Ave	2020	RTP	$640
20020134	Rancho Cucamonga	Widen Arrow Route from Etiwanda to East Rancho Cucamonga City Limit from 2 to 4 lanes	2022	RTP	$1,100
4120161	Rancho Cucamonga	Widen Arrow Rte from 500' ft e/o I-15 to 1300' e/o I-15 from 2 to 4 lanes	2017	RTP	$1,107
4160029	Rancho Cucamonga	Widen Cherry Ave from South Rancho Cucamonga City Limits to Wilson Ave from 2 to 4 lanes	2021	RTP	$830
20150004	Rancho Cucamonga	Widen Foothill Blvd (Old State Rte 66) between Grove Ave and San Bernardino Rd from 4 to 6 lanes	2017	FTIP	$6,006
200035	Redlands	Construct Wabash Ave 4-lane road from 5th St to I-10 to match on and off ramps	2018	FTIP	$950
20081704	Redlands	I-10/Alabama St and Redlands Blvd and Alabama St/Colton Ave intersection improvements - widen intersection approaches on all four legs of Redlands Blvd/Alabama St intersection. Realign Alabama St on North side of intersection	2020	FTIP	$13,317
20020202	Redlands	Redlands Park Once Program - New parking structure between Eureka St and 3rd St S/O Stuart Ave and N/O RR approximately 200 Spaces (Not PNR)	2020	FTIP	$7,600
200432	Redlands	Signal and intersections improvements at I-10 and Ford St on-ramp	2018	FTIP	$700
200419	Redlands	Widen Alabama St from 2 to 4 lanes from North city limits to 3,000 ft North Palmetto Ave	2017	FTIP	$7,200
4A01248	Redlands	Widen Orange St from Lugonia Ave to North Redlands City Limits from 2 to 4 lanes	2025	RTP	$11,027
201113	Redlands	Widen the east side of Orange St from Lugonia Ave to San Bernardino Ave	2016	FTIP	$540
200603	Rialto	Remove and replace 5-lane Riverside Ave bridge over Metrolink and BNSFwith 7 lane bridge	2016	FTIP	$37,935
200450	Rialto	Rialto Metrolink Station - Increase parking spaces from 225-775	2015	FTIP	$3,356
4A07121	Rialto	Widen and reconstruct Baseline Ave from Maple Ave to Linden Ave from 3 to 4 lanes	2020	RTP	$250
SBD031361	Rialto	Widen Ayala Dr Baseline Rd to SR-210 from 2 lanes to 4 lanes	2015	FTIP	$3,431
SBD59023	San Bernardino, City	Construct 4-lane Campus Pkwy extension from Kendall Dr to I-215 Fwy	2024	FTIP	$22,000
SBD59021	San Bernardino, City	Construct State St 4-lane extension from Hanford St to Foothill Blvd	2020	FTIP	$17,628
SBD59204	San Bernardino, City	I-215 @ University Pkwy interchange reconfiguration	2022	FTIP	$23,998
20150012	San Bernardino, City	Intersection improvements for Foothill Blvd (State Route 66) at Fourth	2016	FTIP	$1,137

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
SBD31905	San Bernardino, City	Replace 4-lane Mt Vernon Ave Bridge at BNSF with 4-lane bridge from 2nd St to 5th St	2018	FTIP	$72,235
201181	San Bernardino, City	Shoulder widening on 3rd St from Tippecanoe Ave to Leland/Norton Way and from Leland/Norton Way to Victoria Ave	2018	FTIP	$3,200
SBD59019	San Bernardino, City	Widen 40th St from Acre Ln to Electric Ave from 2 to 4 lanes	2019	FTIP	$3,264
201170	San Bernardino, City	Widen 5th St from Sterling Ave to Victoria Ave from 2 to 4 lanes	2018	FTIP	$5,800
SBD55031	San Bernardino, City	widen Alabama St from 3rd St to South city limits from 2 to 3 S/B lanes	2018	FTIP	$1,078
201169	San Bernardino, City	Widen H St from Kendall Dr to 40th St from 2 to 4 lanes	2018	FTIP	$918
4A07086	San Bernardino, City	Widen Kendall Dr from Cambridge Ave to Pine Ave from 2 to 4 lanes	2020	RTP	$5,027
4A07060	San Bernardino, City	Widen Kendall Dr from Palm Ave to Cajon Blvd from 2 to 4 lanes	2020	RTP	$5,216
SBD41317	San Bernardino, City	Widen Mt View Ave Bridge at Mission Creek Channel to 4 lanes (2 in each direction)	2015	FTIP	$1,655
4A07211	San Bernardino, City	Widen Mt View Ave Bridge/Culvert at Mission Creek Channel and extend bridge at Mt View Ave from 1 to 2 lanes; new bridge at-grade RR Crossing (SB only)	2020	RTP	$1,440
SBD41316	San Bernardino, City	Widen Mt View Ave Railway Grade Crossing from 2 to 4 lanes	2016	FTIP	$1,589
200609	San Bernardino, City	Widen/extend Mt View Ave from 2 to 4 lanes (SB only) from Coulston Ave to Riverview Dr (South of Santa Ana River)	2016	FTIP	$7,500
20150009	San Bernardino, County	Construct and extend Shadow Mt Rd from Helendale Rd East to Nth from 2 to 4 lanes including 4 lane bridge over Mojave River & Grade Separation over rail tracks with additional connect to Vista Rd on W side of tracks (PA&ED Only)	2019	FTIP	$3,970
20150002	San Bernardino, County	Construct paved 2-lane Duncan Rd from Wilson Ranch Rd to Baldy Mesa	2016	FTIP	$6,600
4A07051	San Bernardino, County	Construct paved 2-lane Wilson Ranch Rd from Duncan Rd to Palmdale Rd	2023	RTP	$6,000
200408	San Bernardino, County	Extend Cumberland Dr from SH-18 North to Cumberland Dr as 2-lane road	2020	FTIP	$3,000
20040826	San Bernardino, County	Glen Helen Pkwy at UPRR and BNSF - Grade Separation	2015	FTIP	$25,885
20130102	San Bernardino, County	I-10/Pepper Ave bridge - widen from 3 to 5 lanes to provide for one additional through lane, one additional southbound turn lane and construct minor ramp improvements, minor arterial street improvements	2017	FTIP	$7,675
SBD41339	San Bernardino, County	I-10/Pepper interchange - widen bridge from 5 to 6 lanes to provide additional southbound turn lane	2016	FTIP	$39,815
20150102	San Bernardino, County	Pavement Preservation/Rehabilitation Morongo Basin-Joshua Tree Area Roads: Yucca Trail, Alta Loma Dr, Quail Springs Rd, Aberdeen Dr, Park Blvd	2016	FTIP	$1,834
SBD031426	San Bernardino, County	Realign, rehabilitate Needles Hwy from N St to Nevada State Line	2021	FTIP	$13,476
200810	San Bernardino, County	Replace 2-lane Baker Blvd Bridge over Mojave River, 0.2 miles SW of Death Valley Rd with 4-lane bridge	2018	FTIP	$13,516
200619	San Bernardino, County	Replace 2-lane Glen Helen Pkwy bridge at Cajon Creek with 4-lane bridge	2017	FTIP	$28,300
20110603	San Bernardino, County	Replace Rock Springs Rd 2-lane low water crossing of Mojave River, 0.9 miles East Arrowhead Lake Rd, with new 4 lane bridge	2020	FTIP	$16,563
20130402	San Bernardino, County	Restripe existing structural section of Baker Blvd between I-15 ramps and SH 127 from 2 to 4 lane configuration in conjunction with project to replace existing 2 lane bridge 54CO127 with 4 lane bridge	2016	FTIP	$25
4A07020	San Bernardino, County	Safety upgrades to National Trails Highway in San Bernardino County	2020	RTP	$12,000
4120193	San Bernardino, County	Various Traffic Signal Projects Throughout San Bernardino County	2023	RTP	$51,992
4A07322	San Bernardino, County	Widen Alder Ave from Jurupa Ave to 0.12 miles n/o Jurupa Ave from 2 to 4 lanes	2023	RTP	$403
4A07074	San Bernardino, County	Widen Bear Valley Rd Cutoff from Joshua Rd to SR-18 from 2 to 6 lanes	2023	RTP	$600,600
4A07104	San Bernardino, County	Widen Beech Ave from Randall Ave to Arrow Route from 2 to 4 lanes	2020	RTP	$3,476
4A07125	San Bernardino, County	Widen Devore Rd from I-215 to Kenwood Dr from 2 to 4 lanes	2023	RTP	$3,609

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A07300	San Bernardino, County	Widen Devore Rd from Kenwood Dr to Foothill Dr from 2 to 4 lanes	2023	RTP	$654
4A07087	San Bernardino, County	Widen El Rivino Rd from Cedar Ave to Agua Mansa Rd from 2 to 4 lanes	2023	RTP	$4,185
4A07209	San Bernardino, County	Widen Emerald Rd from Palmdale Rd to Seneca Rd from 2 to 4 lanes	2020	RTP	$1,485
4A07036	San Bernardino, County	Widen Glen Helen Pkwy from Lytle Creek Rd to I-15 from 2 to 4 lanes	2023	RTP	$2,283
4A07299	San Bernardino, County	Widen Jurupa Ave from Lilac Ave to Willow Ave from 2 to 4 lanes	2023	RTP	$540
4A07165	San Bernardino, County	Widen Jurupa Ave from Locust Ave to Cedar Ave from 2 to 4 lanes	2023	RTP	$2,228
4A01278	San Bernardino, County	Widen Phelan Rd from Sheep Creek Rd to Baldy Mesa Rd from 2 to 6 lanes	2020	RTP	$24,797
200815	San Bernardino, County	Widen Ranchero St from Mariposa to Hesperia CL from 2 to 4 lanes	2020	FTIP	$12,450
4A07079	San Bernardino, County	Widen San Bernardino Ave from Laurel Ave to Rialto City Limits from 2 to 4 lanes	2023	RTP	$3,067
4A07132	San Bernardino, County	Widen Santa Ana Ave from Cedar Ave to Cactus Ave from 2 to 4 lanes	2023	RTP	$2,268
4A07159	San Bernardino, County	Widen Santa Ana Ave from Locust Ave to Cedar Ave from 2 to 4 lanes	2023	RTP	$1,744
4A01284A	San Bernardino, County	Widen Sierra Ave from I-15 to Lytle Creek Rd from 2 to 4 lanes (currently is 2 NB/1 SB, widen to 2 lanes each direction)	2020	RTP	$679
20150010	San Bernardino, County	Widen Slover Ave from Tamarind Ave to Alder/Linden Ave to Cedar Ave from 2 to 4 lanes	2016	FTIP	$2,577
4A07043	San Bernardino, County	Widen Spring Valley Pkwy from Huerta Rd to Driftwood Dr from 2 to 4 lanes	2020	RTP	$7,425
4A07218	San Bernardino, County	Widen Valley Blvd from Commerce Dr to Almond Ave from 4/5 to 6 lanes (3 lanes each direction)	2020	RTP	$1,316
200837	San Bernardino, County	Widen Vista Rd from 2 to 4 lanes and construct grade separation	2020	FTIP	$50,000
4A07235	San Bernardino, County	Widen Wabash Ave from 0.30 miles s/o 7th St to 0.13 miles n/o 7th St from 2 to 4 lanes	2020	RTP	$107
4A07321	San Bernardino, County	Widen Wabash Ave from 6th Ave to 5th Ave from 2 to 4 lanes	2023	RTP	$350
20150103	San Bernardnio, County	Resurface Needles Hwy from 600 North of Balboa Pl to N St	2017	FTIP	$585
20150108	SANBAG	Bicycle and Pedestrian Accessibility improvements at Metrolink Stations (Montclair, Upland, Rancho Cucamonga, Fontana, Rialto, and San Bernardino) Phase I.	2021	FTIP	$4,679
20110109	SANBAG	Construct new railroad grade-separated crossing between Laurel St and the BNSF Railroad in the City of Colton (No new capacity)	2015	FTIP	$59,855
20150307	SANBAG	Countyide Vanpool Project (Demonstration Project)	2016	FTIP	$4,000
4TL104	SANBAG	Countywide Local Transit Service Operations	2040	RTP	$2,333,111
4122001	SANBAG	Double tracking of Metrolink San Bernardino Line between CP Lilac and CP Rancho in San Bernardino County	2025	RTP	$64,000
4TR0101	SANBAG	Extend Metrolink rail service from Rialto/E St in San Bernardino to Redlands	2020	RTP	$242,000
SBD031505	SANBAG	Grouped projects for LTF Article 3 Projects LTF, Article 3 Bicycle/Pedestrian Projects	2015	FTIP	$14,727
20159907	SANBAG	I-10 @ Alabama St interchange - Widen overcrossing from 4 to 6 lanes and reconfigure ramps	2024	FTIP	$41,710
20159906	SANBAG	I-10 @ Monte Vista Ave interchange - Widen Undercrossing from 4 to 6 lanes and ramp improvements	2021	FTIP	$30,199
4120199	SANBAG	I-10 @ Mountain View Ave interchange improvements	2040	RTP	$51,000
44811	SANBAG	I-10 @ Tippecanoe interchange add Eastbound off-ramp auxiliary lane from Waterman on-ramp to Tippecanoe off ramp and widen bridge (non-capacity)	2015	FTIP	$21,503
20131504	SANBAG	I-10 @ University St Interchange: Intersection improvements with on/off ramp widening (No capacity enhancements)	2019	FTIP	$5,100
20159902	SANBAG	I-10 Corridor Express Lane widening (Phase 1): From San Antonio Ave to I-10/I-15 IC; 4 general purpose and 2 express lanes in each direction	2022	FTIP	$524,278
20159903	SANBAG	I-10 Corridor Express Lane Widening (Phase 2): Implement 2 express lanes in each direction from I-10/I-15 Interchange to California St and 1 express lane in each direction from California St to Ford St in Redlands	2024	FTIP	$1,064,443

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
SBD031279	SANBAG	I-15 @ Ranchero Rd - Construct 6-lane interchange	2015	FTIP	$64,346
4M01041	SANBAG	I-15 @ Sierra Ave interchange improvements	2030	RTP	$21,287
4122007	SANBAG	I-15 Express Lane Addition Express Lanes - add 2 Express Lanes in each direction (Segment 4)	2030	RTP	$570,000
4160005	SANBAG	I-15 Express Lane Addition from SR-210 to I-15/I-215 Interchange - add 2 Express Lanes in each direction (Segment 3)	2026	RTP	$150,000
4160008	SANBAG	I-15 Express Lane Addition from US-395 to High Desert Corridor - add 1 Express Lane in each direction (Segment 5)	2034	RTP	$140,000
20159901	SANBAG	I-15 Express Lanes - add 2 Express Lanes in each direction from Cantu Galleano Rd to SR-210 and 1 Express Lane each direction from SR-210 to Duncan Canyon Rd	2022	FTIP	$350,000
4M01043	SANBAG	I-215 @ Mt Vernon Ave/Washington Ave interchange improvements	2035	RTP	$109,048
200614	SANBAG	I-215 Bi-County HOV Lane Gap Closure - Add 1 HOV lane in each direction from Spruce St on SR-91 to Orange Show Rd	2015	FTIP	$182,802
4M0803	SANBAG	I-215 Bi-County Improvement Project - Add 1 mainline lane in each direction	2035	RTP	$250,000
4120222	SANBAG	Light rail extended from County Line to Montclair (Phase 2B)	2035	RTP	$156,318
20061009	SANBAG	Metrolink - Sealed Corridor - San Gabriel Subdivision - comprehensive Corridor Safety Enhancement Program along SANBAG owned ROW	2016	FTIP	$4,573
990602	SANBAG	Metrolink Capital Maintenance - Rehabilitation/Renovation of Metrolink equipment including purchase of 20 Tier-4 Locomotives	2015	FTIP	$37,847
SBD41109	SANBAG	Metrolink Operating Assistance Southern California Regional Rail Authority	2016	FTIP	$61,951
20150016	SANBAG	Metrolink Rolling Stock - SANBAG's share of purchase of Metrolink Cars & locomotives up to 47 Cars/Cabs and 8 locomotives	2015	FTIP	$3,000
2011151	SANBAG	Mojave Desert Air Basin Rideshare Program	2015	FTIP	$3,746
4122003	SANBAG	On I-10 construct easbound truck climbing lane from Live Oak Canyon Rd to Singleton Rd including transition between county line and Calimesa Blvd	2023	RTP	$50,000
200850	SANBAG	Palm Ave Grade Separation (No additional capacity)	2015	FTIP	$26,398
20061012	SANBAG	Passenger Rail from San Bernardino Metrolink Station to new transit station at Rialto Ave and E St in Downtown San Bernardino	2015	FTIP	$83,713
4RL04	SANBAG	Rideshare	2020	RTP	$1,600
2011150	SANBAG	South Coast Air Basin Rideshare Program	2015	FTIP	$6,571
4M07007	SANBAG	SR-210 @ Baseline Ave interchange improvements	2020	RTP	$15,600
20110110	SANBAG	SR-210 @ Pepper interchange improvements - Construct new diamond interchange and widen Pepper Ave from 2 to 4 lanes from Highland Ave to existing 4 lane section S/O interchange	2016	FTIP	$23,770
4M01049	SANBAG	SR-210 @ Waterman Ave interchange improvements	2040	RTP	$51,000
20084106	SANBAG	SR-210 Landscaping Segments 8-11 from Sierra Ave to SR-210/I-215	2015	FTIP	$8,499
20111625	SANBAG	SR-210 Lane Addition - Add 1 Mixed Flow lane in each direction from Highland Ave to San Bernardino Ave	2021	FTIP	$132,163
4160012	SANBAG	SR-60 @ Euclid Ave interchange improvements	2040	RTP	$6,000
4PL07019	SANBAG	SR-60 @ Mountain Ave interchange reconstruction	2027	RTP	$15,000
4120202	SANBAG	SR-60 @ Ramona Ave interchange reconstruction	2027	RTP	$30,000
4A07004	SANBAG	Widen US-395 from I-15 to SR-18 (Palmdale Rd) from 2 to 6 lanes or 4 to 6 lanes	2035	RTP	$40,000
4CR04	SCRRA	Service Expansion; SB Line 50 daily trains, Riverside line 46 daily trains, IEOC line 28 daily trains	2030	RTP	$20,000

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
SBD41427	Twentynine Palms	Construct new 2-lane Amboy Rd from Lear Ave to Adobe Rd (PA&ED Only)	2021	FTIP	$40
201103	Upland	Foothill Blvd Bottleneck and Safety Improvements from Central Ave to Grove Ave	2021	FTIP	$5,300
4160003	Upland	I-10 @ Euclid Ave interchange reconstruction	2030	RTP	$9,003
SBD88086	Upland	Storm Drain Extension on Euclid Ave from D St to Foothill Blvd	2024	FTIP	$4,250
20040825	Upland	Upland Metrolink Station - Additional Parking from 200 to 500 spaces	2013	FTIP	$3,665
201101	Upland	Widen Arrow Route from Monte Vista Ave to Central Ave from 2 to 4 lanes	2018	FTIP	$2,200
4A01296	Upland	Widen Central Ave from Foothill Blvd to Benson Ave from 0 to 4 lanes	2020	RTP	$14,361
20131103	Various Agencies	Grouped Projects for Bicycle and Pedestrian Facilites funded by Recreational Trails Program	2016	FTIP	$1,267
SBDLS08	Various Agencies	Grouped Projects for Bridge Rehabilitation and Reconstruction - HBP Program	2018	FTIP	$133,297
20131301	Various Agencies	Grouped Projects for Operating Assistance to Transit Agencies	2015	FTIP	$356
20150106	Various Agencies	Grouped Projects for Safety Improvements (Regional): Safe Routes to School Program (SRTS)	2017	FTIP	$8,416
20150104	Various Agencies	Grouped Projects for Safety Improvements (State): Safe Routes to School Programs (SR2S)	2017	FTIP	$2,122
1830	Various Agencies	I-10 @ Cedar Ave interchange reconstruction between Slover Ave and Valley Blvd - widen from 4 to 6 lanes	2019	FTIP	$62,930
44812	Various Agencies	I-10 @ Tippecanoe reconfigure interchange (Westbound - Phase II)	2015	FTIP	$58,906
SBD41446	Various Agencies	I-15 @ Eucalyptus - construct 6 lane standard interchange	2024	FTIP	$61,100
201111	Victorville	Bridge rehab on National Trails Hwy and Mojave River	2018	FTIP	$1,375
SBD97147	Victorville	Construct 4-lane Green Tree Blvd Bridge at AT&SF & connect to Ridgecrest Rd	2020	FTIP	$40,098
20131101	Victorville	Mojave Riverwalk: Construct a 9.5 mile (Class I, II, III) Bike and Ped Path connecting the Victor Valley Transportation Center (6th St), Mojave Narrows Regional Park (Yates Rd) and Victor Valley College (Bear Valley Rd)	2018	FTIP	$3,050
200416	Victorville	SCLA Rail Service from Air Expressway approx 5 miles N/O to Colusa Rd between Phantom East & Mojave River - New freight Rail Line from BNSF to SCLA in connection with new intermodal/multimodal facility at SCLA	2019	FTIP	$250,000
SBD031422	Victorville	Widen 3rd Ave Nisqualli Rd to Green Tree Blvd from 2 lanes to 4 lanes	2023	RTP	$750
200866	Victorville	Widen 6-lane Bear Valley Rd Bridge No 54C0547 over BNSF/UPRR to 7-lane bridge and seismic retrofit	2018	FTIP	$5,849
4A07170	Victorville	Widen Aster Rd from Mojave Dr to Cactus Rd from 2 to 4 lanes	2020	RTP	$2,025
4A07348	Victorville	Widen Monte Vista Rd (Aster Rd) from Bear Valley Rd to Sycamore Rd from 0 to 4 lanes	2020	RTP	$2,000
201179	Victorville	Widen National Trails Hwy between I-15 & Air Expressway from 2 to 4 lanes	2017	FTIP	$4,000
4A07025	Victorville	Widen National Trails Hwy Bridge over Mojave River (replace existing bridge) widen 2 from to 4 lanes	2035	RTP	$10,000
20130302	VVTA	Bus Rehabilitation	2015	FTIP	$885
SBD41084	VVTA	Bus System - Buses Replacement - Alt Fuel	2015	FTIP	$10,526
SBD31581	VVTA	Bus System - Operating Assistance	2016	FTIP	$82,154
200086	VVTA	Bus System - Passenger Facilities	2019	FTIP	$1,175
SBD41117	VVTA	Bus System - Purchase Service Vehicles	2016	FTIP	$780
20111805	VVTA	Buses - Rehabilitation/Improvements - Spare Parts/Associated Capital Maintenance Items	2016	FTIP	$475
20110302	VVTA	Capital - Bus Facility - Capital Lease Payments	2016	FTIP	$29,439
20131102	VVTA	Commuter Bus Replacement	2015	FTIP	$4,000
20111808	VVTA	Inland Empire Vanpool Program - Victor Valley Phase Livability Grant	2015	FTIP	$1,864
20061704	VVTA	Jobs Access Reverse Commute (JARC) Various Projects to increase access to jobs for low income individuals, including voucher programs and vanpools	2015	FTIP	$1,282

DRAFT

APPENDIX A - Baseline Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
SBD41114	VVTA	Paratransit - Vehicle Replacement Alt Fuel	2014	FTIP	$3,543
20150101	VVTA	Paratransit Vehicle Expansion	2015	FTIP	$245
20111815	VVTA	Preventative Maintenance Operating Assistance	2014	FTIP	$12,306
20112006	VVTA	Purchase 3 Expansion 40' Buses Alt Fuel	2015	FTIP	$1,800
981104	VVTA	Transit - Security	2016	FTIP	$1,135
20111806	VVTA	Transit Bus Stop Access Improvements - Path of Travel for existing Bus Stop	2017	FTIP	$173
20110301	VVTA	Transit Operating Equipment - ITS Software/Hardware	2017	FTIP	$916
20150303	Yucaipa	Rehab Wildwwod Canyon Rd From Oakview to Oakgrove, and from 100 ft East & West of Oakgrove (non-capacity enhancing)	2015	FTIP	$500
2011157	Yucaipa	Widen Avenue E from Bryant St to 5th St from 2 to 4 lanes (Phased Project)	2015	FTIP	$3,174
4A07304	Yucaipa	Widen Bryant St from North Yucaipa City Limits to SR-38 from 2 to 4 lanes	2023	RTP	$568
2011155	Yucaipa	Widen Yucaipa Blvd from 15th St to I-10 Freeway from 4-6 lanes	2018	FTIP	$7,250
20150301	Yucca Valley	SR-62 Traffic Control Synchronization: 10 Traffic signals from SR-62/Sage Ave through SR-62/Yucca Mesa - La Cantenta Rd	2016	FTIP	$227
				Total	**$13,467,680**

FTIP	$7,547,981
RTP	$5,933,642
Total	**$13,481,623**

DRAFT

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A04406	Adelanto	Construct 4-lane Adelanto Rd from Chamberlaine Way to Colusa Rd	2040	RTP	$9,000
4A04409	Adelanto	Construct 4-lane Koala Rd from Palmdale Rd to Holly Rd	2040	RTP	$4,000
4120001	Adelanto	Widen Adelanto Rd from Holly to Chamberlaine Way from 2 to 4 lanes	2025	RTP	$12,000
4120008	Adelanto	Widen Air Expy from Jonathan Ave to Lessing Rd from 2 to 4 lanes	2035	RTP	$16,000
4120009	Adelanto	Widen Amethyst Rd from Holly Rd to Rancho Rd from 2 to 4 lanes	2040	RTP	$2,298
4120012	Adelanto	Widen Aster Rd from Palmdale to Oleander Rd from 0 to 4 lanes	2040	RTP	$15,000
4120018	Adelanto	Widen Bartlett Ave from Adelanto to Caughlin Rd from 2 to 4 lanes	2040	RTP	$12,000
4120023	Adelanto	Widen Beaver Rd from Palmdale to Oleander Rd from 0 to 4 lanes	2040	RTP	$11,000
4120026	Adelanto	Widen Bellflower St from Palmdale Rd to Calleja Rd from 0 to 4 lanes	2040	RTP	$11,000
4120028	Adelanto	Widen Cassia Rd from Adelanto Rd to US-395 from 2 to 4 lanes	2040	RTP	$539
4120030	Adelanto	Widen Caughlin Rd from Air Expressway to Bartlett Rd from 2 to 4 lanes	2040	RTP	$11,000
4120033	Adelanto	Widen Chamberlaine Way from Jonathan St to Caughlin Rd from 0 to 4 lanes	2040	RTP	$12,000
4120036	Adelanto	Widen Colbalt Rd from Holly to Rancho Rd from 2 to 4 lanes	2040	RTP	$1,865
4120039	Adelanto	Widen Colusa Rd from Mesa Linda Ave to Caughlin Rd from 0 to 4 lanes	2040	RTP	$11,000
4A01270	Adelanto	Widen El Mirage Rd from Adelanto Rd to LA County Line from 2 to 4 lanes	2040	RTP	$35,000
4120048	Adelanto	Widen Emerald Rd from Holly to Air Expressway from 2 to 4 lanes	2040	RTP	$4,671
4120051	Adelanto	Widen Holly Rd from US-395 to Aster Rd from 0/2 to 4 lanes	2040	RTP	$9,000
4120058	Adelanto	Widen Koala Rd from El Mirage Rd to Oleander St from 0 to 4 lanes	2040	RTP	$17,000
4A04410	Adelanto	Widen Koala Rd from Holly Rd to El Mirage Rd from 2 to 4 lanes	2040	RTP	$7,181
4120061	Adelanto	Widen Mojave Dr from US-395 to Lessing Rd from 0/2 to 4 lanes	2040	RTP	$15,000
4120067	Adelanto	Widen Palmdale Rd from Aster Rd to Richardson Rd from 0/2 to 4 lanes	2040	RTP	$10,131
4120066	Adelanto	Widen Palmdale Rd from Richardson to Lessing Rd from 0/2 to 4 lanes	2040	RTP	$9,915
4120065	Adelanto	Widen Palmdale Rd from US-395 to Aster Rd from 2 to 4 lanes	2040	RTP	$10,776
4120069	Adelanto	Widen Raccoon Ave from Palmdale Rd to Oleander St from 0 to 4 lanes	2040	RTP	$16,000
4120074	Adelanto	Widen Rancho Rd from Amethyst Rd to Richardson Rd from 0 to 4 lanes	2040	RTP	$18,000
4120083	Adelanto	Widen Seneca Rd from Aster Rd to Richardson Rd from 2 to 4 lanes	2040	RTP	$4,373
4120082	Adelanto	Widen Seneca Rd from US-395 to Daisy Rd from 2 to 4 lanes	2040	RTP	$3,202
4120094	Adelanto	Widen US-395 from Chamberlaine Way to Colusa Rd from 2 to 4 lanes	2040	RTP	$23,001
4120085	Adelanto	Widen Verbena Rd from Cactus Ave to Calleja Rd from 0/2 to 4 lanes	2040	RTP	$8,000
4120088	Adelanto	Widen Vinton Rd from Palmdale Rd to El Mirage from 0 to 4 lanes	2040	RTP	$14,000
4120095	Apple Valley	Widen Apple Valley Rd from Ohna Rd to Falchion Rd from 0 to 2 lanes	2025	RTP	$5,856
4A01008	Apple Valley	Widen Apple Valley Rd from SR-18 to Yucca Loma Rd from 2 to 4 lanes	2025	RTP	$26,500
4A01011	Apple Valley	Widen Bear Valley Rd from Apple Valley Rd to Navajo Rd from 4 to 6 lanes	2030	RTP	$6,900
4A07080	Apple Valley	Widen Bear Valley Rd from Navajo Rd to Joshua Rd from 2 to 4 lanes	2030	RTP	$4,505
4A07015	Apple Valley	Widen Central Rd from Bear Valley Rd to Waalew Rd from 2 to 4 lanes	2025	RTP	$14,400
4A07091	Apple Valley	Widen Central Rd from Roundup Way to n/ Poppy Rd from 2 to 4 lanes	2025	RTP	$4,050
4A01013	Apple Valley	Widen Corwin Rd from SR-18 to Dale Evans Pkwy from 2 to 4 lanes	2025	RTP	$14,400
4A07007	Apple Valley	Widen Dale Evans Pkwy from Thunderbird Rd to I-15 from 2 to 4 lanes	2030	RTP	$19,200
4A07063	Apple Valley	Widen Deep Creek Rd from Bear Valley Rd to Sitting Bull Rd from 0 to 4 lanes	2030	RTP	$5,200
4A07069	Apple Valley	Widen Deep Creek Rd from Tussing Rach Rd to Bear Valley Rd from 2 to 4 lanes	2030	RTP	$4,800
4A07010	Apple Valley	Widen Del Oro Rd from Appley Valley Rd to Central Rd from 0 to 2 lanes	2030	RTP	$16,800

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A07161	Apple Valley	Widen Falchion Rd from Dale Evans Pkwy to Navajo Rd from 0 to 6 lanes	2030	RTP	$2,400
4A07006	Apple Valley	Widen Falchion Rd from I-15 to Dale Evans Pkwy from 0 to 4 lanes	2030	RTP	$20,000
4A07070	Apple Valley	Widen Kiowa Rd from Ocotillo Rd to Yucca Loma Rd from 2 to 4 lanes	2030	RTP	$9,600
4A07032	Apple Valley	Widen Rancherias Rd from Rincon Rd to Corwin Rd from 2 to 4 lanes	2030	RTP	$9,450
4A07058	Apple Valley	Widen Roundup Way from Kiowa Rd to Central Ave from 2 to 4 lanes	2025	RTP	$5,400
4A07026	Apple Valley	Widen Sitting Bull Rd from Apple Valley Rd to Navajo Rd from 2 to 4 lanes	2030	RTP	$10,800
4A01018	Apple Valley	Widen Thunderbird Rd from Rancherias Rd to Central Rd from 2 to 4 lanes	2025	RTP	$7,200
4A07029	Apple Valley	Widen Waalew Rd from Corwin Rd to Central Ave Rd from 2 to 4 lanes	2025	RTP	$10,000
4120097	Apple Valley	Widen Yucca Loma Rd from West town Limits to SR-18 from 2 to 4 lanes	2030	RTP	$8,108
4A04902	Caltrans	Construct Passing Lanes on SR-18 from 0.8 miles w/o Orchard Dr to 2.1 miles w/o Orchard Dr	2030	RTP	$14,092
4PL07026	Caltrans	Reconstruct Slopes on SR-189 and extend retaining wall on SR-18	2030	RTP	$7,346
4M07035	Caltrans	Widen SR-138 from SR-18 to Phelan Rd from 2 to 4 lanes (Phase II)	2030	RTP	$75,615
4A01900	Caltrans	Widen SR-18 from LA County Line to US-395 from 2 to 4 lanes	2030	RTP	$47,770
4M0802	Caltrans	Widen US-395 from SR-18 (Palmdale Rd) to Chamberlaine Way from 4 to 8 lanes	2019	RTP	$48,552
4A01031	Chino	Widen Chino Ave from SR-71 to East End Ave from 4 to 6 lanes	2035	RTP	$989
4A07133	Chino	Widen East End Ave from Chino Ave to Walnut Ave from 2 to 4 lanes	2030	RTP	$2,903
4A07146	Chino	Widen East End Ave from Philadelphia Ave to Phillips Blvd from 2 to 4 lanes	2030	RTP	$2,700
4A01032	Chino	Widen Edison Ave from Central Ave to Euclid Ave from 4 to 6 lanes	2025	RTP	$3,989
4A01063	Chino	Widen El Prado Rd from Central Ave to Pine Ave from 2 to 4 lanes	2025	RTP	$1,473
4120106	Chino	Widen Eucild Ave (SR-83) from Merril Ave to Kimball Ave from 2 to 4 lanes	2030	RTP	$1,227
4A04036	Chino	Widen Euclid Ave from Pine Ave to SR-71 from 2/4 to 8 lanes	2035	RTP	$11,500
4A04038	Chino	Widen Hellman Ave from Kimball Ave to Chino Corona Rd from 2 to 4 lanes	2025	RTP	$4,300
4A07052	Chino	Widen Kimball Ave from Euclid Ave to Hellman Ave from 2 to 4 lanes	2025	RTP	$5,900
4A01041	Chino	Widen Mountain Ave from Philadelphia St to Riverside Dr from 4 to 6 lanes	2025	RTP	$1,797
4120107	Chino	Widen Mountain Ave from Schaefer Ave to Edison Ave from 2 to 4 lanes	2025	RTP	$207
4A01042	Chino	Widen Philadelphia St from Central Ave to Benson Ave from 4 to 6 lanes	2025	RTP	$898
4A01043	Chino	Widen Philadelphia St from LA County Line to Central Ave from 2 to 4 lanes	2025	RTP	$2,935
4A07279	Chino	Widen Pipeline Ave from Riverside Dr to Walnut Ave from 2 to 4 lanes	2025	RTP	$1,025
4A07151	Chino	Widen Ramona Ave from Philadelphia Ave to Phillips Blvd from 2 to 4 lanes	2025	RTP	$2,633
4A01047	Chino	Widen Riverside Dr from Fern Ave to Euclid Ave from 2 to 6 lanes(Eastbound only)	2025	RTP	$777
4A01049	Chino	Widen Riverside Dr from Pipeline Ave to Fern Ave from 4 to 6 lanes	2025	RTP	$4,777
4120108	Chino	Widen Riverside Dr from West Chino City Limits to Reservior Ave from 4 to 6 lanes (WB Only)	2025	RTP	$664
4A01384	Chino	Widen SR-83 from Merrill Ave to Kimball Ave from 4 to 8 lanes	2029	RTP	$1,530
4160068	Colton	Construct Grade Separation for Valley Blvd @ SFRR	2030	RTP	$40,000
4120116	Colton	Realign Reche Canyon Rd from Washington St to Colton City Limits to 4 lane road	2025	RTP	$2,112
4A07226	Colton	Widen Agua Mansa Rd from Rancho Ave to 73 meters e/o Rancho Ave from 2 to 4 lanes	2030	RTP	$749
4120110	Colton	Widen Agua Mansa Rd from Rancho Ave to Riverside Ave from 2 to 4 lanes	2025	RTP	$3,322
4120112	Colton	Widen and extend Pepper Ave from I-10 to Slover Ave from 2 to 4 lanes	2030	RTP	$5,914
4A01066	Colton	Widen Barton Rd from South Colton City Limits to Washington St from 4 to 6 lanes	2025	RTP	$1,043
4120113	Colton	Widen C St from City Limits w/o Rancho Ave to Pennsylvania Ave from 2 to 4 lanes	2025	RTP	$1,296
4A07192	Colton	Widen C St from Jackson to Tejon Ave from 2 to 4 lanes	2030	RTP	$1,758

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4120111	Colton	Widen Colton Ave from Mt. Vernon Ave to City Limit from 2 to 4 lanes	2025	RTP	$3,409
4A04067	Colton	Widen Fairway Dr from Sperry Dr to Colton City Limits from 4 to 8 lanes	2025	RTP	$1,405
4120114	Colton	Widen La Cadena Dr from Palm Ave to Iowa Ave from 4 to 6 lanes	2030	RTP	$2,873
4120115	Colton	Widen La Cadena Dr from Rancho Ave to Litton Ave from 4 to 6 lanes	2030	RTP	$3,475
4160046	Colton	Widen Mt Vernon across UPRR and Santa Ana River from 2 to 4 lanes	2025	RTP	$30,000
4A07313	Colton	Widen Reche Canyon Rd from South Crystal Ridge to Riverside County Line from 2 to 4 lanes	2025	RTP	$2,570
4120117	Colton	Widen Riverside Ave from Riverside County Line to Santa Ana River from 4 to 6 lanes	2030	RTP	$8,791
4120118	Colton	Widen Riverside Ave from Santa Ana River to Agua Mansa Rd from 4 to 6 lanes	2030	RTP	$1,811
4120119	Colton	Widen San Bernardino Ave from County Limit to Rancho Ave from 2 to 4 lanes	2025	RTP	$155
4120120	Colton	Widen San Bernardino Ave from West Colton City Limits to County Limit from 2 to 4 lanes	2025	RTP	$1,867
4120121	Colton	Widen Slover Ave from Pepper Ave to Riverside Ave from 2 to 4 lanes	2025	RTP	$3,024
4A01082	Colton	Widen Valley Blvd from Sycamore Ave to Mt Vernon Ave from 4 to 6 lanes	2025	RTP	$4,015
4120122	Colton	Widen Washington St from Waterman Ave to I-215 from 4 to 6 lanes	2025	RTP	$5,640
4120123	Colton	Widen Washington St to from Aqueduct to La Cadena Dr from 0 to 2 lanes	2025	RTP	$4,136
4A07145	Fontana	Widen Banana Ave from Jurupa Ave to Slover Ave from 2 to 4 lanes	2025	RTP	$1,583
4A07083	Fontana	Widen Baseline Ave from Mango Ave to Maple Ave Widen from 2 to 6 lanes	2025	RTP	$4,200
4160028	Fontana	Widen Cherry from s/o I-15 to South Highland Ave from 2 to 6 lanes	2025	RTP	$4,000
4A01096	Fontana	Widen Citrus Ave from Slover Ave to Jurupa Ave from 2 to 4 lanes	2025	RTP	$4,200
4A04098	Fontana	Widen Cypress Ave from South Highland Ave to Sierra Lakes Pkwy from 0 to 4 lanes	2025	RTP	$10,000
4120131	Fontana	Widen Fontana Ave from Valley Blvd to Lime Ave from 2 to 4 lanes	2025	RTP	$1,136
4120236	Fontana	Widen Fontana Ave from Valley Blvd to Merrill Ave from 2 to 4 lanes	2025	RTP	$5,251
4A07187	Fontana	Widen Live Oak Ave from Arrow Route to Foothill Blvd from 2 to 4 lanes	2025	RTP	$1,688
4120133	Fontana	Widen Live Oak Ave from Jurupa Ave to Slover Ave from 2 to 4 lanes	2025	RTP	$2,625
4A04110	Fontana	Widen Live Oak Rd from Valley Blvd to Merrill Ave from 2 to 4 lanes	2025	RTP	$5,285
4A07045	Fontana	Widen Lytle Creek Rd from Summit Ave to Duncan Ave from 0 to 4 lanes	2025	RTP	$7,500
4120134	Fontana	Widen Poplar Ave from Slover Ave to Valley Blvd from 0 to 4 lanes (I-10 Overcrossing)	2030	RTP	$16,925
4A07084	Fontana	Widen San Sevaine Rd from Baseline Ave to Summit Ave from 2 to 4 lanes	2025	RTP	$4,200
4A07158	Fontana	Widen Santa Ana Ave from Mullberry Ave to Redwood Ave from 2 to 4 lanes	2030	RTP	$2,531
4A04122	Fontana	Widen Sierra Ave from San Bernardino Ave to Foothill Blvd from 4 to 6 lanes	2025	RTP	$19,600
4A07034	Fontana	Widen Sierra Lakes Pkwy from Cherry Ave to Catawba Ave Widen from 2 to 4 lanes	2025	RTP	$8,960
4A01285	Fontana	Widen Slover Ave from Alder Ave to Cactus Ave from 2 to 4 lanes	2025	RTP	$4,420
4A07259	Fontana	Widen Slover Ave from Tamarind Ave to East Fontana City Limits Widen from 4 to 6 lanes	2025	RTP	$840
4A07166	Fontana	Widen South Highland Ave from Sierra Ave to Palmetto Ave Widen from 2 to 4 lanes	2025	RTP	$2,100
4A07167	Fontana	Widen Summit Ave from Cherry Ave to San Sevaine Rd from 2 to 4 lanes	2025	RTP	$2,100
4A07077	Fontana	Widen Walnut Ave from I-15 to San Sevaine Rd from 2 to 4 lanes	2025	RTP	$4,480
4G04027	Grand Terrace	Construct Grade Separation at Main St in Grand Terrace on the San Bernardino Line	2030	RTP	$18,100
4120140	Grand Terrace	Widen Michigan St from Commerce Way and Van Buren St from 2 to 4 lanes	2025	RTP	$742
4A07129	Hesperia	Construct Grade Separation connection to Main St	2035	RTP	$4,500
4160032	Hesperia	Construct Grade Separation for Eucalyptus St @ SFRR	2035	RTP	$8,546

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
201104	Hesperia	Lemon St/Mauna Loa St - new RR Grade Separation that includes construction of a new 6 lane overcrossing and realignment and reconstruction of Lemon St and Mauna Loa St from 3rd Ave to just West of E Ave	2021	FTIP	$47,900
4A01152	Hesperia	Widen Hesperia Rd from Bear Valley Rd to Sultana St from 2 to 4 lanes	2030	RTP	$9,200
4160037	Hesperia	Widen I Ave from Main St to Bear Valley Rd from 2 to 4 lanes	2025	RTP	$7,700
200211	Hesperia	Widen I Ave from Main St to Bear Valley Rd from 2 to 4 lanes	2035	RTP	$7,700
SBD031284	Hesperia	Widen I Ave from Ranchero Rd to Main St from 2 to 4 lanes	2035	RTP	$7,610
4A01155	Hesperia	Widen Lemon St from 3rd Ave to I Ave from 2 to 4 lanes and construct Grade Separation at BNSF RR w/ Regional Storm Drain	2040	RTP	$20,000
4A01157	Hesperia	Widen Main St from US-395 to I-15 from 4 to 6 lanes	2040	RTP	$17,950
4A01159	Hesperia	Widen Maple Ave from Eucalyptus Ave to Main St from 2 to 5 lanes	2038	RTP	$5,280
4A01162	Hesperia	Widen Mauna Loa Rd from 7th Ave to 3rd Ave from 2 to 4 lanes and connect to Lemon St	2035	RTP	$2,500
SBD55028	Hesperia	Widen Ranchero Rd from Danbury to Arrowhead Lake Rd from 2 to 4 lanes	2035	RTP	$11,000
4A01168	Hesperia	Widen Rock Springs Rd from Glendale Ave to East Hesperia City Limits from 2 to 4 lanes	2027	RTP	$1,500
4A07231	Highland	Construct new 2-lane road on Lankershim Ave from 660' n/o Base Line Rd to 1200' n/o 9th St	2032	RTP	$1,238
4A07150	Highland	Construct new street for Cone Camp Rd from Greenspot Rd to South Highland City Limit from 0 to 2 lanes	2035	RTP	$2,774
4A07019	Highland	Construct new street, branch off from Greenspot Rd to connect to SR-38 from 0 to 2/4 lanes within City Limit including bridge over Mill Creek	2025	RTP	$52,000
4M0801	Highland	SR-210 @ Victoria Ave - Construct new interchange	2040	RTP	$93,000
4A07136	Highland	Widen Highland Ave from Church St to Boulder Ave from 2 to 4 lanes	2025	RTP	$3,131
4A07275	Highland	Widen Pacific St from 2 lots w/o Cole Ave to Palm Ave from 2 to 4 lanes	2030	RTP	$966
4160024	Loma Linda	Construct Grade Separation for Beaumont Ave @ UPRR	2030	RTP	$25,000
4A07196	Loma Linda	Construct new 2 lane road on Van Leuven Ave from Evans St to Orange Grove St	2030	RTP	$1,600
4A07002	Loma Linda	Construct new 4-lane road on Evans St from UPRR to Barton Rd	2030	RTP	$32,150
4120144	Loma Linda	Widen Evans St from I-10 to Barton Rd from 0 to 4 lanes	2040	RTP	$77,647
4A01267	Montclair	Widen Central Ave from Montclair City Limit to Chino City Limit from 4 to 6 lanes	2035	RTP	$1,407
4G07421	Montclair	Widen Central Ave grade separation on the Alhambra and Los Angeles Lines from 4 to 6 lanes	2035	RTP	$5,930
4A01183	Montclair	Widen Monte Vista Ave from San Bernardino St to Arrow Hwy from 4 to 6 lanes	2025	RTP	$3,872
4A01184	Montclair	Widen San Bernardino St from LA County Line to Benson Ave from 4 to 6 lanes	2025	RTP	$4,776
4160062	Omnitrans	Downtown Transit Center enhancements - Additional 7,000 sf building	2021	RTP	$7,500
4160047	Omnitrans	Implement regionally compatible smart fare media system	2019	RTP	$3,000
4160059	Omnitrans	Implement rooftop solar at Omnitrans operations and maintenance facilities in Montclair and San Bernardino and at the Downtown San Bernardino Transit Center at E St and Rialto	2019	RTP	$5,000
4160043	Omnitrans	Vehicle storage and maintenance facility for Access/BRT vehicles	2020	RTP	$5,000
4120213	OmniTrans	West Valley Connector BRT from Pomona Metrolink Station to Sierra Ave	2025	RTP	$242,000
4A07208	Ontario	Construct bridge on Francis St over Cucamonga Creek-sidewalk only	2025	RTP	$903
4160061	Ontario	Construct Grade Separation on San Antonio Ave at UPRR (Alhambra and Los Angeles Line)	2035	RTP	$24,000
4G0103/ 4G0109	Ontario	Contruct 4-lane grade separation on San Antonio Ave at Alhambra/Los Angeles Line	2035	RTP	$24,000
4160010	Ontario	SR-60 @ Vineyard Ave interchange reconstruction	2040	RTP	$51,000

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A07326	Ontario	Widen 1-lane bridge on Archibald Ave over Lower Deer Creek to 6 lanes	2025	RTP	$179
4A07174	Ontario	Widen 2-lane bridge on Eight St over Cucamonga Creek to 4 lanes	2035	RTP	$927
4A07278	Ontario	Widen 4-lane bridge on Archibald Ave over Upper Deer Creek Spillway to 6 lanes	2025	RTP	$848
4A07277	Ontario	Widen 4-lane bridge on Archibald Ave over Upper Deer Creek to 6 lanes	2025	RTP	$606
4A07327	Ontario	Widen 4-lane bridge on Holt Blvd over Cucamonga Creek to 6 lanes	2025	RTP	$1,346
4160019	Ontario	Widen 8th St from West Cucamonga Channel to Grove Ave from 2 to 4 lanes	2035	RTP	$156
4160020	Ontario	Widen Acacia St from Baker Ave to Vineyard Ave from 2 to 4 lanes	2035	RTP	$70
4120145	Ontario	Widen Airport Dr from Rochester Ave to Etiwanda Ave from 2 to 4 lanes	2025	RTP	$5,270
4A04189	Ontario	Widen Archibald Ave from Edison Ave to South Ontario City Limits from 2 to 6 lanes	2025	RTP	$7,189
4160023	Ontario	Widen Archibald Ave from Inland Empire Blvd to 4th St from 4 to 6 lanes	2035	RTP	$1,921
4A04190	Ontario	Widen Archibald Ave from Riverside Ave to Edison Ave from 2 to 6 lanes	2025	RTP	$6,686
4160025	Ontario	Widen Bon View Ave from Mission Blvd to Belmont Ave from 2 to 4 lanes	2035	RTP	$636
4A07325	Ontario	Widen bridge on Holt Blvd over West Cucamonga Creek from 4 to 6 lanes	2025	RTP	$120
4A07317	Ontario	Widen bridge on Mission Blvd over Cucamonga Creek from 4 to 6 lanes	2025	RTP	$988
4A07215	Ontario	Widen bridge on Mission Blvd over West Cucamonga Creek from 4 to 6 lanes	2025	RTP	$337
4A07267	Ontario	Widen bridge on Riverside Dr over Cucamonga Creek from 4 to 6 lanes	2035	RTP	$526
4A04193	Ontario	Widen Campus Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes	2025	RTP	$5,016
4160026	Ontario	Widen Campus Ave from Woodlawn St to Mission Blvd from 2 to 4 lanes	2035	RTP	$1,130
4A04197	Ontario	Widen Edison Ave from Euclid Ave to Walker Ave from 2 to 8 lanes	2025	RTP	$8,268
4A04196	Ontario	Widen Edison Ave from Mill Creek Ave to Milliken Ave from 2 to 8 lanes	2025	RTP	$3,177
4A04198	Ontario	Widen Edison Ave from Vineyard Ave to Mill Creek Ave from 2 to 8 lanes	2025	RTP	$20,727
4A04199	Ontario	Widen Edison Ave from Walker to Vineyard Ave from 2 to 8 lanes	2025	RTP	$3,042
4A04200	Ontario	Widen Eucalyptus Ave from Euclid Ave to Milliken Ave (Hamner Ave) from 2 to 4 lanes	2035	RTP	$2,675
4A04201	Ontario	Widen Euclid Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes (NB only)	2035	RTP	$10,999
SBD59004	Ontario	Widen Francis St from Bon View Ave to Grove from 2 to 4 lanes (storm drain from Bon View to Parco)	2035	RTP	$9,600
4G0104/ 4G0112	Ontario	Widen grade separation @ UPRR Alhambra/Los Angeles Lines from 2 to 4 lanes	2032	RTP	$24,000
4A04206	Ontario	Widen Grove Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes	2035	RTP	$8,192
4160035	Ontario	Widen Guasti Rd from Holt Blvd to Archibald Ave from 2 to 4 lanes	2035	RTP	$932
4A04208	Ontario	Widen Haven Ave from Riverside Dr to Bellegrave Ave from 2 to 4 lanes	2035	RTP	$3,512
4A04214	Ontario	Widen Mill Creek Ave from Riverside Dr to Bellgrave Ave 2-4 lanes	2025	RTP	$3,512
4A04215	Ontario	Widen Milliken Ave (Hamner Ave) from Edison Ave to South Ontario City Limits from 2 to 3 lanes (SB Only)	2025	RTP	$1,672
4A04216	Ontario	Widen Milliken Ave (Hamner Ave) from Riverside Ave to Edison Ave from 1 to 4 lanes (SB Only)	2025	RTP	$4,012
4160044	Ontario	Widen Milliken/Hamner Ave from SR-60 to Riverside Dr from 4 to 6 lanes	2035	RTP	$381
4A04218	Ontario	Widen Ontario/Hellman Ave from Riverside Dr to Bellgrave from 0 to 2/4 lanes	2030	RTP	$4,346
4A07266	Ontario	Widen Philadelphia St from Campus Ave to 750' e/o Grove Ave from 2 to 4 lanes	2030	RTP	$817
4160050	Ontario	Widen Phillips St from Benson Ave to Mountain Ave from 2 to 4 lanes	2035	RTP	$802
4A04219	Ontario	Widen Riverside Dr from Euclid Ave to Milliken Ave from 2 to 4 lanes	2030	RTP	$4,793
4160060	Ontario	Widen San Antonio Ave from Park St to Phillips St from 2 to 4 lanes	2035	RTP	$1,746
4A04220	Ontario	Widen Schaefer Ave from Euclid Ave to Haven Ave from 0 to 4 lanes	2030	RTP	$3,760

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4160063	Ontario	Widen State St from Bon View Ave to Grove Ave from 2 to 4 lanes	2035	RTP	$870
4160066	Ontario	Widen Turner Ave from Inland Empire Blvd to 4th St from 2 to 4 lanes in southbound direction only	2035	RTP	$714
4A01222	Ontario	Widen Vineyard Ave from 4th St to I-10 from 4 to 6 lanes	2025	RTP	$1,206
4A04223	Ontario	Widen Vineyard Ave from Riverside Dr to Merill Ave from 0 to 6 lanes	2025	RTP	$5,850
4160070	Ontario	Widen Walker Ave from Riverside Dr to Merrill Ave from 2 to 4 lanes	2035	RTP	$4,346
201134	Rancho Cucamonga	Construct Grade Separation for Etiwanda Ave @ SCRRA tracks	2025	RTP	$54,050
4120172	Rancho Cucamonga	Construct new 4-lane bridge at Wilson and Day Creek Channel	2025	RTP	$1,766
201138	Rancho Cucamonga	Construct new 4-lane divided Youngs Canyon Rd from San Sevaine to Cherry Ave	2026	RTP	$1,700
200152	Rancho Cucamonga	I-15 @ Arrow Route - Construct new interchange between Arrow Route and Foothill Blvd	2040	RTP	$91,370
4120153	Rancho Cucamonga	Widen 6th St at Cucamonga Creek Channel from 2 to 4 lanes	2025	RTP	$440
4120157	Rancho Cucamonga	Widen Arrow Rte at Etiwanda Ditch from 2 to 4 lanes	2025	RTP	$884
20020134	Rancho Cucamonga	Widen Arrow Rte from Etiwanda Ave to east city limit from 2 to 4 lanes	2035	RTP	$1,100
4120163	Rancho Cucamonga	Widen Arrow Rte from Grove St to Baker St from 2 to 4 lanes	2025	RTP	$1,550
4120155	Rancho Cucamonga	Widen Baseline Rd from Etiwanda Ave to I-15 from 4 to 6 lanes	2025	RTP	$585
200023	Rancho Cucamonga	Widen Cherry Ave from south city limits to Wilson Ave from 2 to 4 lanes	2035	RTP	$830
4120165	Rancho Cucamonga	Widen Church Ave from Archibald Ave to Haven Ave from 2 to 4 lanes	2025	RTP	$1,802
4120156	Rancho Cucamonga	Widen East Ave from Chateau Dr to Victoria Ave from 2 to 4 lanes	2025	RTP	$628
4120148	Rancho Cucamonga	Widen East St from Wilson Ave to North Rim Way (new) from 2 to 4 lanes	2025	RTP	$246
4120152	Rancho Cucamonga	Widen Etiwanda Ave from Miller Ave to 850' n/o Miller Ave, NB only from 3 to 4 lanes	2025	RTP	$363
4120169	Rancho Cucamonga	Widen Etiwanda Ave from 6th St to Arrow Route from 2 to 4 lanes	2025	RTP	$5,060
4120164	Rancho Cucamonga	Widen Etiwanda Ave from Banyan Rd to Wilson Ave from 2 to 4 lanes	2025	RTP	$1,676
4120149	Rancho Cucamonga	Widen Etiwanda Ave from existing terminus to North Rim Way (new) from 0 to 2 lanes	2025	RTP	$333
4120166	Rancho Cucamonga	Widen Foothill Blvd from Archibald Ave to Hermosa Ave from 4 to 6 lanes	2025	RTP	$2,236
4120168	Rancho Cucamonga	Widen Foothill Blvd from Vineyard Ave to Archibald Ave from 4 to 6 lanes	2025	RTP	$3,534
4160034	Rancho Cucamonga	Widen Grove from San Bernardino Ave to Foothill Blvd from 1 to 2 lanes (east side only)	2025	RTP	$714
4120158	Rancho Cucamonga	Widen Hellman Ave at Cucamonga Creek Channel from 2 to 4 lanes	2025	RTP	$884
4120167	Rancho Cucamonga	Widen Miller Rd from Etiwanda Ave to East St from 2 to 4 lanes	2025	RTP	$1,956
4M07034	Rancho Cucamonga	Widen northbound on-ramp to 2 lanes to the metering point, transition to 1 lane at the gore & install ramp metering	2025	RTP	$1,050
4120151	Rancho Cucamonga	Widen Victoria Ave from Etiwanda High School to I-15 from 2 to 4 lanes	2025	RTP	$344
4120171	Rancho Cucamonga	Widen Wilson Ave from Milliken Ave to Day Creek Blvd from 0 to 4 lanes	2025	RTP	$7,067
4A01262B	Redlands	Widen 5th Ave from Crafton Ave to Wabash Ave from 2 to 4 lanes	2025	RTP	$3,387
4A01237	Redlands	Widen Alabama St from 3rd St to San Bernardino Ave from 2 to 4 lanes at Santa Ana River	2025	RTP	$7,150
4A07017	Redlands	Widen Alabama St from Lugonia Ave to Barton Rd from 4 to 6 lanes	2025	RTP	$17,408
4A07042	Redlands	Widen Alabama St from North Redlands City Limits to Palmetto Ave from 2 to 4 lanes	2025	RTP	$7,700
4A07184	Redlands	Widen California St from Redlands Blvd to Palmetto Ave from 5 to 6 lanes (add NB lane for 3 lanes in each direction)	2025	RTP	$45,000
4A01239	Redlands	Widen Church St from Colton Ave to Redlands Blvd from 2 to 4 lanes	2025	RTP	$4,150
SBD58044	Redlands	Widen Citrus Ave Auburn Ct to Wabash Ave from 2 to 4 lanes	2035	RTP	$525
4A04240	Redlands	Widen Citrus Ave from Dearborn St to Wabash Ave from 2 to 4 lanes	2025	RTP	$1,149
4120173	Redlands	Widen Colton Ave from Wabash Ave to Crafton Ave from 2 to 4 lanes	2025	RTP	$2,358

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4120237	Redlands	Widen Crafton Hills Pkwy from Wabash Ave to East Redlands City Limits from 0 to 2 lanes	2025	RTP	$6,875
4A01241	Redlands	Widen Cypress Ave from I-10 to Citrus Av from 2 to 4 lanes	2025	RTP	$750
4A01243	Redlands	Widen Ford St from 5th Ave to I-10 from 2 to 4 lanes	2025	RTP	$1,999
4A07295	Redlands	Widen Greenspot Rd from 0.19 m n/o Florida St to Florida St from 2 to 4 lanes	2035	RTP	$431
4A07261	Redlands	Widen Highland Ave from Cajon St to Ford St from 2 to 4 lanes	2035	RTP	$4,000
4A01245	Redlands	Widen Live Oak Cyn Rd from San Timoteo Cyn Rd to East Redlands City Limits from 2 to 4 lanes	2025	RTP	$5,829
4A07255	Redlands	Widen Lugonia Ave from California St to Tennesee St from 2 to 4 lanes	2035	RTP	$3,300
4A01246	Redlands	Widen Lugonia Ave from Tenessee St to Orange St from 2 to 4 lanes	2025	RTP	$3,355
4120175	Redlands	Widen Mountain View Ave from Lugonia Ave to San Bernardino Ave from 1 to 2 lanes (NB only)	2025	RTP	$501
4A07112	Redlands	Widen Nevada St from Lugonia Ave to Palmetto Ave from 2 to 4 lanes	2025	RTP	$3,375
200420	Redlands	Widen Orange St from north city limits to Riverview Dr from 2 to 4 lanes	2035	RTP	$540
4A07154	Redlands	Widen Palmetto Ave from California St to Alabama St from 2 to 4 lanes	2025	RTP	$2,565
4A01249	Redlands	Widen Redlands Blvd from West Redlands City Limits to Colton Ave from 4 to 6 lanes and widen intersection at Colton Ave	2025	RTP	$12,356
4A01281	Redlands	Widen San Bernardino Ave from Alabama St to California St from 2 to 4 lanes	2025	RTP	$5,050
4A01250	Redlands	Widen San Bernardino Ave from Church St to Wabash Ave from 2 to 4 lanes	2025	RTP	$2,665
4120179	Redlands	Widen San Bernardino Ave from SR-210 to Orange St from 2 to 4 lanes	2025	RTP	$1,915
4A01254	Redlands	Widen San Timoteo Cyn Rd from RR Crossing to Live Oak Cyn Rd from 2 to 4 lanes	2035	RTP	$6,895
4A07253	Redlands	Widen Wabash Ave from Colton Ave to San Bernardino Ave from 2 to 4 lanes	2025	RTP	$2,068
4A07381	Redlands	Widen Wabash Ave from Redlands City Limits to I-10 from 2 to 4 lanes	2025	RTP	$101
4160058	Rialto	Construct Grade Separation for Riverside Ave @ UPRR and widen bridge from 5 to 7 lanes	2030	RTP	$37,575
4120181	Rialto	Widen Alder Ave from Baseline Rd to Renaissance Pkwy from 2 to 4 lanes	2025	RTP	$1,800
4120183	Rialto	Widen Casmalia Ave from 0.3 miles e/o Sierra Ave to Ayala Dr from 2 to 4 lanes	2025	RTP	$4,600
4160027	Rialto	Widen Cedar Ave from Randall Ave to Baseline Rd from 4 to 6 lanes	2025	RTP	$5,020
4120184	Rialto	Widen Linden Ave from Baseline Ave to Miro Way from 2 to 4 lanes	2025	RTP	$500
4160039	Rialto	Widen Linden Ave from Miro Way to Renaissance Pkwy from 0 to 4 lanes	2025	RTP	$2,880
4120185	Rialto	Widen Locust Ave from Baseline Ave to Miro Way from 2 to 4 lanes	2025	RTP	$500
4160040	Rialto	Widen Locust Ave from Miro Way to Renaissance Pkwy from 0 to 4 lanes	2025	RTP	$2,640
4160041	Rialto	Widen Merrill Ave from 0.11 m e/o Cactus Ave to Lilac Ave from 3 to 4 lanes (Add 1 WB lane)	2030	RTP	$140
4A07120	Rialto	Widen Merrill Ave from Linden Ave to 0.12 miles e/o Linden Ave from 3 to 4 lanes	2030	RTP	$120
4120231	Rialto	Widen Randall Ave from Linden Ave to Riverside Ave from 2 to 4 lanes	2025	RTP	$3,400
4120180	Rialto	Widen Renaissance Pkwy from Alder Ave to Ayala Dr from 2 to 4 lanes	2025	RTP	$1,550
4A07199	Rialto	Widen Rialto Ave from Olive Ave to Sycamore Ave from 2 to 4 lanes	2025	RTP	$340
4160054	Rialto	Widen Rialto Ave from Sycamore Ave to Eucalyptus Ave from 2 to 4 lanes	2025	RTP	$1,000
4A01259	Rialto	Widen Riverside Ave from 0.25 miles s/o Valley Blvd to Slover Ave from 2 to 3 lanes (SB only)	2025	RTP	$260
4160056	Rialto	Widen Riverside Ave from 0.35 m s/o Sierra Ave to Alder Ave from 4 to 6 lanes	2030	RTP	$2,120
4A01258	Rialto	Widen Riverside Ave from Agua Mansa Rd to Slover Ave from 4 to 6 lanes	2030	RTP	$3,460
4160055	Rialto	Widen Riverside Ave from Foothill Blvd to Easton St from 4 to 6 lanes	2025	RTP	$3,760
4120187	Rialto	Widen Riverside Ave from Gateway Plaza to San Bernardino Ave from 4 to 6 lanes	2025	RTP	$660
4A07237	Rialto	Widen Riverside Ave from Locust Ave to 0.1 miles s/o Cedar Ave from 3 to 6 lanes	2030	RTP	$3,150
4160057	Rialto	Widen Riverside Ave from San Bernardino Ave to Rialto Ave from 4 to 6 lanes	2025	RTP	$2,900

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4120188	Rialto	Widen Riverside Ave from Sierra Ave to 0.35 miles s/o Sierra Ave from 2 to 6 lanes	2030	RTP	$1,400
4A07101	Rialto	Widen San Bernardino Ave from Lilac Ave to Sycamore Ave from 2 to 4 lanes	2030	RTP	$1,520
4A07003	San Bernardino, City	Replace I-10 Bridge to Widen Waterman Ave from Hospitality Ln to Redlands Blvd from 4 to 6 Lanes	2030	RTP	$30,000
4A07230	San Bernardino, City	Widen 5th St from Pedley Rd to Tippecanoe Ave from 2 to 4 lanes	2025	RTP	$1,181
4A07292	San Bernardino, City	Widen 5th St from Warm Creek to Pedley Ave from 2 to 4 lanes	2030	RTP	$1,148
4A07081	San Bernardino, City	Widen Coulston Ave from Tippecanoe Ave to Mountain View Ave from 2 to 4 lanes	2030	RTP	$4,224
4A07380	San Bernardino, City	Widen Del Rosa Ave from Del Rosa Dr to San Bernardino City Limits from 2 to 4 lanes	2025	RTP	$90
4A07094	San Bernardino, City	Widen Electric Ave from Mt View Ave to Northpark Blvd from 2 to 4 lanes	2030	RTP	$3,840
4A07176	San Bernardino, City	Widen G St from Mill St to Rialto Ave from 2 to 4 lanes	2030	RTP	$2,299
4A07177	San Bernardino, City	Widen Little League Dr from Kendall Dr to Belmont Ave from 2 to 4 lanes	2030	RTP	$5,000
4A07243	San Bernardino, City	Widen Mill St from Pepper Ave to Meridian Ave from 2 to 4 lanes	2030	RTP	$960
4120190	San Bernardino, City	Widen Mt View Ave from Coulston Ave to Mission Creek Channel (Zanja) from 2 to 4 lanes (SB only)	2025	RTP	$345
4A07264	San Bernardino, City	Widen Mt View Ave from Thompson Pl to Electric Ave from 2 to 4 lanes	2030	RTP	$768
4A07247	San Bernardino, City	Widen Palm Ave from Cajon Blvd to I-215 from 2 to 4 lanes	2025	RTP	$912
4A07198	San Bernardino, City	Widen Perris Hill Park Rd from 21st St to Pacific St from 2 to 4 lanes	2025	RTP	$1,839
4A07244	San Bernardino, City	Widen Pine Ave from Kendall Dr to Belmont Ave from 2 to 4 lanes	2035	RTP	$960
4A07148	San Bernardino, City	Widen Rancho Rd from Colton City Limits to 5th St from 2 to 4 lanes	2025	RTP	$3,218
4A07135	San Bernardino, City	Widen Rialto Ave from Lena Rd to Tippecanoe Ave from 2 to 4 lanes	2030	RTP	$2,880
4A07178	San Bernardino, City	Widen Rialto Ave from Sierra Way to Waterman Ave from 2 to 4 lanes	2025	RTP	$2,299
4120191	San Bernardino, City	Widen State St from Hanford St to n/o Cajon Blvd from 2 to 4 lanes	2035	RTP	$6,000
4A07152	San Bernardino, City	Widen Tippecanoe Ave from Mill St to Harriman from 4 to 6 lanes	2030	RTP	$25,000
4A01292	San Bernardino, City	Widen Waterman Ave from 5th St to Baseline Ave from 4 to 6 lanes	2030	RTP	$6,912
4160069	San Bernardino, County	Construct Grade Separation for Vista Rd @ SFRR	2035	RTP	$31,000
4AL04	San Bernardino, County	Countywide Arterial Improvements	2035	RTP	$1,340,714
4G0167	San Bernardino, County	Extend Shadow Mountain Rd and construct 4-lane road including bridge over Mojave River and grade separation over RR from Helendale Rd to National Trails Hwy	2025	RTP	$50,000
4M01032	San Bernardino, County	I-10 @ Wabash Ave interchange improvements	2040	RTP	$40,000
4A07130	San Bernardino, County	Intersection Improvements for Daley Canyon Rd @ SR-18	2025	RTP	$3,000
4160013	San Bernardino, County	Operational improvements on SR-62 from East Yucca Valley Town Limits to West Twentynine Palms City Limits	2035	RTP	$527
4A07131	San Bernardino, County	Pave dirt road Midway Ave from SR-19 to SR-247 as 2-lane road	2025	RTP	$3,000
4G07420	San Bernardino, County	Replace Grade Separation and widen underpass at National Trails Hwy and Oro Grande Grade Separation from 2 to 4 lanes	2025	RTP	$29,000
4120192	San Bernardino, County	Various ITS Projects Throughout San Bernardino County	2035	RTP	$471,291
4A07349	San Bernardino, County	Widen Alder Ave from Taylor St to Valley Blvd from 2 to 4 lanes	2025	RTP	$217
4A07251	San Bernardino, County	Widen Alder Ave from Valley Blvd to San Bernardino Ave from 2 to 4 lanes	2025	RTP	$406
4A07294	San Bernardino, County	Widen Benson Ave from Howard St to State St from 2 to 4 lanes	2025	RTP	$519
4A07298	San Bernardino, County	Widen Benson Ave from Phillips Blvd to Howard St from 2 to 4 lanes	2025	RTP	$577
4A07143	San Bernardino, County	Widen Calabash Ave from Whittram Ave to Foothill Blvd from 2 to 4 lanes	2025	RTP	$1,740
4A07238	San Bernardino, County	Widen Crafton Hills Pkwy from South Redlands City Limits to Crafton Hills from 0 to 2 lanes	2035	RTP	$6,329
4A07333	San Bernardino, County	Widen East End Ave from Phillips Blvd to Grand Ave from 2 to 4 lanes	2030	RTP	$309

DRAFT

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A07099	San Bernardino, County	Widen El Evado Rd from Air Expressway to Hopland Dr from 0 to 4 lanes	2035	RTP	$7,200
4A07162	San Bernardino, County	Widen Florida St from Greenspot Rd to Garnet St from 2 to 4 lanes	2025	RTP	$409
4A07352	San Bernardino, County	Widen Garnet St from 0.08 miles s/o Mentone Ave to Mentone Ave from 2 to 4 lanes	2035	RTP	$429
4A07320	San Bernardino, County	Widen Garnet St from Mentone Ave to SR-38 from 2 to 4 lanes	2035	RTP	$430
4A07169	San Bernardino, County	Widen Garnet St from Newport Ave to Florida St from 2 to 4 lanes	2035	RTP	$3,162
4A07314	San Bernardino, County	Widen Garnet St from SR-38 to Newport Ave from 2 to 4 lanes	2035	RTP	$383
4A07111	San Bernardino, County	Widen Jurupa Ave from Cedar Ave to Lilac Ave from 2 to 4 lanes	2025	RTP	$561
4A07315	San Bernardino, County	Widen Locust Ave from 7th St to 11th St from 2 to 4 lanes	2035	RTP	$545
4A07183	San Bernardino, County	Widen Locust Ave from Jurupa Ave to Santa Ana Ave from 2 to 4 lanes	2035	RTP	$2,056
4A07188	San Bernardino, County	Widen Locust Ave from San Bernardino Ave to Randall Ave from 2 to 4 lanes	2035	RTP	$1,707
4A07193	San Bernardino, County	Widen Locust Ave from Santa Ana Ave to Slover Ave from 2 to 4 lanes	2035	RTP	$1,648
4A07189	San Bernardino, County	Widen Locust Ave from Valley Blvd to San Bernardino Ave from 2 to 4 lanes	2035	RTP	$1,403
4A07182	San Bernardino, County	Widen Mission Blvd from Central to Benson Ave from 4 to 6 lanes	2025	RTP	$1,498
4A01276	San Bernardino, County	Widen Mission Blvd from LA County Line to Pipe Line Ave from 2 to 6 lanes	2025	RTP	$1,014
4A07202	San Bernardino, County	Widen Monte Vista Ave from Phillips Blvd to State St from 2 to 4 lanes	2025	RTP	$836
4A04401	San Bernardino, County	Widen Mulberry Ave from Jurupa Ave to Slover Ave from 2 to 4 lanes	2025	RTP	$580
4A04115	San Bernardino, County	Widen Mulberry Ave from Valley Blvd to San Bernardino Ave from 2 to 4 lanes	2025	RTP	$964
4A07197	San Bernardino, County	Widen Olive St from Jackson St to Rancho Ave from 2 to 4 lanes	2025	RTP	$1,553
4A07252	San Bernardino, County	Widen Phillips Blvd from East End Ave to Roswell Ave from 2 to 4 lanes	2025	RTP	$379
4A07390	San Bernardino, County	Widen Phillips Blvd from LA County Line to East End Ave from 2 to 4 lanes	2025	RTP	$100
4A07124	San Bernardino, County	Widen Phillips Blvd from Roswell Ave to Yorba Ave from 2 to 4 lanes	2025	RTP	$3,026
4A07107	San Bernardino, County	Widen Phillips Blvd from Yorba Ave to Benson Ave from 2 to 4 lanes	2025	RTP	$3,829
4120233	San Bernardino, County	Widen Pipeline Ave from 0.04 miles s/o Philadelphia Ave to Phillips Blvd from 2 to 4 lanes	2025	RTP	$3,204
4A07216	San Bernardino, County	Widen Pipeline Ave from Chino Ave to Riverside Dr from 2 to 4 lanes	2025	RTP	$1,101
4A07061	San Bernardino, County	Widen Randall Ave from Cherry Ave to Poplar Ave from 2 to 4 lanes	2025	RTP	$2,790
200816	San Bernardino, County	Widen Rock Springs Rd from Glendale Ave to Deep Creek Rd from 2 to 4 lanes (including bridge)	2020	FTIP	$21,233
200816	San Bernardino, County	Widen Rock Springs Rd from Glendale Ave to Kiowa Rd (0.76 miles) from 2 to 4 lanes	2025	RTP	$21,233
4A07033	San Bernardino, County	Widen San Bernardino Ave from Alder Ave to Laurel Ave from 2 to 4 lanes	2025	RTP	$524
4A07240	San Bernardino, County	Widen San Bernardino Ave from Wabash Ave to Opal Ave from 2 to 4 lanes	2025	RTP	$778
4120136	San Bernardino, County	Widen Santa Ana Ave from Mullberry Ave to Almond Ave from 2 to 4 lanes	2030	RTP	$3,660
4A07153	San Bernardino, County	Widen Santa Ana Ave from Tamarind Ave to Locust Ave from 2 to 4 lanes	2030	RTP	$2,551
4160018	San Bernardino, County	Widen SR-247 from North Yucca Valley Town Limits to Reche Rd from 2 to 4 lanes	2040	RTP	$16,300
4160015	San Bernardino, County	Widen SR-62 from Riverside County Line to Yucca Valley Town Limits from 4 to 6 lanes	2030	RTP	$30,689
4A07097	San Bernardino, County	Widen Summit Valley Rd from SR-138 to Ranchero Rd from 2 to 4 lanes	2035	RTP	$21,000
20040210	San Bernardino, County	Widen Summit Valley Road from SH138 to Ranchero Rd from 2 to 4 lanes	2018	FTIP	$21,000
4A07013	San Bernardino, County	Widen Sunburn Ave from SR-62 to Crestview Dr from 2 to 4 lanes; adjust vertical Profile safety	2030	RTP	$15,000
4A07284	San Bernardino, County	Widen Valley Blvd from Cherry Ave to Hemlock Ave from 4 to 6 lanes	2025	RTP	$633
4A07363	San Bernardino, County	Widen Walnut Ave from 0.10 miles s/o Roswell Ave to Roswell Ave from 2 to 4 lanes	2035	RTP	$357
4160048	SANBAG	Direct Shuttle bus connection from Rancho Cucamonga Metrolink Station to Ontario Airport	2020	RTP	$4,000
4122002	SANBAG	Double tracking of Metrolink San Bernarino Line between CP Central and CP Archibald in San Bernardino County	2030	RTP	$94,500

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4160042	SANBAG	Double tracking of remaining single track segments of Metrolink San Bernardino Line	2040	RTP	$300,000
4TL204	SANBAG	Elderly & Handicapped Assistance	2025	RTP	$137,000
4120215	SANBAG	Express Bus Euclid Ave from Foothill Blvd to Pomona Rincon	2030	RTP	$128,695
4120211	SANBAG	Express Bus Grand/Edison Ave from Chino Hills Pkwy to Milliken Ave	2030	RTP	$30,088
4120206	SANBAG	Express Bus Haven Ave from Banyan St to Edison Ave	2030	RTP	$18,387
4120209	SANBAG	Express Bus Riverside Avenue from Sierra Ave to University Ave	2030	RTP	$28,416
4120205	SANBAG	Express Bus San Bernardino Ave from Sierra Ave to E St	2025	RTP	$15,729
4120204	SANBAG	Express Bus Sierra Ave from Riverside Ave to Marygold Ave	2025	RTP	$13,372
4160001	SANBAG	Express Lane Direct Connectors from SB I-15 to WB I-10 and reverse, NB I-15 to WB I-10 and reverse and WB I-10 to SB I-15 and reverse	2035	RTP	$550,000
4120219	SANBAG	Full BRT Foothill/5th from Monte Vista Ave to Boulder Rd	2025	RTP	$415,911
4120200	SANBAG	I-10 @ Alder Ave new interchange	2035	RTP	$99,000
SBD031269	SANBAG	I-10 @ Beech Avenue - construct new interchange with 4-lane overcrossing	2035	RTP	$113,023
4M01027	SANBAG	I-10 @ California St interchange improvements	2040	RTP	$45,000
4160004	SANBAG	I-10 @ Grove Ave/4th St new interchange	2040	RTP	$128,000
4120198	SANBAG	I-10 @ Mt Vernon Ave interchange improvements	2022	RTP	$37,125
4H01003	SANBAG	I-10 from Ford St to Riverside County Line - Add 1 HOV lane each direction	2030	RTP	$106,800
4M01045	SANBAG	I-215 @ Campus Pkwy new interchange	2040	RTP	$57,000
OM630	SANBAG	I-215 @ Mt. Vernon/Washington St Interchange reconstruction	2035	RTP	$109,048
4M01044	SANBAG	I-215 @ Palm Ave interchange improvements	2040	RTP	$11,000
4160049	SANBAG	Passenger Rail Service from San Bernardino to Metrolink Line to Ontario Airport	2040	RTP	$740,000
4120194	SANBAG	Redlands Passenger Rail - Add a second track/additional passing track throughout the corridor of Phase 1 project	2030	RTP	$183,490
4M01047	SANBAG	SR-210 @ Del Rosa Ave interchange improvements	2040	RTP	$36,000
4160017	SANBAG	SR-210 from I-215 to I-10 - Add HOV Lane	2040	RTP	$110,000

DRAFT

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4160011	SANBAG	SR-60 @ Central Ave - Ultimate interchange improvements - possible ramp widening and auxiliary lanes	2040	RTP	$50,000
4A01293	Twentynine Palms	Construct new 4-lane Lear Ave/Sunfair Rd from Poleline Rd to Marine Corps Air Station	2025	RTP	$18,500
4160014	Twentynine Palms	Operational improvements including signal and intersection modification on SR-62 from West Twentynine Palms City Limits to Morongo Rd	2035	RTP	$1,799
4A01297	Upland	Widen Central Ave from South Upland City Limits to Arrow Route from 4 to 6 lanes	2025	RTP	$3,590
4M07004	Victorville	I-15 @ Bear Valley Rd interchange improvements	2040	RTP	$25,000
4M1006	Victorville	I-15 @ Boulder Rd/Dale Evans Pkwy interchange reconstruction	2040	RTP	$500
4M07014	Victorville	I-15 @ Mojave St new interchange	2035	RTP	$50,000
4FR04	Victorville	SCLA - Track and intermodal yard improvements (Phases 1 through 4)	2030	RTP	$673,305
4120227	Victorville	Widen 3rd Ave from 0.20 miles s/o Nisqualli Rd to 600 feet n/o Bear Valley Rd from 2 to 4 lanes	2025	RTP	$1,400
4120228	Victorville	Widen 3rd Ave from 600' n/o Bear Valley Rd to Bear Valley Rd from 0 to 4 lanes	2025	RTP	$400
4A07149	Victorville	Widen Amargosa Rd from Air Expressway to Village Dr from 0 to 4 lanes (includes wash crossing)	2035	RTP	$6,000
4160022	Victorville	Widen Amethyst Rd from Bear Valley Rd to Sycamore Rd from 2 to 4 lanes	2035	RTP	$1,000
4160021	Victorville	Widen Amethyst Rd from Mojave Dr to Dos Palmas Rd from 2 to 4 lanes	2035	RTP	$4,000
4A07223	Victorville	Widen Amethyst Rd from Rancho Rd to Mojave Dr from 0 to 4 lanes	2035	RTP	$8,000
4120235	Victorville	Widen Amethyst Rd from Sycamore Rd to Eucalyptus Rd from 0 to 4 lanes	2035	RTP	$2,000
4A07285	Victorville	Widen Baldy Mesa Rd from La Mesa Rd to Olivine Rd from 0 to 4 lanes	2035	RTP	$632
4A01310	Victorville	Widen Baldy Mesa Rd from Palmdale Rd to La Mesa Rd from 2 to 4 lanes	2035	RTP	$3,000
4A07156	Victorville	Widen Bear Valley from US-395 to Monte Vista Rd from 2 to 6 lanes	2035	RTP	$8,000
4A07355	Victorville	Widen Bear Valley Rd from 0.5 miles e/o I-15 to US-395 from 4 to 6 lanes	2035	RTP	$11,000
4A07096	Victorville	Widen Bellflower Rd from Palmdale Rd to Sycamore St from 0 to 4 lanes	2035	RTP	$12,000
4A07331	Victorville	Widen Civic Dr from Mojave Dr to Roy Rogers Dr from 0 to 4 lanes	2025	RTP	$2,000
4A07307	Victorville	Widen El Evado Rd from Hopland Rd to Palmdale Rd (SR-18) from 2 to 4 lanes	2035	RTP	$5,000
4160031	Victorville	Widen Eucalyptus St from 0.15 miles w/o Cobalt Rd to Mesa View Dr from 2 to 4 lanes	2035	RTP	$3,800
4A07249	Victorville	Widen Eucalyptus St from Amargosa Rd to Amethyst Rd from 0 to 6 lanes	2025	RTP	$2,400
4120224	Victorville	Widen Eucalyptus St from Amethyst Rd to 0.15 miles w/o Cobalt Rd from 0 to 4 lanes (includes wash crossing)	2035	RTP	$3,600
4A07286	Victorville	Widen Eucalyptus St from Mesa View Dr to Bellflower Rd from 0 to 4 lanes (Victorville portion only)	2035	RTP	$2,000
4A01325	Victorville	Widen Hook Blvd from US 395 to 0.4 miles west of Topaz Rd from 0 to 4 lanes	2035	RTP	$4,000
4160036	Victorville	Widen Hook from Amethyst Rd to Topaz Rd from 2 to 4 lanes	2025	RTP	$2,000
4A07387	Victorville	Widen Hopland St from 0.25 miles w/o Cobalt Rd to El Evado Rd from 2 to 4 lanes	2035	RTP	$3,500
4A07309	Victorville	Widen Hopland St from US-395 to 0.25 miles w/o Cobalt Rd from 0 to 4 lanes	2035	RTP	$5,200
4A07224	Victorville	Widen La Mesa Rd from Caughlin Rd to White Rd frm 0 to 4 lanes	2035	RTP	$4,000
4A07288	Victorville	Widen La Mesa Rd from Mesa View Dr to Cantina Rd from 0 to 4 lanes (Victorville portion only)	2025	RTP	$2,600
4A07092	Victorville	Widen La Mesa Rd from White Rd to Mesa View Dr from 0 to 4 lanes	2035	RTP	$14,000
4A07332	Victorville	Widen Mariposa Rd from 0.3 miles s/o Yates Rd to Palmdale Rd from 2 to 4 lanes	2035	RTP	$1,800
4A07221	Victorville	Widen Monte Vista Rd from Palmdale Rd to Bear Valley Rd from 2 to 4 lanes	2035	RTP	$5,000
4A01339	Victorville	Widen National Trail Highway from Mojave River to I-15 from 2 to 4 lanes	2025	RTP	$4,600
4A07239	Victorville	Widen National Trails Hwy from Mojave River to 1.6 miles n/o Mojave River from 2 to 4 lanes	2035	RTP	$3,200
4A01343	Victorville	Widen Ottawa St from Mariposa Rd to Third Ave from 0 to 4 lanes	2035	RTP	$6,000

APPENDIX B - Aggressive Scenario

RTP/FTIP ID	Lead Agency	Description	Year Complete	Project List	Project Cost
4A07023	Victorville	Widen Palmdale Rd from US 395 to I-15 from 4 to 6 lanes	2035	RTP	$8,600
4A07282	Victorville	Widen Rancho Rd from Amethyst Rd to El Evado Rd from 0 to 4 lanes	2035	RTP	$2,000
4A07376	Victorville	Widen Rancho Rd from El Evado Rd to 0.4 miles w/o National Trails Highway from 2 to 4 lanes	2035	RTP	$1,400
4A01362	Victorville	Widen Rancho Rd from National Trails Highway to 0.4 miles w/o National Trails Hwy from 0 to 4 lanes	2035	RTP	$154
4A07113	Victorville	Widen Seneca Rd from Topaz Rd to Amargosa Rd from 2 to 4 lanes	2035	RTP	$2,000
4A01354	Victorville	Widen Seneca Rd from US-395 to Topaz Rd from 0 to 4 lanes	2035	RTP	$4,000
4A07075	Victorville	Widen Smoketree Rd from Topaz Rd to Amargosa Rd from 0 to 4 lanes (includes wash crossing)	2035	RTP	$5,000
4A07359	Victorville	Widen Stoddard Wells from Dante St to I-15 from 2 to 4 lanes	2035	RTP	$5,200
4160065	Victorville	Widen Topaz Rd from 0.3 mi. n/o Bear Valley Rd to Eucalyptus St from 2 to 4 lanes	2035	RTP	$2,600
4160064	Victorville	Widen Topaz Rd from Dos Palmas Rd to Luna Rd from 2 to 4 lanes	2025	RTP	$1,000
4A07283	Victorville	Widen Topaz Rd from Eucalyptus Rd to Smoketree Rd from 0 to 4 lanes	2035	RTP	$4,000
4A07164	Victorville	Widen Topaz Rd from Hopland St to Dos Palmas Rd from 0 to 4 lanes	2035	RTP	$12,000
4M04033	Yucaipa	I-10 @ Wildwood Cyn interchange improvements	2035	RTP	$35,000
4A04415	Yucaipa	Widen 14th St from Yucaipa Blvd to Oak Glen Rd from 2 to 4 lanes	2025	RTP	$4,405
4A01366	Yucaipa	Widen 5th St from Yucaipa Blvd to County Line Rd from 2 to 4 lanes	2025	RTP	$5,215
4A07248	Yucaipa	Widen Ave E from 14th St to Bryant St from 2 lanes to 4 lanes	2025	RTP	$894
4A04417	Yucaipa	Widen Bryant St from North Yucaipa City Limits to County Line Rd from 2 to 4 lanes	2025	RTP	$7,796
4A01367	Yucaipa	Widen California St from Wildwood Cyn Rd to County Line Rd from 2 to 4 lanes	2025	RTP	$1,535
4A01368	Yucaipa	Widen Calimesa Blvd from Oak Glen Rd to County Line Rd from 2 to 4 lanes	2025	RTP	$2,820
4A01370	Yucaipa	Widen County Line Rd from Calimesa Blvd to Bryant St from 2 to 4 lanes	2025	RTP	$2,499
4A01371	Yucaipa	Widen Live Oak Canyon Rd from West City Limit to I-10 from 2 to 4 lanes	2025	RTP	$1,527
4A07041	Yucaipa	Widen Oak Glen Rd from Colorado St to Casa Blanca Ave from 2 to 4 lanes	2025	RTP	$7,748
4A01376A	Yucaipa	Widen Wildwood Cyn Rd from Calimesa Blvd to Colorado St from 2 to 4 lanes	2025	RTP	$1,359
4A01376B	Yucaipa	Widen Wildwood Cyn Rd from Colorado St to Holmes St from 2 to 4 lanes	2025	RTP	$4,785
4A07022	Yucaipa	Widen Wildwood Cyn Rd from Outer Hwy I-10 St to Calimesa Blvd from 2 to 4 lanes	2025	RTP	$11,905
4A04418	Yucaipa	Widen Yucaipa Blvd from I-10 to Bryant St from 4 to 6 lanes	2025	RTP	$15,642
4160016	Yucca Valley	Operational Improvements including signal and intersection modifications on SR-62 from SR-247 to East Yucca Valley Town Limits	2035	RTP	$1,053
4A01386	Yucca Valley	Widen SR-247 from North Yucca Valley Town Limits to SR-62 from 2 to 4 lanes	2035	RTP	$15,317
4A01383	Yucca Valley	Widen SR-62 from Fairway Dr to SR-247 from 4 to 6 lanes	2030	RTP	$20,904
4160071	Yucca Valley	Widen Yucca Mesa Dr from Buena Vista Dr to SR-62 from 2 to 4 lanes	2040	RTP	$5,605
				Total	**$9,301,318**

FTIP	$90,133
RTP	$9,295,503
Total	$9,385,636

DRAFT

Appendix D:
Interim Network Memorandum



FEHR PEERS

MEMORANDUM

Date: Monday, November 21, 2016

To: Colin Drukker, Placeworks

From: Jason Pack, Fehr & Peers
Michael Sahimi, Fehr & Peers

Subject: Future Transportation Network Improvements, Opportunities, and Issues in San Bernardino County

OC15-0399

DRAFT

With the County of San Bernardino's General Plan Update underway, it is important to be cognizant of future transportation improvements, trends and the opportunities they present for the County as the Plan is developed. This memorandum highlights key future facilities and other issues that the County should be aware of. The information in this memorandum builds upon the *San Bernardino Countywide Plan Transportation Existing Conditions Report* (January 2016).

The remainder of this memorandum is organized into the following sections:

- Future Roadway Network
- Congestion Management Plan (CMP) Locations
- Scenic Routes and Trails
- Existing Bridges and Deficiencies
- Public Transit
- Airports
- Goods Movement
- Non-Motorized Facilities
- Commute Patterns
- Proposed Count Locations (For General Plan Update EIR)
- Summary and Conclusions

Since the *Existing Conditions Report* was prepared in late 2015 and early 2016, the County has modified its regional boundary extents. As such, the Desert Region has been divided into the North Desert Region and the East Desert Region. This report and accompanying maps reflect this update.

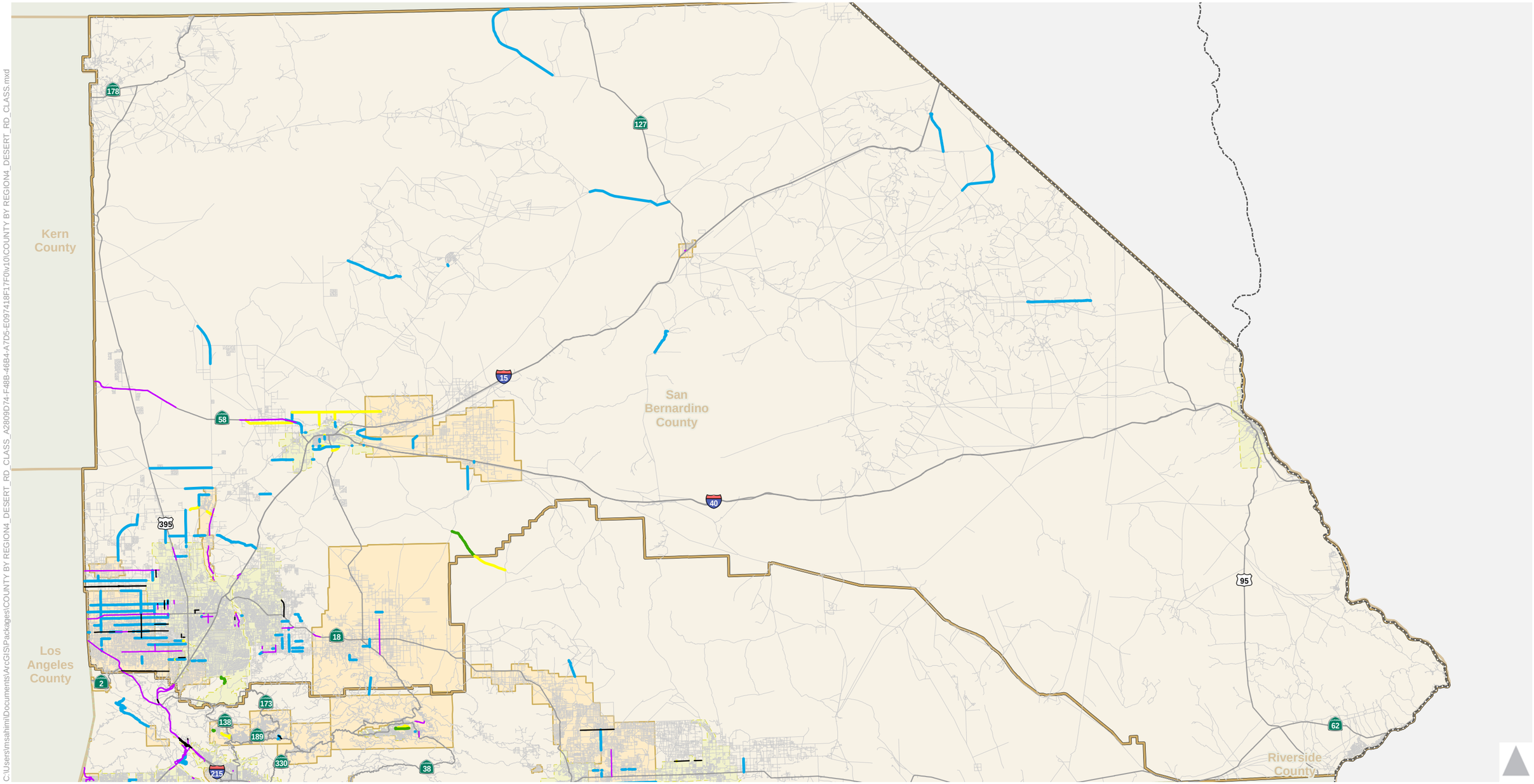
FUTURE ROADWAY NETWORK

Several roadway improvement programs are slated for County roadways in the coming decades, according to the Southern California Association of Governments (SCAG). The SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is the official transportation plan for six of the 10 counties in Southern California (Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County). The RTP includes a list of funded transportation projects in each of the counties. For projects within San Bernardino County, SCAG develops a list of funded projects with input from the San Bernardino Associated Governments (SANBAG). Figures 1A through 1D show RTP projects in the County, classified as either construction of new roadways or widening of existing roadways. Projects are shown only for unincorporated portions of the County for clarity.

The County's previous General Plan also identifies a roadway network that includes several proposed roadways. These consist of entirely new roadways and paving existing dirt roadways. Figures 1A through 1D display proposed roadways according to the County's previous General Plan. As shown on the figures, several proposed roadways do not overlap with or are not consistent with RTP improvements. The County should strive to develop a proposed roadway network consistent with the RTP and ensure proposed roadway improvements are funded.

Figures 1A through 1D also provide suggestions for deletions from the County's proposed roadway network. These include suggestions provided by County staff and by Fehr & Peers as the roadways are too local in nature to be identified in the Countywide Circulation Element, or are not needed to provide circulation in the County. Specific improvements and proposed deletions within each region are discussed below.

DRAFT



C:\Users\msahim\Documents\ArcGIS\Packages\COUNTY BY REGION4_DESERT_RD_CLASS_A2809D74-F48B-46B4-A7D5-E097418F17F0\v10\COUNTY BY REGION4_DESERT_RD_CLASS.mxd

Current General Plan Proposed Roadway

Proposed Deletion (F&P)

Proposed Deletion (County)

RTP: New Facilities

RTP: New Lanes/Widening

North Desert Region

City Boundaries

Community Plan Boundaries

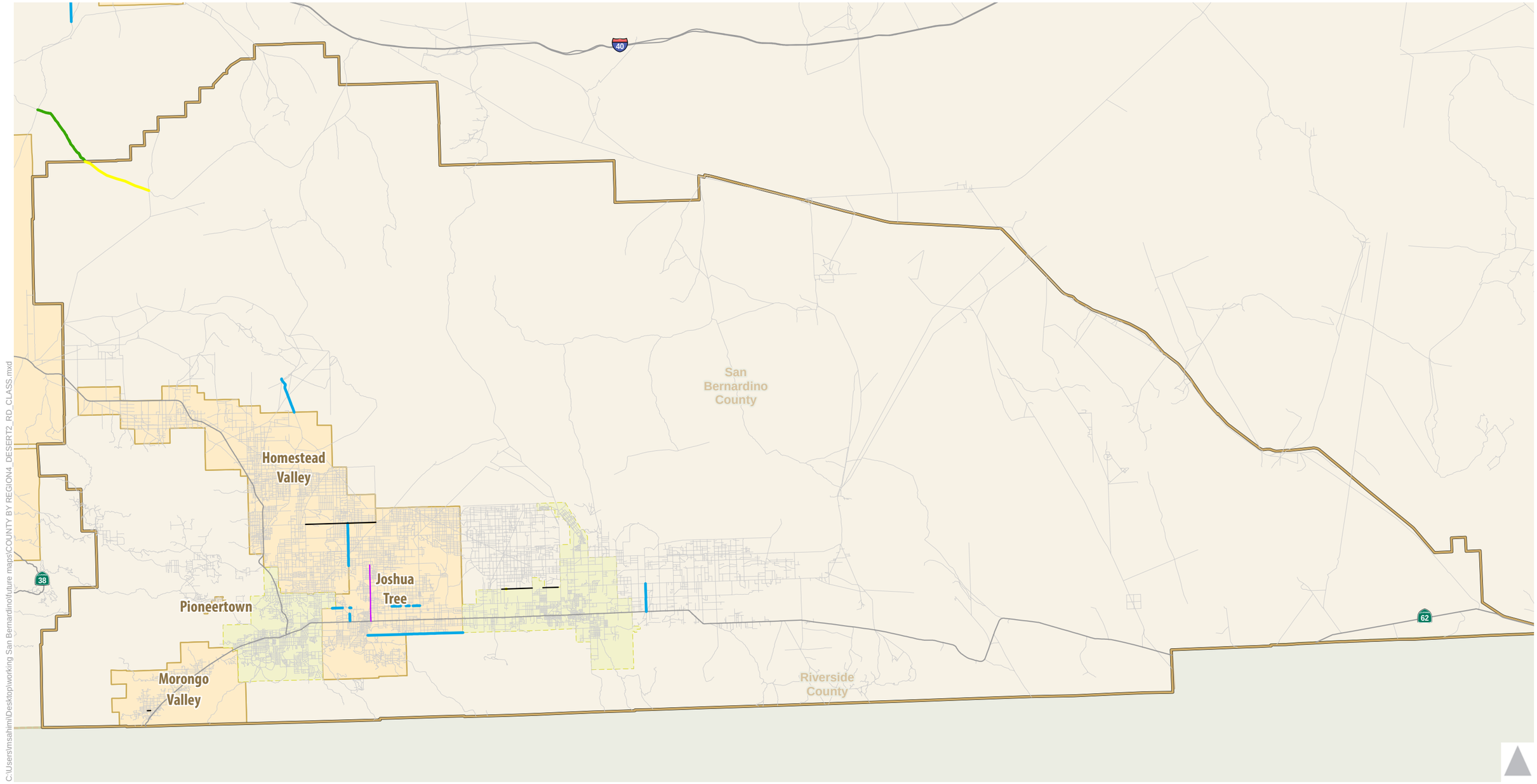
San Bernardino County

DRAFT

Figure 1A

North Desert Region - Future Roadways

*within Unincorporated County



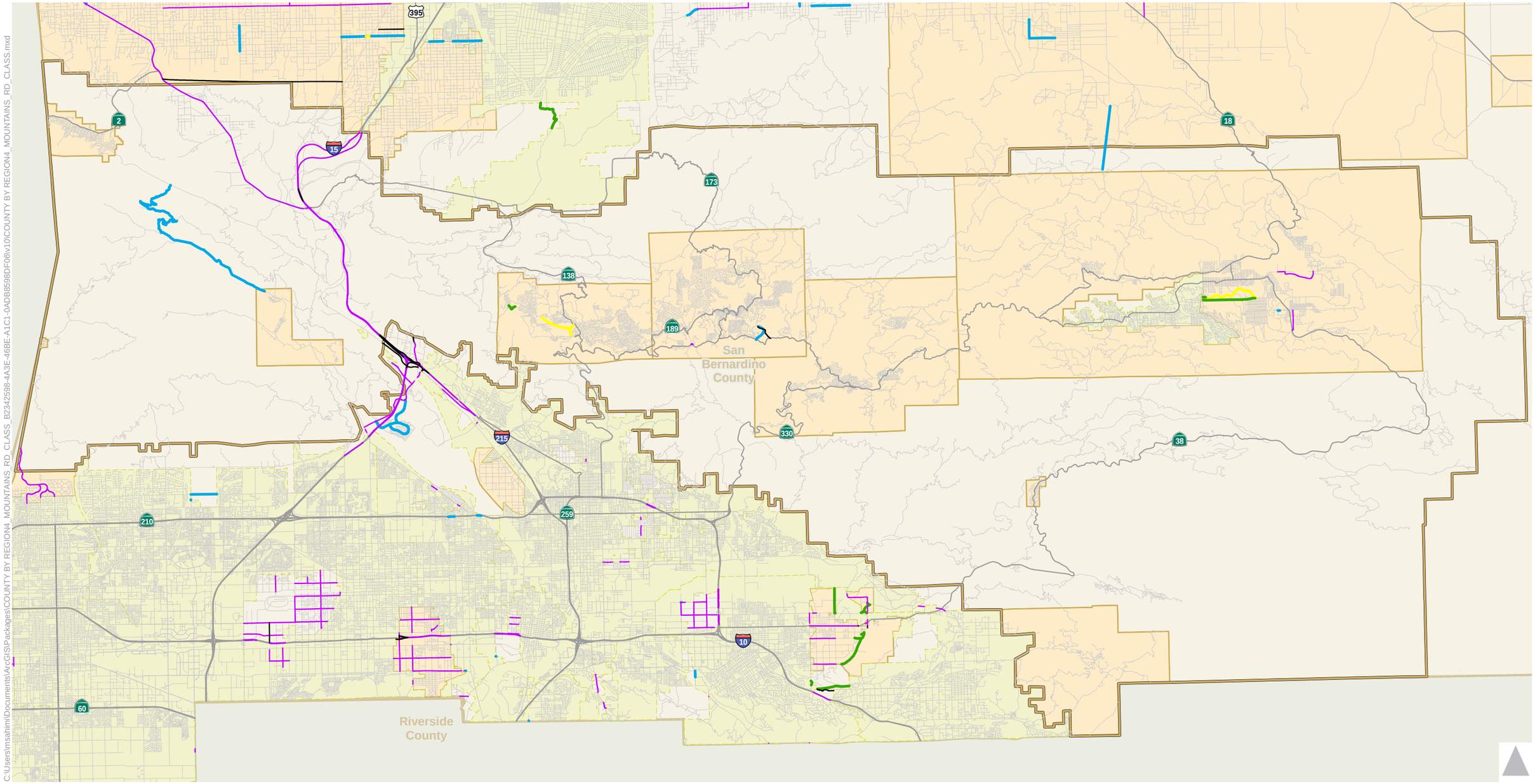
Current General Plan Proposed Roadway
Proposed Deletion (F&P)
Proposed Deletion (County)
RTP: New Facilities
RTP: New Lanes/Widening
East Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 1B

East Desert Region - Future Roadways

*within Unincorporated County



C:\Users\msahin\Documents\ArcGISPackages\COUNTY BY REGION4_MOUNTAINS_RD_CLASS_B2342598-4A3E-46BE-A1C1-0ADB8598DF06\v10\COUNTY BY REGION4_MOUNTAINS_RD_CLASS.mxd

Current General Plan Proposed Roadway
Proposed Deletion (F&P)
Proposed Deletion (County)
RTP: New Facilities
RTP: New Lanes/Widening
Regions_151006
City Boundaries
Community Plan Boundaries
San Bernardino County

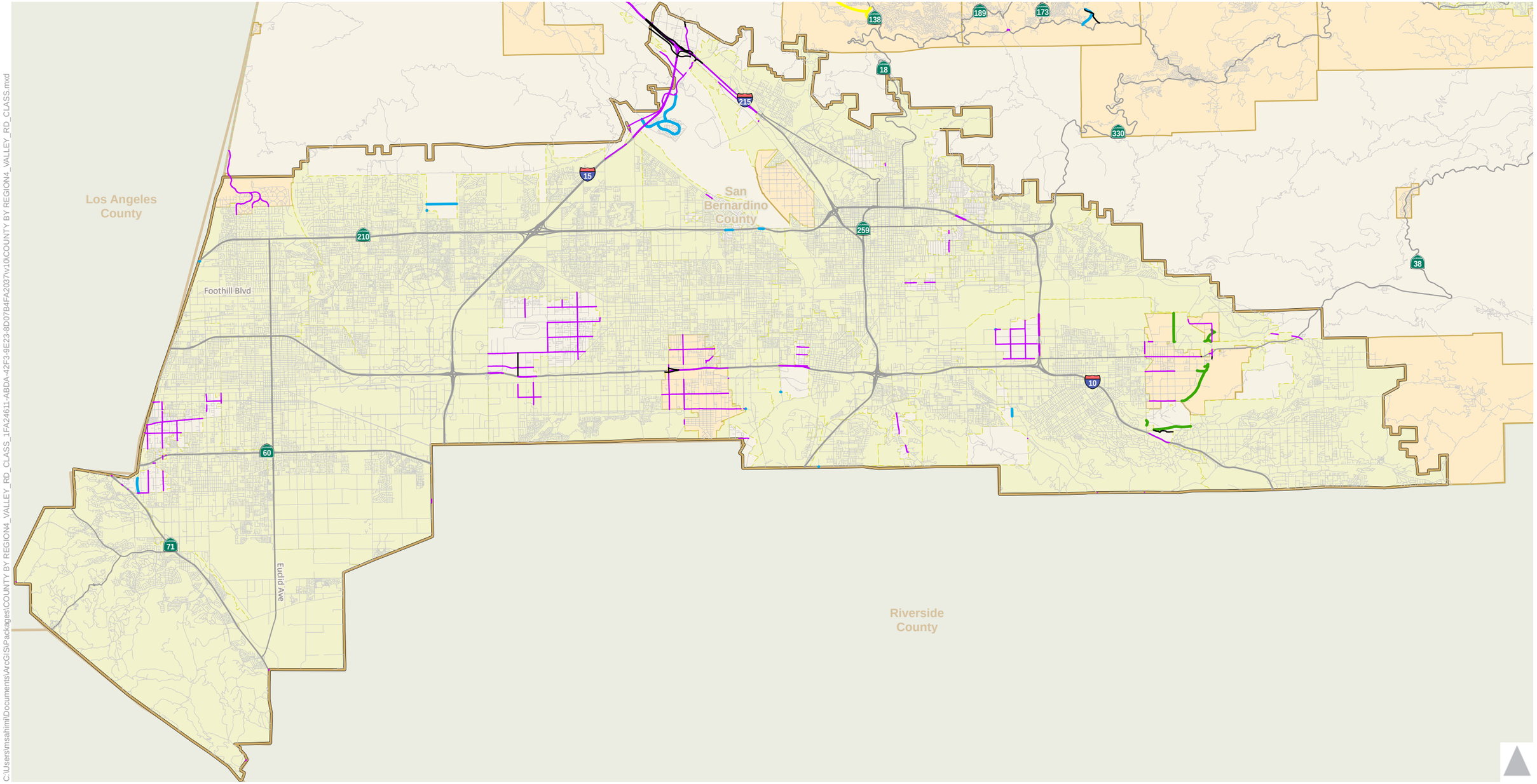
DRAFT

Figure 1C

Mountain Region - Future Roadways

*within Unincorporated County

C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_RD_CLASS_1FA24611-ABDA-42F3-9E23-8D07B4FA2037v10\COUNTY BY REGION4_VALLEY_RD_CLASS.mxd



Current General Plan Proposed Roadway
Proposed Deletion (F&P)
Proposed Deletion (County)
RTP: New Facilities
RTP: New Lanes/Widening
Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 1D

Valley Region - Future Roadways

*within Unincorporated County

NORTH DESERT REGION

According to the RTP, new roadways such as Ranchero Road, Duncan Road, Wilson Ranch Road, and La Mesa Road are planned in Phelan/Pinon Hills. In addition, the High Desert Corridor, discussed below, is planned near Phelan/Pinon Hills, El Mirage, and Oro Grande. A number of roadway widening improvements are also listed in the RTP. For example, portions of State Routes 58 and 138 will be widened from two to four lanes, which will accommodate higher volumes through the region and to various communities.

Previous General Plan roadway improvements in this region include the completion of the network and road extensions at locations such as Dos Palmas Road, Wilson Ranch Road, Mojave Drive, Smoke Tree Road in Phelan/Pinon Hills. The County has proposed deleting a few proposed segments due to rugged terrain and lack of a visible trail. Fehr & Peers has also proposed deleting two other locations (Los Flores Road and County Road 21017).

EAST DESERT REGION

There are a limited number of RTP improvements in the East Desert Region. These include new roads such as Winters Road and Amboy Road and some widening along Sunburst Avenue in Joshua Tree. The previous General Plan includes the completion of the network and extensions at locations such as Giant Rock Road near Homestead Valley and Baseline Road and Two Mile Road in Joshua Tree.

MOUNTAIN REGION

RTP improvements in the Mountain Region consist of widening or improving existing facilities. These include a truck climbing lane on State Route 138 and express lanes on Interstate 15, both of which will accommodate increased goods movement and passenger vehicles through the region. In addition, improvements include widening portions of Shay Road and Hatchery Drive in Bear Valley.

Previous General Plan roadway improvements in this region includes the completion of the network and extensions at locations such as Lytle Creek. The County has proposed deleting a few proposed segments due to rugged terrain and lack of a visible trail. Fehr & Peers has also proposed deleting two other locations (Devils Canyon Road and Juniper Drive).

DRAFT

SANBAG is currently undertaking the Mountain Area Transportation Study (MATS), which will identify and analyze roads and intersections that provide access to, from, and within the Mountain Region's communities. This plan's ultimate goal is a sub-regional transportation improvement plan that identifies key projects that address both existing and forecast deficiencies during both peak summer and winter seasons. Upon completion, the study's results will be incorporated into the General Plan Update. SANBAG has conducted outreach for this study including through an interactive web map. Feedback from stakeholders regarding existing issues along Mountain roadways has included:

- Lack of shoulder lanes or pullouts along some roadways, including near scenic vistas
- Visibility and sight distance issues
- Steep grade that is difficult to navigate in winter conditions
- Lack of turn pockets on some roads
- Lack of wide roads
- Conflicts between local and tourist traffic, especially during peak season
- Lack of alternative routes

VALLEY REGION

According to the RTP, proposed new facilities in the Valley Region include a new Interstate 10 interchange at Alder Avenue, truck bypass lanes on Interstate 15 and Interstate 215, and high-occupancy vehicle (HOV) lanes on Interstate 15. Local roads such as Mountain Avenue, Pipeline Avenue, San Bernardino Avenue, Valley Boulevard, Cherry Avenue, Arrow Route, Jurupa Avenue, Santa Ana Avenue, Locust Avenue, Mentone Boulevard, and Colton Avenue will also be widened. The previous General Plan includes the completion of the network and extensions at locations such as Wilson Avenue. Fehr & Peers has proposed deleting a number of segments from the County's network in and around Mentone to reduce duplicate or parallel roadways.

CMP LOCATIONS

To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the CMP was enacted by Proposition 111, passed by

DRAFT

voters in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the Statewide Transportation Improvement Program (STIP) process, a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

The Congestion Management Program for San Bernardino County, published and periodically updated by SANBAG, defines a network of state highways and arterials in the county and provides guidelines regarding level of service standards, impact criteria, and a process for mitigation of impacts on CMP facilities in the county. The minimum acceptable level of service (LOS) for CMP facilities is LOS E, with certain exceptions. The 2016 Congestion Management Program was updated in June 2016.

Within the County, there are 441 CMP monitored intersections along the County's major highways and arterials which also form the CMP Network, as shown on Figures 2A through 2D. Almost all CMP intersections are located within incorporated cities, with less than 15 intersections lying within the County's unincorporated communities. Nevertheless, the County should be aware of the CMP intersections within both incorporated and unincorporated communities and reduce impacts that can degrade performance along these facilities due to future development and growth.

NORTH DESERT REGION

There are 49 CMP intersections in the North Desert Region. Of those, one intersection (State Route 18 and Bear Valley Road) is outside any incorporated city. Several major roadways are part of the CMP network, including Interstate 40, Interstate 15, US Route 395, State Route 18, US Route 95, El Mirage Road, Phelan Road, Bear Valley Road, Arrowhead Lake Road, State Route 138, and State Route 247.

EAST DESERT REGION

There is one CMP intersection in the East Desert Region (State Route 247 and State Route 62), which does not fall into any unincorporated communities. The CMP network in this region consists of State Routes 62 and 247.

DRAFT

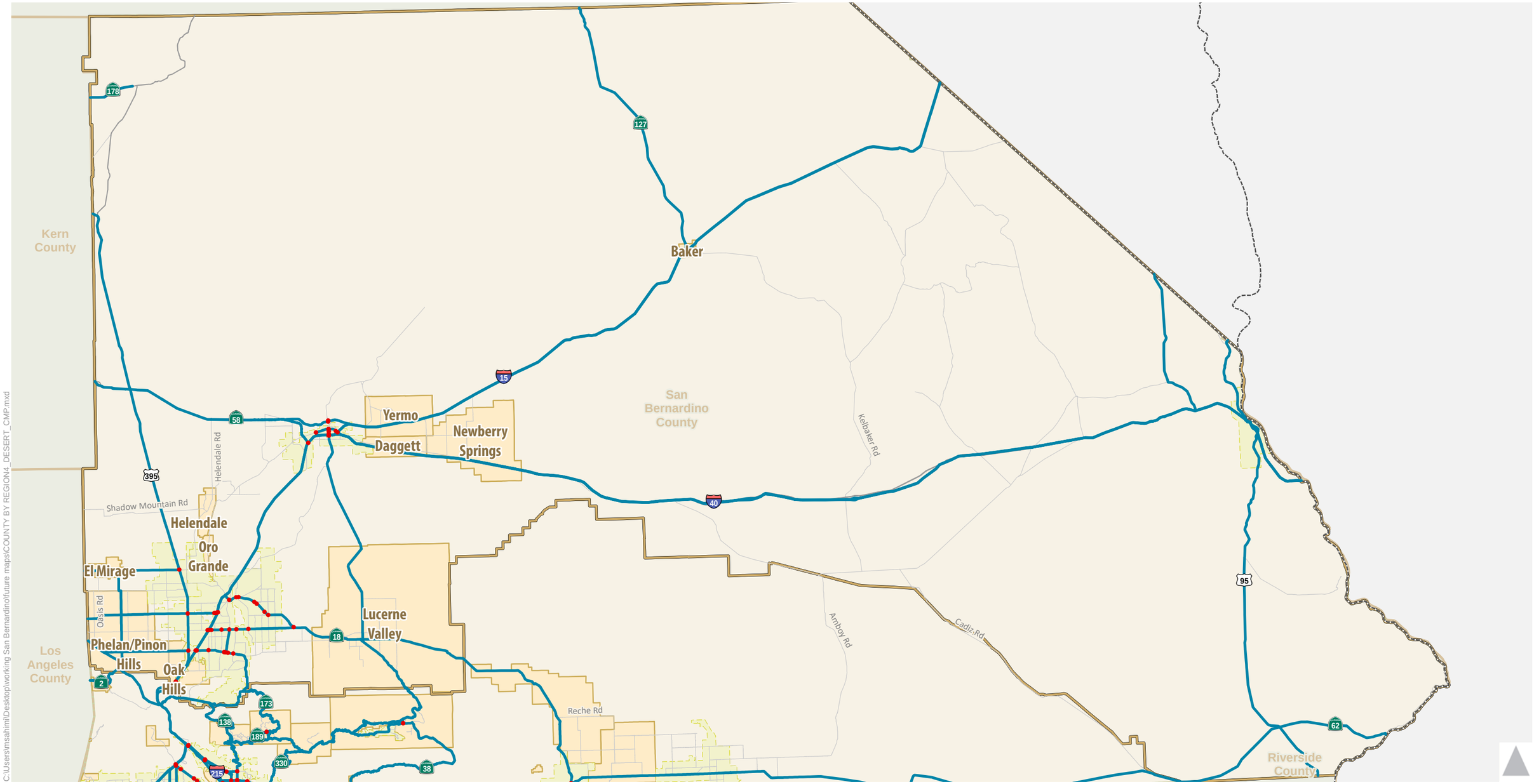
MOUNTAIN REGION

There are three CMP intersections in the Mountain Region, all of which fall within unincorporated communities. These intersections are Greenway Drive South and State Route 18 (in Lake Arrowhead), Greenway Drive North and State Route 38, and State Route 38 and State Route 18 (in Bear Valley). The CMP network in this region includes Interstate 15 and State Routes 18, 38, 138, 173, 189, and 330.

VALLEY REGION

There are 388 CMP intersections in the Valley Region. Thirteen of those intersections are in unincorporated areas: four are in Mentone, seven are in Bloomington, and two do not fall within any community plan boundaries. The CMP network in the Valley Region includes several highways and major arterials such as Cedar Avenue, Bloomington Avenue, Alder Avenue, Cajon Road, Garnet, Foothill, Lugonia Avenue, Wabash Avenue, 5th Street, Interstate 15, Interstate 215, and State Route 210.

DRAFT

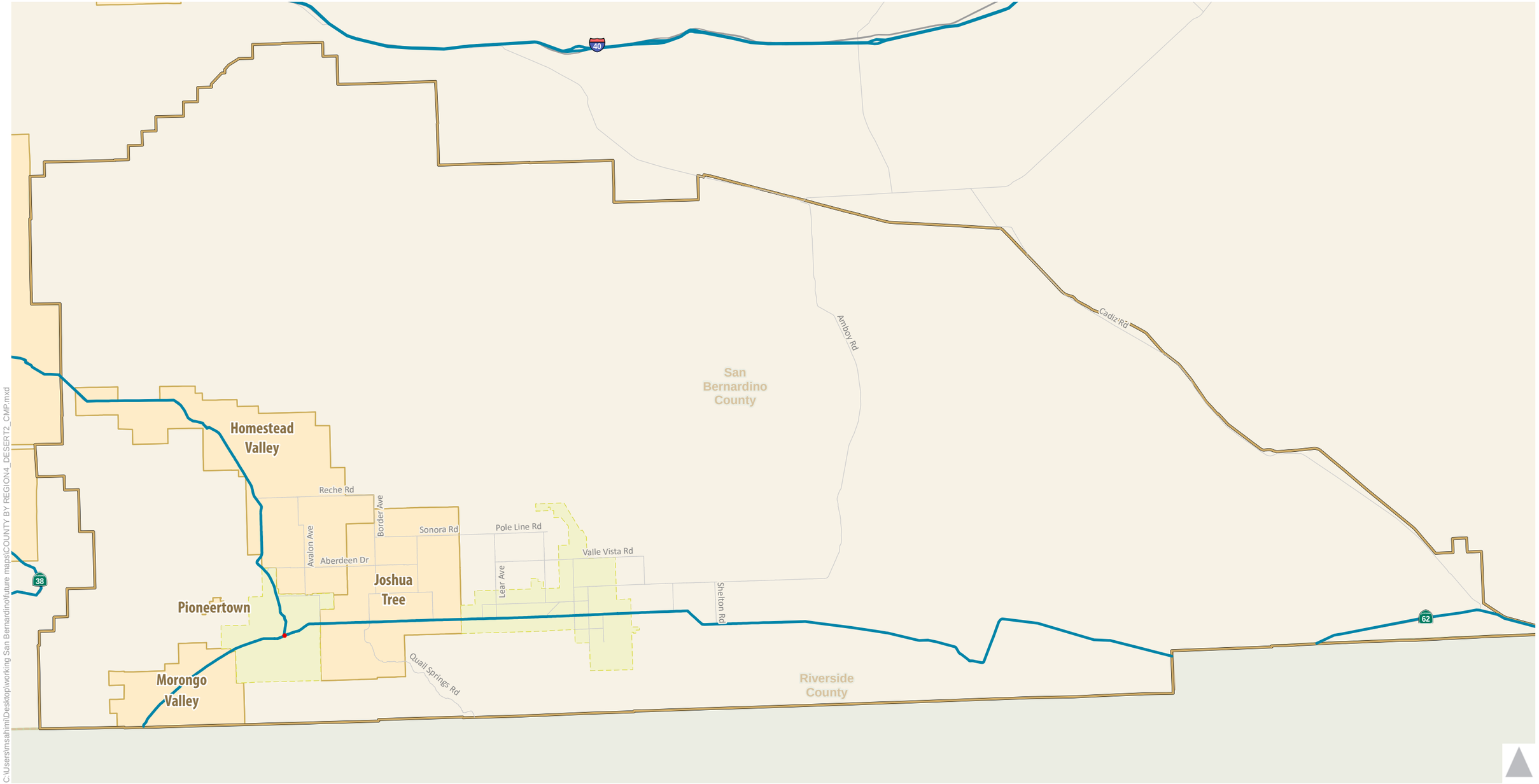


- CMP Monitored Intersection
- CMP Network
- North Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

DRAFT

Figure 2A

North Desert Region - Existing CMP Network

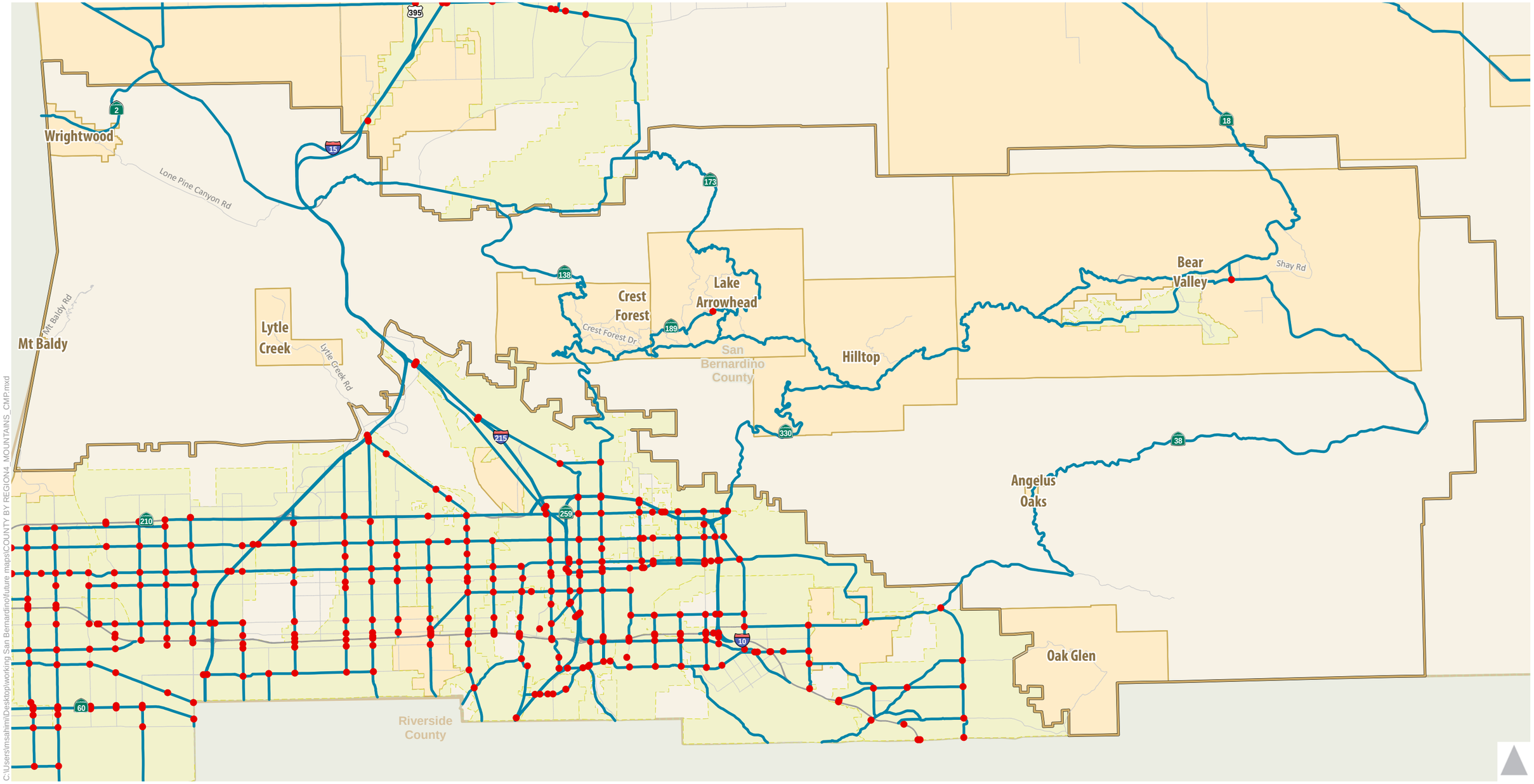


- CMP Monitored Intersection
- CMP Network
- East Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

DRAFT

Figure 2B

East Desert Region - Existing CMP Network

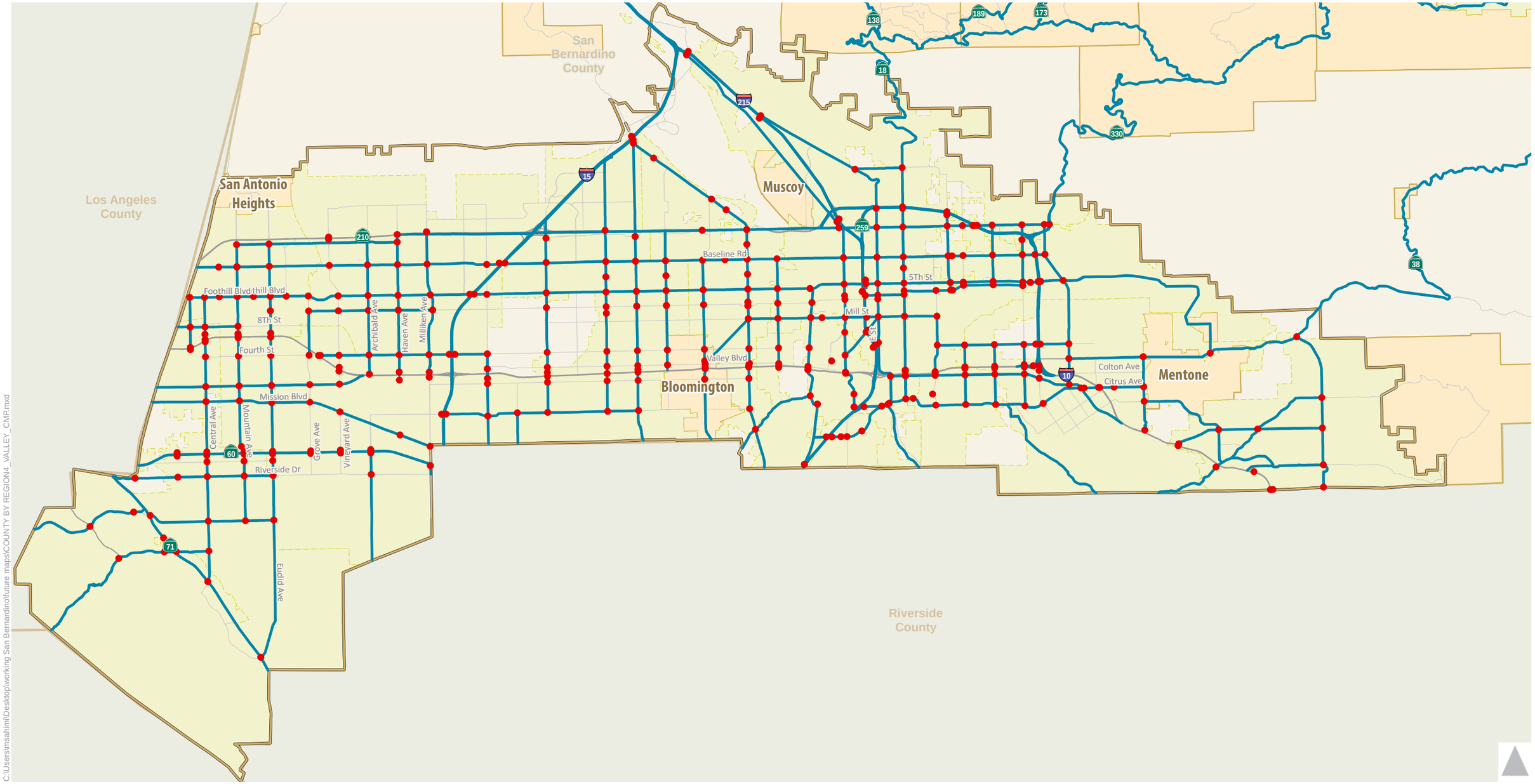


C:\Users\msahinil\Desktop\working San Bernardino\future maps\COUNTY BY REGION\4_MOUNTAINS_CMP.mxd

DRAFT

Figure 2C

Mountain Region - Existing CMP Network



CMP Monitored Intersection
CMP Network
Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 2D

Valley Region - Existing CMP Network

C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_CMP.mxd

SCENIC ROUTES AND TRAILS

Throughout San Bernardino County are vast undeveloped tracts of land that offer significant scenic vistas. However, future growth and development can increase pressure on these areas. Several scenic vistas are located along roadway facilities, especially throughout the North Desert, East Desert, and Mountain Regions. The County created the Scenic Highway Overlay to ensure the quality and character of these locations. Improvements under the overlay are subject to several land use and aesthetic controls. Under this overlay, several roads in the County are deemed Designated Scenic Routes. The County should ensure that these routes continue to be preserved and maintained and consider adding additional locations under this designation if deemed necessary.

In addition, the California Scenic Highway Program was created by the Legislature in 1963 as an attempt to preserve and protect scenic highway corridors from changes and development that would diminish the aesthetic value of lands adjacent to highways. It is important to note that no restrictions are placed on officially designated scenic highways in terms of improvements or further development. However, proposed projects are reviewed by Caltrans and the appropriate agencies to ensure the protection of the scenic corridors to the maximum extent feasible. The only existing state-designated Scenic Highway is State Route 38 (from east of the South Fork Campground to 2.9 miles south of State Route 18 at the state line).

The County recognizes that scenic regional trails are an important part of the transportation system that improves access to open spaces for pedestrians, bicyclists, and equestrians. As such, the County has proposed a system of regional trails consisting of County-designated multi-use trail facilities.

The proposed regional trails network and existing state-designated Scenic Highways and County Designated Scenic Routes are shown on Figures 3A through 3D. As the County continues to develop, it should ensure protection and expansion of these facilities as needed.

NORTH DESERT REGION

There are no existing state-designated Scenic Highways in the North Desert Region. Existing county-designated Scenic Routes include portions of Interstate 15, Interstate 40, Barstow Road, State Route 18, and State Route 138. The proposed regional trails network in the region includes the Death Valley Trail, Old Spanish Santa Fe, and the Majave Trail.

DRAFT

EAST DESERT REGION

There are no existing state-designated Scenic Highways in the North Desert Region. Existing county-designated Scenic Routes include portions of Amboy Road, Twentynine Palms Highway, and Old Woman Springs Road. The proposed regional trails network in the region includes a portion of the Pacific Crest Trail.

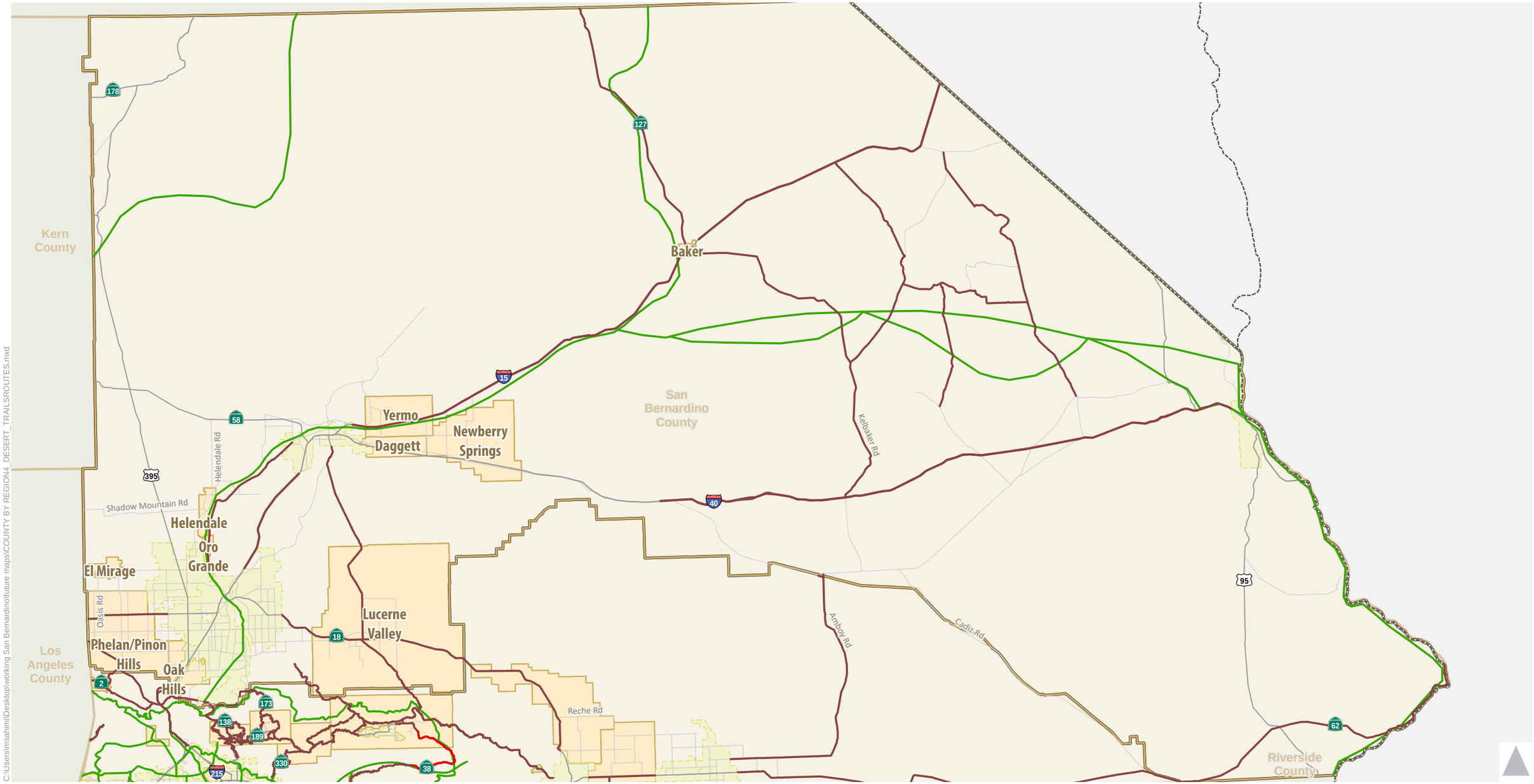
MOUNTAIN REGION

State Route 38 (from east of the South Fork Campground to 2.9 miles south of State Route 18 at the state line) is the only existing state-designated Scenic Highway in San Bernardino County. County-designated Scenic Routes in the Mountain Region are extensive, including portions of Interstate 15, State Route 18, State Route 138, State Route 38, State Route 330, and several local roads. In addition, the proposed regional trails network in the region includes portions of the Pacific Crest Trail, Lytle Creek Trail, Cucamonga Creek Trail, and Santa Ana River Trail.

VALLEY REGION

There are no existing state-designated Scenic Highways in the Valley Region. Existing county-designated Scenic Routes include portions of State Route 38, State Route 71, Interstate 10, 5th Avenue, Citrus Avenue, Mentone Boulevard, Crafton Avenue, Highland Avenue, Sand Canyon Road, San Bernardino Avenue, and Colton Avenue. The proposed regional trails network in the region includes the Santa Ana River Trail, Cajon Creek Trail, San Timoteo Creek Trail, Day Creek Trail, Cucamonga Creek Trail, and Baseline Road Trail.

DRAFT



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_TRAILSROUTES.mxd

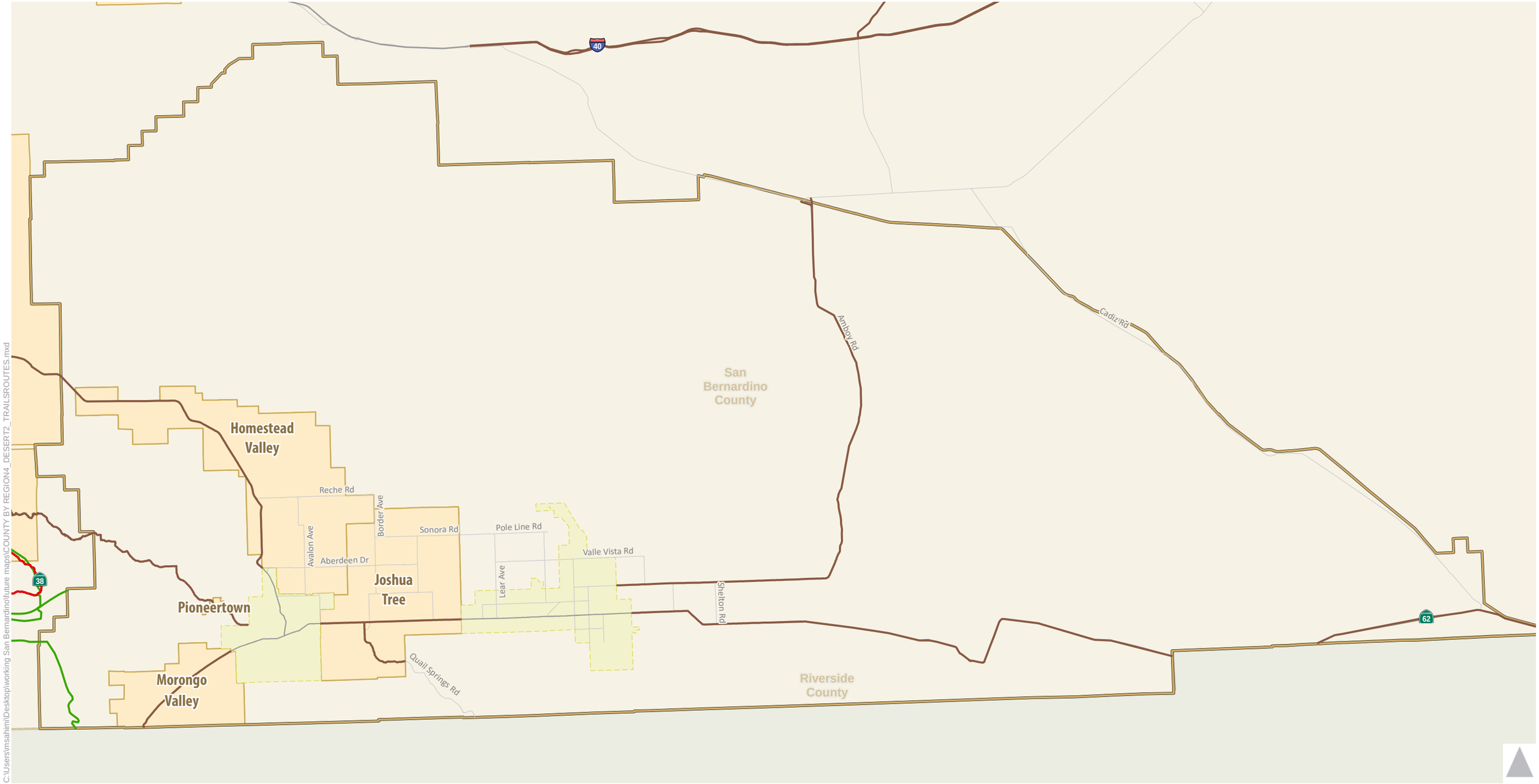
Existing State Designated Scenic Highway
Existing County Designated Scenic Routes
Proposed Regional Trails
North Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 3A

North Desert Region - Scenic Routes and Trails

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only



Existing State Designated Scenic Highway

Existing County Designated Scenic Routes

Proposed Regional Trails

East Desert Region

City Boundaries

Community Plan Boundaries

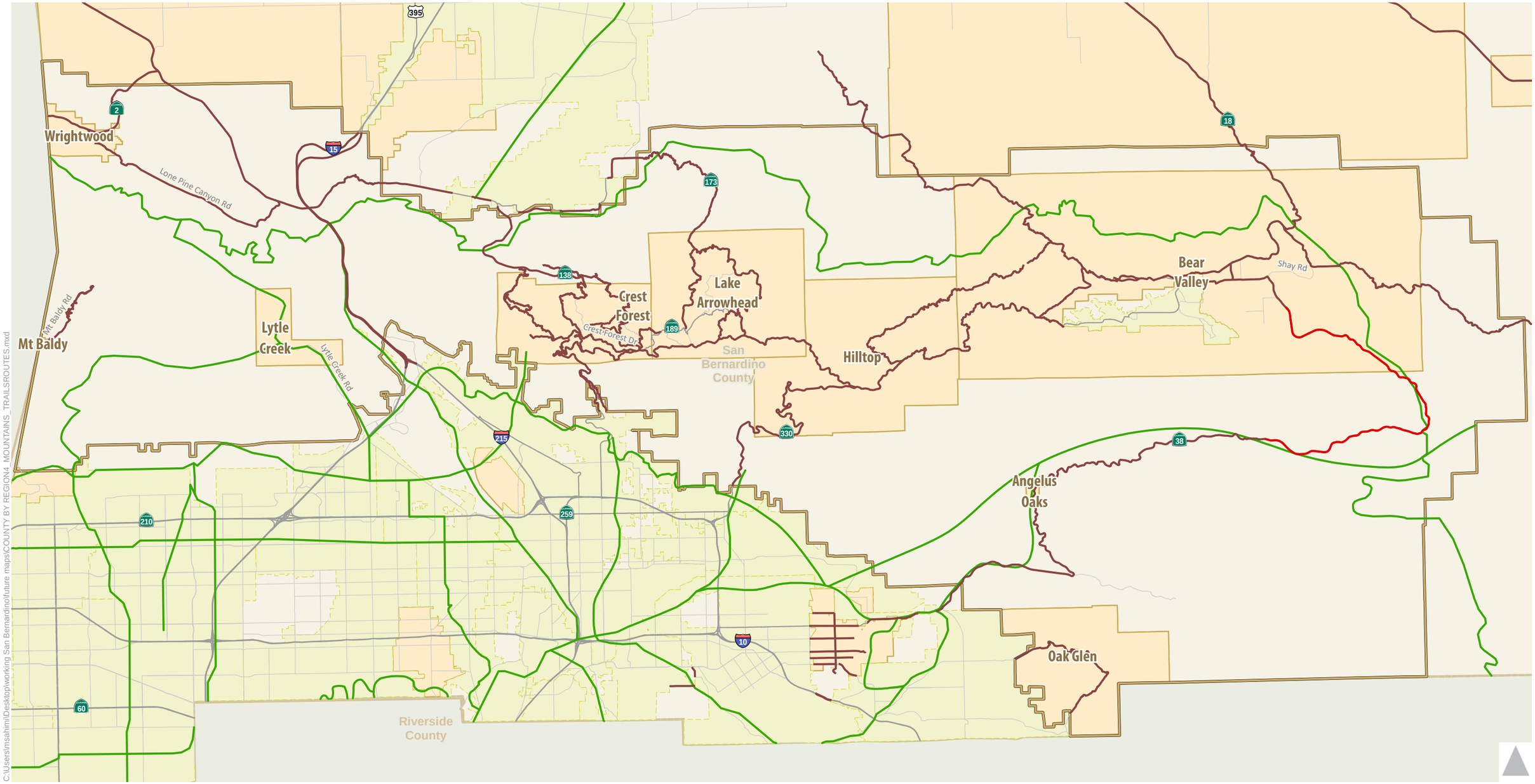
San Bernardino County

DRAFT

Figure 3B

East Desert Region - Scenic Routes and Trails

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only



Existing State Designated Scenic Highway

Existing County Designated Scenic Routes

Proposed Regional Trails

Mountain Region

City Boundaries

Community Plan Boundaries

San Bernardino County

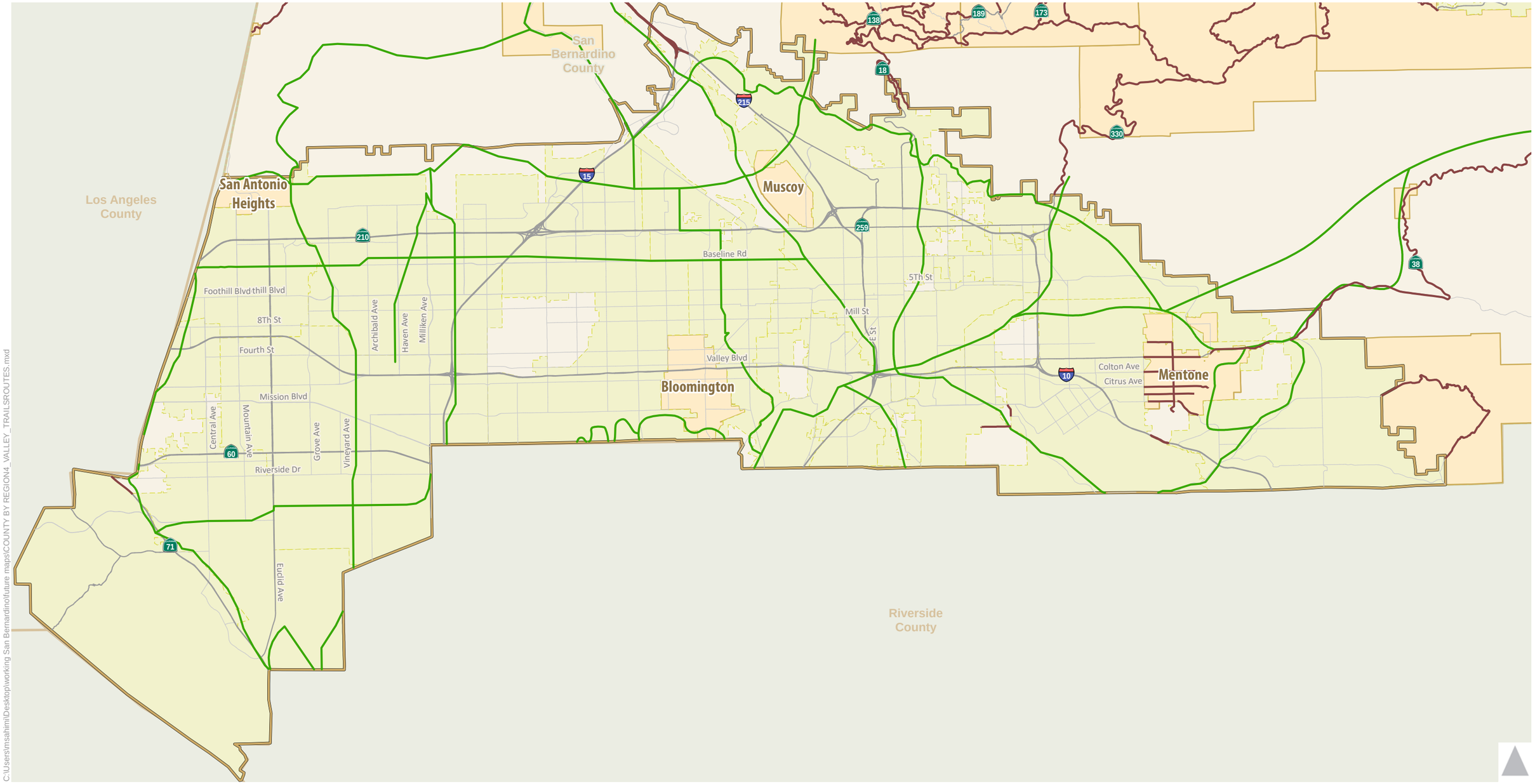
DRAFT

Figure 3C

Mountain Region - Scenic Routes and Trails

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only

C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_MOUNTAINS_TRAILSROUTES.mxd



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_TRAILSROUTES.mxd

Existing County Designated Scenic Routes

Proposed Regional Trails

Valley Region

City Boundaries

Community Plan Boundaries

San Bernardino County

DRAFT

Figure 3D

Valley Region - Scenic Routes and Trails

Note: County Designated Scenic Routes are not recognized by the State at this time. Segments shown are within Unincorporated County only

EXISTING BRIDGES AND DEFICIENCIES

Bridges form an important component of the transportation network in San Bernardino County. However, aging infrastructure can present issues related to safety and evacuation routes in times of natural disasters or other emergencies. Existing deficiencies and future degradation will require repair and investment. Furthermore, bridge health can be affected by future growth and vehicle travel patterns.

The Federal Highway Administration (FHWA) considers bridges deficient if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81 (out of 100). There are currently 1,434 bridges in San Bernardino County. Of those, 899 are state highway bridges and 535 are local agency bridges. The FHWA considers 257 of these bridges deficient. At this time, deficiencies on state highway bridges have not been provided by Caltrans; this memorandum can be updated once this data is provided. State highway and local agency bridges are shown on Figures 4A through 4D.

NORTH DESERT REGION

There are 401 state highway bridges in the North Desert Region, along highways such as Interstate 40, Interstate 15, and State Route 58. There are also 161 local agency bridges, of which 122 are deficient. These include several in Phelan/Pinon Hills, Helendale, Yermo, Daggett, and Baker. A significant number of deficient bridges run along National Trails Highway.

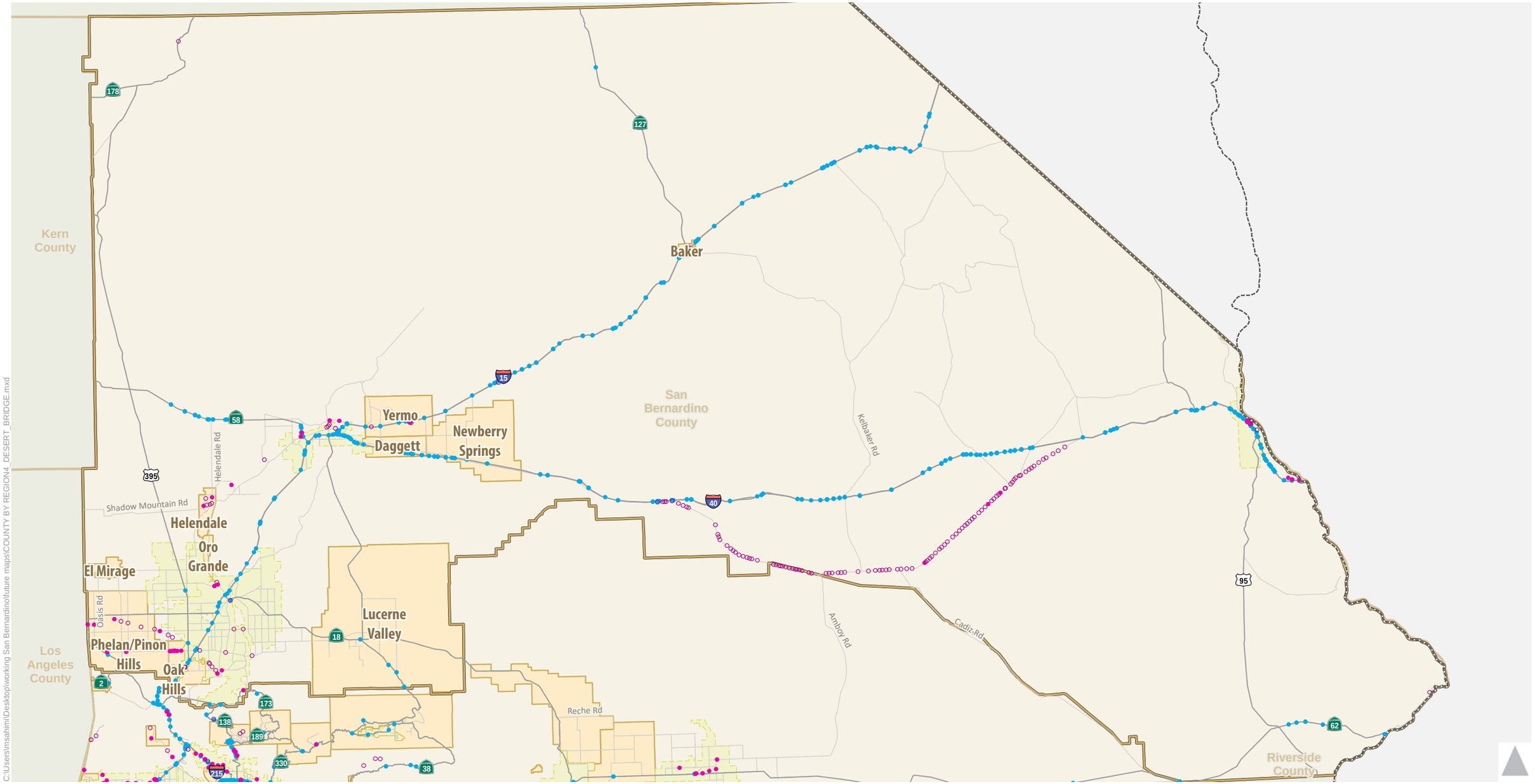
EAST DESERT REGION

There are seven state highway bridges in the East Desert Region along Twentynine Palms Highway. There are also 22 local agency bridges, of which 14 are deficient – all on the National Trails Highway along the region's northern boundary.

MOUNTAIN REGION

There are 60 state highway bridges in the Mountain Region, along highways such as State Routes 138, 173 and 330. There are also 22 local agency bridges, of which 12 are deficient, in locations such as Lytle Creek and Crest Forest.

DRAFT



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_BRIDGE.mxd

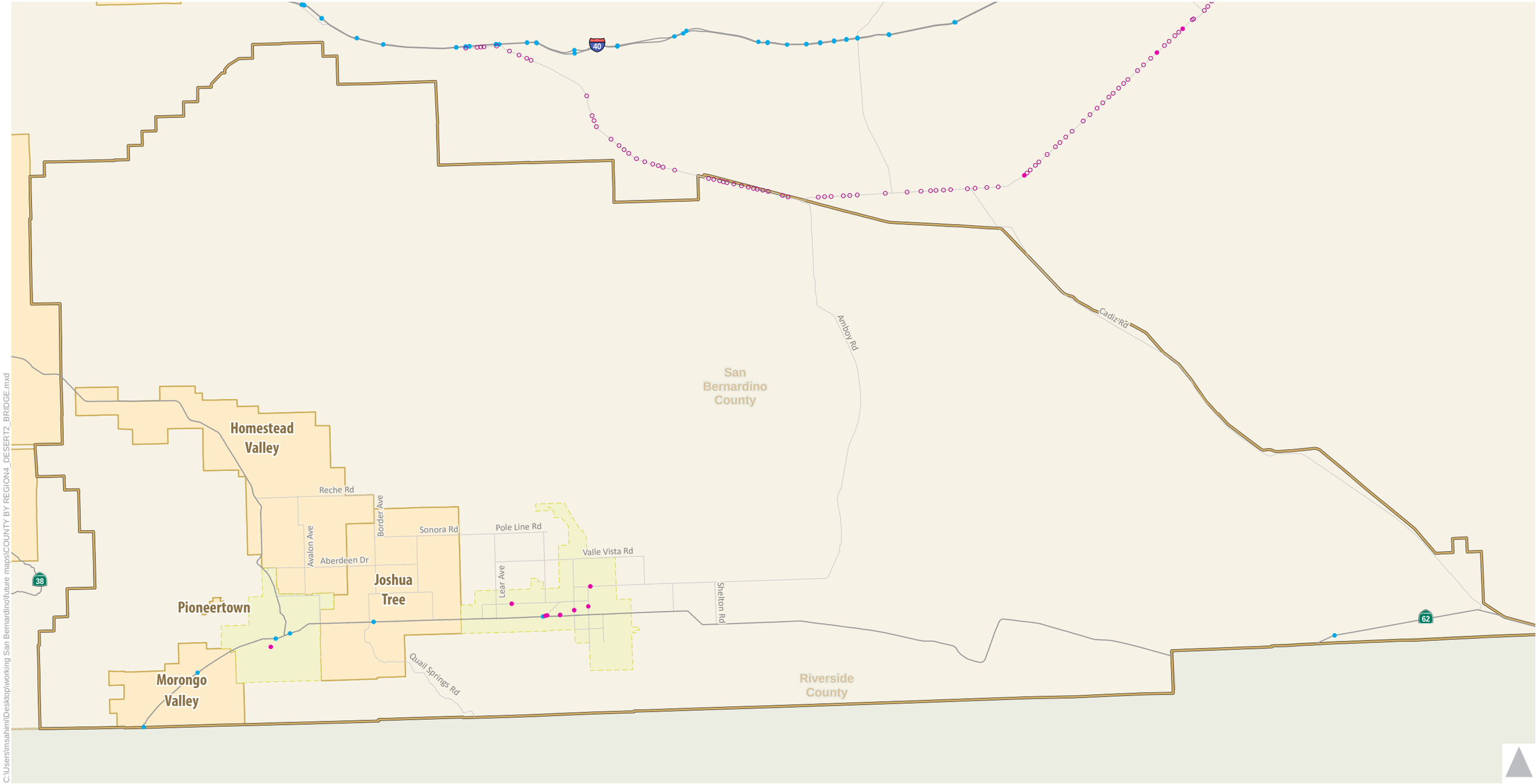
- Local Agency Bridges
- Local Agency Bridges (Deficient)
- State Highway Bridges
- North Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 4A

North Desert Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obselete, or have a sufficiency rating below 81.



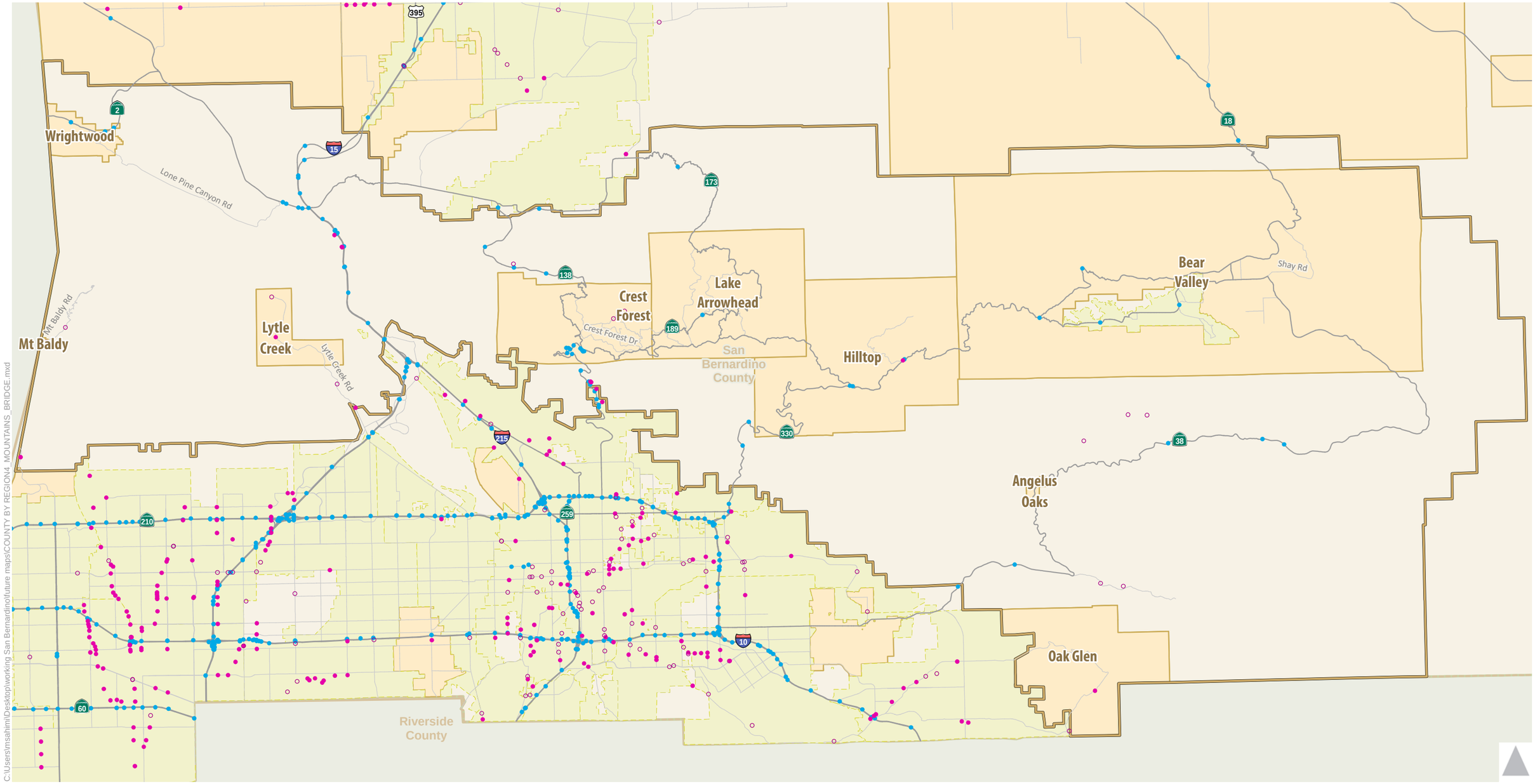
- Local Agency Bridges
- Local Agency Bridges (Deficient)
- State Highway Bridges
- East Desert Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 4B

East Desert Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obselete, or have a sufficiency rating below 81.



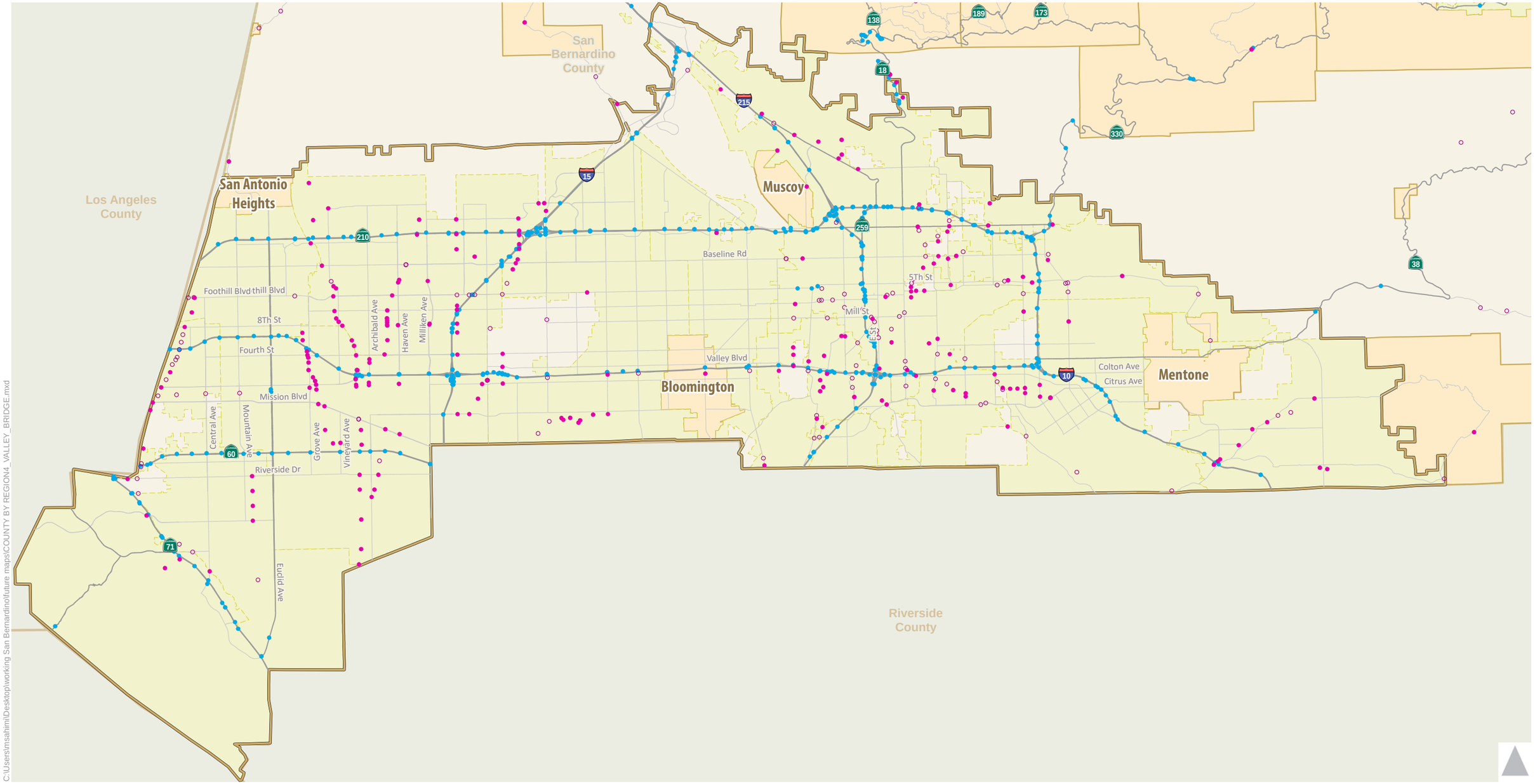
- Local Agency Bridges
- Local Agency Bridges (Deficient)
- State Highway Bridges
- Mountain Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 4C

Mountain Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obselete, or have a sufficiency rating below 81.



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_BRIDGE.mxd

- Local Agency Bridges
- Local Agency Bridges (Deficient)
- State Highway Bridges
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 4D

Valley Region - Existing Bridges

Note: The FHWA considers bridges "Deficient" if they are structurally deficient, functionally obselete, or have a sufficiency rating below 81.

VALLEY REGION

There are 431 state highway bridges in the Valley Region, along highways such as Interstate 10, Interstate 215, and State Route 60. There are also 330 local agency bridges, of which 109 are deficient. These include a number of bridges in Mentone.

PUBLIC TRANSIT

As documented in the *Existing Conditions Report*, residents in the County's unincorporated communities have access to transit services provided by OmniTrans, Barstow Area Transport, Morongo Basin Transit Authority, Mountain Area Regional Transit Authority, and Victor Valley Transit Authority. In addition, the Metrolink Inland Empire-Orange County Line, San Bernardino Line, and Riverside Line provide service to and from locations in the Valley Region and in Orange County, Riverside County, and Los Angeles County. Several planned transit projects in the County will substantially improve public transit access and quality in the coming years. These projects can increase residents' and workers' transit options, provide opportunities to move away from the automobile, and drive growth in the region. Proposed transit service is shown on Figures 5A through 5D.

One important project is the California High Speed Rail. Phase 1, which is currently under construction, will connect San Francisco to Downtown Los Angeles and the Anaheim Regional Transportation Intermodal Center (ARTIC). High Speed Rail Phase 2 includes an extension to San Diego International Airport via the Inland Empire, with two proposed stops in San Bernardino County. When complete, High Speed Rail Phase 2 will provide connectivity for San Bernardino County residents to San Diego, the Central Valley, San Francisco, and Sacramento. Another planned high speed rail project is XpressWest, a high speed passenger train connecting Las Vegas to the planned High Speed Rail Phase 1 station in Palmdale, primarily within or adjacent to Interstate 15. The train includes a proposed stop in Victorville.

In the next four years, Metrolink service will undergo a planned extension. The San Bernardino Line is planned to extend one additional mile past the current terminus to the San Bernardino Transit Center. A second extension to Redlands will operate as an independent system but also accommodate San Bernardino Line express limited-stop trains.

DRAFT

Currently, OmniTrans operates the sbX bus rapid transit line. This agency has proposed a significant BRT expansion in the Valley Region. Several new BRT routes have been proposed, such as the West Valley Connector. Implementation of these BRT routes would result in a substantial increase in transit quality for the region.

In the 2040 SCAG RTP/SCS, SCAG defined High Quality Transit Areas (HQTAs) and Transit Priority Areas (TPAs) throughout the SCAG region, including San Bernardino County, based on planned transit service in 2040. HQTAs reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes, while TPAs are areas within one-half mile of major transit stop. In other words, these are areas with high quality and accessible transit. These areas present opportunities for agencies to coordinate service and increase connectivity, in addition to focusing development efforts and growth near future transit service. This data can also be used by agencies to find projected gaps in transit coverage and improve future service as needed. SCAG's 2040 HQTAs and TPAs are shown on Figures 5A through 5D.

NORTH DESERT REGION

Proposed transit service in the North Desert Region consists of the XpressWest high speed passenger rail, with a station in Victorville. Upon completion, this rail service will provide a direct connection between Victorville, Las Vegas, and Palmdale. In addition, the western extent to Palmdale along the future High Desert Corridor will provide a connection to Metrolink service to Los Angeles, increasing transit commuting opportunities.

SCAG projects a limited number of HQTAs and TPAs in the North Desert Region. There are two isolated HQTAs and TPAs near Barstow Station and the proposed Victorville Station.

EAST DESERT REGION

As shown on Figure 5B, SCAG does not project HQTAs or TPAs in the East Desert Region. At this time, there is no transit service proposed beyond existing bus service.

MOUNTAIN REGION

As shown on Figure 5C, SCAG does not project HQTAs or TPAs in the Mountain Region. At this time, there is no transit service proposed beyond existing bus service. However, existing transit service does provide connectivity to planned BRT and other improvements in the Valley Region.

DRAFT

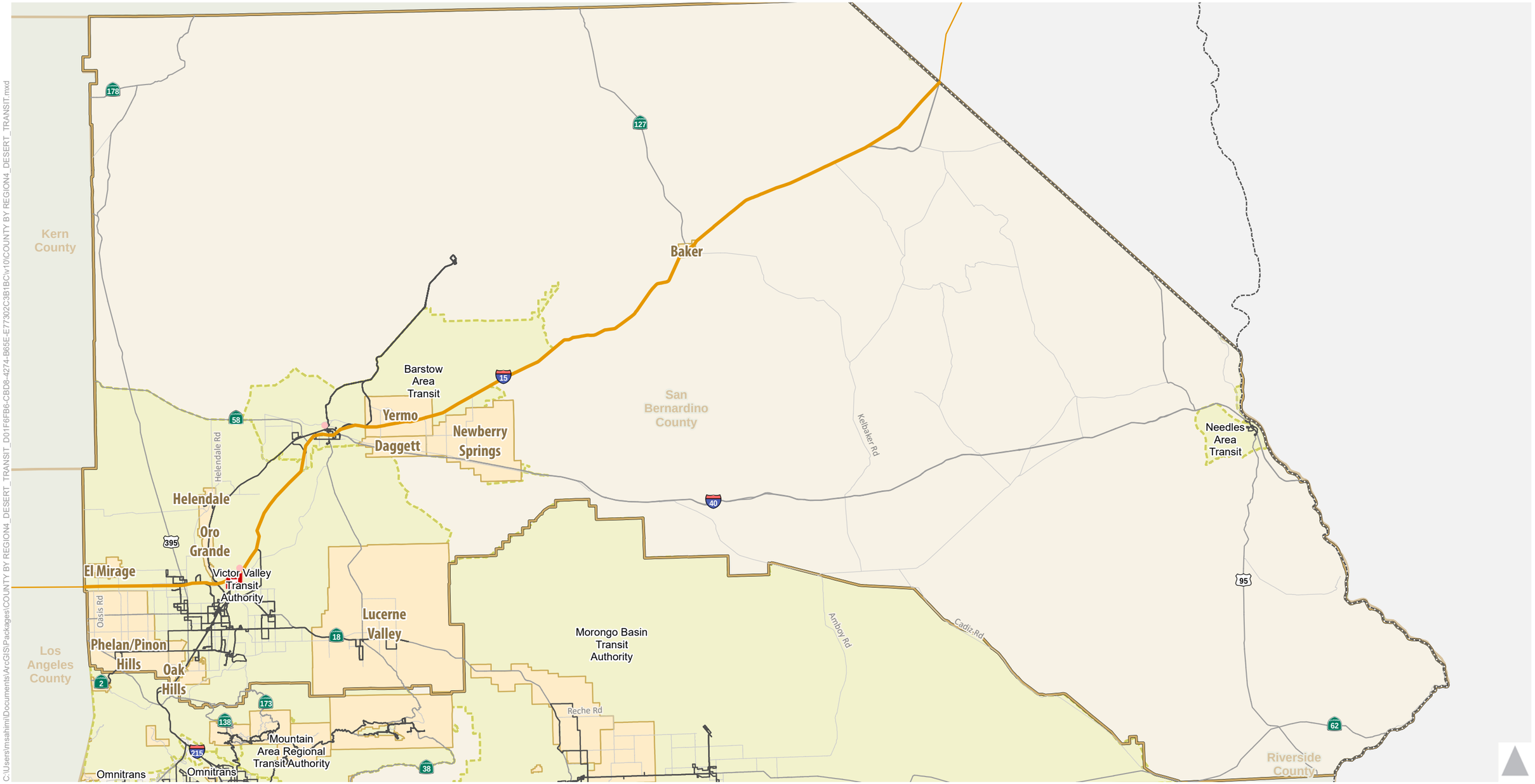
VALLEY REGION

The Valley Region will benefit from several planned transit projects. Upon completion, High Speed Rail Phase 2 will provide service to the region with two proposed stations (Ontario International Airport and San Bernardino Transit Center). In addition, the Redlands Extension will provide service to San Bernardino Transit Center, Waterman Station, Tippecanoe Station, Esri Headquarters, Downtown Redlands, and the University of Redlands.

The Valley Region will also benefit from substantial increases in BRT service. OmniTrans is planning an expansion of BRT service along Foothill Boulevard, San Bernardino Avenue, Sierra Avenue, Riverside Avenue, E Street, and several other arterials throughout the Region. Proposed BRT service can be accessed in Bloomington with stops along San Bernardino Avenue; other unincorporated communities in the region will not have direct access to these BRT routes.

As shown on Figure 5D, SCAG defines extensive HQTAs and TPAs in the Valley Region, due in part to the rail transit and BRT improvements planned for the area. The northern portion of Bloomington falls within an HQTA along San Bernardino Avenue.

DRAFT



Proposed XpressWest Station
Proposed XpressWest
Existing Metrolink
Existing Bus Routes
HQTA/TPA (2040 SCAG RTP/SCS)
North Desert Region
Community Plan Boundaries
Transit Service Areas
San Bernardino County

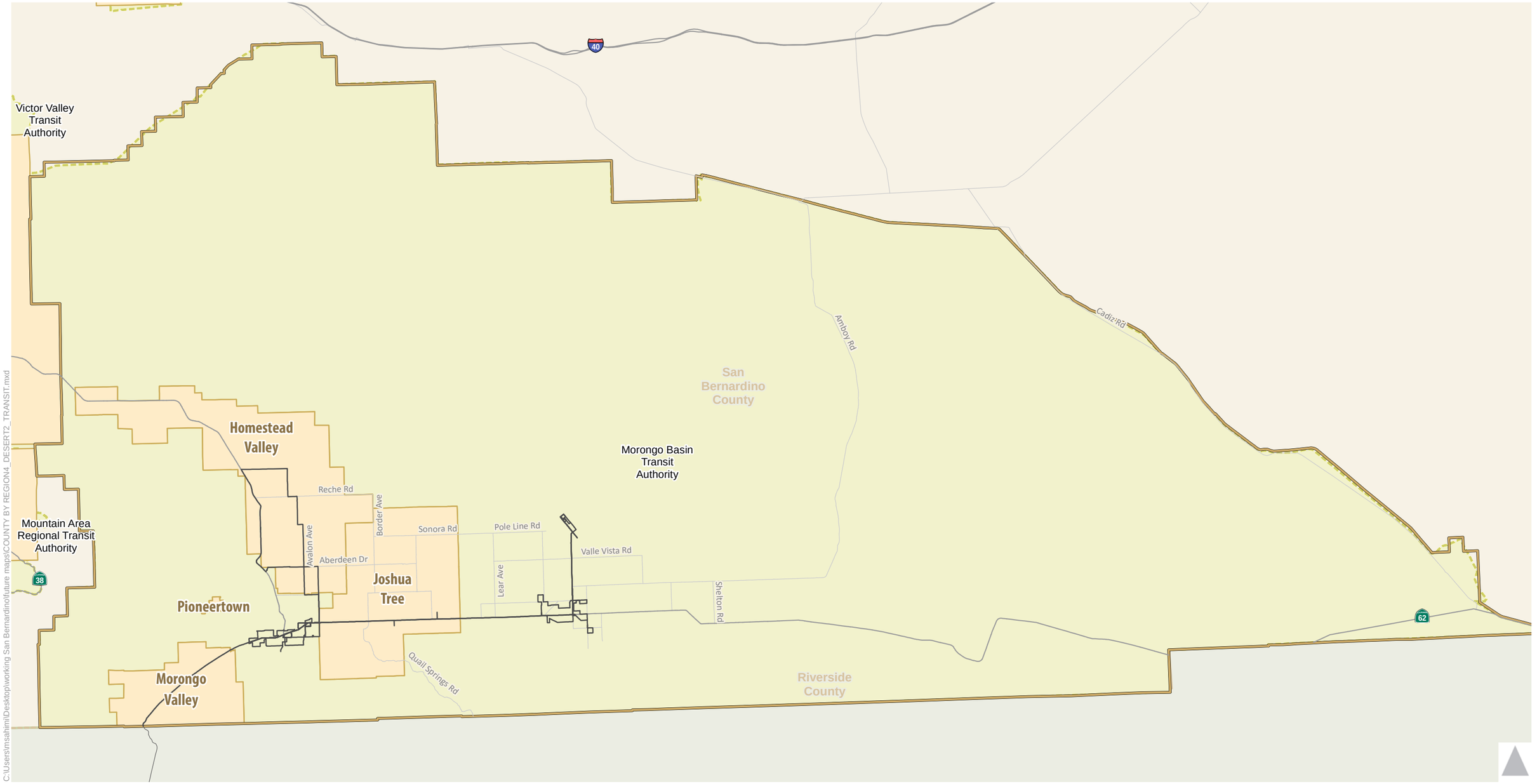
DRAFT

Figure 5A

North Desert Region - Future Transit Routes

Note: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.
Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.

C:\Users\msahim\Documents\ArcGIS\Packages\COUNTY BY REGION4_DESERT_TRANSIT_D01F6FB6-CBD8-4274-B65E-E773022C3B1B\Cv10\COUNTY BY REGION4_DESERT_TRANSIT.mxd

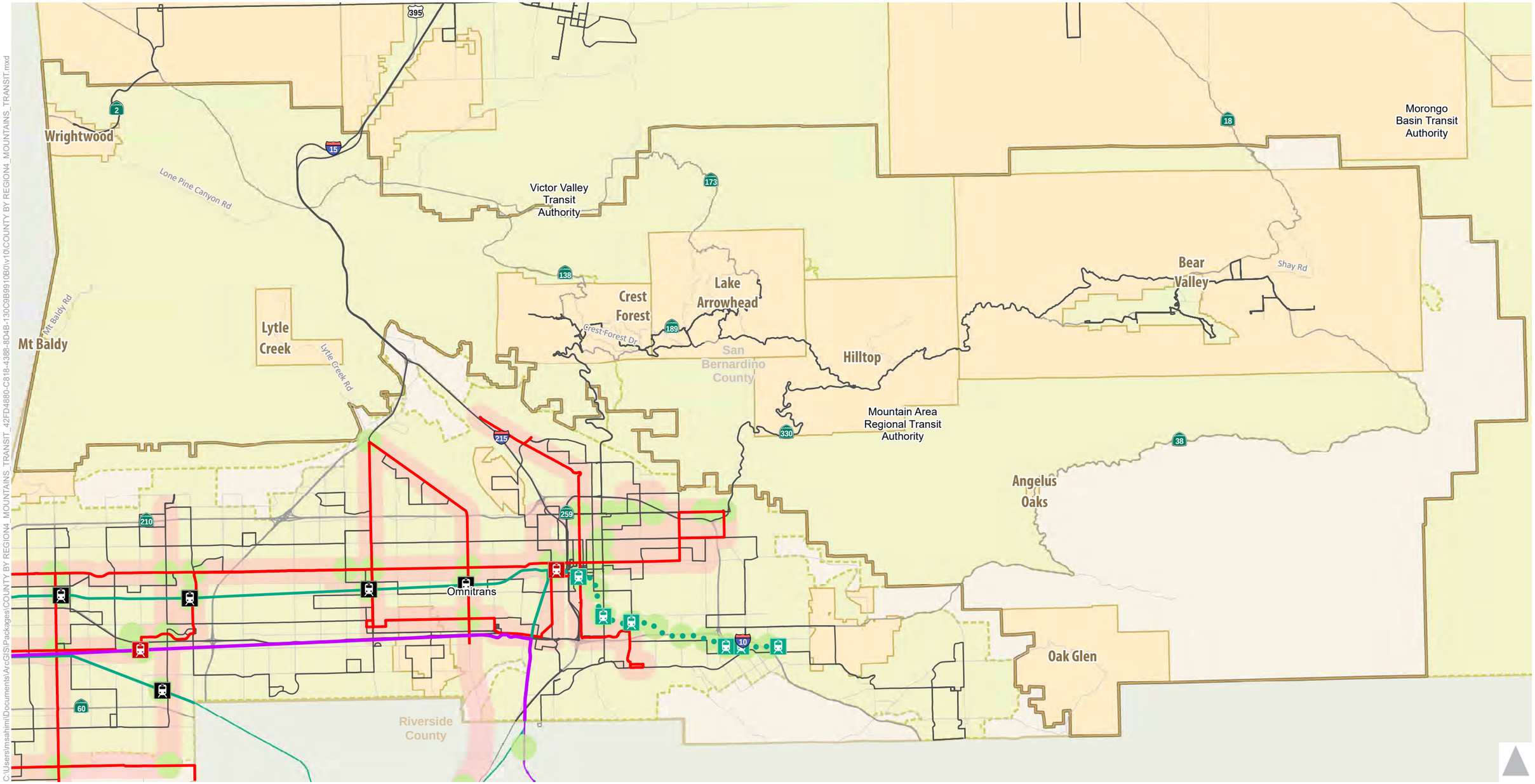


Existing Bus Routes
Community Plan Boundaries
San Bernardino County
East Desert Region
Transit Service Areas

DRAFT

Figure 5B

East Desert Region - Future Transit Routes



Future Metrolink Station
Proposed High Speed Rail Station
Metrolink Station
High Speed Rail Phase 2
Existing Metrolink
Metrolink Extension
Proposed BRT
Existing Bus Routes
TPA (2040 SCAG RTP/SCS)
HQTA (2040 SCAG RTP/SCS)
Mountain Region
Community Plan Boundaries
Transit Service Areas
San Bernardino County

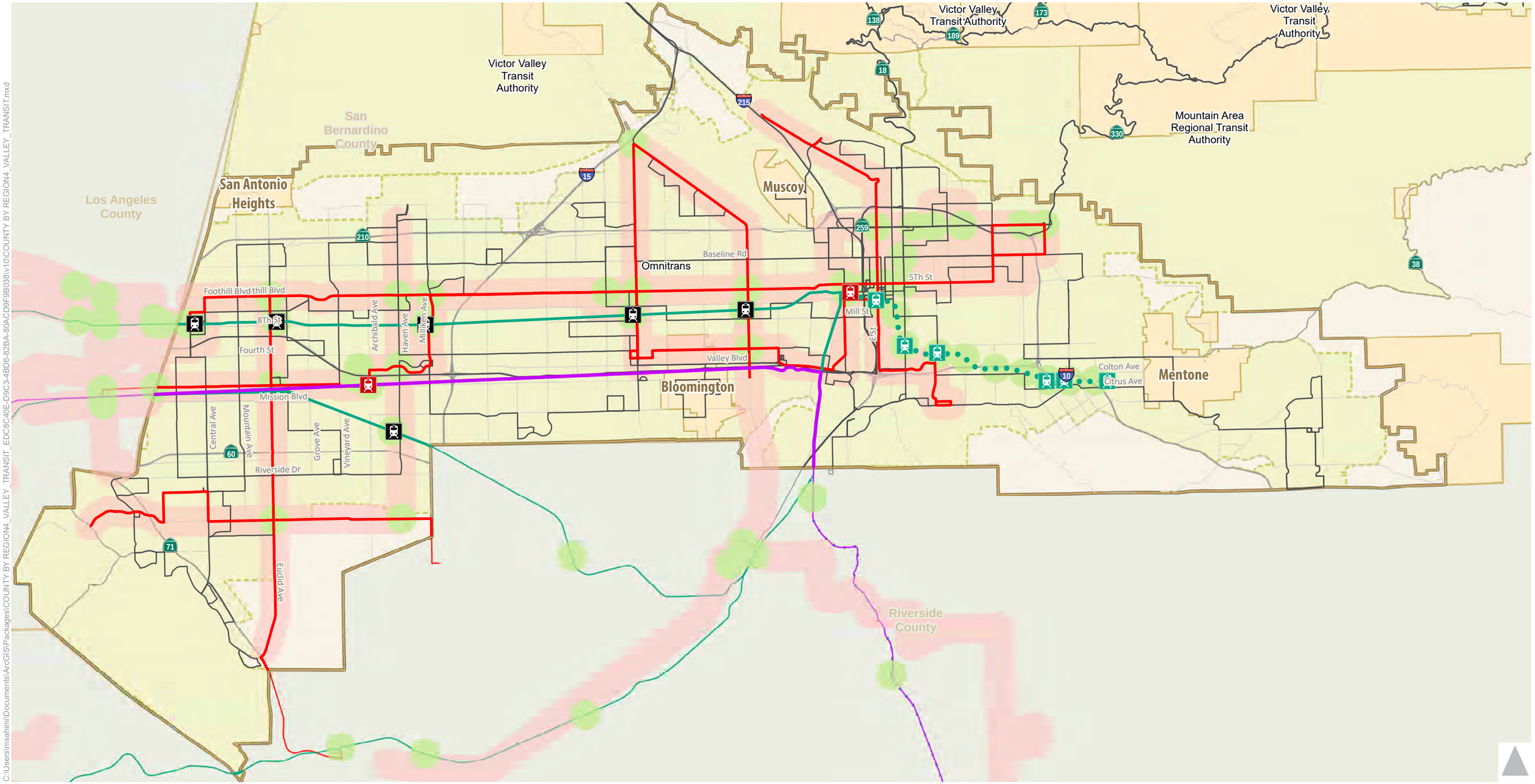
DRAFT

Figure 5C

Mountain Region - Future Transit Routes

Note: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.
Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.

C:\Users\mashimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_MOUNTAINS_TRANSIT_42FD4880-C818-4388-8D4B-130C9B9910B0\v10\COUNTY BY REGION4_MOUNTAINS_TRANSIT.mxd



C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_TRANSIT_EDC8C40E-D9C3-4BD6-82BA-80ACD9F9B038\v10\COUNTY BY REGION4_VALLEY_TRANSIT.mxd

DRAFT

Figure 5D

Valley Region - Future Transit Routes

Note: High Quality Transit Areas (HQTAs) reflect areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.
Transit Priority Areas (TPAs) are areas within one-half mile of major transit stop.

AIRPORTS

There are currently 53 airports and airfields operating in San Bernardino County; these include landing strips, commuter airports, passenger airports, and cargo airports. SCAG has projected cargo and passenger air traffic growth in the County, especially at the three major airports in the County: Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport. Due to the increased passenger vehicle and goods movement traffic that can result from cargo and passenger travel, the County should be cognizant of trends in air travel and impacts on local and regional roadways. Figures 6A through 6D show airports in the County and call out Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport.

NORTH DESERT REGION

There are 38 airports located across the North Desert Region. Among these is the Southern California Logistics Airport, also known as Victorville Airport and formerly the George Air Force Base. This airport serves cargo flights and accommodates freight, which is then carried along Interstate 15. SCAG has projected higher volumes of freight moving through this airport, which is transported to and from the airport on local rail and roadway such as Interstate 15, US Route 395, and Palmdale Road.

The main driver of growth at the Southern California Logistics Airport is warehousing in the North Desert Region, which SCAG projects to grow substantially in the area around the airport. This would translate to increased air cargo through the airport. Besides the High Desert Corridor, warehousing in the North Desert Region will be driven by the fact that the SCAG region will need much more warehousing by 2040 but most existing industrial areas (such as in the Valley Region) are close to built out. On the other hand, the North Desert Region holds 23% (or 43 million square feet) of the SCAG region's warehousing capacity, predominantly around the Southern California Logistics Airport. Even though much of the increased freight will be moved by rail and the upcoming High Desert Corridor, increase truck traffic to and from this airport could affect Interstate 15, US Route 395, Palmdale Road, and other local roads connected to these regional roads.

DRAFT

EAST DESERT REGION

There are 10 airports in the East Desert Region, including Yucca Valley Airport, Twentynine Palms Airport, Cones Field Airport, and Hi Desert Airport. Existing and future traffic to and from these airports depend primarily on Twentynine Palms Highway.

MOUNTAIN REGION

Big Bear City Airport is the only airport in the Mountain Region, accessible by State Routes 18 and 38.

VALLEY REGION

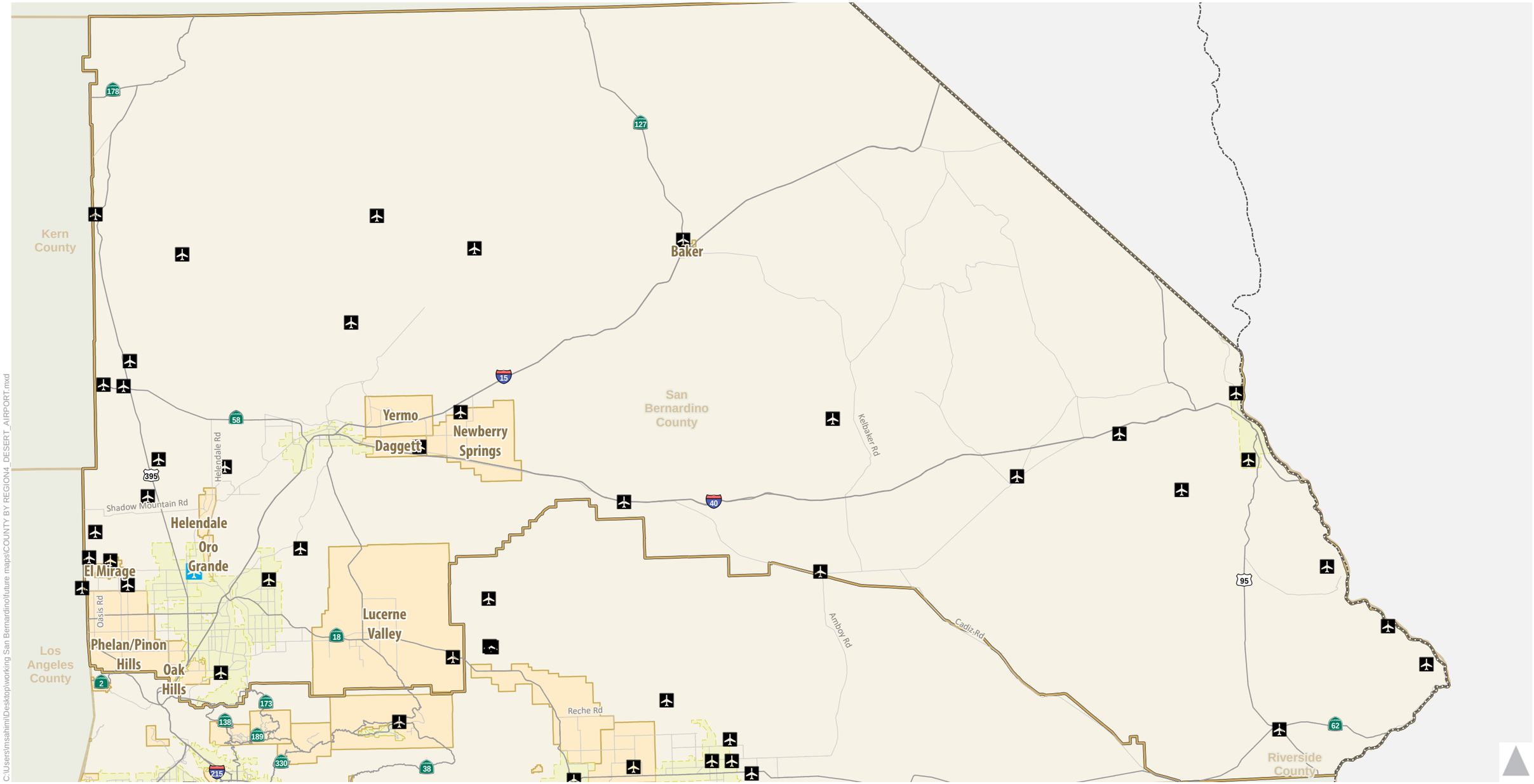
There are six airports in the Valley Region: San Bernardino International Airport, Ontario International Airport, Rialto Airport, Cable Airport, Redlands Airport, and Chino Airport. Access to these airports is provided by Interstate 10, State Route 210, and other regional highways.

Previously the Norton Air Force Base, San Bernardino International Airport served cargo carriers. The airport has domestic and passenger terminals but currently does not have scheduled passenger service. SCAG forecasts between 0.2 and 1.5 million annual passengers using this airport by 2040. Cargo use of this airport could increase as warehousing increases in the Valley Region since it is closer to the Los Angeles and Long Beach Ports than more inland airports. However, since most industrial areas in the Valley Region will quickly build out, most warehousing and cargo growth will take place in the North Desert Region through 2040. Regional access is provided by Interstate 10, Interstate 215, and State Route 210, which would need to absorb increases in passenger and truck traffic to and from this airport. Currently, the only public transit facility is an OmniTrans Route 8 bus stop a quarter mile away, although the Redlands Passenger Rail Project will have a station on Tippecanoe Avenue.

DRAFT

Ontario International Airport, owned and operated under a joint powers agreement with the City of Ontario and San Bernardino County, is a major gateway hub for passengers and cargo. Other major passenger airports in the SCAG region (Burbank Bob Hope Airport, LAX, Long Beach Airport, and John Wayne Airport) face growth constraints due to a number of reasons. These include airfields (Burbank, LAX), noise compatibility ordinances (Long Beach), and settlement agreements (John Wayne). Therefore Ontario Airport is expected to absorb a significant amount of future passenger demand. SCAG forecasts 11 to 19 million annual passengers at this airport by 2040. Regional access to the airport is provided by Interstate 10, Interstate 15, and State Route 60, all of which could experience higher traffic volumes with increased air passenger demand. Currently, public transit to the airport consists of OmniTrans routes 81 and 82 and the Ontario Metrolink Station to the west. Future High Speed Rail service is also planned. One of the alternatives studied in the Ontario Airport Rail Access Study was the Metro Gold Line Foothill Extension Phase 2C to the airport, which is currently unfunded.

DRAFT



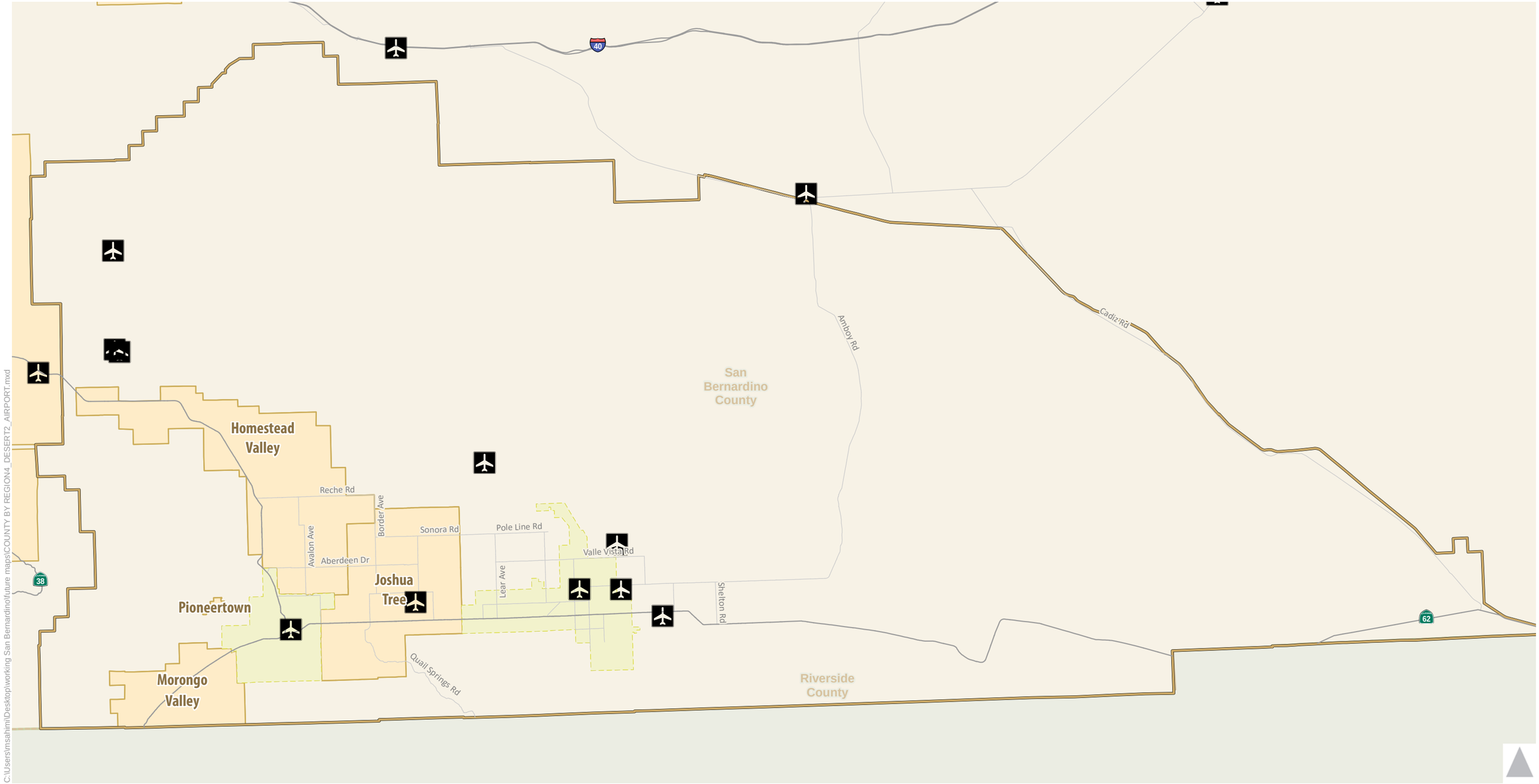
C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_AIRPORT.mxd

Southern Calif. Logistics Airport
Other Airports
North Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 6A

North Desert Region - Airports

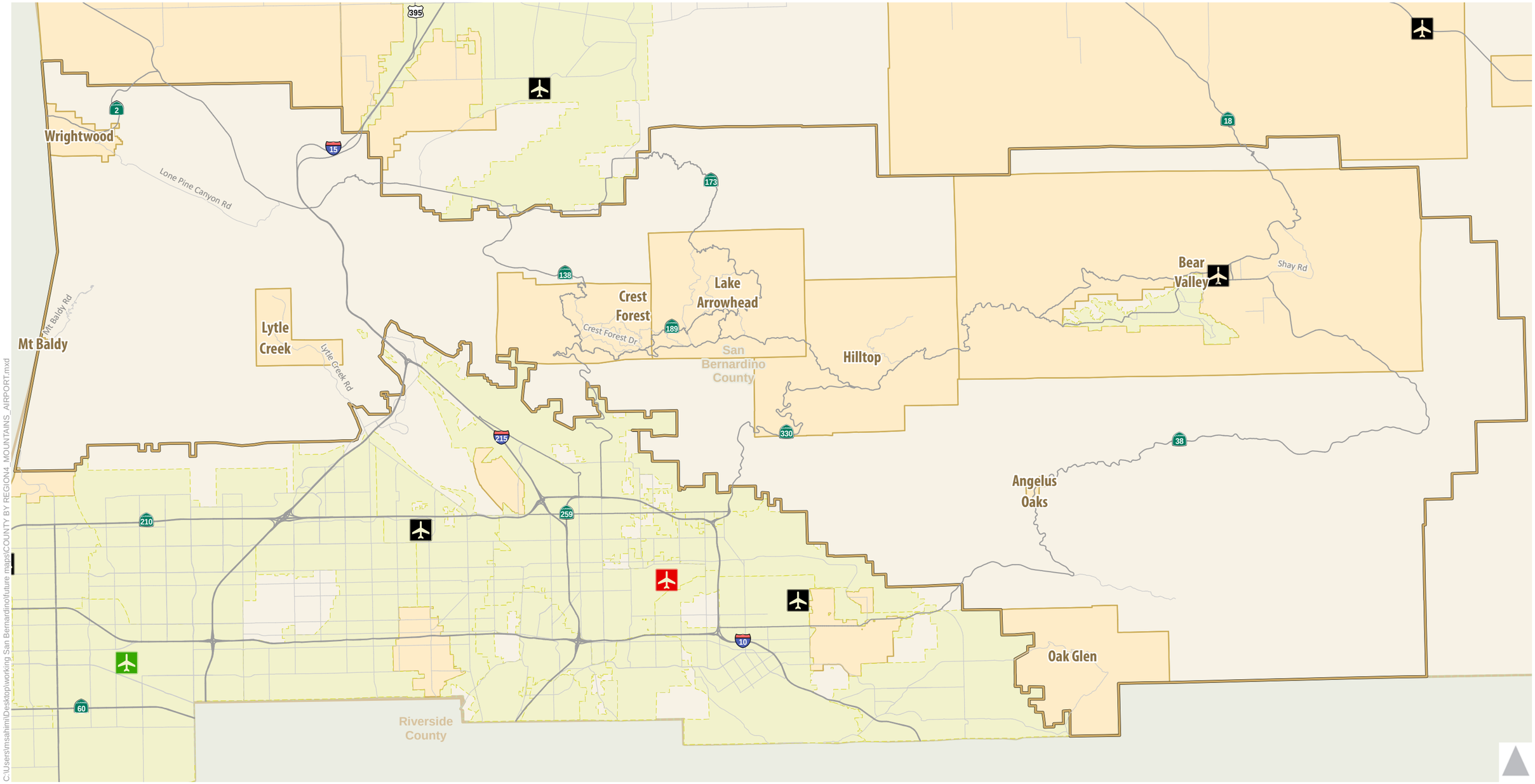


Airports
East Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 6B

East Desert Region - Airports



Ontario International Airport
San Bernardino International Airport
Other Airports

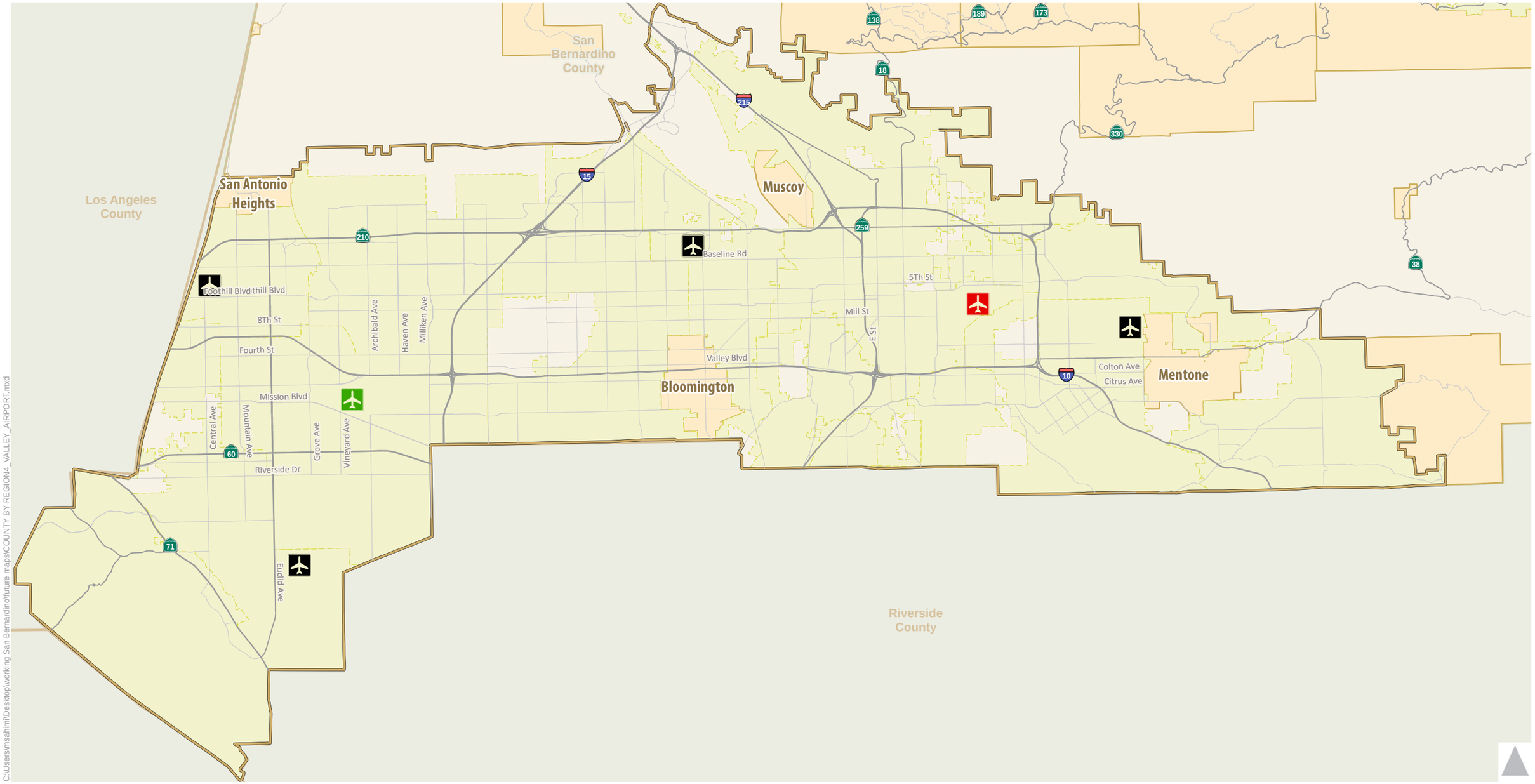
Mountain Region
City Boundaries
Community Plan Boundaries

San Bernardino County

DRAFT

Figure 6C

Mountain Region - Airports



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_AIRPORT.mxd

- Ontario International Airport
- San Bernardino International Airport
- Other Airports
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

DRAFT

Figure 6D

Valley Region - Airports

GOODS MOVEMENT

Due to its location between the Los Angeles metropolitan area and destinations in the Midwest and East Coast, San Bernardino County serves as an important path for goods movement via airports, railways, and roadways. As documented in the *Existing Conditions Report*, goods movement in San Bernardino County is accommodated by an extensive railway and truck route network.

As discussed, several roadway improvement programs are slated for County roadways in the coming decades according to the SCAG RTP/SCS. Included in the RTP/SCS transportation projects list are improvements to highways used for goods movement, as shown on Figures 7A through 7D. Projects are shown only for unincorporated portions of the County for clarity. These improvements are expected to increase goods movement capacity on these roadways, improve operations, and accommodate future goods movement growth.

The High Desert Corridor, a proposed multipurpose corridor between Antelope Valley in Los Angeles County and Victor Valley in San Bernardino County, is expected to spur goods movement and growth in the region. Upon completion, the corridor would include a freeway and right-of-way for high speed rail between Palmdale and Apple Valley. The corridor could serve trucks moving between the Central Valley and Interstate 15, alleviating congestion and increasing goods movement capacity. The corridor is also expected to create jobs in the region and reduce vehicle miles traveled (VMT).

NORTH DESERT REGION

The proposed High Desert Corridor would primarily serve the County's North Desert Region. The corridor's freeway would begin in Palmdale, run east parallel and south of El Mirage Road in San Bernardino County, turn east to Air Express Boulevard near Interstate 15, transition to Dale Evans Parkway, and end at State Route 18 in Apple Valley. This new facility can drastically change travel patterns in the region, increase jobs along the corridor, and reduce the need for North Desert residents to travel elsewhere (e.g., Los Angeles County) for work. In conjunction with the XpressWest high speed rail, the High Desert Corridor's rail component could continue northeast along Interstate 15 to Nevada.

DRAFT

In addition, according to the SCAG RTP, a new truck climbing lane is planned on State Route 138 through Phelan/Pinon Hills. This project can result in improved operations and capacity for goods movement through the area.

Beyond new facilities such as the High Desert Corridor and additional truck climbing lanes, increased goods movement in the North Desert Region will be driven by the projected increase in warehousing. SCAG has projected a 55% increase in warehousing building space demand in the SCAG region from 2015 to 2040 (or 385 million square feet). Initial demand will be met by scattered urban locations such as the Valley Region. However, as those spaces quickly build out, growth will move to the North Desert Region. At the time of SCAG's study, the North Desert Region had 23% of the warehousing development capacity in the SCAG region, or 43 million square feet, predominantly in the area around the Southern California Logistics Airport. With Victorville's approval of the Desert Gateway Specific Plan (which could accommodate 17 million square feet), a total of 60 million square feet of warehousing is projected to move into the North Desert Region.

Another important driver of goods movement growth in the North Desert region is the Southern California Rail Complex. This planned facility is a 3,500-acre intermodal rail and container storage complex. Demand for this facility will be driven by the High Desert Corridor, the Southern California Logistics Airport, and the projected substantial increase in local warehousing as growth shifts away from the Valley Region and necessitates a multimodal goods movement network to reduce strain on regional roadways.

DRAFT

EAST DESERT REGION

As shown on Figure 7B, no freight or goods movement projects are currently planned in the East Desert Region.

MOUNTAIN REGION

According to the SCAG RTP, a new truck climbing lane is planned on State Highway 138 through the Mountain Region.

VALLEY REGION

According to the SCAG RTP, new truck bypass lanes are planned on portions of Interstate 15 and Interstate 215 in the Valley Region.

As previously mentioned, SCAG has projected substantial increases in warehousing space demand in the coming decades. Due to its position closer to ports than more inland regions, scattered urban locations in the Valley Region will initially absorb growth in warehousing space. However, SCAG projects that excess capacity in scattered urban locations such as the Valley Region will be sufficiently absorbed by 2020 that new development will take place elsewhere (including the North Desert Region).

DRAFT



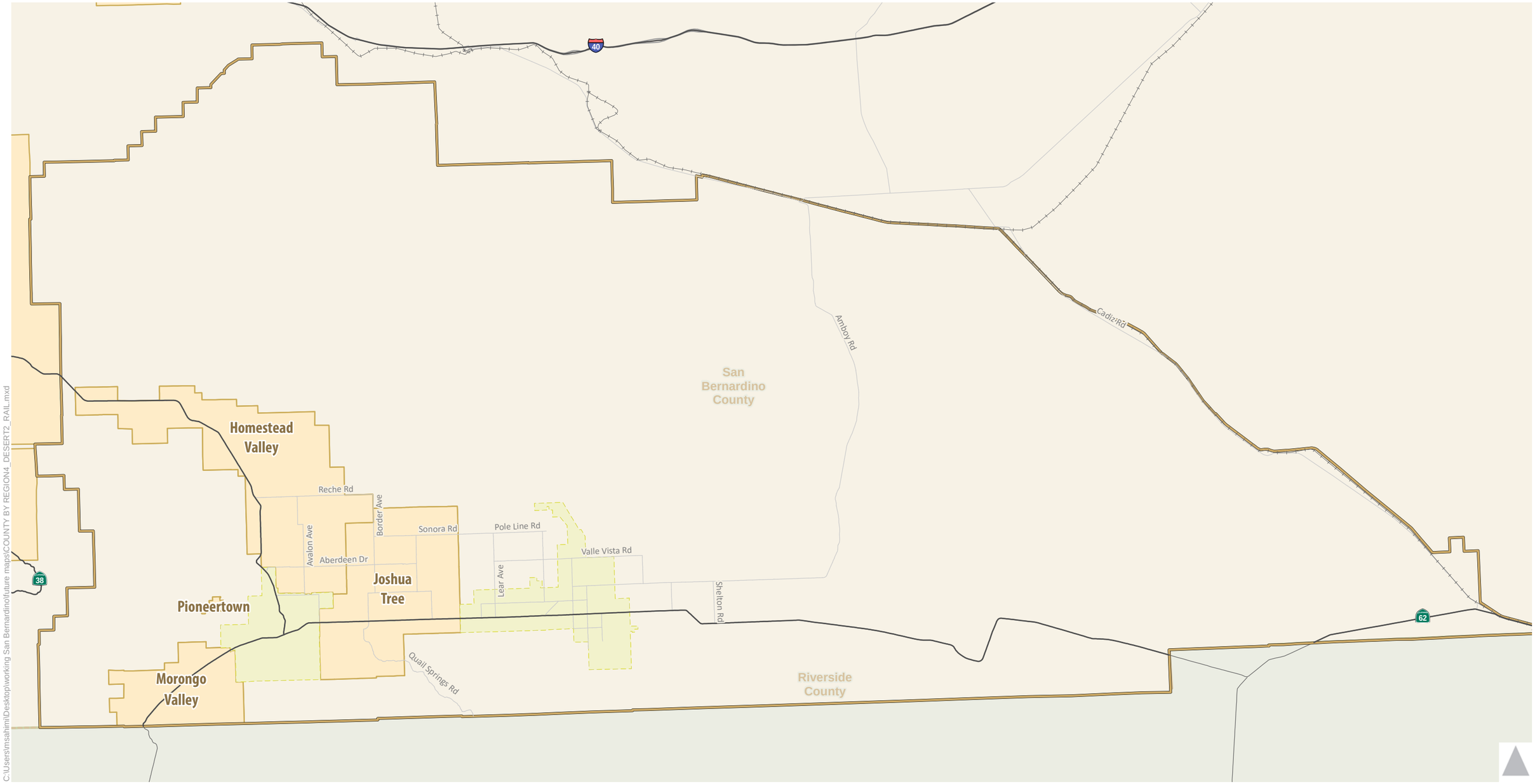
High Desert Corridor
New/Expanded Facilities
Existing Truck Route
Rail
North Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

DRAFT

Figure 7A

North Desert Region - Future Goods Movement

*within Unincorporated County



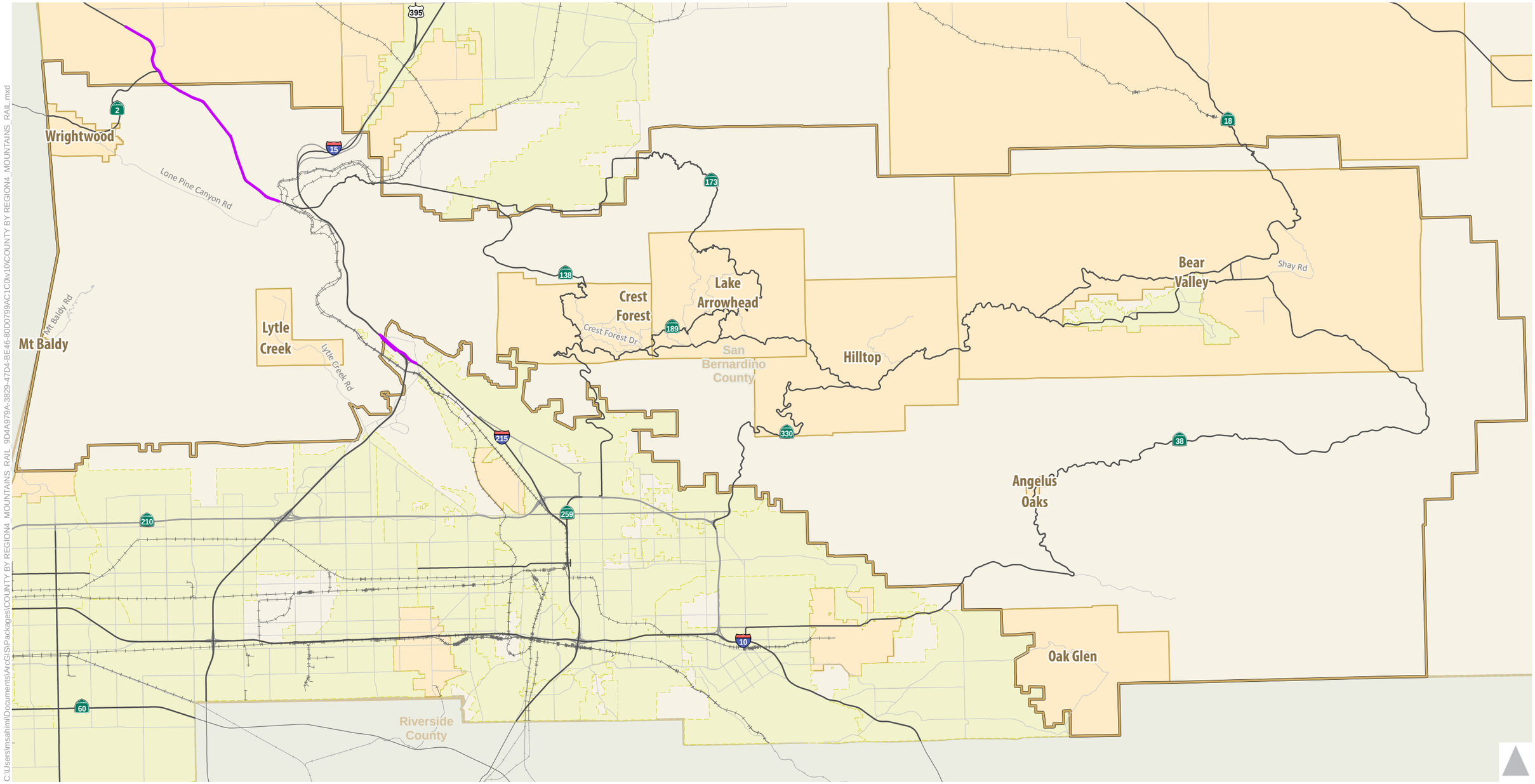
High Desert Corridor
New/Expanded Facilities
Existing Truck Route
Rail
East Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

DRAFT

Figure 7B

East Desert Region - Future Goods Movement

*within Unincorporated County



C:\Users\msahinil\Documents\ArcGIS\Packages\COUNTY BY REGION4_MOUNTAINS_RAIL_9DA4979A-3829-47D4-BE46-80D0799AC1C0v10\COUNTY BY REGION4_MOUNTAINS_RAIL.mxd

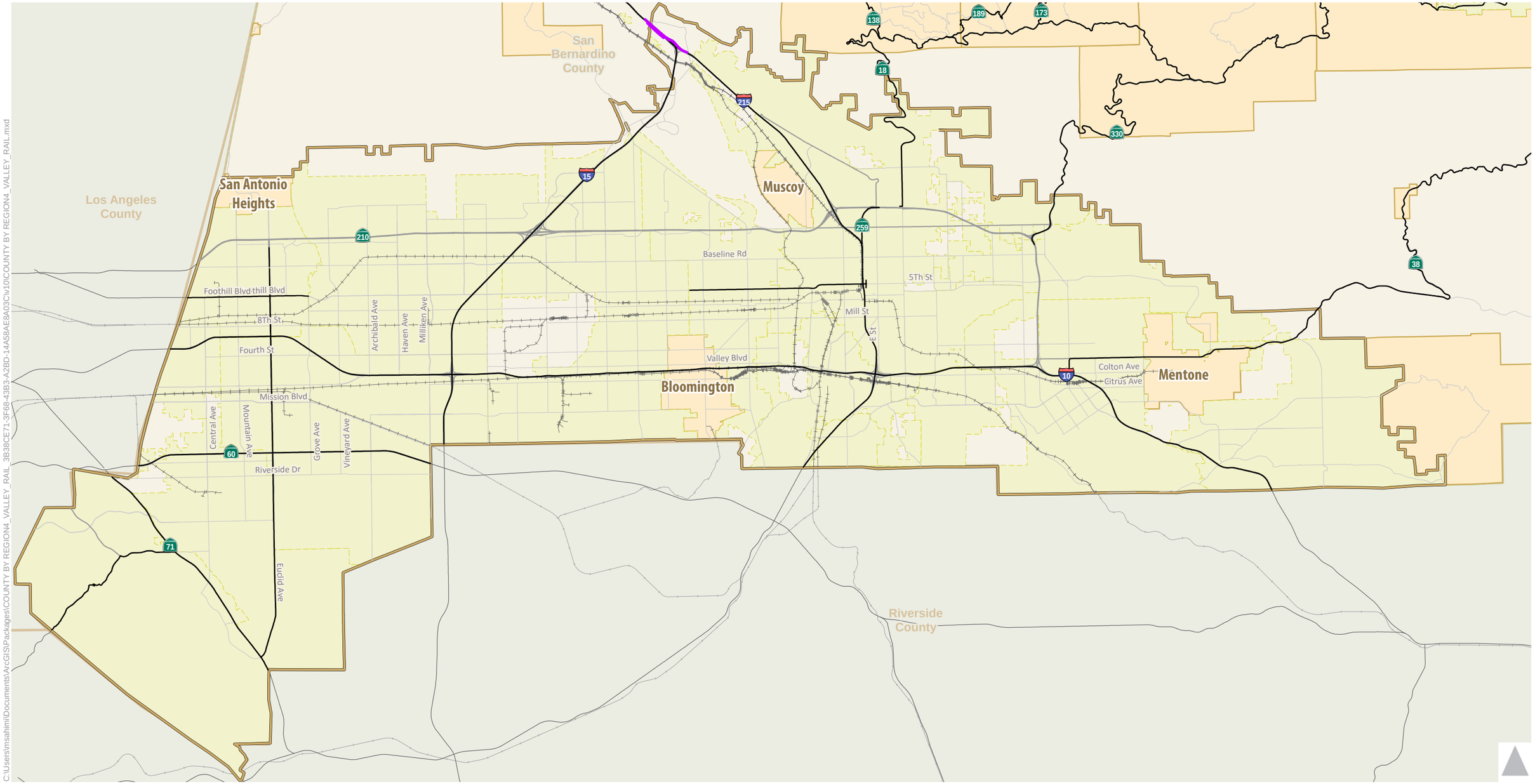
New/Expanded Facilities
Existing Truck Route
Rail
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 7C

Mountain Region - Future Goods Movement

*within Unincorporated County



C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_RAIL_3B38CE71-3F68-43B3-A2BD-14A58AE8A03C\v10\COUNTY BY REGION4_VALLEY_RAIL.mxd

New/Expanded Facilities
Existing Truck Route
Rail
Valley Region
City Boundaries
Community Plan Boundaries
NewCPs
San Bernardino County

DRAFT

Figure 7D

Valley Region - Future Goods Movement

*within Unincorporated County

NON-MOTORIZED FACILITIES

As documented in the *Existing Conditions Report*, bicycle facilities are extremely limited in the County's unincorporated communities. Most communities offer no facilities at all. However, according to the SANBAG Non-Motorized Transportation Plan, a significant number of bicycle facilities are planned in unincorporated County areas. The County should work to ensure that facilities are built and that surrounding development supports their active use. In addition, the County should continue to examine additional locations for expanded bicycle facilities.

Figures 8A through 8D show proposed bikeways in each facility. In the North Desert and East Desert Regions, planned facilities are limited, similar to existing facilities. Most proposed facilities are located in the Mountain and Valley Regions.

NORTH DESERT REGION

In the North Desert Region, proposed bikeways include a Class III facility along the National Trails Highway continuing into Newberry Springs and Daggett. Proposed facilities also include Class II bicycle lanes in Helendale and Oro Grande and Class I, II and III bikeways in Oak Hills.

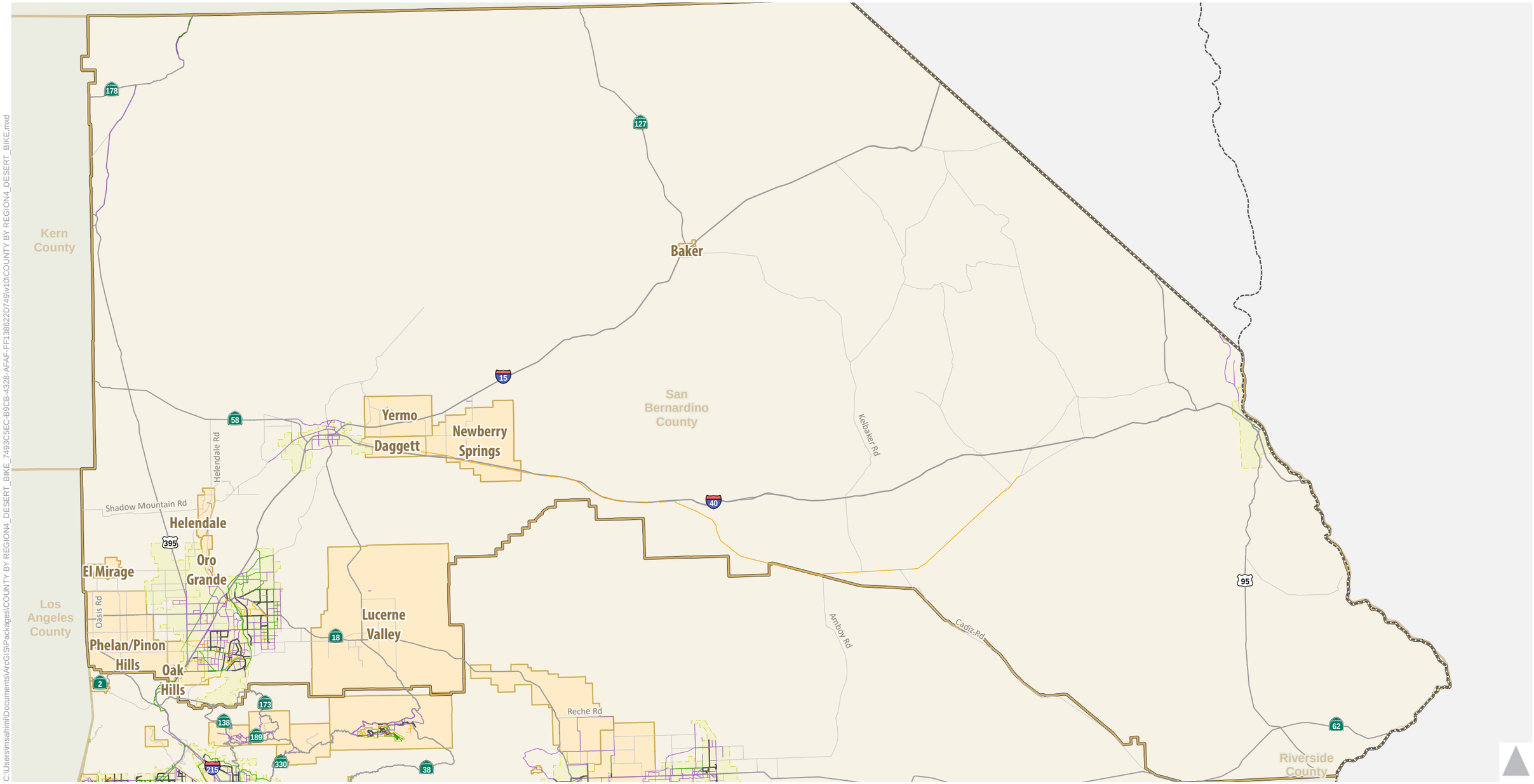
EAST DESERT REGION

In the East Desert Region, proposed bikeways include Class II and III facilities in Homestead Valley and Pioneertown, and Class I, II, and III facilities in Joshua Tree.

MOUNTAIN REGION

Significant bikeway improvements are planned in the Mountain Region. These include Class II facilities in Crest Forest, Lake Arrowhead, and Hilltop and Class II and III facilities in Bear Valley. In addition, there are two proposed facilities in unincorporated areas adjacent to Interstate 15: the Class I Cajon Pass path and Class II bicycle lanes on Cajon Boulevard.

DRAFT

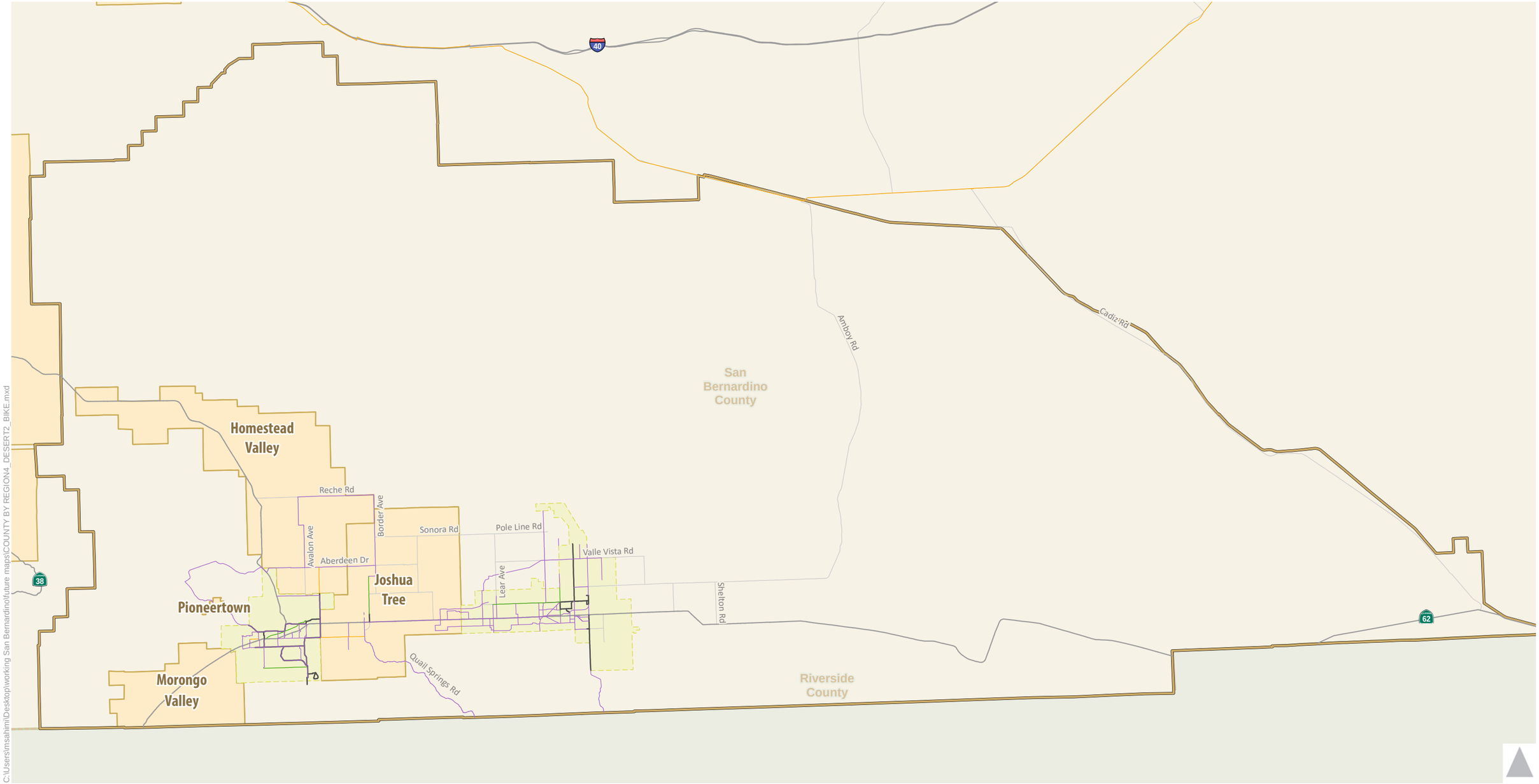


Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
North Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 8A

North Desert Region - Future Bicycle Facilities



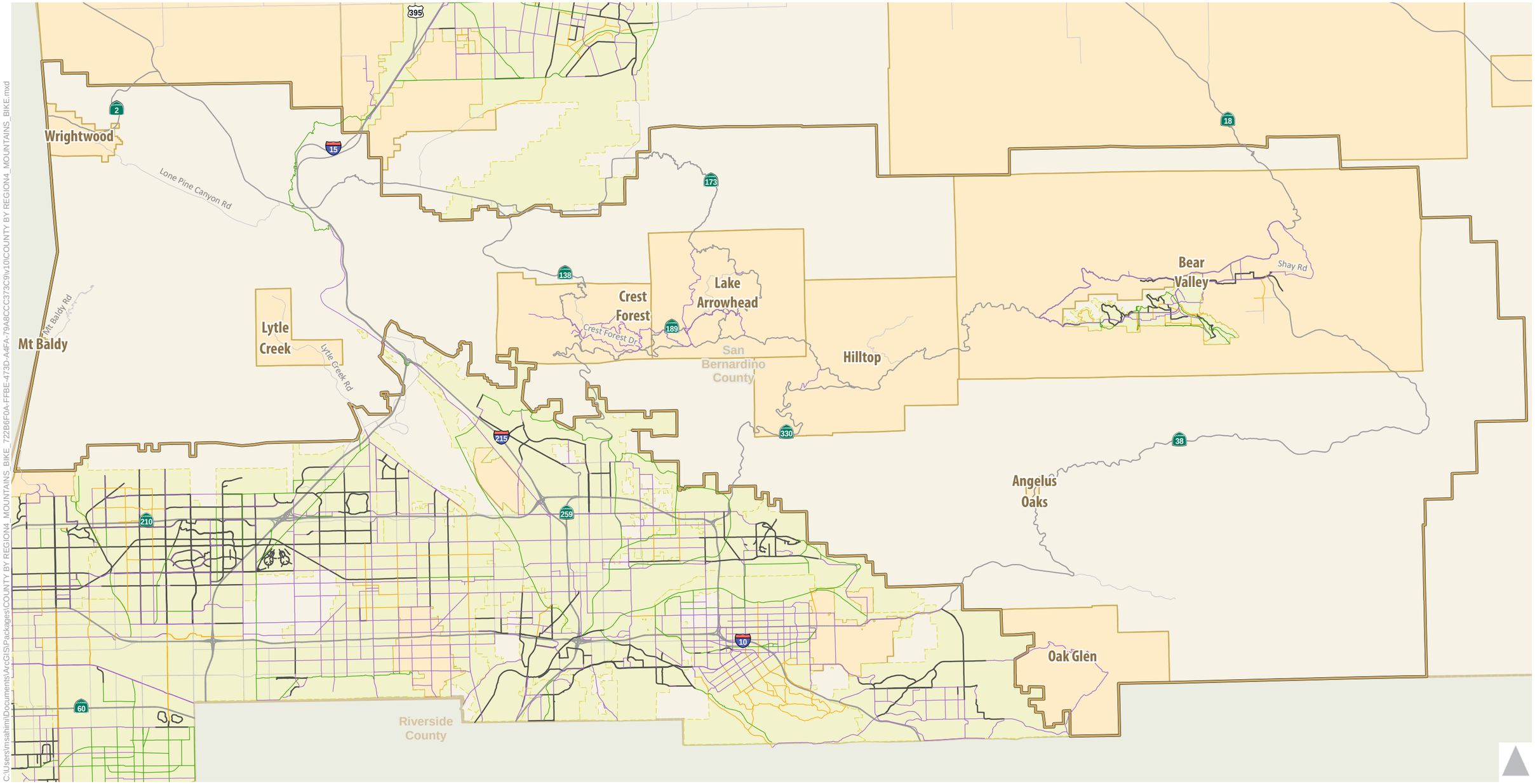
C:\Users\mshahmi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT2_BIKE.mxd

Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
East Desert Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 8B

East Desert Region - Future Bicycle Facilities



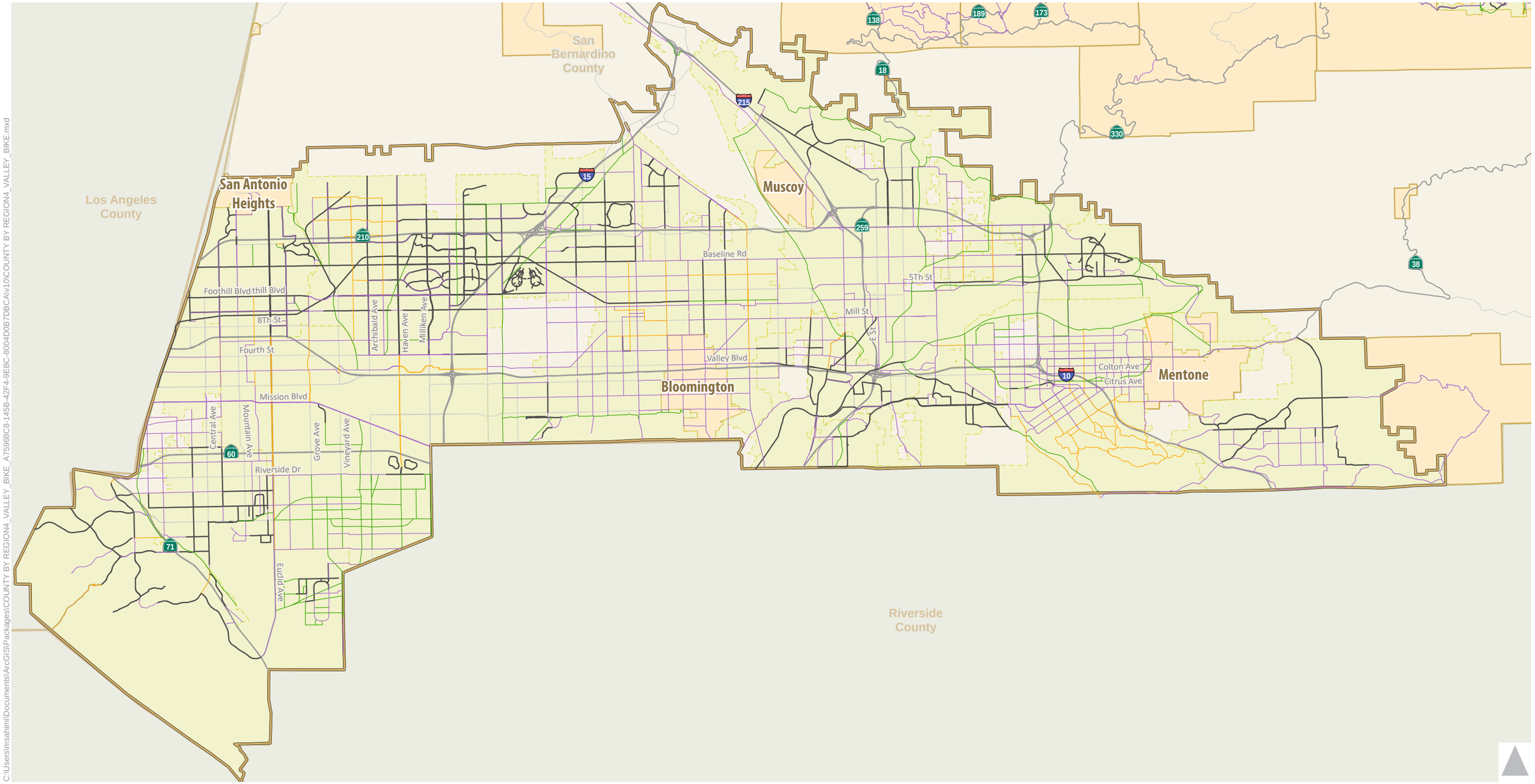
C:\Users\msahimi\Documents\ArcGISPackages\COUNTY BY REGION4_MOUNTAINS_BIKE_722B6F0A-FFBE-473D-A4FA-79A8CCC373C9v10\COUNTY BY REGION4_MOUNTAINS_BIKE.mxd

Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 8C

Mountain Region - Future Bicycle Facilities



C:\Users\msahimi\Documents\ArcGIS\Packages\COUNTY BY REGION4_VALLEY_BIKE_A75968C8-145B-42F4-9EBC-80040D0B7DBCA\v10\COUNTY BY REGION4_VALLEY_BIKE.mxd

Planned Class I
Planned Class II
Planned Class III
Existing Bikeways
Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 8D

Valley Region - Future Bicycle Facilities

VALLEY REGION

Significant bikeway improvements are also planned in the Valley Region. These include Class II bikeways in San Antonio Heights, Bloomington, and Muscoy. In Mentone, Class I, II, and III facilities are proposed.

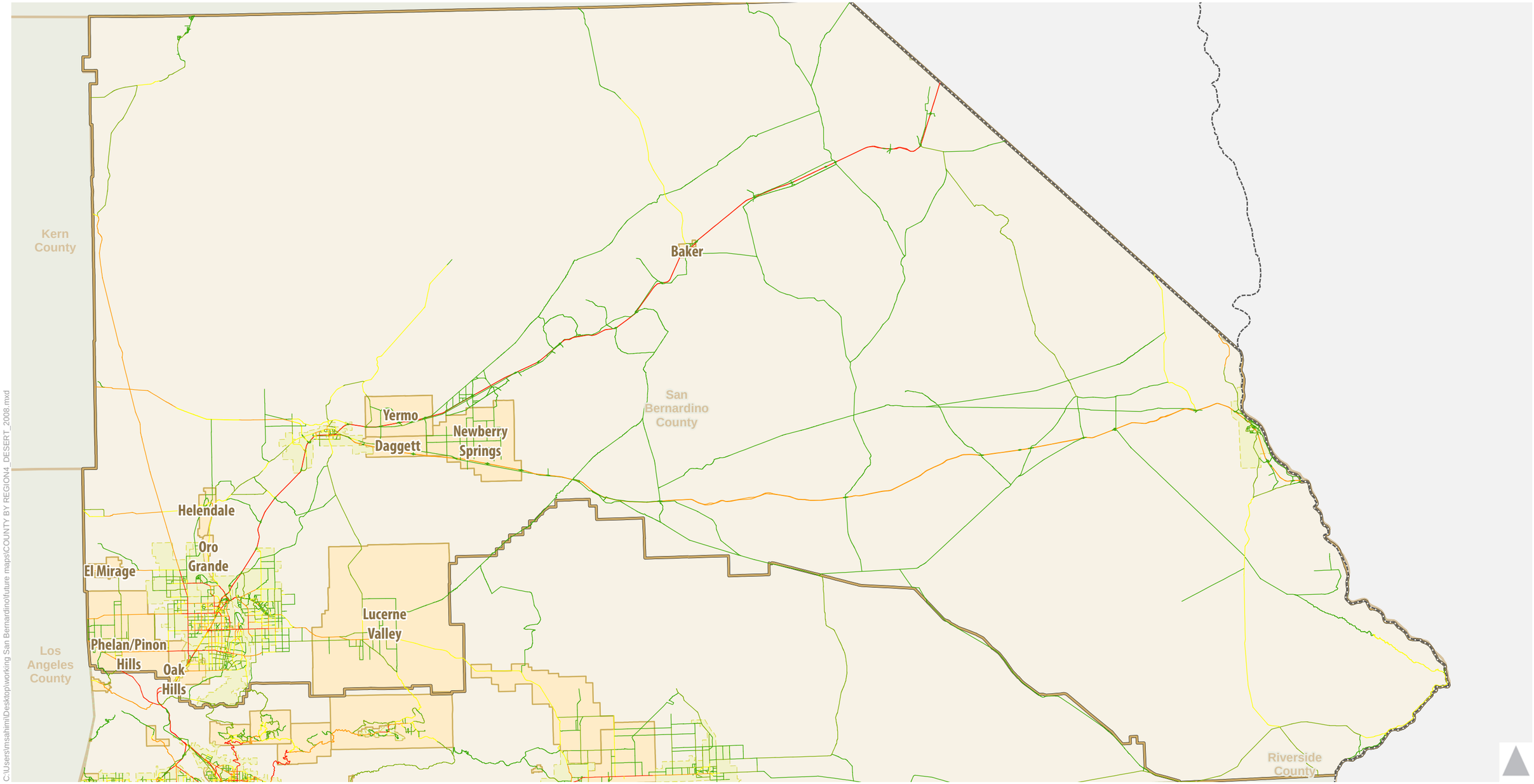
COMMUTE PATTERNS

As documented in the *Existing Conditions Report*, most county residents travel outside of the county for work. This finding was based on data obtained through the U.S. Census Bureau's Longitudinal Employer Household Dynamics (LEHD). According to the LEHD database, the percentage of persons living in the county's unincorporated communities who work outside the County has increased steadily between 2004 and 2013 from 46.9% to 53.3%. This pattern generally applies to county residents as a whole. Generally, this trend translates to higher than usual vehicle volumes on regional roads.

Figures 9A through 9H show the daily vehicle model volumes from the San Bernardino Transportation Analysis Model (SBTAM) for the base year 2008 and future year 2035. In the North Desert Region, there are noticeable increases in roadway volumes. Daily volumes are higher on regional highways such at Interstate 40 and US Route 395. In addition, there are increases on State Routes 18 and 38 in Phelan/Pinon Hills, State Routes 18 and 247 in Lucerne Valley, and several local roads in cities such as Victorville and Apple Valley. In the East Desert Region, there are higher volumes on State Route 247 in Homestead Valley, which continues into the Desert Region. In the Mountain Region, State Routes 138, 18, and 38 all show higher volumes. The tighter, denser grid system in the Valley Region shows widespread increases in daily volumes.

Long-distance commutes most likely play a role in increasing roadway volumes and congestion as residents leave their communities for work. The commute patterns of each specific region are examined below.

DRAFT

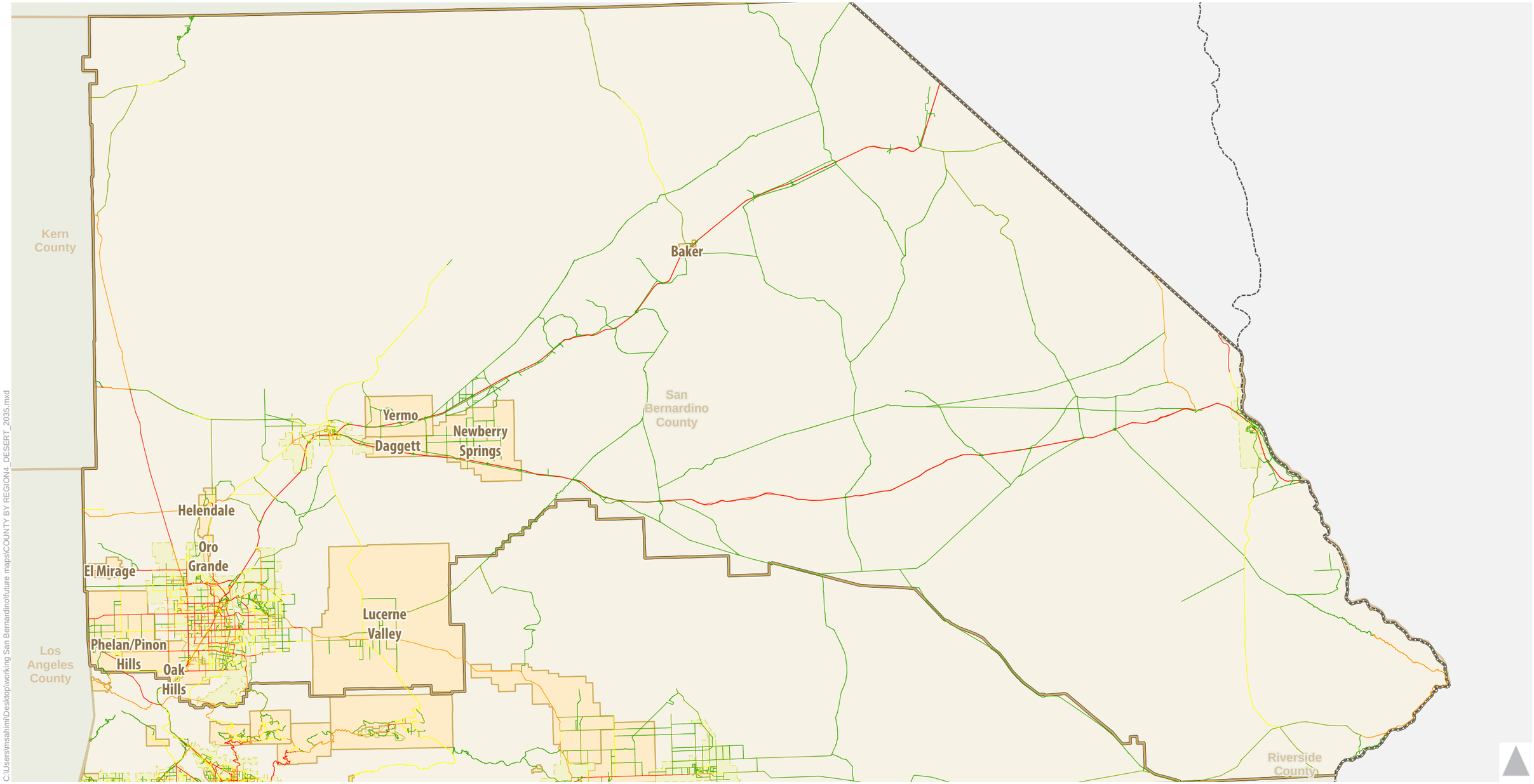


C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_2008.mxd

DRAFT

Figure 9A

North Desert Region - Year 2008 SBTAM Daily Volumes



North Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

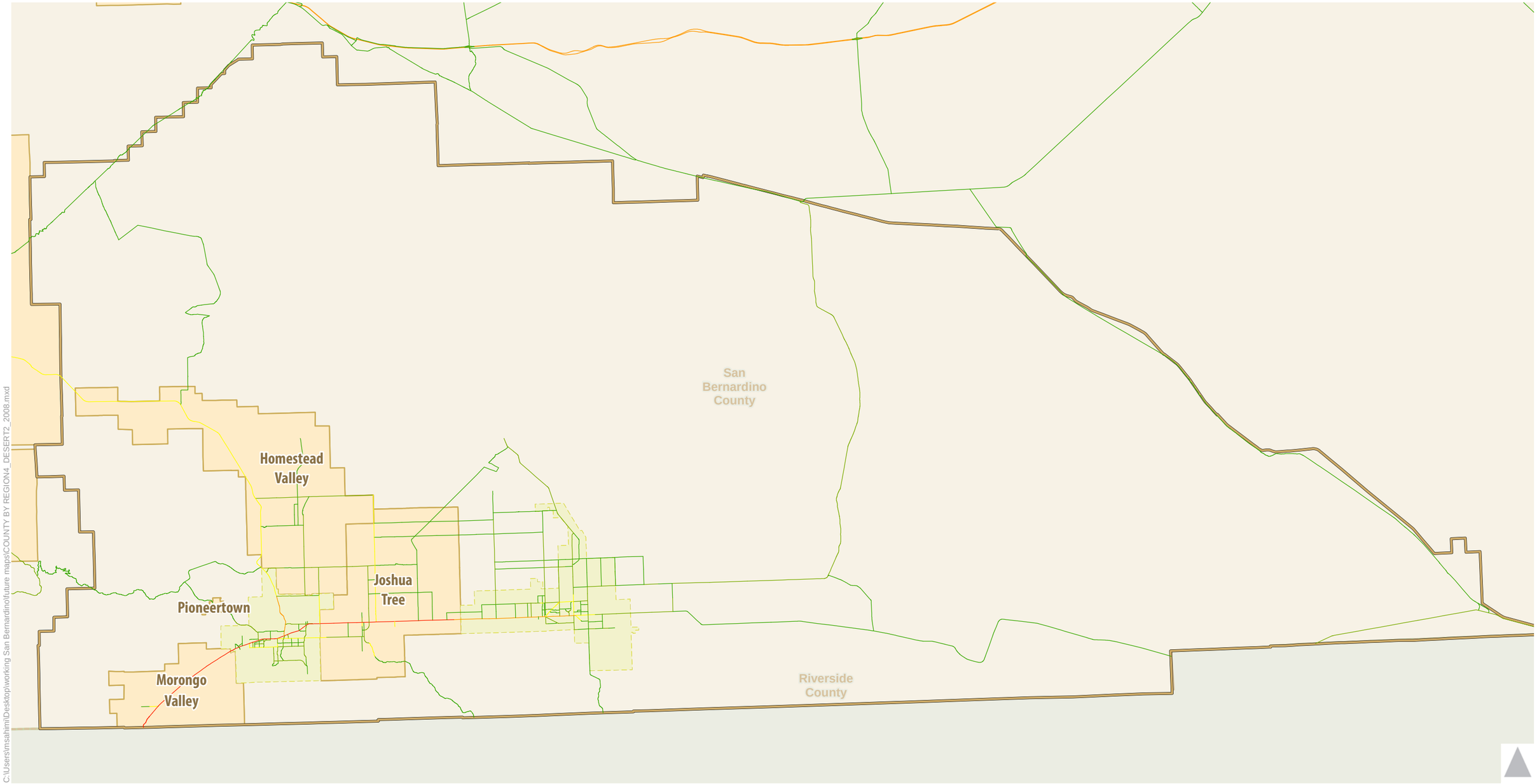
Daily Model Volume

900 and lower
901 - 2,900
2,901 - 6,000
6,001 to 13,000
13,001 and higher

DRAFT

Figure 9B

North Desert Region - Year 2035 SBTAM Daily Volumes



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT2_2008.mxd

East Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

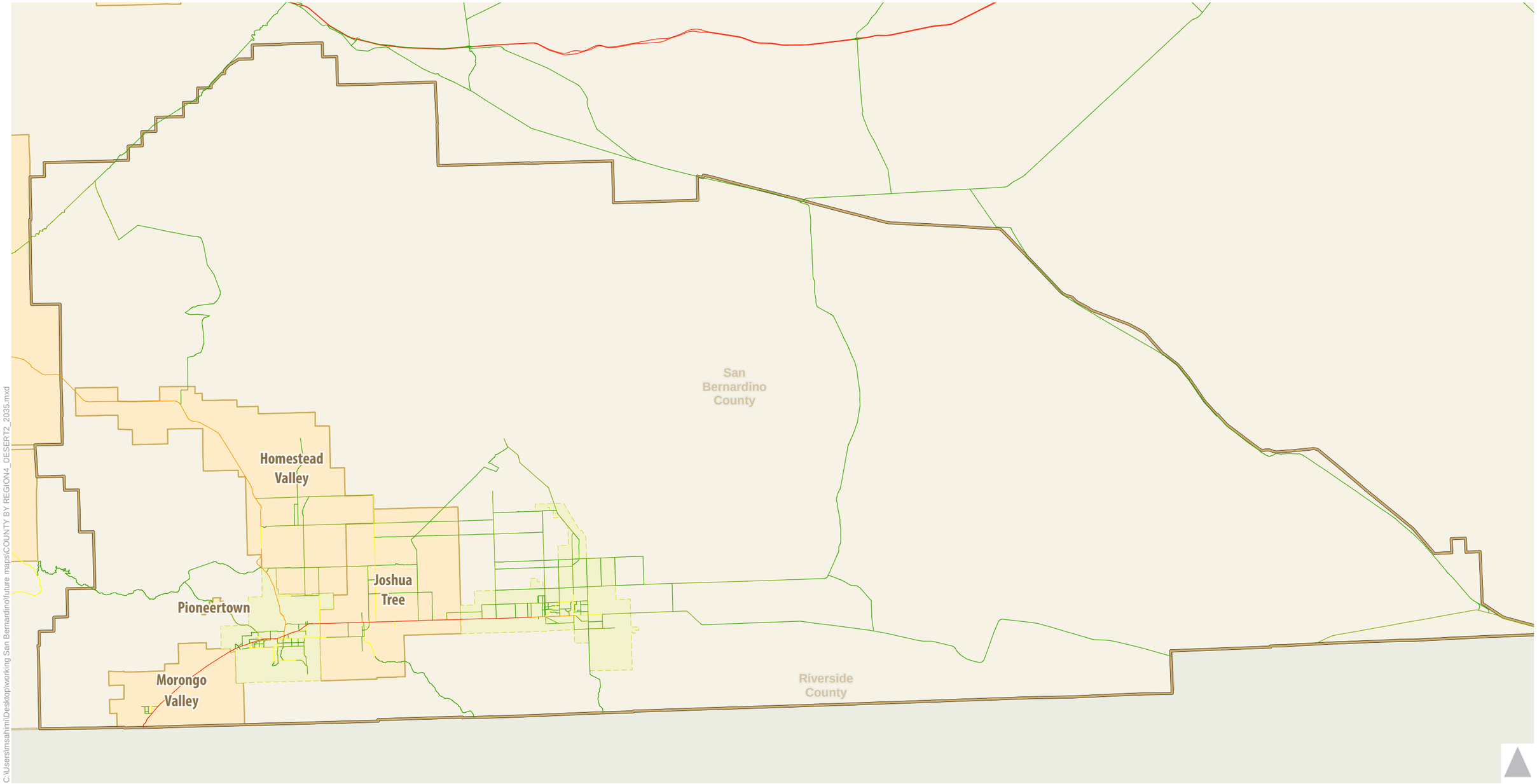
Daily Model Volume

900 and lower
901 - 2,900
2,901 - 6,000
6,001 to 13,000
13,001 and higher

DRAFT

Figure 9C

East Desert Region - Year 2008 SBTAM Daily Volumes



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION\4_DESERT2_2035.mxd

East Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

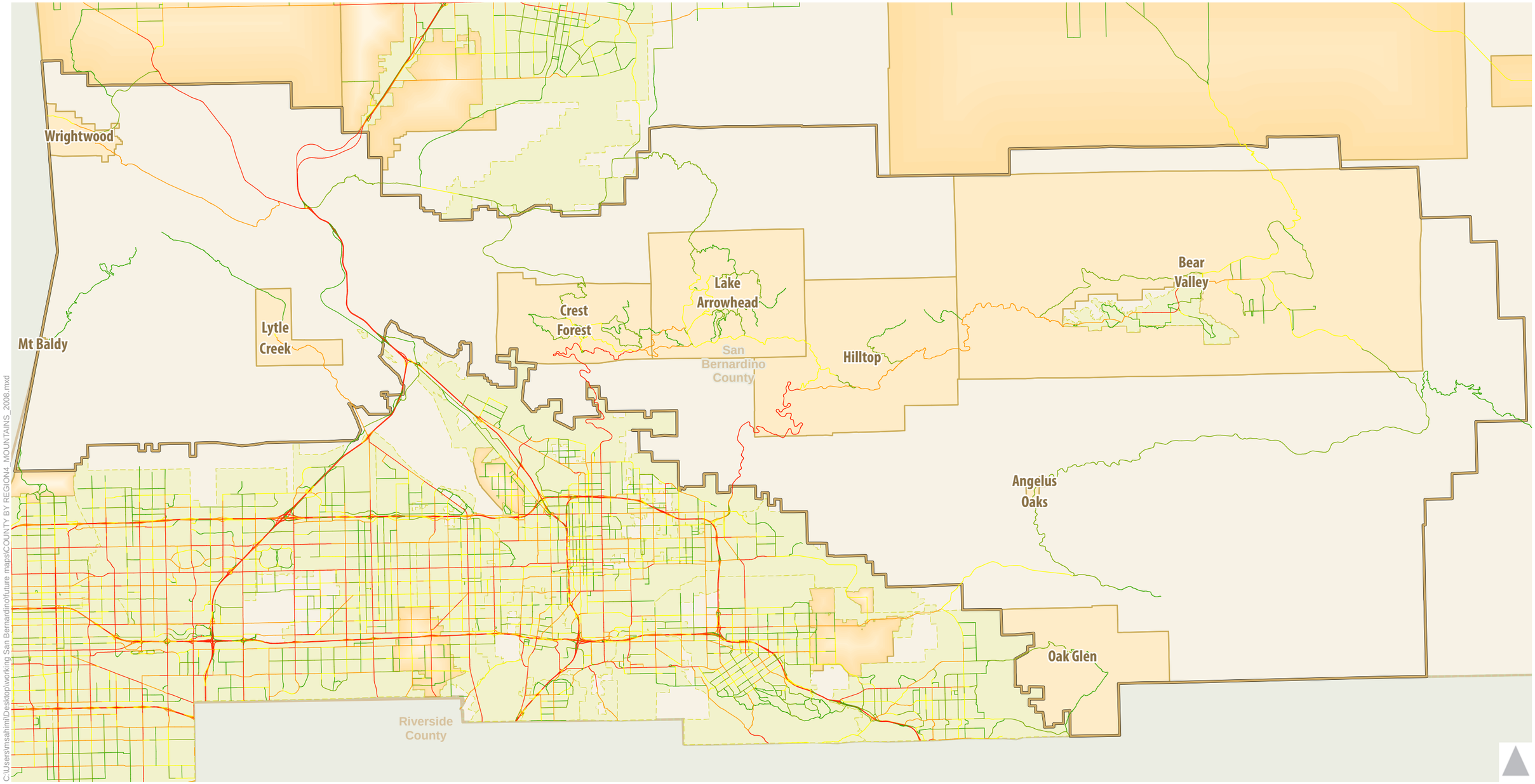
Daily Model Volume

900 and lower
901 - 2,900
2,901 - 6,000
6,001 to 13,000
13,001 and higher

DRAFT

Figure 9D

East Desert Region - Year 2035 SBTAM Daily Volumes



C:\Users\msahinil\Desktop\working\San Bernardino\future maps\COUNTY BY REGION\4_MOUNTAINS_2008.mxd

Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

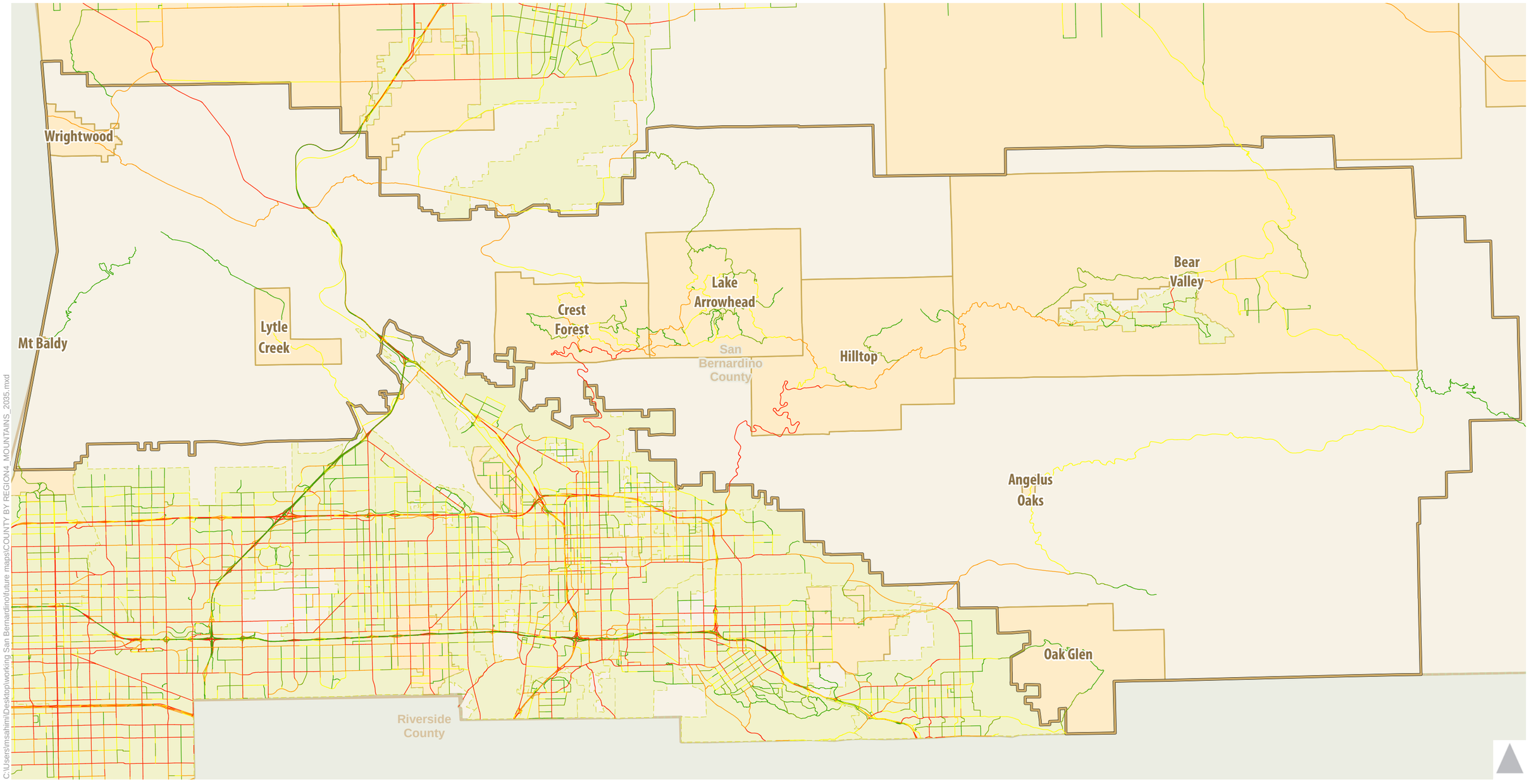
Daily Model Volume

- 900 and lower
- 901 - 2,900
- 2,901 - 6,000
- 6,001 to 13,000
- 13,001 and higher

DRAFT

Figure 9E

Mountain Region - Year 2008 SBTAM Daily Volumes



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION\4_MOUNTAINS_2035.mxd

Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

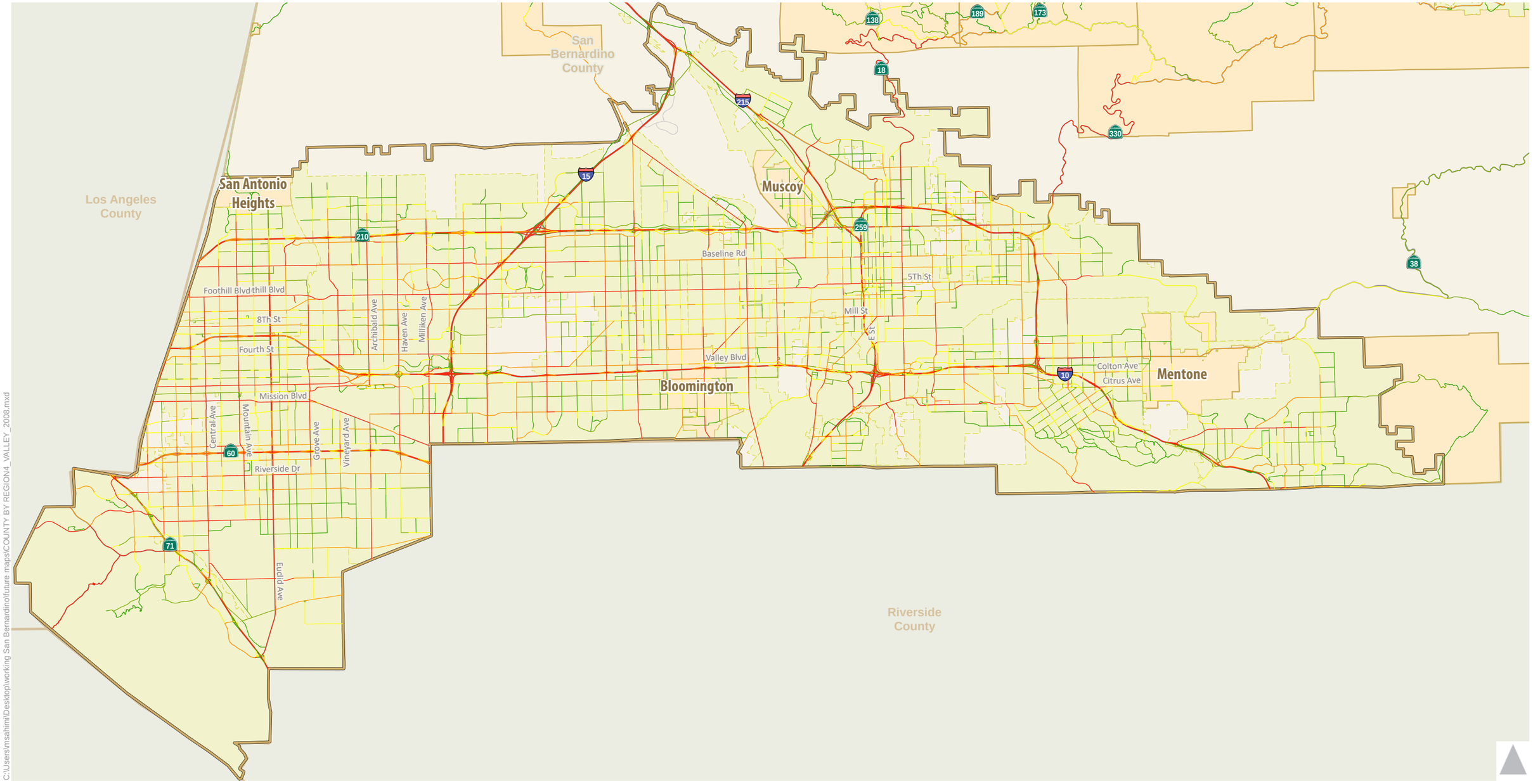
Daily Model Volume

900 and lower
901 - 2,900
2,901 - 6,000
6,001 to 13,000
13,001 and higher

DRAFT

Figure 9F

Mountain Region - Year 2035 SBTAM Daily Volumes



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_2008.mxd

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County

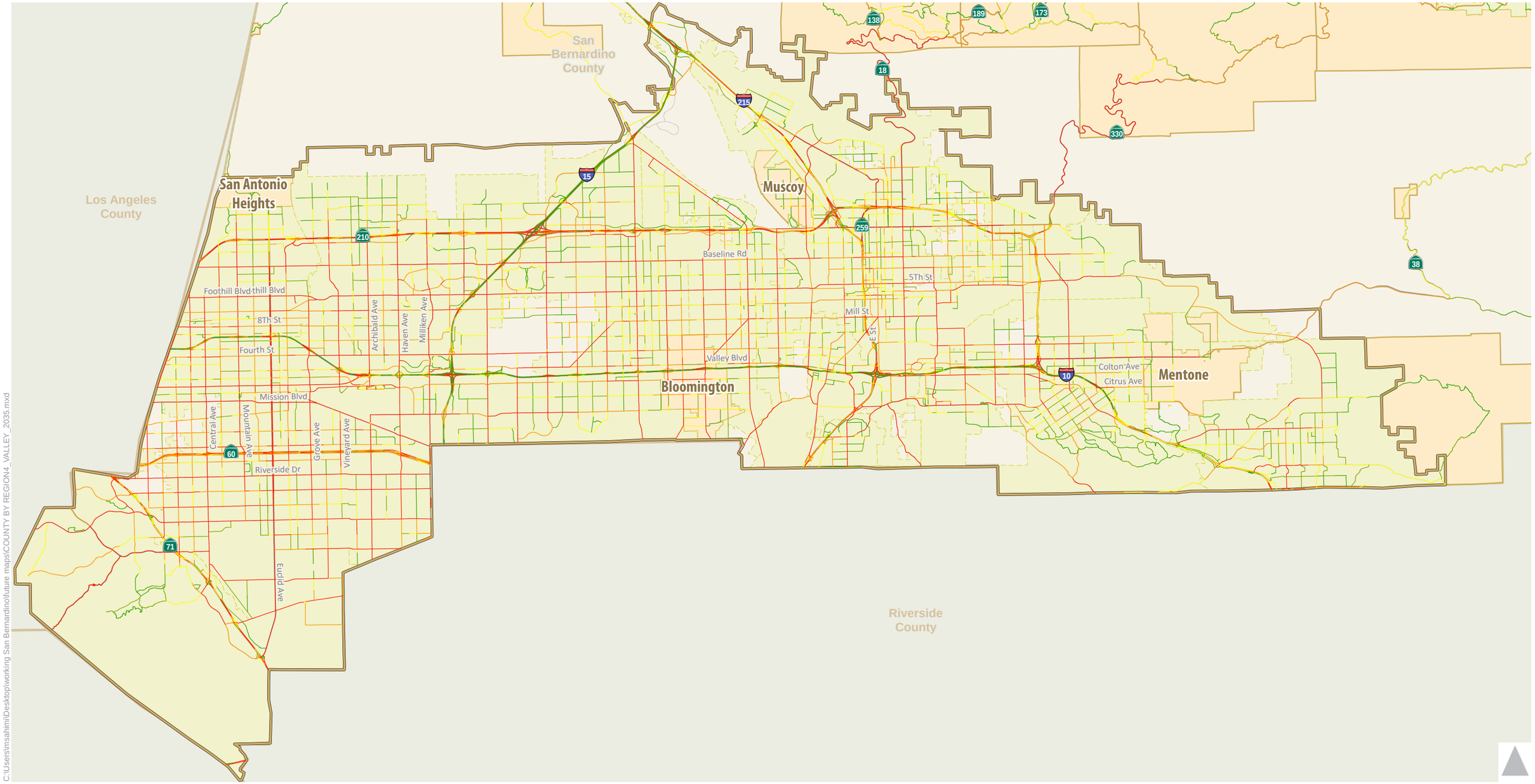
Daily Model Volume

- 900 and lower
- 901 - 2,900
- 2,901 - 6,000
- 6,001 to 13,000
- 13,001 and higher

DRAFT

Figure 9G

Valley Region - Year 2008 SBTAM Daily Volumes



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_VALLEY_2035.mxd

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County

Daily Model Volume

900 and lower
901 - 2,900
2,901 - 6,000
6,001 to 13,000
13,001 and higher

DRAFT

Figure 9H

Valley Region - Year 2035 SBTAM Daily Volumes

NORTH DESERT REGION

Figure 10A shows LEHD data for resident worker commute patterns in the North Desert Region (including incorporated cities). The figure shows that 33% work within the North Desert Region, 19% work within the three other County regions, and 48% work outside of San Bernardino County. The percentage working outside of the county is slightly lower than the county average.

Tables 1 and 2 document the top worker origins and destinations specifically for unincorporated communities in the North Desert Region. As shown in the tables, several of the top origins and destinations are local communities and cities. However, a minority of workers come from or go to them. In addition, some top locations (e.g., Los Angeles, San Diego, and Riverside) are outside of the County.

Figure 10B shows the distance and directionality of commuters entering and leaving the North Desert Region's unincorporated communities. Both are skewed to the south, with significant numbers of workers coming from or going to locations more than 50 miles away.

DRAFT

TABLE 1
TOP WORKER ORIGINS – NORTH DESERT REGION

City/CDP	Count	Share
All Places	2,763	100.0%
Victorville city	292	10.6%
Apple Valley town	282	10.2%
Hesperia city	222	8.0%
Lucerne Valley CDP	145	5.2%
Lake Arrowhead CDP	84	3.0%
Barstow city	80	2.9%
Silver Lakes CDP	77	2.8%
San Diego city	66	2.4%
Adelanto city	52	1.9%

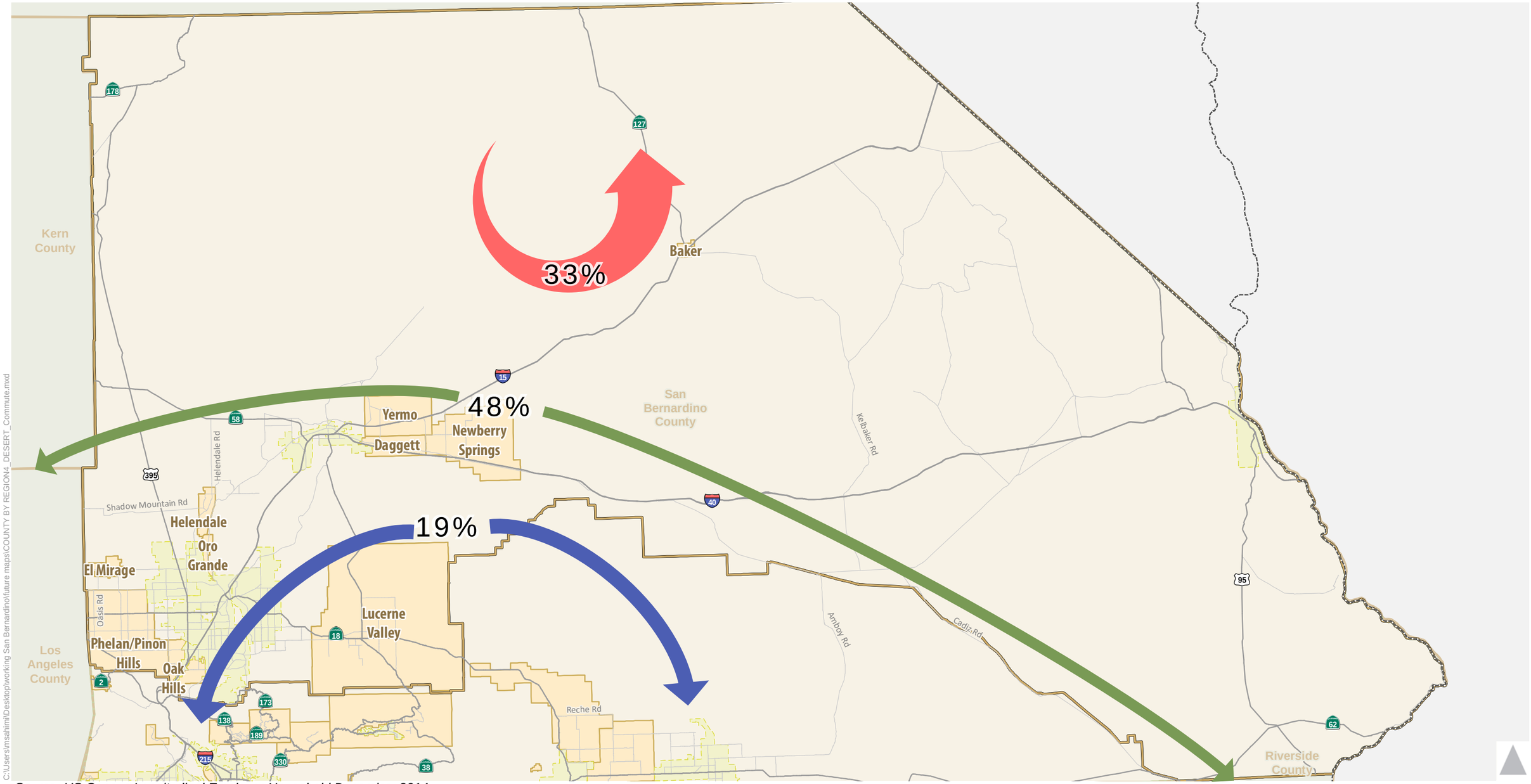
TABLE 1
TOP WORKER ORIGINS – NORTH DESERT REGION

City/CDP	Count	Share
Los Angeles city	39	1.4%
All Other Locations	1,424	51.5%

TABLE 2
TOP WORKER DESTINATIONS – NORTH DESERT REGION

City/CDP	Count	Share
All Places	7,106	100.0%
Los Angeles city	563	7.9%
Victorville city	370	5.2%
San Bernardino city	292	4.1%
Hesperia city	237	3.3%
Apple Valley town	184	2.6%
Riverside city	146	2.1%
San Diego city	143	2.0%
Barstow city	119	1.7%
Lucerne Valley CDP	119	1.7%
Rancho Cucamonga city	118	1.7%
All Other Locations	4,815	67.8%

DRAFT



C:\Users\msahin\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT_Commute.mxd

Source: US Census Longitudinal Employer-Household Dynamics, 2014

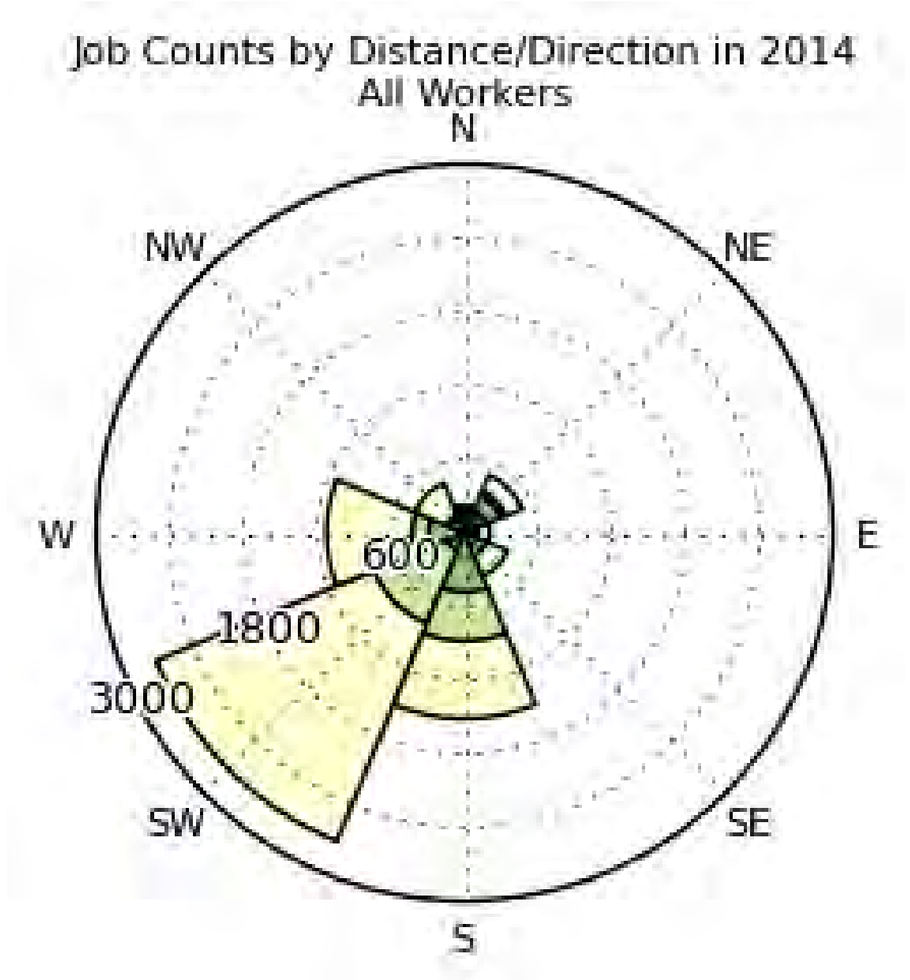
North Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County
Work Within Region
Work Within Other Regions
Work Outside County

DRAFT

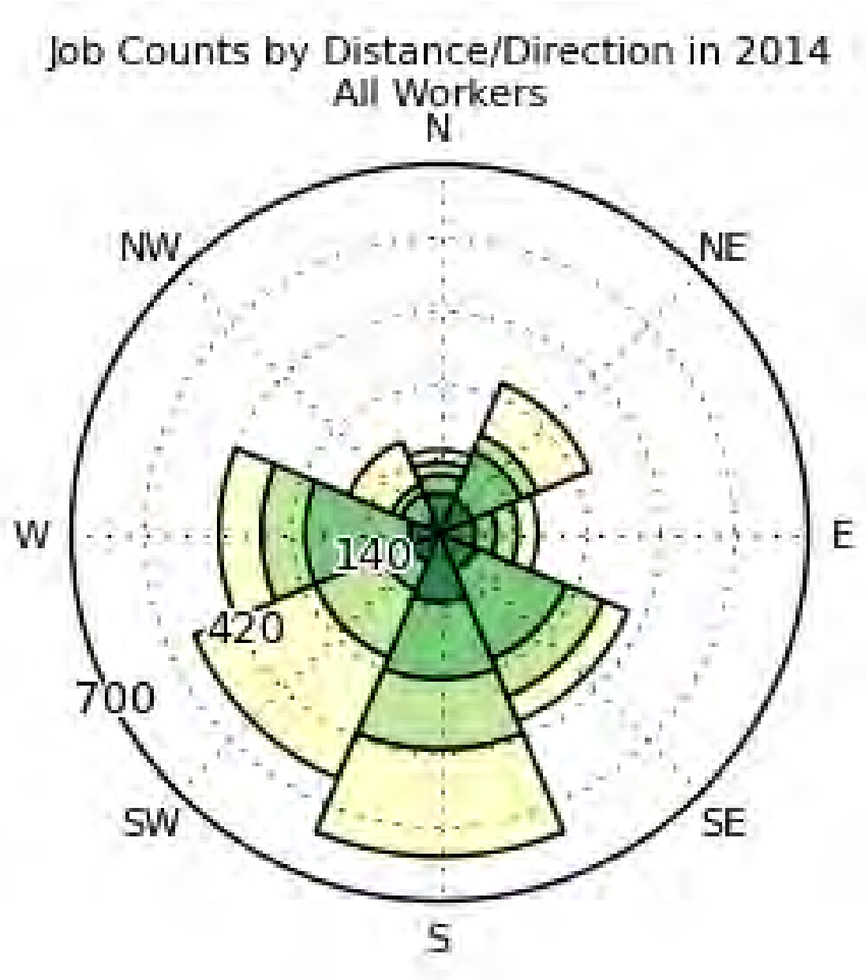
Figure 10A

North Desert Region - Resident Commute Patterns

*Incorporated Cities and Unincorporated Communities



Commuters Leaving Unincorportated Communities



Commuters Entering Unincorportated Communities

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Less than 10 Miles
10 to 24 Miles
25 to 50 Miles
Greater than 50 Miles

Figure 10b

North Desert Region - Jobs by Distance/Direction

EAST DESERT REGION

Figure 10C shows LEHD data for resident worker commute patterns in the East Desert Region (including incorporated cities). The figure shows that 23% work within the East Desert Region, 11% work within the three other County regions, and 66% work outside of San Bernardino County. The percentage working outside of the County is significantly higher than the County average, perhaps due to the lack of employment in the East Desert Region for local residents.

Tables 3 and 4 document the top worker origins and destinations specifically for unincorporated communities in the East Desert Region. As shown in the tables, several of the top origins are local communities and cities with a significant share of incoming workers. However, several of the top destinations (e.g., Palm Springs, Los Angeles, and Palm Desert) are more distant cities and communities.

Figure 10D shows the distance and directionality of commuters entering and leaving the East Desert Region's unincorporated communities. Outgoing workers tend to go to destinations in the west, many of them more than 50 miles away. This pattern also holds true for commuters entering, except for the fact that a significant number also enter from the northeast from locations less than 25 miles away.

DRAFT

TABLE 3
TOP WORKER ORIGINS – EAST DESERT REGION

City/CDP	Count	Share
All Places	271	100.0%
Morongo Valley CDP	76	28.0%
Yucca Valley town	43	15.9%
Indio city	9	3.3%
Joshua Tree CDP	9	3.3%
Palm Desert city	9	3.3%
Cathedral City city	8	3.0%
Homestead Valley CDP	6	2.2%

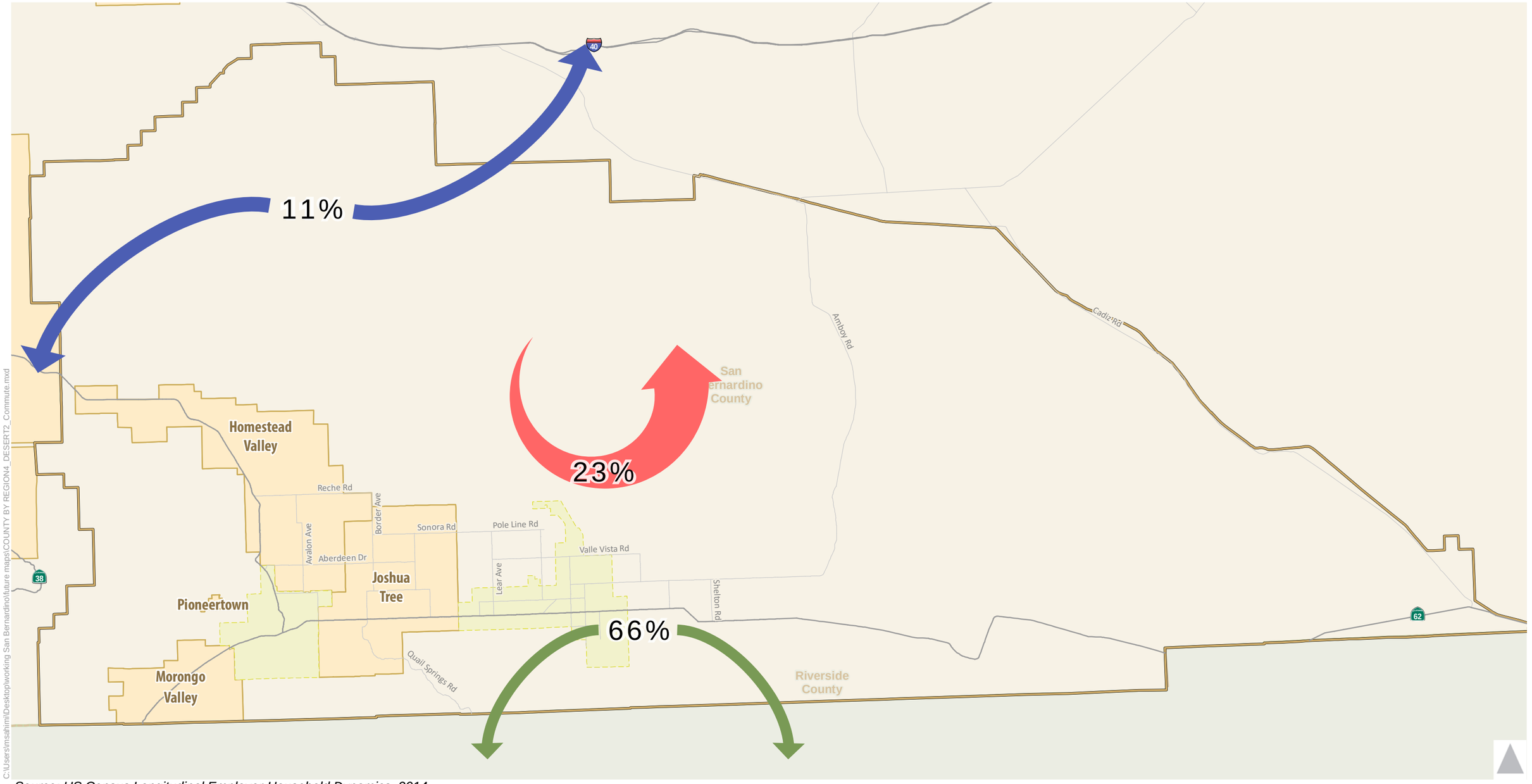
TABLE 3
TOP WORKER ORIGINS – EAST DESERT REGION

City/CDP	Count	Share
Lucerne Valley CDP	5	1.8%
Desert Hot Springs city	4	1.5%
Los Angeles city	4	1.5%
All Other Locations	98	36.2%

TABLE 4
TOP WORKER DESTINATIONS – EAST DESERT REGION

City/CDP	Count	Share
All Places	1,853	100.0%
Palm Springs city	161	8.7%
Los Angeles city	115	6.2%
Palm Desert city	79	4.3%
Morongo Valley CDP	76	4.1%
Yucca Valley town	61	3.3%
San Diego city	52	2.8%
Rancho Mirage city	48	2.6%
San Bernardino city	41	2.2%
Riverside city	40	2.2%
Cathedral City city	31	1.7%
All Other Locations	1,149	62.0%

DRAFT



Source: US Census Longitudinal Employer-Household Dynamics, 2014

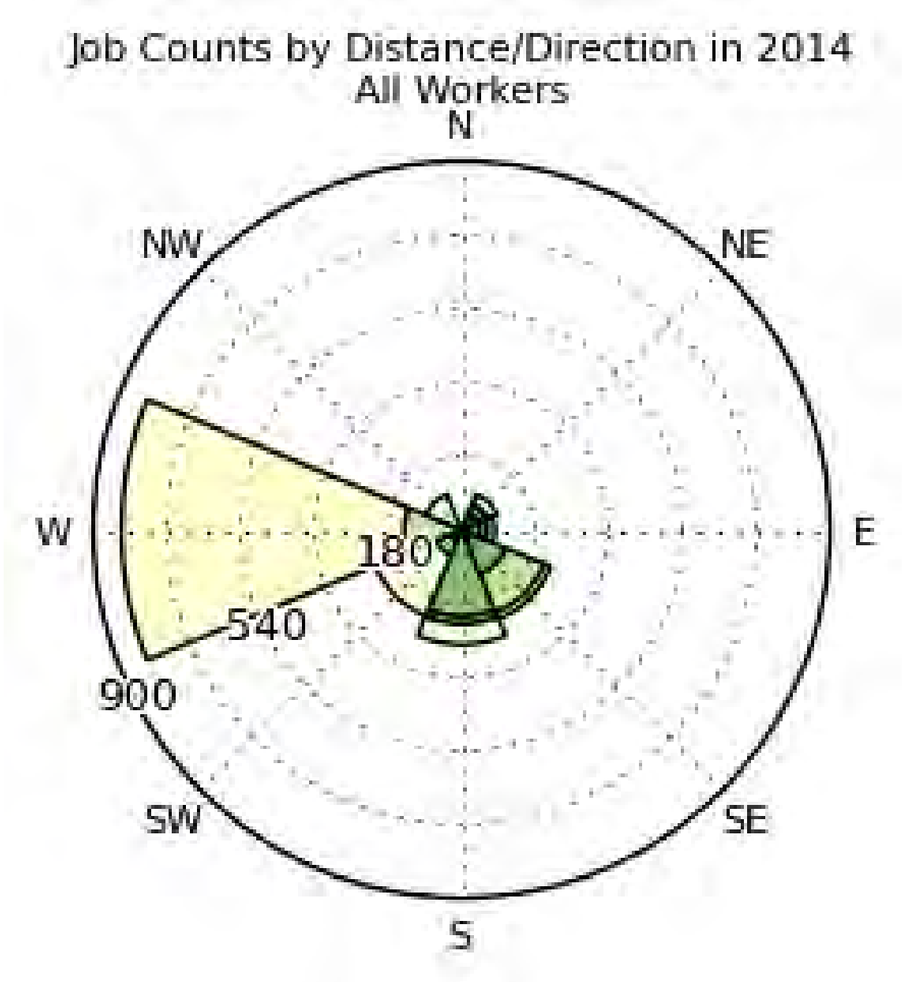
East Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County
Work Within Region
Work Within Other Regions
Work Outside County

DRAFT

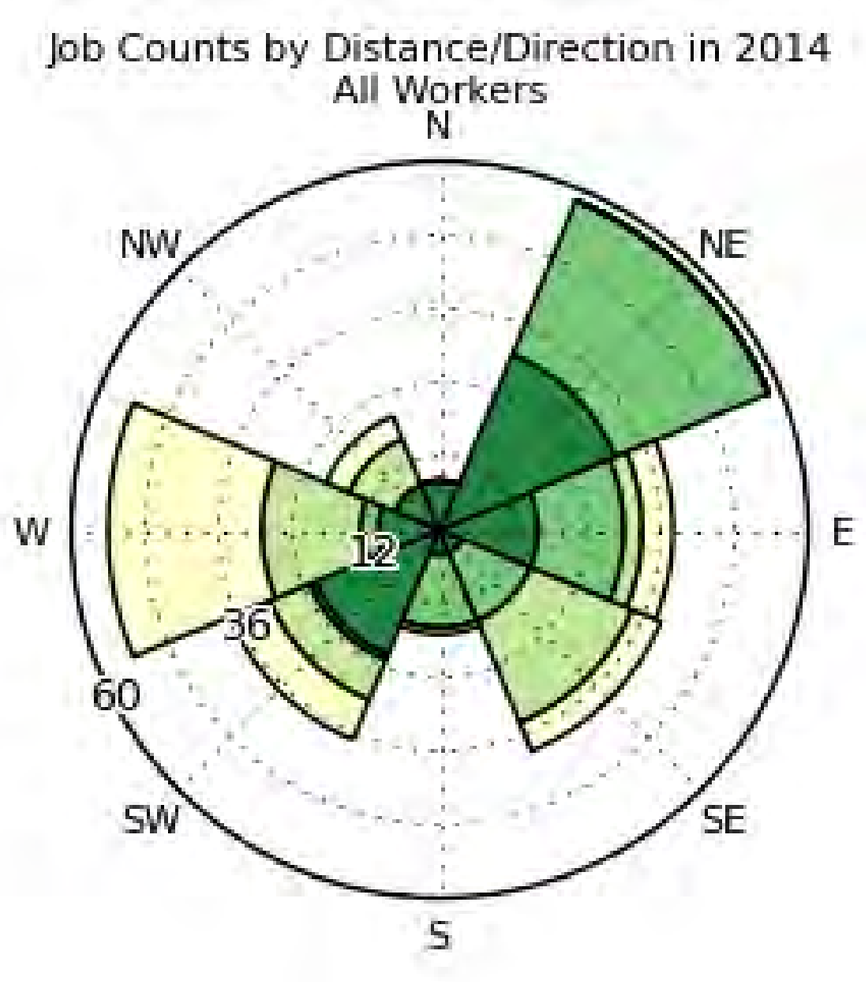
Figure 10C

East Desert Region - Resident Commute Patterns

*Incorporated Cities and Unincorporated Communities



Commuters Leaving Unincorportated Communities



Commuters Entering Unincorportated Communities

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Less than 10 Miles
10 to 24 Miles
25 to 50 Miles
Greater than 50 Miles

Figure 10D

East Desert Region - Jobs by Distance/Direction

MOUNTAIN REGION

Figure 10E shows LEHD data for resident worker commute patterns in the Mountain Region (including incorporated cities). The figure shows that 18% work within the Mountain Region, 23% work within the three other County regions, and 59% work outside of San Bernardino County. The percentage working outside of the County is somewhat higher than the County average, perhaps due to the lack of employment in the Mountain Region for local residents.

Tables 5 and 6 document the top worker origins and destinations specifically for unincorporated communities in the Mountain Region. As shown in the tables, several of the top origins are local communities and cities with a significant share of incoming workers. Several top destinations are also local communities and cities. However, a minority of workers travel to and from to them.

Figure 10F shows the distance and directionality of commuters entering and leaving the Mountain Region's unincorporated communities. Outgoing workers tend to go to destinations in the west, southwest, and south, many of them more than 50 miles away. Incoming workers generally arrive from locations either to the west, southeast, and east more than 50 miles away. However, a significant number also enter from multiple directions from nearby locations less than 10 miles away.

DRAFT

TABLE 5
TOP WORKER ORIGINS – MOUNTAIN REGION

City/CDP	Count	Share
All Places	695	100.0%
Wrightwood CDP	79	11.4%
Yucaipa city	65	9.4%
Lake Arrowhead CDP	37	5.3%
Phelan CDP	37	5.3%
Pinon Hills CDP	36	5.2%
San Bernardino city	23	3.3%
Hesperia city	21	3.0%

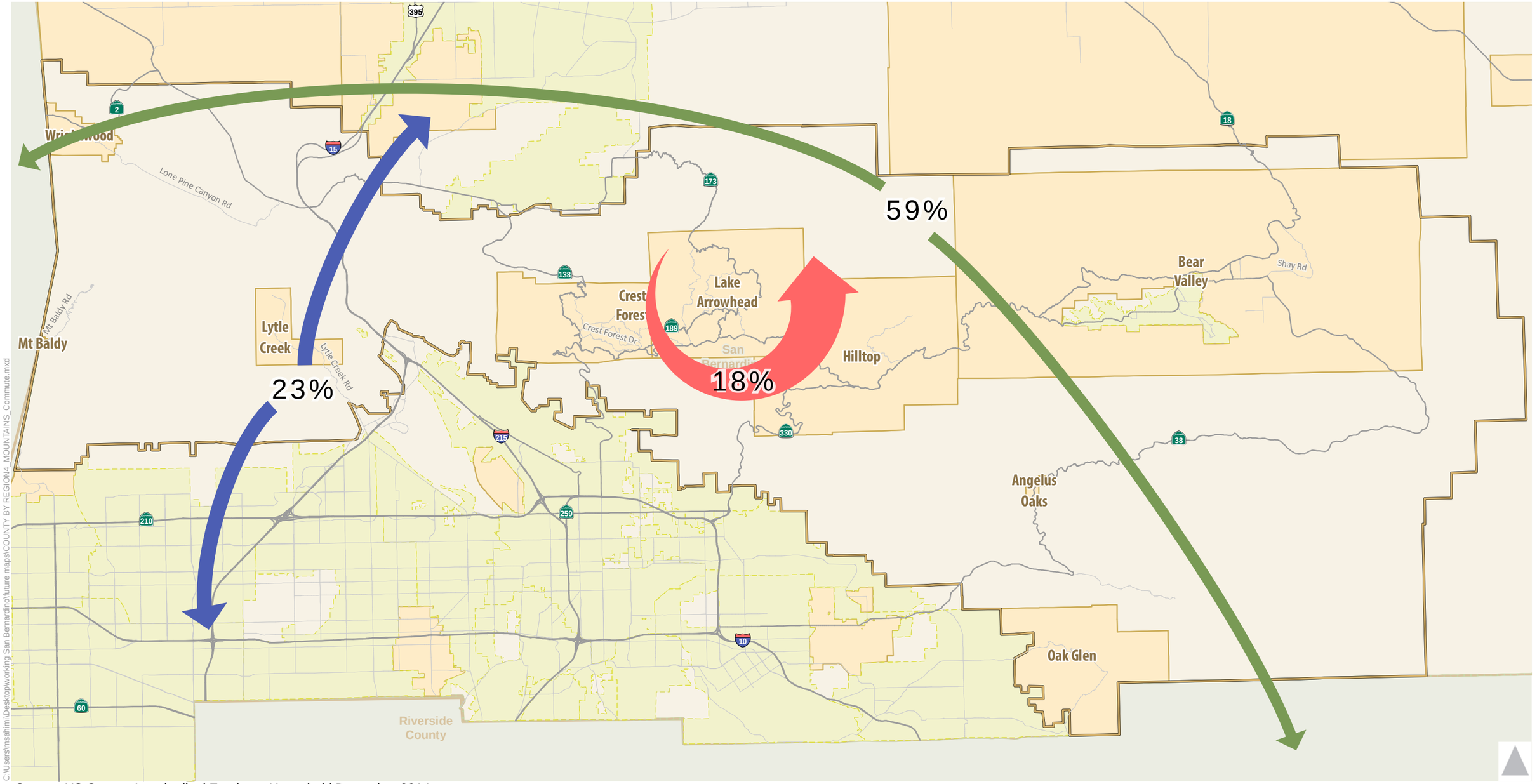
TABLE 5
TOP WORKER ORIGINS – MOUNTAIN REGION

City/CDP	Count	Share
Redlands city	20	2.9%
Fontana city	18	2.6%
Highland city	14	2.0%
All Other Locations	345	49.6%

TABLE 6
TOP WORKER DESTINATIONS – MOUNTAIN REGION

City/CDP	Count	Share
All Places	1,962	100.0%
Los Angeles city	137	7.0%
San Bernardino city	134	6.8%
Wrightwood CDP	82	4.2%
Rancho Cucamonga city	78	4.0%
Riverside city	71	3.6%
Lake Arrowhead CDP	60	3.1%
Ontario city	59	3.0%
Redlands city	55	2.8%
Phelan CDP	54	2.8%
Fontana city	49	2.5%
All Other Locations	1,183	60.3%

DRAFT



C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION_MOUNTAINS_Commute.mxd

Source: US Census Longitudinal Employer-Household Dynamics, 2014

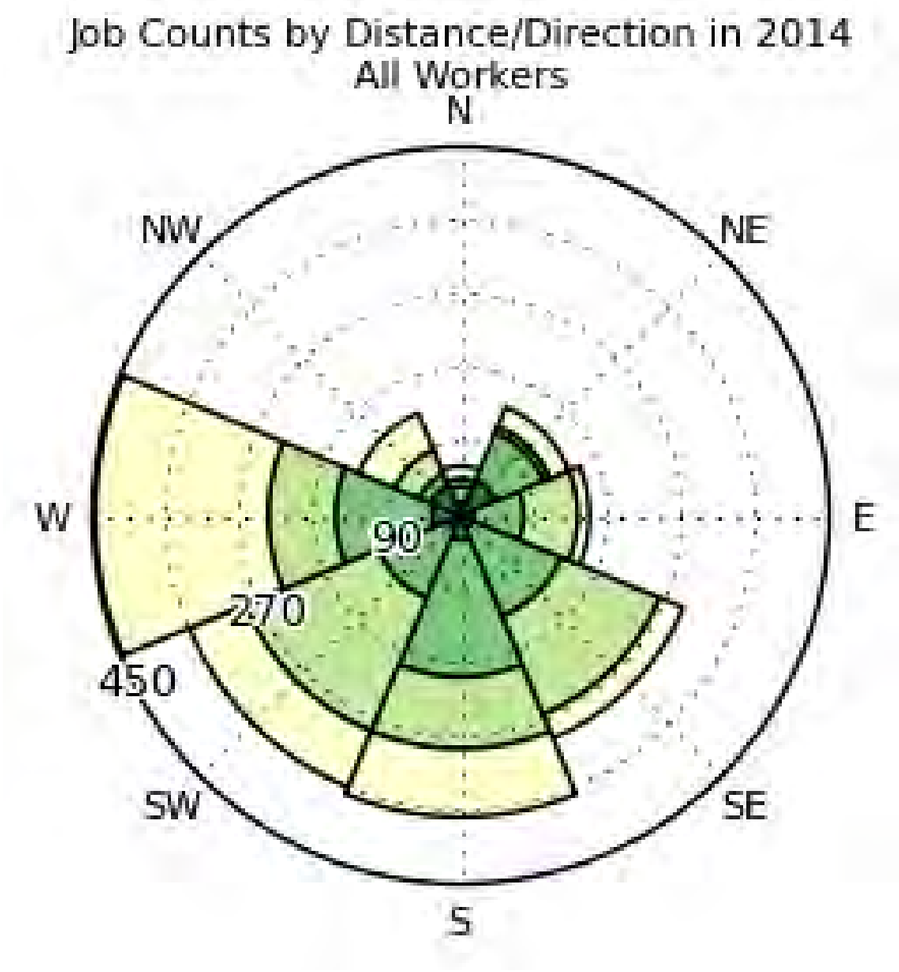
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Work Within Region
Work Within Other Regions
Work Outside County

DRAFT

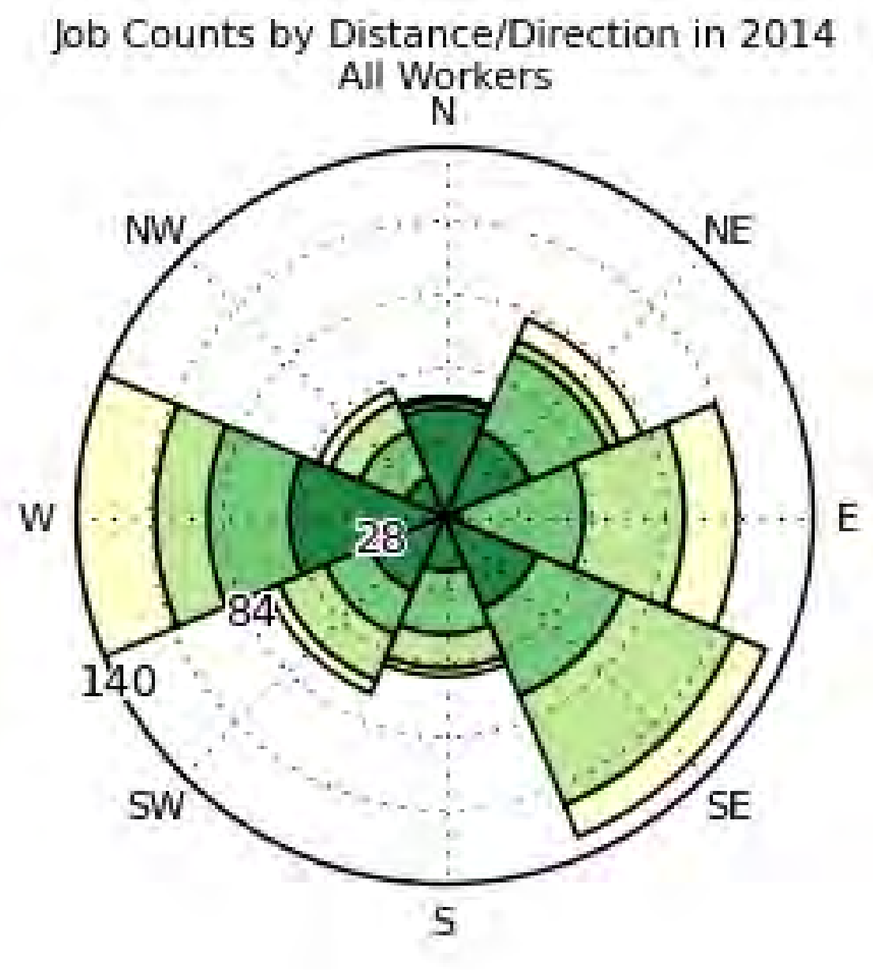
Figure 10E

Mountain Region - Resident Commute Patterns

*Incorporated Cities and Unincorporated Communities



Commuters Leaving Unincorportated Communities



Commuters Entering Unincorportated Communities

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Less than 10 Miles
10 to 24 Miles
25 to 50 Miles
Greater than 50 Miles

Figure 10F

Mountain Region - Jobs by Distance/Direction

VALLEY REGION

Figure 10G shows LEHD data for resident worker commute patterns in the Valley Region (including incorporated cities). The figure shows that 18% work within the Valley Region, 23% work within the three other County regions, and 59% work outside of San Bernardino County. The percentage working outside of the County is approximately the same as the County average.

Tables 7 and 8 document the top worker origins and destinations specifically for unincorporated communities in the Valley Region. As shown in the tables, several of the top origins are local communities and cities with a significant portion of incoming workers. This also holds true for the top worker destinations; however, a few are located a significant distance from the region.

Figure 10H shows the distance and directionality of commuters entering and leaving the Valley Region's unincorporated communities. Outgoing workers tend to go to destinations in the west, many of them more than 50 miles away. This pattern also holds true for commuters entering, except for the fact that a significant number also enter from multiple directions from nearby locations less than 10 to 25 miles away.

DRAFT

TABLE 7
TOP WORKER ORIGINS – VALLEY REGION

City/CDP	Count	Share
All Places	5,131	100.0%
San Bernardino city	482	9.4%
Redlands city	363	7.1%
Fontana city	294	5.7%
Riverside city	227	4.4%
Yucaipa city	216	4.2%
Rialto city	196	3.8%
Moreno Valley city	175	3.4%
Highland city	145	2.8%

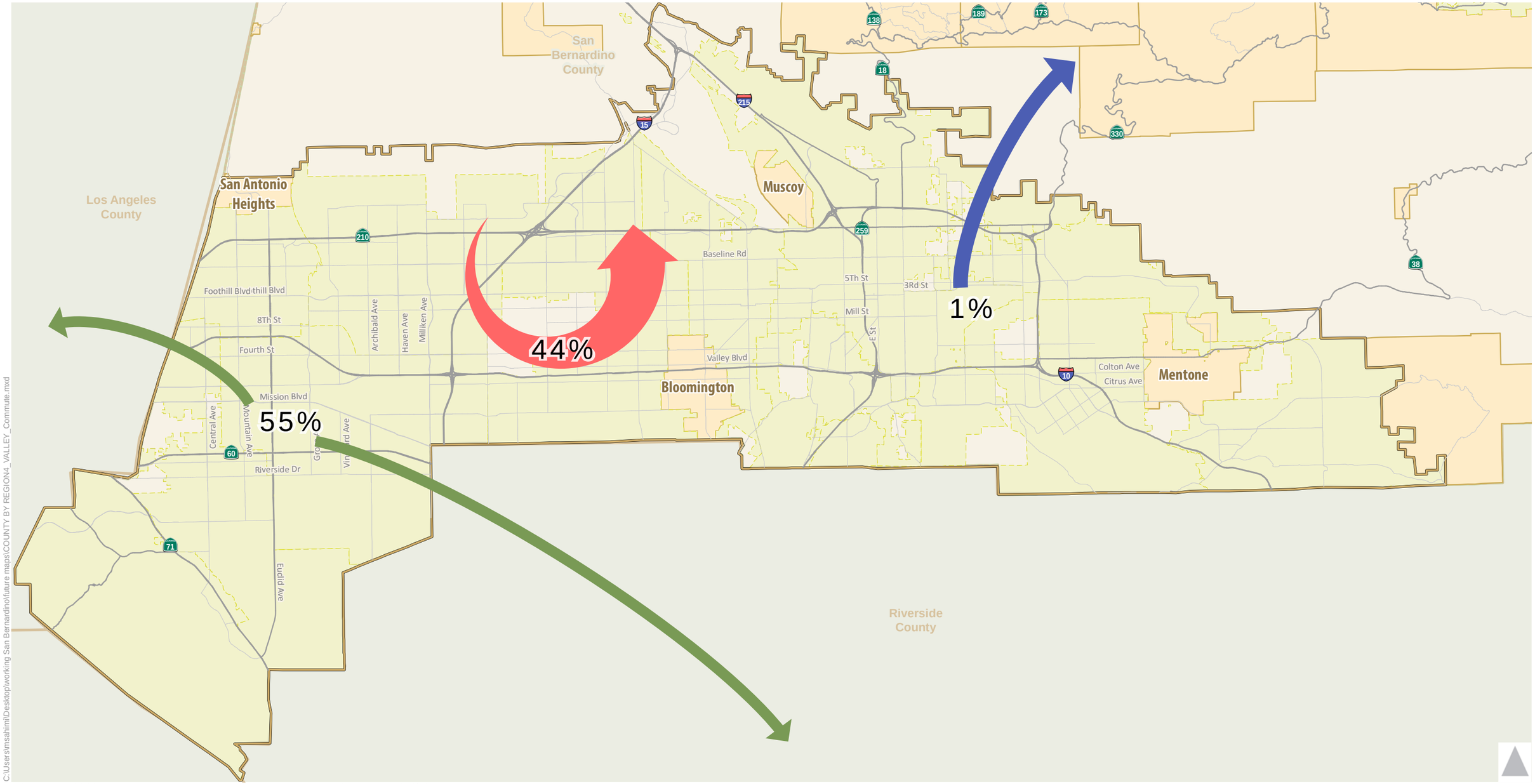
TABLE 7
TOP WORKER ORIGINS – VALLEY REGION

City/CDP	Count	Share
Bloomington CDP	144	2.8%
Colton city	137	2.7%
All Other Locations	2,752	53.6%

TABLE 8
TOP WORKER DESTINATIONS – VALLEY REGION

City/CDP	Count	Share
All Places	16,133	100.0%
San Bernardino city	1,799	11.2%
Ontario city	975	6.0%
Riverside city	959	5.9%
Fontana city	925	5.7%
Redlands city	803	5.0%
Rancho Cucamonga city	752	4.7%
Los Angeles city	720	4.5%
Rialto city	487	3.0%
Colton city	436	2.7%
Jurupa Valley city	330	2.0%
All Other Locations	7,947	49.3%

DRAFT



Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Work Within Region
Work Within Other Regions
Work Outside County

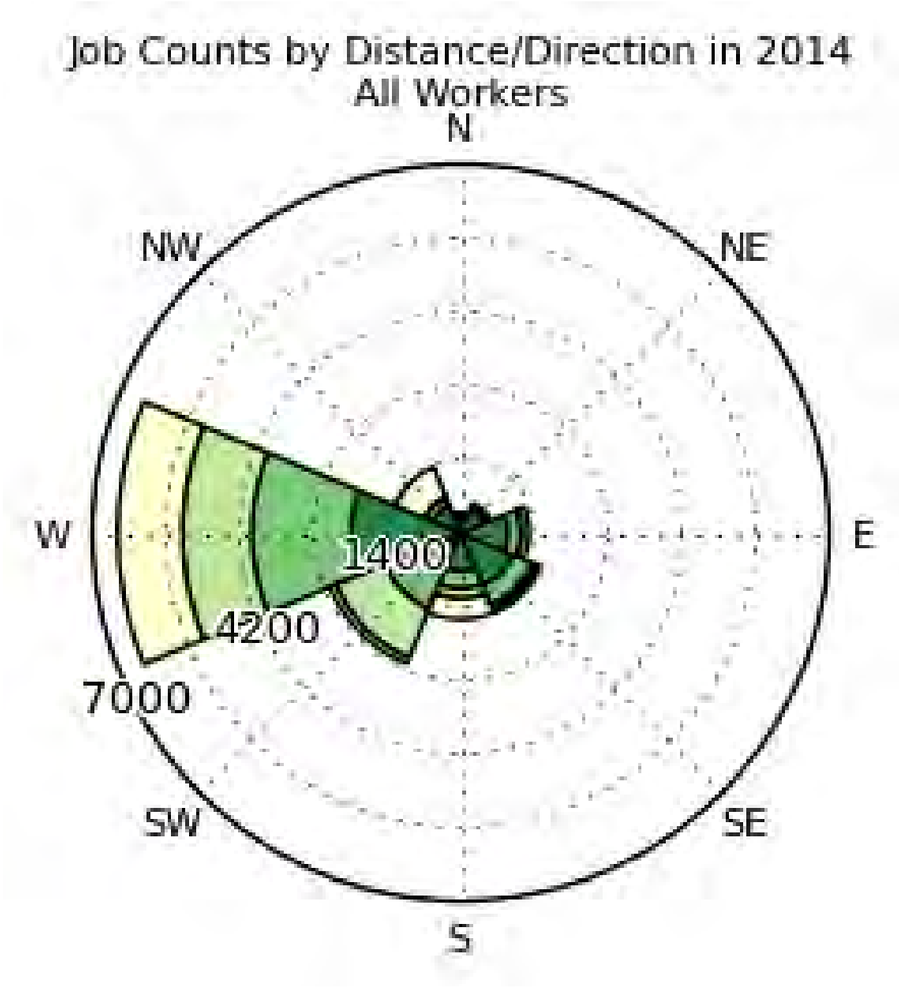
DRAFT

Figure 10G

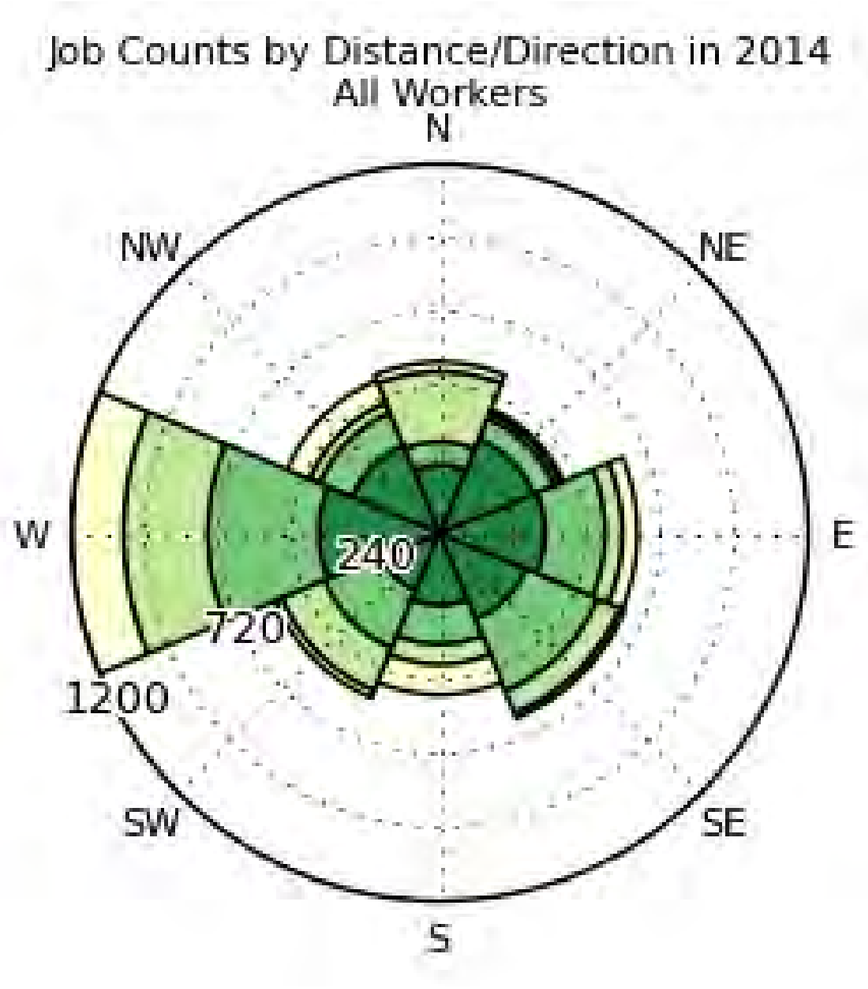
Valley Region - Resident Commute Patterns

*Incorporated Cities and Unincorporated Communities

C:\Users\mshahmi\Desktop\working San Bernardino\future maps\COUNTY BY REGION\4_VALLEY_Commute.mxd



Commuters Leaving Unincorportated Communities



Commuters Entering Unincorportated Communities

Source: US Census Longitudinal Employer-Household Dynamics, 2014

Valley Region
City Boundaries
Community Plan Boundaries
San Bernardino County
Less than 10 Miles
10 to 24 Miles
25 to 50 Miles
Greater than 50 Miles

Figure 10H

Valley Region - Jobs by Distance/Direction

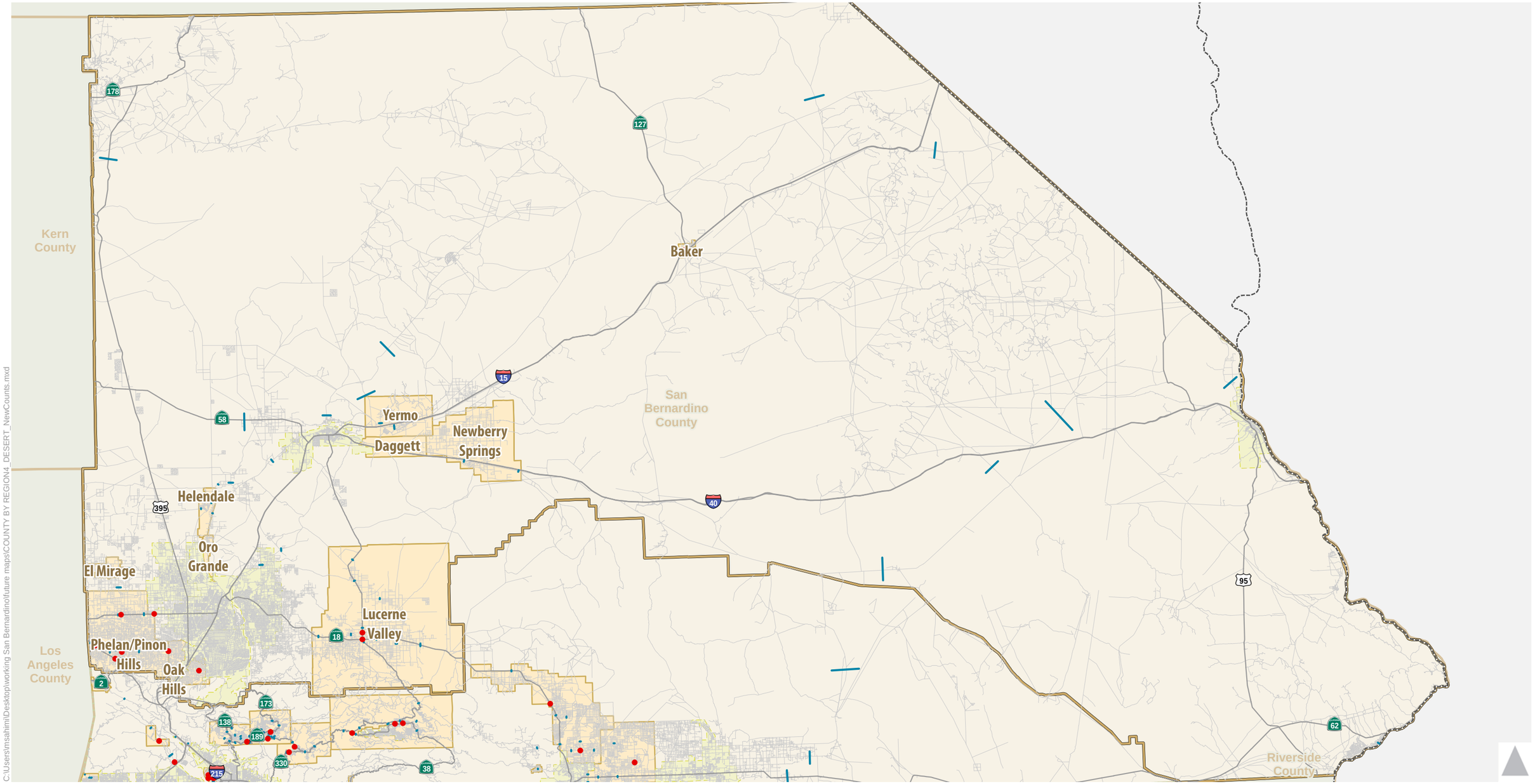
PROPOSED COUNT LOCATIONS

In consultation with staff, Fehr & Peers has selected locations throughout the County for peak hour intersection and daily roadway segment vehicle volume counts. This data will be used throughout the General Plan Update process to analyze the potential level of service impacts of various growth scenarios. In total, 39 intersections and 160 roadway segments were selected. The regional breakdown of the number of count locations is provided in Table 9. Figures 11A through 11D show these locations.

TABLE 9
GENERAL PLAN UPDATE COUNT LOCATION COUNT

Region	Intersections	Segments
North Desert	10	54
East Desert	4	23
Mountain	9	42
Valley	16	41

DRAFT

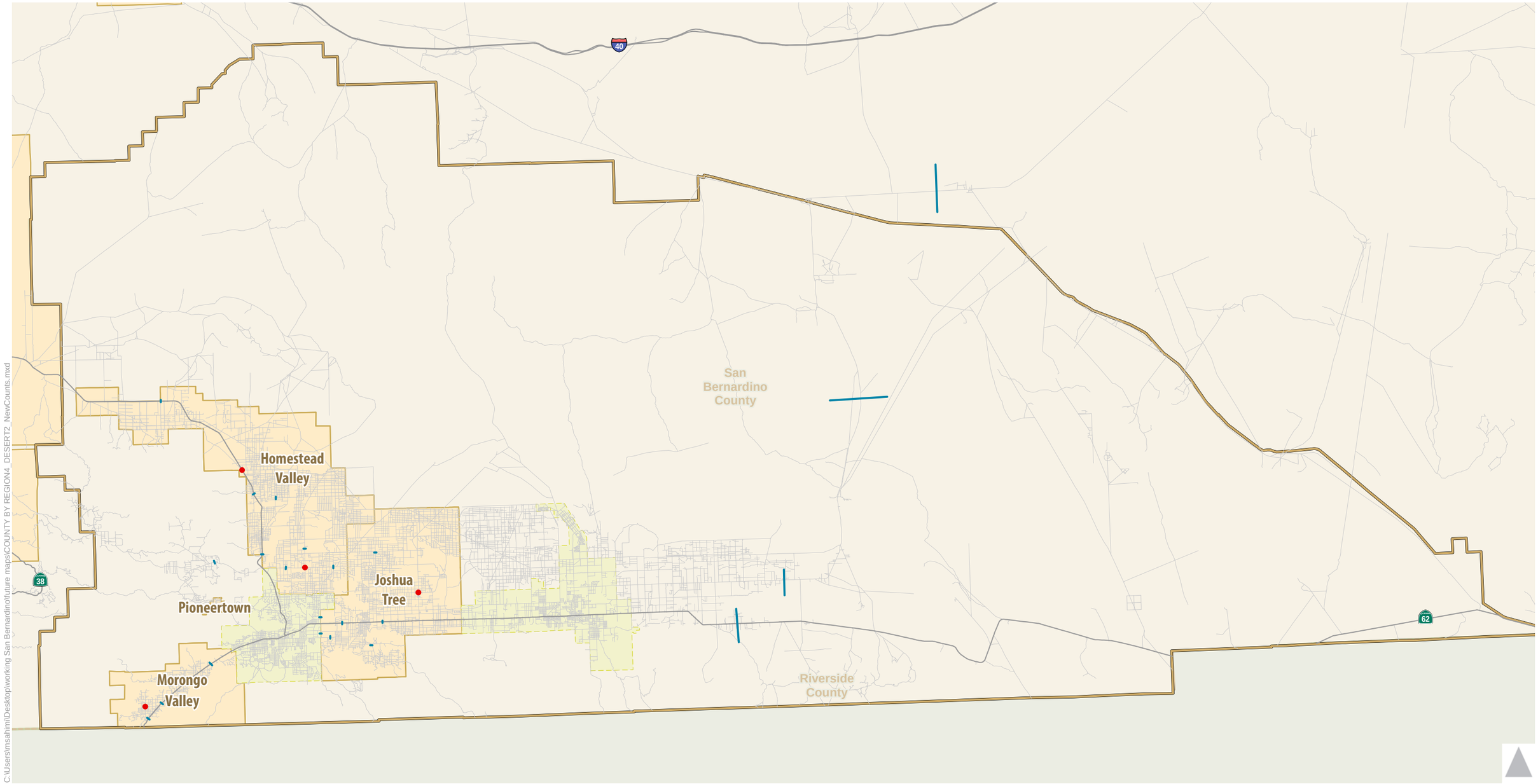


Intersections
Roadway Segments
North Desert Region
Community Plan Boundaries
City Boundaries
San Bernardino County

DRAFT

Figure 11A

North Desert Region - Count Locations



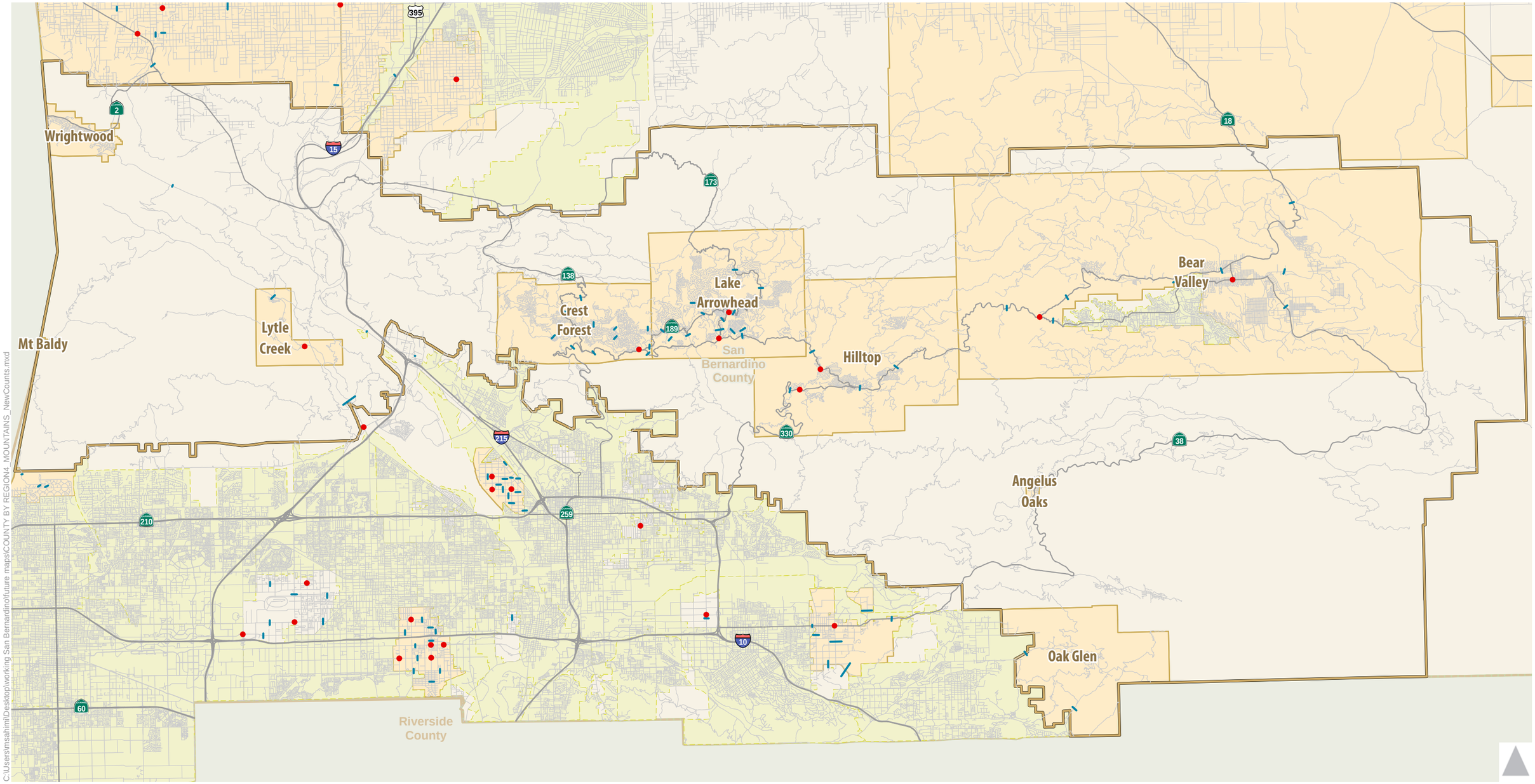
C:\Users\msahimi\Desktop\working San Bernardino\future maps\COUNTY BY REGION4_DESERT2_NewCounts.mxd

- Intersections
- Roadway Segments
- East Desert Region
- Community Plan Boundaries
- City Boundaries
- San Bernardino County

DRAFT

Figure 11B

East Desert Region - Count Locations



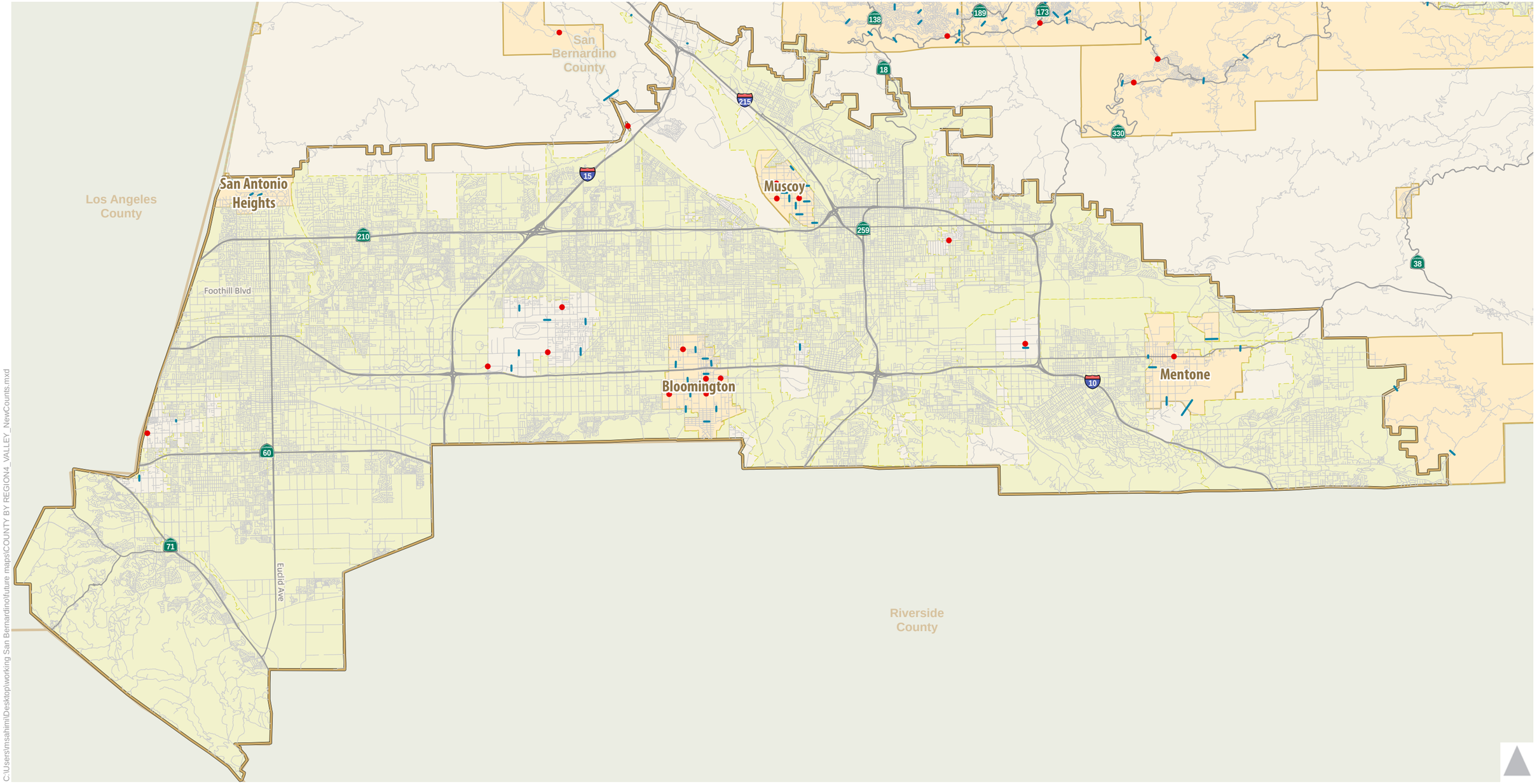
C:\Users\msahinil\Desktop\working San Bernardino\future maps\COUNTY BY REGION\4_MOUNTAINS_NewCounts.mxd

Intersections
Roadway Segments
Mountain Region
City Boundaries
Community Plan Boundaries
San Bernardino County

DRAFT

Figure 11C

Mountain Region - Count Locations



- Intersections
- Roadway Segments
- Valley Region
- City Boundaries
- Community Plan Boundaries
- San Bernardino County

Figure 11D

Valley Region - Count Locations

SUMMARY AND CONCLUSIONS

This memo documented several existing transportation issues and future trends that the County should be cognizant of as the Countywide General Plan is updated. These issues are summarized below.

FUTURE ROADWAY NETWORK

- Several roadway improvements are slated for County roadways in the coming decades according to the SCAG RTP/SCS. In addition, the previous Countywide General Plan proposed a wide network of future roadways, many of which do not overlap with the funded RTP projects. The County should strive to develop a proposed roadway network consistent with the RTP and ensure proposed roadway improvements are funded.
- SANBAG is currently undertaking the Mountain Area Transportation Study (MATS), which will identify and analyze roads and intersections that provide access to, from, and within the Mountain Region's communities. Upon completion, the study's results will be incorporated into the General Plan Update. Feedback from stakeholders regarding existing issues along Mountain roadways has included:
    - Lack of shoulder lanes or pullouts along some roadways, including near scenic vistas
    - Visibility and sight distance issues
    - Steep grade that is difficult to navigate in winter conditions
    - Lack of turn pockets on some roads
    - Lack of wide roads
    - Conflicts between local and tourist traffic, especially during peak season
    - Lack of alternative routes
- Currently, the County relies on two different programs to generated fees to construct roadway improvements, whether it is building new roads, expanding or improving existing roads, paving existing dirt roads, installing traffic signals, or other improvements. Local Fee Plans generate funds for road improvements within an adopted Plan are to mitigate development impacts. A fee is levied on residential and non-residential projects based on the projected increase in traffic; as fees accumulate, projects are completed in the order of their priority. In addition, the Regional Transportation Mitigation Plan collects fees from

DRAFT

new developments for improvements to roads in specified cities' spheres of influence within the Valley Region and the Victor Valley area. However, fees can take many years to accumulate and construction expenses are rising, meaning many projects have yet to begin. The County should work to develop realistic construction cost forecasts that take rising costs and other trends into account.

- Since many roads traverse multiple jurisdictions (whether the County or incorporated Cities), there can be issues with raising funds and implementing improvements. In addition, several roads in the County are under Caltrans control; this especially holds true in the Mountain Region, where many major roads such as State Routes 18, 38, and 173 are under Caltrans jurisdiction and provide the sole means of access in many communities. The County should focus on coordinating with Caltrans, SANBAG, and other jurisdictions to finance and implement improvements across boundaries. The County should also work with Caltrans to mitigate the impacts of state highway projects on local communities, especially in the Mountain Region.

- Within the County, there are 441 CMP monitored intersections along the County's major highways and arterials, which also form the CMP Network. The minimum acceptable LOS under the CMP is LOS E, which is less rigorous than the County's standards (LOS C or D depending on the Region and facility). Most analyzed roadway segments in the Existing Conditions Report performed acceptably under the County standards. However, the County should be aware of the CMP intersections within both incorporated and unincorporated communities and reduce impacts that can degrade performance along these facilities due to future development and growth.

- As roads are improved and constructed in the future, the County should work with local jurisdictions to minimize inconsistencies in roadway right-of-way and capacity across boundaries.

SCENIC ROUTES AND TRAILS

- Throughout San Bernardino County are vast undeveloped tracts of land that offer significant scenic vistas. State Designated Scenic Highways, County Designated Scenic Routes, and the Regional Trails network offer residents and visitors a chance to enjoy these natural amenities. However, future growth and development can increase pressure on these areas. The County should ensure that these facilities continue to be preserved and maintained with future growth and consider adding additional locations under these designations if deemed necessary.

DRAFT

EXISTING BRIDGES AND DEFICIENCIES

- Aging bridges in the County can present issues related to safety and evacuation routes in times of natural disasters or other emergencies. Of the 535 local agency bridges in San Bernardino County, the FHWA considers 257 of them deficient (deficiency data on the 899 state highway bridges was not available at the time of this report). The Federal Highway Administration (FHWA) considers bridges deficient if they are structurally deficient, functionally obsolete, or have a sufficiency rating below 81 (out of 100). Existing deficiencies and future degradation will require repair and investment. Furthermore, bridge health can be affected by future growth and vehicle travel patterns.
- In the North Desert Region, 122 local agency bridges have been deemed deficient. These include several in Phelan/Pinon Hills, Helendale, Yermo, Daggett, and Baker. A significant number of deficient bridges run along National Trails Highway; reasons for deficiency primarily consist of low sufficiency ratings. However, Interstate 40 provides parallel capacity to these deficient bridges. In Helendale and Phelan/Pinon Hills, the primary issue with deficient bridges is structural deficiency; some bridges also suffer from sufficiency ratings below 81.
- In the East Desert Region, 14 local agency bridges have been deemed deficient – all on the National Trails Highway along the region's northern boundary primarily for low sufficiency ratings.
- In the Mountain Region, 12 local agency bridges are deficient, in locations such as Lytle Creek and Crest Forest. In Lytle Creek, this is due to a low sufficiency rating and functional obsoleteness, while reasons in Crest Forest consist of functional obsoleteness and structural deficiency.
- In the Valley Region, there are 109 local agency bridges that are deficient. Reasons for being deemed deficient vary widely across the region but structural deficiency and functional obsoleteness are common. In addition, several bridges that cross the San Antonio Creek Channel are functionally obsolete or have low sufficiency ratings.

PUBLIC TRANSIT

- Several planned transit projects in the County will substantially improve public transit access and quality in the coming years. These projects can increase residents' and workers' transit options, provide opportunities to move away from the automobile, and drive growth in the region. However, these improvements are not evenly distributed.
- There are no planned transit improvements in the East Desert Region. Current bus service does not provide connectivity to existing and proposed rail and bus rapid transit service in

DRAFT

the Valley and North Desert Regions. In addition, SCAG does not project any HQTAs or TPAs in this Region. Transit access for unincorporated communities in this Region is overall limited, with buses routes on only one or two major roads.

- There are no planned transit improvements in the Mountain Region. Existing bus service does provide connectivity to existing and proposed rail stations and bus rapid transit service in the Valley Region; however, there is no direct connectivity to transit in the North Desert Region, including the proposed XpressWest. In addition, there is a lack of existing transit service in Lytle Creek, Oak Glen, and Mt. Baldy, and there is no direct connectivity between Wrightwood and other Mountain and Valley Region areas. SCAG does not project any HQTAs or TPAs in this Region.

- The North Desert Region would benefit from the proposed XpressWest high speed rail with its connectivity to Metrolink lines to Los Angeles; however, SCAG projects very limited HQTAs and TPAs in this area (near Barstow Station and the proposed Victorville Station). Bus routes running along Interstate 15 do provide connectivity to the south. However, some North Desert communities (Newberry Springs, Daggett, and El Mirage) currently have no transit service while in other communities (Phelan/Pinon Hills, Oak Hills, Lucerne Valley, and Yermo) transit service is only provided along one or two major roads.

- The Valley Region does benefit from several planned projects including High Speed Rail Phase 2, a rail extension to Redlands, and several new BRT routes along Foothill Boulevard, San Bernardino Avenue, Sierra Avenue, Riverside Avenue, E Street, and several other arterials throughout the Region; SCAG projects a significant number of HQTAs and TPAs in the region. However, this coverage does not reach most unincorporated communities in the Valley Region. The only community projected to have a HQTA is Bloomington (specifically, north of Valley Boulevard). There are no HQTAs or TPAs projected for San Antonio Heights, Muscoy, or Mentone. In addition, there is no existing bus transit service in San Antonio Heights that would provide connectivity to existing and proposed rail and bus rapid transit service.

- HQTAs and TPAs are locations primed for investment and development in the coming decades. A lack of HQTAs and TPAs in unincorporated communities can result in missed opportunities for the County.

- The County should coordinate with local transit agencies to improve connectivity to and from the County's communities, especially to future rail and bus rapid transit service.

AIRPORTS

- There are currently 53 airports and airfields operating in San Bernardino County. SCAG has projected cargo and passenger air traffic growth in the County, especially at the three major

DRAFT

airports: Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport. The County should be cognizant of trends in air travel and impacts on local and regional roadways.

- The main driver of growth at the Southern California Logistics Airport is warehousing in the North Desert Region, which SCAG projects to grow substantially in the area around the airport. This would translate to increased air cargo through the airport. The North Desert Region holds 23% (or 43 million square feet) of the SCAG region's warehousing capacity, predominantly around the Southern California Logistics Airport. Even though much of the increased freight will be moved by rail and the upcoming High Desert Corridor, increase truck traffic to and from this airport could affect Interstate 15, US Route 395, Palmdale Road, and other local roads connected to these regional roads.

- San Bernardino International Airport served cargo carriers. SCAG forecasts between 0.2 and 1.5 million annual passengers using this airport by 2040. Cargo use of this airport could increase as warehousing increases in the Valley Region since it is closer to the Los Angeles and Long Beach Ports than more inland airports. However, since most industrial areas in the Valley Region will quickly build out, most warehousing and cargo growth will take place in the North Desert Region through 2040. Regional access is provided by Interstate 10, Interstate 215, and State Route 210, which would need to absorb increases in passenger and truck traffic to and from this airport.

- Ontario International Airport, owned and operated under a joint powers agreement with the City of Ontario and San Bernardino County, is a major gateway hub for passengers and cargo. Other major passenger airports in the SCAG region (Burbank Bob Hope Airport, LAX, Long Beach Airport, and John Wayne Airport) face growth constraints due to a number of reasons. Therefore, Ontario Airport is expected to absorb a significant amount of future passenger demand. SCAG forecasts 11 to 19 million annual passengers at this airport by 2040. Regional access to the airport is provided by Interstate 10, Interstate 15, and State Route 60, all of which could experience higher traffic volumes with increased air passenger demand. Currently, public transit to the airport consists of OmniTrans routes 81 and 82 and the Ontario Metrolink Station to the west. Future High Speed Rail service is also planned. One of the alternatives studied in the Ontario Airport Rail Access Study was the Metro Gold Line Foothill Extension Phase 2C to the airport, which is currently unfunded.

GOODS MOVEMENT

- SCAG's RTP transportation projects include several new truck climbing lanes on state highways. Also, the High Desert Corridor, a proposed multipurpose corridor between Antelope Valley in Los Angeles County and Victor Valley in San Bernardino County, is expected to spur goods movement and growth in the region. The Corridor could serve

DRAFT

trucks moving between the Central Valley and Interstate 15, alleviating congestion and increasing goods movement capacity. The Corridor is also expected to create jobs in the region and reduce VMT.

- SCAG has projected substantial increases in warehousing space demand in the coming decades. SCAG has projected a 55% increase in warehousing building space demand in the SCAG region from 2015 to 2040 (or 385 million square feet). Due to its position closer to ports than more inland regions, scattered urban locations in the Valley Region will initially absorb growth in warehousing space. However, SCAG projects that excess capacity in scattered urban locations such as the Valley Region will be sufficiently absorbed by 2020 that new development will take place elsewhere (including the North Desert Region). At the time of SCAG's study, the North Desert Region had 23% of the warehousing development capacity in the SCAG region, or 43 million square feet, predominantly in the area around the Southern California Logistics Airport. With Victorville's approval of the Desert Gateway Specific Plan (which could accommodate 17 million square feet), a total of 60 million square feet of warehousing is projected to move into the North Desert Region.

- Another important driver of goods movement growth in the North Desert region is the Southern California Rail Complex. This planned facility is a 3,500-acre intermodal rail and container storage complex. Demand for this facility will be driven by the High Desert Corridor, the Southern California Logistics Airport, and the projected substantial increase in local warehousing as growth shifts away from the Valley Region and necessitates a multimodal goods movement network to reduce strain on regional roadways.

- Increases in goods movement in the County will result in higher truck volumes even when taking future facilities such as the High Desert Corridor and rail into account. Local roads can experience impacts whether they are around regional facilities such as the High Desert Corridor or around locations with future warehousing intensification in scattered Valley Region areas or around the Southern California Logistics Airport in the North Desert Region. Local roads should be planned, designed, and built to handle future truck traffic.

- The County should coordinate the truck routes network with SANBAG and local jurisdictions. Currently, there are inconsistencies in the network such as roads that lose or gain a truck route designation through multiple jurisdictions. Coordination should take place to maintain consistency in designations and design.

NON-MOTORIZED FACILITIES

- As documented in the Existing Conditions Report, bicycle facilities are extremely limited in the County's unincorporated communities. However, according to the SANBAG Non-Motorized Transportation Plan, a significant number of bicycle facilities are planned in unincorporated County areas. The County should work to ensure that facilities are built and

DRAFT

that surrounding development supports their active use. In addition, the County should continue to examine additional locations for expanded bicycle facilities.

- In the North Desert Region's unincorporated communities, existing and proposed bikeways are extremely limited. There are currently no bikeways any of the ten community plan areas. Proposed bikeways include a Class III facility along the National Trails Highway continuing into Newberry Springs and Daggett. Proposed facilities also include Class II bicycle lanes in Helendale and Oro Grande and Class I, II and III bikeways in Oak Hills. No bikeways are planned in Baker, El Mirage, or Phelan/Pinon Hills.

- In the East Desert Region's unincorporated communities, the only existing bikeway is approximately half a mile of Class I bicycle path in Joshua Tree; otherwise, existing bikeways are extremely lacking. Planned bikeways include Class II and III facilities in Homestead Valley and Pioneertown, and Class I, II, and III facilities in Joshua Tree. No additional bikeways are proposed in Morongo Valley.

- In the Mountain Region's unincorporated communities, existing bikeways exist in Bear Valley but not in the other communities. Significant bikeway improvements are planned in the Mountain Region. These include Class II facilities in Crest Forest, Lake Arrowhead, Oak Glen, and Hilltop and Class II and III facilities in Bear Valley. In addition, there are two proposed facilities in unincorporated areas adjacent to Interstate 15: the Class I Cajon Pass path and Class II bicycle lanes on Cajon Boulevard. However, there are no planned facilities in Wrightwood, Mt. Baldy, Lytle Creek, or Angelus Oaks.

- In the Valley Region, none of the four unincorporated communities provide bikeways. However, significant bikeway improvements are planned in the Valley Region. These include Class II bikeways in San Antonio Heights, Bloomington, and Muscoy. In Mentone, Class I, II, and III facilities are proposed. These planned facilities will fit into the wider bikeways network in the Valley Region.

- The County should work with local jurisdictions to ensure that non-motorized facilities are planned consistently across jurisdictional boundaries to maintain a functioning regional network.

- The County should require non-motorized facilities in new residential and non-residential developments and install facilities on existing and future roadways to ensure that the planned network is built and continues to grow.

COMMUTE PATTERNS

- According to LEHD data, more than half of unincorporated County residents commute outside the County for work, often to locations in Los Angeles, Riverside, and San Diego

DRAFT

Counties. These long commutes can result in higher traffic volumes and congestion. The County should be cognizant of these travel patterns as it analyzes future growth and development.

- The County's commute patterns highlight to the importance of offering more local employment opportunities for residents, which can help reduce stress on local and regional roads.
- The County should encourage the reduction of automobile usage through incentive programs such as alternative transportation modes and facilities, increased non-residential development near housing, and transit-oriented development (TOD).

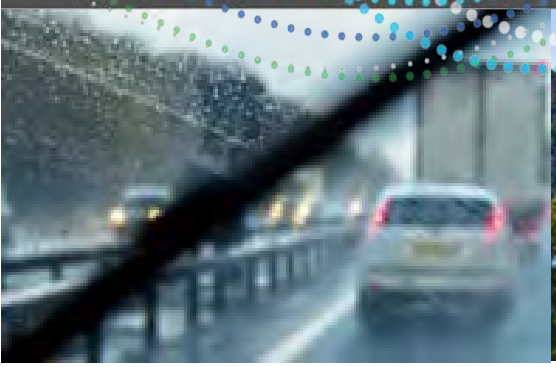
DRAFT

Appendix E:
MBATS and MATS



Mountain Area Transportation Study

Mobility Issue Identification, Solution, and Implementation Plan | Draft





June 8, 2017

Submitted to:

sb cta
san bernardino county transportation authority

17J17-1768.17 | Prepared by **Iteris, Inc.**

Innovating Through Informatics™

DOCUMENT VERSION CONTROL

Document Name	Submittal Date	Version Number
Needs Assessment | Draft	August 1, 2016	1.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	March 28, 2017	2.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	April 24, 2017	3.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	May 9, 2017	4.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	May 15, 2017	5.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	June 5, 2017	6.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	June 8, 2017	7.0
Mobility Issue Identification, Solution, and Implementing Plan | Draft	June 14, 2017	8.0

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
1.1 Purpose and Need 1
1.2 Existing Conditions 2
1.3 Identification of Mobility Issues 4
1.4 Recommendations 6
1.5 Implementation 7
2.0 INTRODUCTION 8
2.1 Project Objective and Tasks 9
2.2 Study Purpose and Need 9
2.3 Study Area 9
2.4 Stakeholders 10
2.5 Organization of Report 11
3.0 BACKGROUND INFORMATION 12
3.1 Ski Areas/Resorts 12
3.2 US Forest Service 12
4.0 PREVIOUS STUDIES 18
4.1 Big Bear 1996 Highway Transit Improvement Alternative 18
4.2 Big Bear Modal Study 20
4.3 2015 San Bernardino Countywide Transportation Plan 20
5.0 EXISTING CONDITIONS 23
5.1 Roadway 23
5.2 Transit 26
5.3 Non-Motorized Transportation 27
5.4 Data Collection 28
6.0 IDENTIFICATION OF MOBILITY ISSUES 41
6.1 Stakeholder Input 41
6.2 Geometric Issues 47
7.0 TRAVEL DEMAND MODELING TOOL 54
7.1 Traffic Forecast Methodology and Tool Development 54
7.2 Roadway System Performance 59

8.0 RECOMMENDATIONS 66
8.1 Location Issues Recommendations 66
8.2 Operational Recommendations 74
8.3 Geometric Recommendations 80
8.4 Informational Recommendations 82
9.0 IMPLEMENTATION STRATEGY 87
9.1 Project Implementation Methodology 87
9.2 Scoring and Ranking for Project Recommendations 90
9.3 Agency Responsibilities 102
9.4 Funding 103

TABLES

Table 4-1: 2015 SANBAG CTP Proposed Strategies....21
Table 5-1: Primary Roadway Network....23
Table 5-2: Secondary Roadway Network....25
Table 5-3: Average Daily Traffic....29
Table 5-4: Weekday and Weekend Peak Hours....38
Table 5-5: Traffic Congestion Due to Winter Conditions....38
Table 5-6: Summer Season Arrival/Departure Peak Periods....38
Table 5-7: Thanksgiving Holiday Arrival/Departure Peak Periods....38
Table 5-8: Holiday Peak Periods....39
Table 6-1: General Issues....43
Table 6-2: Location Issues....44
Table 7-1: Daily Roadway Capacities....56
Table 7-2: Volume/Capacity Ratio and Corresponding LOS....59
Table 7-3: Existing Average Weekday Off-Peak Summer Traffic....60
Table 7-4: Future Average Weekday Off-Peak Summer Traffic....61
Table 7-5: Comparison of Existing and Future Average Weekday Off-Peak Summer Traffic....63
Table 8-1: Location Issues and Solutions....66
Table 9-1: Benefits Criteria and Evaluation Score....88
Table 9-2: Ease of Implementation Criteria and Evaluation Score....89
Table 9-3: Cost Criteria and Evaluation Score....89
Table 9-4: Location Issues, Evaluation Criteria, and Associated Score....91
Table 9-5: Potential Federal Funding Sources....104
Table 9-6: Potential State Funding Sources....105
Table 9-7: Potential Local (County and City) Funding Sources....108

FIGURES

Figure E-1: Study Area 2
Figure E-2: Average Daily Traffic Count Locations 4
Figure 2-1: San Bernardino County Population Density 8
Figure 2-2: Study Area 10
Figure 3-1: San Bernardino National Forest Locality Map 13
Figure 4-1: "13 Curves" Realignment Alternatives 19
Figure 5-1: Average Daily Traffic Count Locations 28
Figure 5-2: iPeMS Speed Data Collection Locations 31
Figure 5-3: SR-18 between SR-138 to SR-189 Average Speeds 32
Figure 5-4: SR-18 between SR-173 to SR-330 Average Speeds 32
Figure 5-5: SR-330 between SR-210 to SR-18 Average Speeds 33
Figure 5-6: SR-18 between SR-330 to SR-38 Average Speeds 33
Figure 5-7: SR-18 between SR-210 to SR-138 Average Speeds 34
Figure 5-8: SR-38 between Yucaipa and City of Big Bear Lake Average Speeds 34
Figure 5-9: SR-18 between SR-38 and Stanfield Cut-off Average Speeds 35
Figure 5-10: SR-2 West of SR-138 35
Figure 5-11: SR-138 Between SR-2 and I-15 36
Figure 5-12: Northbound/Eastbound Average Speeds 37
Figure 5-13: Southbound/Westbound Average Speeds 37
Figure 5-14: Crash Locations in MATS Area (2012-2015) – Cluster Map 39
Figure 5-15: Crash Locations in MATS Area (2012-2015) – Heat Map 39
Figure 5-16: Chain-Up Areas 40
Figure 6-1: MATS Web Tool 42
Figure 6-3: SR-18 – Post Mile 15.0 to 16.8 49
Figure 6-4: SR-18 – Post Mile 22.15 to 25.15 50
Figure 6-5: SR-18 – Post Mile 34.5 to 36.5 51
Figure 6-6: SR-18 – Post Mile 52.7 to 53.8 and SR-38 – Post Mile 49.5 to 48.3 52
Figure 6-7: SR-18 – Post Mile 55.5 to 56.7 53
Figure 7-1: MATS Model Structure Flow Chart 55
Figure 7-2: Transportation Analysis Zones 57
Figure 7-3: MATS Area Highway Network 58
Figure 7-4: Existing Over-Capacity Roadway Segments 64

Figure 7-5: Future Year Over-Capacity Roadway Segments 65
Figure 8-1: Share the Road Signage Examples 74
Figure 8-2: Steep Grade Signage Examples 74
Figure 8-3: Local Access Signage Examples 75
Figure 8-4: SR-18 Restriping at Snow Valley Resort Main Entrance 76
Figure 8-5: Examples of Turnout Signage 78
Figure 8-6: Example of Useable Slow-Vehicle Turnout Design 79
Figure 8-7: State Route Major Crash Locations 80
Figure 8-8: SR-18 Relocation at Castle Rock Trail 82
Figure 8-9: Existing Caltrans District 8 Real-Time Message Signs 84
Figure 8-10: Caltrans District 8 Potential CMS Locations 85
Figure 8-11: AM Radio Traveler Information Signage Example 86
Figure 9-1: San Bernardino County Subareas 88
Figure 9-2: Evaluation Score Calculation 90
Figure 9-3: Evaluation Score Example Calculation 90

ABBREVIATIONS

ADT	Average Daily Traffic
App	Mobile device application
BID	Business Improvement District
Caltrans	California Department of Transportation
CFD	Community Facilities Districts
CHP	California Highway Patrol
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Plan
CMS	Changeable Message Sign
CRF	Crash Reduction Factor
CTP	Countywide Transportation Plan
DLA	Division of Local Assistance
DOT	Department of Transportation
FAST ACT	US DOT Fixing America's Surface Transportation Act
FTA	Federal Transit Authority
HAR	Highway Advisory AM Radio
HBO	Home-Based Other
HBW	Home-Based Work
HSIP	Highway Safety Improvement Program
ITS	Information Technology Services
JPA	Joint Power Authority
MATS	San Bernardino County Mountain Area Transportation Study
MPH	Miles per Hour
NAAQS	National Ambient Air Quality Standards
NHB	Non-Home Based
NVUM	National Visitor Use Monitoring
OHV	Off-Highway Vehicles
PM	Post Mile
PMS	Permanent Message Sign
SANBAG	San Bernardino Association of Governments
SB1	Senate Bill 1
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Analysis Model
SCAG	Southern California Association of Governments
SED	Socioeconomic Data
SR	State Route
STBG	Surface Transportation Block Grant
SWITRS	Statewide Integrated Traffic Records System
TAZ	Transportation Analysis Zone
TIMS	Transportation Injury Mapping System
TWLTL	Two-Way Left Turn Lane

US	United States
USFS	United States Forest Service

1.0 EXECUTIVE SUMMARY

Understanding existing conditions is the basis of developing future forecasts and developing recommended projects and approaches to solving existing problems. This document summarizes the existing conditions, data collection, identified issues, and future conditions needs assessment for the Mountain Area Transportation Study (MATS).

Stakeholders were involved throughout the existing conditions data collection and needs assessment process. Stakeholders include the County of San Bernardino, the City of Big Bear Lake, Caltrans, San Bernardino County Transportation Authority (SBCTA), Southern California Association of Governments (SCAG), the California Highway Patrol (CHP), and the United States (US) Forest Service.

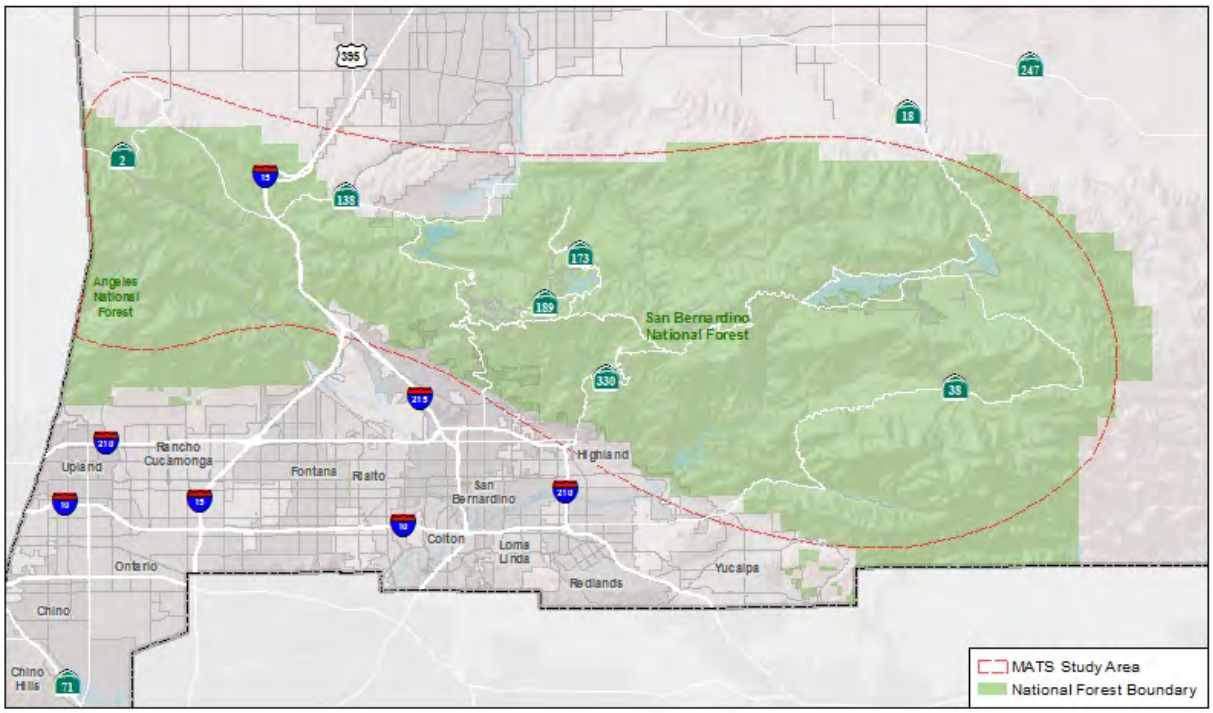
1.1 Purpose and Need

Visitors to the mountain area make up a large portion of the needs assessment, as the full-time population and associated employment are relatively low. Peak winter and summer months experience a substantial increase in traffic congestion for extended periods of time as visitors and associated additional employees access the mountain communities. In addition, the traffic congestion caused by visitors has the potential to discourage would-be visitors, hindering the local economy.

As an example of the larger study area, recent studies show that in 2012, the City of Big Bear Lake had a full-time population of 5,100 in approximately 2,200 households with a year-long employment of 3,800. In 2012, the City of Big Bear Lake served approximately 10,000 visitors on a typical day. However, during a peak season weekday for 2012, the City of Big Bear Lake had employment of approximately 5,800 while serving nearly 60,000 visitors. In 2040, visitors are expected to increase to over 76,000 (an increase of over 25 percent).

The geographic study area for the MATS is shown in **Figure E-1**.

Figure E-1: Study Area



1.2 Existing Conditions

The existing conditions within the MATS area show that during typical roadway conditions, and during average weekday travel, that the system operates adequately in a majority of locations. The status of the system identifies that during peak periods, or peak season travel periods, there are multiple intersections and segments of roadway operating at less than ideal levels of service.

This area has been studied previously, including the Big Bear 1996 Highway Transit Improvement Alternative, the recent Big Bear Modal Study, and the 2015 San Bernardino Countywide Transportation Plan. All previous studies have shown that there are existing transportation system needs within the MATS area. Solutions include implementing additional modes of transportation, realignment of existing facilities, adequate signage, and various other congestion relief measures.

1.2.1 Transportation System

The primary access roadways within the MATS area are State Route (SR)-2, SR-18, SR-38, SR-138, and SR-330. Each of these roadways experience unique traffic patterns associated with visitors to the area. All of the state highways within the MATS area were included, as well as some key local facilities. Secondary roads include major facilities within the mountain area that are heavily used by residents and visitors.

The existing transit system consists primarily of Mountain Transit and Victor Valley Transit Authority. Mountain Transit runs six fixed-routes and various other services for MATS residents and visitors, and

Victor Valley Transit Authority runs one fixed-route to the Community of Wrightwood. Supplemental service within the MATS area consists of Dial-a-Ride Service for seniors and persons with disabilities, weekend trolley service in and around the Community of Big Bear and the City of Big Bear Lake on Saturdays and Sundays, and the occasional Rally Bus ride-sharing which is a crowd-powered service.

In the existing transportation setting, non-motorized transportation (including bicycles and pedestrian activity) is encouraged, but the system lacks infrastructure, which can be a problem for mobility. The City of Big Bear Lake has an Active Transportation Plan, and the Lake Arrowhead community is currently preparing on an Active Transportation Plan. In addition, there has been recent coordination between the City of Big Bear Lake, the County of San Bernardino, and the Big Bear Valley Trails Foundation in obtaining a Caltrans grant to assist in the development and planning for future road and trail resources with connections to lakes and other mountain amenities.

1.2.2 Data Collection

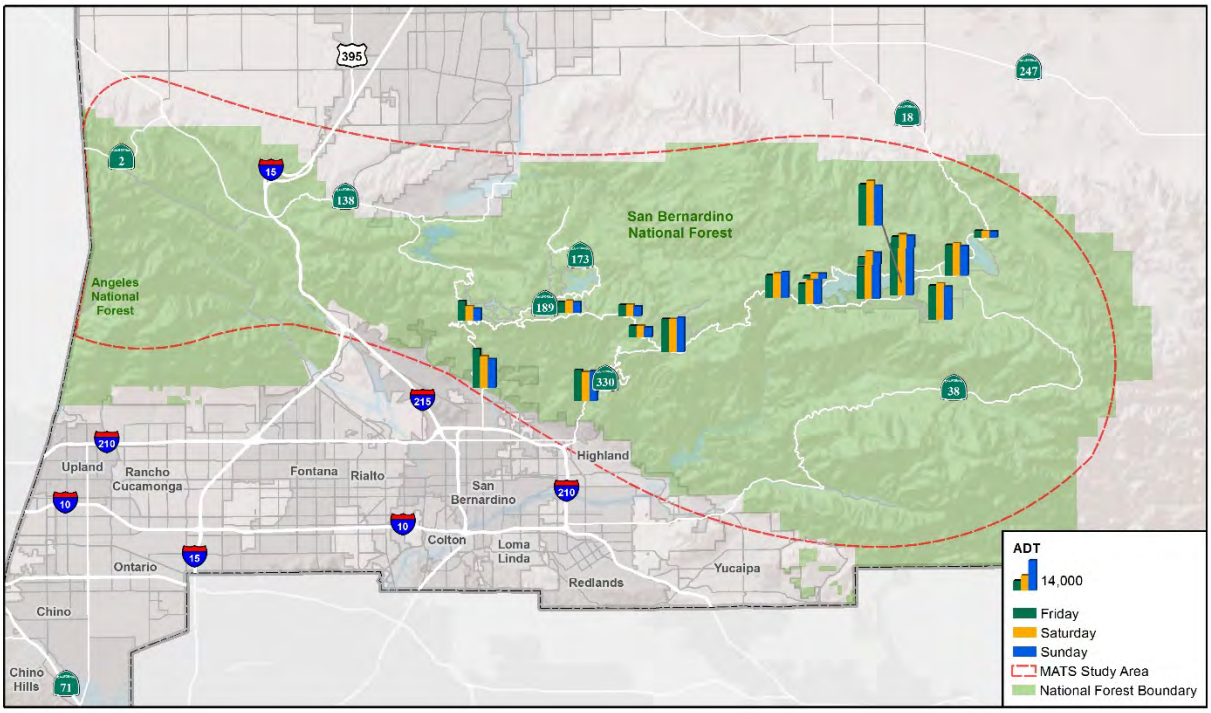
The existing conditions analysis was completed using information from multiple sources:

- Average Daily Traffic (ADT) traffic information from peak season data collection for Fridays, Saturdays, and Sundays.
- Transportation system speed data from iPeMS, the web-based tool developed for the SBCTA Congestion Management Plan (CMP).
- Existing turnout location and geometric information from aerial investigation and site visits.
- Chain-up area information.

Data

The primary direction of travel on Friday and Saturday is eastbound/northbound while the primary direction of travel on Sunday is westbound/southbound. This indicates a higher influx of vehicles into the mountain area on Friday and Saturday with an outflow of traffic on Sundays. **Figure E-2** presents the average daily traffic counts for Friday, Saturday, and Sunday travel on state routes within the mountain area.

Figure E-2: Average Daily Traffic Count Locations



1.3 Identification of Mobility Issues

Mobility issues within the MATS area were identified primarily using Stakeholder outreach via in-person meetings and by using the project web tool developed by SBCTA for this project. Mobility issues were also identified by reviewing the travel model tool results.

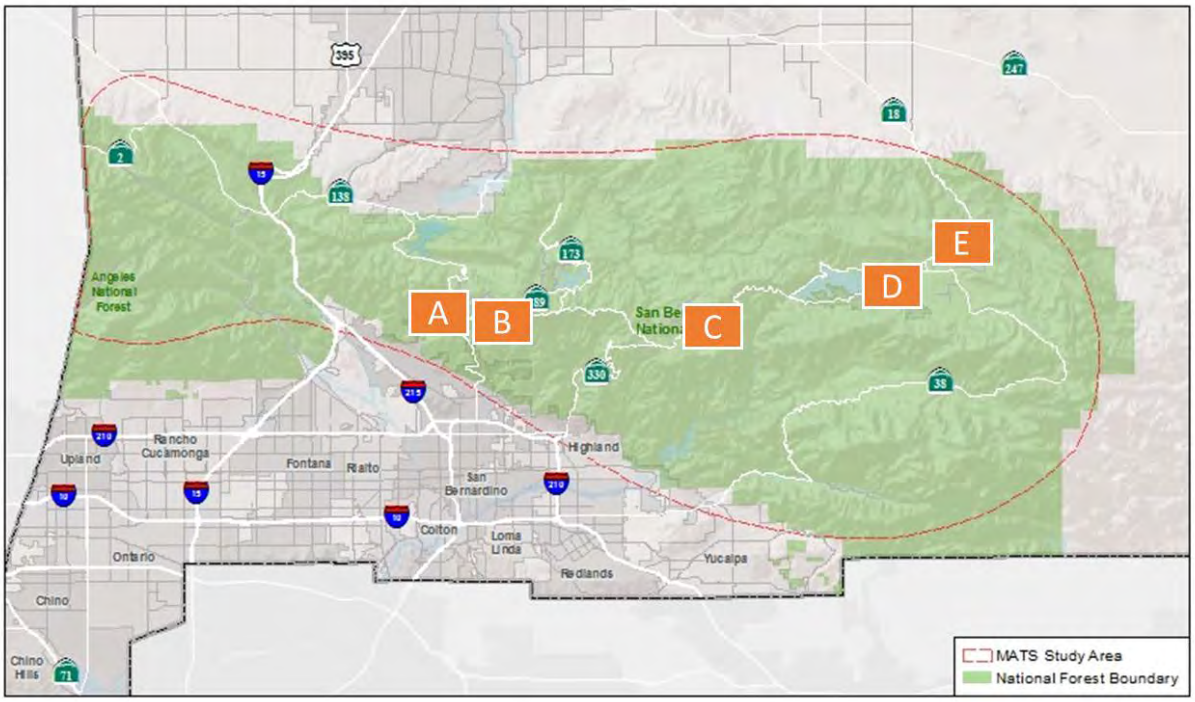
Stakeholders include the County of San Bernardino, the City of Big Bear Lake, Caltrans, SBCTA, SCAG, the CHP, and the US Forest Service. From the stakeholder meetings, many of the mobility problems that were identified can be summarized into the following need categories:

- **Traffic Control:** Bottleneck due to existing, non-existent, or poor location of traffic control device. (Example is a stop sign located on a high-volume road).
- **Signage:** Bottleneck due to non-existent or lack of signage, often resulting in poor circulation patterns, or confused drivers.
- **Traffic Volume:** Congestion and slow-moving traffic due to peak traffic volumes in excess of existing roadway capacity.
- **Cut-through Traffic:** Peak conditions (related to traffic congestion and weather) often result in cut-through traffic on local roads.

- **Roadway Geometry:** Bottleneck due to curves and topography (which result in a lack of sight distance), often caused by slow-moving vehicles. Other roadway design issues, including lack of center turn lanes or left turn pockets, also creates driver confusion and congestion.
- **Chain Installation and Control:** Bottleneck due to operations and procedures for chain installation. Additionally, chain control locations often encourage visitors to travel on local arterials to avoid chain installation.
- **Roadway Maintenance:** There are existing issues with roadway maintenance, including maintaining striping and snow removal.
- **Illegal Parking:** Traffic congestion and friction on state routes due to vehicles parked in "No Parking" zones. This is often the case in winter and summer peak months near popular snow play and hiking locations.
- **Pedestrian or Bicycle Conflicts:** Conflicts between vehicles and non-motorized person trips due to pedestrians walking along side of road, heavy pedestrian crossing volumes, or narrow road with no shoulder or lane for bicycles. These conflicts often result in traffic congestion, and can be unsafe for pedestrians and bicycles.
- **Alternate Modes:** The increase in residents and visitors allows for the potential for increasing use of transit services, including shuttle and trolley service along with improving the existing fixed-route services.
- **Information Technology Services (ITS) Opportunity:** Information for drivers is beneficial to the overall transportation circulation, and could be better improved with real-time Changeable Message Signs (CMS) at key locations throughout the mountain area.
- **Coordination between Jurisdictional Agencies:** There are multiple agencies and jurisdictions involved related to maintenance and control during major events. Agencies include Caltrans, County, City, Sheriff, and CHP. Lack of coordination can result in conflicting information, making it unclear what road conditions are, or what traffic congestion is currently occurring.
- **Existing Right-Of-Way:** It appears that many of the existing roadways are overlayed, or repaved, to existing roadway width, or even narrower in locations. In some locations, it appears or is known, that there is additional right-of-way that could be paved for better utilization.
- **Regional and Local Economic Impacts:** The location of the mountain area, as a desirable destination for visitors from the Southern California region, and beyond. According to the Big Bear Housing Element, there are over 30,000 "second homes" in the mountain area, resulting in vacationers spending property tax money, as well as money on goods and entertainment, within the mountain area. As a part of San Bernardino County, the traffic and transportation within the mountain area could be a deterrent to visitors, resulting in a regional and local economic loss.

In addition to stakeholder data gathering related known mobility issues, the project team used travel demand model tool results, to identify five locations along state routes that result in the highest areas of congestion and bottlenecks. **Figure E-4** identifies the five locations that were identified as locations considered with an opportunity to improve mobility and reduce congestion. All five locations are located on SR-18 (and briefly SR-38 in the City of Big Bear Lake), but these locations may serve as indicators to other areas along State Routes within the mountain area with similar characteristics.

Figure E-3: State Route Congestion and Mobility Locations



1.4 Recommendations

The identification of mobility issues was completed using stakeholder information and by reviewing travel model tool forecast results. Mobility issues identified include operational, geometric, and informational issues.

Mobility issues identified during stakeholder comments were evaluated for feasibility of improvement, resulting in several of the identified mobility issues having no recommended improvement identified in this plan.

- Operational mobility issue recommendations consist of alleviating mobility issues by improving the operational aspects of the issues. Operational issues are related to traffic control, roadway maintenance, and availability of multiple transportation modes.
- While it is not preferred that this study recommends increases in capacity on State Routes, it was a recurring comment during stakeholder meetings and the needs assessment data collection phase of this project. There are many locations with congestion related to inadequate roadway capacities, poor roadway geometries, and inadequate use of existing right-of-way.
- Informational recommendations, including signage and real-time messages, were identified as having potential to alleviate many of the mobility issues identified in *Section 6.0* of this report. Many of the mobility issues identified noted poor circulation patterns or confusion to drivers, which can be remedied efficiently by providing better information to drivers.

1.5 Implementation

Transportation plays an important role in the mountain area. The efficient movement of people and goods is the foundation upon which a healthy economy and high quality of life is built. Yet, the entire transportation system and the role municipal government plays in its maintenance, operations, and development over time are not always well understood. The goal of the MATS implementation plan is to set a course for future decision-making. The purpose of the MATS implementation plan is to serve as a tool in the decision-making process regarding which projects should be advanced given the limitations of funding sources.

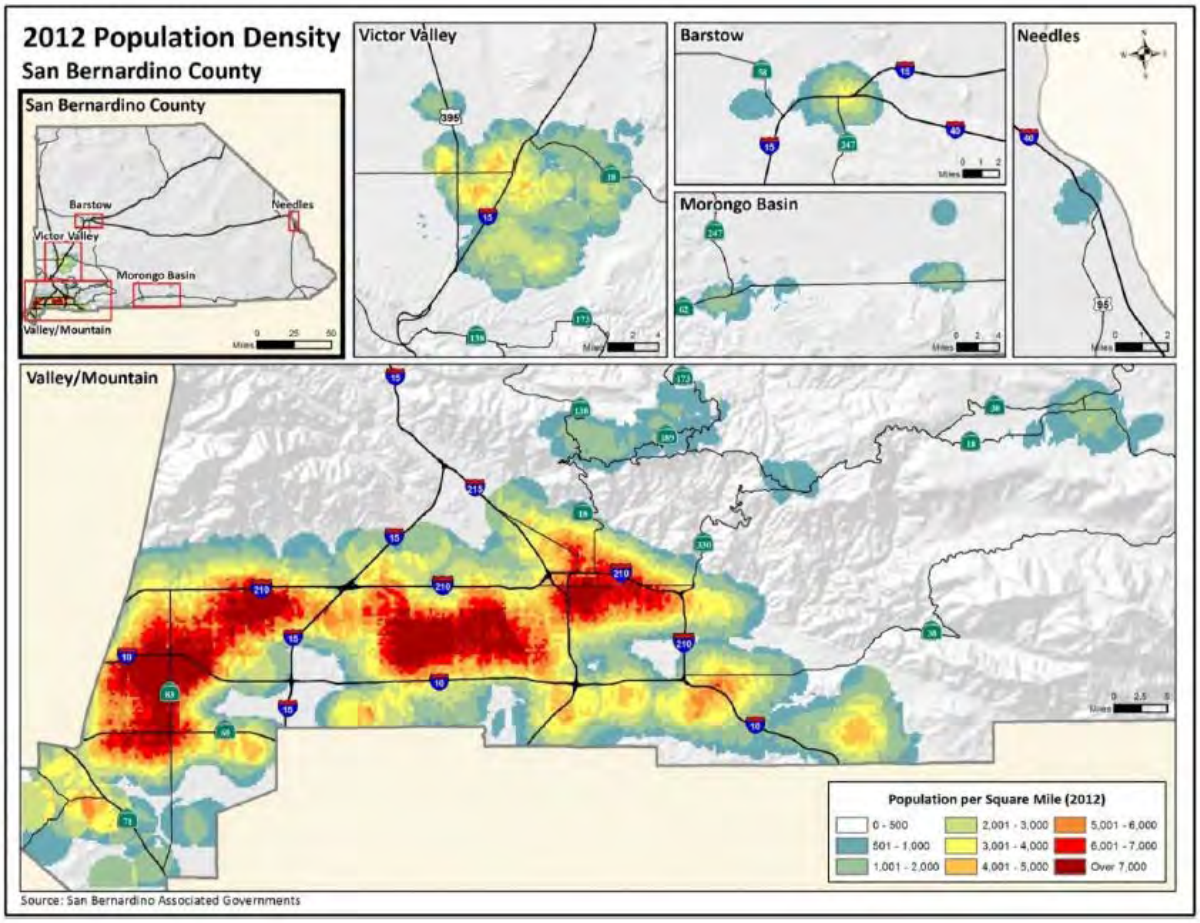
The implementation plan lays forth low, medium, and high priority projects, as well as agency responsibilities and funding resources.

2.0 INTRODUCTION

The Mountain Area Transportation Study (MATS) is located solely within San Bernardino County, and is comprised of many communities. The mountain area of San Bernardino stretches from the Los Angeles County Line on the west to the Lucerne Valley on the east. The Communities within the MATS area include: Mount Baldy, Lytle Creek, Wrightwood, Crestline, Blue Jay, Lake Arrowhead, Running Springs, Green Valley Lake, Arrowbear, Big Bear, and the City of Big Bear Lake.

The mountain area of San Bernardino County is traditionally a recreation and tourist area for Southern California (and beyond). The permanent residents of the mountain area make up less than five percent (5%) of the population of San Bernardino County. **Figure 2-1** illustrates the population densities for San Bernardino County, documented in the 2015 San Bernardino Countywide Transportation Plan. This difference in demand (visitors) and available service (residents) creates a unique challenge for providing adequate transportation services to meet the needs of both visitors and residents, not to mention that the visitor needs are seasonal and resident needs are year-round.

Figure 2-1: San Bernardino County Population Density



2.1 Project Objective and Tasks

The primary objective of the MATS project is to conduct a transportation needs study for the San Bernardino mountain area that identifies key projects that address both existing and forecast transportation deficiencies during peak summer and winter seasons. Based on an analysis of potential improvements, an implementation plan will be developed for future improvements considering implementation timeframe, prioritization, and potential funding sources. The key tasks of the project include:

- **Assessment of Existing Conditions.** Define the existing transportation setting in terms of infrastructure and performance.
- **Development of Refined Traffic Forecasts.** Develop a modelling tool to ensure reasonable future traffic volume forecasts throughout the mountain area.
- **Identification and Costing of Transportation Projects.** Identify improvement projects to address existing and future problem locations throughout the mountain area.
- **Analysis of Transportation Projects.** Evaluate future transportation conditions under peak weekday and weekend seasonal traffic volumes.
- **Recommendations and Implementation Plan.** Generate recommended future infrastructure improvements based on the needs assessment.

2.2 Study Purpose and Need

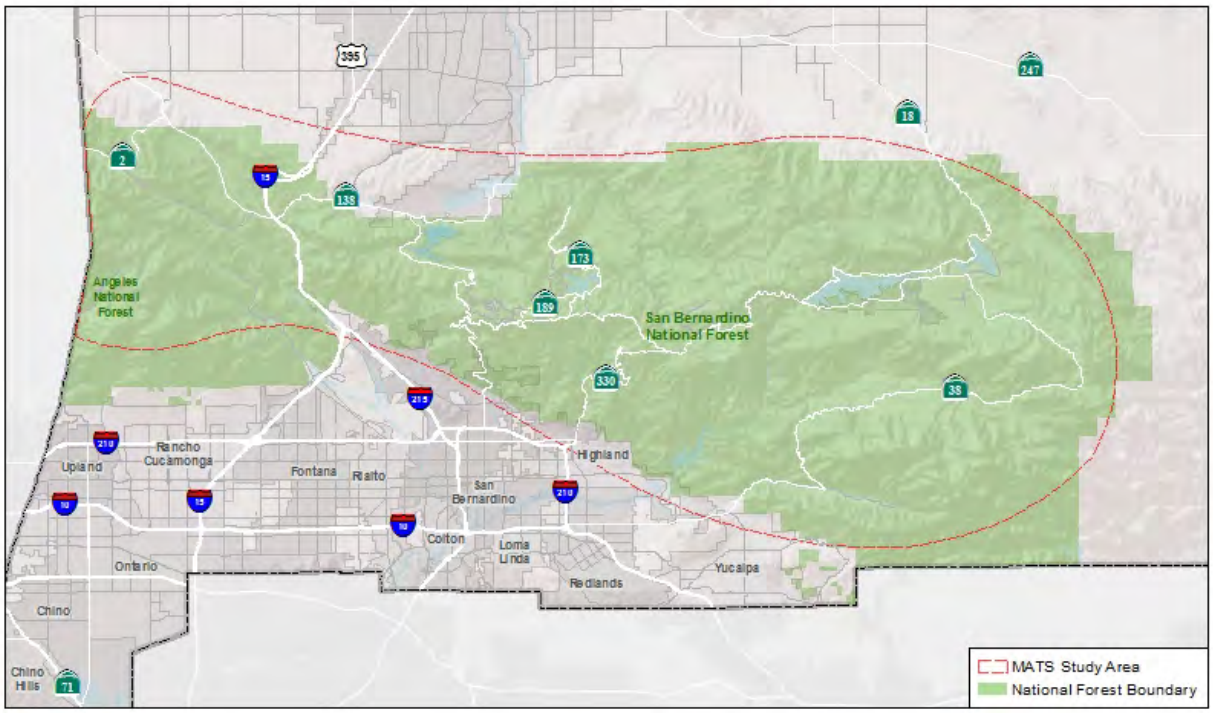
Visitors to the area make up a large portion of the needs assessment, as the full-time population and associated employment are relatively low. Peak winter and summer months experience a substantial increase in traffic congestion for extended periods of time as visitors and associated additional employees access the MATS communities. In addition, the traffic congestion caused by visitors has the potential to discourage would-be visitors, hindering the local economy.

As an example of the larger study area, recent studies show that in 2012, the City of Big Bear Lake had a full-time population of 5,100 in approximately 2,200 households with a year-long employment of 3,800. In 2012, the City of Big Bear Lake served approximately 10,000 visitors on a typical day. However, during a peak season weekday for 2012, the City of Big Bear Lake had employment of approximately 5,800 while serving nearly 60,000 visitors. In 2040, visitors are expected to increase to over 76,000 (an increase of over 25 percent).

2.3 Study Area

The geographic study area for the MATS is presented in **Figure 2-2**. In general, the mountain area encompasses the entire populated area of the San Bernardino National Forest, including the communities of Mount Baldy, Lytle Creek, Wrightwood, Crestline, Blue Jay, Lake Arrowhead, Running Springs, Green Valley Lake, Arrowbear, Big Bear, and the City of Big Bear Lake.

Figure 2-2: Study Area



2.4 Stakeholders

Stakeholders were involved throughout the existing conditions data collection and needs assessment process. Stakeholders include the County of San Bernardino, the City of Big Bear Lake, Caltrans, SBCTA, SCAG, the California Highway Patrol (CHP), and the United States (US) Forest Service. There were six meetings held at various locations and with various stakeholders:

- **December 1, 2015:** The first stakeholder meeting included representatives from all stakeholder groups, and provided an introduction to the project team, the project, and also included a working session to identify needs.
- **January 21, 2016:** The second stakeholder meeting was held with representatives from the City of Big Bear Lake, and included a working session discussing needs of the City.
- **January 28, 2016:** The third stakeholder meeting was held with County of San Bernardino staff and included a working session/discussion of known mobility problems and hot spots. Solutions and known projects were also discussed.
- **February 22, 2016:** The fourth stakeholder meeting was held at Caltrans offices with Caltrans staff and included a working session/discussion of known mobility problems and hot spots. Solutions and known projects were also discussed.
- **May 12, 2016:** The fifth stakeholder meeting was held at SBCTA offices and included a review of the assessment needs collected to date, as well as a summary of the existing traffic data and trends, and an update on the status of the travel demand model.

2.5 Organization of Report

This report is organized to first briefly discuss the previous studies and historical planning documents that have been completed. A thorough discussion of stakeholder input will follow the previous studies. An existing conditions analysis, including an identification of mobility issues (as identified through the stakeholder process) will follow, as well as future conditions based on the travel demand model tool. The report concludes with a discussion about study recommendations and solutions to mobility issues.

3.0 BACKGROUND INFORMATION

The MATS area is unique in regards to travel. There are several traditional reasons why residents and visitors travel to the MATS area, primarily ski areas, lake recreational areas, and resorts, as well as US Forest Service areas.

3.1 Ski Areas/Resorts

The ski areas and resorts within the MATS study area are major visitor attractions, and help to build the local economies. These resorts are opened all year long, with both winter and summer activities. It is important to identify these locations in this existing conditions report, because their attractiveness to visitors has the potential for negatively impacting the level of service of the transportation facilities within the study area. The following ski areas and resorts are located within the study area:

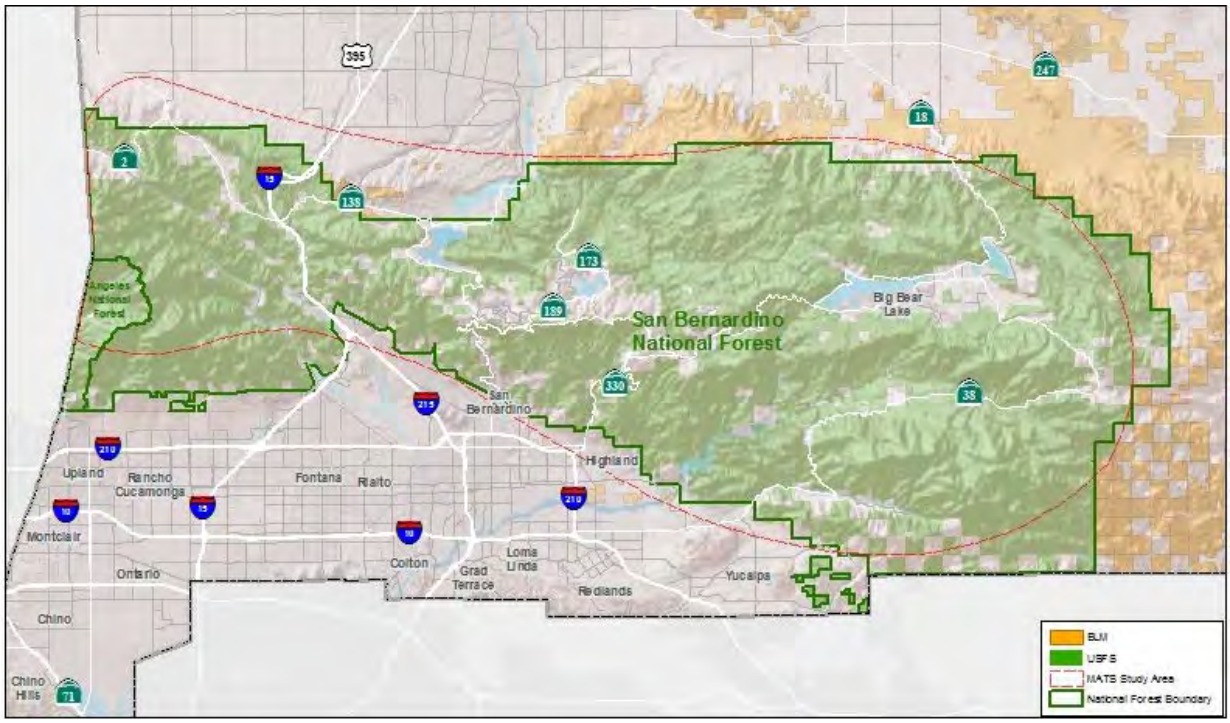
- **Bear Mountain Resort:** The resort is home to Southern California's highest-lifted peak at 8,805 feet and only half-pipes. The resort also consists of terrain parks and in the summer visitors can to golf at the resort's 7,200 feet Bear Mountain golf course. Located southeast of SR-18, south of Moonridge Road, bordered by Moonridge Road, Goldmine Drive, and Club View Drive in the City of Big Bear Lake.
- **Snow Summit Ski Resort:** Opened year round, the ski resort is located in the San Bernardino Mountains. Ski and snowboarding activities in the winter and hiking and mountain biking during the summer. The resort is home to Southern California's only lift-served hiking and mountain biking. Located south of the SR-18 between Thrush Drive and Summit Boulevard in the City of Big Bear Lake.
- **Snow Valley Mountain Resort:** The ski resort's highest elevation is at 7,841 feet. Located south of SR-18 and between Green Valley Trail and Siberia Creek Trail in Running Springs.
- **Rim Nordic Ski Area:** Rim Nordic Ski Area is the only cross country ski area in Southern California. Other activities include mountain biking on the Rim Nordic Bike park trial system, mountain bike racing and trail runs events and annual Pine Cone Festival. Located north of SR-1 and between Green Valley Trail and Siberia Creek Trail in Running Springs.
- **Mountain High Resort:** Located in Wrightwood, CA, Mountain High Resort is one of Southern California's closest winter resorts with no mountain driving. Located just an hour and a half from Los Angeles and Orange County, Mountain High Resort is located in the Los Angeles National Forest under special use permit from the US Forest Service.

3.2 US Forest Service

The MATS study area falls within the San Bernardino National Forest, which is a part of the US Forest Service. The San Bernardino National Forest is made up with the wild lands of the San Bernardino and San Jacinto Mountain Ranges that spans to approximately 679,380 acres. **Figure 3-1** identifies the location of the San Bernardino National Forest, and **Figure 3-2** identifies the two ranger districts, Mountaintop Ranger District and part of the Front Country Ranger District, that is within our study area. There are three visitor centers; the Big Bear Discovery Center, the Grassy Hollow Visitor Center in Wrightwood, and the Barton Flats Visitor Center. There are two wilderness areas; one northeast of the

Community of Big Bear and the other south of SR-38 that occupies the east portion of the Front Country Ranger District.

Figure 3-1: San Bernardino National Forest Locality Map



The San Bernardino National Forest has many "special places". Special places include a National Monument, designated Wilderness Areas, Wild & Scenic Rivers, and other locales. The wilderness areas in San Bernardino County are San Gorgonio, Cucamonga, Bighorn Mountain, and Sheep Mountain. A few of the special places are described below:

- **Rim of the World Snow Play Area:** A location where visitors can participate in various types of snow play. There are three primary areas identified for snow play, including: SR-18 between Crest Park Picnic Area and Switzer Picnic Area, SR-18 east of SkyPark at Santa's Village to east of Heaps Peak/Allison Ranch Road, and SR-18 between Green Valley Lake Road and Lakeview Point.
- **Heaps Peak Arboretum Day Use Area:** Open year-round and free to the public but requiring an Adventure Pass for parking, the arboretum is located on SR-18 west of Skyforest. Attractions include gardens, "animal tracks trail," a mini-gift booth, and other educational programs. Located at 6,000 feet, the arboretum and botanical gardens include a diversity of native plants.
- **Rim of the World Scenic Byway:** The year round route passes through the rim of the San Bernardino Mountains from Cajon Pass to San Gorgonio Pass that includes SR-138, SR-18, and SR-38. The Byway offers vistas and panoramas with some areas with snowfall in the winter and views of the Sand and Snow National Monument near the route between Mill Creek and Onyx Summit.
- **Sand to Snow National Monument:** The 154,000-arce monument is managed by the US Forest Service and the Bureau of Land Management. The area offers a variety of recreational activities to explore the diversity of land and wildlife.

Appendix A includes the 2014-2015 and 2016-2017 Visitors' Guides to the San Bernardino Mountains. The National Forest offers a wide range of outdoor activities which includes hiking and backpacking, trail horseback riding, biking, off-highway vehicles, camping, picnicking, fishing, and winter activities such as skiing, snowboarding, and snowshoeing. Some of the recreational areas within the MATS study area are:

- **1N09 Recreational Shooting Sites:** Located in the Mill Creek Area on Old City Creek Road, these shooting sites are designated for target shooting and are only opened during certain times of year.
- **Applewhite Campground:** Located north of the Lytle Creek Ranger Station, northeast of Lytle Creek Road, and southeast of Applewhite Road. The campground is surrounded by trees and stretches across the street at Applewhite Picnic Area.
- **Applewhite Picnic Area:** Located south of Lytle Creek Road and between Sheep Canyon Road and Applewhite Road. The area is a family-friendly picnic area that provides parking spaces to up to 184 vehicles and closes once the site is full, usually on busy summer weekends.
- **Arrastre Recreational Shooting Site 1:** Located southeast of SR-18, along Burns Canyon Road, and west of the Arrastre Creek near the Community of Big Bear. The site is a designated target shooting site and is only open during certain times of year.
- **Arrastre Recreational Shooting Site 2:** Located southeast of SR-18, along Burns Canyon Road, and east of the Arrastre Creek near Community of Big Bear. The site is a designated target shooting site and is only opened during certain times of year.

- **Aspen Grove Trail:** Located south of SR-38, east of the Barton Flats Visitor Center. The trail passes through a grove of Quaking Aspens which is only found in one other location in California.
- **Baldy Mesa (Trestles) Off-Highway Vehicle (OHV) Staging Area:** Located north of SR-138 and east of I-15 on Santa Fe Road. The staging area with toilets and picnic areas is for Red/Green sticker OHV's and High-clearance 4WD vehicles with license plates.
- **Baldy Mesa OHV Road 3N21:** The road runs from the Baldy Mesa (Trestles) OHV Staging Area to the Desert Front OHV Road 3N24 which heads west to Baldy Mesa in the west Cajon valley.
- **Barton Flats Campground:** Located north of SR-38 and east Barton Flats Road. The campground is bordered by the Rio Monte hiking trail with Jenks Lake and Santa Ana River nearby.
- **Big Bear Valley Sportsman's Club - Shooting Range:** Located north of SR-38 and west of the intersection Division Drive and SR-38. The shooting rage is upon to the public and is only open on the weekends.
- **Big Bear Yellow Post Sites:** These thirteen yellow post sites are individual camping site on dirt roads, nine sites located north and four south of Big Bear Lake.
- **Big Pine Flat Family Campground:** The campground is located south of Coxey Road and west of 3N16 which is northwest of Big Bear Lake and northeast of Redonda Ridge.
- **Big Pine Flat Recreational Shooting Site #1, #2, and #3:** The shooting sites are located along Coxey Road southeast of Big Pine Flat Family Campground. The designated shooting sites are only opened during certain times of year.
- **Butler Peak Fire Lookout:** Located in the San Bernardino Mountains between the towns of Green Valley Lake and Fawnskin. The lookout offers views of the San Gorgonio Peak, the Big Bear Valley, Lake Arrowhead, Apple Valley, and the Inland Empire.
- **Buttercup Group Campground:** Located on the south side of Big Bear Lake near Pineknot Family Campground and Snow Summit Ski Resort.
- **Cleghorn Ridge OHV Road 2N47:** Located east of I-15 on Cajon Boulevard. The route is open to OHV vehicles runs from the Cleghorn off-ramp on Interstate 15 in Cajon Pass over Cleghorn Ridge to State Highway 138 at Lake Silverwood.
- **Coon Creek Cabin Group Campground:** Located southeast of SR-38 and east of the Coon Creek. The campground can accommodate up to 25 people and 10 vehicles.
- **Coon Creek Yellow Post Sites:** These nineteen yellow post sites are individual camping site on dirt roads, nine sites are located near the Pacific Crest Trail and the Coon Creek.
- **Crab Flats Family Campground:** Located north of SR-18 and northeast of the Green Valley Lake.
- **Desert Front OHV Road 3N24:** Located north of I-15 where Baldy Mesa Road and Forest Route 3N21 meets. The route is commonly called "Baldy Mesa" and runs from the junction of Baldy Mesa OHV Road 3N21 to State Highway 138 in west Cajon valley.
- **Dogwood Family Campground:** Located north of SR-18 and east of Daley Canyon Road. The campground has 87 sites.
- **Falls Picnic Area**: Located southeast of SR-38 and north of the Forest Falls community. Vivian Creek Trail to the San Gorgonio Wilderness starts here and the Momyer Trailhead is nearby.
- **Fish Creek Trail 1W07:** Located south of SR-38 and east of Fish Creek. The trail runs along the Fish Creek Trail Camp, Fish Creek Saddle, Mineshaft Saddle, Sky High Trail, summit of San Gorgonio, and the site of the wreckage from a C-47 airplane that crashed in 1953.

- **Forsee Creek Trail 1E06:** Located southeast of SR-38, south of Jenks Lake Road West, and along Forsee Creek Road. The trail runs along the Cut-off for John's Meadow, Jackstraw Camp, Trail Fork Springs Camp, Peak Divide Trail, Anderson Flat, Shields Flat, Trail Fork, High Meadow Spring, Jackstraw Spring Camp, and Trail Fork Spring Camp.
- **Gray's Peak Group Campground:** Located northwest of SR-38 and Big Bear Lake off 2N13. The campground can accommodate up to 40 people and 8 vehicles.
- **Gray's Peak Trail 1W06:** Located west of SR-38, north of Big Bear Lake, and south of Fawnskin across the Grout Bay Picnic Area. The trailhead is in the center of a bald eagle wintering habitat area and is closed to all public use from December 1 to April 1 and runs along Forest Road 2N04X, US Forest Service Road 2N70, and Gray's Peak.
- **Green Spot Equestrian Group:** Located south of Sugarloaf and SR-38, and the east end of Big Bear Valley. There are five horse corrals with a capacity of 10 horses. The campground can accommodate up to 25 people and 8 vehicles.
- **Green Valley Family Campground:** Located in the mountains north of Arrowbear, the midway point between the communities of Lake Arrowhead and Big Bear. The campground has 37 sites.
- **Grout Bay Picnic Area:** Located on the scenic north shore of Big Bear Lake. The Gray's Peak trailhead is across the highway from the picnic area.
- **Hanna Flat Family Campground:** Located north of SR-38 and north of the community of Fawnskin and the City of Big Bear Lake. The campground has 80 sites.
- **Heart Bar Equestrian Group Campground:** Located in the Heart Bar Campground Complex just outside the Sand to Snow National Monument south of SR-38. There are 46 corrals and 11 wood tables and only campers with horses are permitted to camp at Heart Bar Equestrian Campground.
- **Heart Bar Family Campground:** Located south of SR-38 and north of Heart Bar Equestrian Group Campground. The campground has 26 sites.
- **Holcomb Valley Campground:** Located north of SR-38 and Big Bear Lake and off 3N16. The campground has 19 sites.
- **Jenks Lake Day Use Area:** Located north of SR-38, east Barton Flats Road, and west of Jenks Lake. There is a picnic area for day use only.
- **Juniper Springs Group Campground:** Located east of SR-38 and north of Onyx Peak. The campground can accommodate up to 40 people and 8 vehicles.
- **Keller Peak Yellow Post Sites:** These nine yellow post sites are individual camping site located south of SR-18 and southeast of Arrowbear Lake. Each campground can accommodate up to 8 people and 2 vehicles.
- **Lobo Group Campground:** Located north of SR-38 and south of the Santa Ana River and Rattlesnake Creek. The campground can accommodate up to 75 people and 15 vehicles.
- **Lost Creek Trail 1E09:** Located north of SR-38 and south of the Santa Ana River along Seven Oaks Road. The trail runs along Santa Ana River Trail, Grinnell Ridge Camp, South Fork Meadows, and South Fork Trail with views of Santa Ana Canyon and Sugerloaf Peak.
- **Lost Lake Day Use Area:** Located north of Cajon Boulevard and Lone Pine Canyon along Swarthout Canyon Road. There is a picnic area for day use only.

- **Mission Springs PCT Trail Camp:** Located south of SR-38 along Pacific Crest Trail and north of Mission Springs Campground. The site has four horse corrals for equestrian use and 2 camp sites.
- **Momyer Creek Trail 1E06:** Located east of SR-38 and Forest Falls along Valley of the Falls Drive. The trail starts at the Mill Creek and runs across the creek and near Alger Creek Camp, Dobbs Camp, Saxon Camp, and Dollar Lake Saddle.
- **North Shore Campground:** Located east of SR-173 and Lake Arrowhead and north of the Mountain Community Hospital off Sawmill Road. The campground has 28 sites.
- **Oso Group Campground:** Located north of SR-38, south of the Santa Ana River and Rattlesnake Creek, and southwest of Lobo Group Campground. The campground can accommodate up to 100 people and 20 vehicles.
- **Pacific Crest Trail:** The trail enters the San Bernardino National Forest in its southern end in the Santa Rosa Mountains. It exits in the northwest part of the forest at Boundary Ridge near Wrightwood.
- **Pineknot Family Campground:** Located south of SR-18 off US Forest Service Road and east of Snow Summit Ski Resort. The campground has 47 sites.
- **San Bernardino Peak Trail 1W07:** Located east of SR-38 from Angelus Oaks along Manzanita. The trail is near Columbine Camp, Manzanita Flats, Columbine Springs Junction, Limber Pine Bench Camp, San Bernardino Peak Divine Trail, San Bernardino East Peaks, and Trail Fork Springs.
- **San Gorgonio Family Campground:** Located north of SR-38 and between Barton Flats Campground and Oso Group Campground. The campground has 54 sites.
- **Santa Ana River Trail 2E03:** Located south of SR-38 and north of Coon Creek and Heart Bar State Park. The trail begins in the Sand to Snow National Monument, at the Pacific Crest Trail near Heart Bar, crossing the National Forest towards Morton Peak.
- **Serrano Campground:** Located south of SR-38 just north of Big Bear Lake. The campsite has 93 sites.
- **South Fork Family Campground:** Located south of SR-38 between Seven Oaks Road and Front Line Road. The campsite has 24 sites that can accommodate up to 8 people per a site.
- **South Fork Trail 1E04:** Located south of SR-38 and Frog Creek, east of Jenks Lake, and north of Jenks Lake Road West. The trail passes through Horse Meadow, San Gorgonio Wilderness boundary South Fork Meadows, and the trail forks to Dry Lake and Dollar Lake.
- **Summit OHV Staging Area:** Located south of SR-138 and west of where Cleghorn Road and Forest Route 3N66. The staging area is for Red/Green sticker OHV's and High-clearance 4WD vehicles with license plates.
- **Thurman Flats Picnic Area:** Located along SR-38 and west of Kilkare Road and Mountain Home Village. This is one of the best bird watching areas on the Forest with a picnic area.
- **Vivian Creek Trail 1E08:** Located east of SR-38 and Forest Falls, northeast of Falls Picnic Area, west of Camp Creek, and along Falls Road. The trail passes through Vivian Creek Camp, Halfway Camp, High Creek Camp, the summit of San Gorgonio, High Creek, and ends with views of Yucaipa Ridge, Galena Peak and Mt. San Gorgonio.

- **Wild Horse Equestrian Campground:** Located south of SR-38 and the Heart Bar Campground and northwest of Coon Creek. The campground has 8 single and 3 double sites, thirty horse corrals, and only campers with horses are permitted to camp at this location.

The National Visitor Use Monitoring (NVUM) program (sourced by the US forest Service at the website: *http://www.fs.fed.us/recreation/programs/nvum/*) is a tool that the US Forest Service uses to manage its recreational facilities. There are nine regions within the National Forest Systems; Northern, Rocky Mountain, Southwest, Intermountain, Pacific Southwest, Pacific Northwest, Southern, Eastern, and Alaska Region. For our study area, the San Bernardino National Forest is within the National Forest Pacific Southwest region. According to the NVUM 2012 National Report, the regional annual visitation estimates for the Pacific Southwest region is 24,601,000.

4.0 PREVIOUS STUDIES

The challenges related to transportation in the mountain area are not new, thus there have been multiple studies of transportation in the mountain area over the past twenty years. This section is not fully conclusive of all studies, and does not include small traffic studies. However, it does include several larger and more recent studies that have resulted in transportation recommendations that are relevant to this study.

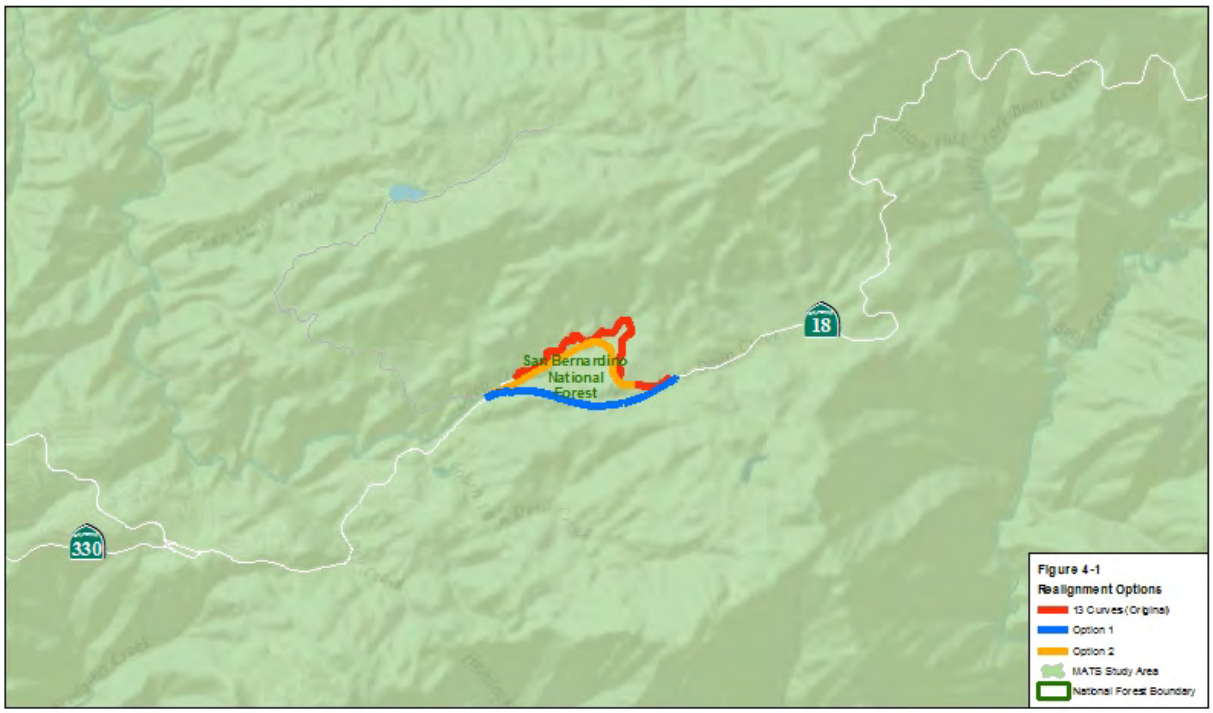
4.1 Big Bear 1996 Highway Transit Improvement Alternative

In 1994, a highway transit improvement alternatives study was completed for the San Bernardino mountain area. Recommendations from this study include a new alignment bypassing "13 Curves", a parking facility along SR-18 near Snow Valley, park and ride lots, as well as other improvements that serve as potential solutions to issues identified in the needs assessment for this project.

4.1.1 "13 Curves" Realignment

A notable location on SR-18 is the "13 Curves" area located near snow valley. Due to the non-conforming geometric alignment of the roadway, this location frequently experiences congestion. Several options were identified and shown in **Figure 4-1**.

Figure 4-1: "13 Curves" Realignment Alternatives



4.1.2 Parking Facility along SR-18 East of Snow Valley

Many visitors are attracted to the segment of SR-18 east of the Snow Valley ski area. This is a highly popular snow play area, with no dedicated parking. Currently sight distance and roadway grades exacerbate the problem, because visitors tend to park on the highway shoulder despite "No Parking" signs. The recommendation from this study was to provide a dedicated parking area for 100 vehicles at this location.

4.1.3 Park and Ride Lots

This study recommended two new park-and-ride lots; one in Highland and one in Running Springs. The purpose for these park-and-ride lots was to provide sheltered areas that are served by the existing Mountain Transit fixed-route service. The location of the park-and-ride lot in Running Springs was recommended due to the elevation of Running Springs, and the knowledge that chains are often required to access SR-18 east of Running Springs in winter months. It was also recommended that MARTA service be modified in peak winter and summer months to accommodate recreational demands.

4.1.4 Signage and Flashers

Advisory signs and flashers were identified as a way to allow for better operations on the roadway system. The recommendations included additional signage and flashers throughout the SR-330/SR-18 corridor, with particular attention to areas of heavy traffic.

4.2 Big Bear Modal Study

The Big Bear Model Alternatives Analysis, commissioned by SCAG, SANBAG (now referred to as SBCTA), and the Inland Valley Development Agency and completed in 2011, explored the feasibility of non-roadway alternatives for future transportation of people and goods between the San Bernardino and Big Bear Valleys. The study documented the traffic congestion and road closure problems that indicate a clear need for additional transportation capacity to accommodate future growth in travel to and from the mountains. An alternative transportation system offers several benefits when compared to roadway improvements – the ability to transport people and goods in all types of weather, an alternative way of moving people during emergencies, a smaller environmental "footprint" than road improvements, and improved access to mountain recreation areas without proportional expansion of roadway and parking capacity.

The key transportation system constraints were summarized as follows:

- The mountain highway routes that provide access to the Big Bear Valley experience traffic congestion on weekends throughout the year, and experience high levels of congestion for extended periods of time on holiday weekends and winter weekends with good snow conditions.
- The mountain access roads are increasingly vulnerable to closure or restriction because of adverse weather, traffic accidents, rock fall, landslides, or wildfire.
- These impediments to mountain access act as constraints to growth and development in the Big Bear Valley, and to the Southern California Region's ability to take advantage of the mountain area's four-season recreational assets.
- The feasibility of adding significant capacity to existing highways or constructing a new road facility is doubtful because of both environmental and financial constraints.

The study identified and evaluated a range of technological options for an alternative mode, as well as several alternative routes for it between San Bernardino and the City of Big Bear Lake. The new system was estimated to cost between $2.8-9.6 billion to build, with an annual operating cost of $11.8-13.8 million. Estimated revenues from passengers and freight, combined with other plausible revenue sources, would not be sufficient to pay for the capital and operating costs without a substantial (estimated at $3.8 billion) grant of public funds.

The constraints identified above still represent key challenges to circulation through the mountain areas of San Bernardino County, and the low likelihood of significantly increasing roadway capacity is the main reason that this MATS focuses on identifying and improving key bottleneck locations.

4.3 2015 San Bernardino Countywide Transportation Plan

In September of 2015, SANBAG (now referred to as SBCTA) published a Countywide Transportation Plan (CTP) with a purpose of laying out a strategy for long-term investment in and management of San Bernardino County's transportation assets. Key Issues for the CTP included the following:

- Transportation Funding
- Congestion Relief and Economic Competitiveness
- System Preservation and Operations

- Land Use
- Transit System Interconnectivity
- Attainment of Air Quality Standards
- Sustainability and Greenhouse Gas Reduction

The CTP proposed many strategies for the County for modal, functional, and geographic improvements. **Table 4-1** summarizes the proposed strategies related to the mountain area.

Table 4-1: 2015 SANBAG CTP Proposed Strategies

Category	Challenge	Strategy
Arterials	Arterial project construction has lagged original expectations.	Encourage jurisdictions to accelerate arterial improvement projects and continue policy flexibility for funding development shares. SANBAG will identify arterial improvements that are particularly important to route continuity.
Active Transportation	Large funding needs for building out the cycling/walking network.	Continue to submit competitive grant applications to support implementation of the Non-Motorized Transportation Plan (NMTP) Maintain and update the NMTP Identify and pursue grant funding opportunities to expand cycling and walking infrastructure
Transit Integration and Inter-Connectivity	Transit services could be better coordinated across systems in terms of ease of transfers, fare media, and first/last mile connections. This will be even more important as the system grows.	Take a more integrated, customer-focused approach to the provision of transit services. Facilitate seamless ticketing and better connection at existing transit centers and connection points.
Highway Maintenance and Operations	Highways are facing serious future maintenance funding shortfalls. Local jurisdictions are responsible for arterial maintenance while Caltrans is responsible for freeway and state highway maintenance.	Conduct a strategic planning study with Caltrans and regional agencies to assess maintenance/operations funding needs and approaches to managing costs.
Rural Highway Needs	Rural areas require unique maintenance/safety/funding consideration.	Focus on cost effective maintenance and support for funding streams that the County and Caltrans can utilize to maintain these rural highways.
Transit System Maintenance and Operations	Existing transit systems are facing potentially serious future operations funding shortfalls.	Optimize transit operations and identify mechanisms to fund future system operations and expansion.
Air Quality	Although air quality has dramatically improved over the last several decades, attainment of the next set of ozone standards will be extraordinarily challenging and costly.	Work with regional and state agencies and the private sector to meet attainment standards on an achievable timeline that does not adversely impact the economy. Advocate for state/federal investment that facilitates this progress. Focus on market-based mobile source technology improvements and fleet turnover as a win-win approach.
Health	Public health is being integrated into policy frameworks throughout state, regional, and local governments. The challenge in the transportation arena is to determine how to incorporate health considerations into decision-making frameworks.	Continue to build on health partnerships already established. Continue focus on transit mobility and developing the active transportation network to promote cycling and walking.

Category	Challenge	Strategy
Mountain/Desert Strategies		
Mountain/Desert Fixed Route Transit	Funds are limited for route expansion and adjustment as the Victor Valley grows.	Study the challenges of the trajectory of transit operations funding, and jointly develop solutions between SANBAG and the Mountain/Desert transit agencies.
Mountain/Desert demand-responsive bus service	Demand-responsive service is the highest cost form of transit, but important in serving certain senior and disabled transit riders.	Continue assistance programs, such as helping demand-responsive riders use fixed-route systems and coordination with non-profit entities while also maintaining demand-responsive service.
Mountain Subarea	Though baseline population is small, major congestion occurs on weekends, particularly winter weekends, limiting economic growth.	Conduct a study of bottleneck locations and lower-cost improvements that could reduce weekend congestion levels and prioritize funding for those projects.

5.0 EXISTING CONDITIONS

This section focuses on the existing conditions of the facilities within the mountain area. Iteris worked with SBCTA staff and the stakeholders group to identify the transportation system that forms the basic network for this study.

5.1 Roadway

The primary access roadways within the MATS area are State Route (SR)-2, SR-18, SR-38, SR-138, and SR-330, and each experience unique traffic patterns associated with visitors to the area. All of the state highways within the MATS area were included, as well as some key local facilities. Secondary roads include major facilities within the Mountain area that are heavily used by residents and visitors. **Table 5-1** summarizes the primary roadway network within the MATS area. **Table 5-2** summarizes the secondary roadway network within the MATS area.

Table 5-1: Primary Roadway Network

Segment	Typical Lane Configuration	Intersection Control Type	Passing Lane
SR-2 (State Route)			
From SR-138 through Wrightwood	2-lane, Undivided	Two-way stop controlled intersections for local streets. Four way stop controlled intersection at Willow Road.	Not Applicable
SR-18 (State Route)			
Smarts Ranch Road to SR-38/ Greenway Drive/North Shore Drive	2-lane, Undivided	Two-way stop controlled intersections for local streets.	Not Applicable
SR-38/Greenway Drive/North Shore Drive to SR-38/Big Bear Boulevard	2-lane, Undivided	Two-way stop controlled intersections for local streets. Signalized Intersection: • Greenway Drive at Big Bear Boulevard	Not Applicable
SR-38/Big Bear Boulevard to Stanfield Cut-off/Starvation Flats Road	2-lane, Undivided	Two-way stop controlled intersections for local streets. Signalized Intersections: • Greenway Drive at Big Bear Boulevard • Big Bear Boulevard at Division Drive • Big Bear Boulevard at Stanfield Cut-off	Not Applicable

Segment	Typical Lane Configuration	Intersection Control Type	Passing Lane
Stanfield Cut-off to Pine Knot Ave	4-lane, Undivided With Two-Way Left Turn Lane	Two-way stop controlled intersections for local streets. Signalized Intersections: • Big Bear Boulevard at Interlaken Shopping Center • Big Bear Boulevard at Fox Farm Road • Big Bear Boulevard at Moon Ridge Road/Garstin Drive • Big Bear Boulevard at Summit Boulevard • Big Bear Boulevard at Georgia Street • Big Bear Boulevard at Pine Knot Avenue	Not Applicable
Pine Knot Avenue to Village Drive	2-lane, Undivided With Two-Way Left Turn Lane	Two-way stop controlled intersections for local streets. Signalized Intersections: • Big Bear Boulevard at Pine Knot Avenue • Big Bear Boulevard at Village Drive	Not Applicable
Village Drive to SR-38 (at Bear Creek)	2-lane, Undivided	Two-way stop controlled intersections for local streets. Signalized Intersections: • Big Bear Boulevard at Village Drive • SR-18/Big Bear Boulevard at SR-38/North Shore Drive	Not Applicable
SR-38 (at Bear Creek) to SR-330	2-lane, Undivided	Two-way stop controlled intersections for local streets. No stop control at pull-outs and view-points.	Passing lanes exists both eastbound and westbound for approximately 1.5-mile segments.
SR-330 to SR-138	2-lane, Undivided	Two-way stop controlled intersections for local streets. No stop control at pull-outs and view-points. Signalized Intersections: • SR-18 at Lake Gregory Drive	Not Applicable
SR-138 to Arrowhead Springs Road/Old Waterman Canyon Road	4-lane, Undivided	Two-way stop controlled intersections for local streets. No stop control at pull-outs and view-points.	Not Applicable
SR-38 (State Route)			
South of Sugarloaf to SR-18/Greenway Drive/Big Bear Boulevard	2-lane, Undivided	Two-way stop controlled intersections for local streets. Signalized Intersections: • Big Bear Boulevard at Maple Lane • Big Bear Boulevard at Greenway Drive	Passing lanes exists both eastbound and westbound for approximately 0.25-mile segments

Segment	Typical Lane Configuration	Intersection Control Type	Passing Lane
SR-18/Greenway Drive/Big Bear Boulevard to SR-18/SR-38 (at Big Bear Creek)	2-lane, Undivided	Two-way stop controlled intersections for local streets. Signalized Intersections: • Big Bear Boulevard at Greenway Drive • SR-18/Big Bear Boulevard at SR-38/North Shore Drive	Not Applicable
SR-330 (State Route)			
SR-18/SR-330 to City Creek near Highland Avenue	2-lane, Undivided	Two-way stop controlled intersections for local streets. No stop control at pull-outs and view-points.	Passing lanes exists both northbound and southbound for approximately 0.5-mile segments.
SR-138 (State Route)			
SR-18 to SR-173	2-lane, Undivided	Two-way stop controlled intersections for local streets. All-way stop control: • SR-138 at Crest Forest Drive • SR-138 at Knapps Cut-off • SR-138 at Waters Drive	Not Applicable
SR-173 to I-15	2-lane, Undivided	Two-way stop controlled intersections for local streets.	Passing lanes exists both northbound and southbound for approximately 1.0-mile segments before I-15.
West of I-15 to North of SR-2	2-lane, Undivided	Two-way stop controlled intersections for local streets.	Passing lanes exists both northbound and southbound for approximately 0.3-mile segments after I-15, and from Lisa Lane to SR-2.
I-15 (Interstate)			
Through MATS Area	8-lane, Divided	Not applicable	Not applicable
I-215 (Interstate)			
Through MATS Area	4-lane, Divided	Not applicable	Not applicable

Table 5-2: Secondary Roadway Network

Roadway	Segment	Typical Lane Configuration	Intersection Control Type
Arosa Drive	Between Lake Drive and N Road in the community of Lake Gregory	1 lane each direction	• Stop control at 5-way intersection with Lake Drive/Delle Drive/Dart Canyon Road/Arosa Drive/San Moritz Drive • 1-way stop control at intersection with N Road

Roadway	Segment	Typical Lane Configuration	Intersection Control Type
Daley Canyon Road	Between SR-18 and SR-189 west of Rim of the World High School	1 lane each direction	• 1-way stop controlled at both ends • Daley Canyon is stop controlled
Division Drive	Between SR-38 and SR-18 in the community of Big Bear	1 lane each direction	• 1-way stop controlled on the south end with SR-18 • 2-way stop controlled on the north end with SR-38
Stanfield Cut-off	Between SR-38 and SR-18 in the community of Big Bear	1 lane each direction	• Signalized on the south end with SR-18 • 1-way stop controlled on the north end with SR-38
Greenway Drive	Between SR-38 and SR-18 in the community of Big Bear	1 lane each direction	• 1-way stop controlled on the south end with SR-18 • 2-way stop controlled on the north end with SR-38
Lake Drive	Between SR-138 and Lake Gregory in the community of Crestline	1 lane each direction	• No control at intersection with SR-138 • 2-way stop controlled intersection at Lake Gregory Drive • Stop control at 5-way intersection with Lake Drive/Delle Drive/Dart Canyon Road/Arosa Drive/San Moritz Drive
Lake Gregory Drive	Between Lake Drive and SR-18 in the communities of Crestline/Skyland	1 lane each direction	• Signalized intersection with SR-18 • 2-way stop controlled intersection with Lake Drive
Old Mill Road	Between Lake Drive and SR-138 in the community of Crestline	1 lane each direction	• 1-way stop controlled intersection at Lake Drive • 1-way stop controlled intersection at SR-138
N Road	Between Lake Gregory Drive in the community of Crestline and Grandview Road in the community of Twin Peaks	1 lane each direction	• 1-way stop controlled intersection at Lake Gregory Drive • No stop at Arosa Drive • 1-way stop controlled intersection at Grandview Road
Grass Valley Road	Between SR-189 and SR-173 in the community of Lake Arrowhead	1 lane each direction	• 1-way stop controlled intersection at SR-189 • 1-way stop controlled intersection at SR-173
Lone Pine Canyon Road	Between SR-138 and SR-2 entering the community of Wrightwood	1 lane each direction	• 1-way stop controlled intersection at SR-138 • No control at the intersection with Sheep Creek Drive

5.2 Transit

Two transit agencies serve the MATS area: Mountain Transit and Victor Valley Transit Authority.

Mountain Transit currently runs six fixed-routes and various other services to MATS residents and visitors.

- **Big Bear Route 1:** Routed on SR-18 and SR-38 between Boulder Bay, Moonridge, Lake Erwin, and Sugarloaf. Route 1 runs Monday through Sunday with 60 minute headways.

- **RIM Route 2:** Routed on SR-138, SR-189, and SR-18 between Cedar Pines, Valley of Enchantment, Crestline, Twin Peaks, Blue Jay, and Lake Arrowhead. Route 2 runs Monday through Friday with approximately 60 minute headways.
- **Big Bear Route 3:** Routed on SR-18 and SR-38 between Mountain Meadows and Gold Mountain. Route 3 runs Monday through Friday with 60 minute headways.
- **RIM Route 4:** Routed on SR-173 and SR-18 between Cedar Glen, Lake Arrowhead, Crest Park, and Running Springs. Route 4 runs on Monday through Friday with approximately 90 minute headways.
- **Big Bear Off the Mountain:** Routed from downtown Big Bear to San Bernardino, with a connection in Running Springs. The Big Bear off-the-mountain route operates Monday through Sunday at approximately 4.5 hour headways.
- **RIM Off the Mountain:** Routed on SR-18 between Blue Jay, Crestline, and San Bernardino. The RIM off-the-mountain route operates Monday through Saturday at approximately 3 hour headways.

Victor Valley Transit Authority currently runs one fixed-route service to MATS residents and visitors, with a destination in Wrightwood at the Wrightwood Community Center.

- **Route 20:** Routed primarily on SR-2 and SR-138 within the study area, between Phelan and Pinon Hills and Wrightwood. Route 20 runs Monday through Saturday with 90 minute headways.

5.2.1 Dial-A-Ride Service

Mountain Transit provides Dial-a-Ride service for seniors and persons with disabilities, as well as anyone who lives more than ¾ mile from a Mountain Area Transit fixed-route stop who is also within the Dial-a-Ride service area.

5.2.2 Weekend Trolley

Mountain Transit provides service for a Big Bear Weekend Trolley. The weekend trolley has service to the Alpine Slide, Village, Moonridge Zoo/Bear Mountain, Interlaken Shopping Center, and many of the local hotels and restaurants. The weekend trolley is only available on Saturday and Sunday, and operates at 60 minute headways.

5.2.3 Rally Bus

Both Snow Summit and Bear Mountain (the two major ski/snowboarding resorts) utilize Rally Bus services, which is an example of ride-sharing. Rally Bus is a crowd-powered shared-ride service that is often developed for event travel. Information about the Rally Bus is shared through social media, and is not booked or billed until the number of seats occupied is over 25. For more information on Rally Bus, please see http://rallybus.net/ or http://rallybus.net/FAQ.

5.3 Non-Motorized Transportation

In the existing transportation system, non-motorized transportation (including bicycles and pedestrian activity) is encouraged, but the system lacks infrastructure, which can be a problem for mobility. The City of Big Bear Lake has an Active Transportation Plan, and the Lake Arrowhead community is currently

preparing an Active Transportation Plan. In addition, there has been recent coordination between the City of Big Bear Lake, the County of San Bernardino, and the Big Bear Valley Trails Foundation in obtaining a Caltrans grant to assist in the development and planning for future development of road and trail resources with connections to lakes and mountain amenities. The goal of the plan is to use community involvement to identify valley-wide needs by integrating land use with transportation and economic development goals. The end result of the plan will be to construct new bicycle lanes, sidewalks, and non-motorized trails inclusive of trail heads and other trail amenities.

5.4 Data Collection

Data collection for MATS study was extensive, and included traffic count data, speed collection, , and visitor attractions.

5.4.1 Average Daily Traffic – ADT Count Data

Average Daily Traffic (ADT) count data was obtained at 29 locations throughout the MATS study area for Friday through Sunday travel. **Figure 5-1** illustrates the locations of ADT count data, and **Table 5-3** summarizes the collected ADT for Friday, Saturday, and Sunday travel. The primary direction of travel on Friday and Saturday is EB/NB while the primary direction of travel on Sunday is WB/SB. This indicates a higher influx of vehicles into the mountain area on Friday and Saturday with an outflow of traffic on Sundays.

Figure 5-1: Average Daily Traffic Count Locations

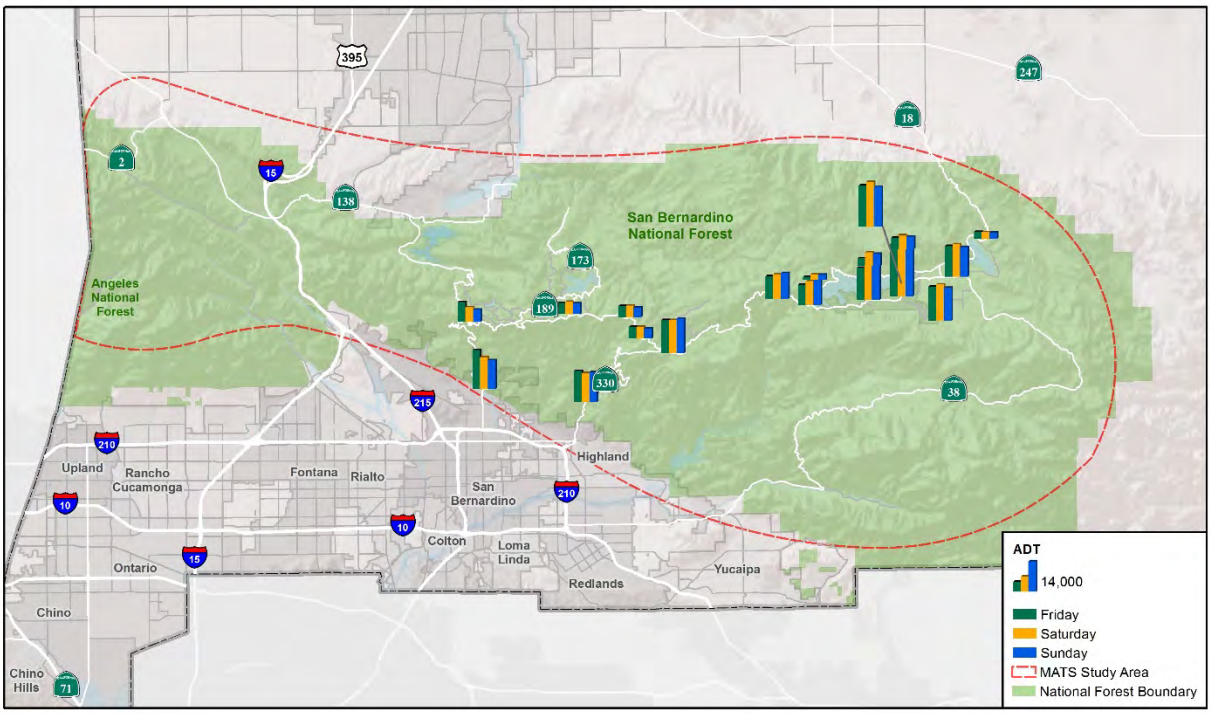


Table 5-3: Average Daily Traffic

Route	Location	Friday		Saturday		Sunday	
		EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB
SR-138	West of SR-173	883	1,384	1,150	938	1,109	955
SR-18	North of Sierra Way / Arrowhead Road	10,602	7,026	8,042	6,429	5,818	7,237
SR-18	East of Soutar Drive	9,956	4,853	8,729	6,112	6,315	9,098
SR-18	West of Nob Hill Drive	2,610	2,599	2,663	2,654	2,279	2,276
SR-330	North of Highland Avenue Ramps	9,737	4,254	7,904	5,076	5,380	7,957
SR-38	East of Bryant Street	3,837	2,291	3,608	2,841	2,559	3,723
SR-18	West of SR-38	7,437	2,646	6,755	4,315	4,557	7,070
SR-38	North of SR-18	1,023	526	1,564	1,052	986	1,499
SR-18	East of SR-38	6,776	2,489	6,329	4,428	4,588	6,611
SR-18	East of Delta Avenue	1,390	1,821	1,388	1,660	1,527	1,295
Big Bear Boulevard	East of Bonanza Trail	8,305	6,254	6,728	8,699	6,622	9,586
Big Bear Boulevard (SR-18)	East of Moon Ridge Road	12,048	11,670	14,110	13,556	12,145	12,009
Big Bear Boulevard (SR-18)	East of Moon Ridge Way	-	-	14,834	13,989	13,900	13,748
Big Bear Boulevard (SR-18)	East of Stanfield Cut-off	9,725	9,026	10,827	9,556	9,595	8,536
Big Bear Boulevard (SR-18)	West of Greenway Drive	7,318	8,037	8,007	8,271	7,605	7,112
East Big Bear Boulevard	East of Shore Drive	6,660	7,160	7,278	7,347	6,974	6,423
SR-38	West of Stanfield Cut-off	1,820	1,539	3,185	2,886	2,567	2,813
SR-38	East of Stanfield Cut-off	2,387	2,818	2,697	3,422	2,405	3,273
East Arrowbear Drive	South of SR-18	329	273	300	308	317	254
West Arrowbear Drive	South of SR-18	162	296	149	253	161	251
Running Springs School Road	South of SR-18	622	634	317	324	325	323
Live Oak Annex	South of SR-18	913	901	809	754	599	623
Rim of the World Highway (SR-18)	West of Ongo Camp Drive	2,518	2,473	2,597	2,590	2,209	2,224
Kuffel Canyon Road	North of Rim of the World Highway (SR-18)	1,441	1,324	1,427	1,271	1,120	1,201
SR-173	North of Holly Lane	2,793	2,264	3,036	2,578	2,347	2,539
Rim of the World Drive	North of Rim of the World Highway (SR-18)	618	636	561	521	527	561
SR-189	East of Lake Gregory Drive	2,109	1,950	1,724	1,636	1,435	1,636
Lake Gregory Drive	North of N Road	3,032	3,115	2,682	2,742	3,819	529
SR-138	North of Rim of the World Highway (SR-18)	5,304	3,710	3,482	3,192	2,698	2,975
Directional Percentage		**56.6%**	**43.4%**	**52.7%**	**47.3%**	**47.5%**	**52.5%**

5.4.2 Speeds – iPeMS

iPeMS software is a tool designed to measure performance of the transportation network. Information provided by iPeMS software provides a user with reliable measurement of the transportation network, a benefit/cost analysis of delay and congestion, ability to complete before and after analytics, and bottleneck reporting and visualization. The iPeMS instalment at SBCTA, which is used for the Congestion

Management Plan, provides the user with historical and real-time speed information on San Bernardino County state routes and freeways.

Speed data obtained from iPeMS was useful in identifying travel trends and patterns in different geographies. Average speed data were obtained for the months of May 2015 to April 2016. **Figure 5-2** illustrates the nine locations where roadway segment average speeds were identified:

- Location 1: SR-18 Between SR-138 and SR-189
- Location 2: SR-18 Between SR-173 and SR-330
- Location 3: SR-330 Between SR-210 and SR-38
- Location 4: SR-18 Between SR-330 and SR-38
- Location 5: SR-18 Between SR-210 and SR-138
- Location 6: SR-38 Between Yucaipa and City of Big Bear Lake
- Location 7: SR-18 Between SR-38 and Stanfield Cut-off
- Location 8: SR-2 West of SR-138
- Location 9: SR-138 Between SR-2 and I-15

Location data is summarized by season:

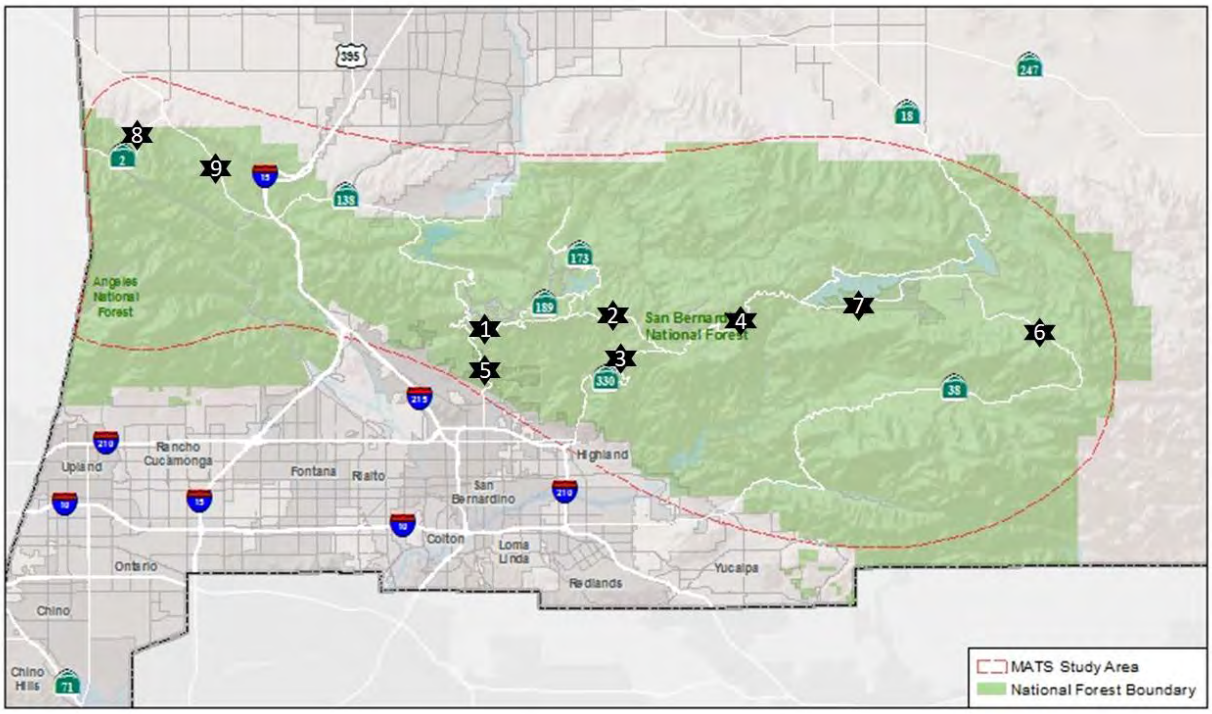
- Spring = March 20 through June 20
- Summer = June 21 through September 24
- Fall = September 22 through December 20
- Winter = December 21 through March 19

Location data is also summarized for a combined "Holiday", which is a combination of the following holiday dates:

- Memorial Day (5/25/2015)
- Fourth of July (7/4/2015)
- Labor Day (9/7/2015)
- Thanksgiving (11/26/2015-11/27/2015)
- Christmas (12/25/2015)
- New Year's Day (1/1/2016)
- President's Day (2/15/2016)

In addition to looking at the seven identified locations, an in-depth investigation into the speeds on the SR-18/SR-38 couplet around Big Bear Lake. Additional speed and iPeMS data is included in **Appendix B**.

Figure 5-2: iPeMS Speed Data Collection Locations



5.4.3 iPeMS Roadway Segment Average Speeds

Average speeds were collected using iPeMS and separated by season and categorized by weekday, weekend, and holiday. **Figure 5-3** through **Figure 5-11** summarize the average speeds for seven select locations: SR-18 between SR-138 and SR-189, SR-18 between SR-173 and SR-330, SR-330 between SR-210 to SR-18, SR-18 between SR-330 to SR-38, SR-18 between SR-210 and SR-138, SR-38 between Yucaipa and City of Big Bear Lake, SR-18 between SR-38 and Stanfield Cut-off, SR-2 west of SR-138, and SR-138 between SR-2 and I-15.

Figure 5-3 illustrates the average speeds for the segment of SR-18 between SR-138 to SR-189. In general, the average speeds are lower for the weekends and higher for weekdays for all seasons. This segment of roadway is south of Lake Gregory Regional Park, west of Strawberry Peak, southwest of the community of Twin Peaks. The lower average speeds during the weekend can be attributed to an increase of visitors. In general, speeds on this segment range between 33 and 36 Miles per Hour (MPH).

Figure 5-3: SR-18 between SR-138 to SR-189 Average Speeds

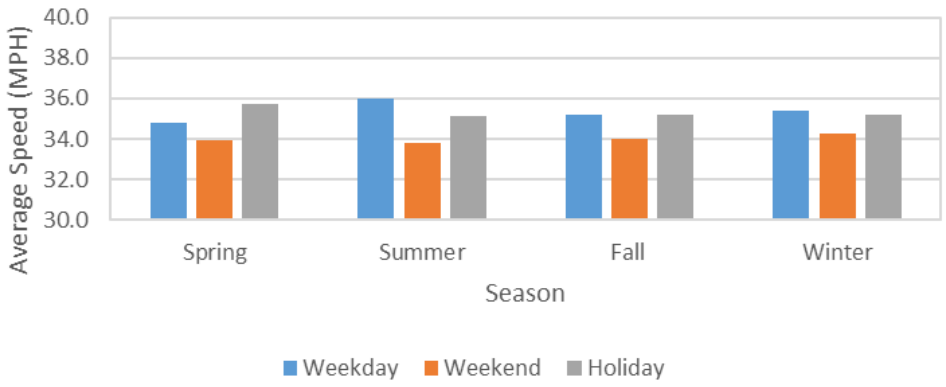


Figure 5-4 illustrates the average speeds for the segment of SR-18 between SR-173 to SR-330. In the spring and summer months there is a clear difference between weekday and weekend travel, with weekend speeds being slightly lower. In the fall and winter, however, the weekend and holiday speeds are nearly the same, with the weekday speeds only slightly higher. The lower spring and summer weekend average speeds is likely attributed to higher visitor travel. The segment is between the community of Skyforest and Running Springs. In general, speeds on this segment range between 35 and 38 MPH.

Figure 5-4: SR-18 between SR-173 to SR-330 Average Speeds

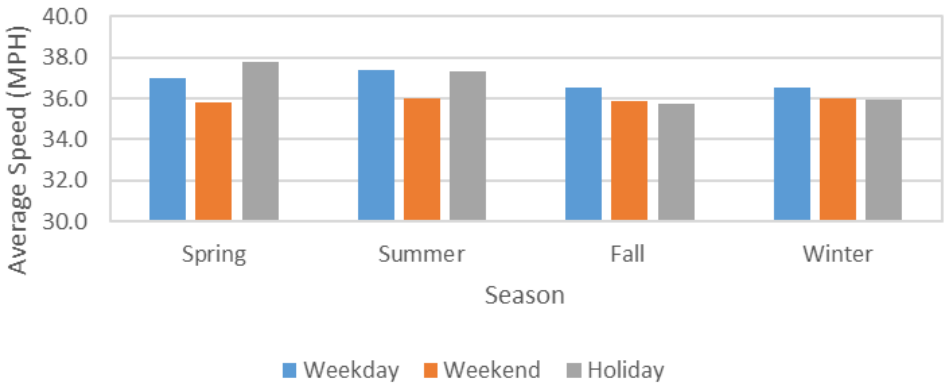


Figure 5-5 illustrates the average speeds for the segment of SR-330 between SR-210 and SR-18. The spring and summer seasons have similar average speeds for weekday, weekend, and holiday travel, with the weekends being slightly slower. The fall and winter seasons have a higher average speed during the weekday, with a slightly lower speed during the weekend, and an even lower speed during holidays. The fall and winter seasons have slightly lower speeds than the spring and summer seasons, which can be attributed to visitor travel as well as weather and roadway geometry. The segment is located north of the City of Highland and south of the community of Running Springs. In general, speeds on this segment range between 32 and 42 MPH.

Figure 5-5: SR-330 between SR-210 to SR-18 Average Speeds

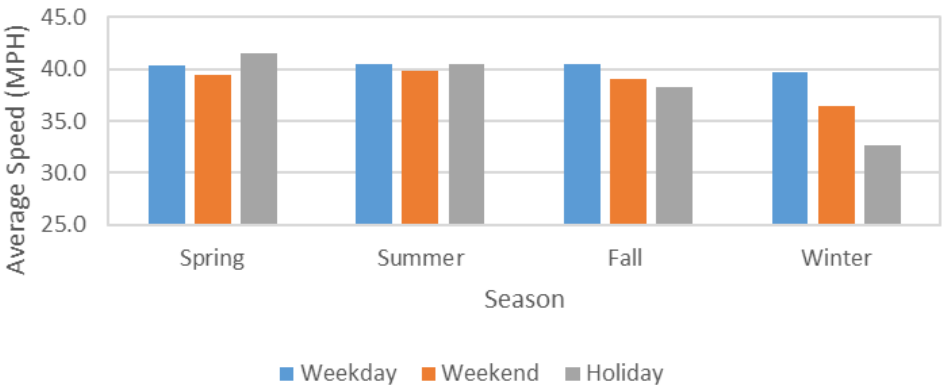


Figure 5-6 illustrates the average speeds for the segment of SR-18 between SR-330 to SR-38. In general, the fall and winter seasons have lower speeds than the spring and summer seasons. The winter season has a large difference in weekday and weekend speed, with the weekend speeds being the lowest. This can be attributed to snow play and ski resort visitors in this location. This segment of roadway is located south of Green Valley Lake, between the community of Running Springs and the City of Big Bear Lake, with access to Snow Valley Mountain Resort. In general, speeds on this segment range between 30 and 35 MPH.

Figure 5-6: SR-18 between SR-330 to SR-38 Average Speeds

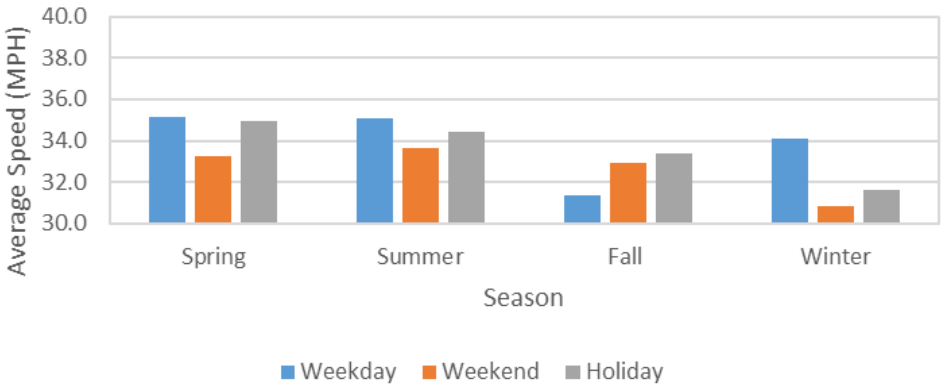


Figure 5-7 illustrates the average speeds for the segment of SR-18 between SR-210 to SR-138. In general, all seasons have similar average speeds, and show the weekend travel at a slower speed than weekday travel. This segment of roadway begins in the City of San Bernardino, with access to Crestline, Lake Gregory, and Lake Arrowhead. In general, speeds on this segment range between 41 and 44 MPH.

Figure 5-7: SR-18 between SR-210 to SR-138 Average Speeds

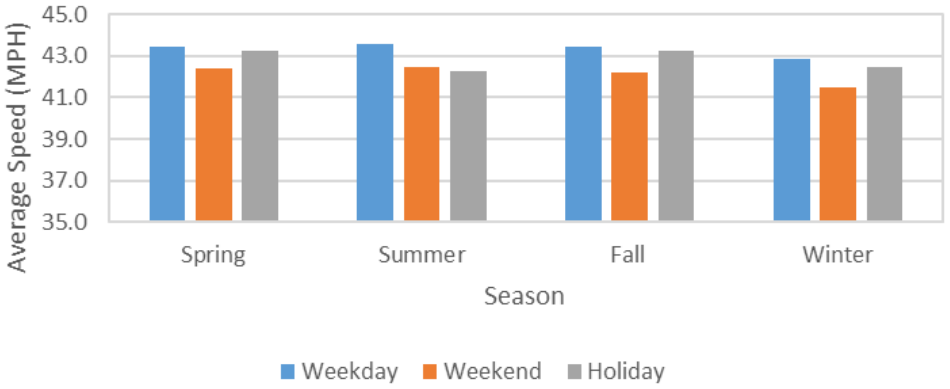


Figure 5-8 illustrates the average speeds for the segment of SR-38 between Yucaipa and the City of Big Bear Lake. In general, all seasons have similar speeds, with weekend speeds being the same or slightly lower than weekday speeds. This segment of roadway has access to several campgrounds and trails. In general, speeds on this segment range between 44 and 47 MPH.

Figure 5-8: SR-38 between Yucaipa and City of Big Bear Lake Average Speeds

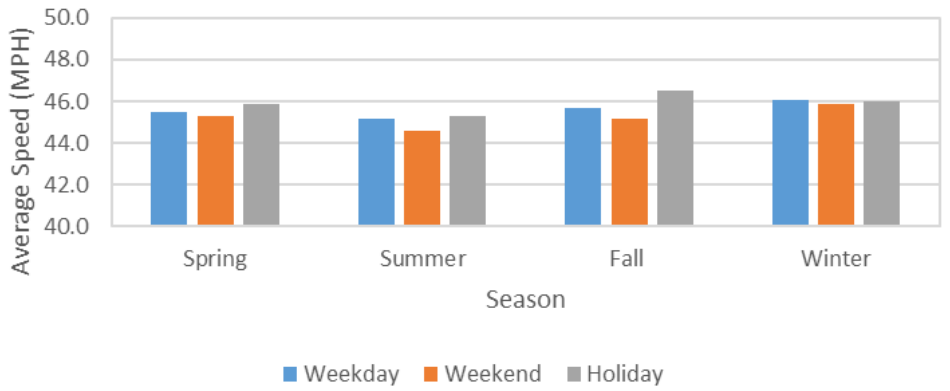


Figure 5-9 illustrates the average speeds for the segment of SR-18 between SR-38 and Stanfield Cut-off. The spring and summer months show significantly lower speeds than the fall and winter months. This is primarily due to visitor influx during the summer months. This segment of roadway is essentially Big Bear Boulevard through the City of Big Bear Lake and Community of Big Bear. In general, speeds on this segment range between 25 and 32 MPH.

Figure 5-9: SR-18 between SR-38 and Stanfield Cut-off Average Speeds

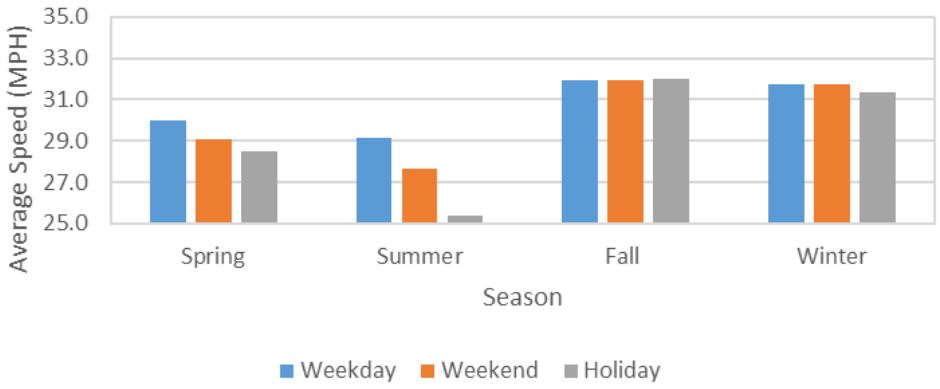


Figure 5-10 illustrates the average speeds for the segment of SR-2 west of SR-138 in Wrightwood. Most notably, the weekend speeds are higher than the weekday and holiday speeds. The fall and winter holiday speeds result in the lowest speeds overall, attributed to weather and visitor influx. In general, speeds on this segment range between 42 and 48 MPH.

Figure 5-10: SR-2 West of SR-138

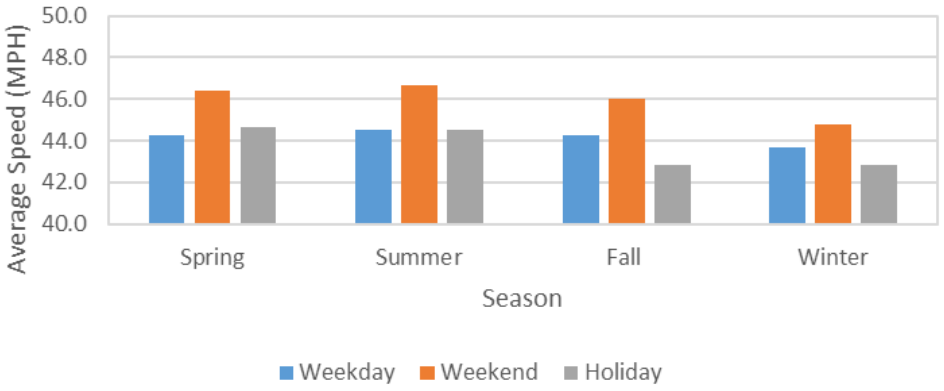
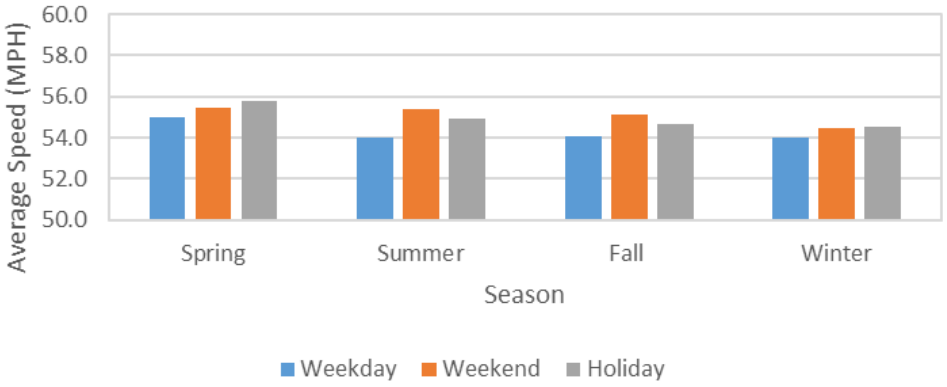


Figure 5-11 illustrates the average speeds for the segment of SR-138 between SR-2 and I-15 east of Wrightwood. Speeds during all seasonal time periods range above 50 mph, with the weekday speeds lower than the weekend and holiday speeds.

Figure 5-11: SR-138 between SR-2 and I-15



5.4.4 iPeMS Average Speeds Around Big Bear Lake Couplet (SR-18/SR-38)

The couplet of SR-18 and SR-38 around Big Bear Lake is a location that attracts a significant number of both summer and winter visitors. On the south side of the lake, there are two ski-resorts which are used year-round, and on the north side of the lake there is a boat launch that is used extensively in summer months. Surrounding the entire lake are campsites and trailheads. **Figure 5-12** and **Figure 5-13** illustrate the average speeds by time of day for an entire year. For the northbound/eastbound direction, the south side, SR-18, presents lower average speeds compared to the north side, SR-38. The figures illustrate that the lowest average speeds occur around the winter seasons for both routes which is consistent with stakeholder comments pertaining to high seasonal activity and congestion. Similarly, for the southbound/westbound direction, the south side, SR-18, experiences lower average speeds compared to the north side, SR-38. The lowest average speeds occurred in the months of January and February which is during the area's snow season. Overall, the northbound/eastbound direction average speeds are than southbound/westbound.

Figure 5-12: Northbound/Eastbound Average Speeds

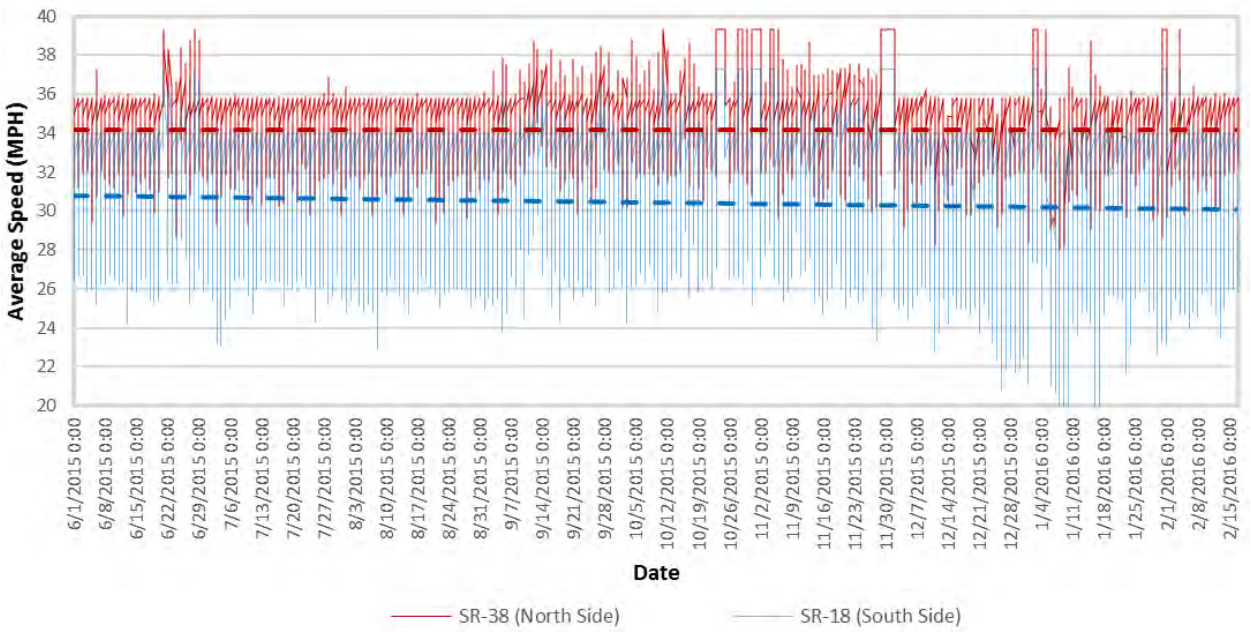
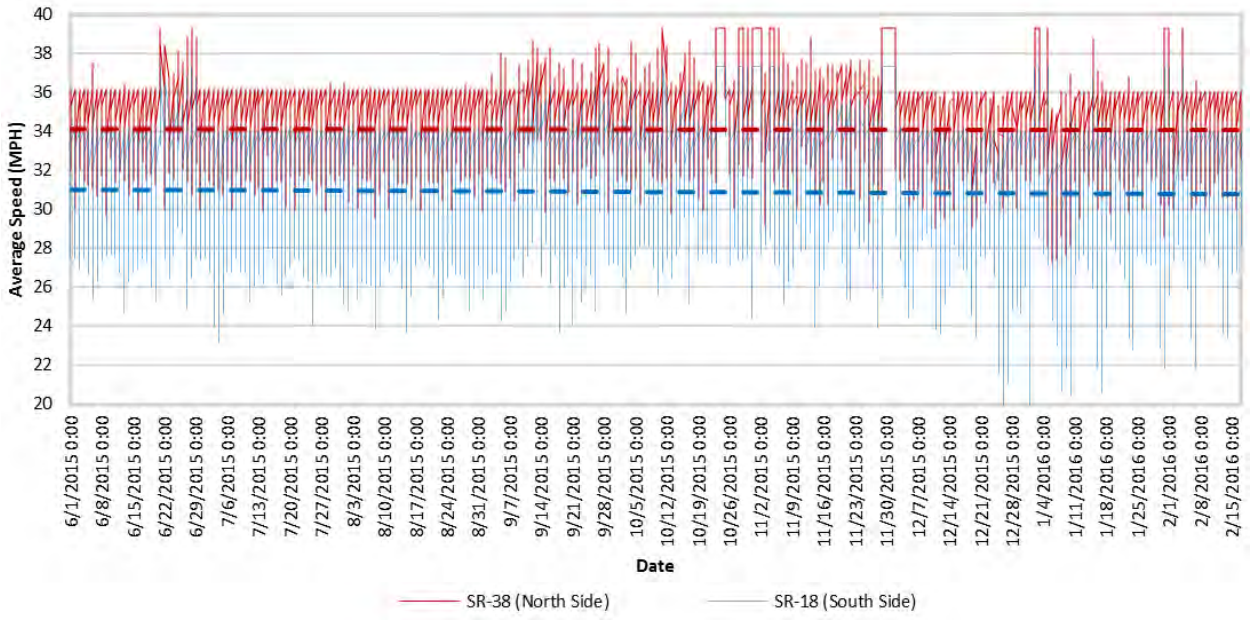


Figure 5-13: Southbound/Westbound Average Speeds



5.4.5 Peak Period Identification

Peak period travel within the MATS area is important due to seasonal visitor travel. In 2014, Iteris was contracted by SBCTA to develop a web based Congestion Monitoring Tool using third-party HERE data. The Iteris team used the SBCTA Congestion Monitoring Tool to review general trends on SR-330, SR-18

and SR-38 to identify the peak periods. **Table 5-4** summarizes the weekday and weekend peak periods. In addition, Iteris identified days during winter months when traffic performance was poor due to inclement winter conditions. During the winter months, there were a few days that experienced traffic congestion that may have been attributed to winter conditions which are listed in **Table 5-5**. **Table 5-6** and **Table 5-7** summarize the summer season and Thanksgiving arrival and departure peak periods.

Therefore, in addition to normal weekends, the team considered the impacts of special weekends. Special weekends were identified as those occurring during public holidays and school holiday periods which attract large numbers of tourists to the mountain area. **Table 5-8** presents the peak periods for 4th of July and Christmas holiday.

Table 5-4: Weekday and Weekend Peak Hours

Segment	Weekday			Weekend Peak
	AM Peak Period	Mid-Day Period	PM Peak Period	
SR-330 Between SR-210 to SR-18	7-8AM	11AM-1PM	5-6PM	7-9AM
SR-38 (North Big Bear)	9AM-2PM		5-11PM	11AM-2PM
SR-18 (South Big Bear)	8-9AM	12-7PM		12-3PM

Table 5-5: Traffic Congestion Due to Winter Conditions

Segment	Traffic Congestion
SR-330 Between SR-210 to SR-18	Saturday, 1/9/2016
SR-38 (North Big Bear)	Wednesday, 1/6/2016
SR-18 (South Big Bear)	Sunday, 1/17/2016

Table 5-6: Summer Season Arrival/Departure Peak Periods

Segment	Summer Season		
	Friday Arrivals	Saturday Arrivals	Sunday Departures
SR-330 Between SR-210 to SR-18	5-6PM	11AM-1PM	11AM-1PM
SR-38 (North Big Bear)	2-2PM	1-2PM	12-2PM
SR-18 (South Big Bear)	3-4PM	2-3PM	11AM-12PM

Table 5-7: Thanksgiving Holiday Arrival/Departure Peak Periods

Segment	Holiday (Thanksgiving)	
	Wednesday Arrivals	Friday Departures
SR-330 Between SR-210 to SR-18	5-6PM	7-8AM
SR-38 (North Big Bear)	2-3PM	2-4PM
SR-18 (South Big Bear)	2-6PM	2-4PM

Table 5-8: Holiday Peak Periods

Segment	Holiday (Fourth of July)	Holiday (Christmas)
SR-330 Between SR-210 to SR-18	12-1PM	7-9AM
SR-38 (North Big Bear)	12-2PM	2-3PM
SR-18 (South Big Bear)	12-1PM	4-6PM

5.4.6 Turnouts

Throughout the MATS area, there are a number of locations which could be interpreted as "turnouts". The purpose of useable turnouts along the State Routes in the MATS area is to provide a safe area for trucks and slow vehicles to pull over and allow for faster vehicles to pass. The importance of turnouts along State Routes is in the location and usability of turnouts, and no the frequency. In the existing conditions, there are a significant number of places which could behave as a turnout, but are not signed as such. The lack of signage and typical designs for turnouts results in trucks and slower vehicles bypassing turnouts and not using them.

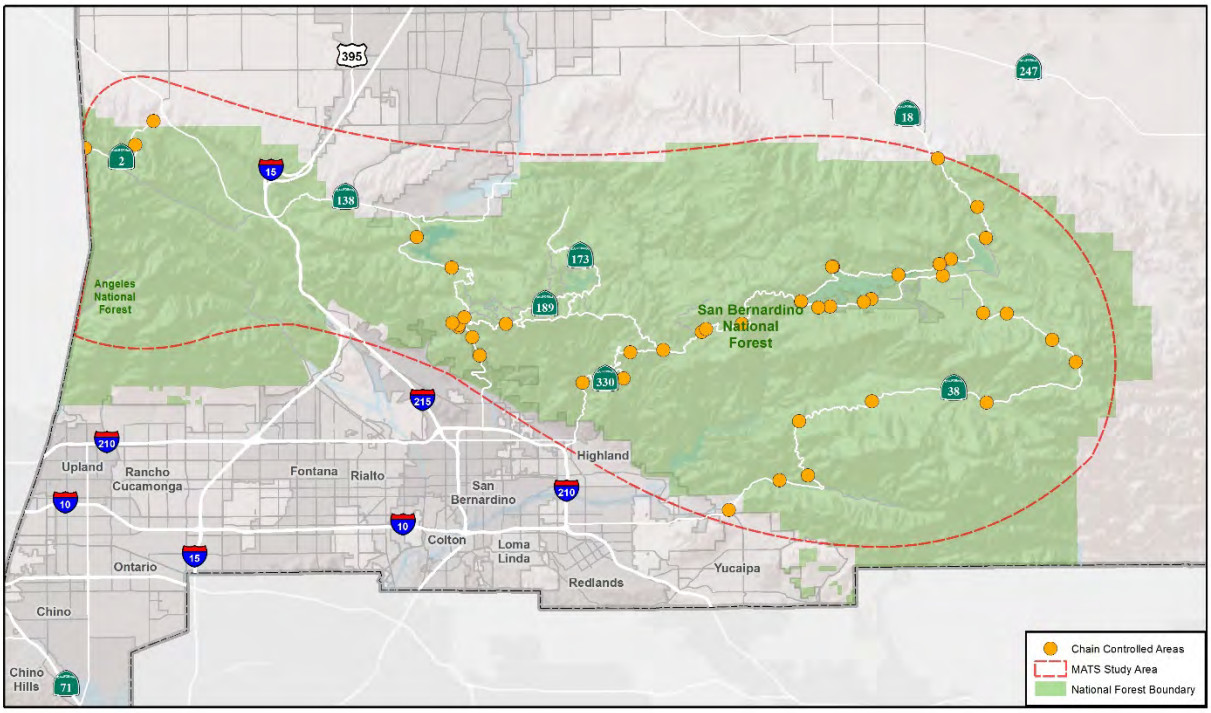
In addition to true vehicle turnouts, there are Vista Points located along many of the State Routes. Vista points are informal turnouts (or "pullouts") where motorists can safely view scenery, or park and relax.

5.4.7 Chain-up Areas

The MATS area includes State Routes that traverse mountains. Chain up locations are typically dependent on elevation. Up-to-date information can be found on the Caltrans District 8 webpage, which has a live link to chain required locations.

Figure 5-19 was created during a peak snow event using the Caltrans Website (http://www.dot.ca.gov/dist8/tmc/#).

Figure 5-14: Chain-Up Areas



6.0 IDENTIFICATION OF MOBILITY ISSUES

Mobility issues (whether operational, geometric, or informational) were identified by receiving stakeholder comments and by reviewing the travel model results.

6.1 Stakeholder Input

Stakeholder input was extensive and instrumental in capturing all of the transportation related system needs within the mountain area. Stakeholders include the County of San Bernardino, the City of Big Bear Lake, Caltrans, SBCTA, SCAG, the CHP, and the US Forest Service. From the stakeholder meetings, many of the problems identified can be summarized into the following need categories:

- **Traffic Control:** Bottleneck due to existing, non-existent, or poor location of traffic control device. (Example is a stop sign located on a high-volume road).
- **Signage:** Bottleneck due to non-existent or lack of signage, often resulting in poor circulation patterns, or confused drivers.
- **Traffic Volume:** Congestion and slow-moving traffic due to peak traffic volumes in excess of existing roadway capacity.
- **Cut-through Traffic:** Peak conditions (related to traffic congestion and weather) often result in traffic traveling on local roads rather than on major arterials and state routes.
- **Roadway Geometry:** Bottleneck due to curves and topography (which result in a lack of sight distance), often caused by slow-moving vehicles. Other roadway design issues, including lack of center turn lanes or left turn pockets, also creates driver confusion and congestion.
- **Chain Installation and Control:** Bottleneck due to operations and procedures for chain installation. Additionally, chain control locations often encourage visitors to travel on local arterials to avoid chain installation.
- **Roadway Maintenance:** There are existing issues with roadway maintenance, including maintaining striping and snow removal.
- **Illegal Parking:** Traffic congestion and friction on state routes due to vehicles parked in "No Parking" zones. This is often the case in winter and summer peak months near popular snow play and hiking locations.
- **Pedestrian or Bicycle Conflicts:** Conflicts between vehicles and non-motorized person trips due to pedestrians walking along side of road, heavy pedestrian crossing volumes, or narrow road with no shoulder or lane for bicycles. These conflicts often result in traffic congestion, and can be unsafe for pedestrians and bicycles.
- **Alternate Modes:** The increase in residents and visitors allows for the potential for increasing use of transit services, including shuttle and trolley service along with improving the existing fixed-route services.
- **Information Technology Services (ITS) Opportunity:** Information for drivers is beneficial to the overall transportation circulation, and could be better improved with real-time Changeable Message Signs (CMS) at key locations throughout the mountain area.
- **Coordination between Jurisdictional Agencies:** There are multiple agencies and jurisdictions involved related to maintenance and control during major events. Agencies include Caltrans,

County, City, Sheriff, and CHP. Lack of coordination can result in conflicting information, making it unclear what road conditions are, or what traffic congestion is currently occurring.

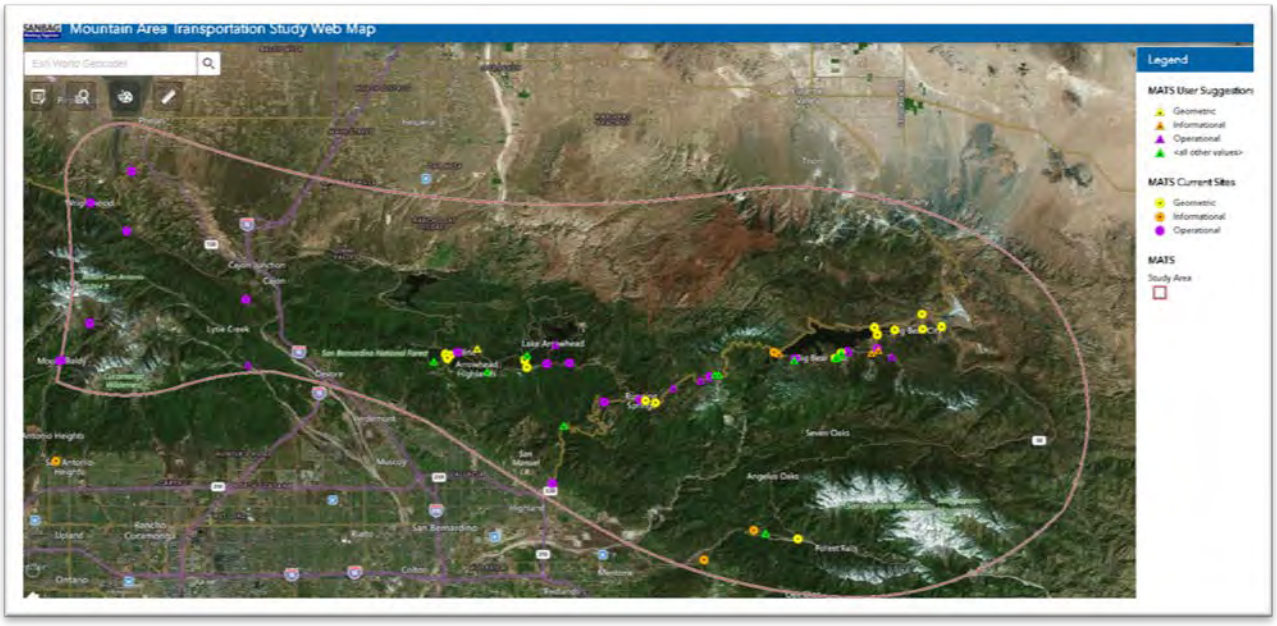
- **Existing Right-Of-Way:** It appears that many of the existing roadways are overlayed, or repaved, to existing roadway width, or even narrower in locations. In some locations, it appears or is known, that there is additional right-of-way that could be paved for better utilization.
- **Regional and Local Economic Impacts:** The location of the mountain area is a desirable destination for visitors from the Southern California region, and beyond. According to the Big Bear Housing Element, there are over 30,000 "second homes" in the mountain area, resulting in vacationers spending property tax money, as well as money on goods and entertainment, within the mountain area. As a part of San Bernardino County, the traffic and transportation within the mountain area could be a deterrent to visitors, resulting in a regional and local economic loss.

6.1.1 Project Web Tool

To assist in collecting information from the stakeholders, a web tool was developed. The web tool is an online portal and Geographic Information System (GIS) mapping tool developed to solicit input. **Figure 6-1** identifies the project study area and location of identified project needs.

All needs identified through the Web Tool were categorized into geometric, informational, operational, and "other" categories. The information shown in **Figure 6-1** will be discussed in *Section 6.2* of this report.

Figure 6-1: MATS Web Tool



6.1.2 Stakeholder Meetings

During the stakeholder meetings, many issues were identified. The issues were discussed in length, and organized into two categories: general issues and location issues.

6.1.3 General Issues Identified

There were many issues identified that related to transportation throughout the mountain area. **Table 6-1** summarizes general MATS area issues.

Table 6-1: General Issues

Issue	Discussion
Bike Riders on State Routes up Mountains	Bicycle riders often travel along SR-18 and SR-330. Although these bicycle riders typically have escorts, bottlenecks occur with and without escorts.
Count Data Collection	The current methodology for collecting count data is to collect when data is needed, as a reaction.
US Forest Service Campsites	A comment was raised that US Forest Service camping locations are closed during winter months.
Chain Installation and Control	Several issues were identified related to chain-up areas, installation, and control. It is a known problem that people often do not stop and obey required chain-up locations. It is also noted that there are no chain-up areas on SR-2 in Wrightwood.
Changeable Message Signs (CMS)	There are several existing changeable message signs at the base of the mountain (one located at Baseline and SR-210). Portable message signs have been used in the past, and the concern of power issues (e.g., solar batteries often run out when a panel is covered with snow). Another issue with portable message signs is that drivers believe them to be construction related, and have a tendency to ignore them.
Portable Message Signs (PMS)	While not desirable for permanent locations, the availability of portable message signs is low, and they could be useful during special events.
Park and Ride	Mass transit in the mountain area is underutilized, leaving the potential for park and rides or shuttle services.
Parking on State Routes	A common traffic congestion problem on state routes is related to people parking in “no parking” locations, at turnouts, and within the travelled way. People often park at these locations for snow play or hiking, and create problems throughout the mountain area.
Passing Lanes on State Routes	The existing passing lanes on state routes are helpful in easing congestion following slow vehicles. The addition of passing lanes, where possible, would be beneficial.
Roadway Capacity	On an average day, roadway capacity is not a problem in the mountain area. Roadway capacity is only an issue during select events during both winter and summer peak season.
Roadway Design Elements	There are many locations on the State Routes within the MATS area that have slope changes or significant curvature of the roadway, which result in bottlenecks.
Trucks	Trucks can be restricted on Caltrans facilities if the roadway conditions are poor. The current method for sending out this information is either on Facebook or Twitter, so companies would need to be connected to the Caltrans informational sources to obtain information about truck restrictions.
Mount Baldy Community Coordination	Major coordination issues between LA County and San Bernardino County, with recent snow clearing issues. Community is located in both San Bernardino and Los Angeles Counties. Can agreements be reached to have SB maintain access road?

6.1.4 Location Issues Identified

There were many issues identified that related to transportation throughout the mountain area. **Table 6-2** summarizes general MATS area issues.

Table 6-2: Location Issues

Location ID	Facility Name	Location	Issue(s)
Wrightwood/Mount Baldy/Lytle Creek			
1	SR-2 (Big Pines Highway)	Willow Road	• The stop sign at Willow Road presents a huge bottleneck in town during peak seasons • The businesses in town hire an officer for traffic control during peak seasons
2	SR-2 (Big Pines Highway)	Wrightwood	• No chain-up areas on SR-2 and there are no lights. In the winter, there are many times when chains are not required, but probably should be • CHP does not enforce chains on SR-2
3	Glendora Ridge Road	Entire Route Through Los Angeles County	• Typically closed in winter months
4	Lone Pine Canyon Road	Between SR-138 and SR-2 in Wrightwood	• County Road that CHP controls • Chain control is not enforced, even though Lone Pine Canyon acts as a cut-through to the Wrightwood
5	Lytle Creek Road	North of I-15	• Popular road for cyclists, but there is no shoulder or bike lane
6	Swarthout Canyon Road	South of Lone Pine Canyon Road	• Used as a cut-through when I-15 is congested • There are some unpassable areas on this facility for certain autos, including some stream crossings
Crestline/Lake Arrowhead			
7	SR-138	Seeley Way	• Sight distance issues • Seeley used as a cut-through route
8	SR-138	Crest Forest Drive/Lake Drive "Top Town"	• Confusing, off-set 5-legged intersection, with grade issues • Inadequate sight distance for turning
9	SR-173	SR-18	• Poor traffic control, and confusing intersection • There is potential for more of an issue with additional planned development
10	SR-18	SR-138	• SR-18 drops from 4 lanes to 2 lanes, resulting in vehicles speeding up to pass
11	SR-18	Daley Canyon Road	• Strange and confusing existing geometric • There is no room for a right turn • The land is owned by the US Forest Service • Steep grade on Daley Canyon Road approaching SR-189
12	SR-18	SR-330	• Southbound Arrowhead traffic to SR-330 west is a year-long issue with major back-up of traffic during peak periods
13	SR-18	Running Springs to Big Bear Lake	• Cars pull over for snow play, picnics, etc. • There is no regard to the many signs that indicate no parking along the narrow stretches of the road
14	SR-18	Running Springs School Road	• Northbound west turn is difficult during peak and off-peak periods

Location ID	Facility Name	Location	Issue(s)
15	SR-18	Snow Valley and Snow Valley Snow Play Area (approximately 1 mile west of Snow Valley parking lot entrance)	• Limited parking stalls open to the public at snow play location • Coordination with Snow Valley resort needed for parking for snow play • People entering and leaving the snow play area block eastbound traffic
16	SR-18	Entire State Route	• Truck issue due to curves and topography
17	SR-189	Daley Canyon Road	• Inadequate sight distances for right turn from SR-189 to Daley Canyon Road • Northbound SR-189 has a stop on a downhill profile that is difficult to make in winter conditions
18	SR-189	Blue Jay Cut-off	• Left turn from northbound SR-189 onto Blue Jay cut-off is skewed • It is unclear that access to Twin Peaks (Golf Course, Conference Centers, etc.) needs to be made from the intersection of Daley Canyon Road with SR-189
19	SR-330	City Creek US Forest Service Station	• No left turn pocket for vehicles turning into US Forest Service Station parking lot
20	SR-330	Live Oak	• People tend to use Live Oak as a cut-through to avoid chain control
21	SR-18	Hilltop Boulevard	• Southbound SR-18 (Lake Arrowhead) traffic turning left onto SR-330 is a year-long issue with major queuing of traffic during peak periods • Poor local Running Springs traffic circulation along SR-18 between SR-330 and Soutar Drive
22	Crest Forest Drive	Valley View Drive	• Poor visibility and skewed approach at intersection
23	Lake Arrowhead Village Area		• Weekend traffic issues in peak months related to visitors • Inadequate parking areas where visitors can park and ride public transportation
24	Lake Drive	Fern Drive	• Sight distance issues, partially due to steep grade on Fern Drive • Queuing at stop sign in winter months • Cannot include stop sign on north leg due to grade constraints
25	Lake Drive	Wild Rose Lane	• Issue with traffic control devices during peak seasons • There is a monthly meeting at this location which creates traffic congestion
26	SR-330	Highland Ave	• Potential for Park and Ride Facility
Big Bear/Angeles Oaks			
27	SR-18	SR-38	• Need to encourage traffic to take SR-38 off of the mountain instead of SR-330
28	SR-18 (Big Bear Boulevard)	Castle Rock Trail Head	• Heavily used trail with limited street parking on Big Bear Boulevard and no parking on adjoining streets

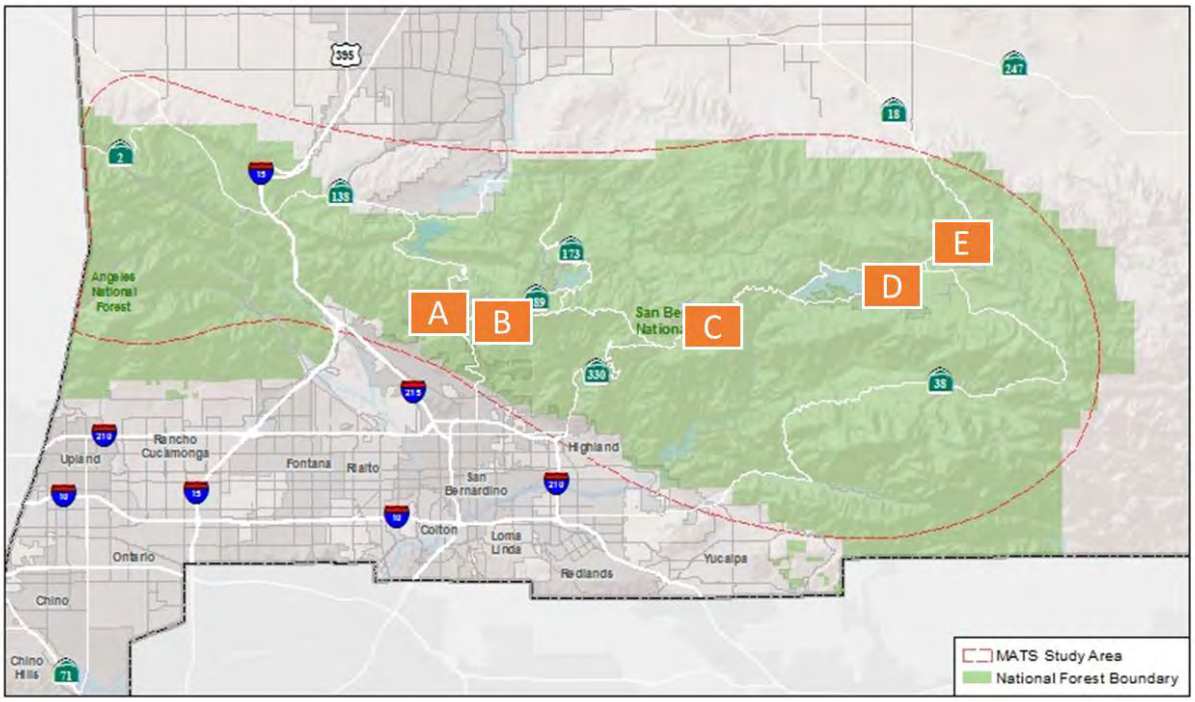
Location ID	Facility Name	Location	Issue(s)
29	SR-18 (Big Bear Boulevard)	Mill Creek Road	• Secondary arterial with access to the Aspen Glen Picnic area, a heavily used US Forest Service day facility • This is a skewed intersection on a fairly steep incline at a nearly blind corner, with no left turn lane onto Mill Creek Road going westbound on SR-18 • Problem in winter and summer peak months • Ice and snow make the left turn from SR-18 onto Mill Creek Road difficult
30	SR-18 (Big Bear Boulevard)	Wild Rose Lane	• Major congestion in winter months caused by cars entering and exiting snow play area • Westbound left turn pocket is too short for queued vehicles
31	SR-18 (Big Bear Boulevard)	Lakeview Drive/Paine Court	• Lakeview Drive is a secondary arterial serving most of the residential homes and businesses on the west side of the City of Big Bear Lake. The left turn at SR-18 is often difficult • A boat launching ramp is located off of Paine Court which complicates turning movements at the intersection for boat trailers • This is a problem in both winter and summer peak months • Lakeview Drive and Paine Court meet at an acute angle at SR-18 which causes confusion as to right of way movement
32	SR-18 (Big Bear Boulevard)	Village Drive	• The westbound right turn is a sharp right angle, resulting in vehicles slowing down or stopping to make the right hand turn • Narrow and/or tight turning radius for vehicles traveling eastbound on SR-18 to make a smooth transition going northbound
33	SR-18 (Big Bear Boulevard)	Pine Knot Avenue	• Through movement on Big Bear Boulevard difficult during winter and summer months
34	SR-18 (Big Bear Boulevard)	Knickerbocker Creek	• There is a public walkway called Knickerbocker Trail running north and south from Village Drive to SR-18 approximately 100 feet east of Pine Knot Drive • Pedestrian traffic on this facility use the signalized intersection at Pine Knot and SR-18 to travel between the retail shopping area and the lake, which often causes delay and congestion during the summer months
35	SR-18 (Big Bear Boulevard)	Moonridge Road	• Traffic congestion and circulation problems in winter and summer
36	SR-18 (Big Bear Boulevard)	Stanfield Cut-off	• Travel lanes going eastbound are forced to merge into a single lane • There are two receiving westbound lanes for travel, but only one westbound approach lane • Queue and delay at this intersection during all months of the year, often resulting in a three or four traffic signal cycle wait
37	SR-18 (Big Bear Boulevard)	Division Drive to Paradise Way	• There is no shoulder, no drainage control, or center turn lanes the bulk of this segment • There are numerous businesses along this section that do not have defined driveways, making entering and exiting driveways difficult • Vehicles going both directions experience long delays when making left-turns
38	SR-38	Mountain Home Village	• Visitor traffic often cuts through Mountain Home Village during peak congestion
39	SR-38	Valley of the Falls Drive	• Geometric issue

Location ID	Facility Name	Location	Issue(s)
40	SR-38	Forest Falls Turnoff	• Difficult uphill travel for trucks and heavy vehicles
41	SR-38 (Big Bear Boulevard)	Greenspot Boulevard/Shay Road "Square Turn"	• Confusing intersection • Eastbound traffic staying on SR-38 has a separate lane/channel and drivers often miss the channel and turn right at the 4-way intersection • Westbound traffic staying on SR-38 must make a left turn at the 4-way intersection but is not required to stop; the other three approaches are stop sign controlled
42	SR-38 (Big Bear Boulevard)	Stanfield Cut-off	• Stop controlled on north/south legs, resulting in difficult northbound left due to the boat launch during the summer months • The north/south legs of the intersection are offset, creating confusion • Inadequate queue storage length for northbound Stanfield cut-off vehicles • There is a crosswalk from the school to the bike path, and neither side is ADA compliant
43	Moonridge Road	Club View Drive "Moonridge Y"	• Congestion due to winter ski-area traffic, often due to stuck vehicles, collisions, or chain installation • Decision point location for drivers determining how to exit the mountain
44	Stanfield Cut-off	Eagle Nest Road	• There is an existing driveway to Eagles Nest Road (an RV Park) that has conflicting movements with Stanfield Drive and impedes the intersection operation

6.2 Geometric Issues

It is known that the State Routes in the MATS area are winding and designed differently than interstates and freeways throughout the remainder of San Bernardino County. The data that was used for the speed and congestion analysis was also used to identify areas of geometric concern on the state routes in the mountain area. The locations discussed in this section were identified using the assumption that locations of slow speed and traffic congestion could be related to poor geometric design (due to poor sight distance and need to reduce speed due to roadway geometry). **Figure 6-2** identifies five locations that were identified as locations considered with an opportunity to improve mobility and reduce congestion. All five locations are located on SR-18 (and briefly SR-38 in the City of Big Bear Lake), but these locations may serve as indicators to other areas along State Routes within the mountain area with similar characteristics.

Figure 6-2: State Route Bottlenecks and Congestion



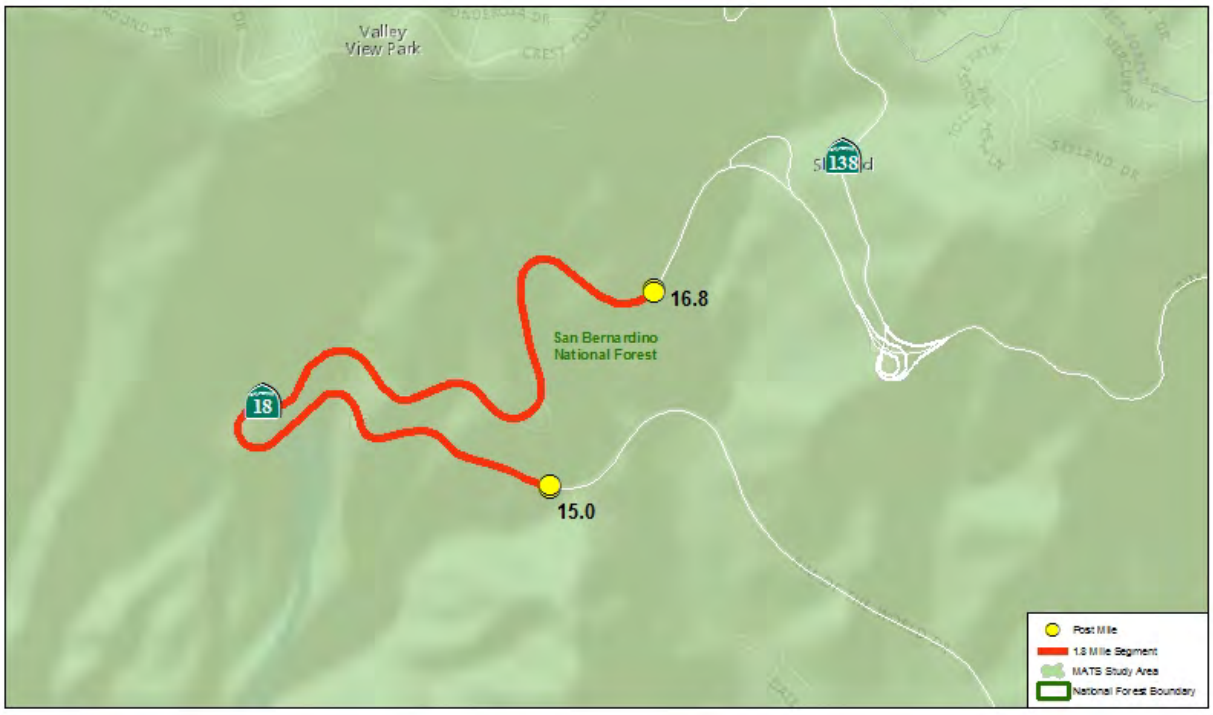
6.2.1 Location A: SR-18 – Post Mile 15.0 to 16.8

Location A was selected due to the congestion in the 1.8-mile segment. The existing roadway section is a four-lane section (2-lanes in each direction) with a centerline buffer separating the opposing directions of travel. The centerline buffer consists of double-double yellow pavement markings, a ground in rumble strip, and increased visibility with surface mount delineators which clearly separate opposing travel directions. The pavement delineation enhanced with surface mount delineators precludes left turns within the entire segment. This enhanced delineation restricts access to turnouts on the opposite side of the roadbed and eliminates crossing movements of vehicles. Isolated turnouts occur along the segment: one large turnout and one small turnout in the eastbound (uphill) direction of travel exist, and four small turnouts in the westbound (downhill) direction of travel. Paved shoulders of varying width exist along the entire segment and guardrail systems are installed at the back of shoulders where steep fill slopes occur. Approximately 10 horizontal curves occur within this segment and two bridges exist. The general elevation for this segment is 4,000 feet and the posted speed limit is 55 MPH. Warning signs are posted to recommend reduced speeds in advance of many curves. Additionally, a series of arrow signs exist to heighten awareness and guide drivers through longer curve lengths. Existing Call Boxes are located near PM 15.9 with one on each side of the roadway to assist motorists in case of emergencies or to obtain roadside assistance. **Figure 6-3** illustrates the segment of SR-18 from PM 15.0 to 16.8.

Note: The data used to identify geometric locations was obtained for the years 2012 through 2015. In the summer of 2016, Caltrans fully separated this section of roadway with a thrie-beam barrier. Caltrans

continues to incrementally improve uphill/downhill separation throughout the mountain area, by installing permanent positive barriers along centerline sections of roadway.

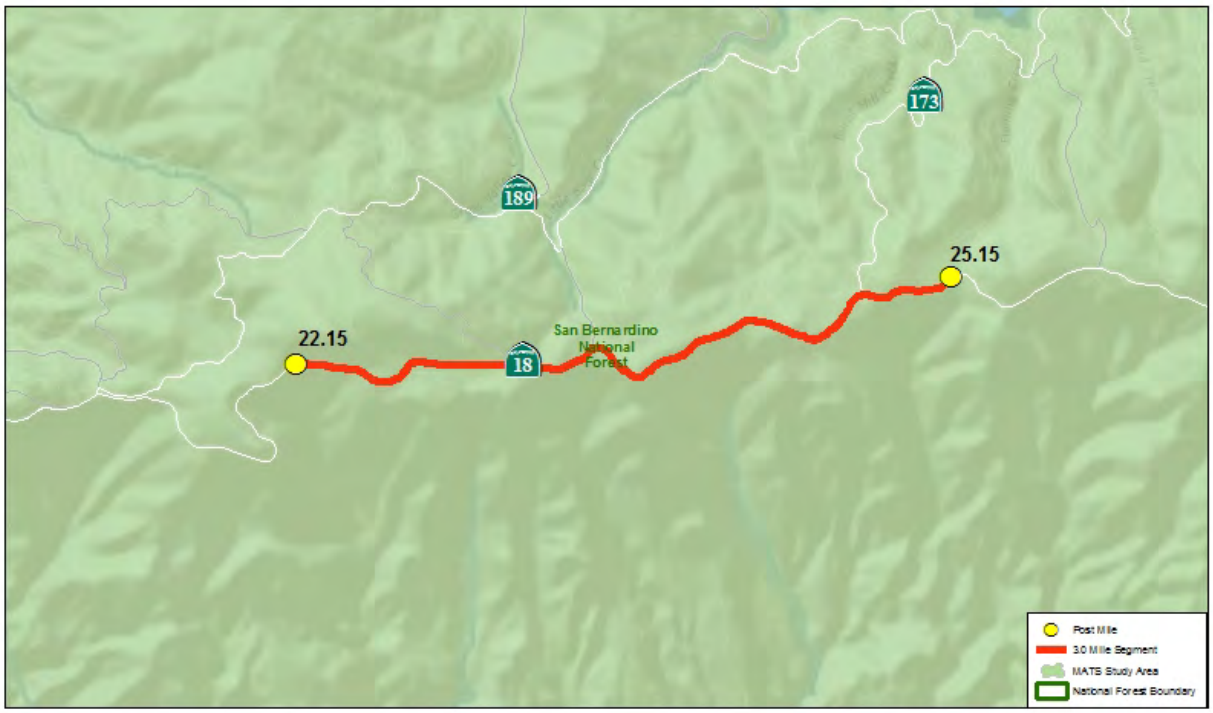
Figure 6-3: SR-18 – Post Mile 15.0 to 16.8



6.2.2 Location B: SR-18 – Post Mile 22.15 to 25.15

Location B was selected due to the congestion) in the 3-mile segment. The existing roadway section is a two-lane section (1-lane in each direction) with a centerline buffer separating the opposing directions of travel. The centerline delineation includes the use of double yellow pavement markings (no passing), recessed reflectors, and a ground in rumble strip. This segment is generally a linear segment with minor curves meandering through the communities of Rimforest and Crest Park. The roadway section has limited shoulder widths. There is an increased concentration of access points primarily due to the number of residential and business properties with local street connections and driveways. Within Rimforest, the use of left turn pockets has been leveraged over a very short length of approximately 500 linear feet to serve cross traffic turns into Pine Avenue and at the intersection of Bear Springs Road and Blackfoot Trail. One major intersection occurs within the east portion of this segment at SR-173 which is destined to Lake Arrowhead, where an eastbound left turn pocket is provided. The general elevation for this segment is 5,600 feet. Posted speed limits range from 55 MPH outside community limits and decreases to 45 MPH within the business district within Rimforest. No turnout locations are identified along this segment of roadway. **Figure 6-4** illustrates the segment of SR-18 from PM 22.15 to 25.15.

Figure 6-4: SR-18 – Post Mile 22.15 to 25.15



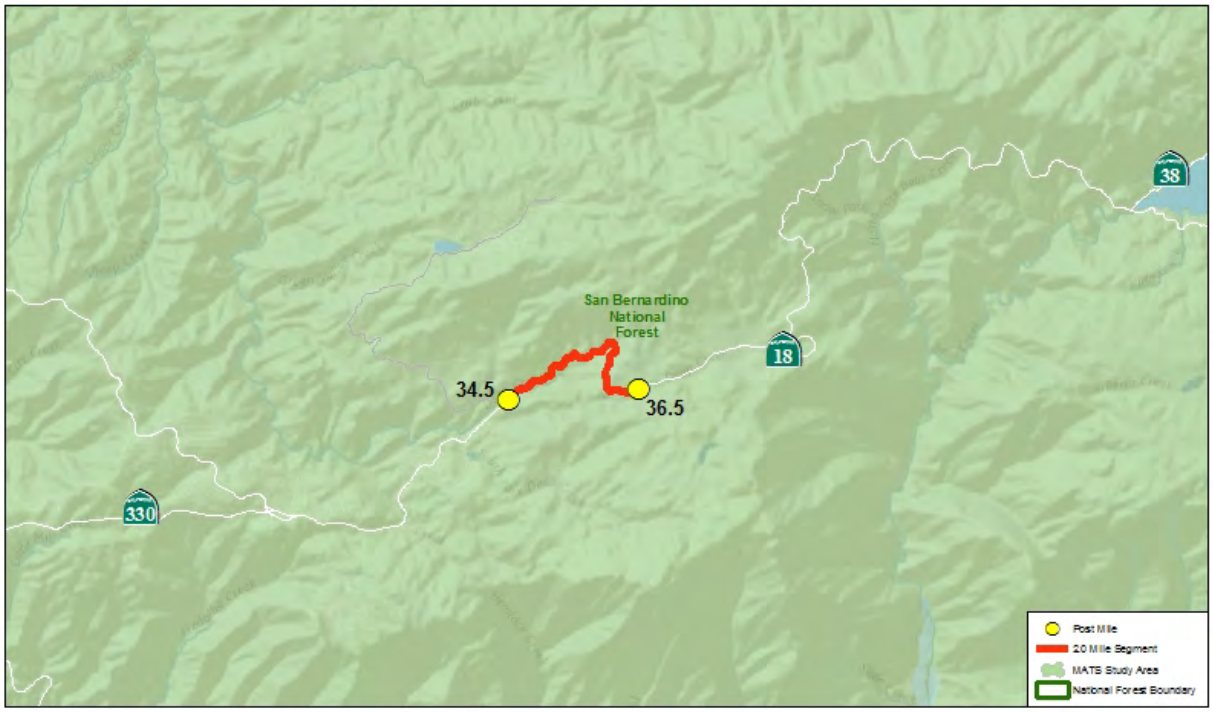
6.2.3 Location C: SR-18 – Post Mile 34.5 to 36.5

Location C was selected due to the congestion in the 2.0-mile segment. The existing roadway section is a two-lane section (1-lane in each direction) with a painted centerline that includes the use of double yellow pavement markings (no passing) and recessed reflectors. This segment is generally a linear segment with a large reverse curve section known as "13-curves" between Green Valley Lake Road and Green Valley Trail. The "13-curves" segment is located between Arrowbear and Snow Valley. Near the Snow Valley snow play park on the east end of this location, the roadway widens to a 4-lane section (2-lanes in each direction). The roadway has limited shoulder widths, with one bridge at Deep Creek, and no local access roadways or driveways. No guardrail is used in this segment of roadway, as slopes are more gradual when compared to other segments of SR-18. The posted speed limit is 40 MPH with some recommended speed reductions for sharper corners. In some locations with sharp corners, additional guidance consisting of roadway signs with arrows exist. One chain requirement sign is located in the segment. The elevation of this segment of roadway is approximately 6,500 feet. Call Boxes exist at two of the three eastbound (uphill) turnout locations. One signed turnout exists in the westbound (downhill) direction of travel.

Some areas along this segment of SR-18 have frequently been used for public snow play areas. There is confusion in roadside signage, stemming from signs denoting "No Parking Any Time" quickly followed by "Forest Adventure Pass Required" with an overlay adding the following statement; "when snow is present". Unclear signage gives the understanding to drivers and snow play enthusiasts that parking may be acceptable for snow play, if a Forest Adventure Pass is displayed. Signage related to no parking

is inconsistent when compared to other areas of state routes within the mountain area. **Figure 6-5** illustrates the segment of SR-18 from PM 34.5 to 36.5.

Figure 6-5: SR-18 – Post Mile 34.5 to 36.5



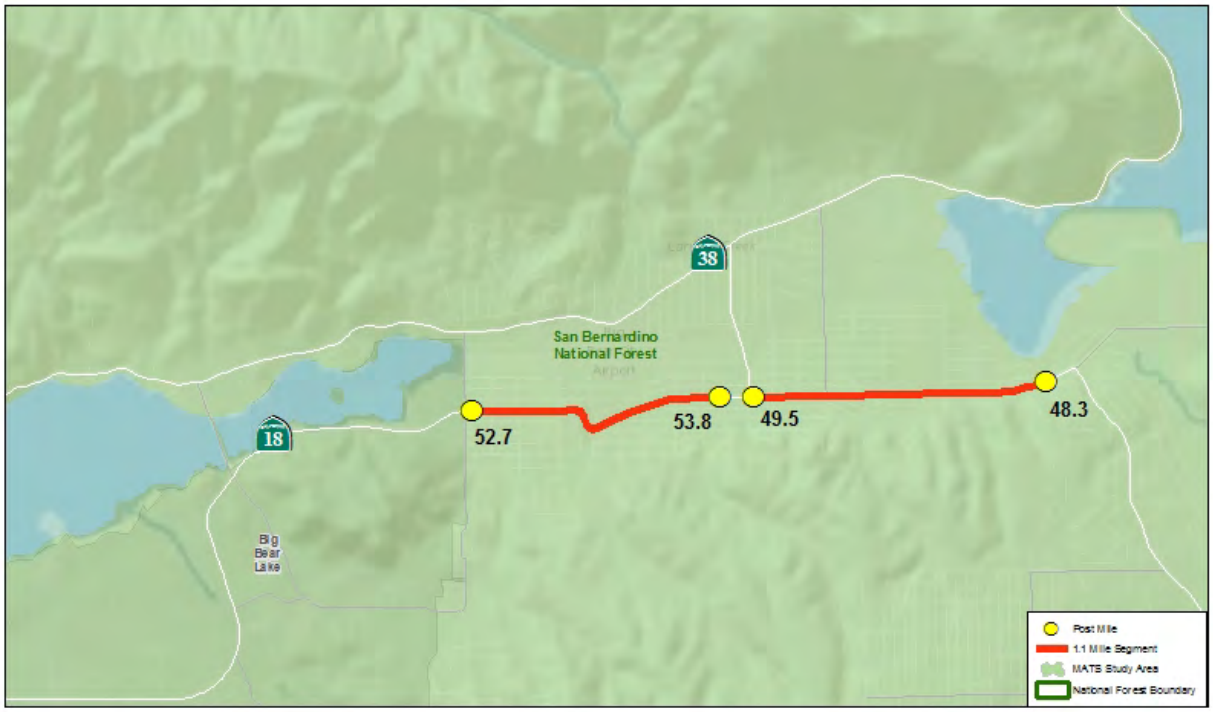
6.2.4 Location D: SR-18 – Post Mile 52.7 to 53.8 and SR-38 Post Mile 49.5 to 48.3

Location D was selected due to the congestion in the 1.1-mile segment. The existing roadway section is a four-lane section (2-lanes in each direction) with a striped median, providing a two-way left turn lane (TWLTL), and recessed reflectors in the median. This segment is in an urban district with two large sweeping curve sections through the downtown area of Big Bear Lake between Summit Road and Stanfield Cut-off. The roadway has curb, gutter, and sidewalk, with no dedicated bike lane. Right-turn lanes are provided at some intersections and driveways. A bus stop is provided east of Summit Road with turnouts to accommodate stopped buses beyond the outer travel lane while other transit stops in this segment are within the outer travel way. There is one bridge at Rathbone Creek, providing the same width as the existing roadway including dual sidewalks.

Throughout most of the section, only 24 feet of the existing 40-foot ROW is paved, with inadequate drainage control. Businesses within this segment typically use the entire property frontage for access and parking which results in vehicles queuing into travel lanes due to confusion. With no defined center-turn lane, vehicles slow to find open parking spaces and cause bottlenecks on SR-18. The lack of adequate drainage also has potential to cause localized flooding and continuous pavement damage. In addition, several residential streets intersect this segment of roadway at acute angles, causing traffic to slow excessively to make required turning movements.

This segment of SR-18 has significant local access points to multiple local streets, roadways, and driveways connecting businesses. There are three signalized intersections as well as the signalized intersections at each end for a total of five signalized intersections. There are approximately 25 eastbound and 25 westbound commercial driveways. These defined driveways are in addition to the local street connections with traffic signals and several stop sign controlled local street intersection. The posted speed limit is 40 MPH for the entire segment. **Figure 6-6** illustrates the segment of SR-18 from PM 52.7 to 53.8 and SR-38 from PM 49.5 to 48.3.

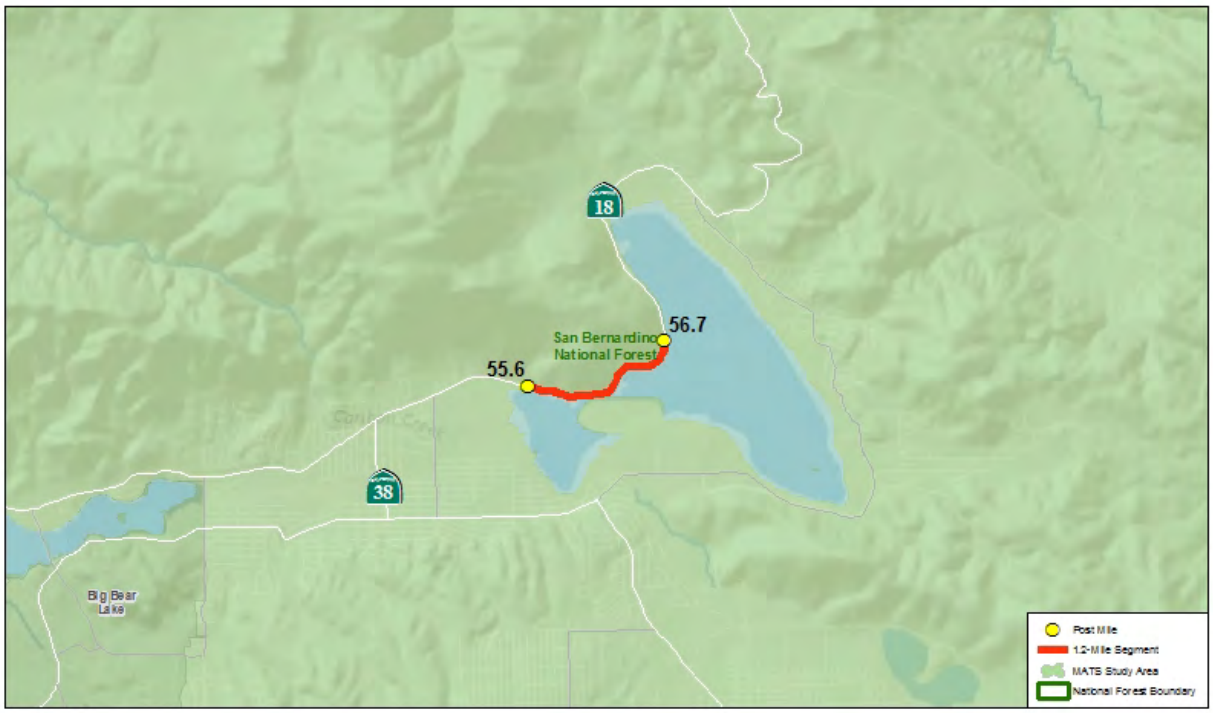
Figure 6-6: SR-18 – Post Mile 52.7 to 53.8 and SR-38 – Post Mile 49.5 to 48.3



6.2.5 Location E: SR-18 – Post Mile 55.5 to 56.7

Location E was selected due to the congestion in the 1.2-mile segment. The existing roadway section is a two-lane section (1-lane in each direction) with a painted centerline that includes double yellow pavement markings (no passing) and recessed reflectors. This segment is generally a linear segment with a large sweeping curve section with a recommended speed of 30 MPH as posted on the existing warning sign. The roadway section has no shoulders and does not serve any local access from the route, with the exception of Gold Mountain Road. Two long guardrail runs exist along the eastbound edge of travel way adjacent to Baldwin Lake. **Figure 6-7** illustrates the segment of SR-18 from PM 55.5 to 56.7.

Figure 6-7: SR-18 – Post Mile 55.5 to 56.7



7.0 TRAVEL DEMAND MODELING TOOL

The purpose of the travel model spreadsheet tool is to provide the ability to forecast areas of hot spot congestion with a known number of visitors. Visitors to the area make up a large portion of the needs assessment, as the full-time population and associated employment are relatively low. Peak winter and summer months experience a substantial increase in traffic congestion for extended periods of time as visitors and associated additional employees access the MATS communities. In addition, the traffic congestion caused by visitors has the potential to discourage would-be visitors, hindering the local economy.

The entire travel demand model documentation is included in **Appendix C**.

7.1 Traffic Forecast Methodology and Tool Development

The geographic study area for MATS is shown in **Figure 2-2**, and is located solely within San Bernardino County, and is comprised of many communities. The MATS area stretches from the Los Angeles County Line on the west to the Lucerne Valley on the east. The communities within the MATS area include: Mount Baldy, Lytle Creek, Wrightwood, Crestline, Blue Jay, Lake Arrowhead, Running Springs, Green Valley Lake, Arrowbear, Big Bear, and the City of Big Bear Lake.

The MATS area is traditionally a vacation area for all residents of Southern California (and beyond), yet the residents of the MATS area make up less than five percent (5%) of the population of San Bernardino County. **Figure 2-1** illustrates the population densities for San Bernardino County, as shown in the 2015 San Bernardino Countywide Transportation Plan. This difference in demand (visitors) and available service (residents) creates a unique challenge for providing adequate transportation services to meet the needs of both visitors and residents, not to mention that the visitor needs are seasonal and resident needs are year-round.

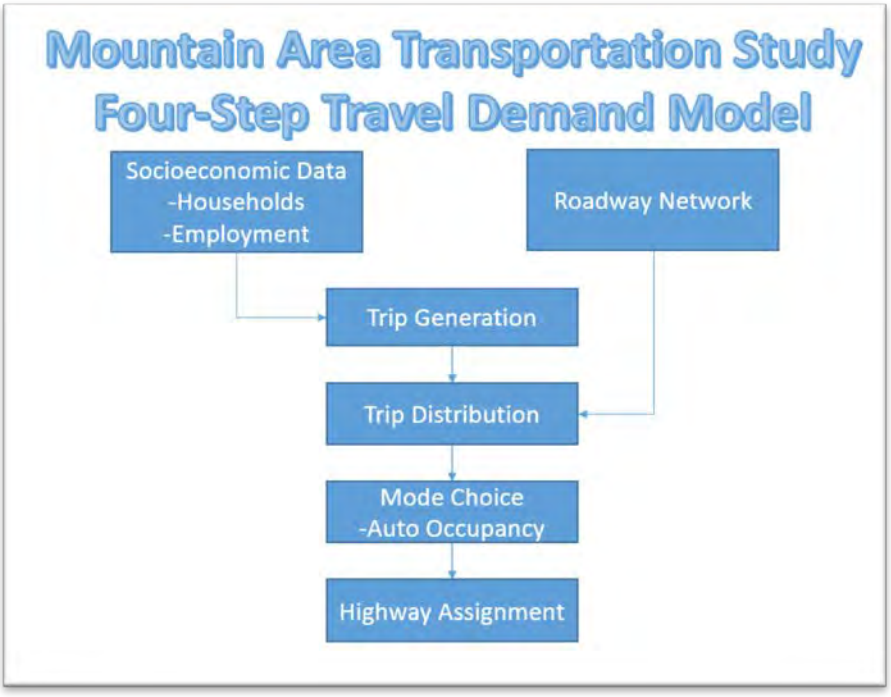
SBCTA maintains a regional model; however, it does not have the ability to accurately forecast peak season conditions, or weekend conditions. This report documents the development of MATS Travel Model Tool (MATS Model). The MATS Model is a focused model which takes a simplistic approach to a traditional four-step travel demand model, and includes only major facilities. The MATS Model is validated to a base year of 2015, and includes a forecast year of 2040. The MATS Model does not include a feedback loop, and takes approximately 5 minutes to complete a full model run. The MATS Model is fully developed within an excel spreadsheet with visual basic macros, and provides a user-friendly interface.

The following list, organized in the traditional four-step modeling process, highlights the various components and sub-components of the MATS Model. Various components are also identified as to their role, type and function (e.g. inputs, process and outputs, etc.).

- Trip Generation
  - Socioeconomic (SED) data (input)
  - Trip production models for Residents, Visitors, and External-Internal/Internal-External Trips
  - Regression trip attraction models based on household and employment data
  - Total person trips stratified into 3 trip purposes
    - Home-Based Work (HBW)
    - Home-Based Other (HBO)
    - Non-Home Based (NHB)
- Trip Distribution
  - Friction factors by trip purpose
  - Gravity model trip distribution by trip purpose
- Trip Assignment
  - External trips from external model (input)

A summary flow chart of the key components of the MATS Model process is presented in **Figure 7-1**.

Figure 7-1: MATS Model Structure Flow Chart



The MATS Model structure is prepared to present daily forecasts for peak and off-peak seasons. The days that are forecast are an average weekday, as well as a typical Friday, Saturday, and Sunday.

The Transportation Analysis Zones (TAZs) within the MATS Model were developed by aggregating San Bernardino Transportation Analysis Model (SBTAM) model TAZs into homogenous TAZs that represent the MATS area with as few TAZs as possible. The MATS Model TAZs were developed to accurately reflect existing and future development patterns, while at the same time reflect different land use levels and type of trip generation and distribution patterns.

Capacity assumptions for the roadway network were obtained from the City of Big Bear Lake General Plan, and are shown in **Table 7-1**. As a note, it is assumed that winter conditions result in a 10 percent reduction in daily capacity when compared to summer months.

Table 7-1: Daily Roadway Capacities

Roadway Type	Travel Lanes	Summer Capacity	Winter Capacity
2-lane Undivided	2U	13,000	11,700
2-lane Undivided (with passing lane)	2U-P	18,000	16,200
2-lane Divided	2D	18,000	16,200
3-lane Divided	3D	21,000	18,900
4-lane Undivided	4U	25,000	22,500
4-lane Divided	4D	37,500	33,800

Figure 7-2 identifies the MATS Model TAZ boundaries. In the MATS Model, there are 8 external stations and 15 internal TAZs.

Figure 7-3 identifies the MATS area highway network.

Figure 7-2: Transportation Analysis Zones

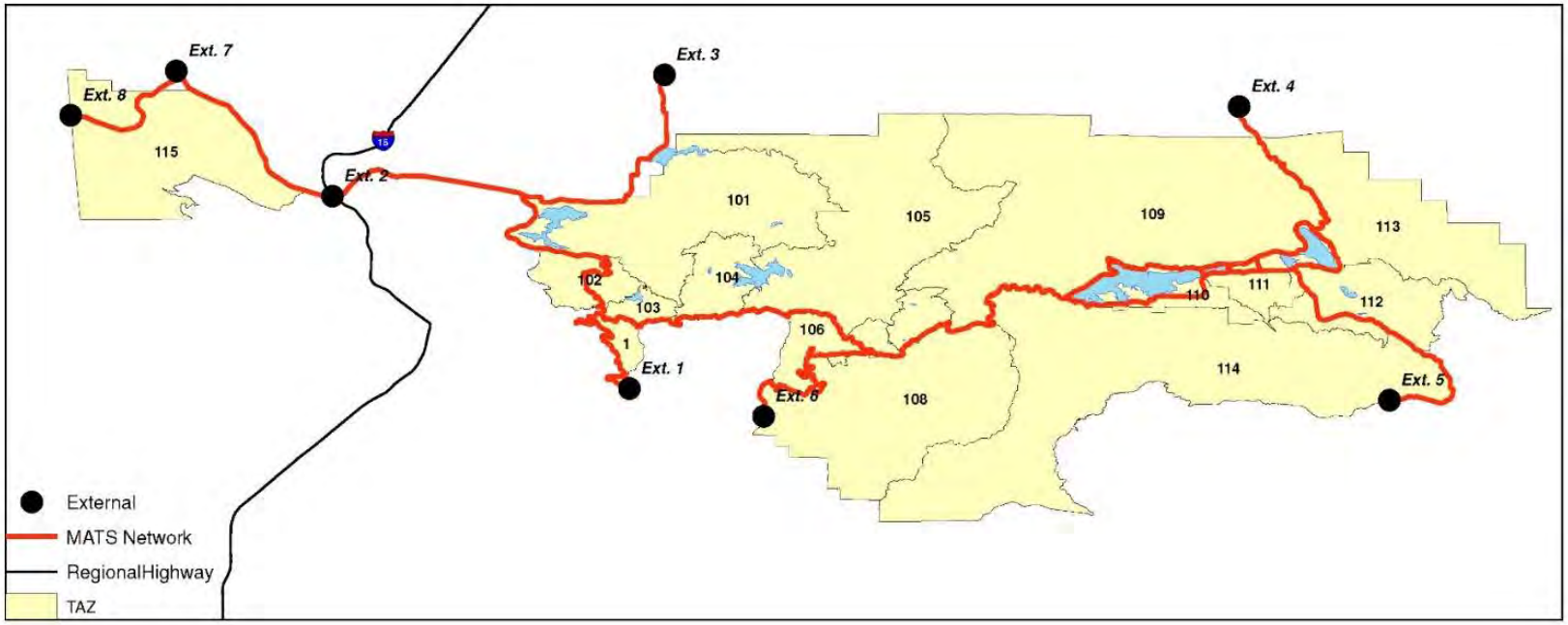
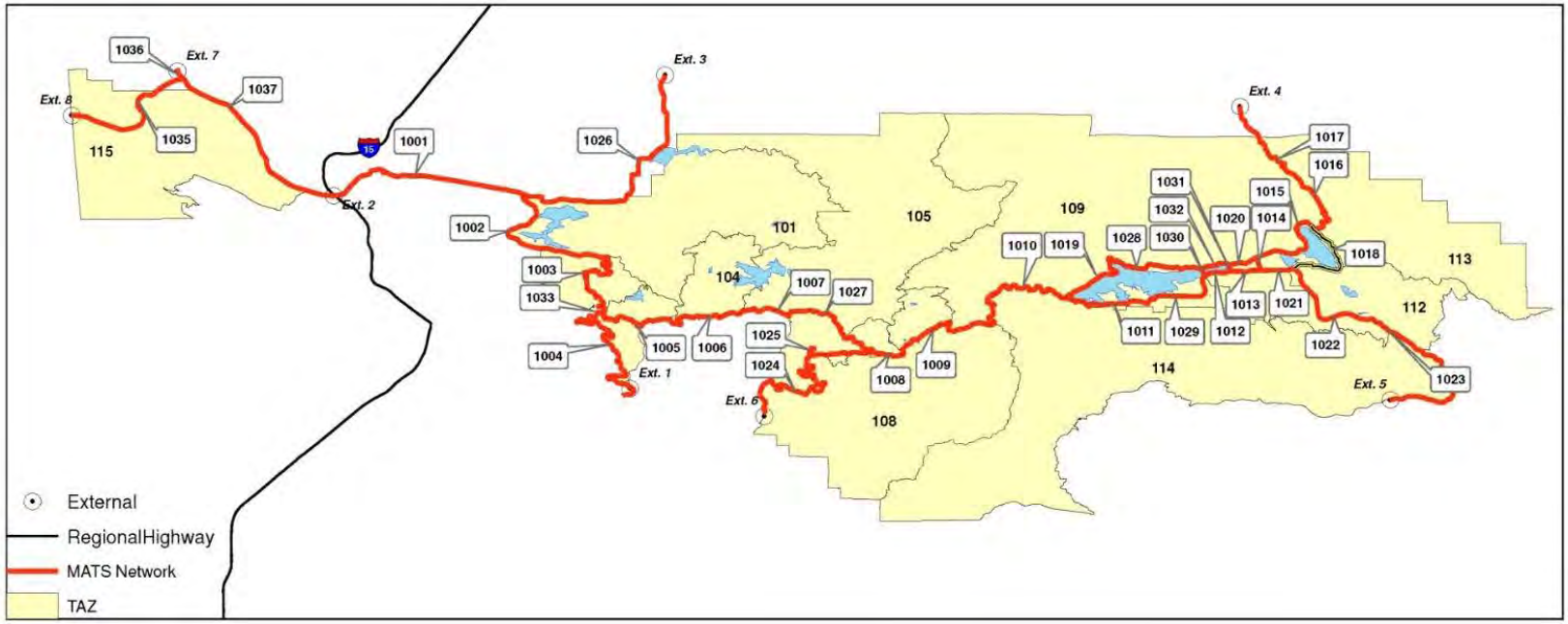


Figure 7-3: MATS Area Highway Network



7.2 Roadway System Performance

The main purpose of the MATS Model is to forecast average daily weekend traffic. The MATS model process primarily follows an average daily weekday model, but has a post-processing component that factors average daily weekday traffic to average weekend (Friday, Saturday, and Sunday) daily traffic. This is completed by using count data that was collected during peak periods, and using a ratio of the peak period traffic to average weekday traffic.

The outputs from the assignment process includes:

- Average Weekday Daily Volume (eastbound or northbound)
- Average Weekday Daily Volume (westbound or southbound)
- Average Weekday Daily Volume (total of both directions)
- Average Weekday Daily Volume/Capacity Ratio (calculated based on total volume)
- Average Friday Daily Volume (eastbound or northbound)
- Average Friday Daily Volume (westbound or southbound)
- Average Friday Daily Volume (total of both directions)
- Average Friday Daily Volume/Capacity Ratio (calculated based on total volume)
- Average Saturday Daily Volume (eastbound or northbound)
- Average Saturday Daily Volume (westbound or southbound)
- Average Saturday Daily Volume (total of both directions)
- Average Saturday Daily Volume/Capacity Ratio (calculated based on total volume)
- Average Sunday Daily Volume (eastbound or northbound)
- Average Sunday Daily Volume (westbound or southbound)
- Average Sunday Daily Volume (total of both directions)
- Average Sunday Daily Volume/Capacity Ratio (calculated based on total volume)

The output model Volume/Capacity ratios are used to define LOS for the arterial network. **Table 7-2** identifies the assumed LOS correlating with roadway segment V/C ratio.

Table 7-2: Volume/Capacity Ratio and Corresponding LOS

V/C Ratio	LOS
>1.0	F
0.91-1.0	E
0.81-0.90	D
0.71-0.80	C
0.61-0.70	B
0-0.60	A

The worst case scenario for traffic within the MATS area is on a peak season winter time period, on an average weekend (Friday, Saturday, and Sunday). For the purposes of this report, the average weekday

for off-peak will be used to identify roadway segments with anticipated changes in condition, thus identifying future mobility issues.

Sections 7.2.1 and *7.2.2* summarize the travel model tool results for off-peak summer season average weekday volume to capacity ratios within the MATS area. *Section 7.2.3* identifies future locations with traffic congestion beyond the existing conditions.

7.2.1 Existing (2015) Roadway System Performance

Table 7-3 summarizes the existing conditions for the average weekday system within the MATS area. In the average off-peak day in 2015, it is assumed that there are 10,000 visitors to the MATS area. These conditions are for summer conditions. As shown in **Table 7-3**, the locations with the highest V/C Ratio are at the following locations:

- SR-18 between SR-330 and Confer Camp Road
- SR-18 Between Stanfield Cut-off and Division Drive
- SR-18 Between Division Drive and Greenway Drive / SR-38
- SR-38 Between Greenway Drive and Shay Road
- SR-138 Between I-15 and SR-2
- SR-138 Between SR-2 and North of SR-2

Table 7-3: Existing Average Weekday Off-Peak Summer Traffic

Link ID	Location	Capacity	Volume	V/C Ratio
1001	SR-138 Between I-15 and SR-173	13,000	4,362	0.34
1002	SR-138 Between SR-173 and Cleghorn Road	13,000	5,396	0.42
1003	SR-138 Between Cleghorn Road and Knapps Cut-off/Lake Drive	13,000	7,200	0.55
1033	SR-138 Between Knapps Cut-off/Lake Drive and SR-18	13,000	9,168	0.71
1004	SR-18 Between Old Waterman Canyon Road and SR-138	25,000	16,162	0.65
1005	SR-18 Between SR-138 and Lake Gregory Drive / SR-189	13,000	8,094	0.62
1006	SR-18 Between Lake Gregory Drive / SR-189 and SR-173	13,000	11,736	0.90
1007	SR-18 Between SR-173 and Live Oak Drive (Running Springs)	13,000	11,702	0.90
1027	SR-18 Between Live Oak Drive (Running Springs) and SR-330	13,000	11,822	0.91
1008	SR-18 Between SR-330 and Conifer Camp Road	13,000	13,688	1.05
1009	SR-18 Between Conifer Camp Road and Snow Valley Driveway	13,000	6,772	0.52
1010	SR-18 Between Snow Valley Driveway and SR-38	18,000	2,982	0.17
1011	SR-18 Between SR-38 and Village Drive	19,000	2,646	0.40
1029	SR-18 Between Village Drive and Stanfield Cut-off	37,500	34,980	0.93
1030	Stanfield Cut-off Between SR-18 and SR-38	13,000	2,640	0.20
1012	SR-18 Between Stanfield Cut-off and Division Drive	13,000	32,342	2.49
1031	Division Drive Between Big Bear Boulevard / SR-18 and North Shore Drive / SR-38	13,000	1,212	0.09
1013	SR-18 Between Division Drive and Greenway Drive / SR-38	13,000	23,236	1.79
1014	SR-18/Greenway Drive Between Big Bear Boulevard / SR-38 and North Shore Drive / SR-38	13,000	3,548	0.27
1015	SR-18/North Shore Drive Between Greenway Drive and Baldwin Lake Road	13,000	3,396	0.26
1016	SR-18/North Shore Drive Between Baldwin Lake Road and Marble Canyon Road	13,000	2,680	0.21
1017	SR-18/North Shore Drive Between Marble Canyon Road and SR-247	13,000	2,680	0.21
1018	Baldwin Lake Road Between SR-38 and SR-18	12,000	2,376	0.20
1019	SR-38 Between SR-18 and Fawnskin	13,000	336	0.03

Link ID	Location	Capacity	Volume	V/C Ratio
1028	SR-38 Between Fawnskin and Stanfield Cut-off	13,000	4,878	0.38
1032	SR-38 Between Stanfield Cut-off and Division Drive	13,000	2,240	0.17
1020	SR-38 Between Division Drive and Greenway Drive	13,000	1,030	0.08
1021	SR-38 Between Greenway Drive and Shay Road	13,000	21,258	1.64
1022	SR-38 Between Shay Road and Balky Horse Canyon Road	13,000	4,918	0.38
1023	SR-38 Between Balky Horse Canyon Road and Santa Ana River	13,000	4,918	0.38
1024	SR-330 Between SR-210 and East Fork City Creek	13,000	10,072	0.77
1025	SR-330 Between East Fork City Creek and SR-18	13,000	10,072	0.77
1026	SR-173 Between SR-138 and Arrowhead Lake Road	13,000	1,124	0.09
1035	SR-2 Between SR-138 and West of Wrightwood	13,000	8,474	0.65
1036	SR-138 Between I-15 and SR-2	13,000	18,022	1.39
1037	SR-138 Between SR-2 and North of SR-2	13,000	14,454	1.11

7.2.2 Future (2040) Roadway System Performance

Table 7-4 summarizes the future conditions for the average weekday system within the MATS area. In the average off-peak day in 2040, it is assumed that there will be 14,000 visitors to the MATS area. These conditions are for summer conditions. As shown in **Table 7-4**, the locations with the highest V/C Ratio are at the following locations:

- SR-138 Between Knapps Cut-off/Lake Drive and SR-18
- SR-18 Between Old Waterman Canyon Road and SR-138
- SR-18 Between SR-138 and Lake Gregory Drive / SR-189
- SR-18 Between Lake Gregory Drive / SR-189 and SR-173
- SR-18 Between SR-173 and Live Oak Drive (Running Springs)
- SR-18 Between Live Oak Drive (Running Springs) and SR-330
- SR-18 Between SR-330 and Conifer Camp Road
- SR-18 Between Village Drive and Stanfield Cut-off
- SR-18 Between Stanfield Cut-off and Division Drive
- SR-18 Between Division Drive and Greenway Drive / SR-38
- SR-38 Between Greenway Drive and Shay Road
- SR-330 Between SR-210 and East Fork City Creek
- SR-330 Between East Fork City Creek and SR-18
- SR-138 Between I-15 and SR-2
- SR-138 Between SR-2 and North of SR-2

Table 7-4: Future Average Weekday Off-Peak Summer Traffic

Link ID	Location	Capacity	Volume	V/C Ratio
1001	SR-138 Between I-15 and SR-173	13,000	6,222	0.48
1002	SR-138 Between SR-173 and Cleghorn Road	13,000	7,682	0.59
1003	SR-138 Between Cleghorn Road and Knapps Cut-off/Lake Drive	13,000	9,468	0.73
1033	SR-138 Between Knapps Cut-off/Lake Drive and SR-18	13,000	18,632	1.43
1004	SR-18 Between Old Waterman Canyon Road and SR-138	25,000	34,170	1.37
1005	SR-18 Between SR-138 and Lake Gregory Drive / SR-189	13,000	17,134	1.32
1006	SR-18 Between Lake Gregory Drive / SR-189 and SR-173	13,000	14,236	1.10

Link ID	Location	Capacity	Volume	V/C Ratio
1007	SR-18 Between SR-173 and Live Oak Drive (Running Springs)	13,000	13,298	1.02
1027	SR-18 Between Live Oak Drive (Running Springs) and SR-330	13,000	13,348	1.03
1008	SR-18 Between SR-330 and Conifer Camp Road	13,000	16,166	1.24
1009	SR-18 Between Conifer Camp Road and Snow Valley Driveway	13,000	8,988	0.69
1010	SR-18 Between Snow Valley Driveway and SR-38	18,000	3,934	0.22
1011	SR-18 Between SR-38 and Village Drive	19,000	3,522	0.40
1029	SR-18 Between Village Drive and Stanfield Cut-off	19,000	42,684	2.25
1030	Stanfield Cut-off Between SR-18 and SR-38	19,000	2,938	0.15
1012	SR-18 Between Stanfield Cut-off and Division Drive	13,000	39,746	3.06
1031	Division Drive Between Big Bear Boulevard / SR-18 and North Shore Drive / SR-38	13,000	1,180	0.09
1013	SR-18 Between Division Drive and Greenway Drive / SR-38	13,000	30,106	2.32
1014	SR-18/Greenway Drive Between Big Bear Boulevard / SR-38 and North Shore Drive / SR-38	13,000	5,620	0.43
1015	SR-18/North Shore Drive Between Greenway Drive and Baldwin Lake Road	13,000	5,550	0.43
1016	SR-18/North Shore Drive Between Baldwin Lake Road and Marble Canyon Road	13,000	4,768	0.37
1017	SR-18/North Shore Drive Between Marble Canyon Road and SR-247	13,000	4,768	0.37
1018	Baldwin Lake Road Between SR-38 and SR-18	12,000	4,898	0.41
1019	SR-38 Between SR-18 and Fawnskin	13,000	414	0.03
1028	SR-38 Between Fawnskin and Stanfield Cut-off	13,000	5,492	0.42
1032	SR-38 Between Stanfield Cut-off and Division Drive	13,000	2,556	0.20
1020	SR-38 Between Division Drive and Greenway Drive	13,000	1,376	0.11
1021	SR-38 Between Greenway Drive and Shay Road	13,000	26,438	2.03
1022	SR-38 Between Shay Road and Balky Horse Canyon Road	13,000	8,186	0.63
1023	SR-38 Between Balky Horse Canyon Road and Santa Ana River	13,000	8,186	0.63
1024	SR-330 Between SR-210 and East Fork City Creek	13,000	15,158	1.17
1025	SR-330 Between East Fork City Creek and SR-18	13,000	15,158	1.17
1026	SR-173 Between SR-138 and Arrowhead Lake Road	13,000	1,624	0.12
1035	SR-2 Between SR-138 and West of Wrightwood	13,000	12,062	0.93
1036	SR-138 Between I-15 and SR-2	13,000	27,902	2.15
1037	SR-138 Between SR-2 and North of SR-2	13,000	23,132	1.78

7.2.3 Identification of Additional Locations with Mobility Issues

Table 7-5 summarizes in the existing and future conditions that are forecast to have a V/C ratio greater than 1.0 (meaning that there is more volume than available capacity). This table assists in identifying future locations with mobility issues. As shown in **Table 7-5**, there are fifteen (15) locations identified with less than adequate V/C ratios in the future scenario. Of these 15 locations, six (6) are operating at a V/C ratio greater than 1.0 in the existing conditions, and another four (4) of these locations are approaching a V/C ratio of 1.0 in the existing conditions. The remaining five (5) locations that operate at adequate V/C ratios in existing but not in the future are:

- SR-138 Between Knapps Cut-off/Lake Drive and SR-18
- SR-18 Between Old Waterman Canyon Road and SR-138
- SR-18 Between SR-138 and Lake Gregory Drive / SR-189
- SR-330 Between SR-210 and East Fork City Creek
- SR-330 Between East Fork City Creek and SR-18

These five roadway segments are forecast to operate at less than ideal conditions in the future, and may require capacity or geometric modifications. **Figure 7-4** and **Figure 7-5** illustrate the over-capacity roadway segments for 2015 and 2040.

Table 7-5: Comparison of Existing and Future Average Weekday Off-Peak Summer Traffic

Link ID	Location	2015 V/C Ratio	2040 V/C Ratio
1033	SR-138 Between Knapps Cut-off/Lake Drive and SR-18	0.71	1.43
1004	SR-18 Between Old Waterman Canyon Road and SR-138	0.65	1.37
1005	SR-18 Between SR-138 and Lake Gregory Drive / SR-189	0.62	1.32
1006	SR-18 Between Lake Gregory Drive / SR-189 and SR-173	0.90	1.10
1007	SR-18 Between SR-173 and Live Oak Drive (Running Springs)	0.90	1.02
1027	SR-18 Between Live Oak Drive (Running Springs) and SR-330	0.91	1.03
1008	SR-18 Between SR-330 and Conifer Camp Road	1.05	1.24
1029	SR-18 Between Village Drive and Stanfield Cut-off	0.93	2.25
1012	SR-18 Between Stanfield Cut-off and Division Drive	2.49	3.06
1013	SR-18 Between Division Drive and Greenway Drive / SR-38	1.79	2.32
1021	SR-38 Between Greenway Drive and Shay Road	1.64	2.03
1024	SR-330 Between SR-210 and East Fork City Creek	0.77	1.17
1025	SR-330 Between East Fork City Creek and SR-18	0.77	1.17
1036	SR-138 Between I-15 and SR-2	1.39	2.15
1037	SR-138 Between SR-2 and North of SR-2	1.11	1.78

Figure 7-4: Existing Over-Capacity Roadway Segments

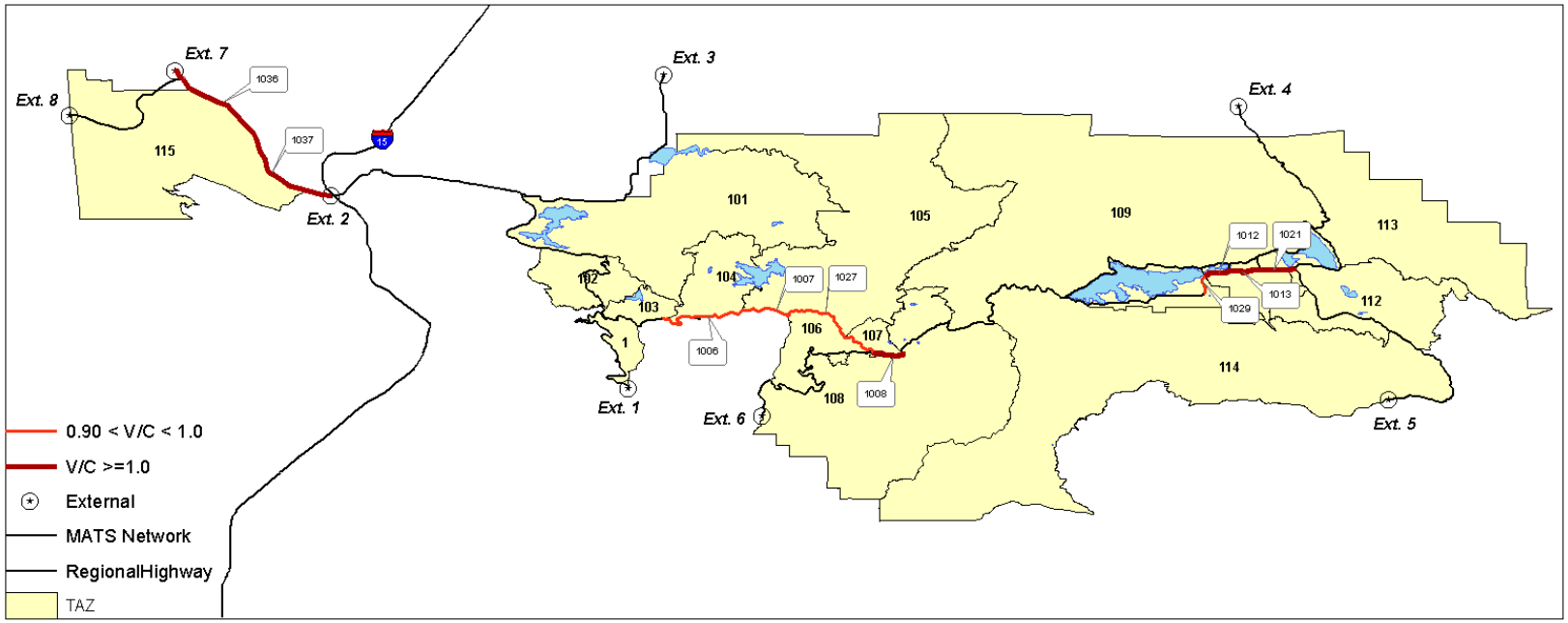
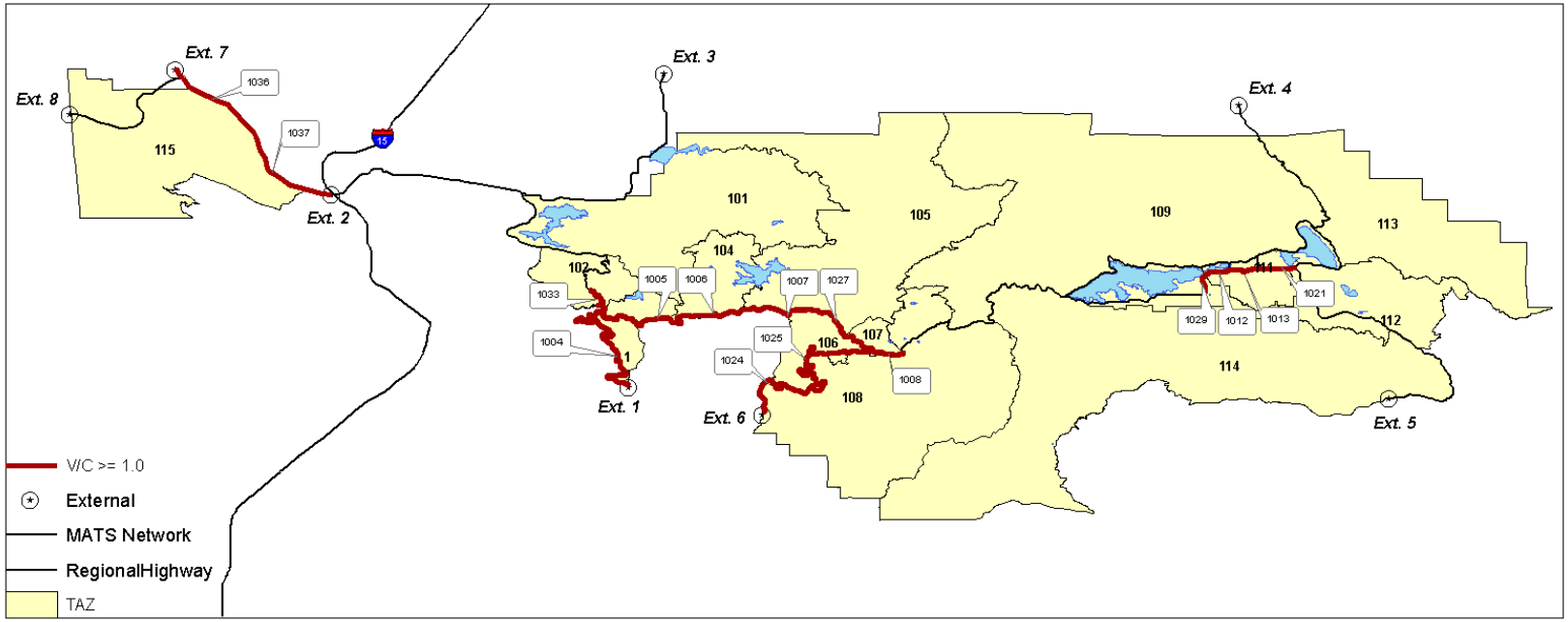


Figure 7-5: Future Year Over-Capacity Roadway Segments



8.0 RECOMMENDATIONS

The identification of mobility issues was completed using stakeholder input, a geometric location analysis using available crash data, and through a review of travel model tool forecast results. Mobility issues identified included operational, geometric, and informational issues.

8.1 Location Issues Recommendations

Following the stakeholder meetings, location issues were reviewed and solutions were identified by the project team. **Table 8-1** summarizes the locations, identified issues, and preferred solution. In several locations, no feasible solution is recommended, due to various reasons, as described in **Table 8-1**.

Table 8-1: Location Issues and Solutions

Location ID	Location	Issue(s)	Solution
Wrightwood/Mount Baldy/Lytle Creek			
1	SR-2 (Big Pines Highway) at Willow Road	• The stop sign at Willow Road presents a huge bottleneck in town during peak seasons • The businesses in town hire an officer for traffic control during peak seasons	• No solution recommended as the stop sign was put in place due to local complaints of high speeds.
2	SR-2 (Big Pines Highway) at Wrightwood	• No chain-up areas on SR-2 and there are no lights. In the winter, there are many times when chains are not required, but probably should be • CHP does not enforce chains on SR-2	• Develop chain-up area[1] on SR-2
3	Glendora Ridge Road at Mount Baldy Rd.	• Typically closed in winter months	• No solution recommended • There is no significant demand to open Glendora Ridge Road during winter months • Additionally, the cost for maintaining and enforcing law on Glendora Ridge Road during winter months would be exceedingly high
4	Lone Pine Canyon Road at Between SR-138 and SR-2 in Wrightwood	• County Road that CHP controls • Chain control is not enforced, even though Lone Pine Canyon acts as a cut-through to the Wrightwood	• Provide a chain-up area[1] and enhance CHP enforcement of chain control on Lone Pine Canyon Road
5	Lytle Creek Road at North of I-15	• Popular road for cyclists, but there is no shoulder or bike lane	• Install "Share the Road" signage[2]

Location ID	Location	Issue(s)	Solution
6	Swarthout Canyon Road at South of Lone Pine Canyon Road	• Used as a cut-through when I-15 is congested • There are some unpassable areas on this facility for certain autos, including some stream crossings	• No solution recommended • The existing signage on Swarthout Canyon Road was installed to discourage use as a through route
Crestline/Lake Arrowhead			
7	SR-138 at Seeley Way	• Sight distance issues • Seeley used as a cut-through route	• No long-term solution recommended • Positive improvement with maintenance and reduced vegetation on the curve of SR-138 to greatly improve sight distance
8	SR-138 at Crest Forest Drive/Lake Drive "Top Town"	• Confusing, off-set 5-legged intersection, with grade issues • Inadequate sight distance for turning	• No solution recommended • Realigning the intersection would require extensive ROW impacting Top Town businesses and would be cost prohibitive
9	SR-173 at SR-18	• Poor traffic control, and confusing intersection • There is potential for more of an issue with additional planned development	• Revise intersection configuration • Use adjacent paved area to increase curve radius and improve turn pocket • Increase local street separation from SR-18
10	SR-18 at SR-138	• SR-18 drops from 4 lanes to 2 lanes, resulting in vehicles speeding up to pass	• No solution recommended • SR-18 south of this junction has recently been improved to have physical barriers separating the two directions of travel
11	SR-18 at Daley Canyon Road	• Strange and confusing existing geometric • There is no room for a right turn • The land is owned by the US Forest Service • Grade on Daley Canyon Road approaching SR-189	• Improve route guidance signage in advance of intersection
12	SR-18 at SR-330	• Southbound Arrowhead traffic to SR-330 west is a year-long issue with major back-up of traffic during peak periods	• Include an acceleration lane and left turn pocket west of Hilltop
13	SR-18 at Running Springs to Big Bear Lake	• Cars pull over for snow play, picnics, etc. • There is no regard to the many signs that indicate no parking along the narrow stretches of the road	• Update and make turnout signage[3] consistent • Separate turnout areas[3] for slow moving vehicles from sightseer parking areas
14	SR-18 at Running Springs School Road	• Northbound west turn is difficult during peak and off-peak periods	• Widen intersection to provide westbound left-turn lane and westbound acceleration lane to receive left turns on SR-18

Location ID	Location	Issue(s)	Solution
15	SR-18 at Snow Valley and SR-18 at Snow Valley Snow Play Area (approximately 1 mile west of Snow Valley parking lot entrance)	At Snow Valley: • Traffic control at the intersection of SR-18 and the main parking lot stops westbound SR-18 traffic on peak weekends to allow for a left turn onto SR-18 from the parking lot. At Snow Play Area: • Coordination with Snow Valley resort needed for parking for snow play • Limited parking stalls open to the public at snow play location • People entering and leaving the snow play area block eastbound traffic	At Snow Valley[4]: • Re-stripe Snow Valley parking lot intersection with SR-18 to provide one westbound through lane plus an acceleration lane for left-turning traffic going west on SR-18 At Snow Play Area[5]: • Install adequate signage to direct visitors to parking locations
16	SR-18 at Entire State Route	• Truck issue due to curves and topography	• Study the existing right-of-way to determine areas where paving can be extended and where turnouts may be implemented
17	SR-189 at Daley Canyon Road	• Inadequate sight distances for eastbound right turn from SR-189 to Daley Canyon Road • Northbound Daley Canyon has a stop on a downhill profile that is difficult to make in winter conditions	• Stripe edge of travelled way going around curve on southwest corner • Consider better signage, including a flashing signal approaching the intersection for northbound Daley Canyon Road • No solution for sight distance, as it appears to be not a significant issue since it's a three-way stop T-intersection
18	SR-189 at Blue Jay Cut-off	• Left turn from northbound SR-189 onto Blue Jay cut-off is skewed • It is unclear that access to Twin Peaks (Golf Course, Conference Centers, etc.) needs to be made from the intersection of Daley Canyon Road with SR-189	• Revise profile of Blue Jay Cut-off for approximately 200 feet and improve the grade and connection with SR-189
19	SR-330 at City Creek US Forest Service Station	• No left turn pocket for vehicles turning into US Forest Service Station parking lot	• Restripe existing roadway to include left-turn pocket on SR-330 • Potential need for minor widening within existing ROW north of the parking lot
20	SR-330 at Live Oak	• People tend to use Live Oak as a cut-through to avoid chain control	• Install “Local Traffic Only” sign[6] on Live Oak • Install “Steep Grade” sign[7] on steep slope section of Live Oak to deter cut-through traffic

Location ID	Location	Issue(s)	Solution
21	SR-18 at Hilltop Boulevard	• Southbound SR-18 (Lake Arrowhead) traffic turning left onto SR-330 is a year-long issue with major queuing of traffic during peak periods • Poor local Running Springs traffic circulation along SR-18 between SR-330 and Soutar Drive	• Study installation of westbound SR-330 receiving lane for traffic turning left from SR-18 • Install left turn pockets on SR-18 at Soutar Drive and Hunsaker Way
22	Crest Forest Drive at Valley View Drive	• Poor visibility and skewed approach at intersection	• No solution recommended • All identified solutions are estimated to be infeasible and exceedingly costly • Sight distance seems passable for first car behind stop line on Valley View Drive
23	Lake Arrowhead Village Area	• Weekend traffic issues in peak months related to visitors • Inadequate parking areas where visitors can park and ride public transportation	• Develop a smart parking system with signage and an app to communicate parking occupancy • Preclude cars from entering full parking lots
24	Lake Drive at Fern Drive	• Sight distance issues, partially due to steep grade on Fern Drive • Queuing at stop sign in winter months • Cannot include stop sign on north leg due to grade constraints	• No solution recommended • Due to geographies, there is no feasible way to add stop signs to the southbound approach on Lake drive or on the northbound approach on Fern Drive
25	Lake Drive at Wild Rose Lane	• There is a monthly meeting at this location which creates traffic congestion	• Recommend the Community of Crestline and San Bernardino County continue to study traffic circulation for large events at this location • Potential for stop signs to be located on Lake Drive at Wild Rose Lane • Potential for two-lane exit driveway from USPS parking lot • Recommendation to remove pilaster with no parking sign from middle of USPS entry driveway
26	SR-330 at Highland Ave	• Potential for Park and Ride facility	• Implement a Park and Ride Facility[8]
Big Bear/Angeles Oaks			
27	SR-18 at SR-38	• Need to encourage traffic to take SR-38 off of the mountain instead of SR-330	• Install a "real time traffic management" sign[9] at this location, approximately 100 yards east of Big Bear Dam

Location ID	Location	Issue(s)	Solution
28	SR-18 (Big Bear Boulevard) at Castle Rock Trail Head	• Heavily used trail with limited street parking on Big Bear Boulevard and no parking on adjoining streets	• Raise SR-18 through the bend and gain area to include parking spots for trailhead; retaining wall. Provide pedestrian path to Boulder Bay Park.[10]
29	SR-18 (Big Bear Boulevard) at Mill Creek Road	• This is a skewed intersection on a fairly steep incline at a nearly blind corner • There is no westbound left turn lane onto Mill Creek Road from SR-18 • Problem in winter and summer peak months • Ice and snow make the left turn from SR-18 onto Mill Creek Road difficult	• Widen Big Bear Boulevard to provide westbound left turn lane between Wild Rose Lane and Mill Creek Road *(Related to location issue #30)*
30	SR-18 (Big Bear Boulevard) at Wild Rose Lane	• Major congestion in winter months caused by cars entering and exiting snow play area • Westbound left turn pocket is too short for queued vehicles	• Widen Big Bear Boulevard to provide westbound left turn lane between Wild Rose Lane and Mill Creek Road *(Related to location issue #29)*
31	SR-18 (Big Bear Boulevard) at Lakeview Drive/Paine Court	• Lakeview Drive is a secondary arterial serving most of the residential homes and businesses on the west side of the City of Big Bear Lake. The left turn at SR-18 is often difficult • A boat launching ramp is located off of Paine Court which complicates turning movements at the intersection for boat trailers • This is a problem in both winter and summer peak months • Lakeview Drive and Paine Court meet at an acute angle at SR-18 which causes confusion as to right of way movement	• Convert the intersection into a roundabout

Location ID	Location	Issue(s)	Solution
32	SR-18 (Big Bear Boulevard) at Village Drive	• The westbound right turn is a sharp right angle, resulting in vehicles slowing down or stopping to make the right hand turn • Narrow and/or tight turning radius for vehicles traveling eastbound on SR-18 to make a smooth transition going northbound	• Reconfigure intersection, including moving eastbound through stop bar further east • Obtain ROW from NW corner lot to modify intersection
33	SR-18 (Big Bear Boulevard) at Pine Knot Avenue	• Through movement on Big Bear Boulevard difficult during winter and summer months	• Extend WB merge further west to Simonds Road • Study workable alternatives • Rework/Modify parking lot to allow easier entrance and exit
34	SR-18 (Big Bear Boulevard) at Knickerbocker Creek	• There is a public walkway called Knickerbocker Trail running north and south from Village Drive to SR-18 approximately 100 feet east of Pine Knot Drive • Pedestrian traffic on this facility use the signalized intersection at Pine Knot and SR-18 to travel between the retail shopping area and the lake, which often causes delay and congestion during the summer months	• Implement undercrossing for bicycles and pedestrians
35	SR-18 (Big Bear Boulevard) at Moonridge Road	• Traffic congestion and circulation problems in winter and summer	• Improve signal timing along SR-18
36	SR-18 (Big Bear Boulevard) at Stanfield Cut-off	• Travel lanes going eastbound are forced to merge into a single lane • There are two receiving westbound lanes for travel, but only one westbound approach lane • Queue and delay at this intersection during all months of the year, often resulting in a three or four traffic signal cycle wait	• No solution recommended • Widen the westbound approach to have two through lanes. *(Note: During the development of this report a grant was awarded to the City of Big Bear Lake to widen the westbound approach to include two through lanes. Therefore, no solution is required to be implemented as a part of this report.)* • No solution was identified to address the eastbound merge into a single lane, because it is better to merge into a single lane prior to the intersection rather than immediately following the intersection. Additionally, widening the roadway eastbound beyond Stanfield Cut-off was determined to be infeasible due to existing right-of-way.

Location ID	Location	Issue(s)	Solution
37	SR-18 (Big Bear Boulevard) at Division Drive to Paradise Way	• There is no shoulder, no drainage control, or center turn lanes the bulk of this segment • There are numerous businesses along this section that do not have defined driveways, making entering and exiting driveways difficult • Vehicles going both directions experience long delays when making left-turns	• Develop a center turn lane and adequate drainage
38	SR-38 at Mountain Home Village	• Visitor traffic often cuts through Mountain Home Village during peak congestion	• Install "Local Access Only" sign[6] on access road on north side of SR-38
39	SR-38 at Valley of the Falls Drive	• Geometric issue	• Restripe or widen SR-38 to accommodate a left turn lane from SR-38 to Valley of the Falls Drive • Add receiving lane for left turns from Valley of the Falls Drive onto SR-38
40	SR-38 at Forest Falls Turn-off	• Difficult uphill travel for trucks and heavy vehicles	• Widen SR-38 to add uphill truck climbing lane or passing lane • Note that the addition of a truck climbing lane will involve widening SR-38, as restriping would eliminate existing shoulders
41	SR-38 (Big Bear Boulevard) at Greenspot Boulevard/Shay Road "Square Turn"	• Confusing intersection • Eastbound traffic staying on SR-38 has a separate lane/channel and drivers often miss the channel and turn right at the 4-way intersection • Westbound traffic staying on SR-38 must make a left turn at the 4-way intersection but is not required to stop; the other three approaches are stop sign controlled	• Maintain continuity for vehicles on SR-38 by realigning to make SR-38 a continuous curve through the intersection • Close off access to Greenspot Road north of Shay Road, and bring Shay Road into SR-38 as a T-intersection

Location ID	Location	Issue(s)	Solution
42	SR-38 (Big Bear Boulevard) at Stanfield Cut-off	• Stop controlled on north/south legs, resulting in difficult northbound left due to the boat launch during the summer months • The north/south legs of the intersection are offset, creating confusion • Inadequate queue storage length for northbound Stanfield cut-off vehicles • There is a crosswalk from the school to the bike path, and neither side is ADA compliant	• Convert the intersection into a roundabout
43	Moonridge Road at Club View Drive"Moonridge Y"	• Congestion due to winter ski-area traffic, often due to stuck vehicles, collisions, or chain installation • Decision point location for drivers determining how to exit the mountain	• Create a roundabout at Rathbun Drive/ Club View Drive at Moonridge Road
44	Stanfield Cut-off at Eagle Nest Road	• There is an existing driveway to Eagles Nest Road (an RV Park) that has conflicting movements with Stanfield Drive and impedes the intersection operation	• Stripe the portion of Stanfield Cut-off in front of Eagles Nest with KEEP CLEAR

[1] See additional discussion on chain-up areas and enforcement in Section 8.2.1 of this report
[2] See an example of Share the Road signage in Figure 8-1
[3] See additional discussion on turnout signage and design in Section 8.2.4 of this report
[4] See discussion on Snow Valley Resort Main Entrance in Section 8.2.1 of this report
[5] See additional recommendation for parking and snow play on SR-18 between Running Springs and Big Bear Lake in Section 8.2.1 of this report
[6] See discussion on cut-through traffic in Section 8.2.1 of this report
[7] See an example of “Steep Grade” signage in Figure 8-2
[8] See discussion on transportation modes and park and ride facilities in Section 8.2.3 of this report
[9] See discussion on Permanent Changeable Message Signs for permanent signs at this location as identified by Caltrans District 8 in Section 8.4.1 of this report
[10] See Geometric recommendation in Section 8.3 of this report

Figure 8-1: Share the Road Signage Examples



Figure 8-2: Steep Grade Signage Examples



8.2 Operational Recommendations

Operational mobility issue recommendations consist of alleviating mobility issues by improving the operational aspects of the issues. Operational issues are related to traffic control, roadway maintenance, and availability of multiple transportation modes.

8.2.1 Traffic Control

Traffic control can refer to multiple solutions, including traffic signals or control devices, where traffic routes during peak periods, or even how traffic is managed during peak events. For example, stakeholder meetings consistently mentioned that bottlenecks occur in the existing transportation system due to non-existent or poorly located traffic control devices, and several locations discussed cut-through traffic on local only roads during peak periods.

Recommendations for improved traffic control within the MATS area include:

- **Cut-through Traffic:** It is recommended that the effect of cut-through traffic on local facilities throughout the MATS area be studied further. Cut-through traffic can occur for several reasons: first, because the travel time is shorter than using a primary route, and second, because a traveler is attempting to avoid chain control or other requirement. In addition to local traffic taking cut-throughs for trips, new apps are directing people into areas that should only be used

for local traffic, when they would have otherwise stayed on state routes. One potential solution for reducing cut-through traffic on local roads is to install "Local Traffic Only" or "No Thru Traffic" signs, examples of which are shown in **Figure 8-3**.

Figure 8-3: Local Access Signage Examples



- **Right-turn Only Event Management:** The City of Big Bear Lake has developed an event traffic plan for the Fourth of July which results in disallowing left turns at non-signalized intersections during peak events. This type of event management requires locations to be controlled by a CHP officer. Right-turn only event management has proven to be an effective tool for residents and visitors, and it is recommended to continue to implement this type of management during peak events.
- **Chain Installation and Control:** Many issues related to chain installation create bottlenecks. The bottlenecks at chain installation locations are often due to operations and procedures for chain installation, resulting in perceived excessive delays. It is recommended to coordinate with CHP in developing more standardized chain control operations, inclusive of adequate resources available for mandating conformance with requirements and managing chain control installation. In addition, it is recommended to study allowing cars to proceed under R-1 conditions (requiring snow tires without chains during some conditions). It is also recommended to identify an adequate location for chain control along SR-2 near Wrightwood.
- **Parking and Snow Play on SR-18 between Running Springs and Big Bear Lake:** In the general area of Snow Valley on SR-18, there is a seasonal mobility issue related to vehicles parking along the edge of roadway and encroaching into the lanes of travel in order to access desired snow play locations. Illegal parking occurs at turnouts, and in no-parking zones, with little repercussion. While there are several stalls open to the public at Snow Valley and at the neighboring Nordic track parking lot, parking illegally remains an issue. It is recommended that there be one identified parking location which is clearly signed and enforced for Snow Valley snow play and coordination with Snow Valley Ski Hill to investigate allowing snow players to pay for parking. Additionally, the east end of the passing lane should be re-striped so that cars making a left out of the Snow Valley parking lot can turn into an acceleration lane and not interfere with westbound traffic. An example showing potential restriping for SR-18 at the main entrance to Snow Valley Resort is shown in **Figure 8-4**.

Figure 8-4: SR-18 Restriping at Snow Valley Resort Main Entrance



8.2.2 Roadway Maintenance

Roadway maintenance within the MATS area was mentioned multiple times during stakeholder meetings, highlighting an existing issue with roadway maintenance related to striping and snow removal. The primary recommendation related to roadway maintenance is increased coordination between jurisdictional agencies. Currently, there are multiple agencies and jurisdictions involved related to maintenance and control during major events (whether weather or event related). In addition, when roads are re-paved or overlaid, they do not routinely pave existing paved shoulder areas, resulting in smaller paved roadway widths after an overlay.

Recommendations for improved traffic control within the MATS area include:

- **Conflicting Information:** With various agencies involved in relaying traffic congestion information or roadway conditions information (including Caltrans, San Bernardino County, City of Big Bear Lake, Sheriff, US Forest Service, and CHP), it is often unclear as to actual road conditions. It is recommended to study and develop a clearinghouse location for traffic and transportation related information for the MATS area.
- **Mount Baldy Road Coordination:** The only winter access into Mount Baldy is maintained by both San Bernardino and Los Angeles Counties. Winter maintenance for this facility is often overlooked by Los Angeles County, and it recommended that the County of San Bernardino coordinate with Los Angeles County maintenance and develop agreements to Mount Baldy Road during snow events.

8.2.3 Transportation Modes

Within the MATS area, the personal automobile is the primary mode of travel. However, a recurring theme among stakeholders was related to alternative modes of travel and their availability.

Recommendations for improved availability of transportation modes within the MATS area include:

- **Pedestrian or Bicycle Conflicts:** The facilities within the MATs area are traditionally designed for automobiles, without adjacent facilities for non-motorized person trips. It is recommended to install signage at locations with known conflicts between non-motorized persons with vehicles, and to include these locations into currently on-going bicycle and pedestrian plans. Examples of signage encouraging sharing the roadway is shown in **Figure 8-1**.
- **Park and Ride Facilities:** With few dense attraction destinations, and multiple locations for visitors to reside, it is difficult to fully utilize mass transit within the MATS area. However, there is a potential for shuttle service coordination with the San Manuel Indian Casino for MARTA to pick up visitors on weekends. It is recommended to investigate demand for park and ride or shuttle services for visitors entering the MATS area which are destined to several of the large ski resorts during peak winter months.
- **Alternate Modes:** The increase in residents and visitors allows for the potential for increasing use of transit services, including shuttle and trolley service along with improving the existing fixed-route services. It is recommended to continue to investigate non-fixed route services within resort destinations and during events within MATS communities, to improve the visitor experience and to alleviate traffic congestion.

8.2.4 Turnouts

In addition to traffic operational deficiencies within MATS communities, there is potential for improving the uphill turnout usage by slow-moving vehicles. Turnouts located in the uphill direction of travel appear to be underutilized by slow-moving vehicles, adding to the delay and frustration for vehicles traveling at a rate consistent with posted speed limits.

Current California Motor Vehicle Code 21656 states that “on a two-lane highway where passing is unsafe because of traffic in the opposite direction or other conditions, a slow-moving vehicle, including a passenger vehicle, behind which five or more vehicles are formed in a line, shall turn off the roadway at the nearest place designated as a turnout…” The California Motor Vehicle Code states that acceptable turnouts are typically indicated by a sign that states “Slower Traffic Use Turnouts”.

Recommendations for improved usage of turnouts within the MATS area include:

- **Signage:** Early advance warning for turnouts, including “Slower Traffic Use Turnouts” or “Turnout ¼ Mile”. Without adequate signage, there is a perception to the driver of the slow moving vehicle that they will not be able to easily transition back into moving traffic, resulting in resistance to use unsigned turnouts. Examples of turnout signage are illustrated in **Figure 8-5**. An example of a useable slow-vehicle turnout design including adequate signage is shown in **Figure 8-6**.

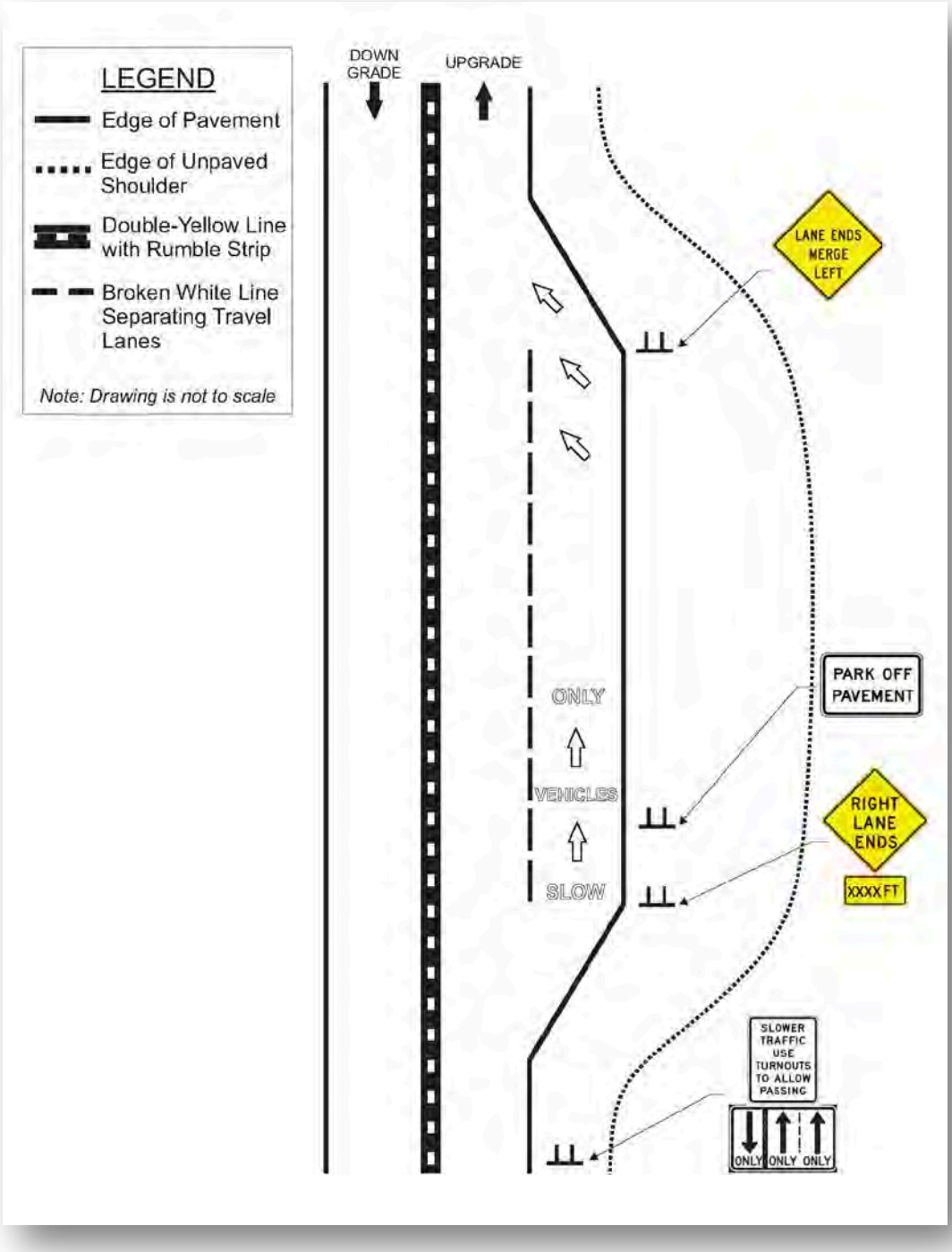
Figure 8-5: Examples of Turnout Signage



- **Lane Configuration Diagram (Signage):** Signage at turnouts is imperative to inform vehicles of the true use of the turnout. Upon initiation of a turnout that is designed for both stopping vehicles and slow-moving vehicle lanes, a lane configuration diagram should be presented for a visual reference. Turnouts designed primarily for slow-moving vehicles should include a sign that defines the length of the lane for slow-moving vehicles, so drivers of slow-moving vehicles can determine acceptable speed prior to re-entering the single uphill lane of traffic. An example of a useable slow-vehicle turnout design including a lane configuration diagram is shown in **Figure 8-6**.
- **Lane Markings:** Lane markings are important to be included in the design of turnouts designed for slow-moving vehicles. Enhanced lane and edge of travel way stripes should be placed to define a drivable slow vehicle lane that will not be obstructed by stopped vehicles. Enhanced delineation will provide clear definition of paved areas to be used as "rolling turnouts" allowing slow-moving vehicles to maintain momentum. An example of a useable slow-vehicle turnout design including lane markings denoting the slow moving vehicle lane is shown in **Figure 8-6**.

The recommendation is to focus on the usability of existing turnouts, and not the frequency of them. There are ample locations that could behave as a turnout for vehicles to stop, but are not turnouts for trucks and slower vehicles to use in order to let faster vehicles pass.

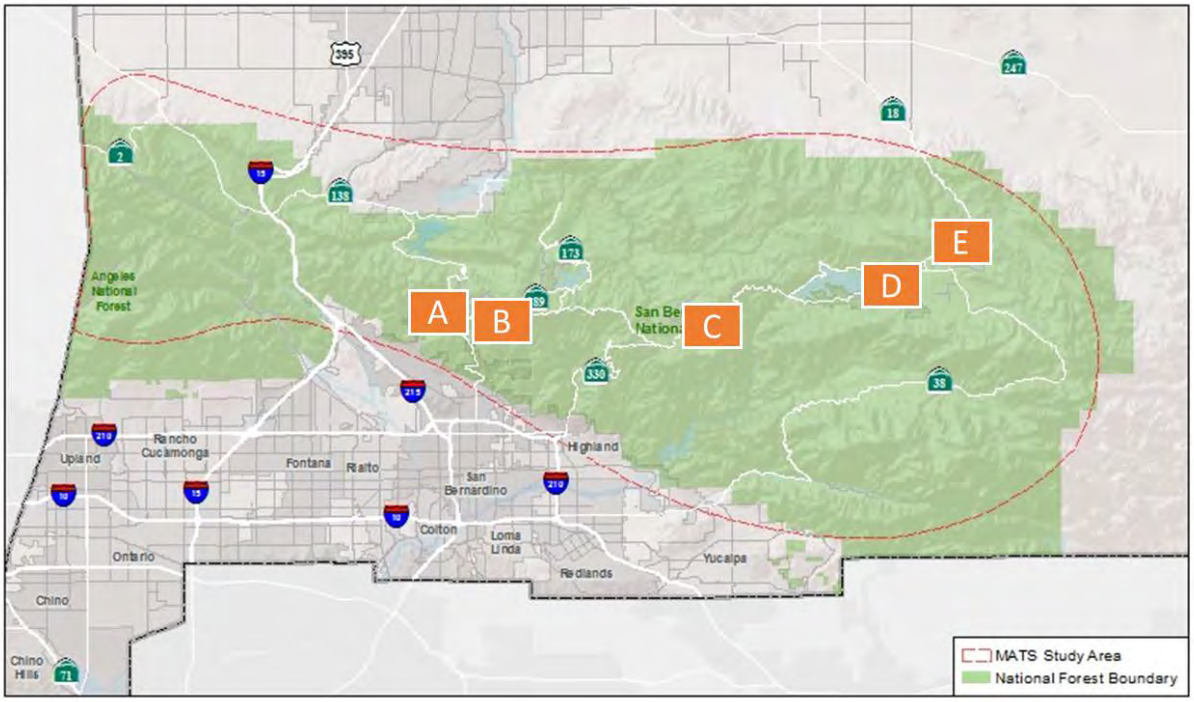
Figure 8-6: Example of Useable Slow-Vehicle Turnout Design



8.3 Geometric Recommendations

While the purpose of this study was not to focus on increasing capacity on the primary access routes to the MATS area, a recurring theme during stakeholder meetings and the needs assessment data collection phase was the limitation of the MATS area infrastructure due to insufficient capacity. There are many locations with congestion related to inadequate roadway capacities, poor roadway geometries, and inadequate use of existing right-of-way. However, it is infeasible to significantly increase capacity on primary access routes. **Figure 8-7** identifies five locations that were identified as locations considered with an opportunity to improve mobility. A more extensive discussion of roadway geometry and section description is included in *Section 6.2* of this report.

Figure 8-7: State Route Bottlenecks and Congestion



Recommendations for improved roadway geometry within the MATS area include:

- **SR-18 – Post Mile 15.0 to 16.8 (Location A):** The existing roadway section is a four-lane section (2-lanes in each direction) with a thrie beam guardrail separating the opposing directions of travel. There are isolated turnouts along this segment with paved shoulders and occasional guardrail systems where steep fill slopes are located. **Figure 6-3** illustrates the segment of SR-18 from PM 15.0 to 16.8.
    - It is recommended that a review of existing turnouts be considered to improve separation distance between stopped vehicles and the outside edge of travel way. If possible, it is recommended to design existing turnouts to include capability for stopped vehicles in addition to a slow-moving vehicle through lane. This added shoulder

delineation or guidance could be employed at locations where turnouts or scenic overlooks attract sightseers to increased separation between stopped and moving vehicles.
    - Additionally, a review of signing is recommended to be accomplished at turnouts for consistency with traffic flow direction.
- **SR-18 – Post Mile 22.15 to 25.15 (Location B):** The existing roadway section is a two-lane section (1-lane in each direction) with a buffer separating the opposing directions of travel. The roadway section has limited shoulder widths and experiences an increased number of local roadway access points (residences and small businesses) compared to adjacent segments of SR-18. **Figure 6-4** illustrates the segment of SR-18 from PM 22.15 to 25.15.
    - It is recommended that a comprehensive review of turnout design be completed to improve uphill movements and relieve queuing behind slow moving vehicles.
    - It is also recommended to study the benefit of intersection improvements at the junction of SR-18 with SR-173. If excess State right-of-way is available for minor roadway improvements, it could potentially serve as a cost effective improvement to reduce congestion during peak periods and improve intersection efficiency, while limiting impacts to the area.
- **SR-18 – Post Mile 34.5 to 36.5 (Location C):** The existing roadway section is a two-lane section (1-lane in each direction) with a painted centerline and recessed reflectors. The segment of roadway known as "13-curves" is located within this location. One signed turnout exists in the downhill (westbound) direction of travel. Signage related to no parking is inconsistent when compared to other mountain areas within a very short distance. **Figure 6-5** illustrates the segment of SR-18 from PM 34.5 to 36.5.
    - It is recommended that a review of the signage be completed to implement consistency in the signing of no parking areas. The clarity new signs bring would be beneficial for all users, including parking enforcement officers. Increased separation would likely improve the flow of vehicles with fewer potential obstacles lining the roadway.
- **SR-18 – Post Mile 52.7 to 53.8 and SR-38 Post Mile 49.5 to 48.3 (Location D):** The existing roadway section is a four-lane asphalt section (2-lanes in each direction). This segment is located in the downtown area of Big Bear Lake between Summit Road and Stanfield Cut-off. **Figure 6-6** illustrates the segment of SR-18 from PM 52.7 to 53.8 and SR-38 from PM 49.5 to 48.3.
    - It is recommended that site-specific improvements traffic operations improvements be developed and studied within this section of roadway to enhance traffic operations.
- **SR-18 – Post Mile 55.5 to 56.7 (Location E):** The existing roadway section is a two-lane section (1-lane in each direction). **Figure 6-7** illustrates the segment of SR-18 from PM 55.5 to 56.7.
    - It is recommended to make improvements within this section of roadway to more efficiently utilize the 40-foot ROW to allow for a continuous center-turn lane the entire segment. This geometric recommendation is in addition to the operational recommendation in *Section 8.2* of this report.
    - It is also recommended to improve drainage within this section of roadway.
- **SR-18 at Castle Rock Trail:** The Castle Rock Trailhead is popular amongst residents and visitors, and is located along Big Bear Boulevard. At this location, Big Bear Boulevard dips down into the

canyon to the trailhead and then rises again. There is potential for straightening out this segment of SR-18 to no longer include the vertical or horizontal curves at this location, allowing for a direct connection of Big Bear Boulevard, avoiding the Castle Rock trailhead. The property owner for the required right-of-way is the National Forest, as well as private ownership. While this project would take significant resources to study and build, it is a recommendation of this report to continue discussions amongst property owners to further study and evaluate an alternative alignment of SR-18 through this section. This geometric recommendation is in addition to the operational recommendation in *Section 8.2* of this report.

8.4 Informational Recommendations

Informational recommendations, including signage and real-time messages, were identified as having the potential to alleviate many of the mobility issues identified in *Section 6.0* of this report. Many of the mobility issues identified noted poor circulation patterns or confusion to drivers, which can be remedied efficiently by providing better information to drivers.

Recommendations for improved roadway operations within the MATS area include:

- **Chain Installation and Control:** Issues related to chain installation and control are due to multiple factors, including; bottlenecks, spacing of chain control locations, chain enforcement, and information related to chain requirements. Information related to chain control is available on the Caltrans website, but is not readily available to drivers. It is recommended that permanent locations for chain installation and removal be identified and adequately designated. There was a potential solution developed by stakeholders to work with the CHP and chain-exempt vehicles to shorten queue at chain control locations. It is recommended to initiate discussions with CHP on the potential for pre-approving vehicles through chain control stations.
- **Illegal Parking:** Traffic congestion and friction exist on state routes due to vehicles parked in "No Parking" zones. This is often the case in winter and summer peak months near popular snow play and hiking locations. It is recommended that standardized signage for off-street (off State Route) parking and no-parking zones be developed. It is also recommended to develop a more efficient and effective method for parking enforcement (perhaps utilizing newer technology and standardized ticketing), as procedures are time prohibitive and not a beneficial use of time for the enforcement officer.
- **Information Technology Services (ITS):** Information for drivers is beneficial to the overall transportation circulation, and could be better improved with real-time Changeable Message Signs (CMS) at key locations throughout the MATS area. It is recommended to continue supporting discussions for CMS signs with Caltrans District 8, who have already initiated the process. A discussion on the recommendation for CMS signs is included in *Section 8.4.1* of this report. Alternatively, portable message signs (PMS) and other portable traffic control devices could prove to be helpful for special events, and it is the recommendation of this report for agencies to come to agreement for shared-use of PMS signs when available.

One of the most efficient methods in providing information to a driver is by use of real-time information. Access to real-time information can help travelers choose their travel route, especially when the mountain roads get congested during peak visiting periods. Access to real-time information could also help travelers make choices that help improve the efficiency of the mountain area circulation system. For example, if travelers could be provided with information about parking occupancy at key resort locations and information about remote parking opportunities or alternate mode options, they could choose one of the options rather than driving directly to (and further congesting) a highly-congested resort destination. Different technologies may be appropriate for putting out information.

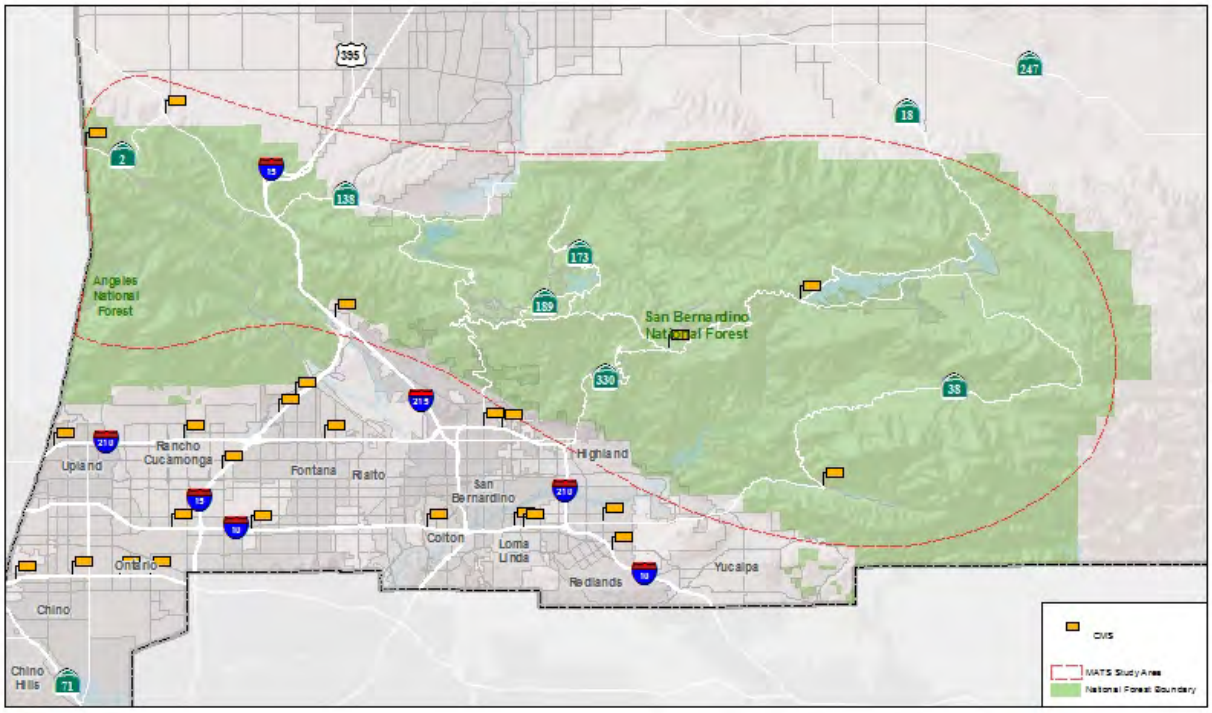
8.4.1 Permanent Changeable Message Signs

A permanent CMS should be strategically located to present information related to travel time, known detours, and other valuable topics. One of the benefits of installing permanent CMS signs, rather than relying on portable signs, is that drivers are more likely to believe a permanent sign, and often mistake portable signs as "construction related" or assume the signs are out-of-date and not current.

Caltrans District 8 maintains a website with real-time information with message signs (http://www.dot.ca.gov/dist8/tmc/). **Figure 8-9** identifies the location of "Message Signs" within the MATS area as identified by Caltrans on March 27th, 2017. At the time this figure was obtained, there were message signs located on SR-2 outside of Wrightwood, in San Bernardino at the south end of SR-18, in Running Springs, and at the junction of SR-18 and SR-38 in Big Bear Lake.

To make CMS signs as efficient as possible, CMS signs should be located in place to allow drivers time to make a decision. For example, CMS signs at the bottom of the mountain need to be located before the last exit. The importance of early signage is evident when chains are required. For example, if a vehicle had a need to buy chains, they need to know before their last opportunity to turn around.

Figure 8-8: Existing Caltrans District 8 Real-Time Message Signs



Recommendations from stakeholders fell in line with current planning developed by Caltrans District 8, which has identified several locations for CMS signs.

- SR-2, Westbound, West of SR-138
- SR-2, Eastbound, East of Lone Pine Canyon Road
- SR-18, Northbound/Eastbound, West of SR-38 (at Dam)
- SR-18, Southbound/Westbound, East of SR-38 (at Dam)
- SR-18, Northbound, North of E. 40th Street
- SR-18, Southbound, at Bear Valley Road
- SR-18, Northbound, South of Snow Valley
- SR-138, Eastbound, West of SR-173
- SR-210, Eastbound, West of H Street
- SR-259, Northbound, at Highland Avenue
- SR-38, Eastbound, West of Bryant Street (in Yucaipa)

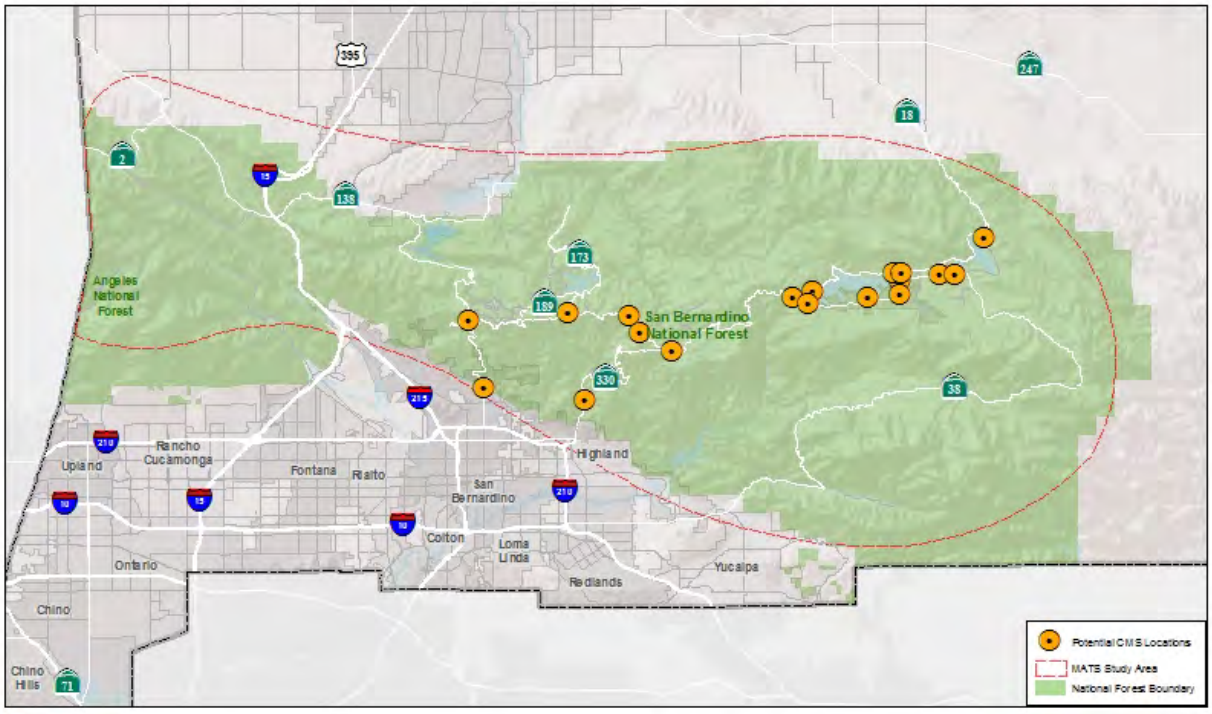
It is recommended to include all identified CMS signs at the locations identified by Caltrans District 8, and to investigate the inclusion of the following list of CMS signs identified by stakeholders:

- SR-330 approaching Highland Avenue
- Summit Boulevard approaching SR-18
- Moonridge Road approaching SR-18

- Stanfield Cut-off at North Shore Drive
- Mt. Baldy Road at Mountain Avenue

It is also recommended that all mountain area CMS signs show chain requirements prior to drivers beginning their trip up the mountain, and real-time parking occupancy at key resort locations on CMS signs at key junctions leading to the resorts. **Figure 8-10** illustrates the location of the 11 CMS signs identified by Caltrans District 8, as well as the 5 additional locations for CMS signs identified by stakeholders.

Figure 8-9: Caltrans District 8 Potential CMS Locations



8.4.2 Wide-Area Dissemination of Information

Changeable message signs (CMS) can be helpful for drivers at key decision points (entry points to the mountains or key roadway junctions), but wide-area dissemination of information can reach a broader audience of travelers. A mountain area traveler app could provide information for many traveling through the mountains, but in some areas (for example, the canyon leading up to Mt. Baldy) online information may not be accessible and an AM radio transmission could be used where effective considering placement of the transmitter relative to terrain and existing roadways.

Recommendations for improved dissemination of information within the MATS area include:

- Development of a mountain traveler information app; include real-time traffic and travel time information, chain requirements, parking occupancy at key resorts, alternate modes information, etc.
- Provide AM radio transmission of traveler information for key mountain travel corridors where web access is not available (for example, Mt. Baldy area). With AM radio transmission, it is imperative that there is signage at entry points into the mountain area. Examples of signage for AM radio transmission are illustrated in **Figure 8-11**.

Figure 8-10: AM Radio Traveler Information Signage Example



9.0 IMPLEMENTATION STRATEGY

Transportation plays an important role in the San Bernardino County's mountain area. The efficient movement of people and goods is the foundation upon which a healthy economy and high quality of life are built. Yet, the entire transportation system and the role municipal government plays in its maintenance, operations, and development over time are not always well understood. The overall goal of the MATS implementation plan is to set a course for future decision-making regarding the transportation and circulation system in the area. The purpose of the MATS implementation plan is to serve as a tool in the decision-making process regarding which projects should be advanced given the limitations of funding sources and identify agency roles.

9.1 Project Implementation Methodology

For the purposes of the MATS study, a set of evaluation or performance criteria were developed as follows:

1. ***Project benefits***: Expected effectiveness of a project in reducing congestion, improving mobility or elimination of bottlenecks.
2. ***Ease of project implementation***: Expected ease of institutional or administrative implementation of the project.
3. ***Project cost***: Expected expense to implement the project.

For each of the above categories a "scoring" methodology was developed where a higher score translates into a greater improvement value at the regional level. The scoring is intended as a general guide for technical staff and policy-makers. The actual selection of projects for funding and implementation occurs through the policy committee structure established by the SBCTA Board of Directors. The Measure I 2010-2040 Mountain/Desert Expenditure Plan states under the Major Local Highway Projects program that:

> *"Expenditure of Major Local Highway Projects funds shall be approved by the Authority Board of Directors, based upon a recommendation of subarea representatives and the Mountain/Desert Committee."*

Figure 9-1 illustrates the San Bernardino County subareas, which are commonly referred to as the Mountain/Desert subareas. The MATS study is included within two of the Measure I subareas: The Mountain Subregion and the Victor Valley subarea. Each subarea has its own set of representatives. The majority of the MATS area is included within the Mountain Subregion, and the representatives include the Second and Third District Supervisors along with the Board member from the City of Big Bear Lake. The Wrightwood area is part of the Victor Valley subarea, represented by the First District Supervisor, plus representatives of the City of Adelanto, Town of Apple Valley, City of Hesperia, and City of Victorville.

Figure 9-1: San Bernardino County Subareas



Although each subarea has flexibility in how the representatives designate projects, generally an overall project list is developed and projects are identified for implementation as funds become available. Recommendations are made by the subarea representatives for consideration by the Mountain/Desert Committee and on to adoption by the full SBCTA Board. Funding can involve not only Measure I funds, but funds from a variety of state sources as well. The project scoring is one input to this decision-making process for the allocation of these funds.

9.1.1 Criteria Score Definitions

Evaluation criteria for ***project benefits*** are summarized in **Table 9-1**, and ranges from a low score of 1 (resulting in little effect on bottlenecks) to a high score of 5 (resulting in substantial improvement of a regional bottleneck).

Table 9-1: Benefits Criteria and Evaluation Score

Score	Description
5	Substantial improvement of a regional route bottleneck
4	Moderate improvement of a regional route bottleneck; or Opportunity for substantial diversion of people to alternate routes
3	Modest improvement of a regional route bottleneck Substantial improvement of a localized bottleneck
2	Little improvement of a regional route bottleneck Modest improvement of a localized bottleneck
1	Little effect on bottleneck / congestion

Evaluation criteria for ***ease of project implementation*** are summarized in **Table 9-2**, and ranges from a low score of 1 (requiring in a major acquisition of ROW and coordination between multiple agencies) to a high score of 5 (represented by a project that is anticipated to be easy to implement, such as a signing or striping project).

Table 9-2: Ease of Implementation Criteria and Evaluation Score

Score	Description
5	Easy to implement; signing and striping
4	No ROW required; little or no agency coordination
3	Minimal ROW required
2	Moderate ROW required
1	Major ROW required; multiple agency coordination required

For the purposes of the MATS study, order-of-magnitude cost estimate for identified types of improvements have been developed. Evaluation criteria for ***project cost*** are summarized in **Table 9-3**, as well as a description of the types of improvements that fall within each category. Cost categories range from a low score of 1 (representing an investment greater than $5,000,000) to a high score of 5 (representing an investment typically less than $50,000).

Table 9-3: Cost Criteria and Evaluation Score

Score	Cost Range	Description of Improvements
5	Very Low – Low ($0 - $50,000)	minor signing and striping revisions
4	Low ($50,000 – $250,000)	traffic signal upgrade or installation at an existing intersection (no roadway work involved)
3	Medium ($250,000 - $800,000)	minor roadway or intersection work including traffic signals, signage, turn pockets
2	Medium/High – High ($800,000 - $5,000,000)	minor roadway or intersection work and traffic signals improvements with limited partial ROW takes required
1	Very High – Major Investment (>$5,000,000)	major roadway or intersection improvements requiring full ROW takes due to grading limits and utility work

9.1.2 Project Scoring Methodology

A scoring scale was developed that would yield a maximum of 100 points for each project. However, since each of three evaluation criteria has a different level of significance to the overall project implementation process, it was decided that each criterion would be weighted differently, as shown below:

- Project Benefits weighted at 60% of the overall score
- Ease of Project Implementation weighed at 30% of the overall score
- Project Cost weighted at 10% of the overall score

Each project would receive a score between 1 and 5 based on how they are expected to perform under each criterion. The scores for each criterion were combined by the corresponding criteria weight according to the formula depicted in **Figure 9-1**.

Figure 9-2: Evaluation Score Calculation

$$Total\ Evaluation\ Score = \frac{\left((0.6 * Benefit\ Score) + (0.3 * Ease\ of\ Implementation\ Score) + (0.1 * Cost\ Score)\right)}{5} \times 100$$

An example of the scoring is a project that has a ***project benefit*** score of 3 (modest improvement of a regional bottleneck, or a substantial improvement of a localized bottleneck), an ***ease of project implementation*** score of 4 (no ROW required, with little or no agency coordination), and a ***project cost*** score of 2 (medium to high cost ranging between $800,000 to $5,000,000). In this example, the ***total*** evaluation score is calculated as 64, and is shown in **Figure 9-2**.

Figure 9-3: Evaluation Score Example Calculation

$$\frac{(0.6 * 3) + (0.3 * 4) + (0.1 * 2)}{5} \times 100 = \mathbf{64}$$

9.1.3 Priority Methodology

In the next step, a generalized prioritization process was completed to determine if a project would be of relatively "low," "medium," or "high" priority for implementation. Using the scoring methodology established in *Section 9.1.2* of this report, an equal distribution of projects based on scores was used to determine scoring ranges for relative priorities. The project priority scoring is ranked as follows:

- "Low Priority": projects with score less than 55 points
- "Medium Priority": projects with score between 55 points and 65 points
- "High Priority": projects with score 65 points and higher

9.2 Scoring and Ranking for Project Recommendations

This section of the report summarizes the project recommendations from *Section 8.0* based on the methodologies defined in *Section 9.1*.

9.2.1 Location Issue Implementation Plan

The methodologies and scoring values identified in this section of the report were applied directly to the location issues and recommendations identified in **Table 8-1**. **Table 9-4** summarizes the locations, preferred solution, evaluation criteria, and resulting total score. It should be noted that locations with no recommended improvement are not included in **Table 9-4**.

Of the location issues identified in *Section 6.0* of this report, 37 projects were evaluated and prioritized. Weighted scores range between 40 and 94 points, out of a possible range of 20 to 100 points for each

project. As detailed in **Table 9-4**, based on the three ranges discussed above, there are 12 "High Priority" projects, 10 "Medium Priority" projects, and 14 "Low Priority" projects.

Table 9-4: Location Issues, Evaluation Criteria, and Associated Score

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
Wrightwood/Mount Baldy/Lytle Creek									
1	SR-2 (Big Pines Highway) at Willow Road	• No solution recommended *(See Table 8-1 for discussion on recommendation)*	Caltrans	San Bernardino County	5	4	5	94	
2	SR-2 (Big Pines Highway) at Wrightwood	• Develop chain-up area[1] on SR-2	Caltrans	San Bernardino County	3	3	4	62	MEDIUM
3	Glendora Ridge Road at Entire Route Through San Bernardino County	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	San Bernardino County	San Bernardino County					
4	Lone Pine Canyon Road at Between SR-138 and SR-2 in Wrightwood	• Provide a chain-up area[1] and enhance CHP enforcement of chain control on Lone Pine Canyon Road	San Bernardino County	San Bernardino County	2	3	4	50	LOW
5	Lytle Creek Road at North of I-15	• Install "Share the Road" signage[2]	San Bernardino County	San Bernardino County	1	5	5	52	LOW
6	Swarthout Canyon Road at South of Lone Pine Canyon Road	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	San Bernardino County	San Bernardino County					
Crestline/Lake Arrowhead									

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
7	SR-138 at Seeley Way	• No long-term solution recommended • Positive improvement with maintenance and reduced vegetation on the curve of SR-138 to greatly improve sight distance	Caltrans	San Bernardino County	1	5	5	52	LOW
8	SR-138 at Crest Forest Drive/Lake Drive "Top Town"	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	Caltrans	San Bernardino County					
9	SR-173 at SR-18	• Revise intersection configuration • Use adjacent paved area to increase curve radius and improve turn pocket • Increase local street separation from SR-18	Caltrans	San Bernardino County	2	3	2.5	47	LOW
10	SR-18 at SR-138	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	Caltrans	San Bernardino County					
11	SR-18 at Daley Canyon Road	• Improve route guidance signage in advance of intersection	Caltrans	San Bernardino County	1	5	5	52	LOW
12	SR-18 at SR-330	• Include an acceleration lane from west of Hilltop, including a left turn pocket west of Hilltop	Caltrans	San Bernardino County	4	3	2	70	HIGH

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
13	SR-18 at Running Springs to Big Bear Lake	• Update and make turnout[3] signage consistent • Separate turnout[3] areas for slow moving vehicles from sightseer parking areas	Caltrans	San Bernardino County	4	1	3	60	MEDIUM
14	SR-18 at Running Springs School Road	• Widen intersection to provide westbound left-turn lane and westbound acceleration lane to receive left turns on SR-18	Caltrans	San Bernardino County	2	3	3	48	LOW
15	SR-18 at Snow Valley and SR-18 at Snow Valley Snow Play Area (approximately 1 mile west of Snow Valley parking lot entrance)	At Snow Valley[4]: • Re-stripe Snow Valley parking lot intersection with SR-18 to provide one westbound through lane plus an acceleration lane for left-turning traffic going west on SR-18 At Snow Play Area[5]: • Install adequate signage to direct visitors to parking locations	Caltrans	San Bernardino County *	3	5	4	74	HIGH
16	SR-18 at Entire State Route	• Study and develop turnout facilities[3] where needed	Caltrans	San Bernardino County	5	1	1	68	HIGH

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
17	SR-189 at Daley Canyon Road	• Stripe edge of travelled way going around curve on southwest corner • Consider better signage, including a flashing signal approaching the intersection for northbound Daley Canyon Road • No solution for sight distance, as it appears to be not a significant issue since it's a three-way stop T-intersection	Caltrans	San Bernardino County	2	5	5	64	MEDIUM
18	SR-189 at Blue Jay Cut-off	• Revise profile of Blue Jay Cut-off for approximately 200 feet and improve the grade and connection with SR-189	Caltrans	San Bernardino County	2	4	3	54	LOW
19	SR-330 at City Creek US Forest Service Station	• Restripe existing roadway to include left-turn pocket on SR-330 • Potential need for minor widening within existing ROW north of the parking lot	Caltrans	San Bernardino County	3	4	4	68	HIGH
20	SR-330 at Live Oak	• Install "Local Traffic Only" sign[6] on Live Oak • Install "Steep Grade" sign[7] on steep slope section of Live Oak to deter cut-through traffic	Caltrans	San Bernardino County	1	5	5	52	LOW

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
21	SR-18 at Hilltop Boulevard	• Study installation of westbound SR-330 receiving lane for traffic turning left from SR-18 • Install left turn pockets on SR-18 at Soutar Drive and Hunsaker Way	Caltrans	San Bernardino County	4	5	5	88	HIGH
22	Crest Forest Drive at Valley View Drive	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	San Bernardino County	San Bernardino County					
23	Lake Arrowhead Village Area	• Develop a smart parking system with signage and an app to communicate parking occupancy • Preclude cars from entering full parking lots	San Bernardino County	San Bernardino County	2	4	2	52	LOW
24	Lake Drive at Fern Drive	• *No solution recommended (See Table 8-1 for discussion on recommendation)*	San Bernardino County	San Bernardino County					

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
25	Lake Drive at Wild Rose Lane	• Recommend the Community of Crestline and San Bernardino County continue to study traffic circulation for large events at this location • Potential for stop signs to be located on Lake Drive at Wild Rose Lane • Potential for two-lane exit driveway from USPS parking lot • Recommendation to remove pilaster with no parking sign from middle of USPS entry driveway	San Bernardino County	San Bernardino County	2	4	1	50	LOW
26	SR-330 at Highland Ave	• Implement a Park and Ride Facility[8]	Caltrans	San Bernardino County	2	3	4	50	LOW
Big Bear/Angeles Oaks									
27	SR-18 at SR-38	• Install a "real time traffic management" sign[9] at this location, approximately 100 yards east of Big Bear Dam	Caltrans	San Bernardino County	4	4	3	78	HIGH
28	SR-18 (Big Bear Boulevard) at Castle Rock Trail Head	• Raise SR-18 through the bend and gain area to include parking spots for trailhead; retaining wall. • Provide pedestrian path along SR-18	Caltrans	City of Big Bear Lake	3	3	2	58	MEDIUM

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
29	SR-18 (Big Bear Boulevard) at Mill Creek Road	• Widen Big Bear Boulevard to provide westbound left turn lane between Wild Rose Lane and Mill Creek Road *Related to location issue #30*	Caltrans	City of Big Bear Lake	3	3	3	60	MEDIUM
30	SR-18 (Big Bear Boulevard) at Wild Rose Lane	• Widen Big Bear Boulevard to provide westbound left turn lane between Wild Rose Lane and Mill Creek Road *Related to location issue #29*	Caltrans	City of Big Bear Lake	3	3	2	58	MEDIUM
31	SR-18 (Big Bear Boulevard) at Lakeview Drive/Paine Court	• Convert the intersection into a roundabout	Caltrans	City of Big Bear Lake	5	2	2	76	HIGH
32	SR-18 (Big Bear Boulevard) at Village Drive	• Reconfigure intersection, including moving eastbound through stop bar further east • Obtain ROW from NW corner lot to modify intersection	Caltrans	City of Big Bear Lake	4	3	2	70	HIGH
33	SR-18 (Big Bear Boulevard) at Pine Knot Avenue	• Extend WB merge further west to Simondss Road • Study workable alternatives • Rework/Modify parking lot to allow easier entrance and exit	Caltrans	City of Big Bear Lake	4	3	2	70	HIGH

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
34	SR-18 (Big Bear Boulevard) at Knickerbocker Creek	• Implement undercrossing for bicycles and pedestrians	Caltrans	City of Big Bear Lake	2	3	2	46	LOW
35	SR-18 (Big Bear Boulevard) at Moonridge Road	• Improve signal timing along SR-18	Caltrans	City of Big Bear Lake	3	5	5	76	HIGH
36	SR-18 (Big Bear Boulevard) at Stanfield Cut-off	• *(See Table 8-1 for discussion on recommendation)*	Caltrans	City of Big Bear Lake					
37	SR-18 (Big Bear Boulevard) at Division Drive to Paradise Way	• Develop a center turn lane and adequate drainage	Caltrans	San Bernardino County *	5	3	2	82	HIGH
38	SR-38 at Mountain Home Village	• Install "Local Access Only" sign[6] on access road on north side of SR-38	Caltrans	San Bernardino County	1	5	5	52	LOW
39	SR-38 at Valley of the Falls Drive	• Restripe or widen SR-38 to accommodate a left turn lane from SR-38 to Valley of the Falls Drive • Add receiving lane for left turns from Valley of the Falls Drive onto SR-38	Caltrans	San Bernardino County	3	3	2	58	MEDIUM
40	SR-38 at Forest Falls Turn-off	• Widen SR-38 to add uphill truck climbing lane or passing lane • Note that the addition of a truck climbing lane will involve widening SR-38, as restriping would eliminate existing shoulders	Caltrans	San Bernardino County	3	3	1	56	MEDIUM

Location ID	Location	Solution	Political Jurisdiction	Location	Evaluation				Priority
					Benefit	Implementation	Cost	Weighted Score	
41	SR-38 (Big Bear Boulevard) at Greenspot Boulevard/Shay Road "Square Turn"	• Maintain continuity for vehicles on SR-38 by realigning to make SR-38 a continuous curve through the intersection • Close off access to Greenspot Road north of Shay Road, and bring Shay Road into SR-38 as a T-intersection	Caltrans	San Bernardino County	3	3	3	60	MEDIUM
42	SR-38 (Big Bear Boulevard) at Stanfield Cut-off	• Convert the intersection into a roundabout	Caltrans	San Bernardino County *	5	2	2	76	HIGH
43	Moonridge Road at Club View Drive"Moonridge Y"	• Create a roundabout at Rathbun Drive/ Club View Drive at Moonridge Road	City of Big Bear Lake	City of Big Bear Lake	2	2	2	40	LOW
44	Stanfield Cut-off at Eagle Nest Road	• Stripe the portion of Stanfield Cut-off in front of Eagles Nest with KEEP CLEAR	City of Big Bear Lake	City of Big Bear Lake	2	5	5	64	MEDIUM

[1] See additional discussion on chain-up areas and enforcement in Section 8.2.1 of this report.
[2] See an example of Share the Road signage in Figure 8-1
[3] See additional discussion on turnout signage and design in Section 8.2.4 of this report
[4] See discussion on Snow Valley Resort Main Entrance in Section 8.2.1 of this report
[5] See additional recommendation for parking and snow play on SR-18 between Running Springs and Big Bear Lake in Section 8.2.1
[6] See discussion on cut-through traffic in Section 8.2.1 of this report
[7] See an example of "Steep Grade" signage in Figure 8-2
[8] See discussion on transportation modes and park and ride facilities in Section 8.2.3 of this report
[9] See discussion on Permanent Changeable Message Signs for permanent signs at this location as identified by Caltrans District 8 in Section 8.4.1 of this report
* Though these projects are located within the unincorporated area of San Bernardino County the City of Big Bear Lake will be the project proponent

9.2.2 Operational Implementation Plan

Operational mobility recommendations consist primarily of alleviating mobility issues by improving the operational aspects of traffic flow. All of the operational recommendations are considered to be MEDIUM to HIGH priority issues, and should be implemented in accordance with, and in coordination with, the location-specific recommendations in this plan.

Recommendations for operational issues are as follows:

- **Traffic Control** *(see Section 8.2.1)*
  - Study the effect of cut-through traffic on local facilities throughout the MATS area. Examples of signage aimed to reduce cut-through traffic are illustrated in **Figure 8-3**.
  - Continue to implement right-turn only event management during peak events.
  - Coordinate with CHP in developing more standardized chain control operations.
  - Identify parking location for Snow Valley snow play, and restripe east end of passing lane for cars making a left turn out of Snow Valley parking lot. An example of restriping of SR-18 at the Snow Valley snow play parking lot is illustrated in **Figure 8-4**.
- **Roadway Maintenance** *(see Section 8.2.2)*
  - Study and develop a clearinghouse location for traffic and transportation related information.
  - County of San Bernardino to coordinate with Los Angeles County maintenance and to develop agreements for Mount Baldy Road during snow events.
- **Transportation Modes** *(see Section 8.2.3)*
  - Install signage at locations with known conflicts between non-motorized persons and vehicles and include these locations into currently on-going bicycle and pedestrian plans.
  - Investigate demand for park and ride or shuttle services for visitors entering the MATS area which are destined to several of the large ski resorts during peak winter months.
  - Continue to investigate non-fixed route (transit or shuttle) services within resort destinations and during special events.
- **Turnouts** *(see Section 8.2.4)*
  - Install early advance warning signs for turnouts. Examples of advanced turnout warning signs are illustrated in **Figure 8-5**.
  - Design and install lane configuration diagram upon initiation of a turnout. An example of a lane configuration diagram is included in **Figure 8-6**.
  - Paint lane markings and enhanced lane and edge of travel way strips at existing turnouts. An example of lane markings is included in **Figure 8-6**.

9.2.3 Geometric Implementation Plan

Geometric mobility issue recommendations consist primarily of realigning existing roadways in order to improve the operational aspects of traffic flow. All of the geometric recommendations are considered to be 

to 

priority issues, and should be implemented along with other recommendations in this plan.

Recommendations for geometric issues are as follows:

- **Location A: SR-18 – Post Mile 15.0 to 16.8** *(see **Figure 6-3**)*
  - Review the existing turnouts, including consideration for enhanced delineation with definition of shoulder areas. Vehicles stopping for pleasure should be guided away from the defined shoulder and outside edge of travel way to preserve a shoulder area. The

preservation of the shoulder should also provide a recovery area beyond the defined travel way on curves.
    - Review of existing signing is recommended to be accomplished at turnouts.
- **Location B: SR-18 – Post Mile 22.15 to 25.15** *(see **Figure 6-4**)*
    - Complete a comprehensive review of turnout development to improve uphill movements and relieve queuing behind slow moving vehicles.
    - Study the benefit of intersection improvements at the junction of SR-18 with SR-173.
- **Location C: SR-18 – Post Mile 34.5 to 36.5** *(see **Figure 6-5**)*
    - Complete a review of the signage to implement consistency in the signing of no parking areas.
- **Location D: SR-18 – Post Mile 52.7 to 53.8 and SR-38 Post Mile 49.5 to 48.3** *(see **Figure 6-6**)*
    - Develop and study site-specific traffic operations improvements within this section of roadway to enhance traffic operations.
- **Location E: SR-18 – Post Mile 55.5 to 56.7** *(see **Figure 6-7**)*
    - Make improvements to more efficiently utilize the 40-foot ROW to allow for a continuous center-turn lane through the entire segment. This geometric recommendation is in addition to the operational recommendation in *Section 8.2* of this report.
    - Improve drainage within this section of roadway.
- **SR-18 at Castle Rock Trail** *(see **Figure 8-8**)*
    - Continue discussions amongst property owners to further study and evaluate an alternative alignment of SR-18 through this section. This geometric recommendation is in addition to the operational recommendation in *Section 8.2* of this report.

9.2.4 Informational Implementation Plan

Informational recommendations consist primarily of relaying accurate and timely local and regional traveler information to users of the transportation system, with the goal of alleviating mobility difficulties related to dissemination of real-time traffic information. All of the informational recommendations are considered to be MEDIUM to HIGH priority, and should be implemented along with other recommendations in this plan.

Recommendations to address informational issues are as follows:

- **General Informational Issues:**
    - **Chain Installation and Control:** Identify and designate permanent locations for chain installation.
    - **Illegal Parking:** Standardized signage for off-street (off State Route) parking and develop “no-parking” zones. Develop a more efficient and effective method for parking enforcement (perhaps utilizing newer technology and standardized ticketing methods).
    - **Information Technology Services (ITS):** Continue supporting discussions for CMS signs with Caltrans District 8. Create agreement between agencies for shared-use of PMS signs when available and appropriate.
- **Implement CMS Signs at the following locations*** *(see **Figure 8-10**)*:

- SR-2, Westbound, West of SR-138
- SR-2, Eastbound, East of Lone Pine Canyon Road
- SR-18, Northbound/Eastbound, West of SR-38 (at Dam)
- SR-18, Southbound/Westbound, East of SR-38 (at Dam)
- SR-18, Northbound, North of E. 40th Street
- SR-18, Southbound, at Bear Valley Road
- SR-18, Northbound, South of Snow Valley
- SR-138, Eastbound, West of SR-173
- SR-210, Eastbound, West of H Street
- SR-259, Northbound, at Highland Avenue
- SR-38, Eastbound, West of Bryant Street (in Yucaipa)
- SR-330 approaching Highland Avenue
- Summit Boulevard approaching SR-18
- Moonridge Road approaching SR-18
- Stanfield Cut-off at North Shore Drive
- Mt. Baldy Road at Mountain Avenue

  **Note: The implementation of CMS signs should be considered as funds become available, and in coordination with the Caltrans CMS plan. Prior to implementation, it must be ensured that plans are in place for specific uses of the signs and the conditions under which specific messages are displayed.*

- **Wide-Area Dissemination of Information**
  - Development of a mountain traveler information mobile device application (App); include real-time traffic and travel time information, chain requirements, parking occupancy at key resorts, alternate modes information, etc.
  - Provide Highway Advisory (AM) Radio (HAR) transmission of traveler information for key mountain travel corridors where web access is not available (for example, Mt. Baldy area).

9.3 Agency Responsibilities

The transportation network throughout the MATS study area in the San Bernardino National Forest is unique in that most of the major facilities are state routes under the jurisdiction of the California Department of Transportation (Caltrans). In addition, the majority of lane miles in the roadway system are constructed on United States Forest Service (USFS) land or right of way. Conversely, the primary users of this transportation network are visitors from throughout the entire Southern California region and outside, while local residents, due to their smaller numbers and familiarity with the system, minimally impact the system on a daily basis. This creates a paradox in which the other two main agencies with local presence, the County of San Bernardino and the City of Big Bear Lake, are often called upon by residents to solve local traffic congestion problems. However, the ability for these two jurisdictions to facilitate capital improvements on the State highway system is limited.

It is important for the responsible agencies identified above to continue to collaborate on each of the projects identified in the MATS Implementation Plan, as guided by SBCTA subarea representatives as discussed earlier.

All of the state routes within the San Bernardino National Forest should be viewed as one integral transportation network, operating as a system. A bottleneck in one location can result in traffic congestion extending miles downstream. The proposed improvements within this plan are largely focused on attempting to eliminate or mitigate traffic bottlenecks. It is noted that while making these bottleneck improvements, additional traffic stresses may occur in other locations within the system.

As reported in the San Bernardino County Transportation Authority's *Countywide Transportation Plan* (2015), regional traffic volumes are anticipated to increase by nearly 50% in the Inland Empire. Although growth is slower in the MATS area, traffic flow on the transportation network within the San Bernardino National Forest is further complicated by the unique issues related to seasonal, visitor, part time and recreational travel to this region.

It is recommended that a Memorandum of Understanding (MOU) be considered for execution. The MOU would clarify roles and responsibilities for implementation of the Plan. The MOU is a way to communicate the intent of the agencies to collaborate and to coordinate project implementation schedules and funding at the local, state, and federal levels. The MOU would not contain specific commitments to funding, permitting, or scheduling. However, it could be a vehicle for providing continuity as personnel changes occur. An intent to meet on a quarterly basis to discuss progress could be an element reflected in the MOU. However, this type of coordination could occur even prior to drafting an MOU.

9.4 Funding

The projects, strategies, and policies identified in this plan can be supported by a wide variety of available funding sources. Federal and State transportation funding sources provide grant funding available to support a variety of transit, streetscape, mobility, multi-modal, and active transportation projects.

This section summarizes several Federal, State, and County funding sources. Following the brief description of funding sources, **Table 9-5** through **Table 9-7** identifies the general applicability of each of the above funding sources to the various improvement categories identified in this study. It should be noted that this is a preliminary assessment and the eligibility of projects in each case should be investigated in more detail as the specific project is refined and designed for implementation.

9.4.1 Federal Funding Sources

Several potential federal funding sources are available through the Federal Transit Authority (FTA) and the United States Department of Transportation (US DOT). **Table 9-5** identifies two potential funding sources, and which improvements from the implementation plan the funding sources may apply to. A brief discussion of the funding sources follows the table.

Table 9-5: Potential Federal Funding Sources

Improvements (Projects, Strategies, and Policies)	FTA - Section 5310 Mobility for Seniors & Disabled	Regional Surface Transpiration Program	Federal Lands Access Program
Location Implementations		X	X
Operational Implementations	X		X
Geometric Implementations		X	X
Informational Implementations			

9.4.1.1 FTA Section 5310 – Enhanced Mobility of Seniors & Individuals with Disabilities

The goal of the Federal Transit Authority's (FTAs) Section 5310 program is to improve mobility for seniors and individuals with disabilities. Eligible projects include the following examples:

- buses and vans
- wheelchair lifts, ramps, and securement devices
- transit-related information technology systems, including scheduling/routing/one-call systems
- mobility management programs
- acquisition of transportation services under a contract, lease, or other arrangement
- travel training
- volunteer driver programs
- building an accessible path to a bus stop, including curb-cuts, sidewalks, accessible pedestrian signals or other accessible features
- improving signage, or way-finding technology
- incremental cost of providing same day service or door-to-door service
- purchasing vehicles to support new accessible taxi, rides sharing and/or vanpooling programs
- mobility management program

Source: https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310

9.4.1.2 US DOT Fixing America's Surface Transportation Act

The US DOT Fixing America's Surface Transportation Act (FAST ACT) aims to provide states and communities with funding for building roads, bridges, and transit systems.

Source: https://www.fhwa.dot.gov/fastact/

The Surface Transportation Block Grant (STBG) program under the FAST ACT promotes flexibility in state and local transportation decisions, and aims to provide flexible funding to address identified transportation needs. The State's STBG apportionment is obligated to proportion a relative share of funds to areas with population of 5,000 or less, as well as areas with population greater than 5,000 but no more than 200,000.

Source: http://www.dot.ca.gov/hq/transprog/federal/rstp/Official_RSTP_Web_Page.htm

The Congestion Mitigation and Air Quality (CMAQ) program under the FACT ACT is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, and particulate matter.

Source: http://www.dot.ca.gov/hq/transprog/federal/cmaq/Official_CMAQ_Web_Page.htm

The Highway Safety Improvement Program (HSIP), under the FAST ACT is a core federal-aid program to States for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. The Division of Local Assistance (DLA) manages California's local agency share of HSIP funds. California's Local HSIP focuses on infrastructure projects with nationally recognized crash reduction factors (CRFs). Local HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means.

Source: http://www.dot.ca.gov/hq/LocalPrograms/hsip.html

9.4.1.3 Federal Lands Access Program (FLAP)

The Federal Lands Access Program (Access Program) was established to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. The Access Program supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. The Program is designed to provide flexibility for a wide range of transportation projects and is funded by contract authority from the Highway Trust Fund and subject to obligation limitation. Funds will be allocated among the States using a statutory formula based on road mileage, number of bridges, land area, and visitation.

Source: https://flh.fhwa.dot.gov/programs/flap/

9.4.2 State Funding Sources

Several potential state funding sources are available. **Table 9-6** identifies three potential funding sources, and which improvements from the implementation plan the funding sources may apply to. A brief discussion of the funding sources follows the table.

Table 9-6: Potential State Funding Sources

Improvements (Projects, Strategies, and Policies)	Cap-and-Trade Program	State Transportation Improvement Program	State Highway Operation and Protection Program	Active Transportation Program
Location Implementations		X	X	X
Operational Implementations	X	X	X	X
Geometric Implementations	X	X	X	
Informational Implementations	X		X	

9.4.2.1 Cap-and-Trade Program

The California Environmental Protection Agency (EPA) Air Resources Board(ARB) cap-and-trade program should be researched for usability for projects, strategies, and policies identified in this plan. The cap-and-trade program is market based regulation designed to reduce greenhouse gases (GHGs) by creating incentives to reduce GHGs below allowable levels through investments in clean technologies. With a carbon market, a price on carbon is established for GHGs. These funds could potentially be available for identified multi-modal strategies and projects.

Source: https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm

9.4.2.2 State Transportation Improvement Program

The State Transportation Improvement Program (STIP) includes transportation projects on and off the State Highway System. The STIP Includes the Regional Transpiration Improvement Program (RTIP) where projects are nominated by the RTPA and the Interregional Transportation Improvement Program (ITIP) where projects are nominated by Caltrans. Proposed projects are adopted by the California Transportation Commission (CTC). To be eligible for STIP funds, local agencies are required to work through their Regional Transportation Planning Agency (RTPA) to nominate projects for inclusion in the STIP.

Source: http://dot.ca.gov/hq/LocalPrograms/STIP.htm

9.4.2.3 State Highway Operation and Protection Program (SHOPP)

Caltrans develops and manages the State Highway Operation and Protection Program (SHOPP). The purpose of the SHOPP is to maintain and preserve the State Highway System and its supporting infrastructure. Projects in the SHOPP are limited to capital improvements relative to maintenance, safety and rehabilitation of State highway and bridges, capital improvements that do not add capacity to the system

Source: http://www.catc.ca.gov/programs/shopp.htm

9.4.2.4 Active Transportation Program (Federal and State funded)

The California Department of Transportation created the Active Transportation (ATP), which consolidates the following previous programs:

- Transportation Alternatives Program
- Bicycle Transportation Account
- State Safe Routes to School

This program intends to increase active non-motorized trips, increase mobility and safety, and enhance public health.

Source: https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm

9.4.2.5 The Road Repair and Accountability Act of 2017 (SB1)

Senate Bill 1 (SB1) creates the Road Maintenance and Rehabilitation Account and the Road Maintenance and Rehabilitation Program. Programs funded by this account include the Local Partnership Program, the Active Transportation Program, the State Highway Operation and Protection Program (SHOPP), and Local Streets and Roads apportionments. Specific guidelines for each program is being developed and the California Transportation Commission (CTC) plays a significant role in SB1 program including guideline development, evaluating projects and program funding.

> *Source: http://www.catc.ca.gov/meetings/agenda/2017Agenda/2017-05/Yellows/Tab_15_4.6.pdf*

SB1 identifies a Local Partnership Program, which is available "for counties that have sought and received voter approval of taxes or that have imposed fees, including uniform developer fees."

- "Eligible projects… include but are not limited to, sound walls for a freeway that was built prior to 1987 without sound walls and with or without high occupancy vehicle lanes if the completion of the sound walls has been deferred to lack of available funding for at least twenty years and a noise barrier scope summary report has been completed within the last twenty years."
- Funds are appropriated "for allocation to each eligible county and city in the county for road maintenance, rehabilitation, and other roadway improvement purposes."

SB1 identifies a Local Streets and Roads Program, which provides an increase of $1.5 billion annually, beginning in November 2017. Prior to SB 1, the Commission had no role in the Local Streets and Roads apportionment program. SB 1 creates new responsibilities for the Commission relative to this funding, including development of guidelines, review of project lists submitted by cities and counties, reporting to the State Controller, and receiving reports on completed projects.

SB1 identifies a Solutions for Congested Corridors Program, which creates this new $250 million per year program beginning 2017-18. Commission responsibilities include developing guidelines, holding public hearings, reviewing corridor plans, scoring project nominations, programming projects, allocating funds to projects, monitoring program delivery, and reporting to the Legislature.

SB1 identifies a Trade Corridor Enhancement, which allows for $300 million per year account to fund corridor based freight projects nominated by local agencies and the state. Trailer bill language was recently released to incorporate this funding and federal freight funding into a single program. Because these changes would significantly impact the guidelines for the California Freight Investment Program (CFIP) that are being presented under a separate agenda item, staff will withdraw the CFIP guidelines and initiate additional workshops to revise the guidelines before bringing them to the Commission for approval.

9.4.3 Local Funding Sources (County and City)

Several potential local funding sources are available. **Table 9-7** identifies four potential funding sources, and which improvements from the implementation plan the funding sources may apply to. A brief discussion of the funding sources follows the table.

Table 9-7: Potential Local (County and City) Funding Sources

Improvements (Projects, Strategies, and Policies)	Measure I	Community Facilities Districts	Benefit Assessment Districts	Business Improvement District
Location Implementations	X	X	X	X
Operational Implementations	X	X		
Geometric Implementations	X			
Informational Implementations				

9.4.3.1 Measure I Funds

Measure I is the half-cent sales tax collected throughout San Bernardino County for transportation improvements. San Bernardino County voters first approved the measure in November 1989 to ensure that needed transportation projects were implemented countywide through 2010. In 2004, San Bernardino County voters overwhelmingly approved the extension of the Measure I sales tax, with 80.03% voting to extend the measure through 2040.

SBCTA administers Measure I revenue and is responsible for determining which projects receive Measure I funding, and ensuring that transportation projects are implemented. Measure I funds are allocated based on a strategic plan. Fiscal and institutional issues associated with administering Measure I are different between the San Bernardino Valley, Mountain and Desert areas, the County was divided into five distinct “subareas”.

Source: http://www.gosbcta.com/sbcta/plans-projects/funding-measureI.html

9.4.3.2 COMMUNITY FACILITIES DISTRICTS (CFD)

CFD's may be a possible financial tool to help finance the infrastructure improvements in the MATS area. This potential funding source would require development, and should be investigated. CFD's are often used for greenfield development that is in the hands of only a few owners, with the 2/3-majority vote requirement, a benefit assessment may be a more expedient funding tool than the CFD.

The Mello-Roos Community Facilities Act of 1982 allows any county, city, special district or joint powers authority to establish a Mello-Roos Community Facilities District (CFD). A CFD can be used for the financing of public improvements and services. The CFD requires 2/3-majority vote of residents living within the boundaries of the district. If there are fewer than 12 residents, the vote is conducted of current landowners. Special taxes are charged based on a formula that cannot be directly based on the value of property.

Special taxes are charged annually until initial bonded indebtedness is repaid and, after bonds are paid off, a CFD may continue to charge a fee to maintain improvements and services.

9.4.3.3 Benefit Assessment Districts

Municipalities, counties, and special districts can levy benefit assessments on properties directly benefiting from financed services or improvements, above and beyond citywide general benefits. Benefit assessment districts must be approved by a majority of property owners (weighted by their share of the assessment) and each district includes a benefit formula in which each parcel in the service area is assessed according to the benefit it receives. Parking authorities and parking benefits districts are similarly able to levy assessments to support improvements with similar requirements as those noted above.

9.4.3.4 Business Improvement District (BID)

Supported with a stable income, business improvement districts (BIDs) can better help to focus marketing, branding, programming and public realm maintenance efforts than other organizations that must also focus on fundraising. A BID can be a useful collaborative public and private forum for property owners and the City to work together. In the long term, studies within the MATS area may want to establish individual BIDs to further revitalization efforts in their downtowns and station areas.

A property owner BID is a public/private entity that is directed by businesses and property owners to provide improvements within a specific district. The BID is funded through special assessments paid by property owners within the district, often based on the size of the property and location. The purpose of the BID is to provide special services beyond standard municipal services within their district boundaries. BIDs typically provide services such as maintenance and cleaning for sidewalks, parks and open space as well as private security and can provide improvements such as parking facilities, parks, fountains, benches, trash cans, street lighting and decorations.

APPENDIX A

San Bernardino National Forest Visitors Guide

APPENDIX B

iPeMS Speed Data

APPENDIX C

Mountain Area Transportation Study Model Methodology and Assumptions Memo

Morongo Basin Area Transportation Study (MBATS)

Prepared for:



December 2014

OC13-0281

FEHR PEERS

Table of Contents

EXECUTIVE SUMMARY **1**

EXISTING CONDITIONS **2**

Study Area 2
Data Collection 2
Analysis Methodologies 7
Roadway Segment Operations 8

MODEL DEVELOPMENT AND FORECASTS **10**

YVTAM Background Information 10
MBATS Model 10
Model Land Use Updates 11
Base Year Model Validation 13
Future (Year 2040) Modeling Assumptions 15
Future (Year 2040) Forecasting and Operations Assessment 16

IMPROVEMENT PROJECT RECOMMENDATIONS **18**

Recommended Improvement Locations 18
Cost Estimates 20
Implementation Plan 26
Implementation Priority 1 26
Implementation Priority 2 26
Implementation Priority 3 26
Implementation Priority 4 27
Implementation Priority 5 27

List of Figures

Figure 1 Study Area 3

Figure 2 Study Roadway Segments 6

Figure 3 2040 Forecast Daily LOS 17

Figure 4 Recommended Improvement Locations 19

List of Tables

Table 1 Study Roadway Segments 4
Table 2 Maximum Daily Roadway Capacities 7
Table 3 Existing Daily Study Roadway Segment Operations 8
Table 4 MBATS Model TAZs by Jurisdiction 11
Table 5 SBTAM Base Year (2008) SED 11
Table 6 SCAG 2016-2040 RTP (2012) SED 12
Table 7 SBTAM 2008 Base Year and SCAG 2016-2040 RTP (2012) SED Difference 12
Table 8 SBTAM Future Year (2035) SED 12
Table 9 SANBAG Future Year (2040) SED 13
Table 10 SBTAM Future Year and SANBAG Future Year SED Difference 13
Table 11 MBATS Travel Demand Forecasting Model Static Validation 14
Table 12 Forecast Daily 2040 Roadway Segment Operations 16
Table 13 Recommended Roadway Segment Improvements & Operations 18
Table 14 Intersections Improvements 20
Table 15 Segment 1 Improvements Cost Estimates 21
Table 16 Segment 2 Improvements Cost Estimates 22
Table 17 Segment 3 Improvements Cost Estimates 22
Table 18 Segment 4 Improvements Cost Estimates 23
Table 19 Segment 5 Improvements Cost Estimates 23
Table 20 Segment 6 Improvements Cost Estimates 24
Table 21 Segment 7 Improvements Cost Estimates 24
Table 22 Segment 8 Improvements Cost Estimates 25
Table 23 Segment 9 Improvements Cost Estimates 25
Table 24 Total Improvements Cost Estimates 26

Appendices

Appendix A: Traffic Counts

Appendix B: MBATS Model Roadway Network Revisions

Appendix C: MBATS Model SED Growth by TAZ

Appendix D: MBATS Model Validation Summary

Appendix E: MBATS Model Forecasts & LOS

Appendix F: Cost Estimates

EXECUTIVE SUMMARY

Fehr & Peers has completed a transportation assessment for the Morongo Basin Area in San Bernardino County, California. The assessment analyzes the future transportation demands within the Morongo Basin to assist in planning and programing for future transportation needs. This report summarizes the results of our findings and is separated into three main sections: Existing Conditions, Model Development and Forecasts, and Transportation Project Recommendations.

The existing transportation setting in the Morongo Basin consists of the backbone access roadways along State Route 62 (SR-62) and State Route 247 (SR-247). These regional facilities provide access to developed areas in the basin, including Yucca Valley, Joshua Tree and Twentynine Palms. The existing traffic volumes are relatively low on facilities throughout the study area and all analyzed roadway segments currently operate below capacity.

The SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) socioeconomic forecasts predict growth in population and employment throughout the region. These regional forecasts, as provided by San Bernardino Association of Governments (SANBAG), were used to update the base year and future year San Bernardino Transportation Analysis Model (SBTAM). The base year model was modified and validated to existing conditions for use in the study. The future year roadway network was modified to replicate the base year roadway network in terms of roadways, number of lanes, roadway classifications and speeds. Future model runs were completed on this constrained network to determine which facilities were most likely to become deficient as growth occurs.

Fehr & Peers identified nine roadway segments and 19 intersections to be improved in order to handle the forecast future traffic demand. The three corridors that require improvements are SR-62, SR-247 and Yucca Mesa Road. Cost estimates were produced based on roadway widening and traffic signal installations or modifications. The total estimated cost to widen the necessary roadways and improve the signalized intersections is approximately $124 million. An implementation schedule was also identified which recommends segment prioritization and recommended implementation dates in order to provide sufficient capacity for the future traffic demand.

EXISTING CONDITIONS

Fehr & Peers completed an existing conditions analysis of roadways throughout the Morongo Basin as a starting point for identifying future infrastructure needs in the area. This section defines the existing Morongo Basin transportation setting in terms of infrastructure and performance.

STUDY AREA

The Morongo Basin generally consists of the California High Desert region between Interstate 10 and Interstate 40 east of the San Gorgonio Mountain Range. The Basin lies in San Bernardino County and includes the City of Twentynine Palms, Town of Yucca Valley and communities of Joshua Tree, Pioneer Town, Landers and Wonder Valley. For this study, Fehr & Peers analyzed the facilities north of the San Bernardino/Riverside County line, south of the Bullion Mountains, east of Big Morongo Canyon and west of Wonder Valley. As shown in Figure 1, the extents of the study area cover multiple jurisdictions including San Bernardino County, the Town of Yucca Valley and the City of Twentynine Palms.

Two roadways provide regional access to the area including State Route 62 to the east/west and State Route 247 to and from the north.

DATA COLLECTION

Fehr & Peers utilized existing counts from the Caltrans Performance Measurement System (PeMS), SANBAG database, San Bernardino County Arterials database, and the San Bernardino Count Database along with new counts collected by National Data and Surveying Services (NDS).

Based on the data available, the 52 roadway segments shown in Table 1 were selected for existing conditions analysis. As shown in Figure 2, the segments used for this study span the Morongo Basin. Traffic count data is provided in Appendix A.

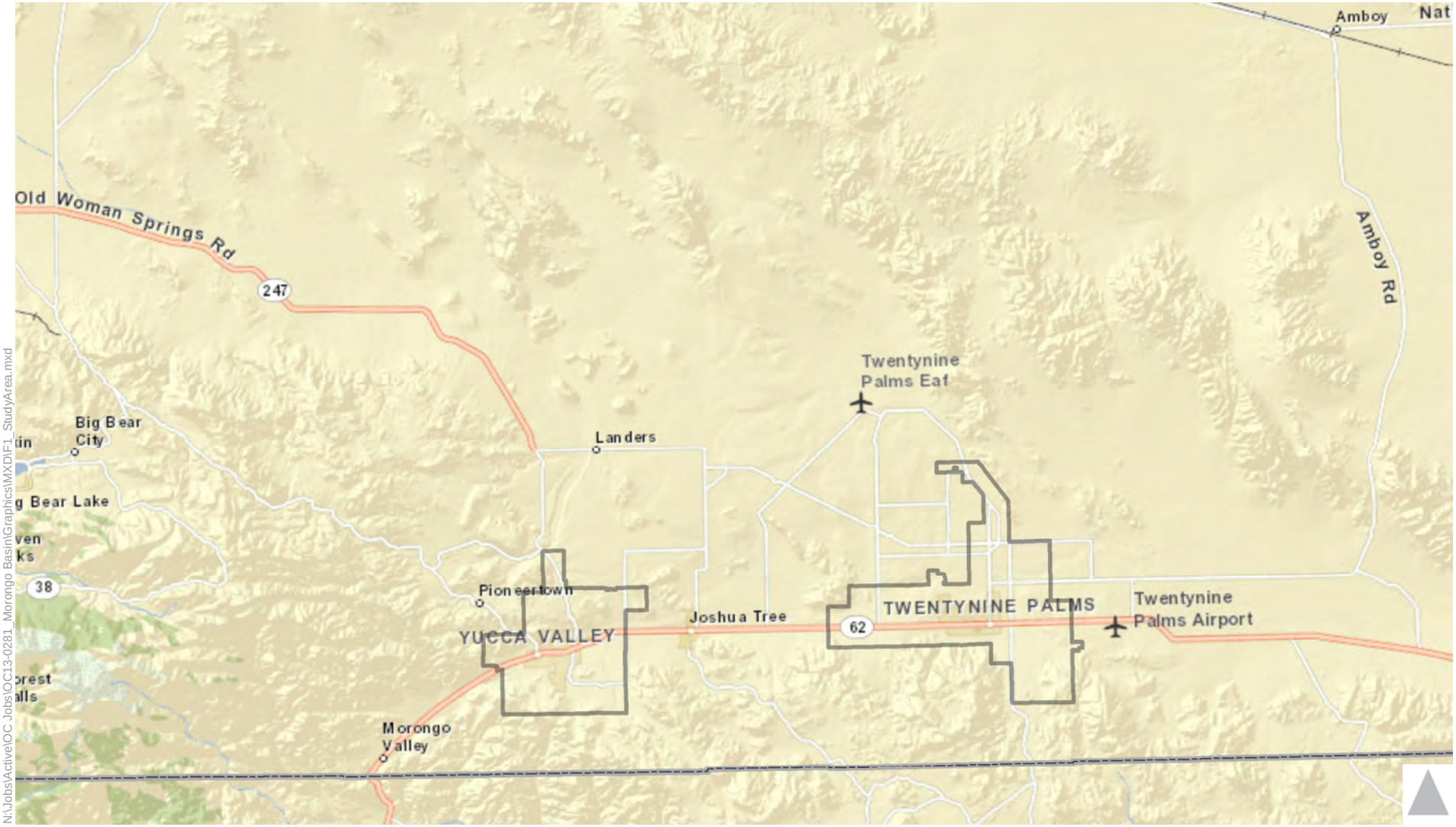


Figure 1

Study Area

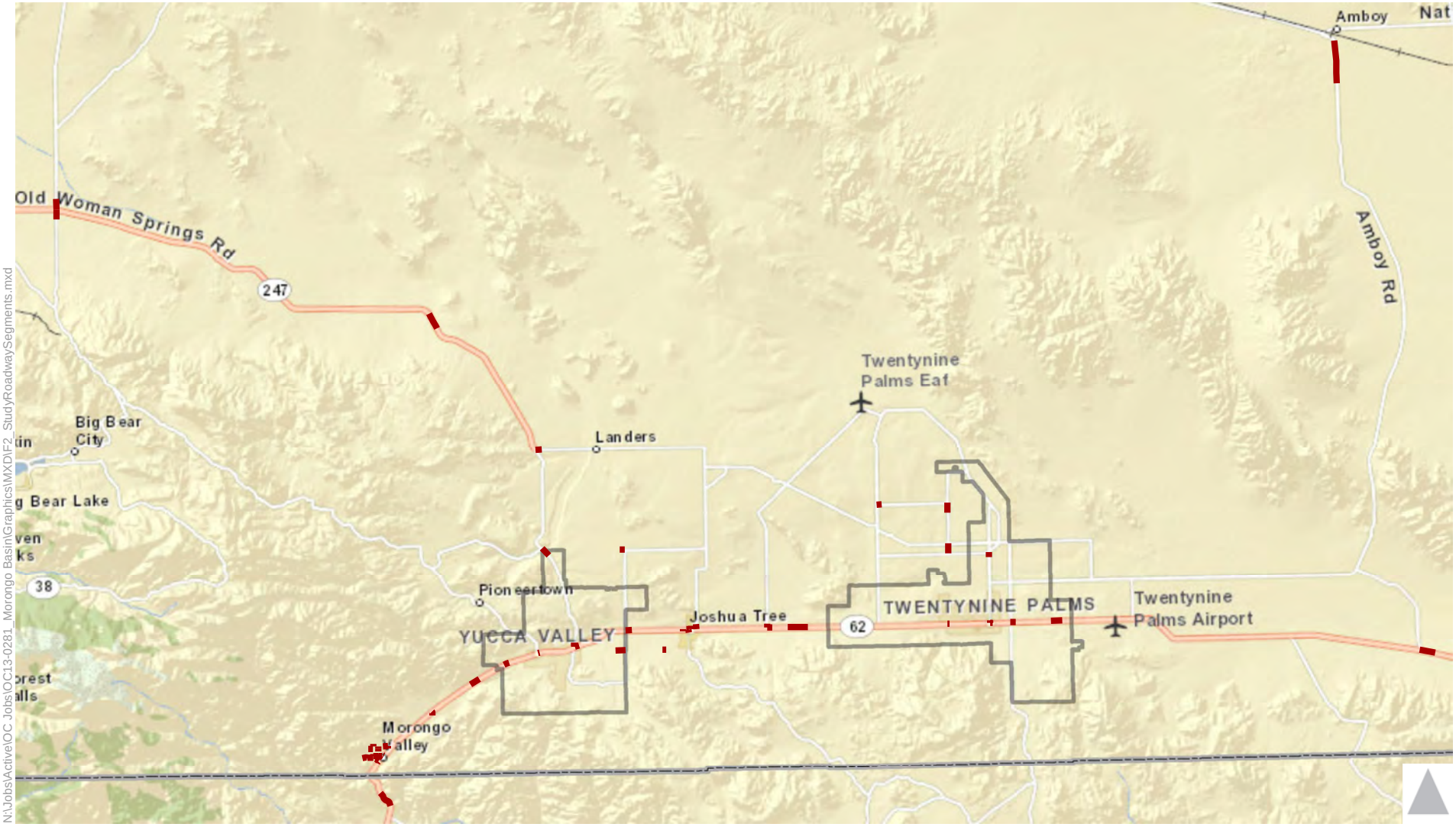
TABLE 1
STUDY ROADWAY SEGMENTS

Roadway	Extents	Jurisdiction
1. Aberdeen Dr	W/o Yucca Messa Dr	Yucca Valley
2. Adobe Rd	S/o Indian Trail	Twentynine Palms
3. Adobe Rd	N/o SR-62	Twentynine Palms
4. Alta Loma Dr	W/o Sunny Vista Rd	Joshua Tree (San Bernardino County)
5. Amboy Rd	S/o Amboy Cutoff	Twentynine Palms
6. Bella Vista Dr	S/o SR-62	Morongo (San Bernardino County)
7. Buena Vista Dr	W/o Juniper Ave	Morongo (San Bernardino County)
8. Camp Rock Rd	S/o SR-247	Lucerne Valley (San Bernardino County)
9. Camp Rock Rd	N/o SR-247	Lucerne Valley (San Bernardino County)
10. Canyon House Rd	S/o Hess Blvd	Morongo (San Bernardino County)
11. El Reposo St	N/o SR-62	Joshua Tree (San Bernardino County)
12. Hess Blvd	S/o Senilis Ave	Morongo (San Bernardino County)
13. Hess Blvd	S/o Adeline Way	Morongo (San Bernardino County)
14. Hess Blvd	N/o Sensilis Ave	Morongo (San Bernardino County)
15. Hess Blvd	S/o Pioneer Dr	Morongo (San Bernardino County)
16. Hess Blvd	N/o Mojave Dr	Morongo (San Bernardino County)
17. Hill View Rd	S/o SR-62	Joshua Tree (San Bernardino County)
18. Juniper Ave	N/o Sensilis Ave	Morongo (San Bernardino County)
19. Juniper Ave	N/o Pioneer Dr	Morongo (San Bernardino County)
20. Mocking Bird Lane	W/o Paradise Ave	Morongo (San Bernardino County)
21. Morongo Rd	N/o Indian Trail	Twentynine Palms
22. Morongo Rd	S/o Pole Line Rd	Twentynine Palms
23. Paradise Ave	W/o Juniper Ave	Morongo (San Bernardino County)
24. Park Blvd	S/o SR-62	Joshua Tree (San Bernardino County)
25. Pioneer Dr	W/ West Dr	Morongo (San Bernardino County)
26. Pole Line Rd	E/o Lear Ave	Twentynine Palms
27. Reche Rd	E/o SR-247	Landers (San Bernardino County)
28. Senilis Ave	W/o Hess Blvd	Morongo (San Bernardino County)
29. Senilis Ave	E/o Juniper Ave	Morongo (San Bernardino County)
30. Senilis Ave	W/o SR-62	Morongo (San Bernardino County)
31. Senilis Ave	E/ Hess Blvd	Morongo (San Bernardino County)
32. SR-247	N/o SR-62	Yucca Valley
33. SR-247	Between Daransatte Rd and Joshua Rd / PeachTree Rd	Landers
34. SR-247	S/o Pipes Canyon Rd	Yucca Valley
35. SR-62	N/o Indian Canyon Dr	Morongo (San Bernardino County)

TABLE 1, CONTINUED
STUDY ROADWAY SEGMENTS

Roadway	Extents	Jurisdiction
36. SR-62	W/o Hoopa Trail	Yucca Valley
37. SR-62	Fairway Drive - Pinon Drive	Yucca Valley
38. SR-62	W/o Pioneer Town Rd	Yucca Valley
39. SR-62	W/o SR-247	Yucca Valley
40. SR-62	W/o Yucca Mesa Rd	Yucca Valley
41. SR-62	W/o Park Blvd	Joshua Tree (San Bernardino County)
42. SR-62	W/o Sunfair Road	Joshua Tree (San Bernardino County)
43. SR-62	Cascade Road - Rotary way	Joshua Tree (San Bernardino County)
44. SR-62	E/o Hatch Rd	Twentynine Palms
45. SR-62	E/o Adobe Road	Twentynine Palms
46. SR-62	E/o Utah Trail	Twentynine Palms
47. SR-62	E/o Bullion Mountain Rd	Twentynine Palms
48. SR-62	E/o Ironage Road	Twentynine Palms
49. Sunburst Ave	N/o SR-62	Joshua Tree (San Bernardino County)
50. Sunfair Rd	N/o SR-62	Joshua Tree (San Bernardino County)
51. West Dr	S/o Pioneer Dr	Morongo (San Bernardino County)
52. Yucca Trail/Alta Loma	E/o La Contenta Rd	Yucca Valley

Source: Fehr & Peers, 2014



Study Roadway Segments

Figure 2

Study Roadway Segments

ANALYSIS METHODOLOGIES

Fehr & Peers analyzed the operation of the roadway system throughout the Morongo Basin study area. Operations for these facilities are expressed in terms of level of service. Level of service is a general measure of traffic operating conditions whereby a letter grade, from Level of Service (LOS) A (no congestion) to F (high levels of congestion), is assigned. LOS E represents "at capacity" operations. The flow of vehicles without significant impediments is considered "stable" whereas when traffic encounters interference that limits the capacity acutely, the flow becomes "unstable". These grades represent the perspective of drivers only and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver.

A roadway operations analysis was performed at the study roadway segments to provide an evaluation of how the roadway network is currently performing and is forecast to perform. It also provides an idea of the amount of traffic that will utilize each roadway and if the existing or proposed lane configurations can adequately handle the traffic volumes. Daily capacity thresholds in accordance with the *Highway Capacity Manual (Transportation Research Board, 2000), FHWA Guidelines for Roadway Paving* and the *Town of Yucca Valley General Plan Circulation Element* are presented in Table 2. This table establishes the maximum daily roadway capacities by street classifications.

TABLE 2
MAXIMUM DAILY ROADWAY CAPACITIES

Classification	Typical Lane Configuration	Daily Volume Thresholds				
		LOS A	LOS B	LOS C	LOS D	LOS E
Local Road	2 Lanes Undivided	--	--	--	1,500	2,000
Collector	2 Lanes Undivided	900	2,000	6,800	14,100	17,400
Industrial	2 Lanes Undivided	900	2,000	6,800	14,100	17,400
Arterial	2 Lanes Undivided	--	--	9,700	17,600	18,700
Arterial / Highway	4 Lanes Undivided	--	--	17,500	27,400	28,900
Arterial / Highway	4 Lanes Divided	--	--	19,200	35,400	37,400
Arterial / Highway	6 Lanes Divided	--	--	27,100	53,200	56,000

Source: Highway Capacity Manual (Transportation Research Board, 2000), FHWA Guidelines for Roadway Paving

ROADWAY SEGMENT OPERATIONS

Table 3 presents the daily traffic volume and LOS operations on study roadway segments. Relatively low traffic volumes were observed throughout the study area with the majority of traffic on SR-62 and SR-247. As shown below, all of the existing roadway segments, including regional facilities SR-62 and SR-247, are currently operating at acceptable daily levels of service.

TABLE 3
EXISTING DAILY STUDY ROADWAY SEGMENT OPERATIONS

Roadway	Extents	Classification	ADT	LOS
1. Aberdeen Dr	W/o Yucca Messa Dr	Collector - Undivided	1,420	C or Better
2. Adobe Trail	S/o Indian Trail	Arterial - 2 Lanes	5,450	C or Better
3. Adobe Trail	N/o SR-62	Arterial - 2 Lanes	8,940	C or Better
4. Alta Loma Dr	W/o Sunny Vista Rd	Collector - Undivided	4,150	C or Better
5. Amboy Rd	S/o Amboy Cutoff	Collector - Undivided	790	C or Better
6. Bella Vista Dr	S/o SR-62	Local Road	240	C or Better
7. Buena Vista Dr	W/o Juniper Ave	Local Road	490	C or Better
8. Camp Rock Rd	S/o SR-247	Collector - Undivided	510	C or Better
9. Camp Rock Rd	N/o SR-247	Collector - Undivided	1,270	C or Better
10. Canyon House Rd	S/o Hess Blvd	Local Road	450	C or Better
11. El Reposo St	N/o SR-62	Local Road	980	C or Better
12. Hess Blvd	S/o Senilis Ave	Collector - Undivided	2,990	C or Better
13. Hess Blvd	S/o Adeline Way	Collector - Undivided	1,240	C or Better
14. Hess Blvd	N/o Sensilis Ave	Collector - Undivided	790	C or Better
15. Hess Blvd	S/o Pioneer Dr	Collector - Undivided	580	C or Better
16. Hess Blvd	N/o Mojave Dr	Collector - Undivided	410	C or Better
17. Hill View Rd	S/o SR-62	Collector - Undivided	1,530	C or Better
18. Juniper Ave	N/o Sensilis Ave	Collector - Undivided	1,600	C or Better
19. Juniper Ave	N/o Pioneer Dr	Collector - Undivided	600	C or Better
20. Mocking Bird Lane	W/o Paradise Ave	Local Road	380	C or Better
21. Morongo Rd	N/o Indian Trail	Collector - Undivided	3,250	C or Better
22. Morongo Rd	S/o Pole Line Rd	Collector - Undivided	1,890	C or Better
23. Paradise Ave	W/o Juniper Ave	Collector - Undivided	790	C or Better
24. Park Blvd	S/o SR-62	Collector - Undivided	4,740	C or Better
25. Pioneer Dr	W/ West Dr	Collector - Undivided	980	C or Better
26. Pole Line Rd	E/o Lear Ave	Collector - Undivided	1,270	C or Better

TABLE 3, CONTINUED
EXISTING STUDY ROADWAY SEGMENT OPERATIONS

Roadway	Extents	Classification	ADT	LOS
27. Reche Rd	E/o SR-247	Collector - Undivided	1,530	C or Better
28. Senilis Ave	W/o Hess Blvd	Collector - Undivided	1,930	C or Better
29. Senilis Ave	E/o Juniper Ave	Collector - Undivided	1,660	C or Better
30. Senilis Ave	W/o SR-62	Collector - Undivided	1,420	C or Better
31. Senilis Ave	E/ Hess Blvd	Collector - Undivided	990	C or Better
32. SR-247	N/o SR-62	Arterial - 2 Lanes, Undivided	11,000	C or Better
33. SR-247	Between Daransatte Rd and Joshua Rd / PeachTree Rd	Arterial - 2 Lanes, Undivided	1,860	C or Better
34. SR-247	S/o Pipes Canyon Rd	Arterial - 2 Lanes, Undivided	2,610	C or Better
35. SR-62	N/o Indian Canyon Dr	Arterial / Highway - 4 Lanes, Divided	11,590	C or Better
36. SR-62	W/o Hoopa Trail	Arterial / Highway - 4 Lanes, Divided	14,080	C or Better
37. SR-62	Fairway Drive - Pinon Drive	Arterial / Highway - 4 Lanes, Divided	12,320	C or Better
38. SR-62	E/o Pioneer Town Rd	Arterial / Highway - 4 Lanes, Divided	26,500	C or Better
39. SR-62	E/o SR-247	Arterial / Highway - 4 Lanes, Divided	26,500	C or Better
40. SR-62	E/o Yucca Mesa Rd	Arterial / Highway - 4 Lanes, Undivided	19,500	C or Better
41. SR-62	W/o Park Blvd	Arterial / Highway - 4 Lanes, Divided	17,000	C or Better
42. SR-62	E/o Sunfair Road	Arterial / Highway - 4 Lanes, Undivided	14,000	C or Better
43. SR-62	Cascade Road - Rotary way	Arterial / Highway - 4 Lanes, Undivided	7,100	C or Better
44. SR-62	E/o Hatch Rd	Arterial / Highway - 4 Lanes, Divided	15,000	C or Better
45. SR-62	E/o Adobe Road	Arterial / Highway - 4 Lanes, Undivided	9,500	C or Better
46. SR-62	W/o Utah Trail	Arterial - 2 Lanes, Undivided	2,800	C or Better
47. SR-62	E/o Bullion Mountain Rd	Arterial - 2 Lanes	9,330	C or Better
48. SR-62	E/o Ironage Road	Arterial - 2 Lanes	340	C or Better
49. Sunburst Ave	N/o SR-62	Collector - Undivided	4,390	C or Better
50. Sunfair Rd	N/o SR-62	Collector - Undivided	1,200	C or Better
51. West Dr	S/o Pioneer Dr	Collector - Undivided	650	C or Better
52. Yucca Trail/Alta Loma	E/o La Contenta Rd	Collector - Undivided	5,490	C or Better

Source: Fehr & Peers, 2014

MODEL DEVELOPMENT AND FORECASTS

Fehr & Peers completed development of a detailed travel demand model as part of this assessment, which is referred to as the Morongo Basin Area Transportation Study (MBATS) travel demand forecasting model. This model initially began as the San Bernardino Traffic Analysis Model (SBTAM), which was then calibrated for use in the Yucca Valley General Plan Update (that model is referred to as YVTAM). As part of this study, SANBAG commissioned Fehr & Peers to further refine the YVTAM model for the entire Morongo Basin area, which is now referred to as the MBATS model.

The purpose of this section is to document the process and calibration efforts of MBATS for base and future conditions and to present future forecasting results.

YVTAM BACKGROUND INFORMATION

The original SBTAM model had 51 TAZs within the Town of Yucca Valley, and Fehr & Peers provided an additional 75 zones, for a total of 126 TAZs. The roadway network and TAZ loadings were also refined with further detail. The Base Year Model was validated to 2011 conditions from which a 2035 Future Year model was developed. This validation process adds additional detail to the study area and ensured that the regional model is providing appropriate forecasts throughout the study area. This process is consistent with guidance related to applying travel demand forecasting models by ensuring that they have sufficient detail and assumptions to forecast traffic volumes in the study area to the best of their ability. This process is considered state-of-the-practice for developing traffic forecasts for this project and tiers off of the available models to ensure consistency with countywide and regional (SCAG) land use and transportation planning assumptions.

MBATS MODEL

Fehr & Peers began the MBATS model development with the YVTAM. YVTAM was further refined and detailed to include the Morongo Basin study area. The TAZ structure was examined and ultimately six new TAZs were added to the model. The number of TAZs before and after the modifications is shown by jurisdiction in Table 4. The roadway network was examined and refined to include any roadway classified in a jurisdictional general plan and TAZ centroid loadings were adjusted to reflect existing conditions. The revisions to the SBTAM roadway network and TAZ structure are presented in Appendix B.

TABLE 4
MBATS MODEL TAZS BY JURISDICTION

City	Number of TAZ's in SBTAM	Number of TAZ's in MBATS
Morongo Valley	2	6
Yucca Valley	51	126
Joshua Tree	7	7
Twentynine Palms	49	51
Unincorporated County	134	134
Total	**243**	**324**

MODEL LAND USE UPDATES

Fehr & Peers reviewed the socioeconomic data (SED) for the base year model and future year model and compared that data to the most recent SED projections provided by the Southern California Association of Governments (SCAG). SCAG is currently updating their regional model as part of the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), including developing base year 2012 SED throughout the region which was ultimately used for the MBATS base year. Summaries of the datasets and of the comparison are presented in Table 5 through Table 7 and SED growth used in modeling is presented by TAZ in Appendix C. SANBAG also developed updated future year 2040 SED forecasts as part of the 2016-2040 RTP/SCS development process and this updated SANBAG dataset was used as the future year SED in MBATS. The differences between the original SBTAM 2035 future year SED based on the 2012-2035 RTP and the SANBAG 2040 future year SED are presented in Table 8 through Table 10.

TABLE 5
SBTAM BASE YEAR (2008) SED

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	5,786	2,352	1,471	742
Morongo	2,028	905	134	226
Twentynine Palms	29,398	8,721	2,673	3,470
Yucca Valley	20,262	8,353	4,626	4,050
Unincorporated County	24,099	8,217	1,477	553
Total	**81,573**	**28,548**	**10,381**	**9,041**

TABLE 6
SCAG 2016-2040 RTP (2012) SED

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	5,648	2,347	1,465	819
Morongo	2,098	962	153	0
Twentynine Palms	32,690	10,578	3,366	4,906
Yucca Valley	25,535	11,542	5,981	2,738
Unincorporated County	26,288	9,660	2,919	3,632
Total	**92,259**	**35,089**	**13,883**	**12,095**

TABLE 7
SBTAM 2008 BASE YEAR AND SCAG 2016-2040 RTP (2012) SED DIFFERENCE

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	-138	-5	-6	77
Morongo	70	57	19	-226
Twentynine Palms	3,292	1,857	693	1,436
Yucca Valley	5,273	3,189	1,355	-1,312
Unincorporated County	2,189	1,443	1,442	3,079
Total	**10,686**	**6,541**	**3,502**	**3,054**

TABLE 8
SBTAM FUTURE YEAR (2035) SED

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	8,050	3,411	1,779	1,023
Morongo	2,331	1,086	152	226
Twentynine Palms	29,591	10,651	3,768	5,598
Yucca Valley	59,733	25,122	31,519	5,169
Unincorporated County	30,502	12,318	3,926	1,960
Total	**130,207**	**52,588**	**41,144**	**13,976**

TABLE 9
SANBAG FUTURE YEAR (2040) SED

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	9,253	3,000	2,706	1,021
Morongo	3,172	1,030	298	226
Twentynine Palms	25,505	9,532	6,894	5,639
Yucca Valley	28,481	11,487	10,017	5,236
Unincorporated County	31,669	10,601	3,003	1,659
Total	**98,080**	**35,650**	**22,918**	**13,781**

TABLE 10
SBTAM FUTURE YEAR AND SANBAG FUTURE YEAR SED DIFFERENCE

Jurisdiction	Population	Households	Employment	K-12
Joshua Tree	1,203	-411	927	-2
Morongo	841	-56	146	0
Twentynine Palms	-4,086	-1,119	3,126	41
Yucca Valley	-31,252	-13,635	-21,502	67
Unincorporated County	1,167	-1,717	-923	-301
Total	**-32,127**	**-16,938**	**-18,226**	**-195**

BASE YEAR MODEL VALIDATION

Static Validation

A key task within any Travel Demand Model effort is the validation of the base year model. In this process, the model is compared against validation criteria identified by Caltrans, the Federal Highways Administration (FHWA), and the California Transportation Commission (CTC). These criteria were developed to ensure that a model can accurately forecast existing conditions based on land use and roadway network information, which improves the model's ability to accurately forecast future conditions. Valid base-year models are the starting point for developing defensible forecasts for changes in the roadway network and/or changes in proposed land use.

The first step of any model validation is to ensure that the model generally produces similar results to existing counts. Key metrics for model validation are described below:

- The volume-to-count ratio is computed by dividing the volume assigned by the model and the actual traffic count for individual roadways model-wide. The volume-to-count ratio should be within 10% of 1.0.
- The deviation is the difference between the model volume and the actual count divided by the actual count. Caltrans provides guidance on the maximum allowable deviation by facility type (e.g. lower-volume roadways can have a higher deviation than higher-volume roadways). At least 75% of the study facilities must be within the maximum allowable deviation.
- The correlation coefficient estimates the correlation between the actual traffic counts and the estimated traffic volumes from the model. The correlation coefficient should be greater than 0.88.
- The percent Root Mean Square Error (RMSE) is the square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model. The RMSE should be less than 40%.

The model validation statistics are summarized in Table 11 and the full validation summary is in Appendix D. As shown in Table 11, the model meets or exceeds the identified model validation statistics in the study area.

TABLE 11
MBATS TRAVEL DEMAND FORECASTING MODEL STATIC VALIDATION

Metric	Model Validation	Maximum Allowable Deviation
Daily – 34 Count Locations		
Model/Count Ratio	0.94	between 0.90 and 1.10
Percent Within Caltrans Maximum Deviation	85%	> 75%
Percent Root Mean Square Error	32%	< 40%
Correlation Coefficient	0.97	> 0.88

Source: Fehr & Peers, 2014

Dynamic Validation

The traditional approach to the validation of travel demand models is to compare the roadway segment volumes for the model's base year to actual traffic counts collected in the same year. This approach provides information on a model's ability to reproduce a static condition. However, models are seldom used for static applications; by far the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. Therefore, another test of a model's accuracy is to focus on the model's ability to predict realistic differences in outputs as inputs are changed; in other words, "dynamic" validation rather than static validation.



Dynamic validation determines a model's sensitivity to changes in land uses and/or the transportation system. These tests are recommended in Model Validation and Reasonableness Checking Manual (Travel Model Improvement Program, FHWA, 1997). The results of dynamic validation tests are inspected for reasonableness in the direction and magnitude of the changes.

Fehr & Peers made adjustments to the model roadway networks and SED data to determine if the model results would shift in the expected direction. Model runs were completed and traffic volumes were compared to the validated base year to verify whether the volumes changed in the appropriate direction and magnitude. Several tests and their results are summarized below. Since the results of the sensitivity testing returned reasonable shifts in traffic volumes according to the modifications, the model was confirmed as appropriate for use in this assessment.

- Major roadways in the study area, such as Adobe Road and Yucca Mesa Road, were modified by increasing and decreasing the number of lanes or speeds. As expected, the roadways with higher number of lanes or speeds attracted more traffic volumes with all else equal.
- Parallel roadways adjacent to SR-62 were modified, added and deleted to test shifts in traffic volumes. As expected, when parallel facilities were modified to increase capacity, traffic shifted off of SR-62 and on to the parallel facilities. When parallel facilities were deleted, the volumes that were on that facility shifted in expected magnitudes to SR-62.
- Land use modifications were made by increasing the population or employment totals and were tested for reasonable trip generation. When jobs and households are added to the model the increase in vehicle trips is reasonable and the average per unit vehicle trip increase for jobs and households remains relatively constant across time periods and at various magnitudes.

FUTURE (YEAR 2040) MODELING ASSUMPTIONS

Year 2040 provides a long range planning horizon (consistent with many planning applications) and it is consistent with the future year of the next regional transportation plan (2016-2040 RTP/SCS). For the MBATS modeling effort, all modifications incorporated into the validated base year model were incorporated into the Future Year (2040) Travel Demand Forecasting Model. The future year model roadway network was then stripped down to identically mimic the base year model roadway network in terms of existing roadways, speeds, and number of lanes. This was done to model the future roadway volumes on a constrained existing network in order to identify the facilities that should be prioritized to be improved.

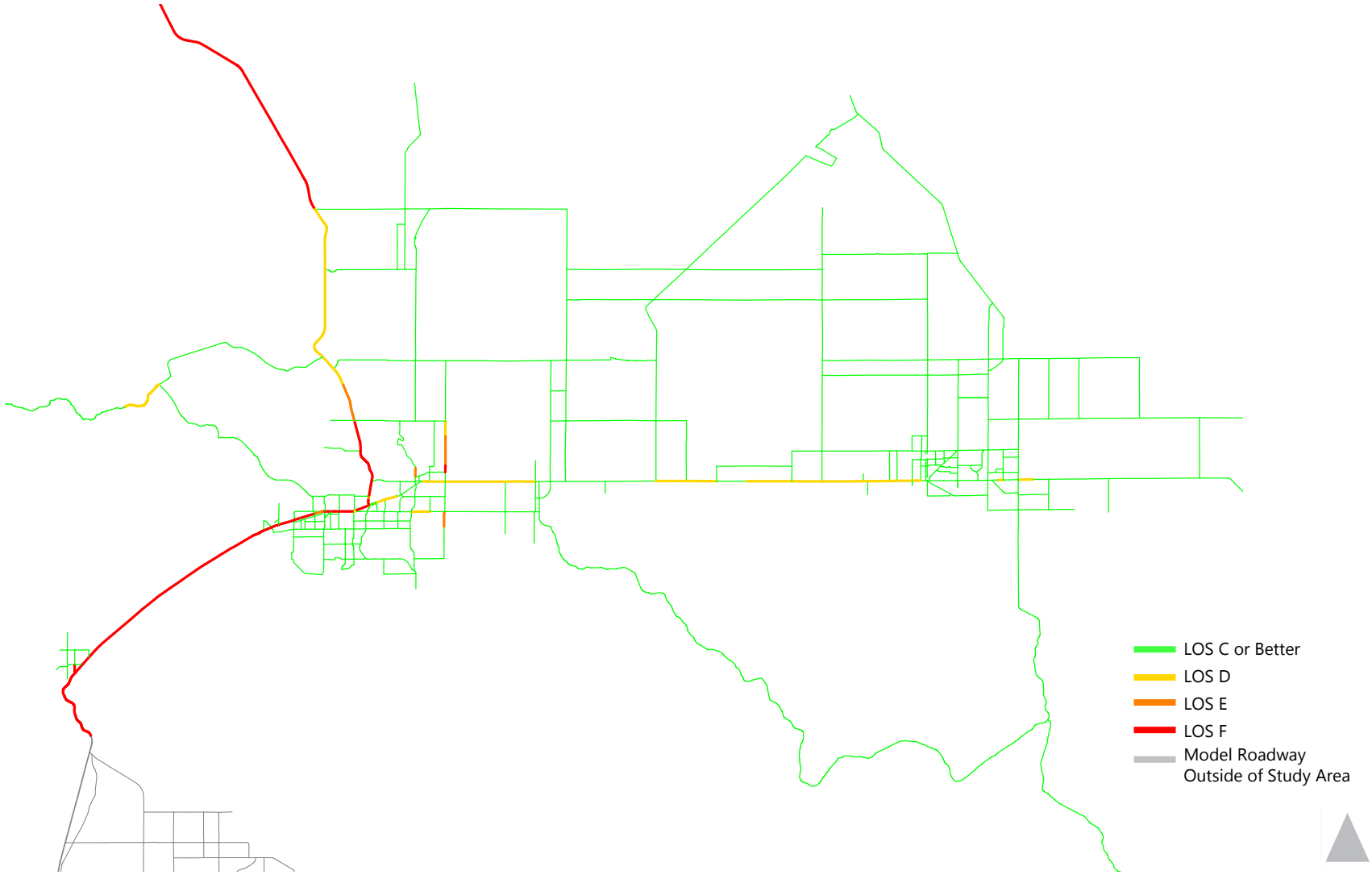
FUTURE (YEAR 2040) FORECASTING AND OPERATIONS ASSESSMENT

Future baseline model forecasts were developed from the validated MBATS model. The results were then analyzed with roadway segment methodology thresholds listed in Table 2. The forecast volumes and LOS results for all model roadway segments are provided in Appendix E, and an operations summary is provided in Figure 3. The analysis was used to identify where future traffic congestion is likely to occur. Table 12 below provides a summary of the facilities that are forecast to be over capacity.

TABLE 12
FORECAST DAILY 2040 ROADWAY SEGMENT OPERATIONS

Facility	Extents	Jurisdiction	Existing Number of Lanes & Capacity	Forecast ADT	V/C & Forecast LOS
SR-62	San Bernardino County Line to Western Yucca Valley Town Limits	San Bernardino County, Morongo Valley	4 lanes at 37,400 vehicles per day	47,300	1.26 (F)
SR-62	Western Yucca Valley Limits to SR-247	Yucca Valley	4 lanes at 37,400 vehicles per day	42,800	1.14 (F)
SR-247	Northern Morongo Basin Boundary Limits to Northern Yucca Valley Town Limits	San Bernardino County	2 lanes at 18,000 vehicles per day	18,800	1.04 (F)
SR-247	Northern Yucca Valley Town Limits to SR-62	Yucca Valley	2 lanes at 18,000 vehicles per day	21,200	1.18 (F)
Yucca Mesa Rd	Buena Vista Drive to SR-62	Yucca Valley	2 lanes at 13,000 vehicles per day	13,300	1.02 (F)

Source: Fehr & Peers, 2014



N:\Jobs\Active\OC Jobs\OC13-0281_Morongo Basin\Graphics\MXD

Figure 3

2040 Forecast Daily LOS

IMPROVEMENT PROJECT RECOMMENDATIONS

The analysis was utilized to assist in identifying future required roadway network improvements in the MBATS area. Based on those results, several roadways and intersections were identified to be improved to satisfy the needs of future traffic volumes.

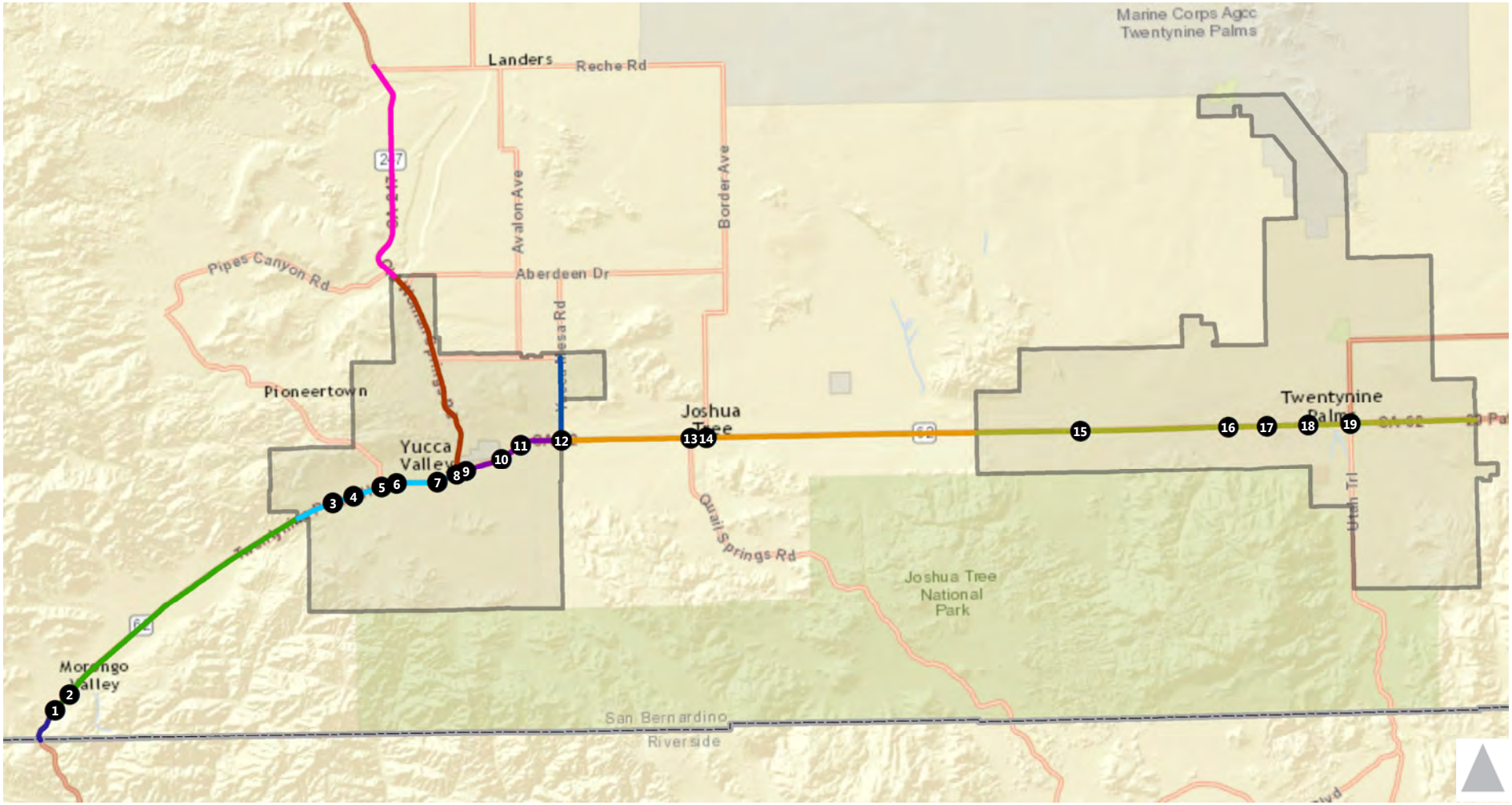
RECOMMENDED IMPROVEMENT LOCATIONS

Increased capacity will be needed along SR-62, SR-247 and Yucca Mesa Road in the form of additional lanes and operational improvements at intersections along SR-62. The widening of SR-247 and Yucca Mesa Road within Yucca Valley is consistent with the Yucca Valley General Plan Circulation Element. Table 13 presents the level of service along each of these roadways with the proposed improvements. Figure 4 identifies the locations of the roadway segment improvements.

TABLE 13
RECOMMENDED ROADWAY SEGMENT IMPROVEMENTS & OPERATIONS

Facility	Extents	V/C & LOS Prior to Improvements	Proposed Improvement & New Capacity	V/C & LOS After Improvements
SR-62	San Bernardino County Line to Western Yucca Valley Town Limits	1.26 (F)	Widen by 1 lane in each direction providing for 56,000 vehicles per day	0.84 (D)
SR-62	Western Yucca Valley Limits to SR-247	1.14 (F)	Widen by 1 lane in each direction providing for 56,000 vehicles per day	0.76 (C or better)
SR-247	Northern Morongo Basin Boundary Limits to Northern Yucca Valley Town Limits	1.04 (F)	Widen by 1 lane in each direction providing for 34,100 vehicles per day	0.55 (C or better)
SR-247	Northern Yucca Valley Town Limits to SR-62	1.18 (F)	Widen by 1 lane in each direction providing for 34,100 vehicles per day	0.62 (C or better)
Yucca Mesa Rd	Buena Vista Drive to SR-62	1.02 (F)	Widen by 1 lane in each direction providing for 25,900 vehicles per day	0.51 (C or better)

Source: Fehr & Peers, 2014



N:\Jobs\Active\OC Jobs\OC13-0281_Morongo Basin\Graphics\MXD\F4_MBATS Improvement Locations.mxd

● Intersection

Improvement Locations

[1] SR-62 (San Bernardino County Line to Hess Boulevard)
[2] SR-62 (Hess Boulevard to Western Yucca Valley Town Limits)
[3] SR-62 (Western Yucca Valley Limits to SR-247)
[4] SR-62 (SR-247 - Eastern Yucca Valley Town Limits)
[5] SR-62 (Yucca Valley Town Limits - Twentynine Palms City Limits)
[6] SR-62 (Twentynine Palms: Western City Limits to Eastern City Limits)
[7] SR-247 (Northern Morongo Basin Boundary Limits to Northern Yucca Valley Town Limits)
[8] SR-247 (Northern Yucca Valley Town Limits to SR-62)
[9] Yucca Mesa Drive (Buena Vista Drive to SR-62)

Figure 4

MBATS Recommended Improvement Locations

Intersections were also identified along SR-62 that would require signalization or signal modifications in order to meet the future traffic demands. These signal modifications could include additional through lanes and turn lanes, signal pole replacement and upgrades, or other intersection improvements. These locations are listed below in Table 14 and shown on Figure 4.

TABLE 14
INTERSECTIONS IMPROVEMENTS

Intersection	Jurisdiction	Improvement
1. SR-62 & Hess Blvd	San Bernardino County, Morongo Valley	Signalization
2. SR-62 & Senilis Ave	San Bernardino County, Morongo Valley	Signal Modification
3. SR-62 & Camino Del Cielo	Yucca Valley	Signal Modification
4. SR-62 & Kickapoo Trail	Yucca Valley	Signal Modification
5. SR-62 & Pioneertown Rd	Yucca Valley	Signal Modification
6. SR-62 & Acoma Trail	Yucca Valley	Signal Modification
7. SR-62 & Sage Ave	Yucca Valley	Signal Modification
8. SR-62 & SR-247	Yucca Valley	Signal Modification
9. SR-62 & Airway Ave	Yucca Valley	Signal Modification
10. SR-62 & Balsa Ave	Yucca Valley	Signal Modification
11. SR-62 & Avalon Ave	Yucca Valley	Signal Modification
12. SR-62 & Yucca Mesa Rd	Yucca Valley	Signal Modification
13. SR-62 & Sunburst Ave	San Bernardino County, Joshua Tree	Signal Modification
14. SR-62 & Park Blvd	San Bernardino County, Joshua Tree	Signal Modification
15. SR-62 & Lear Ave	Twentynine Palms	Signalization
16. SR-62 & Larrea Ave	Twentynine Palms	Signal Modification
17. SR-62 & Mesquite Springs Rd	Twentynine Palms	Signalization
18. SR-62 & Adobe Rd	Twentynine Palms	Signal Modification
19. SR-62 & Utah Trail	Twentynine Palms	Signalization

COST ESTIMATES

Michael Baker International provided planning-level cost estimates for the recommended improvements at each location. The cost estimates are separated into roadway segments by jurisdiction and paired with the intersection improvements to determine a final cost estimate. The segment numbers are shown graphically in Figure 4. For simplicity purposes, the cost estimate was broken into three tiers of detail, a summary, an estimate with major cost items, and then cost templates with item breakdowns.

The line item cost estimates are the key component of the costing process. Essentially, the line items provide a lump sum fee for some items, such as signal modifications; but for linear roadway improvements or volume-related material estimates, a refined yet simplistic analysis was required for the scope of the estimate. For these items, the line items assume a unit cost per foot of the roadway cross section. Then, a factor is applied to the unit cost for each item. Once a desktop aerial evaluation was completed and improvements were identified, observations (i.e. percentage/length for removal of item along the segment) and assumptions were noted and calculated for the amount. The templates are then referenced into each segment's cost estimate and multiplied by the distance. Improvement Segments 1, 2, 6, 7 and 8 utilize this approach due to the recommended widening improvements.

The estimates are for planning purposes only and are based on today's fair market prices according to California Department of Transportation Construction Contract Standards. The conservative estimates represented in this report are not all inclusive and careful judgment should be used when referring to these estimates. Each segment would require a future focused assessment and adequately scoped project in order to better identify financial funding. Finally, since not incorporated into the estimate, it is recommended that an escalation analysis be conducted once planning scopes solidify.

A summary of the cost estimate of each segment is provided in Table 15 through Table 23 and the total cost estimate for the entirety of the improvements is provided in Table 24. The total estimated cost in current year dollars to implement all recommended improvements is approximately $124 million. Detailed cost estimate templates and assumptions for material and construction costs are provided in Appendix F.

TABLE 15
SEGMENT 1 IMPROVEMENTS COST ESTIMATES

Segment:	SR-62 (San Bernardino County Line to Hess Boulevard)	
Improvements:	Widen SR-62 by one lane in each direction	
Jurisdiction:	San Bernardino County	
	Construction Subtotal With Contingency	$13,226,000
	Right of Way	$30,000
	Preliminary and Final Engineering (25%)	$3,307,000
	Construction Support (10%)	$1,984,000
	Segment Total	**$18,546,000**

TABLE 16 **SEGMENT 2 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-62 (Hess Boulevard to Western Yucca Valley Town Limits)	
Intersections:	1. At Hess Blvd, 2. At Senilis Ave	
Improvements:	Widen SR-62 by one lane in each direction, signalize intersection at Hess Boulevard	
Jurisdiction:	San Bernardino County	
	Construction Subtotal With Contingency	$21,368,000
	Right of Way	$220,000
	Preliminary and Final Engineering (25%)	$5,342,000
	Construction Support (10%)	$3,205,000
	Segment Total	**$30,135,000**

TABLE 17 **SEGMENT 3 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-62 (Western Yucca Valley Limits to SR-247)	
Intersections:	3. At Camino Del Cielo, 4. At Kickapoo Trail, 5. At Pioneertown Rd, 6. At Acoma Trail, 7. At Sage Ave, 8. At SR-247	
Improvements:	Widen SR-62 by one lane in each direction, signal modifications at all intersections	
Jurisdiction:	Yucca Valley	
	Construction Subtotal With Contingency	$18,237,000
	Right of Way	$120,000
	Preliminary and Final Engineering (25%)	$4,559,000
	Construction Support (10%)	$2,736,000
	Segment Total	**$25,651,000**

TABLE 18 **SEGMENT 4 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-62 (SR-247 to Eastern Yucca Valley Town Limits)	
Intersections:	9. At Airway Ave, 10. At Balsa Ave, 11. At Avalon Ave, 12. At Yucca Mesa Rd	
Improvements:	Signal modifications at all intersections	
Jurisdiction:	Yucca Valley	
	Construction Subtotal With Contingency	$2,340,000
	Preliminary and Final Engineering (25%)	$585,000
	Construction Support (10%)	$351,000
	Segment Total	**$3,276,000**

TABLE 19 **SEGMENT 5 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-62 (Yucca Valley Town Limits to Twentynine Palms City Limits)	
Intersections:	13. At Sunburst Ave, 14. At Park Blvd	
Improvements:	Signal modifications at all intersections	
Jurisdiction:	San Bernardino County	
	Construction Subtotal With Contingency	$1,170,000
	Preliminary and Final Engineering (25%)	$292,500
	Construction Support (10%)	$175,500
	Segment Total	**$1,638,000**

TABLE 20 **SEGMENT 6 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-62 (Twentynine Palms Western City Limits to Eastern City Limits)	
Intersections:	15. At Lear Ave, 16. At Larrea Ave, 17. At Mesquite Springs Rd, 18. At Adobe Rd 19. At Utah Trail	
Improvements:	Signal modifications at Larrea Ave and Adobe Rd, signalize remaining intersections	
Jurisdiction:	Twentynine Palms	
	Construction Subtotal With Contingency	$4,095,000
	Preliminary and Final Engineering (25%)	$1,024,000
	Construction Support (10%)	$614,000
	Segment Total	**$5,733,000**

TABLE 21 **SEGMENT 7 IMPROVEMENTS COST ESTIMATES**		
Segment:	SR-247 (Northern Morongo Basin Boundary Limits to Northern Yucca Valley Town Limits)	
Improvements:	Widen SR-247 by one lane in each direction	
Jurisdiction:	San Bernardino County	
	Construction Subtotal With Contingency	$12,086,000
	Right of Way	$170,000
	Preliminary and Final Engineering (25%)	$3,022,000
	Construction Support (10%)	$1,813,000
	Segment Total	**$17,091,000**

TABLE 22 **SEGMENT 8 IMPROVEMENTS COST ESTIMATES**	
Segment:	SR-247 (Northern Yucca Valley Town Limits to SR-62)
Improvements:	Widen SR-247 by one lane in each direction
Jurisdiction:	Yucca Valley
Construction Subtotal With Contingency	$11,885,000
Right of Way	$150,000
Preliminary and Final Engineering (25%)	$2,971,000
Construction Support (10%)	$1,783,000
Segment Total	**$16,789,000**

TABLE 23 **SEGMENT 9 IMPROVEMENTS COST ESTIMATES**	
Segment:	Yucca Mesa Drive (Buena Vista Drive to SR-62)
Improvements:	Widen Yucca Mesa Dr by one lane in each direction
Jurisdiction:	Yucca Valley
Construction Subtotal With Contingency	$4,108,000
Right of Way	$60,000
Preliminary and Final Engineering (25%)	$1,027,000
Construction Support (10%)	$616,000
Segment Total	**$5,811,000**

TABLE 24 TOTAL IMPROVEMENTS COST ESTIMATES	
Construction Subtotal With Contingency	$88,515,000
Right of Way	$750,000
Preliminary and Final Engineering (25%)	$22,129,000
Construction Support (10%)	$13,277,000
Project Total	**$124,671,000**

IMPLEMENTATION PLAN

Fehr & Peers utilized the MBATS model to identify growth at each of the locations where improvements are identified. These forecasts were linearly interpolated to identify when each of the improvements would need additional capacity. Please note that, given the broad planning nature of this assessment, our implementation plan identifies five-year increments for identifying when improvements would be required.

IMPLEMENTATION PRIORITY 1

Segments 2 and 3 (SR-62 from Hess Boulevard to western Yucca Valley Town limits and SR-62 from western Yucca Valley limits to SR-247) are forecast to need additional traffic capacity between years 2025 and 2030.

IMPLEMENTATION PRIORITY 2

Segment 7 (SR-247 from northern Yucca Valley Town limits to SR-62) is forecast to need additional capacity between years 2030 and 2035.

IMPLEMENTATION PRIORITY 3

Segments 6 and 8 (SR-247 from northern Morongo Basin boundary limits to northern Yucca Valley Town limits and Yucca Mesa Road from Buena Vista Drive to SR-62) are forecast to need additional traffic capacity between years 2035 and 2040.

IMPLEMENTATION PRIORITY 4

Segments 3, 4 and 5 are along SR-62 from SR-247 to Twentynine Palms eastern City limits and consist of signalized intersection installations and modifications. The future forecasts indicate that these improvements will be needed between years 2035 and 2040.

IMPLEMENTATION PRIORITY 5

Segment 1 (SR-62 from San Bernardino County Line to Hess Boulevard) is forecast to need additional traffic capacity between years 2025 and 2030. However, this segment is adjacent to Riverside County, who has no pending plans to widen their facility. In the future, if Riverside County develops plans to widen their portion of SR-62, then this segment should be given a higher priority. Otherwise, this segment will remain Implementation Priority 5.

APPENDIX A: TRAFFIC COUNTS



Caltrans Performance Measurement System (PeMS) Counts

Traffic Data Branch

2012 All Traffic Volumes on CSHS

Dist	Rte	CO		Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
8	62	RIV	R	3.344	PIERSON BOULEVARD	1750	18300	17500	1600	16700	16000
8	62	RIV	R	6.451	INDIAN AVENUE	1600	16700	16000	2050	21400	20500
8	62	RIV		9.237	RIVERSIDE/SAN BERNARDINO COUNTY LINE	2050	21400	20500			
8	62	SBD		0	RIVERSIDE/SAN BERNARDINO COUNTY LINE				2050	21400	20500
8	62	SBD		0.845	HESS BOULEVARD	2050	21400	20500	2000	20900	20000
8	62	SBD		1.884	MORONGO VALLEY, PIONEER/EAST	2050	21400	20500	2050	21400	20500
8	62	SBD		9.293	YUCCA VALLEY, CAMINO DEL CIELO	2000	20900	20000	2000	20900	20000
8	62	SBD		10.531	YUCCA VALLEY, PIONEER TOWN RD	2400	25000	24000	2650	27500	26500
8	62	SBD		12.404	YUCCA VALLEY, JCT. RTE. 247 NORTH	2700	28000	27000	2700	28000	26500
8	62	SBD		15.145	YUCCA MESA ROAD	2700	28000	26500	1950	20500	19500
8	62	SBD		18.267	JOSHUA TREE, PARK BOULEVARD	1700	17900	17000	1700	17900	17000
8	62	SBD		22.165	SUNFAIR ROAD	1700	17900	17000	1400	14700	14000
8	62	SBD		31.196	TWENTYNINE PALMS, NATIONAL PARK/HAT	1400	14700	14000	1500	15800	15000
8	62	SBD		33.208	TWENTYNINE PALMS, ADOBE ROAD	1100	11600	11000	960	10000	9500
8	62	SBD		34.223	29 PALMS/UTAH TRAIL	770	5300	4800	450	3050	2800
8	62	SBD		79.476	SAN BERNARDINO/RIVERSIDE COUNTY LINE	130	880	800			
8	62	RIV		79.476	SAN BERNARDINO/RIVERSIDE COUNTY LINE				130	1150	800
8	62	RIV		84.965	JCT. RTE. 177 SOUTH	220	1150	800	380	2000	1400
8	62	RIV		90.203	RIVERSIDE/SAN BERNARDINO COUNTY LINE	380	2000	1400			
8	62	SBD		90.203	RIVERSIDE/SAN BERNARDINO COUNTY LINE				380	2000	1400
8	62	SBD		102.25	CADIZ ROAD	380	2000	1400	380	2000	1400
8	62	SBD		107.24	BLYTHE RICE ROAD	380	2000	1400	380	2000	1400
8	62	SBD		125.76	JCT. RTE. 95	380	1950	1400	440	2700	2300
8	62	SBD		142.66	ARIZONA STATE LINE	1100	6700	5700			
6	63	TUL		0	TULARE JCT. RTE. 137				1550	17200	16500

Dist	Rte	CO		Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
8	247	SBD		0	YUCCA VALLEY, JCT. RTE. 62				1050	11400	11000
8	247	SBD		39.598	CAMP ROCK ROAD	270	2900	2800	210	2250	2200
8	247	SBD		44.85	JCT. RTE. 18	270	2900	2800	190	1900	1800
8	247	SBD		46.114	RABBIT SPRING ROAD	190	1900	1800	190	1850	1750
8	247	SBD		56.475	LUCERNE VALLEY CUTOFF ROAD	190	1850	1750	210	2100	1950
8	247	SBD		73.181	STODDARD WELLS ROAD	210	2100	1950	180	1850	1700
8	247	SBD		76.422	BARSTOW CITY LIMITS	190	1900	1750	1400	14000	13000
8	247	SBD		78.096	BARSTOW, JCT. RTE. 15	1950	19300	18000			
1	253	MEN		0	BOONVILLE, JCT. RTE. 128				210	2200	2100
1	253	MEN		17.18	UKIAH, JCT. RTE. 101	250	2900	2700			
1	254	HUM		0	JCT. RTE. 101				200	1500	800
1	254	HUM		4.837	MIRANDA BRIDGE RD	200	1400	780	450	3250	1650
1	254	HUM		12.327	JCT. RTE. 101	260	2000	1000	160	1200	650
1	254	HUM		16.84	BURLINGTON STATE PARK	150	1200	600	160	1200	600
1	254	HUM		18.8	WEOTT, NORTH	160	1200	600	150	750	550
1	254	HUM		24.21	ENGLEWOOD PARK, DYERVILLE, NORTH	130	550	450	100	550	350
1	254	HUM		46.53	JCT. RTE. 101, JORDAN RD	100	550	350			
1	255	HUM		0	EUREKA, JCT. RTE. 101				1050	10000	9500
1	255	HUM		2.028	NAVY BASE ROAD	880	8400	8000	790	7600	7200
1	255	HUM		3.657	DEAN/PACIFIC AVENUES	790	7600	7200	780	7500	7100
1	255	HUM		4.728	YOUNG LANE	780	7500	7100	770	7400	7000
1	255	HUM	R	5.13	MAD RIVER SLOUGH BRIDGE	770	7400	7000	830	7900	7500
1	255	HUM		8.352	ARCATA, K STREET	830	7900	7500	930	9000	8600
1	255	HUM		8.525	ARCATA, H STREET	930	9000	8600	1100	10500	10200
1	255	HUM		8.584	ARCATA, G STREET	1100	10500	10200	1650	15900	15500

SANBAG database Counts

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-62 between Cascade Rd & Rotary Way

Day: Wednesday
Date: 11/6/2013

City: Joshua Tree
Project #: CA13_6168_042

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	36	10	0	3	0	0	0	0	0	0	0	0	49
01:00	0	36	4	0	3	0	0	0	0	0	1	0	0	44
02:00	0	23	3	1	7	0	0	0	2	0	0	0	0	36
03:00	0	39	5	2	7	0	0	0	2	0	0	0	0	55
04:00	0	87	25	0	21	0	0	1	5	0	0	0	0	139
05:00	2	259	71	3	61	0	0	2	10	0	0	0	0	408
06:00	4	540	112	4	104	2	0	0	17	0	1	0	0	784
07:00	1	558	137	7	126	1	0	0	17	0	3	0	0	850
08:00	1	516	128	8	122	0	0	0	27	0	2	0	0	804
09:00	1	537	125	10	143	2	0	1	25	0	3	0	0	847
10:00	1	520	122	6	135	2	0	1	22	0	1	0	0	810
11:00	3	625	152	8	140	2	0	1	25	0	1	0	0	957
12:00 PM	2	621	143	7	132	2	0	0	23	0	0	0	0	930
13:00	3	625	140	8	142	2	0	0	30	0	3	0	0	953
14:00	5	678	164	6	128	3	0	2	30	0	0	0	0	1016
15:00	4	739	159	7	162	4	0	0	26	0	1	0	0	1102
16:00	2	870	189	7	171	3	0	0	17	0	0	0	0	1259
17:00	2	883	165	5	157	3	0	0	22	0	0	0	0	1237
18:00	0	518	85	3	97	3	0	0	16	0	0	0	0	722
19:00	0	374	78	5	53	0	0	0	8	0	0	0	0	518
20:00	0	309	56	2	40	0	0	0	3	0	0	0	0	410
21:00	0	226	47	1	35	0	0	0	2	0	0	0	0	311
22:00	0	144	30	0	18	0	0	0	4	0	0	0	0	196
23:00	0	78	7	1	10	0	0	0	0	0	0	0	0	96
Totals	31	9841	2157	101	2017	29		8	333		16			14533
% of Totals	0%	68%	15%	1%	14%	0%		0%	2%		0%			100%

AM Volumes	13	3776	894	49	872	9	0	6	152	0	12	0	0	5783
% AM	0%	26%	6%	0%	6%	0%		0%	1%		0%			40%
AM Peak Hour	06:00	11:00	11:00	09:00	09:00	06:00		05:00	08:00		07:00			11:00
Volume	4	625	152	10	143	2		2	27		3			957
PM Volumes	18	6065	1263	52	1145	20	0	2	181	0	4	0	0	8750
% PM	0%	42%	9%	0%	8%	0%		0%	1%		0%			60%
PM Peak Hour	14:00	17:00	16:00	13:00	16:00	15:00		14:00	13:00		13:00			16:00
Volume	5	883	189	8	171	4		2	30		3			1259

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1654		11%	1883		13%	2496		17%	8500		58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

VOLUME

SR-62 between Fairway Dr & Pioneer Dr

Day: Wednesday
Date: 11/13/2013

City: Morongo Valley
Project #: CA13_6168_043

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,304	6,013	12,317

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			9		11		20		12:00			109		90		199	
00:15			7		3		10		12:15			120		95		215	
00:30			9		2		11		12:30			96		115		211	
00:45			6	31	4	20	10	51	12:45			110	435	118	418	228	853
01:00			9		3		12		13:00			97		110		207	
01:15			3		0		3		13:15			85		99		184	
01:30			1		3		4		13:30			104		90		194	
01:45			2	15	1	7	3	22	13:45			91	377	96	395	187	772
02:00			2		4		6		14:00			105		131		236	
02:15			8		0		8		14:15			99		123		222	
02:30			9		0		9		14:30			92		118		210	
02:45			2	21	1	5	3	26	14:45			103	399	120	492	223	891
03:00			0		2		2		15:00			107		115		222	
03:15			8		4		12		15:15			108		132		240	
03:30			4		8		12		15:30			113		113		226	
03:45			8	20	2	16	10	36	15:45			114	442	146	506	260	948
04:00			9		6		15		16:00			100		133		233	
04:15			15		4		19		16:15			106		147		253	
04:30			20		3		23		16:30			98		169		267	
04:45			23	67	8	21	31	88	16:45			117	421	129	578	246	999
05:00			25		12		37		17:00			88		166		254	
05:15			44		19		63		17:15			129		148		277	
05:30			73		11		84		17:30			127		113		240	
05:45			79	221	23	65	102	286	17:45			142	486	126	553	268	1039
06:00			74		24		98		18:00			96		96		192	
06:15			74		33		107		18:15			84		93		177	
06:30			89		37		126		18:30			101		74		175	
06:45			116	353	72	166	188	519	18:45			74	355	55	318	129	673
07:00			102		92		194		19:00			70		54		124	
07:15			101		77		178		19:15			69		54		123	
07:30			117		69		186		19:30			50		50		100	
07:45			114	434	92	330	206	764	19:45			62	251	39	197	101	448
08:00			98		104		202		20:00			54		38		92	
08:15			100		110		210		20:15			64		26		90	
08:30			93		109		202		20:30			49		26		75	
08:45			92	383	80	403	172	786	20:45			54	221	23	113	77	334
09:00			85		89		174		21:00			37		33		70	
09:15			81		97		178		21:15			33		34		67	
09:30			100		94		194		21:30			28		24		52	
09:45			100	366	84	364	184	730	21:45			29	127	27	118	56	245
10:00			99		106		205		22:00			22		13		35	
10:15			73		117		190		22:15			16		26		42	
10:30			86		86		172		22:30			19		22		41	
10:45			93	351	92	401	185	752	22:45			15	72	10	71	25	143
11:00			91		96		187		23:00			23		13		36	
11:15			104		113		217		23:15			15		18		33	
11:30			102		95		197		23:30			7		10		17	
11:45			103	400	107	411	210	811	23:45			11	56	4	45	15	101
TOTALS				2662		2209		**4871**	**TOTALS**				3642		3804		**7446**
SPLIT %				54.6%		45.4%		**39.5%**	**SPLIT %**				48.9%		51.1%		**60.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,304	6,013	12,317

AM Peak Hour			06:45	07:45	**11:45**	**PM Peak Hour**			17:15	16:30	**16:30**
AM Pk Volume			436	415	**835**	**PM Pk Volume**			494	612	**1044**
Pk Hr Factor			0.932	0.943	**0.971**	**Pk Hr Factor**			0.870	0.905	**0.942**
7 - 9 Volume	0	0	817	733	**1550**	**4 - 6 Volume**	0	0	907	1131	**2038**
7 - 9 Peak Hour			07:00	07:45	**07:45**	**4 - 6 Peak Hour**			17:00	16:30	**16:30**
7 - 9 Pk Volume	0	0	434	415	**820**	**4 - 6 Pk Volume**	0	0	486	612	**1044**
Pk Hr Factor	0.000	0.000	0.927	0.943	**0.976**	**Pk Hr Factor**	0.000	0.000	0.856	0.905	**0.942**

Prepared by NDS/ATD

VOLUME

SR-62 between Ironage Rd & State Hwy 177

Day: Wednesday
Date: 11/13/2013

City: Twenty Nine Palms
Project #: CA13_6168_045

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	164	174	338

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			3		1		4	
00:15			1		0		1		12:15			5		3		8	
00:30			0		2		2		12:30			2		8		10	
00:45			0	1	0	2	0	3	12:45			7	17	3	15	10	32
01:00			0		0		0		13:00			5		2		7	
01:15			0		1		1		13:15			3		1		4	
01:30			0		0		0		13:30			3		4		7	
01:45			0		0	1	0	1	13:45			1	12	6	13	7	25
02:00			0		0		0		14:00			2		1		3	
02:15			0		0		0		14:15			2		6		8	
02:30			0		0		0		14:30			2		0		2	
02:45			0		0		0		14:45			0	6	2	9	2	15
03:00			0		0		0		15:00			2		1		3	
03:15			1		0		1		15:15			3		3		6	
03:30			0		1		1		15:30			1		2		3	
03:45			0	1	0	1	0	2	15:45			2	8	1	7	3	15
04:00			0		0		0		16:00			5		3		8	
04:15			3		3		6		16:15			2		2		4	
04:30			0		0		0		16:30			9		3		12	
04:45			2	5	6	9	8	14	16:45			3	19	2	10	5	29
05:00			0		2		2		17:00			1		2		3	
05:15			0		2		2		17:15			1		3		4	
05:30			0		2		2		17:30			4		0		4	
05:45			2	2	0	6	2	8	17:45			1	7	0	5	1	12
06:00			0		2		2		18:00			3		2		5	
06:15			0		0		0		18:15			2		6		8	
06:30			1		0		1		18:30			1		3		4	
06:45			1	2	1	3	2	5	18:45			0	6	3	14	3	20
07:00			0		6		6		19:00			5		2		7	
07:15			2		3		5		19:15			2		1		3	
07:30			1		1		2		19:30			0		0		0	
07:45			3	6	0	10	3	16	19:45			2	9	1	4	3	13
08:00			2		0		2		20:00			1		0		1	
08:15			3		2		5		20:15			0		0		0	
08:30			0		2		2		20:30			1		0		1	
08:45			1	6	4	8	5	14	20:45			0	2	0		0	2
09:00			2		2		4		21:00			0		0		0	
09:15			2		5		7		21:15			0		1		1	
09:30			1		6		7		21:30			5		0		5	
09:45			2	7	1	14	3	21	21:45			0	5	0	1	0	6
10:00			4		1		5		22:00			3		0		3	
10:15			4		3		7		22:15			0		0		0	
10:30			5		5		10		22:30			1		0		1	
10:45			5	18	2	11	7	29	22:45			1	5	2	2	3	7
11:00			2		9		11		23:00			0		0		0	
11:15			8		12		20		23:15			0		0		0	
11:30			5		4		9		23:30			0		0		0	
11:45			3	18	4	29	7	47	23:45			2	2	0		2	2
TOTALS				66		94		**160**	**TOTALS**				98		80		**178**
SPLIT %				41.3%		58.8%		**47.3%**	**SPLIT %**				55.1%		44.9%		**52.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	164	174	338

AM Peak Hour			10:30	11:00	**10:30**	**PM Peak Hour**			12:15	13:30	**12:15**
AM Pk Volume			20	29	**48**	**PM Pk Volume**			19	17	**35**
Pk Hr Factor			0.625	0.604	**0.600**	**Pk Hr Factor**			0.679	0.708	**0.875**
7 - 9 Volume	0	0	12	18	**30**	**4 - 6 Volume**	0	0	26	15	**41**
7 - 9 Peak Hour			07:30	07:00	**07:00**	**4 - 6 Peak Hour**			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	9	10	**16**	**4 - 6 Pk Volume**	0	0	19	10	**29**
Pk Hr Factor	0.000	0.000	0.750	0.417	**0.667**	**Pk Hr Factor**	0.000	0.000	0.528	0.833	**0.604**

San Bernardino County Arterials database Counts

Location_ ID	STREET	JURIS	CROSS_ST1	CROSS_ST2	Daily Count_2013	AM_Peak	PM_Peak
27a	S 247 (OLD WOMAN SPRINGS RD)	San Bernardino County	Daransatte Rd	Joshua Rd / PeachTree Rd	1,858	132	193

San Bernardino Count Database Counts

San Bernardino County Counts

Road Number	Road name	Location	Direction	Count Site	Date	ADT
894900	YUCCA TRAIL	YUCCA VALLEY	TWO-WAY	E LA CONTENTA ST	2/27/2013	5,485
640450	PARK BOULEVARD	JOSHUA TREE	TWO-WAY	S SH 62	4/20/2011	4,740
778825	SUNBURST AVENUE	JOSHUA TREE	TWO-WAY	N SH 62	4/20/2011	4,393
115750	ALTA LOMA DRIVE	JOSHUA TREE	TWO-WAY	W SUNNY VISTA RD W JCT	5/10/2011	4,147
566100	MORONGO ROAD	TWENTYNINE PALMS	TWO-WAY	N INDIAN TRAIL	6/13/2012	3,247
411150	HESS BOULEVARD	MORONGO	TWO-WAY	S SENILIS AVE	12/13/2011	2,992
740550	SENILIS AVENUE	MORONGO	TWO-WAY	W HESS BLVD	6/13/2012	1,925
566100	MORONGO ROAD	TWENTYNINE PALMS	TWO-WAY	S POLE LINE RD	8/29/2013	1,885
740550	SENILIS AVENUE	MORONGO	TWO-WAY	E JUNIPER AVENUE	1/26/2012	1,661
454250	JUNIPER AVENUE	MORONGO	TWO-WAY	N SENILIS AVE	3/21/2012	1,602
689500	RECHE ROAD	YUCCA VALLEY	TWO-WAY	E SH 247	2/27/2013	1,533
419700	HILL VIEW ROAD	JOSHUA TREE	TWO-WAY	S SH 62	6/13/2012	1,528
740550	SENILIS AVENUE	MORONGO	TWO-WAY	W SH 62	1/26/2012	1,423
101200	ABERDEEN DRIVE	YUCCA VALLEY	TWO-WAY	W YUCCA MESA DR	2/27/2013	1,415
666000	POLE LINE ROAD	TWENTYNINE PALMS	TWO-WAY	E LEAR AVE	8/29/2013	1,273
411150	HESS BOULEVARD	MORONGO	TWO-WAY	S ADELINE WAY	3/20/2012	1,242
779400	SUNFAIR ROAD	JOSHUA TREE	TWO-WAY	N SH 62	4/18/2011	1,198
740550	SENILIS AVENUE	MORONGO	TWO-WAY	E HESS BLVD	6/13/2012	985
320650	EL REPOSO STREET	JOSHUA TREE	TWO-WAY	N SH 62	6/13/2012	984
659800	PIONEER DRIVE	MORONGO	TWO-WAY	W WEST DRIVE	1/3/2012	981
119500	AMBOY ROAD	TWENTYNINE PALMS	TWO-WAY	S AMBOY CUTOFF	4/11/2011	792
411150	HESS BOULEVARD	MORONGO	TWO-WAY	N SENILIS AVE	3/20/2012	791
638350	PARADISE AVENUE	MORONGO	TWO-WAY	W JUNIPER AVENUE	3/26/2012	788
873500	WEST DRIVE	MORONGO	TWO-WAY	S PIONEER DR	7/17/2012	653
454250	JUNIPER AVENUE	MORONGO	TWO-WAY	N PIONEER DRIVE	3/21/2012	598
411150	HESS BOULEVARD	MORONGO	TWO-WAY	S PIONEER DR	3/20/2012	582
206400	CAMP ROCK ROAD	LUCERNE VALLEY	TWO-WAY	S SH 247	5/24/2011	507
206400	CAMP ROCK ROAD	LUCERNE VALLEY	TWO-WAY	N SH 247	5/31/2011	1,268
186150	BUENA VISTA DRIVE	MORONGO	TWO-WAY	W JUNIPER AVENUE	1/3/2012	491
209550	CANYON HOUSE ROAD	MORONGO	TWO-WAY	S HESS BLVD	3/20/2012	446
411150	HESS BOULEVARD	MORONGO	TWO-WAY	N MOJAVE DR	12/13/2011	412
556200	MOCKING BIRD LANE	MORONGO	TWO-WAY	W PARADISE AVE	3/26/2012	377
161700	BELLA VISTA DRIVE	MORONGO	TWO-WAY	S SH 62	12/28/2011	239

National Data and Surveying Services (NDS) Counts

Prepared by NDS/ATD

VOLUME

SR-62 N/o Indian Canyon Dr

Day: Wednesday
Date: 12/11/2013

City: Desert Hot Springs
Project #: CA13_6233_001

DAILY TOTALS	NB	SB	EB	WB	Total
	5,635	5,953	0	0	11,588

AM Period	NB		SB		EB		WB		TOTAL	
00:00	13		6						19	
00:15	17		8						25	
00:30	11		6						17	
00:45	12	53	5	25					17	78
01:00	12		6						18	
01:15	15		4						19	
01:30	5		7						12	
01:45	6	38	4	21					10	59
02:00	4		5						9	
02:15	5		4						9	
02:30	2		4						6	
02:45	15	26	7	20					22	46
03:00	17		6						23	
03:15	3		8						11	
03:30	12		8						20	
03:45	6	38	13	35					19	73
04:00	11		11						22	
04:15	5		22						27	
04:30	23		30						53	
04:45	19	58	27	90					46	148
05:00	26		39						65	
05:15	35		59						94	
05:30	52		70						122	
05:45	44	157	72	240					116	397
06:00	55		79						134	
06:15	61		111						172	
06:30	59		119						178	
06:45	46	221	136	445					182	666
07:00	62		115						177	
07:15	69		170						239	
07:30	74		158						232	
07:45	72	277	125	568					197	845
08:00	66		120						186	
08:15	64		107						171	
08:30	64		110						174	
08:45	65	259	106	443					171	702
09:00	66		111						177	
09:15	64		98						162	
09:30	77		120						197	
09:45	60	267	81	410					141	677
10:00	64		99						163	
10:15	55		88						143	
10:30	70		92						162	
10:45	78	267	87	366					165	633
11:00	78		100						178	
11:15	77		88						165	
11:30	84		86						170	
11:45	81	320	84	358					165	678
TOTALS		1981		3021						**5002**
SPLIT %		39.6%		60.4%						**43.2%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	73		87						160	
12:15	67		102						169	
12:30	86		102						188	
12:45	85	311	85	376					170	687
13:00	82		106						188	
13:15	101		99						200	
13:30	85		92						177	
13:45	103	371	97	394					200	765
14:00	82		87						169	
14:15	93		96						189	
14:30	88		99						187	
14:45	110	373	87	369					197	742
15:00	104		94						198	
15:15	119		96						215	
15:30	126		94						220	
15:45	135	484	84	368					219	852
16:00	115		96						211	
16:15	116		86						202	
16:30	147		97						244	
16:45	128	506	95	374					223	880
17:00	131		107						238	
17:15	128		124						252	
17:30	135		104						239	
17:45	120	514	93	428					213	942
18:00	104		65						169	
18:15	92		62						154	
18:30	82		52						134	
18:45	50	328	39	218					89	546
19:00	59		47						106	
19:15	67		43						110	
19:30	45		34						79	
19:45	53	224	22	146					75	370
20:00	49		34						83	
20:15	38		24						62	
20:30	50		19						69	
20:45	47	184	17	94					64	278
21:00	43		24						67	
21:15	31		18						49	
21:30	42		23						65	
21:45	41	157	11	76					52	233
22:00	30		23						53	
22:15	35		12						47	
22:30	27		13						40	
22:45	27	119	9	57					36	176
23:00	20		10						30	
23:15	30		8						38	
23:30	19		9						28	
23:45	14	83	5	32					19	115
TOTALS		3654		2932						**6586**
SPLIT %		55.5%		44.5%						**56.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	5,635	5,953	0	0	11,588

AM Peak Hour	11:00	06:45			**07:15**	**PM Peak Hour**	16:30	16:45			**16:30**
AM Pk Volume	320	579			**854**	**PM Pk Volume**	534	430			**957**
Pk Hr Factor	0.952	0.851			**0.893**	**Pk Hr Factor**	0.908	0.867			**0.949**
7 - 9 Volume	536	1011	0	0	**1547**	**4 - 6 Volume**	1020	802	0	0	**1822**
7 - 9 Peak Hour	07:15	07:15			**07:15**	**4 - 6 Peak Hour**	16:30	16:45			**16:30**
7 - 9 Pk Volume	281	573	0	0	**854**	**4 - 6 Pk Volume**	534	430	0	0	**957**
Pk Hr Factor	0.949	0.843	0.000	0.000	**0.893**	**Pk Hr Factor**	0.908	0.867	0.000	0.000	**0.949**

Prepared by NDS/ATD

VOLUME

SR-62 E/o Bullion Rd

Day: Wednesday
Date: 12/11/2013

City: Twenty-Nine Palms
Project #: CA13_6233_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,820	4,506	9,326

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			3		8		11		12:00			85		77		162	
00:15			4		2		6		12:15			91		89		180	
00:30			5		7		12		12:30			76		69		145	
00:45			0	12	4	21	4	33	12:45			74	326	71	306	145	632
01:00			1		0		1		13:00			80		71		151	
01:15			5		1		6		13:15			80		84		164	
01:30			2		9		11		13:30			81		80		161	
01:45			2	10	2	12	4	22	13:45			61	302	108	343	169	645
02:00			0		4		4		14:00			92		89		181	
02:15			1		1		2		14:15			96		85		181	
02:30			2		1		3		14:30			101		100		201	
02:45			0	3	1	7	1	10	14:45			94	383	93	367	187	750
03:00			1		2		3		15:00			103		94		197	
03:15			0		4		4		15:15			111		90		201	
03:30			2		3		5		15:30			126		100		226	
03:45			2	5	3	12	5	17	15:45			132	472	83	367	215	839
04:00			2		6		8		16:00			179		84		263	
04:15			13		9		22		16:15			195		84		279	
04:30			4		6		10		16:30			228		126		354	
04:45			4	23	7	28	11	51	16:45			195	797	120	414	315	1211
05:00			2		2		4		17:00			168		119		287	
05:15			6		19		25		17:15			167		80		247	
05:30			7		8		15		17:30			149		63		212	
05:45			15	30	17	46	32	76	17:45			121	605	83	345	204	950
06:00			18		22		40		18:00			90		78		168	
06:15			9		30		39		18:15			72		77		149	
06:30			12		32		44		18:30			78		79		157	
06:45			11	50	50	134	61	184	18:45			64	304	66	300	130	604
07:00			15		48		63		19:00			66		50		116	
07:15			17		37		54		19:15			54		55		109	
07:30			29		63		92		19:30			46		50		96	
07:45			30	91	59	207	89	298	19:45			31	197	42	197	73	394
08:00			23		40		63		20:00			28		35		63	
08:15			48		67		115		20:15			28		32		60	
08:30			38		63		101		20:30			30		38		68	
08:45			48	157	63	233	111	390	20:45			29	115	30	135	59	250
09:00			39		56		95		21:00			25		35		60	
09:15			42		50		92		21:15			24		32		56	
09:30			45		62		107		21:30			18		26		44	
09:45			55	181	63	231	118	412	21:45			12	79	31	124	43	203
10:00			52		64		116		22:00			21		16		37	
10:15			57		66		123		22:15			7		19		26	
10:30			61		66		127		22:30			15		15		30	
10:45			64	234	66	262	130	496	22:45			6	49	13	63	19	112
11:00			97		82		179		23:00			6		9		15	
11:15			85		88		173		23:15			5		11		16	
11:30			106		68		174		23:30			2		11		13	
11:45			91	379	77	315	168	694	23:45			3	16	6	37	9	53
TOTALS				1175		1508		**2683**	**TOTALS**				3645		2998		**6643**
SPLIT %				43.8%		56.2%		**28.8%**	**SPLIT %**				54.9%		45.1%		**71.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,820	4,506	9,326

AM Peak Hour			11:00	11:00	**11:00**	**PM Peak Hour**			16:00	16:15	**16:15**
AM Pk Volume			379	315	**694**	**PM Pk Volume**			797	449	**1235**
Pk Hr Factor			0.894	0.895	**0.969**	**Pk Hr Factor**			0.874	0.891	**0.872**
7 - 9 Volume	0	0	248	440	**688**	**4 - 6 Volume**	0	0	1402	759	**2161**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:00	16:15	**16:15**
7 - 9 Pk Volume	0	0	157	233	**390**	**4 - 6 Pk Volume**	0	0	797	449	**1235**
Pk Hr Factor	0.000	0.000	0.818	0.869	**0.848**	**Pk Hr Factor**	0.000	0.000	0.874	0.891	**0.872**

Prepared by NDS/ATD

VOLUME

Adobe Trail N/o SR-62

Day: Wednesday
Date: 12/11/2013

City: Twenty-Nine Palms
Project #: CA13_6233_005

DAILY TOTALS	NB	SB	EB	WB	Total
	4,488	4,449	0	0	8,937

AM Period	NB		SB		EB		WB		TOTAL	
00:00	1		9						10	
00:15	3		5						8	
00:30	6		4						10	
00:45	0	10	6	24					6	34
01:00	3		6						9	
01:15	2		0						2	
01:30	6		1						7	
01:45	3	14	2	9					5	23
02:00	2		1						3	
02:15	2		2						4	
02:30	0		4						4	
02:45	3	7	5	12					8	19
03:00	1		2						3	
03:15	1		5						6	
03:30	0		6						6	
03:45	2	4	9	22					11	26
04:00	9		12						21	
04:15	8		10						18	
04:30	3		11						14	
04:45	4	24	19	52					23	76
05:00	6		22						28	
05:15	10		30						40	
05:30	5		54						59	
05:45	17	38	50	156					67	194
06:00	9		57						66	
06:15	12		69						81	
06:30	25		71						96	
06:45	20	66	94	291					114	357
07:00	23		81						104	
07:15	16		71						87	
07:30	24		55						79	
07:45	32	95	53	260					85	355
08:00	25		46						71	
08:15	45		67						112	
08:30	45		72						117	
08:45	53	168	62	247					115	415
09:00	62		63						125	
09:15	49		62						111	
09:30	55		67						122	
09:45	54	220	63	255					117	475
10:00	63		70						133	
10:15	85		55						140	
10:30	63		63						126	
10:45	84	295	68	256					152	551
11:00	63		56						119	
11:15	109		65						174	
11:30	91		77						168	
11:45	90	353	78	276					168	629
TOTALS		1294		1860						**3154**
SPLIT %		41.0%		59.0%						**35.3%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	84		90						174	
12:15	106		81						187	
12:30	71		71						142	
12:45	92	353	90	332					182	685
13:00	88		84						172	
13:15	71		69						140	
13:30	75		76						151	
13:45	93	327	67	296					160	623
14:00	71		69						140	
14:15	85		82						167	
14:30	95		75						170	
14:45	103	354	61	287					164	641
15:00	106		73						179	
15:15	65		83						148	
15:30	99		74						173	
15:45	84	354	61	291					145	645
16:00	94		74						168	
16:15	98		54						152	
16:30	141		70						211	
16:45	173	506	76	274					249	780
17:00	137		58						195	
17:15	109		66						175	
17:30	122		83						205	
17:45	85	453	88	295					173	748
18:00	107		46						153	
18:15	70		58						128	
18:30	74		77						151	
18:45	75	326	64	245					139	571
19:00	67		57						124	
19:15	50		53						103	
19:30	48		70						118	
19:45	50	215	49	229					99	444
20:00	30		41						71	
20:15	32		33						65	
20:30	33		41						74	
20:45	30	125	20	135					50	260
21:00	35		27						62	
21:15	22		33						55	
21:30	19		30						49	
21:45	13	89	15	105					28	194
22:00	15		24						39	
22:15	14		17						31	
22:30	11		12						23	
22:45	11	51	10	63					21	114
23:00	8		14						22	
23:15	13		10						23	
23:30	16		5						21	
23:45	4	41	8	37					12	78
TOTALS		3194		2589						**5783**
SPLIT %		55.2%		44.8%						**64.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	4,488	4,449	0	0	8,937

AM Peak Hour	11:15	11:30			**11:30**	**PM Peak Hour**	16:30	12:00			**16:30**
AM Pk Volume	374	326			**697**	**PM Pk Volume**	560	332			**830**
Pk Hr Factor	0.858	0.906			**0.932**	**Pk Hr Factor**	0.809	0.922			**0.833**
7 - 9 Volume	263	507	0	0	**770**	**4 - 6 Volume**	959	569	0	0	**1528**
7 - 9 Peak Hour	08:00	07:00			**08:00**	**4 - 6 Peak Hour**	16:30	17:00			**16:30**
7 - 9 Pk Volume	168	260	0	0	**415**	**4 - 6 Pk Volume**	560	295	0	0	**830**
Pk Hr Factor	0.792	0.802	0.000	0.000	**0.887**	**Pk Hr Factor**	0.809	0.838	0.000	0.000	**0.833**

Prepared by NDS/ATD

VOLUME

Adobe Trail S/o Indian Trail

Day: Wednesday
Date: 12/11/2013

City: Twenty-Nine Palms
Project #: CA13_6233_004

DAILY TOTALS	NB	SB	EB	WB	Total
	2,644	2,803	0	0	5,447

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		5						8		12:00	42		51						93	
00:15	3		5						8		12:15	68		49						117	
00:30	1		2						3		12:30	67		56						123	
00:45	1	8	2	14					3	22	12:45	57	234	52	208					109	442
01:00	2		0						2		13:00	43		39						82	
01:15	0		3						3		13:15	37		50						87	
01:30	2		4						6		13:30	33		38						71	
01:45	1	5	1	8					2	13	13:45	43	156	45	172					88	328
02:00	2		0						2		14:00	30		68						98	
02:15	2		2						4		14:15	35		49						84	
02:30	2		1						3		14:30	26		40						66	
02:45	2	8	1	4					3	12	14:45	21	112	49	206					70	318
03:00	2		4						6		15:00	19		40						59	
03:15	1		1						2		15:15	28		41						69	
03:30	6		0						6		15:30	32		38						70	
03:45	14	23	0	5					14	28	15:45	29	108	59	178					88	286
04:00	19		2						21		16:00	34		55						89	
04:15	20		3						23		16:15	31		62						93	
04:30	22		7						29		16:30	36		40						76	
04:45	23	84	8	20					31	104	16:45	26	127	42	199					68	326
05:00	26		7						33		17:00	36		54						90	
05:15	30		15						45		17:15	34		42						76	
05:30	67		16						83		17:30	34		51						85	
05:45	73	196	29	67					102	263	17:45	27	131	49	196					76	327
06:00	64		24						88		18:00	18		32						50	
06:15	67		39						106		18:15	22		27						49	
06:30	97		33						130		18:30	28		22						50	
06:45	86	314	55	151					141	465	18:45	24	92	39	120					63	212
07:00	127		41						168		19:00	26		35						61	
07:15	80		48						128		19:15	19		29						48	
07:30	74		49						123		19:30	22		24						46	
07:45	48	329	54	192					102	521	19:45	23	90	27	115					50	205
08:00	33		55						88		20:00	20		20						40	
08:15	38		34						72		20:15	21		25						46	
08:30	31		32						63		20:30	17		17						34	
08:45	33	135	43	164					76	299	20:45	15	73	19	81					34	154
09:00	32		36						68		21:00	11		13						24	
09:15	28		47						75		21:15	13		11						24	
09:30	31		36						67		21:30	14		12						26	
09:45	21	112	44	163					65	275	21:45	11	49	12	48					23	97
10:00	27		52						79		22:00	8		13						21	
10:15	26		48						74		22:15	6		12						18	
10:30	37		47						84		22:30	4		3						7	
10:45	26	116	65	212					91	328	22:45	4	22	6	34					10	56
11:00	26		49						75		23:00	5		7						12	
11:15	24		59						83		23:15	2		7						9	
11:30	26		47						73		23:30	1		6						7	
11:45	34	110	62	217					96	327	23:45	2	10	9	29					11	39
TOTALS		1440		1217						2657	TOTALS		1204		1586						2790
SPLIT %		54.2%		45.8%						48.8%	SPLIT %		43.2%		56.8%						51.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,644	2,803	0	0	5,447

AM Peak Hour	06:30	10:30			06:30	PM Peak Hour	12:15	15:45			12:00
AM Pk Volume	390	220			567	PM Pk Volume	235	216			442
Pk Hr Factor	0.768	0.846			0.844	Pk Hr Factor	0.864	0.871			0.898
7 - 9 Volume	464	356	0	0	820	4 - 6 Volume	258	395	0	0	653
7 - 9 Peak Hour	07:00	07:15			07:00	4 - 6 Peak Hour	16:30	16:00			16:15
7 - 9 Pk Volume	329	206	0	0	521	4 - 6 Pk Volume	132	199	0	0	327
Pk Hr Factor	0.648	0.936	0.000	0.000	0.775	Pk Hr Factor	0.917	0.802	0.000	0.000	0.879

Prepared by NDS/ATD

VOLUME

SR-247 S/o Pipes Canyon Rd

Day: Wednesday
Date: 12/11/2013

City: Yucca Valley
Project #: CA13_6233_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,390	1,222	0	0	2,612

AM Period	NB		SB		EB		WB		TOTAL	
00:00	2		1						3	
00:15	2		1						3	
00:30	4		0						4	
00:45	5	13	1	3					6	16
01:00	1		0						1	
01:15	1		1						2	
01:30	3		0						3	
01:45	3	8	1	2					4	10
02:00	2		0						2	
02:15	0		0						0	
02:30	1		0						1	
02:45	0	3	1	1					1	4
03:00	0		0						0	
03:15	5		0						5	
03:30	7		3						10	
03:45	2	14	2	5					4	19
04:00	0		2						2	
04:15	3		2						5	
04:30	3		1						4	
04:45	5	11	4	9					9	20
05:00	2		4						6	
05:15	3		4						7	
05:30	5		7						12	
05:45	6	16	3	18					9	34
06:00	6		8						14	
06:15	4		15						19	
06:30	10		19						29	
06:45	9	29	16	58					25	87
07:00	10		23						33	
07:15	8		25						33	
07:30	22		28						50	
07:45	18	58	20	96					38	154
08:00	37		20						57	
08:15	24		26						50	
08:30	25		33						58	
08:45	13	99	24	103					37	202
09:00	17		20						37	
09:15	14		25						39	
09:30	13		26						39	
09:45	19	63	30	101					49	164
10:00	24		29						53	
10:15	23		30						53	
10:30	27		31						58	
10:45	18	92	24	114					42	206
11:00	37		25						62	
11:15	22		15						37	
11:30	35		23						58	
11:45	34	128	18	81					52	209
TOTALS		534		591						**1125**
SPLIT %		47.5%		52.5%						**43.1%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	21		24						45	
12:15	28		26						54	
12:30	26		24						50	
12:45	16	91	28	102					44	193
13:00	26		26						52	
13:15	16		29						45	
13:30	28		27						55	
13:45	26	96	29	111					55	207
14:00	35		19						54	
14:15	31		20						51	
14:30	28		21						49	
14:45	32	126	23	83					55	209
15:00	30		15						45	
15:15	31		28						59	
15:30	23		22						45	
15:45	28	112	15	80					43	192
16:00	25		15						40	
16:15	34		20						54	
16:30	26		21						47	
16:45	29	114	25	81					54	195
17:00	36		23						59	
17:15	23		18						41	
17:30	28		14						42	
17:45	21	108	15	70					36	178
18:00	13		13						26	
18:15	19		13						32	
18:30	14		7						21	
18:45	16	62	6	39					22	101
19:00	10		12						22	
19:15	6		5						11	
19:30	7		4						11	
19:45	10	33	5	26					15	59
20:00	12		6						18	
20:15	5		2						7	
20:30	9		5						14	
20:45	11	37	2	15					13	52
21:00	13		2						15	
21:15	6		3						9	
21:30	5		4						9	
21:45	14	38	2	11					16	49
22:00	6		2						8	
22:15	6		3						9	
22:30	7		1						8	
22:45	5	24	3	9					8	33
23:00	5		2						7	
23:15	3		0						3	
23:30	5		2						7	
23:45	2	15	0	4					2	19
TOTALS		856		631						**1487**
SPLIT %		57.6%		42.4%						**56.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,390	1,222	0	0	2,612

AM Peak Hour	11:00	09:45			**10:15**
AM Pk Volume	128	120			**215**
Pk Hr Factor	0.865	0.968			**0.867**
7 - 9 Volume	157	199	0	0	**356**
7 - 9 Peak Hour	07:45	08:00			**07:45**
7 - 9 Pk Volume	104	103	0	0	**203**
Pk Hr Factor	0.703	0.780	0.000	0.000	**0.875**

PM Peak Hour	14:00	13:00			**13:30**
PM Pk Volume	126	111			**215**
Pk Hr Factor	0.900	0.957			**0.977**
4 - 6 Volume	222	151	0	0	**373**
4 - 6 Peak Hour	16:15	16:15			**16:15**
4 - 6 Pk Volume	125	89	0	0	**214**
Pk Hr Factor	0.868	0.890	0.000	0.000	**0.907**

Prepared by NDS/ATD

VOLUME

SR-62 W/o Hoopa Trail

Day: Wednesday
Date: 12/11/2013

City: Morongo Valleyngo Valley
Project #: CA13_6233_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,247	6,836	14,083

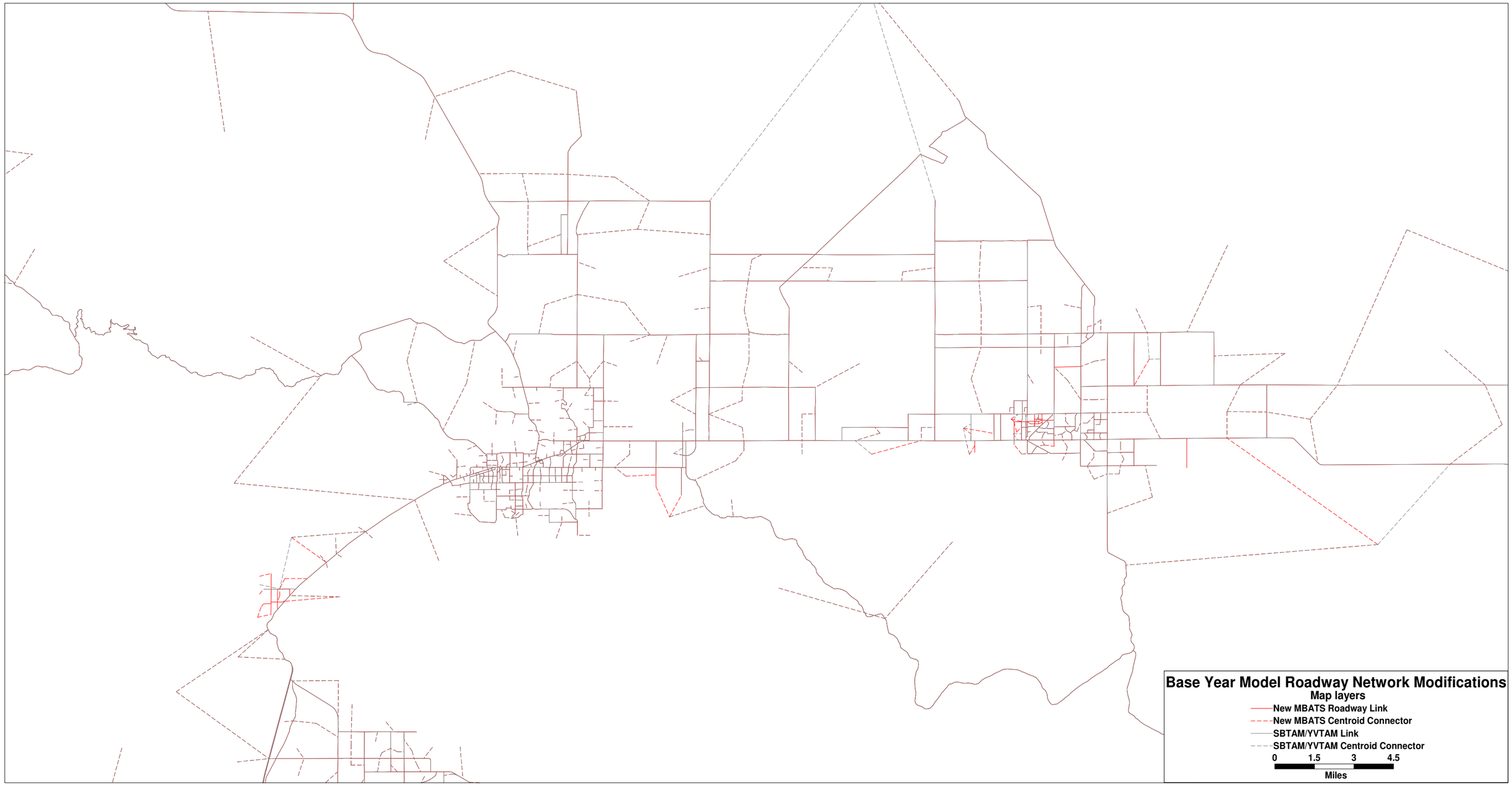
AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			13		7		20		12:00			97		97		194	
00:15			16		6		22		12:15			86		125		211	
00:30			16		6		22		12:30			108		117		225	
00:45			11	56	4	23	15	79	12:45			113	404	122	461	235	865
01:00			9		4		13		13:00			85		118		203	
01:15			12		8		20		13:15			122		119		241	
01:30			14		6		20		13:30			124		122		246	
01:45			9	44	2	20	11	64	13:45			112	443	104	463	216	906
02:00			8		5		13		14:00			148		115		263	
02:15			4		5		9		14:15			102		110		212	
02:30			2		8		10		14:30			120		102		222	
02:45			6	20	5	23	11	43	14:45			128	498	117	444	245	942
03:00			16		9		25		15:00			126		123		249	
03:15			16		11		27		15:15			164		137		301	
03:30			7		7		14		15:30			149		137		286	
03:45			7	46	13	40	20	86	15:45			147	586	119	516	266	1102
04:00			9		9		18		16:00			138		130		268	
04:15			11		32		43		16:15			151		137		288	
04:30			13		18		31		16:30			177		129		306	
04:45			22	55	34	93	56	148	16:45			192	658	123	519	315	1177
05:00			37		55		92		17:00			161		127		288	
05:15			37		62		99		17:15			154		140		294	
05:30			42		68		110		17:30			145		115		260	
05:45			75	191	62	247	137	438	17:45			150	610	90	472	240	1082
06:00			59		102		161		18:00			137		74		211	
06:15			85		115		200		18:15			116		68		184	
06:30			94		115		209		18:30			108		55		163	
06:45			82	320	100	432	182	752	18:45			86	447	47	244	133	691
07:00			68		153		221		19:00			52		68		120	
07:15			77		175		252		19:15			62		44		106	
07:30			99		122		221		19:30			70		44		114	
07:45			101	345	123	573	224	918	19:45			61	245	39	195	100	440
08:00			98		106		204		20:00			68		36		104	
08:15			88		113		201		20:15			63		28		91	
08:30			107		102		209		20:30			48		34		82	
08:45			107	400	118	439	225	839	20:45			49	228	36	134	85	362
09:00			81		103		184		21:00			45		22		67	
09:15			97		133		230		21:15			49		22		71	
09:30			107		117		224		21:30			34		20		54	
09:45			128	413	107	460	235	873	21:45			44	172	20	84	64	256
10:00			93		114		207		22:00			31		18		49	
10:15			88		96		184		22:15			42		12		54	
10:30			92		120		212		22:30			50		14		64	
10:45			100	373	116	446	216	819	22:45			35	158	10	54	45	212
11:00			111		103		214		23:00			27		15		42	
11:15			121		97		218		23:15			19		8		27	
11:30			98		103		201		23:30			24		9		33	
11:45			119	449	112	415	231	864	23:45			16	86	7	39	23	125
TOTALS				2712		3211		**5923**	**TOTALS**				4535		3625		**8160**
SPLIT %				45.8%		54.2%		**42.1%**	**SPLIT %**				55.6%		44.4%		**57.9%**

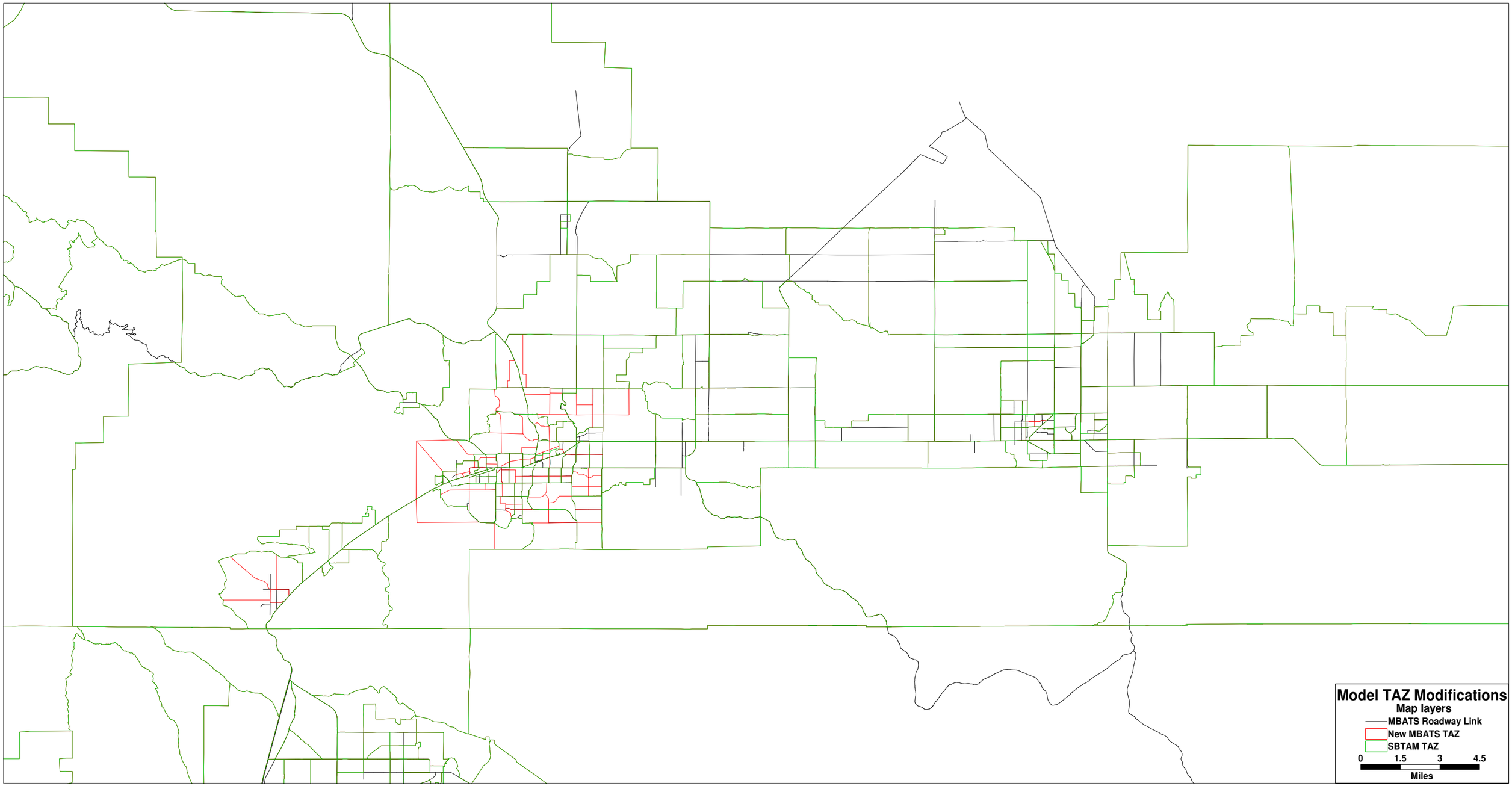
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,247	6,836	14,083

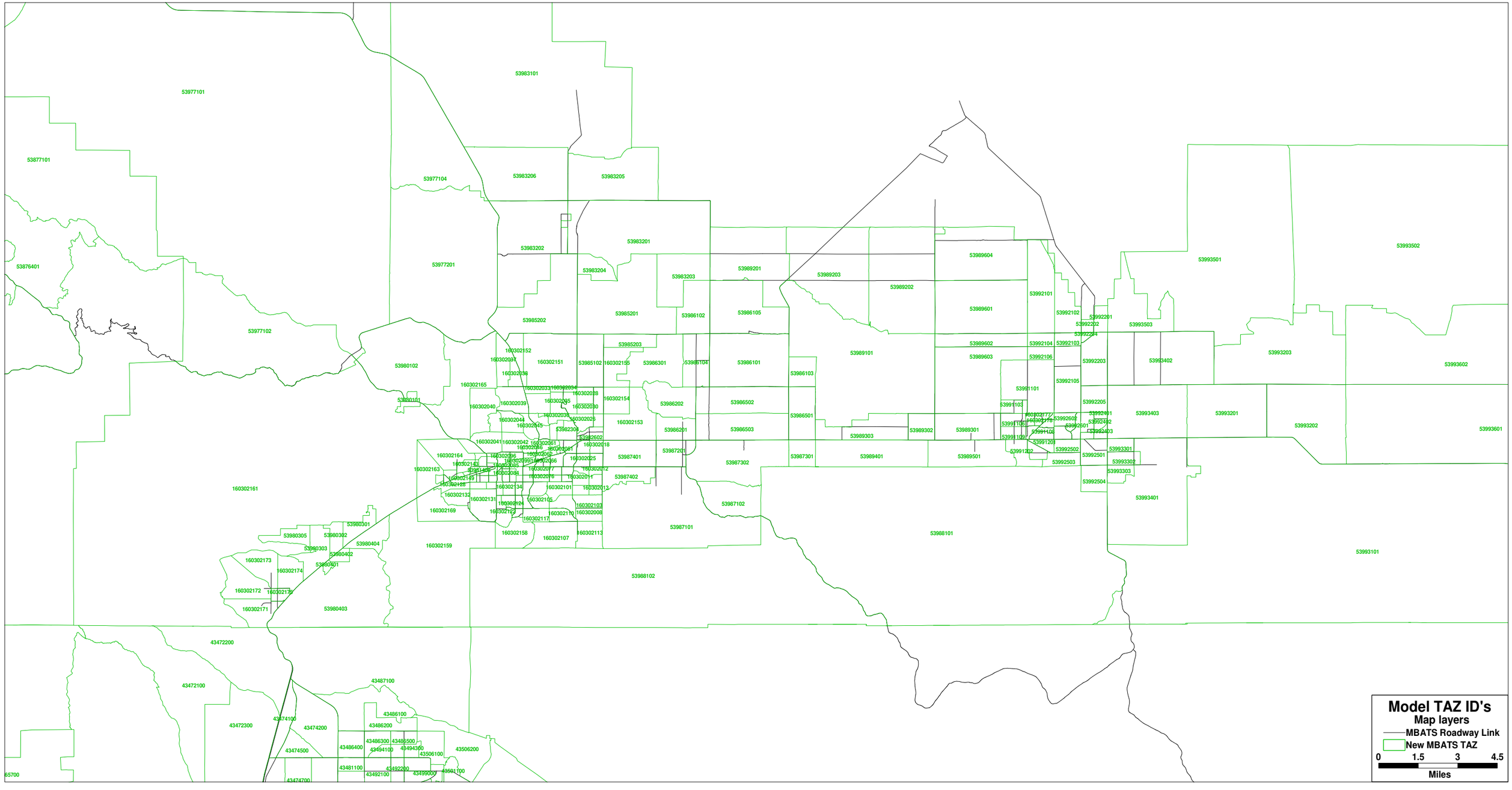
AM Peak Hour			11:00	07:00	**07:00**	**PM Peak Hour**	16:30	15:15	**16:30**
AM Pk Volume			449	573	**918**	**PM Pk Volume**	684	523	**1203**
Pk Hr Factor			0.928	0.819	**0.911**	**Pk Hr Factor**	0.891	0.954	**0.955**
7 - 9 Volume	0	0	745	1012	**1757**	**4 - 6 Volume**	1268	991	**2259**
7 - 9 Peak Hour			08:00	07:00	**07:00**	**4 - 6 Peak Hour**	16:30	16:00	**16:30**
7 - 9 Pk Volume	0	0	400	573	**918**	**4 - 6 Pk Volume**	684	519	**1203**
Pk Hr Factor	0.000	0.000	0.935	0.819	**0.911**	**Pk Hr Factor**	0.891	0.947	**0.955**

APPENDIX B: MBATS MODEL ROADWAY NETWORK REVISIONS




Base Year Model Roadway Network Modifications
Map layers
New MBATS Roadway Link
New MBATS Centroid Connector
SBTAM/YVTAM Link
SBTAM/YVTAM Centroid Connector
0
1.5
3
4.5
Miles


Model TAZ Modifications
Map layers
MBATS Roadway Link
New MBATS TAZ
SBTAM TAZ
0
1.5
3
4.5
Miles



Model TAZ ID's

Map layers

MBATS Roadway Link

New MBATS TAZ

0 1.5 3 4.5

Miles

Base Year Model Land Use Modifications & TAZ Splits

Desc	TAZ Data				POP	HH	SF	MF	RETEMP	NRETEMP	K12	UNIV
	Morongo Valley											
TAZ to Split	OG			5-3980-304	1,942	867	861	6	3	121	226	0
		P	E									
Split TAZ	New	0.15	0.8	5-3980-304	291.3	130.05	129.15	0.9	2.4	96.8	33.9	0
TAZ Split	New	0.15	0	5-3913-201	291.3	130.05	129.15	0.9	0	0	33.9	0
TAZ Split	New	0.15	0	5-3913-202	291.3	130.05	129.15	0.9	0	0	33.9	0
TAZ Split	New	0.25	0	5-3913-203	485.5	216.75	215.25	1.5	0	0	56.5	0
TAZ Split	New	0.3	0.2	5-3913-204	582.6	260.1	258.3	1.8	0.6	24.2	67.8	0
Stolen TAZ	OG			5-3913-201	2,560	671	671	0	3	83	1,059	0
Stolen TAZ	OG			5-3913-202	0	0	0	0	3	2	0	0
Stolen TAZ	OG			5-3913-203	2,104	551	551	0	3	26	8	0
Stolen TAZ	OG			5-3913-204	19	5	5	0	3	48	0	0
TAZ to Combine with Stolen SED	OG			5-3923-102	1,581	481	408	74	0	194	1,907	0
Combined TAZ	New			5-3923-102	6,264	1,708	1,635	74	12	353	2,974	0
	Twentynine Palms											
TAZ to Split	OG			5-3991-105	1,198	445	445	0	0	7	0	0
		P	E									
Split TAZ	New	0.38	0	5-3991-105	455.24	169.1	169.1	0	0	0	0	0
TAZ Split	New	0.41	1	5-3952-201	491.18	182.45	182.45	0	0	7	0	0
TAZ Split	New	0.21	0	5-3952-202	251.58	93.45	93.45	0	0	0	0	0
Stolen TAZ	OG			5-3952-201	487	224	178	46	162	46	0	0
Stolen TAZ	OG			5-3952-202	727	334	334	0	0	98	0	0
TAZ to Combine with Stolen SED	OG			5-3952-101	769	353	353	0	1	429	35	0
Combined TAZ	New			5-3952-101	1,983	911	865	46	163	573	35	0

Future Year Model Land Use Modifications & TAZ Splits

Desc	TAZ Data				POP	HH	SF	MF	RETEMP	NRETEMP	K12	UNIV
	Morongo Valley											
TAZ to Split	OG			5-3980-304	2164	1008	839	168	8	131	226	0
		P	E									
Split TAZ	New	0.15	0.8	5-3980-304	325	151	126	25	6	105	34	0
TAZ Split	New	0.15	0	5-3913-201	325	151	126	25	0	0	34	0
TAZ Split	New	0.15	0	5-3913-202	325	151	126	25	0	0	34	0
TAZ Split	New	0.25	0	5-3913-203	541	252	210	42	0	0	57	0
TAZ Split	New	0.3	0.2	5-3913-204	649	302	252	50	2	26	68	0
Stolen TAZ	OG			5-3913-201	3630	990	832	158	8	83	1059	0
Stolen TAZ	OG			5-3913-202	16	5	5	0	0	3	0	0
Stolen TAZ	OG			5-3913-203	2902	792	662	130	2	26	8	0
Stolen TAZ	OG			5-3913-204	803	219	6	213	57	86	111	0
TAZ to Combine with Stolen SED	OG			5-3923-102	1990	629	569	60	0	209	1907	0
Combined TAZ	New			5-3923-102	9341	2635	2074	561	67	407	3085	0
	Twentynine Palms											
TAZ to Split	OG			5-3991-105	907	407	407	0	0	9	0	0
		P	E									
Split TAZ	New	0.38	0	5-3991-105	345	155	155	0	0	0	0	0
TAZ Split	New	0.41	1	5-3952-201	372	167	167	0	0	9	0	0
TAZ Split	New	0.21	0	5-3952-202	190	85	85	0	0	0	0	0
Stolen TAZ	OG			5-3952-201	1529	602	348	254	163	95	199	0
Stolen TAZ	OG			5-3952-202	1167	460	460	0	0	139	131	0
TAZ to Combine with Stolen SED	OG			5-3952-101	586	329	329	0	19	458	35	0
Combined TAZ	New			5-3952-101	3282	1391	1137	254	182	692	365	0

APPENDIX C: MBATS MODEL SED GROWTH BY TAZ



	Original 2012-2035 RTP/SCS SBTAM Land Use (2008 Base Year)								2016-2040 RTP/SCS SANBAG Land Use (2012 Base Year)								Difference (2012 SED minus 2008 SED)							
TAZ ID	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN
53977102	64	31	29	1	0	13	0	0	108	35	20	15	0	1	0	0	44	4	-9	14	0	-12	0	0
53980201	1283	593	566	27	4	157	194	0	543	191	191	0	4	20	0	0	-740	-402	-375	-27	0	-137	-194	0
53981406	403	169	170	0	0	44	590	0	288	115	98	17	0	58	590	0	-115	-54	-72	17	0	14	0	0
53937201	346	145	72	74	208	0	0	0	196	78	40	38	19	367	0	0	-150	-67	-32	-36	-189	367	0	0
53945802	429	180	146	35	0	0	0	0	448	180	112	67	0	2	0	0	19	0	-34	32	0	2	0	0
53981405	1335	562	278	285	550	0	0	0	402	161	141	20	138	81	0	0	-933	-401	-137	-265	-412	81	0	0
53980403	361	166	160	6	8	111	0	0	398	129	81	47	40	102	0	0	37	-37	-79	41	32	-9	0	0
53980404	255	117	117	0	4	8	0	0	334	108	90	17	5	57	0	0	79	-9	-27	17	1	49	0	0
53981201	2436	1025	337	689	0	0	0	0	1159	401	66	335	1	2	0	0	-1277	-624	-271	-354	1	2	0	0
53948201	180	76	25	51	0	0	0	0	165	57	41	16	0	0	0	0	-15	-19	16	-35	0	0	0	0
53921202	258	108	84	24	0	0	0	0	213	85	85	0	0	5	0	0	-45	-23	1	-24	0	5	0	0
53921201	137	57	45	13	0	0	0	0	123	49	49	0	0	3	0	0	-14	-8	4	-13	0	3	0	0
53908301	1386	583	574	10	0	50	533	0	624	250	211	38	1	244	532	0	-762	-333	-363	28	1	194	-1	0
53993101	302	139	109	30	0	61	0	0	344	111	107	4	1	7	0	0	42	-28	-2	-26	1	-54	0	0
53980102	0	0	0	0	0	0	0	0	294	95	65	29	5	5	0	0	294	95	65	29	5	5	0	0
53930201	0	0	0	0	235	831	0	0	34	13	13	0	14	181	0	0	34	13	13	0	-221	-650	0	0
53922201	164	69	61	8	126	79	0	0	131	52	52	0	7	22	0	0	-33	-17	-9	-8	-119	-57	0	0
53982101	92	38	34	4	0	0	0	0	82	33	32	0	0	16	0	0	-10	-5	-2	-4	0	16	0	0
53982403	1080	454	146	308	507	188	0	0	878	352	102	250	15	100	0	0	-202	-102	-44	-58	-492	-88	0	0
53922202	423	177	157	20	476	37	0	0	117	47	26	21	29	84	0	0	-306	-130	-131	1	-447	47	0	0
53930202	398	167	56	111	625	121	0	0	100	40	2	37	36	123	0	0	-298	-127	-54	-74	-589	2	0	0
53948202	217	91	30	62	0	36	348	0	166	57	45	12	0	55	347	0	-51	-34	15	-50	0	19	-1	0
53945804	357	150	121	29	0	0	0	0	148	59	59	0	0	11	0	0	-209	-91	-62	-29	0	11	0	0
53981304	759	319	258	62	0	289	0	0	281	113	97	15	0	108	0	0	-478	-206	-161	-47	0	-181	0	0
53945801	1189	500	404	97	0	13	179	0	723	290	290	0	2	17	179	0	-466	-210	-114	-97	2	4	0	0
53933201	487	205	160	45	0	0	0	0	166	66	66	0	0	1	0	0	-321	-139	-94	-45	0	1	0	0
53981305	607	255	200	56	0	10	12	0	332	133	128	5	0	9	12	0	-275	-122	-72	-51	0	-1	0	0
53981301	336	141	112	30	0	0	0	0	268	107	107	0	0	14	0	0	-68	-34	-5	-30	0	14	0	0
53981303	364	153	127	27	0	0	0	0	394	158	147	10	0	1	0	0	30	5	20	-17	0	1	0	0
53991105	345	155	155	0	0	0	0	0	437	164	164	0	0	0	0	0	92	9	9	0	0	0	0	0
53952201	372	167	167	0	0	9	0	0	325	121	66	55	0	0	0	0	-47	-46	-101	55	0	-9	0	0
53991107	181	81	67	14	4	3	0	0	237	88	57	31	18	4	0	0	56	7	-10	17	14	1	0	0
53911202	554	233	193	40	0	0	0	0	56	22	22	0	0	24	0	0	-498	-211	-171	-40	0	24	0	0
53981302	195	82	64	18	0	0	0	0	212	85	70	14	0	4	0	0	17	3	6	-4	0	4	0	0
53987101	1214	559	553	6	0	40	0	0	1629	529	498	30	8	29	0	0	415	-30	-55	24	8	-11	0	0
53934201	588	247	245	3	0	0	0	0	407	163	150	12	0	19	74	0	-181	-84	-95	9	0	19	74	0
53988102	1	0	0	0	0	32	0	0	0	0	0	0	0	3	0	0	-1	0	0	0	0	-29	0	0
53934202	609	256	254	3	0	0	0	0	241	97	97	0	0	4	0	0	-368	-159	-157	-3	0	4	0	0
53946201	1058	445	420	26	0	43	761	0	313	126	126	0	0	119	648	0	-745	-319	-294	-26	0	76	-113	0
53946203	1024	431	406	25	0	0	0	0	791	317	317	0	0	17	113	0	-233	-114	-89	-25	0	17	113	0
53984101	522	220	217	3	0	0	75	0	191	76	76	0	0	9	0	0	-331	-144	-141	-3	0	9	-75	0
53908303	846	356	350	6	0	0	0	0	643	258	258	0	0	39	0	0	-203	-98	-92	-6	0	39	0	0
53946202	717	302	285	18	0	0	0	0	0	3	3	0	0	1	0	0	-717	-299	-282	-18	0	1	0	0
53895202	1475	621	618	3	0	0	0	0	549	220	220	0	0	3	0	0	-926	-401	-398	-3	0	3	0	0
53895204	561	236	235	1	0	0	0	0	303	121	121	0	0	4	0	0	-258	-115	-114	-1	0	4	0	0
53984601	859	361	341	21	0	0	0	0	470	189	102	86	7	14	0	0	-389	-172	-239	65	7	14	0	0
53984201	306	128	127	2	0	0	0	0	8	3	3	0	0	20	0	0	-298	-125	-124	-2	0	20	0	0
53911201	146	61	51	11	0	0	0	0	134	54	54	0	0	0	0	0	-12	-7	3	-11	0	0	0	0
53945803	297	125	101	24	0	0	0	0	181	72	72	0	0	1	0	0	-116	-53	-29	-24	0	1	0	0
53981101	904	380	190	190	347	0	0	0	216	87	85	1	123	45	0	0	-688	-293	-105	-189	-224	45	0	0
53910201	0	0	0	0	0	70	1367	0	8	3	2	1	0	204	1367	0	8	3	2	1	0	134	0	0
53927201	249	105	60	46	0	0	0	0	229	92	92	0	0	31	0	0	-20	-13	32	-46	0	31	0	0
53982301	454	191	127	64	0	0	0	0	346	139	118	20	3	32	0	0	-108	-52	-9	-44	3	32	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2008 Base Year)								2016-2040 RTP/SCS SANBAG Land Use (2012 Base Year)								Difference (2012 SED minus 2008 SED)							
53982201	107	45	31	14	156	425	0	0	34	13	5	7	46	263	0	0	-73	-32	-26	-7	-110	-162	0	0
53984302	1474	620	317	304	666	377	0	0	661	265	16	248	47	191	0	0	-813	-355	-301	-56	-619	-186	0	0
53918302	138	58	58	0	335	281	0	0	0	0	0	0	148	26	0	0	-138	-58	-58	0	-187	-255	0	0
53982402	112	47	47	0	276	227	0	0	218	87	34	53	69	139	0	0	106	40	-13	53	-207	-88	0	0
53912204	328	138	138	1	0	0	0	0	125	50	50	0	0	1	0	0	-203	-88	-88	-1	0	1	0	0
53940201	428	180	180	0	0	0	0	0	458	184	150	33	1	4	0	0	30	4	-30	33	1	4	0	0
53912202	525	221	220	1	0	0	0	0	374	150	150	0	0	11	0	0	-151	-71	-70	-1	0	11	0	0
53982303	140	59	59	0	0	0	0	0	64	25	25	0	0	1	0	0	-76	-34	-34	0	0	1	0	0
53982401	157	66	58	9	0	0	0	0	374	150	98	51	69	78	0	0	217	84	40	42	69	78	0	0
53912205	188	79	79	0	50	52	45	0	206	83	38	44	0	20	45	0	18	4	-41	44	-50	-32	0	0
53912201	211	89	89	0	0	0	0	0	74	29	29	0	0	5	0	0	-137	-60	-60	0	0	5	0	0
53982503	113	47	48	0	0	0	0	0	34	13	13	0	0	0	0	0	-79	-34	-35	0	0	0	0	0
53912203	68	29	29	0	0	0	0	0	177	71	26	44	0	23	0	0	109	42	-3	44	0	23	0	0
53987402	898	376	318	58	2	10	0	0	1057	343	255	87	4	3	0	0	159	-33	-63	29	2	-7	0	0
53895201	609	256	255	1	211	133	0	0	324	130	108	21	23	25	357	0	-285	-126	-147	20	-188	-108	357	0
53895203	1234	519	517	3	0	0	0	0	471	189	189	0	0	0	0	0	-763	-330	-328	-3	0	0	0	0
53941201	72	30	20	10	0	269	0	0	0	9	9	0	0	65	0	0	-72	-21	-11	-10	0	-204	0	0
53899202	454	191	133	58	308	223	0	0	60	24	16	7	89	51	0	0	-394	-167	-117	-51	-219	-172	0	0
53982202	789	332	332	0	500	128	0	0	208	83	64	19	72	81	0	0	-581	-249	-268	19	-428	-47	0	0
53916201	494	208	208	0	420	0	0	0	0	0	0	0	409	2	0	0	-494	-208	-208	0	-11	2	0	0
53923301	1210	509	260	250	3915	0	0	0	352	141	141	0	54	183	0	0	-858	-368	-119	-250	-3861	183	0	0
53899201	460	193	135	59	331	0	0	0	31	12	12	0	135	53	0	0	-429	-181	-123	-59	-196	53	0	0
53984501	423	178	101	77	159	131	0	0	511	205	100	105	6	43	0	0	88	27	-1	28	-153	-88	0	0
53910202	1690	711	356	356	0	0	0	0	467	187	10	177	0	7	0	0	-1223	-524	-346	-179	0	7	0	0
53939203	119	50	36	14	309	0	0	0	0	0	0	0	36	0	0	0	-119	-50	-36	-14	-273	0	0	0
53931302	1059	447	73	374	208	272	0	0	130	52	2	49	16	45	71	0	-929	-395	-71	-325	-192	-227	71	0
53931301	265	112	18	94	0	135	0	0	188	75	7	68	0	15	0	0	-77	-37	-11	-26	0	-120	0	0
53898304	97	41	41	0	0	0	0	0	43	17	17	0	0	7	0	0	-54	-24	-24	0	0	7	0	0
53898301	101	42	43	0	0	0	0	0	95	38	26	12	0	22	0	0	-6	-4	-17	12	0	22	0	0
53982302	120	50	51	0	532	335	0	0	95	38	38	0	29	33	0	0	-25	-12	-13	0	-503	-302	0	0
53981102	1647	693	497	197	191	120	0	0	742	298	75	222	2	474	0	0	-905	-395	-422	25	-189	354	0	0
53939201	362	152	109	43	22	14	0	0	444	178	168	10	0	32	0	0	82	26	59	-33	-22	18	0	0
53939202	27	11	8	3	217	5	0	0	33	13	7	6	9	2	0	0	6	2	-1	3	-208	-3	0	0
53984504	325	137	137	0	0	0	0	0	245	98	98	0	0	8	0	0	-80	-39	-39	0	0	8	0	0
53924201	259	109	109	0	0	0	0	0	239	96	82	14	0	6	0	0	-20	-13	-27	14	0	6	0	0
53903201	563	237	185	52	0	0	0	0	556	223	199	23	0	9	0	0	-7	-14	14	-29	0	9	0	0
53984102	300	126	126	1	0	0	0	0	190	76	76	0	0	2	0	0	-110	-50	-50	-1	0	2	0	0
53982305	423	178	178	0	0	0	0	0	319	128	102	26	2	0	0	0	-104	-50	-76	26	2	0	0	0
53900201	111	47	47	0	0	0	0	0	138	55	55	0	0	1	0	0	27	8	8	0	0	1	0	0
53985102	806	283	276	7	193	121	0	0	812	266	237	28	21	38	0	0	6	-17	-39	21	-172	-83	0	0
53986401	242	102	25	77	0	0	0	0	109	37	37	0	0	7	0	0	-133	-65	12	-77	0	7	0	0
53900202	71	30	30	0	0	0	0	0	76	30	30	0	0	0	0	0	5	0	0	0	0	0	0	0
53900204	518	218	218	0	0	0	0	0	243	97	97	0	0	0	0	0	-275	-121	-121	0	0	0	0	0
53900203	280	118	118	0	0	0	0	0	93	37	37	0	0	0	0	0	-187	-81	-81	0	0	0	0	0
53954201	243	121	30	92	0	0	98	0	411	142	31	111	2	62	98	0	168	21	1	19	2	62	0	0
53982602	1691	712	615	97	152	96	63	0	549	220	220	0	6	9	63	0	-1142	-492	-395	-97	-146	-87	0	0
53950201	159	67	22	46	268	0	0	0	70	28	28	0	14	1	0	0	-89	-39	6	-46	-254	1	0	0
53902201	0	0	0	0	0	1615	838	0	0	0	0	0	5	781	838	0	0	0	0	0	5	-834	0	0
53984402	29	12	11	1	1148	1600	0	0	15	6	5	1	187	1086	0	0	-14	-6	-6	0	-961	-514	0	0
53898302	390	164	164	0	0	0	0	0	248	99	99	0	20	83	0	0	-142	-65	-65	0	20	83	0	0
53913204	649	302	252	50	2	26	68	0	1081	351	154	196	15	29	0	0	432	49	-98	146	13	3	-68	0
53984503	372	156	157	0	0	0	0	0	239	96	85	10	0	2	0	0	-133	-60	-72	10	0	2	0	0
53925201	308	129	130	0	0	0	0	0	135	54	54	0	0	1	0	0	-173	-75	-76	0	0	1	0	0
53900205	150	63	64	0	0	0	0	0	52	21	21	0	0	1	0	0	-98	-42	-43	0	0	1	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2008 Base Year)								2016-2040 RTP/SCS SANBAG Land Use (2012 Base Year)								Difference (2012 SED minus 2008 SED)							
53898303	103	43	44	0	0	0	0	0	53	21	21	0	0	207	0	0	-50	-22	-23	0	0	207	0	0
53984502	448	188	144	45	66	66	0	0	425	170	112	57	3	31	0	0	-23	-18	-32	12	-63	-35	0	0
53926201	238	100	77	24	0	0	0	0	228	91	91	0	0	5	0	0	-10	-9	14	-24	0	5	0	0
53984401	601	253	198	55	323	0	0	0	112	45	45	0	46	91	0	0	-489	-208	-153	-55	-277	91	0	0
53982501	102	41	41	0	0	23	0	0	159	52	45	7	0	0	0	0	57	11	4	7	0	-23	0	0
53982504	311	131	131	0	0	0	0	0	131	52	52	0	0	0	0	0	-180	-79	-79	0	0	0	0	0
53909201	556	234	234	0	61	38	0	0	407	163	157	6	9	4	0	0	-149	-71	-77	6	-52	-34	0	0
53949201	26	11	11	0	131	2363	0	0	41	16	16	0	4	269	0	0	15	5	5	0	-127	-2094	0	0
53984403	0	0	0	0	1226	1453	0	0	0	0	0	0	135	457	0	0	0	0	0	0	-1091	-996	0	0
53987401	1196	500	207	293	15	31	625	0	1273	413	194	219	10	74	624	0	77	-87	-13	-74	-5	43	-1	0
53990101	7617	1668	143	1525	4	1278	0	0	4477	1661	0	1660	84	1384	0	0	-3140	-7	-143	135	80	106	0	0
53983101	882	515	510	5	1	139	134	0	1075	349	323	25	0	37	0	0	193	-166	-187	20	-1	-102	-134	0
53977104	69	33	32	1	0	8	0	0	146	47	40	7	0	2	0	0	77	14	8	6	0	-6	0	0
53983206	625	358	341	17	10	41	203	0	1043	338	292	46	42	80	337	0	418	-20	-49	29	32	39	134	0
53983202	479	274	263	10	7	35	0	0	966	313	267	46	6	26	0	0	487	39	4	36	-1	-9	0	0
53983201	441	252	244	9	4	88	0	0	805	261	205	55	2	84	0	0	364	9	-39	46	-2	-4	0	0
53977201	876	419	402	17	14	79	0	0	1245	404	316	88	4	66	0	0	369	-15	-86	71	-10	-13	0	0
53985202	570	253	244	9	1	50	0	0	657	213	213	0	0	9	0	0	87	-40	-31	-9	-1	-41	0	0
53913202	325	151	126	25	0	0	34	0	528	171	171	0	2	29	0	0	203	20	45	-25	2	29	-34	0
53913203	541	252	210	42	0	0	57	0	493	160	160	0	0	37	0	0	-48	-92	-50	-42	0	37	-57	0
53980101	49	23	23	1	3	1	38	0	155	50	50	0	2	4	232	0	106	27	27	-1	-1	3	194	0
53980301	224	104	104	0	2	8	0	0	422	137	110	26	14	11	0	0	198	33	6	26	12	3	0	0
53980302	84	39	39	0	1	10	0	0	155	50	46	4	3	0	0	0	71	11	7	4	2	-10	0	0
53980303	167	78	78	0	0	13	0	0	381	124	111	12	10	65	0	0	214	46	33	12	10	52	0	0
53913201	325	151	126	25	0	0	34	0	332	108	91	16	26	24	0	0	7	-43	-35	-9	26	24	-34	0
53991104	291	131	131	0	0	54	777	0	229	86	81	4	0	94	777	0	-62	-45	-50	4	0	40	0	0
53980305	65	30	30	0	0	20	0	0	90	29	25	4	0	0	0	0	25	-1	-5	4	0	-20	0	0
53980401	17	8	7	1	0	23	0	0	31	10	8	1	0	0	0	0	14	2	1	0	0	-23	0	0
53980402	88	41	24	17	6	3	0	0	259	84	27	56	18	1	0	0	171	43	3	39	12	-2	0	0
53984602	385	162	162	0	0	0	0	0	210	84	84	0	0	6	0	0	-175	-78	-78	0	0	6	0	0
53982106	265	112	37	75	0	0	0	0	21	8	8	0	0	52	0	0	-244	-104	-29	-75	0	52	0	0
53988101	11	4	4	0	0	37	0	0	5	1	1	0	0	16	0	0	-6	-3	-3	0	0	-21	0	0
53911203	93	39	33	7	0	0	0	0	85	34	34	0	0	27	0	0	-8	-5	1	-7	0	27	0	0
53981404	403	170	121	49	211	2	0	0	190	76	29	47	8	7	0	0	-213	-94	-92	-2	-203	5	0	0
53981403	398	167	167	0	625	0	0	0	71	28	11	17	20	61	0	0	-327	-139	-156	17	-605	61	0	0
53981401	265	112	112	0	417	0	0	0	0	0	0	0	9	105	0	0	-265	-112	-112	0	-408	105	0	0
53981402	625	262	221	42	208	0	0	0	402	161	40	121	17	19	0	0	-223	-101	-181	79	-191	19	0	0
53981407	345	145	145	0	0	0	0	0	256	103	93	9	0	8	0	0	-89	-42	-52	9	0	8	0	0
53985101	1503	528	517	11	183	115	548	0	1517	499	425	73	3	59	548	0	14	-29	-92	62	-180	-56	0	0
53951201	324	136	134	3	186	638	0	0	148	48	48	0	12	106	0	0	-176	-88	-86	-3	-174	-532	0	0
53943203	1145	482	461	22	0	0	0	0	1009	355	253	102	0	0	0	0	-136	-127	-208	80	0	0	0	0
53982105	1059	446	73	373	0	89	0	0	372	149	31	117	0	7	0	0	-687	-297	-42	-256	0	-82	0	0
53982102	365	153	104	49	81	51	0	0	310	124	102	22	20	4	0	0	-55	-29	-2	-27	-61	-47	0	0
53943201	417	175	168	8	0	0	0	0	314	110	110	0	0	1	0	0	-103	-65	-58	-8	0	1	0	0
53982103	105	44	44	0	0	0	0	0	94	37	37	0	0	0	0	0	-11	-7	-7	0	0	0	0	0
53982104	205	86	87	0	0	0	0	0	135	54	54	0	0	2	0	0	-70	-32	-33	0	0	2	0	0
53982304	1911	804	805	0	0	0	0	0	505	202	201	1	0	10	0	0	-1406	-602	-604	1	0	10	0	0
53982502	274	115	116	0	0	119	0	0	108	43	43	0	0	13	0	0	-166	-72	-73	0	0	-106	0	0
53985201	478	212	204	8	0	42	0	0	587	190	161	28	3	31	0	0	109	-22	-43	20	3	-11	0	0
53943202	283	119	114	5	0	0	0	0	38	13	13	0	0	0	0	0	-245	-106	-101	-5	0	0	0	0
53982601	0	0	0	0	109	69	0	0	0	0	0	0	12	0	0	0	0	0	0	0	-97	-69	0	0
53983205	685	392	372	21	2	19	0	0	952	309	255	53	22	19	0	0	267	-83	-117	32	20	0	0	0
53983203	79	45	43	2	0	14	0	0	107	34	30	4	0	0	0	0	28	-11	-13	2	0	-14	0	0
53989201	145	77	76	1	0	33	0	0	298	96	85	11	0	3	0	0	153	19	9	10	0	-30	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2008 Base Year)								2016-2040 RTP/SCS SANBAG Land Use (2012 Base Year)								Difference (2012 SED minus 2008 SED)							
53983204	4	2	2	0	1	34	0	0	0	1	1	0	0	0	0	0	-4	-1	-1	0	-1	-34	0	0
53987302	685	251	170	81	23	884	0	0	716	232	131	100	29	1352	0	0	31	-19	-39	19	6	468	0	0
53987102	181	83	82	1	0	11	0	0	383	124	119	5	0	13	0	0	202	41	37	4	0	2	0	0
53984301	180	75	76	0	436	366	0	0	0	2	2	0	70	209	0	0	-180	-73	-74	0	-366	-157	0	0
53987201	1907	792	660	132	25	246	0	0	2429	788	513	274	89	184	0	0	522	-4	-147	142	64	-62	0	0
53908302	2459	1035	1017	18	0	0	0	0	332	133	133	0	0	29	0	0	-2127	-902	-884	-18	0	29	0	0
53986202	570	253	244	9	1	50	0	0	149	48	36	11	7	4	0	0	-421	-205	-208	2	6	-46	0	0
53986201	1419	607	264	344	31	224	0	0	1754	569	235	333	66	250	0	0	335	-38	-29	-11	35	26	0	0
53985203	68	30	29	1	0	5	0	0	147	47	44	3	0	0	0	0	79	17	15	2	0	-5	0	0
53986105	500	205	189	16	3	28	0	0	516	167	141	25	4	13	0	0	16	-38	-48	9	1	-15	0	0
53989101	336	172	170	2	0	88	69	0	416	140	131	8	2	222	68	0	80	-32	-39	6	2	134	-1	0
53989203	219	117	115	2	0	43	0	0	418	135	121	14	0	0	0	0	199	18	6	12	0	-43	0	0
53989202	371	198	194	4	0	45	0	0	653	212	194	17	0	5	0	0	282	14	0	13	0	-40	0	0
53989302	67	32	32	0	2	14	0	0	141	53	50	2	7	1	0	0	74	21	18	2	5	-13	0	0
53989303	465	227	107	120	1	43	87	2359	363	131	53	77	0	17	87	2486	-102	-96	-54	-43	-1	-26	0	127
53986501	171	79	66	13	1	10	0	0	227	74	52	21	1	0	0	0	56	-5	-14	8	0	-10	0	0
53986101	357	146	137	9	1	40	0	0	471	152	119	33	0	0	0	0	114	6	-18	24	-1	-40	0	0
53986103	36	15	14	1	0	4	0	0	48	15	14	1	0	3	0	0	12	0	0	0	0	-1	0	0
53986102	126	52	48	3	0	12	0	0	135	44	36	7	0	0	0	0	9	-8	-12	4	0	-12	0	0
53987301	317	116	18	98	1	21	0	0	229	74	11	63	0	0	0	0	-88	-42	-7	-35	-1	-21	0	0
53986104	616	252	232	20	0	16	180	0	893	290	249	40	0	15	180	0	277	38	17	20	0	-1	0	0
53986502	515	237	237	0	1	56	0	0	674	218	183	35	7	110	0	0	159	-19	-54	35	6	54	0	0
53986301	204	80	74	6	0	25	0	0	220	71	64	6	1	2	0	0	16	-9	-10	0	1	-23	0	0
53986503	679	312	87	225	40	129	398	0	818	265	81	184	65	439	397	0	139	-47	-6	-41	25	310	-1	0
53989401	1246	571	456	115	4	81	109	0	1404	504	364	140	9	131	109	0	158	-67	-92	25	5	50	0	0
53989501	941	459	453	6	3	68	165	0	772	289	260	28	14	23	0	0	-169	-170	-193	22	11	-45	-165	0
53993601	1	0	0	0	0	0	0	0	226	73	70	3	3	2	0	0	225	73	70	3	3	2	0	0
53989301	565	275	274	1	1	37	141	0	475	178	172	5	3	16	517	0	-90	-97	-102	4	2	-21	376	0
53991109	535	240	219	21	12	7	0	0	780	292	211	80	75	8	0	0	245	52	-8	59	63	1	0	0
53991202	258	137	137	0	83	104	0	0	411	153	116	37	178	55	0	0	153	16	-21	37	95	-49	0	0
53992503	620	66	66	0	12	51	0	0	306	114	100	14	57	27	0	0	-314	48	34	14	45	-24	0	0
53989601	300	146	135	11	0	27	0	0	517	167	150	17	0	11	0	0	217	21	15	6	0	-16	0	0
53989604	280	137	126	10	0	31	0	0	517	167	165	2	0	16	0	0	237	30	39	-8	0	-15	0	0
53992101	111	58	58	0	0	12	0	0	151	49	39	9	0	0	0	0	40	-9	-19	9	0	-12	0	0
53989602	111	54	50	4	0	7	0	0	280	91	85	5	0	3	0	0	169	37	35	1	0	-4	0	0
53989603	866	422	417	5	0	57	211	0	642	212	196	15	2	8	0	0	-224	-210	-221	10	2	-49	-211	0
53991103	550	247	247	0	0	19	0	0	729	273	226	46	0	19	0	0	179	26	-21	46	0	0	0	0
53991106	767	344	344	0	0	10	0	0	1025	383	342	41	0	1	0	0	258	39	-2	41	0	-9	0	0
53991101	1082	486	486	0	0	95	260	0	744	271	255	16	1	10	260	0	-338	-215	-231	16	1	-85	0	0
53992106	88	46	46	0	0	0	0	0	50	16	15	0	0	0	0	0	-38	-30	-31	0	0	0	0	0
53992105	1291	670	314	356	48	202	254	0	1558	583	461	122	96	102	0	0	267	-87	147	-234	48	-100	-254	0
53992104	35	18	18	0	0	2	0	0	21	6	3	3	0	3	0	0	-14	-12	-15	3	0	1	0	0
53992103	18	9	9	0	9	7	0	0	49	18	17	0	33	26	0	0	31	9	8	0	24	19	0	0
53992203	858	447	138	309	24	45	169	0	690	258	134	123	91	12	365	0	-168	-189	-4	-186	67	-33	196	0
53992205	399	208	204	4	25	148	1037	0	756	283	249	33	121	462	1037	0	357	75	45	29	96	314	0	0
53992601	529	287	97	190	92	193	0	0	875	327	93	233	83	221	0	0	346	40	-4	43	-9	28	0	0
53992602	1236	669	195	474	3	42	103	0	1347	504	270	234	9	26	357	0	111	-165	75	-240	6	-16	254	0
53992603	125	68	27	41	0	190	578	0	180	67	46	21	1	241	578	0	55	-1	19	-20	1	51	0	0
53991108	398	179	92	87	9	108	0	0	302	113	69	44	87	35	0	0	-96	-66	-23	-43	78	-73	0	0
53991102	340	153	153	0	0	3	0	0	472	176	139	37	0	0	0	0	132	23	-14	37	0	-3	0	0
53992502	3810	342	145	197	22	78	0	0	992	371	164	206	129	164	0	0	-2818	29	19	9	107	86	0	0
53991201	292	155	155	0	23	68	90	0	455	170	104	66	50	90	90	0	163	15	-51	66	27	22	0	0
53992501	4245	429	262	166	41	343	509	0	1016	380	237	142	148	93	589	0	-3229	-49	-25	-24	107	-250	80	0
53991203	624	332	332	0	0	133	0	0	786	294	235	59	0	63	0	0	162	-38	-97	59	0	-70	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2008 Base Year)								2016-2040 RTP/SCS SANBAG Land Use (2012 Base Year)								Difference (2012 SED minus 2008 SED)							
53992102	56	29	29	0	0	32	0	0	123	46	45	0	0	35	0	0	67	17	16	0	0	3	0	0
53992201	151	48	6	42	14	33	526	0	0	24	24	0	49	49	526	0	-151	-24	18	-42	35	16	0	0
53993402	594	275	275	0	5	87	107	0	1190	431	403	27	18	1	0	0	596	156	128	27	13	-86	-107	0
53993403	692	320	272	48	7	96	165	0	1034	379	355	23	25	401	0	0	342	59	83	-25	18	305	-165	0
53992302	309	167	144	23	18	103	0	0	490	183	54	128	95	149	0	0	181	16	-90	105	77	46	0	0
53992202	3	2	2	0	27	0	0	0	11	4	4	0	94	0	0	0	8	2	2	0	67	0	0	0
53993503	411	214	212	2	0	4	89	0	213	69	63	5	0	2	0	0	-198	-145	-149	3	0	-2	-89	0
53993501	93	48	47	1	0	28	0	0	97	31	31	0	0	8	0	0	4	-17	-16	-1	0	-20	0	0
53993203	234	124	117	6	0	69	0	0	409	132	126	6	6	40	0	0	175	8	9	0	6	-29	0	0
53993201	230	121	117	4	1	18	0	0	254	82	77	4	2	0	0	0	24	-39	-40	0	1	-18	0	0
53992204	4	2	2	0	2	1	0	0	10	3	3	0	7	0	0	0	6	1	1	0	5	-1	0	0
53992301	1514	821	163	657	25	191	77	0	2214	829	81	747	43	97	0	0	700	8	-82	90	18	-94	-77	0
53992401	112	61	61	0	1	15	14	0	125	47	43	3	0	176	14	0	13	-14	-18	3	-1	161	0	0
53992402	518	281	38	243	1	8	0	0	699	262	35	226	0	3	0	0	181	-19	-3	-17	-1	-5	0	0
53992403	468	254	9	245	1	3	180	0	242	90	90	0	6	0	0	0	-226	-164	81	-245	5	-3	-180	0
53992504	1406	196	196	0	0	14	80	0	203	76	58	17	0	0	0	0	-1203	-120	-138	17	0	-14	-80	0
53993401	1171	542	542	0	5	585	366	0	583	218	205	13	18	2616	529	0	-588	-324	-337	13	13	2031	163	0
53993602	331	175	166	9	2	56	0	0	468	152	140	11	0	6	0	0	137	-23	-26	2	-2	-50	0	0
53993502	25	13	12	1	0	7	0	0	55	18	18	0	0	4	0	0	30	5	6	-1	0	-3	0	0
53993202	102	54	53	1	0	31	0	0	143	46	39	7	0	0	0	0	41	-8	-14	6	0	-31	0	0
53993301	409	197	191	5	0	14	0	0	573	214	180	34	1	7	0	0	164	17	-11	29	1	-7	0	0
53993302	496	238	232	6	0	16	0	0	839	314	273	40	0	9	0	0	343	76	41	34	0	-7	0	0
53993303	759	365	352	12	0	20	0	0	872	326	241	85	1	0	0	0	113	-39	-111	73	1	-20	0	0
53931304	794	335	55	280	232	0	0	0	134	53	7	46	24	1	0	0	-660	-282	-48	-234	-208	1	0	0
53931303	794	335	55	280	212	44	0	0	264	106	0	105	12	6	0	0	-530	-229	-55	-175	-200	-38	0	0
53986302	194	76	69	7	0	11	0	0	303	99	92	6	0	14	0	0	109	23	23	-1	0	3	0	0
53980304	325	151	126	25	6	105	34	0	357	116	95	20	14	47	226	0	32	-35	-31	-5	8	-58	192	0
53952202	190	85	85	0	0	0	0	0	208	77	77	0	0	0	0	0	18	-8	-8	0	0	0	0	0
53895205	633	266	265	1	0	0	358	0	0	174	174	0	0	0	0	0	-633	-92	-91	-1	0	0	-358	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2035 Future Year)								2016-2040 RTP/SCS SANBAG Land Use (2040 Future Year)								Difference (2040 SED minus 2035 SED)							
TAZ ID	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN	POPULATIC	HOUSEHOL	SINGLEFAM	MULTIFAM	RETAILEMF	NRETAILEM	KINDERGAI	COLLEGEEN
53977102	64	31	29	1	0	13	0	0	109	35	20	15	0	1	0	0	45	4	-9	14	0	-12	0	0
53980201	1283	593	566	27	4	157	194	0	544	192	192	0	5	21	0	0	-739	-401	-374	-27	1	-136	-194	0
53981406	403	169	170	0	0	44	590	0	289	116	99	17	0	58	590	0	-114	-53	-71	17	0	14	0	0
53937201	346	145	72	74	208	0	0	0	196	79	41	38	20	367	0	0	-150	-66	-31	-36	-188	367	0	0
53945802	429	180	146	35	0	0	0	0	449	180	113	67	0	3	0	0	20	0	-33	32	0	3	0	0
53981405	1335	562	278	285	550	0	0	0	403	162	141	21	139	81	0	0	-932	-400	-137	-264	-411	81	0	0
53980403	361	166	160	6	8	111	0	0	399	129	82	48	41	102	0	0	38	-37	-78	42	33	-9	0	0
53980404	255	117	117	0	4	8	0	0	334	109	91	18	5	57	0	0	79	-8	-26	18	1	49	0	0
53981201	2436	1025	337	689	0	0	0	0	1159	402	66	336	1	2	0	0	-1277	-623	-271	-353	1	2	0	0
53948201	180	76	25	51	0	0	0	0	166	57	41	16	0	1	0	0	-14	-19	16	-35	0	1	0	0
53921202	258	108	84	24	0	0	0	0	214	86	86	0	0	5	0	0	-44	-22	2	-24	0	5	0	0
53921201	137	57	45	13	0	0	0	0	123	49	49	0	0	3	0	0	-14	-8	4	-13	0	3	0	0
53908301	1386	583	574	10	0	50	533	0	624	251	212	39	1	244	533	0	-762	-332	-362	29	1	194	0	0
53993101	302	139	109	30	0	61	0	0	345	112	107	5	1	7	0	0	43	-27	-2	-25	1	-54	0	0
53980102	0	0	0	0	0	0	0	0	295	96	66	30	6	6	0	0	295	96	66	30	6	6	0	0
53930201	0	0	0	0	235	831	0	0	34	14	14	0	14	182	0	0	34	14	14	0	-221	-649	0	0
53922201	164	69	61	8	126	79	0	0	131	53	53	0	8	23	0	0	-33	-16	-8	-8	-118	-56	0	0
53982101	92	38	34	4	0	0	0	0	83	33	33	0	0	16	0	0	-9	-5	-1	-4	0	16	0	0
53982403	1080	454	146	308	507	188	0	0	879	353	103	250	15	101	0	0	-201	-101	-43	-58	-492	-87	0	0
53922202	423	177	157	20	476	37	0	0	118	47	26	21	29	85	0	0	-305	-130	-131	1	-447	48	0	0
53930202	398	167	56	111	625	121	0	0	100	40	2	38	37	123	0	0	-298	-127	-54	-73	-588	2	0	0
53948202	217	91	30	62	0	36	348	0	167	58	46	12	0	56	347	0	-50	-33	16	-50	0	20	-1	0
53945804	357	150	121	29	0	0	0	0	148	60	60	0	0	11	0	0	-209	-90	-61	-29	0	11	0	0
53981304	759	319	258	62	0	289	0	0	282	113	97	16	0	109	0	0	-477	-206	-161	-46	0	-180	0	0
53945801	1189	500	404	97	0	13	179	0	723	290	290	0	2	18	179	0	-466	-210	-114	-97	2	5	0	0
53933201	487	205	160	45	0	0	0	0	166	67	67	0	0	2	0	0	-321	-138	-93	-45	0	2	0	0
53981305	607	255	200	56	0	10	12	0	333	134	128	5	0	9	12	0	-274	-121	-72	-51	0	-1	0	0
53981301	336	141	112	30	0	0	0	0	268	108	108	0	0	14	0	0	-68	-33	-4	-30	0	14	0	0
53981303	364	153	127	27	0	0	0	0	394	158	148	11	0	1	0	0	30	5	21	-16	0	1	0	0
53991105	345	155	155	0	0	0	0	0	438	164	164	0	0	1	0	0	93	9	9	0	0	1	0	0
53952201	372	167	167	0	0	9	0	0	325	122	66	56	0	0	0	0	-47	-45	-101	56	0	-9	0	0
53991107	181	81	67	14	4	3	0	0	237	89	58	31	18	4	0	0	56	8	-9	17	14	1	0	0
53911202	554	233	193	40	0	0	0	0	57	23	23	0	0	24	0	0	-497	-210	-170	-40	0	24	0	0
53981302	195	82	64	18	0	0	0	0	212	85	71	15	0	4	0	0	17	3	7	-3	0	4	0	0
53987101	1214	559	553	6	0	40	0	0	1629	529	499	30	8	29	0	0	415	-30	-54	24	8	-11	0	0
53934201	588	247	245	3	0	0	0	0	408	164	151	13	0	19	75	0	-180	-83	-94	10	0	19	75	0
53988102	1	0	0	0	0	32	0	0	0	0	0	0	0	3	0	0	-1	0	0	0	0	-29	0	0
53934202	609	256	254	3	0	0	0	0	242	97	97	0	0	5	0	0	-367	-159	-157	-3	0	5	0	0
53946201	1058	445	420	26	0	43	761	0	314	126	126	0	0	119	648	0	-744	-319	-294	-26	0	76	-113	0
53946203	1024	431	406	25	0	0	0	0	791	318	318	0	0	17	113	0	-233	-113	-88	-25	0	17	113	0
53984101	522	220	217	3	0	0	75	0	191	77	77	0	0	10	0	0	-331	-143	-140	-3	0	10	-75	0
53908303	846	356	350	6	0	0	0	0	643	258	258	0	0	39	0	0	-203	-98	-92	-6	0	39	0	0
53946202	717	302	285	18	0	0	0	0	0	4	4	0	0	1	0	0	-717	-298	-281	-18	0	1	0	0
53895202	1475	621	618	3	0	0	0	0	550	221	221	0	0	3	0	0	-925	-400	-397	-3	0	3	0	0
53895204	561	236	235	1	0	0	0	0	303	122	122	0	0	4	0	0	-258	-114	-113	-1	0	4	0	0
53984601	859	361	341	21	0	0	0	0	471	189	103	86	7	15	0	0	-388	-172	-238	65	7	15	0	0
53984201	306	128	127	2	0	0	0	0	9	3	3	0	0	21	0	0	-297	-125	-124	-2	0	21	0	0
53911201	146	61	51	11	0	0	0	0	134	54	54	0	0	1	0	0	-12	-7	3	-11	0	1	0	0
53945803	297	125	101	24	0	0	0	0	181	73	73	0	0	2	0	0	-116	-52	-28	-24	0	2	0	0
53981101	904	380	190	190	347	0	0	0	217	87	86	1	124	45	0	0	-687	-293	-104	-189	-223	45	0	0
53910201	0	0	0	0	0	70	1367	0	9	4	2	1	0	204	1367	0	9	4	2	1	0	134	0	0
53927201	249	105	60	46	0	0	0	0	229	92	92	0	0	32	0	0	-20	-13	32	-46	0	32	0	0
53982301	454	191	127	64	0	0	0	0	347	139	118	21	3	33	0	0	-107	-52	-9	-43	3	33	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2035 Future Year)								2016-2040 RTP/SCS SANBAG Land Use (2040 Future Year)								Difference							
53982201	107	45	31	14	156	425	0	0	34	14	6	8	46	263	0	0	-73	-31	-25	-6	-110	-162	0	0
53984302	1474	620	317	304	666	377	0	0	661	266	17	249	48	191	0	0	-813	-354	-300	-55	-618	-186	0	0
53918302	138	58	58	0	335	281	0	0	0	0	0	0	148	26	0	0	-138	-58	-58	0	-187	-255	0	0
53982402	112	47	47	0	276	227	0	0	219	88	34	54	70	140	0	0	107	41	-13	54	-206	-87	0	0
53912204	328	138	138	1	0	0	0	0	126	51	51	0	0	1	0	0	-202	-87	-87	-1	0	1	0	0
53940201	428	180	180	0	0	0	0	0	459	184	150	34	1	5	0	0	31	4	-30	34	1	5	0	0
53912202	525	221	220	1	0	0	0	0	375	150	150	0	0	12	0	0	-150	-71	-70	-1	0	12	0	0
53982303	140	59	59	0	0	0	0	0	64	26	26	0	0	1	0	0	-76	-33	-33	0	0	1	0	0
53982401	157	66	58	9	0	0	0	0	374	150	99	51	70	78	0	0	217	84	41	42	70	78	0	0
53912205	188	79	79	0	50	52	45	0	207	83	38	45	0	20	45	0	19	4	-41	45	-50	-32	0	0
53912201	211	89	89	0	0	0	0	0	74	30	30	0	0	5	0	0	-137	-59	-59	0	0	5	0	0
53982503	113	47	48	0	0	0	0	0	34	14	14	0	0	1	0	0	-79	-33	-34	0	0	1	0	0
53912203	68	29	29	0	0	0	0	0	177	71	26	45	0	23	0	0	109	42	-3	45	0	23	0	0
53987402	898	376	318	58	2	10	0	0	1057	343	256	88	4	3	0	0	159	-33	-62	30	2	-7	0	0
53895201	609	256	255	1	211	133	0	0	324	130	108	22	23	25	358	0	-285	-126	-147	21	-188	-108	358	0
53895203	1234	519	517	3	0	0	0	0	471	189	189	0	0	0	0	0	-763	-330	-328	-3	0	0	0	0
53941201	72	30	20	10	0	269	0	0	0	10	10	0	0	66	0	0	-72	-20	-10	-10	0	-203	0	0
53899202	454	191	133	58	308	223	0	0	60	24	16	8	89	51	0	0	-394	-167	-117	-50	-219	-172	0	0
53982202	789	332	332	0	500	128	0	0	209	84	64	20	73	81	0	0	-580	-248	-268	20	-427	-47	0	0
53916201	494	208	208	0	420	0	0	0	0	0	0	0	409	3	0	0	-494	-208	-208	0	-11	3	0	0
53923301	1210	509	260	250	3915	0	0	0	352	142	142	0	54	183	0	0	-858	-367	-118	-250	-3861	183	0	0
53899201	460	193	135	59	331	0	0	0	32	13	13	0	136	54	0	0	-428	-180	-122	-59	-195	54	0	0
53984501	423	178	101	77	159	131	0	0	511	205	100	105	6	43	0	0	88	27	-1	28	-153	-88	0	0
53910202	1690	711	356	356	0	0	0	0	468	188	10	178	0	7	0	0	-1222	-523	-346	-178	0	7	0	0
53939203	119	50	36	14	309	0	0	0	0	0	0	0	37	1	0	0	-119	-50	-36	-14	-272	1	0	0
53931302	1059	447	73	374	208	272	0	0	131	53	3	50	16	45	72	0	-928	-394	-70	-324	-192	-227	72	0
53931301	265	112	18	94	0	135	0	0	189	76	7	69	1	15	0	0	-76	-36	-11	-25	1	-120	0	0
53898304	97	41	41	0	0	0	0	0	43	17	17	0	0	7	0	0	-54	-24	-24	0	0	7	0	0
53898301	101	42	43	0	0	0	0	0	96	38	26	12	0	22	0	0	-5	-4	-17	12	0	22	0	0
53982302	120	50	51	0	532	335	0	0	95	38	38	0	29	33	0	0	-25	-12	-13	0	-503	-302	0	0
53981102	1647	693	497	197	191	120	0	0	743	298	76	222	2	475	0	0	-904	-395	-421	25	-189	355	0	0
53939201	362	152	109	43	22	14	0	0	445	179	168	10	0	33	0	0	83	27	59	-33	-22	19	0	0
53939202	27	11	8	3	217	5	0	0	34	13	7	6	9	3	0	0	7	2	-1	3	-208	-2	0	0
53984504	325	137	137	0	0	0	0	0	246	99	99	0	0	8	0	0	-79	-38	-38	0	0	8	0	0
53924201	259	109	109	0	0	0	0	0	239	96	82	14	0	7	0	0	-20	-13	-27	14	0	7	0	0
53903201	563	237	185	52	0	0	0	0	556	223	200	24	0	10	0	0	-7	-14	15	-28	0	10	0	0
53984102	300	126	126	1	0	0	0	0	191	77	77	0	0	3	0	0	-109	-49	-49	-1	0	3	0	0
53982305	423	178	178	0	0	0	0	0	320	128	102	26	2	1	0	0	-103	-50	-76	26	2	1	0	0
53900201	111	47	47	0	0	0	0	0	138	56	56	0	0	1	0	0	27	9	9	0	0	1	0	0
53985102	806	283	276	7	193	121	0	0	813	266	238	28	22	38	0	0	7	-17	-38	21	-171	-83	0	0
53986401	242	102	25	77	0	0	0	0	109	38	38	0	0	8	0	0	-133	-64	13	-77	0	8	0	0
53900202	71	30	30	0	0	0	0	0	77	31	31	0	0	1	0	0	6	1	1	0	0	1	0	0
53900204	518	218	218	0	0	0	0	0	244	98	98	0	0	0	0	0	-274	-120	-120	0	0	0	0	0
53900203	280	118	118	0	0	0	0	0	93	38	38	0	0	1	0	0	-187	-80	-80	0	0	1	0	0
53954201	243	121	30	92	0	0	98	0	412	143	31	111	2	62	98	0	169	22	1	19	2	62	0	0
53982602	1691	712	615	97	152	96	63	0	549	221	221	0	7	10	63	0	-1142	-491	-394	-97	-145	-86	0	0
53950201	159	67	22	46	268	0	0	0	70	28	28	0	15	2	0	0	-89	-39	6	-46	-253	2	0	0
53902201	0	0	0	0	0	1615	838	0	0	0	0	0	5	782	838	0	0	0	0	0	5	-833	0	0
53984402	29	12	11	1	1148	1600	0	0	15	6	5	1	188	1086	0	0	-14	-6	-6	0	-960	-514	0	0
53898302	390	164	164	0	0	0	0	0	248	100	100	0	20	83	0	0	-142	-64	-64	0	20	83	0	0
53913204	649	302	252	50	2	26	68	0	1081	351	155	196	16	30	0	0	432	49	-97	146	14	4	-68	0
53984503	372	156	157	0	0	0	0	0	239	96	85	11	0	2	0	0	-133	-60	-72	11	0	2	0	0
53925201	308	129	130	0	0	0	0	0	135	54	54	0	0	2	0	0	-173	-75	-76	0	0	2	0	0
53900205	150	63	64	0	0	0	0	0	53	21	21	0	0	1	0	0	-97	-42	-43	0	0	1	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2035 Future Year)								2016-2040 RTP/SCS SANBAG Land Use (2040 Future Year)								Difference							
53898303	103	43	44	0	0	0	0	0	54	22	22	0	0	208	0	0	-49	-21	-22	0	0	208	0	0
53984502	448	188	144	45	66	66	0	0	425	171	113	58	3	32	0	0	-23	-17	-31	13	-63	-34	0	0
53926201	238	100	77	24	0	0	0	0	228	92	92	0	0	5	0	0	-10	-8	15	-24	0	5	0	0
53984401	601	253	198	55	323	0	0	0	112	45	45	0	46	91	0	0	-489	-208	-153	-55	-277	91	0	0
53982501	102	41	41	0	0	23	0	0	160	52	45	7	0	0	0	0	58	11	4	7	0	-23	0	0
53982504	311	131	131	0	0	0	0	0	132	53	53	0	0	1	0	0	-179	-78	-78	0	0	1	0	0
53909201	556	234	234	0	61	38	0	0	408	164	158	6	9	5	0	0	-148	-70	-76	6	-52	-33	0	0
53949201	26	11	11	0	131	2363	0	0	42	17	17	0	5	270	0	0	16	6	6	0	-126	-2093	0	0
53984403	0	0	0	0	1226	1453	0	0	0	0	0	0	136	458	0	0	0	0	0	0	-1090	-995	0	0
53987401	1196	500	207	293	15	31	625	0	1273	413	194	219	11	74	625	0	77	-87	-13	-74	-4	43	0	0
53990101	7617	1668	143	1525	4	1278	0	0	4478	1661	1	1661	85	1385	0	0	-3139	-7	-142	136	81	107	0	0
53983101	882	515	510	5	1	139	134	0	1075	349	324	25	0	37	0	0	193	-166	-186	20	-1	-102	-134	0
53977104	69	33	32	1	0	8	0	0	147	48	41	7	0	2	0	0	78	15	9	6	0	-6	0	0
53983206	625	358	341	17	10	41	203	0	1043	339	292	47	43	81	337	0	418	-19	-49	30	33	40	134	0
53983202	479	274	263	10	7	35	0	0	967	314	267	47	6	27	0	0	488	40	4	37	-1	-8	0	0
53983201	441	252	244	9	4	88	0	0	805	261	206	56	2	85	0	0	364	9	-38	47	-2	-3	0	0
53977201	876	419	402	17	14	79	0	0	1245	404	316	88	4	67	0	0	369	-15	-86	71	-10	-12	0	0
53985202	570	253	244	9	1	50	0	0	657	213	213	0	0	9	0	0	87	-40	-31	-9	-1	-41	0	0
53913202	325	151	126	25	0	0	34	0	529	172	172	0	3	30	0	0	204	21	46	-25	3	30	-34	0
53913203	541	252	210	42	0	0	57	0	494	160	160	0	0	37	0	0	-47	-92	-50	-42	0	37	-57	0
53980101	49	23	23	1	3	1	38	0	156	51	51	0	2	5	232	0	107	28	28	-1	-1	4	194	0
53980301	224	104	104	0	2	8	0	0	422	137	110	27	15	11	0	0	198	33	6	27	13	3	0	0
53980302	84	39	39	0	1	10	0	0	156	51	46	4	3	0	0	0	72	12	7	4	2	-10	0	0
53980303	167	78	78	0	0	13	0	0	382	124	112	12	10	65	0	0	215	46	34	12	10	52	0	0
53913201	325	151	126	25	0	0	34	0	333	108	92	16	27	24	0	0	8	-43	-34	-9	27	24	-34	0
53991104	291	131	131	0	0	54	777	0	230	86	81	5	0	94	777	0	-61	-45	-50	5	0	40	0	0
53980305	65	30	30	0	0	20	0	0	90	29	25	4	0	0	0	0	25	-1	-5	4	0	-20	0	0
53980401	17	8	7	1	0	23	0	0	31	10	8	2	0	0	0	0	14	2	1	1	0	-23	0	0
53980402	88	41	24	17	6	3	0	0	259	84	28	56	18	1	0	0	171	43	4	39	12	-2	0	0
53984602	385	162	162	0	0	0	0	0	211	85	85	0	0	6	0	0	-174	-77	-77	0	0	6	0	0
53982106	265	112	37	75	0	0	0	0	21	9	8	0	0	53	0	0	-244	-103	-29	-75	0	53	0	0
53988101	11	4	4	0	0	37	0	0	6	2	2	0	0	16	0	0	-5	-2	-2	0	0	-21	0	0
53911203	93	39	33	7	0	0	0	0	86	34	34	0	0	28	0	0	-7	-5	1	-7	0	28	0	0
53981404	403	170	121	49	211	2	0	0	191	77	29	47	9	8	0	0	-212	-93	-92	-2	-202	6	0	0
53981403	398	167	167	0	625	0	0	0	72	29	11	18	21	62	0	0	-326	-138	-156	18	-604	62	0	0
53981401	265	112	112	0	417	0	0	0	0	1	0	1	10	106	0	0	-265	-111	-112	1	-407	106	0	0
53981402	625	262	221	42	208	0	0	0	403	162	41	121	18	19	0	0	-222	-100	-180	79	-190	19	0	0
53981407	345	145	145	0	0	0	0	0	257	103	94	9	0	8	0	0	-88	-42	-51	9	0	8	0	0
53985101	1503	528	517	11	183	115	548	0	1518	499	426	73	3	59	548	0	15	-29	-91	62	-180	-56	0	0
53951201	324	136	134	3	186	638	0	0	149	49	49	0	12	107	0	0	-175	-87	-85	-3	-174	-531	0	0
53943203	1145	482	461	22	0	0	0	0	1009	356	253	103	0	0	0	0	-136	-126	-208	81	0	0	0	0
53982105	1059	446	73	373	0	89	0	0	372	150	32	118	0	7	0	0	-687	-296	-41	-255	0	-82	0	0
53982102	365	153	104	49	81	51	0	0	311	125	102	22	20	4	0	0	-54	-28	-2	-27	-61	-47	0	0
53943201	417	175	168	8	0	0	0	0	314	111	111	0	0	1	0	0	-103	-64	-57	-8	0	1	0	0
53982103	105	44	44	0	0	0	0	0	94	38	38	0	0	0	0	0	-11	-6	-6	0	0	0	0	0
53982104	205	86	87	0	0	0	0	0	136	55	55	0	0	2	0	0	-69	-31	-32	0	0	2	0	0
53982304	1911	804	805	0	0	0	0	0	505	203	202	1	0	10	0	0	-1406	-601	-603	1	0	10	0	0
53982502	274	115	116	0	0	119	0	0	109	44	44	0	0	14	0	0	-165	-71	-72	0	0	-105	0	0
53985201	478	212	204	8	0	42	0	0	587	191	162	29	3	31	0	0	109	-21	-42	21	3	-11	0	0
53943202	283	119	114	5	0	0	0	0	39	14	14	0	0	0	0	0	-244	-105	-100	-5	0	0	0	0
53982601	0	0	0	0	109	69	0	0	0	0	0	0	12	0	0	0	0	0	0	0	-97	-69	0	0
53983205	685	392	372	21	2	19	0	0	953	309	255	54	23	19	0	0	268	-83	-117	33	21	0	0	0
53983203	79	45	43	2	0	14	0	0	108	35	31	4	0	0	0	0	29	-10	-12	2	0	-14	0	0
53989201	145	77	76	1	0	33	0	0	298	97	85	12	0	3	0	0	153	20	9	11	0	-30	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2035 Future Year)								2016-2040 RTP/SCS SANBAG Land Use (2040 Future Year)								Difference							
53983204	4	2	2	0	1	34	0	0	0	1	1	0	0	0	0	0	-4	-1	-1	0	-1	-34	0	0
53987302	685	251	170	81	23	884	0	0	716	232	132	101	29	1353	0	0	31	-19	-38	20	6	469	0	0
53987102	181	83	82	1	0	11	0	0	383	124	119	5	0	13	0	0	202	41	37	4	0	2	0	0
53984301	180	75	76	0	436	366	0	0	0	2	2	0	70	209	0	0	-180	-73	-74	0	-366	-157	0	0
53987201	1907	792	660	132	25	246	0	0	2429	789	514	275	89	184	0	0	522	-3	-146	143	64	-62	0	0
53908302	2459	1035	1017	18	0	0	0	0	332	133	133	0	0	29	0	0	-2127	-902	-884	-18	0	29	0	0
53986202	570	253	244	9	1	50	0	0	149	48	37	12	7	4	0	0	-421	-205	-207	3	6	-46	0	0
53986201	1419	607	264	344	31	224	0	0	1754	570	236	334	67	250	0	0	335	-37	-28	-10	36	26	0	0
53985203	68	30	29	1	0	5	0	0	147	48	45	3	0	0	0	0	79	18	16	2	0	-5	0	0
53986105	500	205	189	16	3	28	0	0	517	168	142	26	5	13	0	0	17	-37	-47	10	2	-15	0	0
53989101	336	172	170	2	0	88	69	0	416	140	132	8	2	223	69	0	80	-32	-38	6	2	135	0	0
53989203	219	117	115	2	0	43	0	0	419	136	122	14	0	0	0	0	200	19	7	12	0	-43	0	0
53989202	371	198	194	4	0	45	0	0	653	212	194	18	0	5	0	0	282	14	0	14	0	-40	0	0
53989302	67	32	32	0	2	14	0	0	142	53	51	2	7	1	0	0	75	21	19	2	5	-13	0	0
53989303	465	227	107	120	1	43	87	2359	364	131	53	78	0	17	87	2486	-101	-96	-54	-42	-1	-26	0	127
53986501	171	79	66	13	1	10	0	0	228	74	53	21	2	0	0	0	57	-5	-13	8	1	-10	0	0
53986101	357	146	137	9	1	40	0	0	471	153	120	33	0	0	0	0	114	7	-17	24	-1	-40	0	0
53986103	36	15	14	1	0	4	0	0	49	16	14	2	0	3	0	0	13	1	0	1	0	-1	0	0
53986102	126	52	48	3	0	12	0	0	136	44	37	8	0	0	0	0	10	-8	-11	5	0	-12	0	0
53987301	317	116	18	98	1	21	0	0	230	75	11	63	1	0	0	0	-87	-41	-7	-35	0	-21	0	0
53986104	616	252	232	20	0	16	180	0	893	290	250	40	0	15	180	0	277	38	18	20	0	-1	0	0
53986502	515	237	237	0	1	56	0	0	674	219	183	36	7	111	0	0	159	-18	-54	36	6	55	0	0
53986301	204	80	74	6	0	25	0	0	220	72	65	7	1	2	0	0	16	-8	-9	1	1	-23	0	0
53986503	679	312	87	225	40	129	398	0	819	266	81	185	65	440	398	0	140	-46	-6	-40	25	311	0	0
53989401	1246	571	456	115	4	81	109	0	1405	504	364	140	9	131	109	0	159	-67	-92	25	5	50	0	0
53989501	941	459	453	6	3	68	165	0	773	289	260	29	14	23	0	0	-168	-170	-193	23	11	-45	-165	0
53993601	1	0	0	0	0	0	0	0	227	74	70	3	3	3	0	0	226	74	70	3	3	3	0	0
53989301	565	275	274	1	1	37	141	0	475	178	172	6	3	16	517	0	-90	-97	-102	5	2	-21	376	0
53991109	535	240	219	21	12	7	0	0	780	292	212	81	75	8	0	0	245	52	-7	60	63	1	0	0
53991202	258	137	137	0	83	104	0	0	411	154	116	37	178	55	0	0	153	17	-21	37	95	-49	0	0
53992503	620	66	66	0	12	51	0	0	307	115	101	14	57	27	0	0	-313	49	35	14	45	-24	0	0
53989601	300	146	135	11	0	27	0	0	517	168	150	18	0	11	0	0	217	22	15	7	0	-16	0	0
53989604	280	137	126	10	0	31	0	0	517	168	166	2	0	16	0	0	237	31	40	-8	0	-15	0	0
53992101	111	58	58	0	0	12	0	0	152	49	39	10	0	0	0	0	41	-9	-19	10	0	-12	0	0
53989602	111	54	50	4	0	7	0	0	281	91	85	6	0	3	0	0	170	37	35	2	0	-4	0	0
53989603	866	422	417	5	0	57	211	0	642	212	197	16	2	8	0	0	-224	-210	-220	11	2	-49	-211	0
53991103	550	247	247	0	0	19	0	0	729	273	227	46	0	20	0	0	179	26	-20	46	0	1	0	0
53991106	767	344	344	0	0	10	0	0	1025	384	342	42	0	1	0	0	258	40	-2	42	0	-9	0	0
53991101	1082	486	486	0	0	95	260	0	744	271	255	16	1	10	260	0	-338	-215	-231	16	1	-85	0	0
53992106	88	46	46	0	0	0	0	0	50	16	16	0	0	0	0	0	-38	-30	-30	0	0	0	0	0
53992105	1291	670	314	356	48	202	254	0	1559	584	462	122	96	102	0	0	268	-86	148	-234	48	-100	-254	0
53992104	35	18	18	0	0	2	0	0	21	7	4	3	0	3	0	0	-14	-11	-14	3	0	1	0	0
53992103	18	9	9	0	9	7	0	0	49	18	18	1	33	27	0	0	31	9	9	1	24	20	0	0
53992203	858	447	138	309	24	45	169	0	691	259	135	124	91	13	365	0	-167	-188	-3	-185	67	-32	196	0
53992205	399	208	204	4	25	148	1037	0	757	283	250	34	122	462	1037	0	358	75	46	30	97	314	0	0
53992601	529	287	97	190	92	193	0	0	875	328	94	234	83	221	0	0	346	41	-3	44	-9	28	0	0
53992602	1236	669	195	474	3	42	103	0	1348	505	270	234	10	26	357	0	112	-164	75	-240	7	-16	254	0
53992603	125	68	27	41	0	190	578	0	181	68	46	21	1	242	578	0	56	0	19	-20	1	52	0	0
53991108	398	179	92	87	9	108	0	0	303	113	69	44	88	35	0	0	-95	-66	-23	-43	79	-73	0	0
53991102	340	153	153	0	0	3	0	0	472	177	140	37	0	0	0	0	132	24	-13	37	0	-3	0	0
53992502	3810	342	145	197	22	78	0	0	992	372	165	207	130	165	0	0	-2818	30	20	10	108	87	0	0
53991201	292	155	155	0	23	68	90	0	456	171	104	67	50	90	90	0	164	16	-51	67	27	22	0	0
53992501	4245	429	262	166	41	343	509	0	1016	381	238	143	148	94	590	0	-3229	-48	-24	-23	107	-249	81	0
53991203	624	332	332	0	0	133	0	0	787	295	235	60	0	63	0	0	163	-37	-97	60	0	-70	0	0

	Original 2012-2035 RTP/SCS SBTAM Land Use (2035 Future Year)								2016-2040 RTP/SCS SANBAG Land Use (2040 Future Year)								Difference							
53992102	56	29	29	0	0	32	0	0	123	46	45	1	0	35	0	0	67	17	16	1	0	3	0	0
53992201	151	48	6	42	14	33	526	0	0	25	25	0	50	49	526	0	-151	-23	19	-42	36	16	0	0
53993402	594	275	275	0	5	87	107	0	1190	431	404	28	18	2	0	0	596	156	129	28	13	-85	-107	0
53993403	692	320	272	48	7	96	165	0	1034	379	356	23	26	402	0	0	342	59	84	-25	19	306	-165	0
53992302	309	167	144	23	18	103	0	0	491	184	55	129	96	150	0	0	182	17	-89	106	78	47	0	0
53992202	3	2	2	0	27	0	0	0	11	4	4	0	94	0	0	0	8	2	2	0	67	0	0	0
53993503	411	214	212	2	0	4	89	0	213	69	64	5	0	2	0	0	-198	-145	-148	3	0	-2	-89	0
53993501	93	48	47	1	0	28	0	0	97	32	32	0	0	8	0	0	4	-16	-15	-1	0	-20	0	0
53993203	234	124	117	6	0	69	0	0	410	133	127	6	6	40	0	0	176	9	10	0	6	-29	0	0
53993201	230	121	117	4	1	18	0	0	254	83	78	5	2	0	0	0	24	-38	-39	1	1	-18	0	0
53992204	4	2	2	0	2	1	0	0	10	4	3	1	7	0	0	0	6	2	1	1	5	-1	0	0
53992301	1514	821	163	657	25	191	77	0	2214	829	82	748	43	97	0	0	700	8	-81	91	18	-94	-77	0
53992401	112	61	61	0	1	15	14	0	126	47	44	3	0	176	14	0	14	-14	-17	3	-1	161	0	0
53992402	518	281	38	243	1	8	0	0	700	262	35	227	0	3	0	0	182	-19	-3	-16	-1	-5	0	0
53992403	468	254	9	245	1	3	180	0	243	91	91	0	6	0	0	0	-225	-163	82	-245	5	-3	-180	0
53992504	1406	196	196	0	0	14	80	0	203	76	59	17	0	0	0	0	-1203	-120	-137	17	0	-14	-80	0
53993401	1171	542	542	0	5	585	366	0	584	219	205	13	18	2617	529	0	-587	-323	-337	13	13	2032	163	0
53993602	331	175	166	9	2	56	0	0	468	152	141	11	1	6	0	0	137	-23	-25	2	-1	-50	0	0
53993502	25	13	12	1	0	7	0	0	56	18	18	0	0	5	0	0	31	5	6	-1	0	-2	0	0
53993202	102	54	53	1	0	31	0	0	143	47	39	7	0	0	0	0	41	-7	-14	6	0	-31	0	0
53993301	409	197	191	5	0	14	0	0	574	215	181	34	2	7	0	0	165	18	-10	29	2	-7	0	0
53993302	496	238	232	6	0	16	0	0	840	314	274	41	0	9	0	0	344	76	42	35	0	-7	0	0
53993303	759	365	352	12	0	20	0	0	872	327	241	86	1	0	0	0	113	-38	-111	74	1	-20	0	0
53931304	794	335	55	280	232	0	0	0	134	54	8	46	24	2	0	0	-660	-281	-47	-234	-208	2	0	0
53931303	794	335	55	280	212	44	0	0	265	106	1	106	13	6	0	0	-529	-229	-54	-174	-199	-38	0	0
53986302	194	76	69	7	0	11	0	0	304	99	92	7	0	14	0	0	110	23	23	0	0	3	0	0
53980304	325	151	126	25	6	105	34	0	358	116	95	21	15	47	226	0	33	-35	-31	-4	9	-58	192	0
53952202	190	85	85	0	0	0	0	0	208	78	78	0	0	0	0	0	18	-7	-7	0	0	0	0	0
53895205	633	266	265	1	0	0	358	0	0	174	174	0	0	0	0	0	-633	-92	-91	-1	0	0	-358	0

APPENDIX D: MBATS MODEL VALIDATION SUMMARY



Table 8 - SBTAM Morongo Basin Area Daily Validation										
Roadway	Location			2012	Base Year	Base Year	Deviation	Max	Result	Difference
	Postmile	Extents	City	Count	Model ID	Model		Deviation		Squared
Aberdeen Dr		W/o Yucca Messa Dr	Yucca Valley	1,415	2741363	1,513	7%	63%	PASS	9,601
Adobe Rd		S/o Indian Trail	Twentynine Palms	5,447	2740841	3,052	-44%	48%	PASS	5,738,000
Adobe Rd		N/o SR-62	Twentynine Palms	8,937	122749	3,902	-56%	38%	FAIL	25,348,046
Alta Loma Dr		W/o Sunny Vista Rd	Joshua Tree	4,147	2740734	2,604	-37%	52%	PASS	2,380,267
Amboy Rd		S/o Amboy Cutoff	Twentynine Palms	792	2740938	1,402	77%	68%	FAIL	371,690
Camp Rock Rd		S/o SR-247	Lucerne Valley	507	133010	539	6%	68%	PASS	998
Camp Rock Rd		N/o SR-247	Lucerne Valley	1,268	122860	598	-53%	63%	PASS	448,343
Hess Blvd		S/o Senilis Ave	Morongo	2,992	2743362	2,356	-21%	58%	PASS	404,545
Juniper Ave		N/o Sensilis Ave	Morongo	1,602	2743352	973	-39%	63%	PASS	396,172
Juniper Ave		N/o Pioneer Dr	Morongo	598	2743351	629	5%	68%	PASS	945
Morongo Rd		N/o Indian Trail	Twentynine Palms	3,247	122925	3,251	0%	58%	PASS	13
Morongo Rd		S/o Pole Line Rd	Twentynine Palms	1,885	2740817	3,341	77%	63%	FAIL	2,118,593
Paradise Ave		W/o Juniper Ave	Morongo	788	2743354	1,125	43%	68%	PASS	113,677
Park Blvd		S/o SR-62	Joshua Tree	4,740	124345	2,826	-40%	52%	PASS	3,663,524
Pioneer Dr		W/ West Dr	Morongo	981	2740497	490	-50%	68%	PASS	241,567
Pole Line Rd		E/o Lear Ave	Twentynine Palms	1,273	122877	819	-36%	63%	PASS	206,141
Reche Rd		E/o SR-247	Landers	1,533	123028	2,058	34%	63%	PASS	275,265
Senilis Ave		E/o Juniper Ave	Morongo	1,661	2743361	1,814	9%	63%	PASS	23,304
Senilis Ave		E/ Hess Blvd	Morongo	985	2743363	499	-49%	68%	PASS	236,133
SR-247		Yucca Valley, Jct. Rte. 62	Yucca Valley	11,000	122967	9,625	-12%	36%	PASS	1,889,628
SR-247		Between Daransatte Rd and Joshua Rd / PeachTree Rd	Landers	1,858	2740479	6,553	253%	63%	FAIL	22,038,580
SR-247		S/o Pipes Canyon Rd	Yucca Valley	2,612	123013	5,718	119%	58%	FAIL	9,649,833
SR-62	10.5	Pioneer Town Rd	Yucca Valley	26,500	2701712	23,906	-10%	25%	PASS	6,729,653
SR-62	12.4	Jct. Rte. 247 North	Yucca Valley	26,500	2740593	22,863	-14%	25%	PASS	13,226,145
SR-62	15.1	Yucca Mesa Rd	Yucca Valley	19,500	144950	17,700	-9%	28%	PASS	3,238,644
SR-62	18.2	Park Blvd	Joshua Tree	17,000	124348	18,368	8%	29%	PASS	1,871,166
SR-62	22.1	Sunfair Road	Joshua Tree	14,000	152772	17,208	23%	31%	PASS	10,291,406
SR-62	33.2	Adobe Road	Twentynine Palms	9,500	122726	8,286	-13%	38%	PASS	1,474,151
SR-62	33.3	National Park/Hatch	Twentynine Palms	15,000	122693	12,675	-15%	30%	PASS	5,404,946
SR-62	34.2	Utah Trail	Twentynine Palms	2,800	122779	3,708	32%	58%	PASS	825,070
SR-62	55.1	Ironage Road - State Highway 177	Twentynine Palms	338	139996	554	64%	68%	PASS	46,816
Sunburst Ave		N/o SR-62	Joshua Tree	4,393	123080	3,377	-23%	52%	PASS	1,031,831
Sunfair Rd		N/o SR-62	Joshua Tree	1,198	122958	913	-24%	68%	PASS	81,042
Yucca Trail/Alta Loma		E/o La Contenta St	Yucca Valley	5,485	2743155	4,397	-20%	48%	PASS	1,183,899
		Sum of Links		**202,482**		**189,641**		**Sum of Difference Squared**		**120,959,632**
							Total Link Volume Deviation	**-6%**	**+/- 10%**	**PASS**
							Percent Within Maximum Deviation	**85%**	**> 75%**	**PASS**
							Percent Root Mean Square Error (RMSE)	**32%**	**< 40%**	**PASS**
							Correlation Coefficient	**0.97**	**> 0.88**	**PASS**

APPENDIX E: MBATS MODEL FORECASTS & LOS



Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
122945	OLD WOMAN SPRINGS RD	50	18866.68	2	14400	16200	18000	F	1.048149
2776961	OLD WOMAN SPRINGS RD	50	19197.48	2	14400	16200	18000	F	1.066527
2733585	OLD WOMAN SPRINGS RD	50	19197.48	2	14400	16200	18000	F	1.066527
2774652	OLD WOMAN SPRINGS RD	50	19572.85	2	14400	16200	18000	F	1.087381
2779111	HESS BLVD	60	16117.81	2	10400	11700	13000	F	1.239832
2778967	OLD WOMAN SPRINGS RD	50	20819.64	2	14400	16200	18000	F	1.156647
122967	OLD WOMAN SPRINGS RD	50	19570.43	2	14400	16200	18000	F	1.087246
2779051	OLD WOMAN SPRINGS RD	50	18905.9	2	14400	16200	18000	F	1.050328
122965	OLD WOMAN SPRINGS RD	50	22298.89	2	14400	16200	18000	F	1.238827
2778968	OLD WOMAN SPRINGS RD	50	20560.01	2	14400	16200	18000	F	1.142223
122964	OLD WOMAN SPRINGS RD	50	21207.59	2	14400	16200	18000	F	1.178199
2774747	OLD WOMAN SPRINGS RD	50	20386.86	2	14400	16200	18000	F	1.132603
100763	OLD WOMAN SPRINGS RD	50	19416.24	2	14400	16200	18000	F	1.07868
2778984	OLD WOMAN SPRINGS RD	50	19745.12	2	14400	16200	18000	F	1.096951
2774752	OLD WOMAN SPRINGS RD	50	20427.38	2	14400	16200	18000	F	1.134855
2778972	OLD WOMAN SPRINGS RD	50	19416.24	2	14400	16200	18000	F	1.07868
2776970	YUCCA MESA RD	60	13364.13	2	10400	11700	13000	F	1.02801
2777112	TWENTYNINE PALMS HIGHWAY	42	45901.15	4	28100	35400	37400	F	1.227303
1658229	STATE HIGHWAY 62	42	58471.38	4	28100	35400	37400	F	1.563406
2768067	STATE HIGHWAY 62	42	58628.83	4	28100	35400	37400	F	1.567616
123056	TWENTYNINE PALMS HIGHWAY	42	47315.7	4	28100	35400	37400	F	1.265126
1658230	STATE HIGHWAY 62	42	42511.01	4	28100	35400	37400	F	1.136658
2779110	STATE HIGHWAY 62	42	42511.01	4	28100	35400	37400	F	1.136658
2701621	STATE HIGHWAY 62	42	42859.85	4	28100	35400	37400	F	1.145985
2774677	STATE HIGHWAY 62	42	47315.7	4	28100	35400	37400	F	1.265126
2774669	TWENTYNINE PALMS HIGHWAY	42	46456.38	4	28100	35400	37400	F	1.242149
2774666	TWENTYNINE PALMS HIGHWAY	42	45738.32	4	28100	35400	37400	F	1.22295
123017	TWENTYNINE PALMS HIGHWAY	42	41704.06	4	28100	35400	37400	F	1.115082
123053	TWENTYNINE PALMS HIGHWAY	42	45298.5	4	28100	35400	37400	F	1.21119
2774664	TWENTYNINE PALMS HIGHWAY	42	46256.31	4	28100	35400	37400	F	1.2368
123049	TWENTYNINE PALMS HIGHWAY	42	47907.37	4	28100	35400	37400	F	1.280946
123050	TWENTYNINE PALMS HIGHWAY	42	46517.06	4	28100	35400	37400	F	1.243772
2774729	TWENTYNINE PALMS HIGHWAY	42	45298.5	4	28100	35400	37400	F	1.21119
2774714	TWENTYNINE PALMS HIGHWAY	42	49304.46	4	28100	35400	37400	F	1.318301
2778926	TWENTYNINE PALMS HIGHWAY	42	48313.96	4	28100	35400	37400	F	1.291817
2778927	TWENTYNINE PALMS HIGHWAY	42	49516.88	4	28100	35400	37400	F	1.323981
2732349	TWENTYNINE PALMS HIGHWAY	42	44503.46	4	28100	35400	37400	F	1.189932
123015	TWENTYNINE PALMS HIGHWAY	42	42696.12	4	28100	35400	37400	F	1.141607
2778906	TWENTYNINE PALMS HIGHWAY	42	39007.16	4	28100	35400	37400	F	1.042972
123018	TWENTYNINE PALMS HIGHWAY	42	38934.71	4	28100	35400	37400	F	1.041035
2701710	TWENTYNINE PALMS HIGHWAY	42	41704.06	4	28100	35400	37400	F	1.115082
2774734	TWENTYNINE PALMS HIGHWAY	42	41704.06	4	28100	35400	37400	F	1.115082
2778925	TWENTYNINE PALMS HIGHWAY	42	41866.14	4	28100	35400	37400	F	1.119415
2778935	TWENTYNINE PALMS HIGHWAY	42	42397.69	4	28100	35400	37400	F	1.133628
2778909	TWENTYNINE PALMS HIGHWAY	42	41211.79	4	28100	35400	37400	F	1.101919
152787	TWENTYNINE PALMS HIGHWAY	42	40770.77	4	28100	35400	37400	F	1.090127
2732350	TWENTYNINE PALMS HIGHWAY	42	42468.9	4	28100	35400	37400	F	1.135532
122992	TWENTYNINE PALMS HIGHWAY	42	42751.03	4	28100	35400	37400	F	1.143076
123006	TWENTYNINE PALMS HIGHWAY	42	44898.26	4	28100	35400	37400	F	1.200488
2774680	TWENTYNINE PALMS HIGHWAY	42	43909.68	4	28100	35400	37400	F	1.174056
2774765	TWENTYNINE PALMS HIGHWAY	40	37783.46	4	28700	32300	35900	F	1.052464
122970	TWENTYNINE PALMS HIGHWAY	40	37809.52	4	28700	32300	35900	F	1.05319
133011	STATE HIGHWAY 62	42	59317.68	4	28100	35400	37400	F	1.586034
2768072	STATE HIGHWAY 62	42	58471.38	4	28100	35400	37400	F	1.563406
2774763	OLD WOMAN SPRINGS RD	50	17919.48	2	14400	16200	18000	E	0.995527
2779052	OLD WOMAN SPRINGS RD	50	16499.29	2	14400	16200	18000	E	0.916627
2774773	OLD WOMAN SPRINGS RD	50	16499.29	2	14400	16200	18000	E	0.916627
133027	OLD WOMAN SPRINGS RD	50	17432.4	2	14400	16200	18000	E	0.968466

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2778976	YUCCA MESA RD	60	12259.94	2	10400	11700	13000	E	0.943072
2774758	YUCCA MESA RD	60	11939.67	2	10400	11700	13000	E	0.918436
2778971	YUCCA MESA RD	60	11939.67	2	10400	11700	13000	E	0.918436
2779059		74	1991.874	2	1200	1500	2000	E	0.995937
2778989		74	1831.977	2	1200	1500	2000	E	0.915988
133015	TWENTYNINE PALMS HIGHWAY	42	36803.87	4	28100	35400	37400	E	0.984061
2774701	TWENTYNINE PALMS HIGHWAY	42	36988.52	4	28100	35400	37400	E	0.988998
123026	OLD WOMAN SPRINGS RD N	40	15340.37	2	15400	16000	20500	C or Better	0.748311
2774656	OLD WOMAN SPRINGS RD	40	13366.65	2	15400	16000	20500	C or Better	0.652032
2774654	OLD WOMAN SPRINGS RD N	40	15801.1	2	15400	16000	20500	D	0.770785
133022	OLD WOMAN SPRINGS RD	40	15630.83	2	15400	16000	20500	D	0.76248
122991	SAGE AVE	60	10706.42	2	10400	11700	13000	D	0.823571
123013	OLD WOMAN SPRINGS RD	40	15713.39	2	15400	16000	20500	D	0.766507
2778973	OLD WOMAN SPRINGS RD	50	16006.17	2	14400	16200	18000	D	0.889232
2777109	ALTA LOMA RD	60	10672.42	2	10400	11700	13000	D	0.820955
133327	ALTA LOMA RD	60	10889.93	2	10400	11700	13000	D	0.837687
2778895	YUCCA MESA RD	60	11315.27	2	10400	11700	13000	D	0.870405
122779	TWENTYNINE PALMS HIGHWAY	40	8412.793	2	15400	16000	20500	C or Better	0.41038
122753	TWENTYNINE PALMS HIGHWAY	40	8120.348	2	15400	16000	20500	C or Better	0.396115
2774646	PIPES CANYON RD	74	1353.857	2	1200	1500	2000	D	0.676928
2774925	TWENTYNINE PALMS HIGHWAY	42	25672.59	4	28100	35400	37400	C or Better	0.686433
122840	TWENTYNINE PALMS HIGHWAY	40	30530.28	4	28700	32300	35900	D	0.850426
122841	TWENTYNINE PALMS HIGHWAY	40	29762.68	4	28700	32300	35900	D	0.829044
2774885	TWENTYNINE PALMS HIGHWAY	40	29262.38	4	28700	32300	35900	D	0.815108
122875	TWENTYNINE PALMS HIGHWAY	42	25964.98	4	28100	35400	37400	C or Better	0.694251
2664194	TWENTYNINE PALMS HIGHWAY	42	25593.93	4	28100	35400	37400	C or Better	0.68433
122885	TWENTYNINE PALMS HIGHWAY	42	25147.76	4	28100	35400	37400	C or Better	0.6724
2774929	TWENTYNINE PALMS HIGHWAY	42	25140.4	4	28100	35400	37400	C or Better	0.672203
2779119	TWENTYNINE PALMS HIGHWAY	42	25851.83	4	28100	35400	37400	C or Better	0.691225
122904	TWENTYNINE PALMS HIGHWAY	42	25851.83	4	28100	35400	37400	C or Better	0.691225
2733629	TWENTYNINE PALMS HIGHWAY	42	25851.83	4	28100	35400	37400	C or Better	0.691225
144981	TWENTYNINE PALMS HIGHWAY	42	24896.95	4	28100	35400	37400	C or Better	0.665694
122905	TWENTYNINE PALMS HIGHWAY	42	25765.34	4	28100	35400	37400	C or Better	0.688913
123001	TWENTYNINE PALMS HIGHWAY	40	31694.92	4	28700	32300	35900	D	0.882867
122971	TWENTYNINE PALMS HIGHWAY	40	30792.05	4	28700	32300	35900	D	0.857717
2774814	TWENTYNINE PALMS HIGHWAY	40	29923.24	4	28700	32300	35900	D	0.833516
2701734	TWENTYNINE PALMS HIGHWAY	40	31331.51	4	28700	32300	35900	D	0.872744
2774739	TWENTYNINE PALMS HIGHWAY	40	31233.26	4	28700	32300	35900	D	0.870007
2779045	TWENTYNINE PALMS HIGHWAY	40	31331.51	4	28700	32300	35900	D	0.872744
2701738	TWENTYNINE PALMS HIGHWAY	40	29923.24	4	28700	32300	35900	D	0.833516
123073	TWENTYNINE PALMS HIGHWAY	40	29727.72	4	28700	32300	35900	D	0.82807
123082	TWENTYNINE PALMS HIGHWAY	40	30795.75	4	28700	32300	35900	D	0.85782
144950	TWENTYNINE PALMS HIGHWAY	40	28931.07	4	28700	32300	35900	D	0.805879
2778897	TWENTYNINE PALMS HIGHWAY	40	29053.43	4	28700	32300	35900	D	0.809288
2774783	TWENTYNINE PALMS HIGHWAY	40	29053.43	4	28700	32300	35900	D	0.809288
2702140	TWENTYNINE PALMS HIGHWAY	40	29053.43	4	28700	32300	35900	D	0.809288
2774881	TWENTYNINE PALMS HIGHWAY	40	30407.53	4	28700	32300	35900	D	0.847006
2702142	TWENTYNINE PALMS HIGHWAY	40	29727.72	4	28700	32300	35900	D	0.82807
152766	TWENTYNINE PALMS HIGHWAY	42	21065.71	4	28100	35400	37400	C or Better	0.563254
2774977	TWENTYNINE PALMS HIGHWAY	42	21065.71	4	28100	35400	37400	C or Better	0.563254
134059	RAINBOW CANYON RD	60	9917.734	2	10400	11700	13000	C or Better	0.762903
133046	TWO MILE RD	50	9305.431	2	14400	16200	18000	C or Better	0.516968
122739	ADOBE RD	50	10678.62	2	14400	16200	18000	C or Better	0.593257
2774835	YUCCA TRL	50	10552.56	2	14400	16200	18000	C or Better	0.586253
2774816	YUCCA TRL	50	9617.801	2	14400	16200	18000	C or Better	0.534322
122990	YUCCA TRL	50	9728.314	2	14400	16200	18000	C or Better	0.540462
2778999	YUCCA TRL	50	10879.45	2	14400	16200	18000	C or Better	0.604414
123011	YUCCA TRL	50	9666.62	2	14400	16200	18000	C or Better	0.537034

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2778988	ALTA LOMA RD	60	9485.635	2	10400	11700	13000	C or Better	0.729664
2779007	YUCCA MESA RD	60	10184.86	2	10400	11700	13000	C or Better	0.783451
122715	TWO MILE RD	50	8459.681	2	14400	16200	18000	C or Better	0.469982
122730	TWO MILE RD	50	8982.35	2	14400	16200	18000	C or Better	0.499019
2733577	SENILIS AVE	60	8683.088	2	10400	11700	13000	C or Better	0.66793
152782	YUCCA TRL	50	9269.986	2	14400	16200	18000	C or Better	0.514999
2778894	BUENA VISTA DR	60	8527.191	2	10400	11700	13000	C or Better	0.655938
2774807	PALOMAR AVE	50	8550.394	2	14400	16200	18000	C or Better	0.475022
2777110	ALTA LOMA RD	60	8957.171	2	10400	11700	13000	C or Better	0.689013
134063	RAINBOW CANYON RD	60	7645.562	2	10400	11700	13000	C or Better	0.58812
122746	ADOBE RD	50	7382.44	2	14400	16200	18000	C or Better	0.410136
2775036	TWENTYNINE PALMS HIGHWAY	40	7359.898	2	15400	16000	20500	C or Better	0.359019
122767	TWENTYNINE PALMS HIGHWAY	40	7679.949	2	15400	16000	20500	C or Better	0.374632
144989	BASELINE RD	50	8224.076	2	14400	16200	18000	C or Better	0.456893
2775073	TWENTYNINE PALMS HIGHWAY	40	7430.982	2	15400	16000	20500	C or Better	0.362487
2775053	TWO MILE RD	50	8228.444	2	14400	16200	18000	C or Better	0.457136
2778913	SAGE AVE	60	7885.838	2	10400	11700	13000	C or Better	0.606603
2779036	SAGE AVE	60	7618.257	2	10400	11700	13000	C or Better	0.58602
2774812	YUCCA TRL	50	8340.397	2	14400	16200	18000	C or Better	0.463355
122977	YUCCA TRL	50	7871.193	2	14400	16200	18000	C or Better	0.437289
2701724	YUCCA TRL	50	7871.193	2	14400	16200	18000	C or Better	0.437289
122976	YUCCA TRL	50	8390.682	2	14400	16200	18000	C or Better	0.466149
2774828	YUCCA TRL	50	8155.837	2	14400	16200	18000	C or Better	0.453102
2779100	BUENA VISTA DR	60	8072.72	2	10400	11700	13000	C or Better	0.620978
123043	PALOMAR AVE	50	7500.928	2	14400	16200	18000	C or Better	0.416718
123041	PALOMAR AVE	50	7281.332	2	14400	16200	18000	C or Better	0.404518
2778982	BUENA VISTA DR	60	7117.897	2	10400	11700	13000	C or Better	0.547531
2774756	BUENA VISTA DR	60	7172.692	2	10400	11700	13000	C or Better	0.551746
144975	BRANT CROSSING RD	60	94.88276	2	10400	11700	13000	C or Better	0.007299
2774912	WINTERS RD	60	2179.685	2	10400	11700	13000	C or Better	0.167668
133023	N BORDER AVE	60	5586.119	2	10400	11700	13000	C or Better	0.429701
144969	WINTERS RD	60	2236.747	2	10400	11700	13000	C or Better	0.172057
2776964	N BORDER AVE	60	4726.554	2	10400	11700	13000	C or Better	0.363581
2727861	WINTERS RD	60	143.1882	2	10400	11700	13000	C or Better	0.011014
2727863	COYOTE VALLEY RD	60	2272.172	2	10400	11700	13000	C or Better	0.174782
144974	LEAR AVE	60	94.88276	2	10400	11700	13000	C or Better	0.007299
100897	LEAR AVE	60	0	2	10400	11700	13000	C or Better	0
2727864	COYOTE VALLEY RD	60	2272.172	2	10400	11700	13000	C or Better	0.174782
2727865	COYOTE VALLEY RD	60	2272.172	2	10400	11700	13000	C or Better	0.174782
123037	RECHE RD	60	4553.583	2	10400	11700	13000	C or Better	0.350276
124335	WINTERS RD	60	5569.001	2	10400	11700	13000	C or Better	0.428385
2774797	LANDERS LN	60	1157.558	2	10400	11700	13000	C or Better	0.089043
2664267	LANDERS LN	60	1934.076	2	10400	11700	13000	C or Better	0.148775
123028	RECHE RD	60	4812.392	2	10400	11700	13000	C or Better	0.370184
124336	RAINBOW DR	60	78.15109	2	10400	11700	13000	C or Better	0.006012
144997	WINTERS RD	50	4383.597	2	14400	16200	18000	C or Better	0.243533
144998	S LANDERS LN	60	1794.956	2	10400	11700	13000	C or Better	0.138074
2774792	WINTERS RD	50	4028.815	2	14400	16200	18000	C or Better	0.223823
145001	WINTERS RD	50	3950.663	2	14400	16200	18000	C or Better	0.219481
133028	LANDERS LN	60	1914.551	2	10400	11700	13000	C or Better	0.147273
2774800	RECHE RD	60	5007.921	2	10400	11700	13000	C or Better	0.385225
2774790	RAINBOW DR	60	119.5952	2	10400	11700	13000	C or Better	0.0092
133029	MARGARITA ST	60	119.5952	2	10400	11700	13000	C or Better	0.0092
122877	POLE LINE RD	60	1610.513	2	10400	11700	13000	C or Better	0.123886
2774863	BORDER AVE	60	5302.36	2	10400	11700	13000	C or Better	0.407874
2774869	SONORA RD	60	2593.893	2	10400	11700	13000	C or Better	0.19953
2774787	RECHE RD	60	4726.554	2	10400	11700	13000	C or Better	0.363581
123038	RECHE RD	60	4713.62	2	10400	11700	13000	C or Better	0.362586

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
133030	N GOAT MOUNTAIN RD	60	1690.82	2	10400	11700	13000	C or Better	0.130063
2774852	AVALON AVE	60	6628.646	2	10400	11700	13000	C or Better	0.509896
2777106	AVALON AVE	60	6549.663	2	10400	11700	13000	C or Better	0.50382
2777142	N GOAT MOUNTAIN RD	60	160.0365	2	10400	11700	13000	C or Better	0.012311
2664268	LANDERS LN	60	1157.558	2	10400	11700	13000	C or Better	0.089043
144958	SONORA RD	60	2770.82	2	10400	11700	13000	C or Better	0.21314
122938	BORDER AVE	60	5161.339	2	10400	11700	13000	C or Better	0.397026
2774794	BORDER AVE	60	4727.133	2	10400	11700	13000	C or Better	0.363626
2774921	SONORA RD	60	2420.519	2	10400	11700	13000	C or Better	0.186194
144959	SONORA RD	60	2565.522	2	10400	11700	13000	C or Better	0.197348
2727862	COYOTE VALLEY RD	60	235.6746	2	10400	11700	13000	C or Better	0.018129
2774919	COYOTE VALLEY RD	60	235.6746	2	10400	11700	13000	C or Better	0.018129
2774917	POLE LINE RD	60	2560.134	2	10400	11700	13000	C or Better	0.196933
144966	POLE LINE RD	60	2420.519	2	10400	11700	13000	C or Better	0.186194
144973	LEAR AVE	60	48.30548	2	10400	11700	13000	C or Better	0.003716
2774915	LEAR AVE	60	48.30548	2	10400	11700	13000	C or Better	0.003716
2727866	COYOTE VALLEY RD	60	2272.172	2	10400	11700	13000	C or Better	0.174782
2774988	MORONGO RD	60	4894.408	2	10400	11700	13000	C or Better	0.376493
2774990	ADOBE RD	60	2463.159	2	10400	11700	13000	C or Better	0.189474
133328	RAINBOW CANYON RD	60	3555.909	2	10400	11700	13000	C or Better	0.273531
122933	MORONGO RD	60	4191.571	2	10400	11700	13000	C or Better	0.322429
2774937	POLE LINE RD	60	1467.216	2	10400	11700	13000	C or Better	0.112863
2774947	BRANT CROSSING RD	60	263.8268	2	10400	11700	13000	C or Better	0.020294
2702144	POLE LINE RD	60	1467.216	2	10400	11700	13000	C or Better	0.112863
133052	BERKELEY AVE	60	4455.397	2	10400	11700	13000	C or Better	0.342723
2702136	UTAH TRL	60	1464.036	2	10400	11700	13000	C or Better	0.112618
2775068	AMBOY RD	60	2049.036	2	10400	11700	13000	C or Better	0.157618
2776972	TWENTYNINE PALMS HIGHWAY	50	830.4143	2	14400	16200	18000	C or Better	0.046134
136151	LOOP RD	60	144.9441	2	10400	11700	13000	C or Better	0.01115
2775062	UTAH TRL	60	1464.036	2	10400	11700	13000	C or Better	0.112618
1658226	UTAH TRL	60	1504.77	2	10400	11700	13000	C or Better	0.115752
122879	VALLE VISTA RD	60	268.9337	2	10400	11700	13000	C or Better	0.020687
122886	TWO MILE RD	50	4488.226	2	14400	16200	18000	C or Better	0.249346
133050	INDIAN TRL	60	737.4339	2	10400	11700	13000	C or Better	0.056726
122876	LEAR AVE	60	1401.946	2	10400	11700	13000	C or Better	0.107842
144962	COYOTE VALLEY RD	60	283.4947	2	10400	11700	13000	C or Better	0.021807
122958	SUNFAIR RD	60	4027.435	2	10400	11700	13000	C or Better	0.309803
2774927	LEAR AVE	60	362.761	2	10400	11700	13000	C or Better	0.027905
144955	SUNFAIR RD	60	2244.28	2	10400	11700	13000	C or Better	0.172637
122959	BROADWAY	60	1504.958	2	10400	11700	13000	C or Better	0.115766
122955	BROADWAY	60	3065.618	2	10400	11700	13000	C or Better	0.235817
2774865	SUNFAIR RD	60	2012.35	2	10400	11700	13000	C or Better	0.154796
122883	LEAR AVE	60	207.7216	2	10400	11700	13000	C or Better	0.015979
2664141	LEAR AVE	60	2127.017	2	10400	11700	13000	C or Better	0.163617
100753	LEAR AVE	60	2127.017	2	10400	11700	13000	C or Better	0.163617
122878	LEAR AVE	60	1594.935	2	10400	11700	13000	C or Better	0.122687
133051	VALLE VISTA RD	60	440.4364	2	10400	11700	13000	C or Better	0.03388
144994	AMBOY RD	60	1328.438	2	10400	11700	13000	C or Better	0.102188
2775092	TWENTYNINE PALMS HIGHWAY	50	3894.199	2	14400	16200	18000	C or Better	0.216344
2777143	DEL VALLE DR	60	1092.75	2	10400	11700	13000	C or Better	0.084058
122689	MORONGO RD	60	652.0373	2	10400	11700	13000	C or Better	0.050157
122705	SULLIVAN RD	60	4528.188	2	10400	11700	13000	C or Better	0.348322
122708	INDIAN TRL	60	449.9395	2	10400	11700	13000	C or Better	0.034611
122712	VALLE VISTA RD	60	966.0367	2	10400	11700	13000	C or Better	0.074311
122714	MESQUITE SPRINGS RD	50	1532.254	2	14400	16200	18000	C or Better	0.085125
122725	EL PASEO DR	60	442.7076	2	10400	11700	13000	C or Better	0.034054
122773	UTAH TRL	50	2224.693	2	14400	16200	18000	C or Better	0.123594
122917	LUPINE AVE	60	916.6539	2	10400	11700	13000	C or Better	0.070512

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
133045	BAGLEY AVE	60	761.3946	2	10400	11700	13000	C or Better	0.058569
144979	SUNRISE RD	50	2138.653	2	14400	16200	18000	C or Better	0.118814
2779128	ENCELIA AVE	50	3701.556	2	14400	16200	18000	C or Better	0.205642
2779123	RAYMOND WAY	60	764.0702	2	10400	11700	13000	C or Better	0.058775
2775032	DESERT KNOLL AVE	60	360.2083	2	10400	11700	13000	C or Better	0.027708
2775057	SPLIT ROCK AVE	60	1335.892	2	10400	11700	13000	C or Better	0.102761
2779139	LARREA AVE	50	6216.807	2	14400	16200	18000	C or Better	0.345378
2779141	La Buena Tierra Ave	60	231.0659	2	10400	11700	13000	C or Better	0.017774
2779144	Alpine Ave	60	2726.179	2	10400	11700	13000	C or Better	0.209706
122895	TIMOTHY AVE	60	1607.355	2	10400	11700	13000	C or Better	0.123643
2779120	Canyon Dr	60	0	2	10400	11700	13000	C or Better	0
2779121	Canyon Dr	60	0	2	10400	11700	13000	C or Better	0
122696	LARREA AVE	50	5985.741	2	14400	16200	18000	C or Better	0.332541
133044	NICHOLSON DR	50	361.1485	2	14400	16200	18000	C or Better	0.020064
2774980	HATCH RD	50	3382.638	2	14400	16200	18000	C or Better	0.187924
122685	HATCH RD	50	4168.308	2	14400	16200	18000	C or Better	0.231573
122698	LARREA AVE	50	5522.292	2	14400	16200	18000	C or Better	0.306794
122916	LUPINE AVE	60	3221.665	2	10400	11700	13000	C or Better	0.24782
122930	MARIPOSA AVE	60	2434.547	2	10400	11700	13000	C or Better	0.187273
2676538	MARIPOSA AVE	60	1844.491	2	10400	11700	13000	C or Better	0.141884
2774969	MORONGO RD	60	481.7942	2	10400	11700	13000	C or Better	0.037061
2774975	LUPINE AVE	60	3221.665	2	10400	11700	13000	C or Better	0.24782
2676539	MORONGO RD	60	590.0565	2	10400	11700	13000	C or Better	0.045389
2676537	JOSHUA DR	60	590.0565	2	10400	11700	13000	C or Better	0.045389
144987	LARREA AVE	50	5883.44	2	14400	16200	18000	C or Better	0.326858
122716	MESQUITE SPRINGS RD	50	1394.736	2	14400	16200	18000	C or Better	0.077485
2774971	NICHOLSON DR	50	713.0749	2	14400	16200	18000	C or Better	0.039615
122706	HATCH RD	50	4528.188	2	14400	16200	18000	C or Better	0.251566
2779134	MESQUITE SPRINGS RD	50	0	2	14400	16200	18000	C or Better	0
122717	MESQUITE SPRINGS RD	50	1672.659	2	14400	16200	18000	C or Better	0.092925
122722	EL PASEO DR	60	1289.945	2	10400	11700	13000	C or Better	0.099227
2775287	MESQUITE SPRINGS RD	50	1193.244	2	14400	16200	18000	C or Better	0.066291
144986	MESQUITE SPRINGS RD	50	1176.077	2	14400	16200	18000	C or Better	0.065338
2757995	TWO MILE RD	50	6016.914	2	14400	16200	18000	C or Better	0.334273
2757996	SAMARKAND DR	60	151.5424	2	10400	11700	13000	C or Better	0.011657
2774939	VALLE VISTA RD	60	528.0212	2	10400	11700	13000	C or Better	0.040617
2774942	INDIAN TRL	60	1044.556	2	10400	11700	13000	C or Better	0.08035
2774999	MESQUITE SPRINGS RD	50	1074.316	2	14400	16200	18000	C or Better	0.059684
2774945	TWO MILE RD	50	4774.88	2	14400	16200	18000	C or Better	0.265271
122898	TWO MILE RD	50	4488.226	2	14400	16200	18000	C or Better	0.249346
100779	ENCELIA AVE	60	784.7163	2	10400	11700	13000	C or Better	0.060363
144980	TWO MILE RD	50	5681.792	2	14400	16200	18000	C or Better	0.315655
122903	TWO MILE RD	50	4686.731	2	14400	16200	18000	C or Better	0.260374
2774955	TWO MILE RD	50	5317.223	2	14400	16200	18000	C or Better	0.295401
122915	TWO MILE RD	50	6016.914	2	14400	16200	18000	C or Better	0.334273
2774957	ENCELIA AVE	60	151.5424	2	10400	11700	13000	C or Better	0.011657
2658594	SAMARKAND DR	60	151.5424	2	10400	11700	13000	C or Better	0.011657
100750	MESQUITE SPRINGS RD	50	1241.451	2	14400	16200	18000	C or Better	0.06897
2774963	TWO MILE RD	50	3832.459	2	14400	16200	18000	C or Better	0.212914
122688	MORONGO RD	60	5143.447	2	10400	11700	13000	C or Better	0.39565
122703	TWO MILE RD	50	3938.725	2	14400	16200	18000	C or Better	0.218818
122920	LUPINE AVE	60	1077.569	2	10400	11700	13000	C or Better	0.08289
2779126	MORONGO RD	60	0	2	10400	11700	13000	C or Better	0
2779125	MARIPOSA AVE	60	0	2	10400	11700	13000	C or Better	0
2779129	LUPINE AVE	60	916.6539	2	10400	11700	13000	C or Better	0.070512
2774967	TWO MILE RD	50	6595.356	2	14400	16200	18000	C or Better	0.366409
2758003	MORONGO RD	60	0	2	10400	11700	13000	C or Better	0
2774953	TWO MILE RD	50	5744.602	2	14400	16200	18000	C or Better	0.319145

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
122923	TWO MILE RD	50	6020.069	2	14400	16200	18000	C or Better	0.334448
122687	TWO MILE RD	50	5744.602	2	14400	16200	18000	C or Better	0.319145
2774951	MORONGO RD	60	4895.737	2	10400	11700	13000	C or Better	0.376595
122921	SAMARKAND DR	60	1229.111	2	10400	11700	13000	C or Better	0.094547
2757998	SAMARKAND DR	60	1229.111	2	10400	11700	13000	C or Better	0.094547
2758000	TWO MILE RD	50	3335.685	2	14400	16200	18000	C or Better	0.185316
2758002	Alpine Ave	60	603.0407	2	10400	11700	13000	C or Better	0.046388
2779147	Alpine Ave	60	1466.149	2	10400	11700	13000	C or Better	0.112781
2779146	Alpine Ave	60	490.2842	2	10400	11700	13000	C or Better	0.037714
2774959	LARREA AVE	50	6262.302	2	14400	16200	18000	C or Better	0.347906
2779138	TWO MILE RD	50	3046.402	2	14400	16200	18000	C or Better	0.169245
2779142	La Buena Tierra Ave	60	786.0568	2	10400	11700	13000	C or Better	0.060466
2775285	LARREA AVE	50	6216.807	2	14400	16200	18000	C or Better	0.345378
2758004	MESQUITE SPRINGS RD	50	562.2867	2	14400	16200	18000	C or Better	0.031238
100749	MESQUITE SPRINGS RD	50	1241.451	2	14400	16200	18000	C or Better	0.06897
122707	MESQUITE SPRINGS RD	50	45.88012	2	14400	16200	18000	C or Better	0.002549
122709	INDIAN TRL	60	987.5309	2	10400	11700	13000	C or Better	0.075964
122713	VALLE VISTA RD	60	838.8691	2	10400	11700	13000	C or Better	0.064528
122925	MORONGO RD	60	4680.162	2	10400	11700	13000	C or Better	0.360012
122926	MORONGO RD	60	4974.12	2	10400	11700	13000	C or Better	0.382625
2774997	INDIAN TRL	60	1006.449	2	10400	11700	13000	C or Better	0.077419
2774986	VALLE VISTA RD	60	1011.917	2	10400	11700	13000	C or Better	0.07784
122787	BASELINE RD	50	4536.57	2	14400	16200	18000	C or Better	0.252032
2775084	UTAH TRL	60	1378.481	2	10400	11700	13000	C or Better	0.106037
122744	ADOBE RD	50	3773.933	2	14400	16200	18000	C or Better	0.209663
122772	NATIONAL PARK DR	60	4108.232	2	10400	11700	13000	C or Better	0.316018
122782	UTAH TRL	50	1865.659	2	14400	16200	18000	C or Better	0.103648
152763	CASITA DR	60	58.67203	2	10400	11700	13000	C or Better	0.004513
152764	BUENA VISTA DR	60	232.2959	2	10400	11700	13000	C or Better	0.017869
2775040	ADOBE RD	50	3453.855	2	14400	16200	18000	C or Better	0.191881
122749	ADOBE RD	50	5868.634	2	14400	16200	18000	C or Better	0.326035
144988	SPLIT ROCK AVE	60	3371.393	2	10400	11700	13000	C or Better	0.259338
2775044	SULLIVAN RD	60	4734.293	2	10400	11700	13000	C or Better	0.364176
122724	SPLIT ROCK AVE	60	2113.816	2	10400	11700	13000	C or Better	0.162601
144985	BAGLEY AVE	60	4257.381	2	10400	11700	13000	C or Better	0.327491
2775055	EL PASEO DR	60	1260.886	2	10400	11700	13000	C or Better	0.096991
2775051	BAGLEY AVE	60	2019.159	2	10400	11700	13000	C or Better	0.15532
122743	ADOBE RD	50	1409.524	2	14400	16200	18000	C or Better	0.078307
2734190	ADOBE RD	50	1409.524	2	14400	16200	18000	C or Better	0.078307
2775023	CASITA DR	60	290.9679	2	10400	11700	13000	C or Better	0.022382
122752	CASITA DR	60	1513.806	2	10400	11700	13000	C or Better	0.116447
2775047	UTAH TRL	50	1561.367	2	14400	16200	18000	C or Better	0.086743
122786	UTAH TRL	50	1378.481	2	14400	16200	18000	C or Better	0.076582
122765	DESERT KNOLL AVE	60	440.3991	2	10400	11700	13000	C or Better	0.033877
122774	UTAH TRL	50	2070.982	2	14400	16200	18000	C or Better	0.115055
2775038	NATIONAL PARK DR	60	2056.851	2	10400	11700	13000	C or Better	0.158219
152762	DESERT KNOLL AVE	60	614.9409	2	10400	11700	13000	C or Better	0.047303
122758	DESERT KNOLL AVE	60	847.2368	2	10400	11700	13000	C or Better	0.065172
122778	UTAH TRL	50	1491.11	2	14400	16200	18000	C or Better	0.082839
122781	UTAH TRL	50	3192.598	2	14400	16200	18000	C or Better	0.177367
122794	TWENTYNINE PALMS HIGHWAY	50	4436.369	2	14400	16200	18000	C or Better	0.246465
122795	WILSHIRE AVE	50	5213.779	2	14400	16200	18000	C or Better	0.289654
2775078	BASELINE RD	50	3749.007	2	14400	16200	18000	C or Better	0.208278
122793	WILSHIRE AVE	50	5104.731	2	14400	16200	18000	C or Better	0.283596
2775082	BASELINE RD	50	0	2	14400	16200	18000	C or Better	0
122769	AMBOY RD	60	2512.846	2	10400	11700	13000	C or Better	0.193296
122770	UTAH TRL	50	1185.225	2	14400	16200	18000	C or Better	0.065846
144990	BAGDAD HIGHWAY	60	920.1777	2	10400	11700	13000	C or Better	0.070783

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
144991	BULLION MOUNTAIN RD	60	21.30896	2	10400	11700	13000	C or Better	0.001639
144992	VALLE VISTA RD	60	1153.055	2	10400	11700	13000	C or Better	0.088697
2775011	ADOBE RD	50	4341.395	2	14400	16200	18000	C or Better	0.241189
122741	AMBOY RD	60	167.1927	2	10400	11700	13000	C or Better	0.012861
2775001	ADOBE RD	50	5605.307	2	14400	16200	18000	C or Better	0.311406
2775016	UTAH TRL	50	3181.302	2	14400	16200	18000	C or Better	0.176739
122747	TWO MILE RD	50	3322.92	2	14400	16200	18000	C or Better	0.184607
2775021	ADOBE RD	50	6992.573	2	14400	16200	18000	C or Better	0.388476
2758006	TWO MILE RD	50	3322.92	2	14400	16200	18000	C or Better	0.184607
122738	ADOBE RD	50	5540.217	2	14400	16200	18000	C or Better	0.30779
122768	UTAH TRL	50	3963.797	2	14400	16200	18000	C or Better	0.220211
2775027	TWO MILE RD	50	3238.274	2	14400	16200	18000	C or Better	0.179904
122757	DESERT KNOLL AVE	60	594.973	2	10400	11700	13000	C or Better	0.045767
122764	TWO MILE RD	50	3739.555	2	14400	16200	18000	C or Better	0.207753
2775019	DESERT KNOLL AVE	60	1025.067	2	10400	11700	13000	C or Better	0.078851
122775	UTAH TRL	50	2140.088	2	14400	16200	18000	C or Better	0.118894
2775007	VALLE VISTA RD	60	486.5689	2	10400	11700	13000	C or Better	0.037428
2775009	UTAH TRL	50	785.3479	2	14400	16200	18000	C or Better	0.04363
2774994	INDIAN TRL	60	410.202	2	10400	11700	13000	C or Better	0.031554
124139	ADOBE RD	60	2773.431	2	10400	11700	13000	C or Better	0.213341
2774992	VALLE VISTA RD	60	996.7362	2	10400	11700	13000	C or Better	0.076672
122728	VALLE VISTA RD	60	499.7282	2	10400	11700	13000	C or Better	0.038441
2775005	VALLE VISTA RD	60	1903.571	2	10400	11700	13000	C or Better	0.146429
122763	VALLE VISTA RD	60	1521.822	2	10400	11700	13000	C or Better	0.117063
124138	DEL VALLE DR	60	1784.45	2	10400	11700	13000	C or Better	0.137265
133048	AMBOY RD	60	1698.38	2	10400	11700	13000	C or Better	0.130645
2775090	AMBOY RD	60	1328.387	2	10400	11700	13000	C or Better	0.102184
144993	VALLE VISTA RD	60	721.3703	2	10400	11700	13000	C or Better	0.05549
2775088	BULLION MOUNTAIN RD	60	21.30896	2	10400	11700	13000	C or Better	0.001639
2775086	VALLE VISTA RD	60	440.4874	2	10400	11700	13000	C or Better	0.033884
2775064	AMBOY RD	60	787.0364	2	10400	11700	13000	C or Better	0.060541
2775066	TWENTYNINE PALMS HIGHWAY	50	2989.433	2	14400	16200	18000	C or Better	0.16608
2702148	TWENTYNINE PALMS HIGHWAY	50	3894.199	2	14400	16200	18000	C or Better	0.216344
2702146	TWENTYNINE PALMS HIGHWAY	50	3894.199	2	14400	16200	18000	C or Better	0.216344
122808	AMBOY RD	60	1350.038	2	10400	11700	13000	C or Better	0.103849
2775094	VALLE VISTA RD	60	152.8681	2	10400	11700	13000	C or Better	0.011759
133063	TWENTYNINE PALMS HIGHWAY	50	1222.521	2	14400	16200	18000	C or Better	0.067918
122810	AMBOY RD	60	2370.934	2	10400	11700	13000	C or Better	0.18238
134048	AMBOY RD	60	1733.592	2	10400	11700	13000	C or Better	0.133353
2775060	TWENTYNINE PALMS HIGHWAY	50	316.2797	2	14400	16200	18000	C or Better	0.017571
122813	AMBOY RD	60	2049.036	2	10400	11700	13000	C or Better	0.157618
2775099	AMBOY RD	60	1600.67	2	10400	11700	13000	C or Better	0.123128
152774	PAXTON RD	50	2133.777	2	14400	16200	18000	C or Better	0.118543
2701740	SUNNYSLOPE DR	50	3268.15	2	14400	16200	18000	C or Better	0.181564
2774809	JOSHUA LN	50	1412.813	2	14400	16200	18000	C or Better	0.07849
2774837	PUEBLO TRL	60	571.037	2	10400	11700	13000	C or Better	0.043926
2774846	ABERDEEN DR	60	1398.821	2	10400	11700	13000	C or Better	0.107602
2778959	ONAGA TRL	50	2616.855	2	14400	16200	18000	C or Better	0.145381
2778980	BUENA VISTA DR	60	6578.462	2	10400	11700	13000	C or Better	0.506036
2779061		74	402.8912	2	1200	1500	2000	C or Better	0.201446
2779072	SAN ANDREAS	50	1378.299	2	14400	16200	18000	C or Better	0.076572
2733575	PIONEER DR	60	2058.951	2	10400	11700	13000	C or Better	0.158381
2779104	JUNIPER AVE	60	124.3199	2	10400	11700	13000	C or Better	0.009563
2779106	PARADISE AVE	60	4141.646	2	10400	11700	13000	C or Better	0.318588
2779109	JUNIPER AVE	60	1240.167	2	10400	11700	13000	C or Better	0.095397
144942	PIONEER DR	60	5397.192	2	10400	11700	13000	C or Better	0.415169
2733576	JUNIPER AVE	60	4631.366	2	10400	11700	13000	C or Better	0.356259
2733581	JUNIPER AVE	60	4631.366	2	10400	11700	13000	C or Better	0.356259

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2779105	JUNIPER AVE	60	4265.966	2	10400	11700	13000	C or Better	0.328151
2733579	SENILIS AVE	60	1839.266	2	10400	11700	13000	C or Better	0.141482
2733582	PIONEER DR	60	4246.801	2	10400	11700	13000	C or Better	0.326677
2733573	PIONEER DR	60	6777.07	2	10400	11700	13000	C or Better	0.521313
2733574	HESS BLVD	60	4718.119	2	10400	11700	13000	C or Better	0.362932
2733578	SENILIS AVE	60	1839.266	2	10400	11700	13000	C or Better	0.141482
2733580	HESS BLVD	60	4718.119	2	10400	11700	13000	C or Better	0.362932
2774671	PIONEER DR	60	4246.801	2	10400	11700	13000	C or Better	0.326677
2779108	WEST DR	60	4246.801	2	10400	11700	13000	C or Better	0.326677
123040	PIPES CANYON RD	60	786.8547	2	10400	11700	13000	C or Better	0.060527
123069	PIONEERTOWN RD	60	633.7418	2	10400	11700	13000	C or Better	0.048749
144930	PIPES CANYON RD	74	903.3798	2	1200	1500	2000	C or Better	0.45169
144946	ONAGA TRL	50	3793.338	2	14400	16200	18000	C or Better	0.210741
2774658	PIONEERTOWN RD	60	1714.983	2	10400	11700	13000	C or Better	0.131922
2774660	PIPES CANYON RD	60	989.2376	2	10400	11700	13000	C or Better	0.076095
2778923	KICKAPOO TRL	50	4125.592	2	14400	16200	18000	C or Better	0.2292
2779024		74	596.2086	2	1200	1500	2000	C or Better	0.298104
2779025	SANTA FE TRL	60	1073.557	2	10400	11700	13000	C or Better	0.082581
2779089		50	1059.024	2	14400	16200	18000	C or Better	0.058835
2779099	PIONEERTOWN RD	60	2240.598	2	10400	11700	13000	C or Better	0.172354
123052	PINON DR	50	776.9395	2	14400	16200	18000	C or Better	0.043163
133012	FAIRWAY DR	60	1304.854	2	10400	11700	13000	C or Better	0.100373
2779021	KICKAPOO TRL	50	2654.083	2	14400	16200	18000	C or Better	0.147449
2779091		50	1542.908	2	14400	16200	18000	C or Better	0.085717
2779023		50	776.9395	2	14400	16200	18000	C or Better	0.043163
2779090		50	2081.031	2	14400	16200	18000	C or Better	0.115613
2658587	PINON DR	60	1603.219	2	10400	11700	13000	C or Better	0.123325
2774727	FAIRWAY DR	60	900.4269	2	10400	11700	13000	C or Better	0.069264
2777141	PIONEERTOWN RD	60	1714.983	2	10400	11700	13000	C or Better	0.131922
2661563	CAMINO DEL CIELO TRL	60	2640.811	2	10400	11700	13000	C or Better	0.203139
123051	CAMINO DEL CIELO TRL	60	3596.65	2	10400	11700	13000	C or Better	0.276665
2774725	MARTINEZ TRL	60	1102.981	2	10400	11700	13000	C or Better	0.084845
123054	PINON DR	60	1790.467	2	10400	11700	13000	C or Better	0.137728
2778912	PINON DR	60	1790.467	2	10400	11700	13000	C or Better	0.137728
2774732	CAMINO DEL CIELO TRL	60	1315.638	2	10400	11700	13000	C or Better	0.101203
2779028	KICKAPOO TRL	50	6357.343	2	14400	16200	18000	C or Better	0.353186
2779020	KICKAPOO TRL	50	6517.391	2	14400	16200	18000	C or Better	0.362077
2733735	KICKAPOO TRL	50	4125.592	2	14400	16200	18000	C or Better	0.2292
2774687	ONAGA TRL	50	3955.895	2	14400	16200	18000	C or Better	0.219772
2774692	GOLDEN BEE DR	60	345.7695	2	10400	11700	13000	C or Better	0.026598
2776966	SAGE AVE	60	6829.267	2	10400	11700	13000	C or Better	0.525328
2778900	SAGE AVE	60	1574.667	2	10400	11700	13000	C or Better	0.121128
2778901	AMADOR AVE	60	2814.58	2	10400	11700	13000	C or Better	0.216506
2779016	JOSHUA LN	50	4733.354	2	14400	16200	18000	C or Better	0.262964
2779018	JOSHUA LN	50	4271.316	2	14400	16200	18000	C or Better	0.237295
2779043	ACOMA TRL	50	3915.137	2	14400	16200	18000	C or Better	0.217508
2779086	SAGE AVE	60	491.3973	2	10400	11700	13000	C or Better	0.0378
2778921	AMADOR AVE	60	892.7026	2	10400	11700	13000	C or Better	0.068669
2779014		74	117.8078	2	1200	1500	2000	C or Better	0.058904
2779094		74	17.05638	2	1200	1500	2000	C or Better	0.008528
2779096		74	616.4931	2	1200	1500	2000	C or Better	0.308247
2779093		74	12.51639	2	1200	1500	2000	C or Better	0.006258
123000	AMADOR AVE	60	892.7026	2	10400	11700	13000	C or Better	0.068669
2778948	SAGE AVE	60	339.9894	2	10400	11700	13000	C or Better	0.026153
122998	SAGE AVE	60	339.9894	2	10400	11700	13000	C or Better	0.026153
2778920	SAGE AVE	60	339.9894	2	10400	11700	13000	C or Better	0.026153
2774694	AMADOR AVE	60	892.7026	2	10400	11700	13000	C or Better	0.068669
2778902	AMADOR AVE	60	3194.053	2	10400	11700	13000	C or Better	0.245696

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2779078	JOSHUA LN	50	3227.068	2	14400	16200	18000	C or Better	0.179282
2779088	GOLDEN BEE DR	60	49.61882	2	10400	11700	13000	C or Better	0.003817
2779092	ACOMA TRL	50	1905.859	2	14400	16200	18000	C or Better	0.105881
2779013	ACOMA TRL	50	233.725	2	14400	16200	18000	C or Better	0.012985
2779087		50	202.6393	2	14400	16200	18000	C or Better	0.011258
2778993		50	49.61882	2	14400	16200	18000	C or Better	0.002757
2779017	ACOMA TRL	50	3369.891	2	14400	16200	18000	C or Better	0.187216
122997	GOLDEN BEE DR	60	785.5104	2	10400	11700	13000	C or Better	0.060424
122999	AMADOR AVE	60	2114.089	2	10400	11700	13000	C or Better	0.162622
2779012	GOLDEN BEE DR	60	345.7695	2	10400	11700	13000	C or Better	0.026598
2779085	AMADOR AVE	60	1270.315	2	10400	11700	13000	C or Better	0.097717
2778951	AMADOR AVE	60	2406.119	2	10400	11700	13000	C or Better	0.185086
2774699	AMADOR AVE	60	2242.084	2	10400	11700	13000	C or Better	0.172468
2779019	JOSHUA LN	50	2536.568	2	14400	16200	18000	C or Better	0.14092
2733741	SUNNYSLOPE DR	60	2184.304	2	10400	11700	13000	C or Better	0.168023
2774706	PUEBLO TRL	60	4937.035	2	10400	11700	13000	C or Better	0.379772
2774720	ONAGA TRL	50	4513.674	2	14400	16200	18000	C or Better	0.25076
2774760	PALM AVE	60	499.6037	2	10400	11700	13000	C or Better	0.038431
2778910	SUNNYSLOPE DR	60	2549.897	2	10400	11700	13000	C or Better	0.196146
2778915	PIONEERTOWN RD	60	2972.506	2	10400	11700	13000	C or Better	0.228654
2779034	ACOMA TRL	50	3632.879	2	14400	16200	18000	C or Better	0.201827
123023	ONAGA TRL	50	3688.66	2	14400	16200	18000	C or Better	0.204926
123025	PUEBLO TRL	60	3579.307	2	10400	11700	13000	C or Better	0.275331
2774737	YUCCA TRL	50	4234.195	2	14400	16200	18000	C or Better	0.235233
2779027	SANTA FE TRL	60	1554.858	2	10400	11700	13000	C or Better	0.119604
2779032	PIONEERTOWN RD	50	2223.751	2	14400	16200	18000	C or Better	0.123542
123022	HOPI TRL	50	201.0789	2	14400	16200	18000	C or Better	0.011171
123024	ONAGA TRL	50	3708.346	2	14400	16200	18000	C or Better	0.206019
144944	INCA TRL	50	952.3165	2	14400	16200	18000	C or Better	0.052906
2779030	SANTA FE TRL	60	4933.086	2	10400	11700	13000	C or Better	0.379468
2777111	ONAGA TRL	50	4545.619	2	14400	16200	18000	C or Better	0.252534
2779029	INCA TRL	50	3627.436	2	14400	16200	18000	C or Better	0.201524
2778917	ONAGA TRL	50	3889.739	2	14400	16200	18000	C or Better	0.216097
2779026	SANTA FE TRL	60	3450.517	2	10400	11700	13000	C or Better	0.265424
2661558	YUCCA TRL	50	4125.592	2	14400	16200	18000	C or Better	0.2292
2778924	YUCCA TRL	50	4234.195	2	14400	16200	18000	C or Better	0.235233
123031	DEER TRL	50	1445.447	2	14400	16200	18000	C or Better	0.080303
123032	ONAGA TRL	50	4315.625	2	14400	16200	18000	C or Better	0.239757
123034	PUEBLO TRL	60	4729.834	2	10400	11700	13000	C or Better	0.363833
133016	SANTA FE TRL	60	1710.518	2	10400	11700	13000	C or Better	0.131578
2774717	ONAGA TRL	50	3769.861	2	14400	16200	18000	C or Better	0.209437
123033	DEER TRL	50	1860.495	2	14400	16200	18000	C or Better	0.103361
2774710	SANTA FE TRL	60	1554.554	2	10400	11700	13000	C or Better	0.119581
2774712	PUEBLO TRL	60	4079.295	2	10400	11700	13000	C or Better	0.313792
123029	DEER TRL	50	2383.944	2	14400	16200	18000	C or Better	0.132441
2774703	SANTA FE TRL	60	1820.535	2	10400	11700	13000	C or Better	0.140041
2778932	PIONEERTOWN RD	50	4915.851	2	14400	16200	18000	C or Better	0.273103
2779031	YUCCA TRL	50	3887.063	2	14400	16200	18000	C or Better	0.215948
2778933	YUCCA TRL	50	4822.566	2	14400	16200	18000	C or Better	0.26792
2779033	PIONEERTOWN RD	50	6231.878	2	14400	16200	18000	C or Better	0.346215
2778930	PIONEERTOWN RD	50	5825.652	2	14400	16200	18000	C or Better	0.323647
2778931	PIONEERTOWN RD	50	4676.793	2	14400	16200	18000	C or Better	0.259822
2778911	PIONEERTOWN RD	50	4116.115	2	14400	16200	18000	C or Better	0.228673
2661560	ACOMA TRL	50	710.214	2	14400	16200	18000	C or Better	0.039456
2774697	ONAGA TRL	50	5472.086	2	14400	16200	18000	C or Better	0.304005
2778907	PIMA TR	60	2227.013	2	10400	11700	13000	C or Better	0.171309
2778939	PAPAGO TR	50	3137.809	2	14400	16200	18000	C or Better	0.174323
2779037	CHURCH ST	50	1850.308	2	14400	16200	18000	C or Better	0.102795

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2779041	PALM AVE	60	2782.973	2	10400	11700	13000	C or Better	0.214075
2774684	ACOMA TRL	50	4572.813	2	14400	16200	18000	C or Better	0.254045
2778944	ONAGA TRL	50	4848.243	2	14400	16200	18000	C or Better	0.269347
2779083	CHURCH ST	50	1058.772	2	14400	16200	18000	C or Better	0.058821
123002	ONAGA TRL	50	4786.74	2	14400	16200	18000	C or Better	0.26593
123035	ACOMA TRL	50	4572.813	2	14400	16200	18000	C or Better	0.254045
100818	ACOMA TRL	50	710.214	2	14400	16200	18000	C or Better	0.039456
152785	PAPAGO TR	50	3068.772	2	14400	16200	18000	C or Better	0.170487
152783	ACOMA TRL	50	3092.444	2	14400	16200	18000	C or Better	0.171802
2733737	ACOMA TRL	50	710.214	2	14400	16200	18000	C or Better	0.039456
2779082	PAPAGO TR	50	3137.809	2	14400	16200	18000	C or Better	0.174323
2779038	ONAGA TRL	50	5472.086	2	14400	16200	18000	C or Better	0.304005
152788	PIMA TR	60	366.0661	2	10400	11700	13000	C or Better	0.028159
2779040	CHURCH ST	50	1484.242	2	14400	16200	18000	C or Better	0.082458
2779098	ACOMA TRL	50	3849.495	2	14400	16200	18000	C or Better	0.213861
2779097	ACOMA TRL	50	4478.989	2	14400	16200	18000	C or Better	0.248833
2779039	CHURCH ST	50	4693.077	2	14400	16200	18000	C or Better	0.260727
2779042	ONAGA TRL	50	5901.207	2	14400	16200	18000	C or Better	0.327845
2779084	PALM AVE	60	569.1719	2	10400	11700	13000	C or Better	0.043782
2676944	PALM AVE	60	1373.449	2	10400	11700	13000	C or Better	0.10565
122996	ONAGA TRL	50	3955.895	2	14400	16200	18000	C or Better	0.219772
2778936	PALM AVE	60	499.6037	2	10400	11700	13000	C or Better	0.038431
123005	PALM AVE	60	2148.815	2	10400	11700	13000	C or Better	0.165293
2774776	SUNNYSLOPE DR	60	5744.915	2	10400	11700	13000	C or Better	0.441917
2779081	SUNNYSLOPE DR	60	5744.915	2	10400	11700	13000	C or Better	0.441917
2661562	SUNNYSLOPE DR	60	5409.847	2	10400	11700	13000	C or Better	0.416142
133036	SAGE AVE	60	5817.922	2	10400	11700	13000	C or Better	0.447532
2778960	JOSHUA LN	50	5066.514	2	14400	16200	18000	C or Better	0.281473
2779009	WARREN VISTA	50	4740.782	2	14400	16200	18000	C or Better	0.263377
122981	JOSHUA LN	50	4961.514	2	14400	16200	18000	C or Better	0.27564
2778903	SAGE AVE	60	1189.587	2	10400	11700	13000	C or Better	0.091507
2778952	GOLDEN BEE DR	50	466.4849	2	14400	16200	18000	C or Better	0.025916
122986	GOLDEN BEE DR	50	570.6317	2	14400	16200	18000	C or Better	0.031702
133034	SAGE AVE	60	507.5974	2	10400	11700	13000	C or Better	0.039046
2778950	SAGE AVE	60	912.1759	2	10400	11700	13000	C or Better	0.070167
2774689	SAGE AVE	60	1278.304	2	10400	11700	13000	C or Better	0.098331
2779015	JOSHUA LN	50	5518.274	2	14400	16200	18000	C or Better	0.306571
2779079	JOSHUA LN	50	5526.419	2	14400	16200	18000	C or Better	0.307023
123058	JOSHUA LN	50	5184.379	2	14400	16200	18000	C or Better	0.288021
2779008	SAN ANDREAS	50	2003.505	2	14400	16200	18000	C or Better	0.111306
2779077	WARREN VISTA	50	2003.505	2	14400	16200	18000	C or Better	0.111306
2779011	JOSHUA LN	50	1412.813	2	14400	16200	18000	C or Better	0.07849
122966	PAXTON RD	50	4431.367	2	14400	16200	18000	C or Better	0.246187
2774830	PUEBLO TRL	62	639.5929	2	6800	14100	17400	C or Better	0.036758
2778899	ONAGA TRL	50	3155.978	2	14400	16200	18000	C or Better	0.175332
2778994	HILTON AVE	50	2936.49	2	14400	16200	18000	C or Better	0.163138
2778996	SUNNYSLOPE DR	50	5373.768	2	14400	16200	18000	C or Better	0.298543
2779080	SAGE AVE	60	3287.112	2	10400	11700	13000	C or Better	0.252855
122978	JOSHUA LN	50	6536.166	2	14400	16200	18000	C or Better	0.36312
122993	SAGE AVE	60	2926.47	2	10400	11700	13000	C or Better	0.225113
2774826	PUEBLO TRL	62	975.5158	2	6800	14100	17400	C or Better	0.056064
2778954	ONAGA TRL	50	3933.166	2	14400	16200	18000	C or Better	0.218509
122980	ONAGA TRL	50	4140.274	2	14400	16200	18000	C or Better	0.230015
2701716	PUEBLO TRL	62	810.6363	2	6800	14100	17400	C or Better	0.046588
2778947	SAGE AVE	60	3325.962	2	10400	11700	13000	C or Better	0.255843
122994	SAGE AVE	60	2810.883	2	10400	11700	13000	C or Better	0.216222
2779035	SAGE AVE	60	5439.376	2	10400	11700	13000	C or Better	0.418414
122972	JOSHUA LN	50	5700.527	2	14400	16200	18000	C or Better	0.316696

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
122979	ONAGA TRL	50	4148.418	2	14400	16200	18000	C or Better	0.230468
2701726	PUEBLO TRL	62	785.9898	2	6800	14100	17400	C or Better	0.045172
2779074	OUTER HIGHWAY	60	671.8274	2	10400	11700	13000	C or Better	0.051679
2779075	OUTER HIGHWAY	60	1907.47	2	10400	11700	13000	C or Better	0.146728
2779046	OUTER HIGHWAY	60	810.7674	2	10400	11700	13000	C or Better	0.062367
2779048	OUTER HIGHWAY	60	0	2	10400	11700	13000	C or Better	0
122989	WARREN VISTA AVE	60	526.3294	2	10400	11700	13000	C or Better	0.040487
123009	FRONTERA AVE	60	403.8888	2	10400	11700	13000	C or Better	0.031068
2774833	PUEBLO TRL	60	441.7686	2	10400	11700	13000	C or Better	0.033982
2778957	ONAGA TRL	50	2759.112	2	14400	16200	18000	C or Better	0.153284
122982	WARREN VISTA AVE	60	282.8121	2	10400	11700	13000	C or Better	0.021755
122984	PUEBLO TRL	60	457.3087	2	10400	11700	13000	C or Better	0.035178
122985	ONAGA TRL	50	2873.27	2	14400	16200	18000	C or Better	0.159626
2779044	WARREN VISTA AVE	60	830.411	2	10400	11700	13000	C or Better	0.063878
123007	FRONTERA AVE	60	6.70354	2	10400	11700	13000	C or Better	0.000516
123008	ONAGA TRL	50	2752.408	2	14400	16200	18000	C or Better	0.152912
123010	PUEBLO TRL	60	630.9025	2	10400	11700	13000	C or Better	0.048531
2778997	BALSA AVENUE	50	2135.604	2	14400	16200	18000	C or Better	0.118645
2778998	SUNNYSLOPE DR	50	3268.15	2	14400	16200	18000	C or Better	0.181564
2778975	PAXTON RD	50	4279.901	2	14400	16200	18000	C or Better	0.237772
2774745	PAXTON RD	50	4431.367	2	14400	16200	18000	C or Better	0.246187
2778966	BALSA AVE	50	2146.124	2	14400	16200	18000	C or Better	0.119229
152776	BALSA AVE	50	5344.279	2	14400	16200	18000	C or Better	0.296904
152778	SUNNYSLOPE DR	50	5966.455	2	14400	16200	18000	C or Better	0.33147
2774743	BALSA AVE	50	2146.124	2	14400	16200	18000	C or Better	0.119229
133025	ABERDEEN DR	60	1661.311	2	10400	11700	13000	C or Better	0.127793
2779065		74	1075.749	2	1200	1500	2000	C or Better	0.537875
2779102	BUENA VISTA DR	60	1816.863	2	10400	11700	13000	C or Better	0.139759
2778983		74	717.43	2	1200	1500	2000	C or Better	0.358715
2779101	BUENA VISTA DR	60	336.8515	2	10400	11700	13000	C or Better	0.025912
2774770	PIPES CANYON RD	60	1167.056	2	10400	11700	13000	C or Better	0.089774
2779064		74	507.8642	2	1200	1500	2000	C or Better	0.253932
2779063		74	212.0687	2	1200	1500	2000	C or Better	0.106034
2774749	BUENA VISTA DR	60	6867.234	2	10400	11700	13000	C or Better	0.528249
2778979		74	1095.372	2	1200	1500	2000	C or Better	0.547686
133076	NATIONAL PARK BLVD	60	144.9441	2	10400	11700	13000	C or Better	0.01115
1658228	LOOP RD	60	144.9441	2	10400	11700	13000	C or Better	0.01115
2774908	LOOP RD	60	64.28397	2	10400	11700	13000	C or Better	0.004945
123068	AVALON AVE	60	6249.686	2	10400	11700	13000	C or Better	0.480745
2774859	ABERDEEN DR	60	1871.812	2	10400	11700	13000	C or Better	0.143986
123071	ALTA LOMA DR	60	2889.68	2	10400	11700	13000	C or Better	0.222283
2774873	SUNSET RD	60	0	2	10400	11700	13000	C or Better	0
2777107	ABERDEEN DR	60	5846.444	2	10400	11700	13000	C or Better	0.449726
2777108	SUNBURST AVE	60	5653.147	2	10400	11700	13000	C or Better	0.434857
2779055		74	387.918	2	1200	1500	2000	C or Better	0.193959
2779060		74	1144.201	2	1200	1500	2000	C or Better	0.572101
2774905	ALTA LOMA RD	60	4181.556	2	10400	11700	13000	C or Better	0.321658
2779068		74	946.9269	2	1200	1500	2000	C or Better	0.473463
2779117	SUNNY VISTA RD	60	2332.031	2	10400	11700	13000	C or Better	0.179387
123057	PALOMAR AVE	50	2645.359	2	14400	16200	18000	C or Better	0.146964
2778991		50	60.55158	2	14400	16200	18000	C or Better	0.003364
2774804	JOSHUA LN	50	1497.893	2	14400	16200	18000	C or Better	0.083216
2779010	JOSHUA LN	50	2642.947	2	14400	16200	18000	C or Better	0.14683
2779070		50	1567.971	2	14400	16200	18000	C or Better	0.087109
2779071	PALOMAR AVE	50	5576.153	2	14400	16200	18000	C or Better	0.309786
2774802	PALOMAR AVE	50	3770.711	2	14400	16200	18000	C or Better	0.209484
2778992	PALOMAR AVE	50	3770.711	2	14400	16200	18000	C or Better	0.209484
123042	PALOMAR AVE	50	5576.153	2	14400	16200	18000	C or Better	0.309786

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2779069		74	60.55158	2	1200	1500	2000	C or Better	0.030276
123065	AVALON AVE	50	5925.352	2	14400	16200	18000	C or Better	0.329186
2778985		50	1172.924	2	14400	16200	18000	C or Better	0.065162
2779000	BARRON RD	60	3391.503	2	10400	11700	13000	C or Better	0.260885
2779066	LA CONTENTA AVENUE	60	4361.19	2	10400	11700	13000	C or Better	0.335476
2778987		50	921.8401	2	14400	16200	18000	C or Better	0.051213
152779	AVALON AVE	50	3650.9	2	14400	16200	18000	C or Better	0.202828
2774818	SUNNYSLOPE DR	50	3307.348	2	14400	16200	18000	C or Better	0.183742
2774820	AVALON AVE	50	3650.9	2	14400	16200	18000	C or Better	0.202828
2779073		50	4206.255	2	14400	16200	18000	C or Better	0.233681
2778986		50	2094.764	2	14400	16200	18000	C or Better	0.116376
144949	CAMARILLA AVE	60	1008.698	2	10400	11700	13000	C or Better	0.077592
144951	TWENTYNINE PALMS OUTERHIGHWAY N	50	1976.541	2	14400	16200	18000	C or Better	0.109808
144953	AVALON AVE	50	3395.023	2	14400	16200	18000	C or Better	0.188612
2779002	INDIO AVENUE	60	3762.857	2	10400	11700	13000	C or Better	0.289451
2779057	BARRON RD	60	2798.062	2	10400	11700	13000	C or Better	0.215236
2774741	PAXTON RD	50	2516.005	2	14400	16200	18000	C or Better	0.139778
2774822	AVALON AVE	50	3760.52	2	14400	16200	18000	C or Better	0.208918
123062	AVALON AVE	50	3565.863	2	14400	16200	18000	C or Better	0.198103
2774779	TWENTYNINE PALMS OUTERHIGHWAY N	50	2985.239	2	14400	16200	18000	C or Better	0.165847
123063	AVALON AVE	50	5408.796	2	14400	16200	18000	C or Better	0.300489
144952	TWENTYNINE PALMS OUTERHIGHWAY N	50	2919.08	2	14400	16200	18000	C or Better	0.162171
2779058	BARRON RD	60	1789.364	2	10400	11700	13000	C or Better	0.137643
2779004	TWENTYNINE PALMS OUTERHIGHWAY N	50	5739.398	2	14400	16200	18000	C or Better	0.318855
2779003	BARRON RD	60	1930.97	2	10400	11700	13000	C or Better	0.148536
2779056		74	928.2896	2	1200	1500	2000	C or Better	0.464145
2778990	ALTA LOMA RD	60	6882.521	2	10400	11700	13000	C or Better	0.529425
2779067	LA CONTENTA AVENUE	60	3473.395	2	10400	11700	13000	C or Better	0.267184
2779006	LA CONTENTA AVENUE	60	3199.374	2	10400	11700	13000	C or Better	0.246106
2779005	LA CONTENTA AVENUE	60	6547.451	2	10400	11700	13000	C or Better	0.50365
133040	SUNNY VISTA RD	50	953.8617	2	14400	16200	18000	C or Better	0.052992
2779114	SUNNY VISTA RD	60	2625.761	2	10400	11700	13000	C or Better	0.201982
100759	ABERDEEN DR	60	6495.527	2	10400	11700	13000	C or Better	0.499656
100762	YUCCA MESA RD	60	4998.599	2	10400	11700	13000	C or Better	0.384508
123061	AVALON AVE	60	1525.106	2	10400	11700	13000	C or Better	0.117316
2778981		74	89.25163	2	1200	1500	2000	C or Better	0.044626
2779054		74	109.3642	2	1200	1500	2000	C or Better	0.054682
2779062		74	388.1666	2	1200	1500	2000	C or Better	0.194083
2779053		74	121.1841	2	1200	1500	2000	C or Better	0.060592
100760	BUENA VISTA DR	60	5877.57	2	10400	11700	13000	C or Better	0.452121
2775533	ABERDEEN DR	60	5716.112	2	10400	11700	13000	C or Better	0.439701
123067	ABERDEEN DR	60	5716.112	2	10400	11700	13000	C or Better	0.439701
2775279	AVALON AVE	60	2142.206	2	10400	11700	13000	C or Better	0.164785
2774849	YUCCA MESA RD	60	4812.726	2	10400	11700	13000	C or Better	0.37021
2774854	ABERDEEN DR	60	6102.847	2	10400	11700	13000	C or Better	0.46945
124351	SUNSET RD	60	1577.175	2	10400	11700	13000	C or Better	0.121321
124355	QUAIL SPRINGS RD	60	1114.928	2	10400	11700	13000	C or Better	0.085764
133075	QUAIL SPRINGS RD	60	1223.993	2	10400	11700	13000	C or Better	0.094153
124357	QUAIL SPRINGS RD	60	1223.993	2	10400	11700	13000	C or Better	0.094153
2774892	QUAIL SPRINGS RD	60	1114.928	2	10400	11700	13000	C or Better	0.085764
124345	PARK BLVD	60	370.5575	2	10400	11700	13000	C or Better	0.028504
124352	SUNSET RD	60	170.9837	2	10400	11700	13000	C or Better	0.013153
133039	SUNBURST CIR	60	1970.211	2	10400	11700	13000	C or Better	0.151555
2774902	QUAIL SPRINGS RD	60	1657.77	2	10400	11700	13000	C or Better	0.127521
124350	SUNSET RD	60	1151.787	2	10400	11700	13000	C or Better	0.088599
133042	PARK BLVD	60	2420.794	2	10400	11700	13000	C or Better	0.186215
123075	ALTA LOMA DR	60	3315.068	2	10400	11700	13000	C or Better	0.255005
124349	ALTA LOMA DR	60	4466.854	2	10400	11700	13000	C or Better	0.343604

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
2774898	SUNBURST CIR	60	83.73733	2	10400	11700	13000	C or Better	0.006441
124346	SUNBURST CIR	60	980.803	2	10400	11700	13000	C or Better	0.075446
124353	SUNSET RD	60	3384.484	2	10400	11700	13000	C or Better	0.260345
2774896	SUNSET RD	60	6043.713	2	10400	11700	13000	C or Better	0.464901
123080	SUNBURST AVE	60	6056.479	2	10400	11700	13000	C or Better	0.465883
2774894	QUAIL SPRINGS RD	60	144.9441	2	10400	11700	13000	C or Better	0.01115
100757	SUNBURST AVE	60	5394.02	2	10400	11700	13000	C or Better	0.414925
144965	ABERDEEN DR	60	2673.781	2	10400	11700	13000	C or Better	0.205675
2774876	SUNBURST AVE	60	4835.051	2	10400	11700	13000	C or Better	0.371927
144977	BORDER AVE	60	5749.866	2	10400	11700	13000	C or Better	0.442297
100755	SUNBURST AVE	60	5141.544	2	10400	11700	13000	C or Better	0.395503
100758	ABERDEEN DR	60	3618.239	2	10400	11700	13000	C or Better	0.278326
122937	BORDER AVE	60	1546.825	2	10400	11700	13000	C or Better	0.118987
2774867	GOLDEN ST	60	1061.862	2	10400	11700	13000	C or Better	0.081682
100756	GOLDEN ST	60	1343.995	2	10400	11700	13000	C or Better	0.103384
144918	PIPES RD	74	903.3798	2	1200	1500	2000	C or Better	0.45169
1658227	LOOP RD	60	64.28397	2	10400	11700	13000	C or Better	0.004945
136137	UTAH TRL	60	1504.77	2	10400	11700	13000	C or Better	0.115752
136139	PINTO BASIN RD	60	1535.588	2	10400	11700	13000	C or Better	0.118122
2775107	AMBOY RD	60	1723.486	2	10400	11700	13000	C or Better	0.132576
139996	STATE HIGHWAY 62	50	467.0196	2	14400	16200	18000	C or Better	0.025946
2774933	TWENTYNINE PALMS HIGHWAY	40	25593.93	4	28700	32300	35900	C or Better	0.712923
152768	TWENTYNINE PALMS HIGHWAY	40	25593.93	4	28700	32300	35900	C or Better	0.712923
2778896	29TH PALMS HIGHWAY	40	28188.81	4	28700	32300	35900	C or Better	0.785203
2778995	TWENTYNINE PALMS HIGHWAY	40	26986.75	4	28700	32300	35900	C or Better	0.75172
152772	TWENTYNINE PALMS HIGHWAY	40	26634.3	4	28700	32300	35900	C or Better	0.741903
2702138	TWENTYNINE PALMS HIGHWAY	40	26457.41	4	28700	32300	35900	C or Better	0.736975
2701742	29TH PALMS HIGHWAY	40	27443.73	4	28700	32300	35900	C or Better	0.764449
123064	TWENTYNINE PALMS HIGHWAY	40	26614.52	4	28700	32300	35900	C or Better	0.741352
122947	TWENTYNINE PALMS HIGHWAY	40	28394.78	4	28700	32300	35900	C or Better	0.790941
123079	TWENTYNINE PALMS HIGHWAY	40	26932.77	4	28700	32300	35900	C or Better	0.750217
124348	TWENTYNINE PALMS HIGHWAY	40	26666.47	4	28700	32300	35900	C or Better	0.742799
122943	TWENTYNINE PALMS HIGHWAY	40	28438.92	4	28700	32300	35900	C or Better	0.792171
122919	TWENTYNINE PALMS HIGHWAY	40	18089.83	4	28700	32300	35900	C or Better	0.503895
122693	TWENTYNINE PALMS HIGHWAY	40	18007.74	4	28700	32300	35900	C or Better	0.501608
100781	TWO MILE RD	50	4559.874	4	27300	30700	34100	C or Better	0.133721
122842	CASCADE RD	60	1390.751	4	20700	23300	25900	C or Better	0.053697
152770	WHITMOORE RD	50	4936.342	4	27300	30700	34100	C or Better	0.144761
152769	ROTARY WAY	60	4936.342	4	20700	23300	25900	C or Better	0.190592
2774883	CASCADE RD	60	1266.374	4	20700	23300	25900	C or Better	0.048895
2774931	WHITMOORE RD	50	4930.919	4	27300	30700	34100	C or Better	0.144602
152771	MANTONYA RD	50	1049.654	4	27300	30700	34100	C or Better	0.030782
122902	NOELS KNOLL RD	60	89.77364	4	20700	23300	25900	C or Better	0.003466
122931	MARIPOSA AVE	60	0	4	20700	23300	25900	C or Better	0
2775042	TWENTYNINE PALMS HIGHWAY	40	11493.61	4	28700	32300	35900	C or Better	0.320156
152767	ENCELIA AVE	60	2284.922	4	20700	23300	25900	C or Better	0.088221
122701	TWENTYNINE PALMS HIGHWAY	40	10834.67	4	28700	32300	35900	C or Better	0.301801
146793	WILDCAT WAY	50	840.5059	4	27300	30700	34100	C or Better	0.024648
2774982	DATURA AVE	60	1344.505	4	20700	23300	25900	C or Better	0.051911
122692	TWENTYNINE PALMS HIGHWAY	40	16286.05	4	28700	32300	35900	C or Better	0.45365
124334	DATURA AVE	60	1252.439	4	20700	23300	25900	C or Better	0.048357
133043	EL PASEO DR	50	3401.418	4	27300	30700	34100	C or Better	0.099748
122683	MORONGO RD	60	5364.431	4	20700	23300	25900	C or Better	0.207121
122918	EL PASEO DR	50	3743.905	4	27300	30700	34100	C or Better	0.109792
122932	EL PASEO DR	50	3846.362	4	27300	30700	34100	C or Better	0.112797
2758001	EL PASEO DR	50	0	4	27300	30700	34100	C or Better	0
2774965	EL PASEO DR	50	0	4	27300	30700	34100	C or Better	0
2779132	EL PASEO DR	50	1652.461	4	27300	30700	34100	C or Better	0.048459

Link ID	Road name	AB_Facility	Tot Flow	Lanes	LOS C Thre	LOS D Thre	LOS E Thre	LOS	V/C
122695	LARREA AVE	50	5933.532	4	27300	30700	34100	C or Better	0.174004
2774961	WILDCAT WAY	50	854.2386	4	27300	30700	34100	C or Better	0.025051
2774973	TWENTYNINE PALMS HIGHWAY	40	10968.16	4	28700	32300	35900	C or Better	0.30552
122723	TWENTYNINE PALMS HIGHWAY	40	10570.67	4	28700	32300	35900	C or Better	0.294448
2779127	Sunnyslope Dr	50	3124.827	4	27300	30700	34100	C or Better	0.091637
2777114	MORONGO RD	60	4522.189	4	20700	23300	25900	C or Better	0.174602
100751	MORONGO RD	60	6124.848	4	20700	23300	25900	C or Better	0.236481
2779153	Sunnyslope Dr	50	441.6221	4	27300	30700	34100	C or Better	0.012951
2758005	Sunnyslope Dr	50	968.3061	4	27300	30700	34100	C or Better	0.028396
2779145	Sunnyslope Dr	50	727.5289	4	27300	30700	34100	C or Better	0.021335
2733626	MORONGO RD	60	6124.848	4	20700	23300	25900	C or Better	0.236481
2779140	Sunnyslope Dr	50	996.613	4	27300	30700	34100	C or Better	0.029226
122791	SULLIVAN RD	60	1374.683	4	20700	23300	25900	C or Better	0.053077
122726	TWENTYNINE PALMS HIGHWAY	40	12160.78	4	28700	32300	35900	C or Better	0.338741
122750	TWENTYNINE PALMS HIGHWAY	40	9315.756	4	28700	32300	35900	C or Better	0.259492
122748	TWENTYNINE PALMS HIGHWAY	40	12695.65	4	28700	32300	35900	C or Better	0.353639
2775025	TWENTYNINE PALMS HIGHWAY	40	8120.348	4	28700	32300	35900	C or Better	0.226194
2775034	BUENA VISTA DR	60	154.2509	4	20700	23300	25900	C or Better	0.005956
122766	BUENA VISTA DR	60	233.2139	4	20700	23300	25900	C or Better	0.009004
2775075	SULLIVAN RD	60	326.7448	4	20700	23300	25900	C or Better	0.012616
122754	TWO MILE RD	50	3322.92	4	27300	30700	34100	C or Better	0.097446
2775029	JOE DAVIS DR	60	512.1426	4	20700	23300	25900	C or Better	0.019774
122771	JOE DAVIS DR	60	517.9119	4	20700	23300	25900	C or Better	0.019997
122727	ADOBE RD	50	3106.2	4	27300	30700	34100	C or Better	0.091091
2775014	CONDOR RD	60	934.6754	4	20700	23300	25900	C or Better	0.036088
122761	CONDOR RD	60	1097.823	4	20700	23300	25900	C or Better	0.042387
122736	ADOBE RD	50	4204.023	4	27300	30700	34100	C or Better	0.123285
122809	GODWIN RD	60	1796.15	4	20700	23300	25900	C or Better	0.069349
2779148	MOJAVE RD	60	0	4	20700	23300	25900	C or Better	0
133053	PINTO MOUNTAIN RD	60	21.59988	4	20700	23300	25900	C or Better	0.000834
2777113	PINTO MOUNTAIN RD	60	152.8681	4	20700	23300	25900	C or Better	0.005902
122816	NEW IRONAGE RD	60	141.8309	4	20700	23300	25900	C or Better	0.005476
122817	AMBOY RD	60	8.909017	4	20700	23300	25900	C or Better	0.000344
122815	AMBOY RD	60	1591.761	4	20700	23300	25900	C or Better	0.061458
133059	IRONAGE RD	60	150.7399	4	20700	23300	25900	C or Better	0.00582
133014	APACHE TRL	60	1820.535	4	20700	23300	25900	C or Better	0.070291
2779076	AIRWAY AVE	60	2449.126	4	20700	23300	25900	C or Better	0.094561
122969	JOSHUA LN	50	6129.582	4	27300	30700	34100	C or Better	0.179753
2778914	JOSHUA LN	50	6129.582	4	27300	30700	34100	C or Better	0.179753
2779050	JOSHUA LN	50	7367	4	27300	30700	34100	C or Better	0.216041
152781	AIRWAY AVE	60	1961.039	4	20700	23300	25900	C or Better	0.075716
2779047	AIRWAY AVE	60	810.7674	4	20700	23300	25900	C or Better	0.031304
2779049	AIRWAY AVE	60	2449.126	4	20700	23300	25900	C or Better	0.094561
2774861	BROADWAY	60	3065.618	4	20700	23300	25900	C or Better	0.118364
144954	BORDER AVE	60	1616.065	4	20700	23300	25900	C or Better	0.062396
152773	WHITE FEATHER RD	60	5303.691	4	20700	23300	25900	C or Better	0.204776
122936	BORDER AVE	60	1936.217	4	20700	23300	25900	C or Better	0.074757
122940	BROADWAY	60	3703.501	4	20700	23300	25900	C or Better	0.142992
2774888	BORDER AVE	60	1077.288	4	20700	23300	25900	C or Better	0.041594
122941	CALLE LOS AMIGOS	60	2607.794	4	20700	23300	25900	C or Better	0.100687
2774781	TWENTYNINE PALMS HIGHWAY	40	26457.41	6	42000	53200	56000	C or Better	0.472454

APPENDIX F: COST ESTIMATES



MBATS Recommended Improvements
Planning Construction Cost Summary

Project No.: 143185
Date: 1/5/2015

CORRIDOR: State Route 62 (SR62)

Project Length (FT): 262602
Project Length (MI): 49.74

Segment No.: 01

Construction Subtotal With Contingency		$13,226,038
Right of Way		$30,000
Preliminary and Final Engineering	25%	$3,306,509
Construction and Environmental Support	15%	$1,983,906
Segment Total		$18,546,453

Segment No.: 02

Construction Subtotal With Contingency		$21,367,808
Right of Way		$220,000
Preliminary and Final Engineering	25%	$5,341,952
Construction and Environmental Support	15%	$3,205,171
Segment Total		$30,134,932

Segment No.: 03

Construction Subtotal With Contingency		$18,236,676
Right of Way		$120,000
Preliminary and Final Engineering	25%	$4,559,169
Construction and Environmental Support	15%	$2,735,501
Segment Total		$25,651,347

Segment No.: 04

Construction Subtotal With Contingency		$2,340,000
Preliminary and Final Engineering	25%	$585,000
Construction and Environmental Support	15%	$351,000
Segment Total		$3,276,000

Segment No.: 05

Construction Subtotal With Contingency		$1,170,000
Preliminary and Final Engineering	25%	$292,500
Construction and Environmental Support	15%	$175,500
Segment Total		$1,638,000

Segment No.: 06

Construction Subtotal With Contingency		$4,095,000
Preliminary and Final Engineering	25%	$1,023,750
Construction and Environmental Support	15%	$614,250
Segment Total		$5,733,000

Segment No.: 07

Construction Subtotal With Contingency		$12,086,350
Right of Way		$170,000
Preliminary and Final Engineering	25%	$3,021,587
Construction and Environmental Support	15%	$1,812,952
Segment Total		$17,090,889

Segment No.: 08

Construction Subtotal With Contingency		$11,885,136
Right of Way		$150,000
Preliminary and Final Engineering	25%	$2,971,284
Construction and Environmental Support	15%	$1,782,770
Segment Total		$16,789,190

Segment No.: 09

Construction Subtotal With Contingency		$4,108,104
Right of Way		$60,000
Preliminary and Final Engineering	25%	$1,027,026
Construction and Environmental Support	15%	$616,216
Segment Total		$5,811,346

Project Construction Subtotal With Contingency		$88,515,112
Right of Way		$750,000
Project Preliminary and Final Engineering	25%	$22,128,778
Construction and Environmental Support	15%	$13,277,267
Project Total		$124,671,156

MBATS Recommended Improvements
Planning Construction Cost Estimate

Project No.: 143185
Date: 1/5/2015

CORRIDOR: State Route 62 (SR62)

Project Length (FT): 262602
Project Length (MI): 49.74

Segment No.: 01 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:** Principal Arterial
Improvements: SR-62 Roadway Widening
From: San Bernardino County Line **To:** Hess Blvd **Segment Length (FT):** 3941

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
WDN1L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$270	3941	$1,064,070
IT1	Miscellaneous Improvements	LF	Typical	$15	3941	$59,115
RET1	Retaining Wall (H=15')	LF	Typical	$2,100	4300	$9,030,000
SS1	Signing and Striping	LF	Typical	$5	3941	$20,690
					Construction Subtotal	**$10,173,875**
					Contingency 30%	**$3,052,163**
					Construction Subtotal With Contingency	**$13,226,038**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	3	**$30,000**
					Preliminary and Final Engineering 25%	**$3,306,509**
					Construction and Environmental Support 15%	**$1,983,906**
					Segment Total	**$18,546,453**

Segment No.: 02 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:** Principal Arterial
Improvements: SR-62 Roadway Widening and Traffic Signal Installation/Modification
From: Hess Blvd **To:** Western Yucca Valley Town Limits **Segment Length (FT):** 39883

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
WDN2L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$275	39883	$10,967,825
IT2	Miscellaneous Improvements	LF	Typical	$55	39883	$2,193,565
RET2	Retaining Wall (H=8')	LF	Typical	$1,120	700	$784,000
LTG2	Highway Safety Lighting	EA	Typical	$52,000	1	$52,000
	Culvert Widening (W=13')	SF	Typical	$600	1300	$780,000
SS2	Signing and Striping	LF	Typical	$5	39883	$209,386
TS1	Traffic Signal Installation	EA	Typical	$700,000	1	$700,000
TS2	Traffic Signal Modification	EA	Typical	$450,000	1	$450,000
TS3	Flashing Beacon	EA	Typical	$150,000	2	$300,000
					Construction Subtotal	**$16,436,776**
					Contingency 30%	**$4,931,033**
					Construction Subtotal With Contingency	**$21,367,808**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	22	**$220,000**
					Preliminary and Final Engineering 25%	**$5,341,952**
					Construction and Environmental Support 15%	**$3,205,171**
					Segment Total	**$30,134,932**

Segment No.: 03 **Status:** Unbuilt
Jurisdiction: Yucca Valley **Classification:** Principal Arterial
Improvements: SR-62 Roadway Widening and Traffic Signal Modifications
From: Western Yucca Valley Town Limits **To:** SR-247 **Segment Length (FT):** 21306

Template	Description	Unit	Cost Level		Quantity	Total Cost
WDN3L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$355	21306	$7,563,630
IT3	Miscellaneous Improvements	LF	Typical	$68	21306	$1,448,808
	Culvert Widening (W=13')	SF	Typical	$450	1300	$585,000
LTG3	Highway Safety Lighting	EA	Typical	$1,555,000	1	$1,555,000
SS3	Signing and Striping	LF	Typical	$8	21306	$175,775
TS2	Traffic Signal Modification	EA	Typical	$450,000	6	$2,700,000
					Construction Subtotal	**$14,028,213**
					Contingency 30%	**$4,208,464**
					Construction Subtotal With Contingency	**$18,236,676**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	12	**$120,000**
					Preliminary and Final Engineering 25%	**$4,559,169**
					Construction and Environmental Support 15%	**$2,735,501**
					Segment Total	**$25,651,347**

Segment No.: 04 **Status:** Unbuilt
Jurisdiction: Yucca Valley **Classification:** Principal Arterial
Improvements: SR-62 Traffic Signal Modifications
From: SR-247 **To:** Eastern Yucca Valley Town Limits **Segment Length (FT):** 14256

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
TS2	Traffic Signal Modification	EA	Typical	$450,000	4	$1,800,000
					Construction Subtotal	**$1,800,000**
					Contingency 30%	**$540,000**
					Construction Subtotal With Contingency	**$2,340,000**
					Preliminary and Final Engineering 25%	**$585,000**
					Construction and Environmental Support 15%	**$351,000**
					Segment Total	**$3,276,000**

Segment No.: 05 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:** Principal Arterial
Improvements: SR-62 Traffic Signal Modifications
From: Eastern Yucca Valley Town Limits **To:** Twentynine Palms Western Town Limits **Segment Length (FT):** 52800

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
TS2	Traffic Signal Modification	EA	Typical	$450,000	2	$900,000
					Construction Subtotal	**$900,000**
					Contingency 30%	**$270,000**
					Construction Subtotal With Contingency	**$1,170,000**
					Preliminary and Final Engineering 25%	**$292,500**
					Construction and Environmental Support 15%	**$175,500**
					Segment Total	**$1,638,000**

MBATS Recommended Improvements
Planning Construction Cost Estimate

Project No.: 143185
Date: 1/5/2015

Segment No.: 06 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:** Principal Arterial
Improvements: SR-62 Traffic Signal Installation/Modification
From: Twentynine Palms Western Town Limits **To:** Twentynine Palms Eastern Town Limits **Segment Length (FT):** 63360

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
TS1	Traffic Signal Installation	EA	Typical	$700,000	3	$2,100,000
TS2	Traffic Signal Modification	EA	Typical	$450,000	2	$900,000
TS3	Flashing Beacon	EA	Typical	$150,000	1	$150,000
	Trafffic Signal Interconnect	LS	Typical	$500,000	1	$500,000
					Construction Subtotal	**$3,150,000**
					Contingency 30%	**$945,000**
					Construction Subtotal With Contingency	**$4,095,000**
					Preliminary and Final Engineering 25%	**$1,023,750**
					Construction and Environmental Support 15%	**$614,250**
					Segment Total	**$5,733,000**

Segment No.: 07 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:** Principal Arterial
Improvements: SR-247 Roadway Widening
From: Northern Morongo Basin Boundary Limits **To:** Northern Yucca Valley Town Limits **Segment Length (FT):** 30624

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
WDN7L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$270	30624	$8,268,480
IT7	Miscellaneous Improvements	LF	Typical	$2	30624	$61,248
RET7	Retaining Wall (H=8')	LF	Typical	$1,120	600	$672,000
SS7	Signing and Striping	LF	Typical	$5	30624	$145,464
TS3	Flashing Beacon	EA	Typical	$150,000	1	$150,000
					Construction Subtotal	**$9,297,192**
					Contingency 30%	**$2,789,158**
					Construction Subtotal With Contingency	**$12,086,350**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	17	**$170,000**
					Preliminary and Final Engineering 25%	**$3,021,587**
					Construction and Environmental Support 15%	**$1,812,952**
					Segment Total	**$17,090,889**

Segment No.: 08 **Status:** Unbuilt
Jurisdiction: Yucca Valley **Classification:** Principal Arterial
Improvements: SR-247 Roadway Widening and Traffic Signal Modification
From: Northen Yucca Valley Town Limits **To:** SR-62 **Segment Length (FT):** 25872

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
WDN8L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$270	25872	$6,985,440
IT8	Miscellaneous Improvements	LF	Typical	$15	25872	$388,080
RET8	Retaining Wall (H=8')	LF	Typical	$1,120	800	$896,000
SS8	Signing and Striping	LF	Typical	$5	25872	$122,892
TS2	Traffic Signal Modification	EA	Typical	$450,000	1	$450,000
TS3	Flashing Beacon	EA	Typical	$150,000	2	$300,000
					Construction Subtotal	**$9,142,412**
					Contingency 30%	**$2,742,724**
					Construction Subtotal With Contingency	**$11,885,136**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	15	**$150,000**
					Preliminary and Final Engineering 25%	**$2,971,284**
					Construction and Environmental Support 15%	**$1,782,770**
					Segment Total	**$16,789,190**

Segment No.: 09 **Status:** Unbuilt
Jurisdiction: San Bernardino County **Classification:**
Improvements: Yucca Mesa Drive Roadway Widening
From: Buena Vista Drive **To:** SR-62 **Segment Length (FT):** 10560

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
WDN9L	Widen by 1 Lane in Each Direction (W=13')	LF	Typical	$270	10560	$2,851,200
IT9	Miscellaneous Improvements	LF	Typical	$24	10560	$253,440
SS9	Signing and Striping	LF	Typical	$5	10560	$55,440
					Construction Subtotal	**$3,160,080**
					Contingency 30%	**$948,024**
					Construction Subtotal With Contingency	**$4,108,104**

Template	Description	Unit	Cost Level	Unit Cost	Quantity	Total Cost
	Right of Way Acquisition (W=24' for length of the Segment)	AC	Typical	$10,000	6	**$60,000**
					Preliminary and Final Engineering 25%	**$1,027,026**
					Construction and Environmental Support 15%	**$616,216**
					Segment Total	**$5,811,346**

Project Construction Subtotal With Contingency		**$88,515,112**
Right of Way		**$750,000**
Total Preliminary and Final Engineering	25%	**$22,128,778**
Total Construction and Environmental Support	15%	**$13,277,267**
Project Total		**$124,671,156**

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN1L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.96*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	1.5	1	*1.5*	$3.00	$1.50	$5.25
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.02	1	*0.02*	$3.44	$2.92	$3.96
								Subtotal	**$270.00**	**$180.00**	**$505.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 26' wide section to be excavated along every foot.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT1
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
832006	Midwest Guardrail System (Steel Post)	LF	$40.00	$30.00	$50.00	0.25	1	*0.25*	$10.15	$7.61	$12.69
								Subtotal	**$15.00**	**$10.00**	**$15.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 1000' of Midwest Guardrail System to be replaced along length of the segment.

Date: 1/5/2015

Cost Template

TEMPLATE ID: RET1
DESCRIPTION: Retaining Wall (H=15')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
510060A	Structure Concrete Retaining Wall	SF	$140.00	$100.00	$180.00	15	1	*15*	$2,100.00	$1,500.00	$2,700.00
								Subtotal	**$2,100.00**	**$1,500.00**	**$2,700.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 15' high Concrete Retaining Wall needed.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS1
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	2.00	1	*2*	$2.00	$1.00	$4.00
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.0003	1	*0.0003*	$0.05	$0.04	$0.07
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.0003	1	*0.0003*	$0.14	$0.08	$0.18
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	10.00	1	*10*	$3.00	$2.00	$4.00
								Subtotal	**$5.25**	**$3.25**	**$8.25**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 1 stripe to be removed along every foot.
Observed 2 Roadside signs to be removed every 5900'
Observed 2 Roadside signs-one post to be replaced every 5900'

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN2L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
153248	Remove Concrete (Misc) (W=7')	SF	$6.50	$5.00	$8.00	1.02	1	*1.02*	$6.62	$5.09	$8.14
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.96*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	1.5	1	*1.5*	$3.00	$1.50	$5.25
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.02	1	*0.02*	$3.44	$2.92	$3.96
								Subtotal	**$275.00**	**$185.00**	**$510.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 14' wide Curb and Gutter to be removed along 2900' span.
Observed 26' wide section to be excavated along every foot.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT2
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
832006	Midwest Guardrail System (Steel Post)	LF	$40.00	$30.00	$50.00	0.05	1	*0.05*	$2.01	$1.50	$2.51
800360	Chain Link Fence (Type CL-6)	LF	$15.00	$10.00	$25.00	0.02	1	*0.02*	$0.34	$0.23	$0.56
999999D	Relocate Utility Poles	EA	$10,000.00	$5,000.00	$15,000.00	0.0026	1	*0.0026*	$26.33	$13.16	$39.49
198010A	Imported Borrow (W=12')	SF	$15.00	$13.00	$18.00	0.90	1	*0.90*	$13.54	$11.73	$16.25
731521A	Minor Conc. (Curb & Gutter) (W=7')	SF	$10.00	$8.00	$15.00	1.02	1	*1.02*	$10.18	$8.14	$15.27
								Subtotal	**$55.00**	**$35.00**	**$75.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 2000' of Midwest Guardrail System to be replaced along length of the segment.
Observed 900' of Chainlink Fence to be replaced along length of the segment.
Observed 105 Utility Poles to be relocated along length of the segment.
Observed 12' wide section of Imported borrow along 3000'.
Observed 14' wide Curb and Gutter to be replaced along 2900' span.

Date: 1/5/2015

Cost Template

TEMPLATE ID: RET2
DESCRIPTION: Retaining Wall (H=8')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
510060A	Structure Concrete Retaining Wall	SF	$140.00	$100.00	$180.00	8	1	*8*	$1,120.00	$800.00	$1,440.00
								Subtotal	**$1,120.00**	**$800.00**	**$1,400.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 8' high Concrete Retaining Wall needed.

Date: 1/5/2015

Cost Template

TEMPLATE ID: LTG2
DESCRIPTION: Highway Safety Lighting
UNIT: EA

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
208815A	2" Welded Steel Pipe Conduit (Trenching, Pavement)	LF	$40.00	$30.00	$55.00	600	1	*600*	$24,000.00	$18,000.00	$33,000.00
999999E	Relocate Highway Lighting	EA	$5,500.00	$3,500.00	$7,500.00	4	1	*4*	$22,000.00	$14,000.00	$30,000.00
999999F	Misc. Electrical	LF	$10.00	$8.00	$12.00	600	1	*600*	$6,000.00	$4,800.00	$7,200.00
								Subtotal	**$52,000.00**	**$36,800.00**	**$70,200.00**

NOTE: Unit cost is based on lump sum.

Observed 600' of conduit to be replaced.

Date: 1/5/2015

Cost Template

TEMPLATE ID: BR2
DESCRIPTION: Culvert Widening (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
510053E	Culvert Widening (W=13')	SF	$600.00	$500.00	$700.00	26	1	*26*	$15,600.00	$13,000.00	$18,200.00
								Subtotal	**$15,600.00**	**$13,000.00**	**$18,200.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 26' wide section of bridge widening needed.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS2
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	2.00	1	*2*	$2.00	$1.00	$4.00
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.0003	1	*0.0003*	$0.05	$0.04	$0.07
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.0003	1	*0.0003*	$0.14	$0.08	$0.18
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	10.00	1	*10*	$3.00	$2.00	$4.00
								Subtotal	**$5.25**	**$3.25**	**$8.25**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 1 stripe to be removed along every foot.
Observed 2 Roadside signs to be removed every 5900'
Observed 2 Roadside signs-one post to be replaced every 5900'

Date: 1/5/2015

Cost Template

TEMPLATE ID: TS1
DESCRIPTION: Traffic Signal Installation
UNIT: EA

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
860201	Signal and Lighting	EA	$225,000.00	$200,000.00	$250,000.00	1	1	*1*	$225,000.00	$200,000.00	$250,000.00
								Subtotal	**$225,000.00**	**$200,000.00**	**$250,000.00**

NOTE: Unit cost is based on lump sum.

Date: 1/5/2015

Cost Template

TEMPLATE ID: TS2
DESCRIPTION: Traffic Signal Modification
UNIT: EA

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
861502	Modify Signal and Lighting	EA	$150,000.00	$125,000.00	$200,000.00	1	1	*1*	$150,000.00	$125,000.00	$200,000.00
								Subtotal	**$150,000.00**	**$125,000.00**	**$200,000.00**

NOTE: Unit cost is based on lump sum.

Date: 1/5/2015

Cost Template

TEMPLATE ID: TS3
DESCRIPTION: Flashing Beacon
UNIT: EA

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
860604	Flashing Beacon System	EA	$50,000.00	$40,000.00	$75,000.00	1	1	*1*	$50,000.00	$40,000.00	$75,000.00
								Subtotal	**$50,000.00**	**$40,000.00**	**$75,000.00**

NOTE: Unit cost is based on lump sum.

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN3L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
153248	Remove Concrete (Misc) (W=7')	SF	$6.50	$5.00	$8.00	2.19	1	*2.19*	$14.22	$10.94	$17.50
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.96*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	1	1	*1.00*	$2.00	$1.00	$3.50
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.014	1	*0.014*	$2.31	$1.96	$2.66
153103	Cold Plane Asphalt Concrete Pavement	SF	$2.00	$1.00	$5.00	24.64	1	*24.64*	$49.28	$24.64	$123.20
390132A	Hot Mix Asphalt (TYPE A) (2")	TON	$100.00	$85.00	$125.00	0.26	1	*0.26*	$25.94	$22.05	$32.42
								Subtotal	**$355.00**	**$235.00**	**$675.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 14' wide Curb and Gutter to be removed along 30% of 11100' span.
Observed 26' wide section to be excavated along every foot.
Observed 7000' pavement section to grind and overlay.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT3
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
999999D	Relocate Utility Poles	EA	$10,000.00	$5,000.00	$15,000.00	0.0023	1	*0.0023*	$23.47	$11.73	$35.20
731521A	Minor Conc. (Curb & Gutter) (W=7')	SF	$10.00	$8.00	$15.00	4.38	1	*4.38*	$43.76	$35.01	$65.64
								Subtotal	**$68.00**	**$47.00**	**$101.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 50 Utility Poles to be relocated along length of the segment.
Observed 14' wide Curb and Gutter to be replaced along 60% of 11100' span.

Date: 1/5/2015

Cost Template

TEMPLATE ID: LTG3
DESCRIPTION: Highway Safety Lighting
UNIT: EA

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
208815A	2" Welded Steel Pipe Conduit (Trenching, Pavement)	LF	$40.00	$30.00	$55.00	22200	1	*22200*	$888,000.00	$666,000.00	$1,221,000.00
999999E	Relocate Highway Lighting	EA	$5,500.00	$3,500.00	$7,500.00	80	1	*80*	$440,000.00	$280,000.00	$600,000.00
999999F	Misc. Electrical	LF	$10.00	$8.00	$12.00	22700	1	*22700*	$227,000.00	$181,600.00	$272,400.00
								Subtotal	**$1,555,000.00**	**$1,127,600.00**	**$2,093,400.00**

NOTE: Unit cost is based on lump sum.

Observed 22176' of conduit to be replaced.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS3
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	0.63	1	*0.63*	$0.63	$0.31	$1.26
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.01	1	*0.01*	$1.50	$1.25	$2.00
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.01	1	*0.01*	$4.00	$2.50	$5.20
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	7	1	*7*	$2.10	$1.40	$2.80
								Subtotal	**$8.25**	**$5.50**	**$11.50**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 2 stripe to be removed along every foot over 6700'.
Observed 2 Roadside signs to be removed every 200'
Observed 2 Roadside signs-one post to be replaced every 200'

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN7L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.96*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	2	1	*2*	$4.00	$2.00	$7.00
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.02	1	*0.02*	$3.44	$2.92	$3.96
								Subtotal	**$270.00**	**$180.00**	**$505.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 26' wide section to be excavated along every foot.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT7
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
999999D	Relocate Utility Poles	EA	$10,000.00	$5,000.00	$15,000.00	0.0002	1	*0.0002*	$1.96	$0.98	$2.94
								Subtotal	**$2.00**	**$1.00**	**$3.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 6 Utility Poles to be relocated along length of the segment.

Date: 1/5/2015

Cost Template

TEMPLATE ID: RET7
DESCRIPTION: Retaining Wall (H=8')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
510060A	Structure Concrete Retaining Wall	SF	$140.00	$100.00	$180.00	8	1	*8*	$1,120.00	$800.00	$1,440.00
								Subtotal	**$1,120.00**	**$800.00**	**$1,440.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 8' high Concrete Retaining Wall needed.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS7
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	2	1	*2*	$2.00	$1.00	$4.00
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.0013	1	*0.0013*	$0.20	$0.16	$0.26
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.0013	1	*0.0013*	$0.52	$0.33	$0.68
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	6	1	*6*	$1.80	$1.20	$2.40
								Subtotal	**$4.75**	**$2.75**	**$7.50**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 2 stripe to be removed along every foot.
Observed 40 Roadside signs to be removed along entire segment.
Observed 40 Roadside signs-one post to be replaced along entire segment.

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN8L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
153248	Remove Concrete (Misc) (W=7')	SF	$6.50	$5.00	$8.00	0.07	1	*0.07*	$0.46	$0.36	$0.57
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.96*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	2	1	*2*	$4.00	$2.00	$7.00
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.02	1	*0.02*	$3.44	$2.92	$3.96
								Subtotal	**$270.00**	**$180.00**	**$505.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 7' wide Curb and Gutter to be removed along 264' span.
Observed 26' wide section to be excavated along every foot.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT8
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
832006	Midwest Guardrail System (Steel Post)	LF	$40.00	$30.00	$50.00	0.010	1	*0.010*	$0.39	$0.29	$0.48
999999D	Relocate Utility Poles	EA	$10,000.00	$5,000.00	$15,000.00	0.0014	1	*0.0014*	$13.53	$6.76	$20.29
731521A	Minor Conc. (Curb & Gutter) (W=7')	SF	$10.00	$8.00	$15.00	0.07	1	*0.07*	$0.68	$0.54	$1.01
								Subtotal	**$15.00**	**$8.00**	**$22.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 250' of Midwest Guardrail System to be replaced along length of the segment.
Observed 35 Utility Poles to be relocated along length of the segment.
Observed 7' wide Curb and Gutter to be replaced along 264' span.

Date: 1/5/2015

Cost Template

TEMPLATE ID: RET8
DESCRIPTION: Retaining Wall (H=8')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
510060A	Structure Concrete Retaining Wall	SF	$140.00	$100.00	$180.00	8	1	*8*	$1,120.00	$800.00	$1,440.00
								Subtotal	**$1,120.00**	**$800.00**	**$1,440.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 8' high Concrete Retaining Wall needed.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS8
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	2	1	*2*	$2.00	$1.00	$4.00
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.001	1	*0.0010*	$0.14	$0.12	$0.19
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.001	1	*0.0010*	$0.39	$0.24	$0.50
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	7	1	*7*	$2.10	$1.40	$2.80
								Subtotal	**$4.75**	**$3.00**	**$7.50**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 2 stripe to be removed along every foot.
Observed 25 Roadside signs to be removed along entire segment.
Observed 25 Roadside signs-one post to be replaced along entire segment.

Date: 1/5/2015

Cost Template

TEMPLATE ID: WDN9L
DESCRIPTION: Widen by 1 Lane in Each Direction (W=13')
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
160102A	Clearing and Grubbing (W=12')	SF	$1.00	$0.70	$2.00	24	1	*24*	$24.00	$16.80	$48.00
150770	Remove Asphlat Concrete Pavement (W=1')	SF	$7.00	$3.00	$12.00	2	1	*2*	$14.00	$6.00	$24.00
260203	Class 2 Aggregate Base (8")	CY	$35.00	$25.00	$60.00	0.65	1	*0.65*	$22.58	$16.13	$38.71
390132	Hot Mix Asphalt (TYPE A) (6")	TON	$100.00	$85.00	$125.00	0.96	1	*0.962*	$96.20	$81.77	$120.25
394073	Place Hot Mix Asphalt Dike (Type A)	LF	$2.00	$1.00	$3.50	2	1	*2*	$4.00	$2.00	$7.00
190101A	Roadway Excavation (W=13')	SF	$4.00	$2.00	$10.00	26	1	*26*	$104.00	$52.00	$260.00
377501	Slurry Seal (W=100')	TON	$165.00	$140.00	$190.00	0.02	1	*0.02*	$3.44	$2.92	$3.96
								Subtotal	**$270.00**	**$180.00**	**$505.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 24' wide of Clearing and Grubbing along every foot.
Observed 2' of sawcutting and removal of existing Asphalt Concrete Pavement along every foot.
Observed 26' wide section to be excavated along every foot.
Used 148 lbs/ft^3 for Hot Mix Ashpalt

Date: 1/5/2015

Cost Template

TEMPLATE ID: IT9
DESCRIPTION: Miscellaneous Improvements
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
999999D	Relocate Utility Poles	EA	$10,000.00	$5,000.00	$15,000.00	0.002	1	*0.002*	$23.67	$11.84	$35.51
								Subtotal	**$24.00**	**$12.00**	**$36.00**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 25 Utility Poles to be relocated along length of the segment.

Date: 1/5/2015

Cost Template

TEMPLATE ID: SS9
DESCRIPTION: Signing and Striping
UNIT: LF

			Unit Cost			Quantity			Total Cost		
Item No.	Description	Unit	Typical	Low	High	Amount	Length (FT)	Multiplier	Typical	Low	High
150711	Remove Painted Traffic Stripe	LF	$1.00	$0.50	$2.00	2	1	*2*	$2.00	$1.00	$4.00
150742	Remove Roadside sign	EA	$150.00	$125.00	$200.00	0.0019	1	*0.0019*	$0.28	$0.24	$0.38
566011	Roadside Sign - one post	EA	$400.00	$250.00	$520.00	0.0019	1	*0.0019*	$0.76	$0.47	$0.98
840656	Paint traffic stripe (2-coat)	LF	$0.30	$0.20	$0.40	7	1	*7*	$2.10	$1.40	$2.80
								Subtotal	**$5.25**	**$3.25**	**$8.25**

Assumptions: Based on aerial screening, refer to the observations below that were used to identify the "Amount"
The "Multiplier" is the factor used to determine the unit price per foot along the entire span of the segment.

Observed 2 stripe to be removed along every foot.
Observed 20 Roadside signs to be removed along entire segment.
Observed 20 Roadside signs-one post to be replaced along entire segment.

