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CITY OF MENIFEE GENERAL PLAN
CIRCULATION ELEMENT TRAFFIC STUDY
CITY OF MENIFEE, CALIFORNIA

July 22, 2013 (Revised)
July 8, 2013 (Revised)
June 10, 2013 (Revised)
January 21, 2013

JN:06944-32 Report.docx

URBAN CROSSROADS

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July 8, 2013

Ms. Wendy Grant
THE PLANNING CENTER | DC&E
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707

Subject: Menifee General Plan Circulation Element Traffic Study

Dear Ms. Grant:

Urban Crossroads, Inc. is pleased to submit the draft Menifee General Plan Circulation Element Traffic Study. The traffic study includes the recommended General Plan roadway network that is designed to support the vision for the Menifee that is reflected in the land use element. The proposed circulation network will provide the necessary roadway infrastructure and connectivity to accommodate the population and employment growth planned for the City of Menifee.

The recommended Circulation Element fundamentally increases the range of transportation options for travel within the City of Menifee and to adjacent western Riverside County jurisdictions by identifying a backbone network of bicycle and pedestrian routes. This on- and off-street network of routes improves safety for pedestrians and cyclists by providing dedicated facilities apart from motorist. The Plan also addresses ancillary facilities that are necessary to make a complete street work: the Plan establishes preferred or “typical” design standards for route classifications and addresses a variety of modes in layered transportation networks.

Based on the Vehicle Miles Travelled (VMT) results from the traffic model, the Proposed Menifee General Plan significantly improves the balance of jobs and housing within the city, in comparison to existing and RCIP 2035 datasets that indicate a shortfall of local jobs. In the future, the per capita VMT is expected to be approximately 45% lower than the current RCIP 2035 scenario.

The General Plan Circulation Element significantly improves the overall network connectivity through the use of collector/interconnected local system, and identifies several roads within the City that can be downsized while still providing adequate capacity to serve buildout of the proposed General Plan Land Use. If you have any questions, please contact me directly at (949) 660-1994, extension 203.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE
Principal

TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION 1

1.1 Project Overview 1
1.2 Analysis Scenarios 3
1.3 Study Area 4

2.0 METHODOLOGIES 13

2.1 Level of Service 13
2.2 Roadway Segment Daily Capacity Analysis 13
2.3 Intersection Peak Hour Capacity Analysis 15
2.3.1 Signalized Intersections
2.3.2 Unsignalized Intersections
2.4 Traffic Signal Warrant Analysis Methodology 17
2.5 LOS Criteria 17

3.0 REGULATORY SETTING 21

3.1 California Assembly Bill 32 (2006) and Senate Bill 375 (2008) 21
3.2 Western Riverside County Non-Motorized Transportation Plan 21
3.3 AB 1358 California Complete Streets Act of 2008 22
3.4 The Regional Transportation Plan (RTP) 23
3.5 Riverside County Congestion Management Program (CMP) 24
3.6 Riverside County General Plan Circulation Element 24

4.0 EXISTING CONDITIONS 29

4.1 Circulation Network 29
4.2 Traffic Counts 29
4.3 Roadway Segment Analysis 34
4.4 Intersection Operations Analysis 40
4.5 Traffic Signal Warrants Analysis 40
4.6 I-215 Mainline Capacity Analysis 42
4.7 Truck Activities 42
4.8 Vehicle Miles Travelled (VMT) 42

5.0 LAYERED TRANSPORTATION NETWORKS 45

5.1 Functional Roadway Classifications/Roadway Cross-Sections 47
5.1.1 Expressway/Limited Access Conventional Highway
5.1.2 Urban Arterial
5.1.3 Arterial
5.1.4 Major
5.1.5 Secondary

TABLE OF CONTENTS (CONT.)

Section Page

5.1.6 Collector/Rural Collector and Local Streets
5.1.7 The Citywide Roadway Network
5.2 Bikeway and Community Pedestrian Network 61
5.2.1 Pedestrian / Mobility Device Users
5.2.2 Pedestrian Design Considerations
5.2.3 Bicycle Planning Considerations
5.2.4 Bikeway Definitions
5.2.5 Subregional Context
5.3 Potential Transit Network 66
5.3.1 Locally Operated Service
5.3.2 Specialized Fixed Route Transit Types
5.4 Neighborhood Electric Vehicles/Golf Carts 69
5.4.1 NEV/Golf Cart Plan Features
5.4.2 Potential NEV/Golf Cart Plan
5.4.3 Accommodating a Low Speed Travel Culture in Menifee
5.4.4 NEVs, Transit and Bikes – Strategies for Safe Operations
5.5 Truck Routes 73
5.6 Air Travel 75
5.7 Scenic Highways 75

6.0 MENIFEE TRAFFIC MODEL 77

6.1 Riverside Transportation Analysis Model (RivTAM) 77
6.2 Traffic Analysis Zone Structure and Network 77
6.3 Socio-Economic Data Inputs 78

7.0 FUTURE TRAFFIC CONDITIONS 79

7.1 RCIP 2035 Traffic Forecasts 79
7.1.1 Roadway Segment Analysis
7.1.2 Intersection Operations Analysis
7.1.3 I-215 Mainline Capacity Analysis
7.1.4 Vehicle Miles Travelled (VMT)
7.2 Proposed Menifee General Plan Post-2035 Traffic Forecasts 91
7.2.1 Roadway Segment Analysis
7.2.2 Intersection Operations Analysis
7.2.3 I-215 Mainline Capacity Analysis
7.2.4 Vehicle Miles Travelled (VMT)
7.3 General Plan EDC Alternative Post-2035 Traffic Forecasts 105
7.3.1 Roadway Segment Analysis
7.3.2 Intersection Operations Analysis
7.3.3 I-215 Mainline Capacity Analysis
7.3.4 Vehicle Miles Travelled (VMT)

TABLE OF CONTENTS (CONT.)

Section Page

8.0 GOALS AND POLICIES 121

8.1 Roadway Network.....121
8.2 Bicycles and Pedestrians.....121
8.3 Public Transit.....122
8.4 Neighborhood Electric Vehicles/Golf Carts.....123
8.5 Goods Movement.....124
8.6 Scenic Highways.....124

9.0 IMPLEMENTATION..... 127

APPENDICES

Existing (2012) Peak Hour Intersection Turning Movement Counts....4.1
Existing (2012) Average Daily Traffic Volume Counts....4.2
Existing (2012) Intersection Peak Hour Analysis....4.3
Existing (2012) Traffic Signal Warrants Analysis....4.4
Existing (2012) Vehicle Classification Counts....4.5
RCIP 2035 Refined Model Forecasts....7.1
RCIP 2035 Intersection Peak Hour Analysis....7.2
Proposed Menifee General Plan (Post-2035) Refined Model Forecasts....7.3
Proposed Menifee General Plan (Post-2035) Intersection Peak Hour Analysis....7.4
Proposed Menifee General Plan (Post-2035) Intersection Peak Hour Analysis, With Improvements....7.5
General Plan EDC Alternative (Post-2035) Refined Model Forecasts....7.6
General Plan EDC Alternative (Post-2035) Intersection Peak Hour Analysis....7.7
General Plan EDC Alternative (Post-2035) Intersection Peak Hour Analysis, With Improvements....7.8

LIST OF EXHIBITS

Exhibit		Page
1-1	Location Map	2
1-2	Study Area Roadway Segments	5
1-3	Menifee Proposed Future Roadway Network	9
3-1	RCIP Roadway Network	26
3-2	Riverside County General Plan Roadway Cross-Sections	27
4-1	Existing number of Through Lanes and Intersection Controls	30
4-2	Existing (2012) Am Peak Hour Intersection Volumes	31
4-3	Existing (2012) Pm Peak Hour Intersection Volumes	32
4-4	Existing (2012) Average Daily Traffic (ADT)	33
5-1	City of Menifee Layered Transportation Networks	46
5-2	City of Menifee General Plan Roadway Cross-Sections	48
5-3	Proposed Menifee General Plan Roadway Network	51
5-4	Proposed Menifee / RCIP Modifications	51
5-5	State Route 74/Ethanac Road Convergence Area	60
5-6	Proposed Menifee Bikeway and Community Pedestrian Network	62
5-7	Potential Menifee Transit Services	67
5-8	Potential Menifee Neighborhood Electric Vehicle Network	71
5-9	Potential Menifee Truck Routes	74
7-1	RCIP (2035) Average Daily Traffic (ADT)	80
7-2	RCIP (2035) AM Peak Hour Intersection Volumes	81
7-3	RCIP (2035) PM Peak Hour Intersection Volumes	82
7-4	Proposed Menifee General Plan (Post-2035) Average Daily Traffic (ADT)	92
7-5	Proposed Menifee General Plan (Post-2035) AM Peak Hour Intersection Volumes	93
7-6	Proposed Menifee General Plan (Post-2035) PM Peak Hour Intersection Volumes	94
7-7	General Plan EDC Alternative (Post-2035) Average Daily Traffic (ADT)	106
7-8	General Plan EDC Alternative (Post-2035) AM Peak Hour Intersection Volumes	107
7-9	General Plan EDC Alternative (Post-2035) PM Peak Hour Intersection Volumes	108

LIST OF TABLES

Table		Page
1-1	Study Area Roadway Segment Locations	6
1-2	Study Area Intersection Analysis Locations	10
1-3	Study Area I-215 Segments	11
2-1	Roadway Segment Vehicle Capacity Thresholds	14
2-2	Signalized Intersection LOS Thresholds	16
2-3	Unsignalized Intersection LOS Thresholds	18
4-1	Existing (2012) Roadway Segment Analysis	35
4-2	Existing (2012) Intersection Analysis	41
4-3	Existing I-215 Mainline Analysis	43
5-1	Roadway Classification Comparison	55
7-1	RCIP (2035) Roadway Segment Analysis	83
7-2	RCIP (2035) Intersection Analysis	89
7-3	RCIP (2035) I-215 Mainline Analysis	90
7-4	Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis	96
7-5	Proposed Menifee General Plan (Post-2035) Intersection Analysis	101
7-6	Proposed Menifee General Plan (Post-2035) Intersection Analysis, With Improvements	103
7-7	Proposed Menifee General Plan (Post-2035) I-215 Mainline Analysis	104
7-8	General Plan EDC Alternative (Post-2035) Roadway Segment Analysis	110
7-9	General Plan EDC Alternative (Post-2035) Intersection Analysis	115
7-10	General Plan EDC Alternative (Post-2035) Intersection Analysis, With Improvements	117
7-11	General Plan EDC Alternative (Post-2035) I-215 Mainline Analysis	118
9-1	Draft Circulation Element Implementation Actions	128

CITY OF MENIFEE GENERAL PLAN
CIRCULATION ELEMENT TRAFFIC STUDY
CITY OF MENIFEE, CALIFORNIA

1.0 INTRODUCTION

On June 3, 2008, the residents of the communities encompassing the City of Menifee voted to incorporate Menifee into Riverside County's twenty-sixth city. The new City of Menifee was officially established on October 1, 2008. At incorporation, the City of Menifee adopted the existing Riverside County General Plan Circulation Element. This traffic study has been prepared in support of the City of Menifee's first General Plan Circulation Element. The purpose of the Circulation Element Traffic Study is to provide the technical traffic analysis to support the City of Menifee General Plan Circulation Element.

The City of Menifee is located in southwestern Riverside County approximately 30 miles southeast of the City of Riverside, California as shown on Exhibit 1-1. The City encompasses approximately 50 square miles and is split by Interstate 215 that traverses north and south through the center of Menifee, with existing community commercial areas located primarily along Newport, Bradley, and McCall Roads.

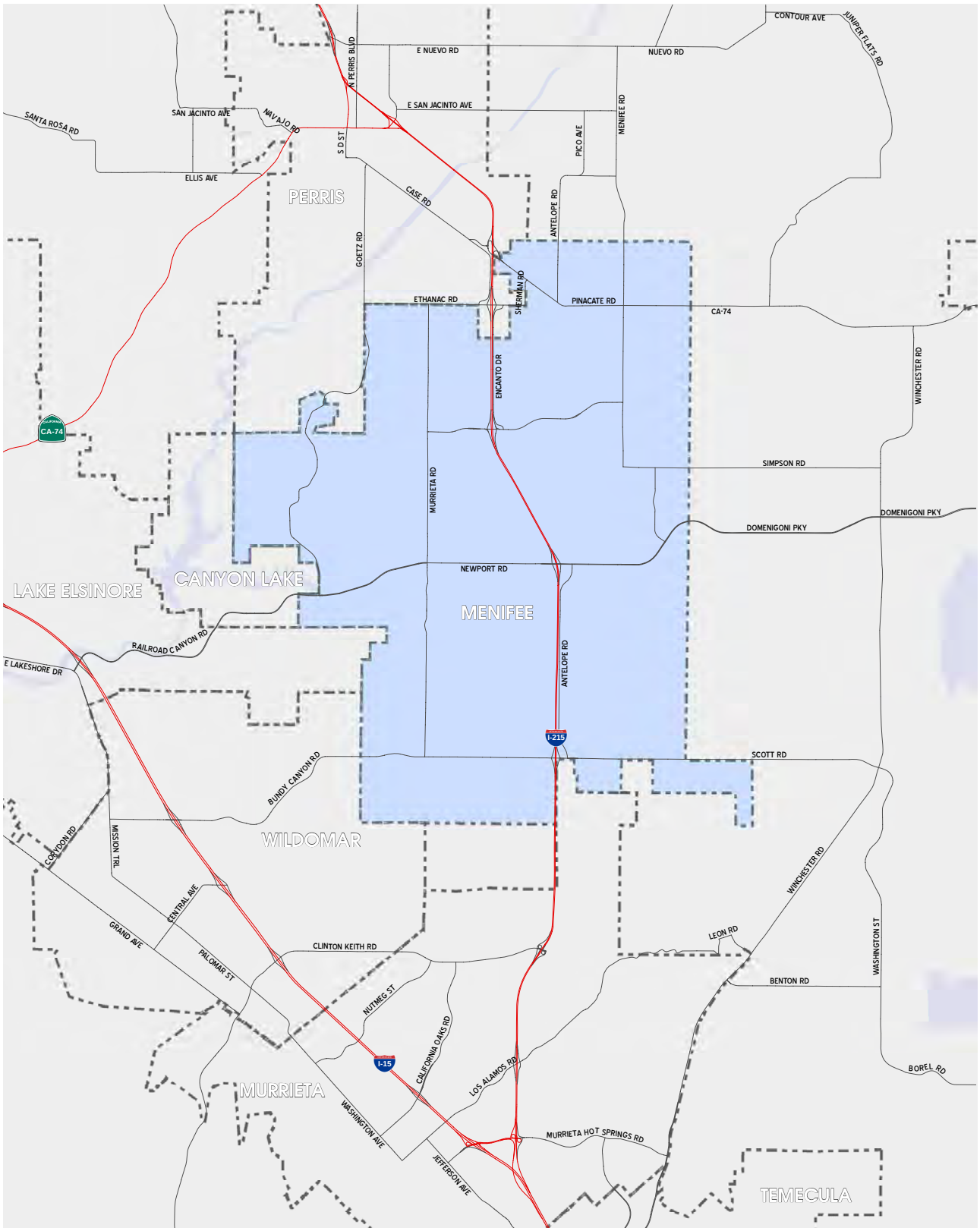
1.1 PROJECT OVERVIEW

The proposed Project is the preparation of the City of Menifee General Plan Circulation Element, encompassing approximately 29,813 acres. The City of Menifee is bordered by the City of Perris and unincorporated county to the north; City of Canyon Lake, City of Lake Elsinore, and City of Wildomar to the west; City of Wildomar, City of Murrieta, and unincorporated county to the south; and the unincorporated communities of Homeland and Winchester to the east.

The City of Menifee represents a collection of independently established residential communities, including Menifee Lakes, Quail Valley, Romoland, and Sun City. Approximately 40 percent of the land within the current city boundaries is developed with residential land uses, which accounts for 10,150 acres. The majority of the remaining land is vacant (44 percent). Agricultural land uses account for 6 percent of the land uses; the remaining land (10 percent) is occupied by educational, commercial, industrial, manufacturing, utilities, golf courses, and local parks and recreation land uses. In 2012, the City of Menifee had approximately 32,859 households and 86,411 people.

Residential housing in the City includes apartments, senior facilities, active adult communities, tract/master plan developments, and low density single-family homes. The City is bisected by the Interstate 215. The east side of the City is predominately master planned developments while the west side is a blend of existing homes and new/future development. Recent development projects include sidewalks and other

Exhibit 1-1
Location Map



MENIFEE GENERAL PLAN

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20120730LocationMap 7/30/2012 0 0.5 1 Mile

amenities not present in rural parts of the city. Over time, the City will make transportation investments where necessary to provide infrastructure for a vibrant, healthy, accessible and interconnected community.

The City of Menifee General Plan update process began in 2009 and has been through an extensive planning and analysis process lasting several years. The development of the Circulation Element started with a detailed review of the existing conditions. The existing or baseline condition describes the transportation network and operating conditions that exist today. However, the General Plan Circulation Element is forward looking and it is used to identify the transportation infrastructure needed to support City's vision as proposed by City of Menifee General Plan Land Use Element. To identify the transportation infrastructure and describe the future transportation conditions, Urban Crossroads, Inc. built a focused version of the Riverside County Transportation Analysis Model (RivTAM) for purposes of evaluating the City of Menifee General Plan. The traffic model was developed in coordination with City staff members and will provide a resource to evaluate alternative roadway networks.

Components of the proposed Circulation Element have been created to encourage travel via modes other than standard automobiles; including bicycle/pedestrian, public transit, and neighborhood electric vehicles (NEVs)/golf carts. These layered transportation networks have been refined to provide a comprehensive plan for circulation in the City of Menifee. As a result of this General Plan update process, a number of recommendations related to the Circulation Element have also been developed. These recommendations include more detailed stratification of the roadway classifications, along with the addition of Enhanced Intersection designations as well as Collector and Rural roadway classifications.

The Circulation Element emphasizes the upgrade and maintenance of a transportation system for the City that responds to the demands of the current and planned land uses, as set forth in the Land Use Element. The traffic associated with the planned General Plan land use is evaluated throughout the City with respect to daily traffic volumes. Additionally, peak hour intersection analysis has been performed at selected key intersections.

The City of Menifee General Plan Circulation Element is not contained in a vacuum—state and regional programs have helped shape the Plan and its goals and policies; in turn, the Plan's goals and policies work together to meet the intent of various programs. Six of these key programs are summarized in Section 3 of this report; following each summary is a discussion of the City of Menifee Circulation Plan's relationship to the program.

1.2 ANALYSIS SCENARIOS

The City of Menifee General Plan Circulation Element Traffic Study evaluates the existing (2012) conditions, one interim year scenario (RCIP 2035), and two separate buildout (Post-2035) scenarios. The RCIP 2035 scenario includes nominal growth in City of Menifee employment in comparison to existing conditions, and a population growth of approximately 30 percent.

The Post-2035 scenarios account for full occupancy of residential and non-residential land uses included in the proposed General Plan Land Use Element. Buildout of the proposed land use plan is projected to accommodate approximately 63,754 dwelling units and 158,948 people (approximately 80% increase in population over existing conditions). The buildout scenarios potentially increase employment by more than 80,000 jobs (a fivefold increase over existing conditions) and greatly improve the jobs/housing balance within the City.

The difference in the buildout scenarios affects 174 acres in the southwest corner of the General Plan Study Area, westerly of Interstate 215 and southerly of Scott Road. A summary of the differences between the primary Post-2035 scenario and the expanded Economic Development Corridor (EDC) Post 2035 scenario are shown below.

- Increase the EDC area
  - add 174 acres to the southwest corner of the EDC
  - increase nonretail 2,880,187 square feet
- Reduce the Rural Residential area
  - remove 4 acres of RR1 Rural Residential (1 acre min) and 170 acres of RR2 Rural Residential (2 acre min)
  - reduce population by 550 persons
  - reduce total units by 89

1.3 STUDY AREA

The traffic study area focuses on the backbone infrastructure needed to support the transportation goals of the City. The study area defined for this analysis is based on a review of the key roadway segments shown on Exhibit 1-2. The study area includes 97 roadway segment analysis locations. Table 1-1 provides a summary of the study area roadway segments.

The roadway segment analysis locations are used primarily for long-range planning purposes, and they are not precise measures of capacity. The ultimate capacity of a roadway is based upon a number of factors. These factors include the relationships between peak hour and daily traffic volumes, the roadway design features (access spacing, intersection geometries, etc.), and the proportions and amount of turning movements at key intersections (along with the amount of traffic crossing the roadway, or turning onto or off of the roadway at intersecting roadways). To provide additional detail on study area roadway segments within the City, peak hour intersection analysis was performed at 33 key locations throughout the City. The locations shown on Exhibit 1-3 and listed on Table 1-2 were selected for this traffic study based on input from the City of Menifee Traffic Engineering Division. While the City of Menifee does not control the I-215, the capacity and operations of the mainline are a key consideration for any future planning efforts. To supplement the City's roadway segment and intersection capacity analysis, this study also considers the mainline freeway segments along I-215 as shown on Table 1-3.

EXHIBIT 1-2

STUDY AREA ROADWAY SEGMENTS

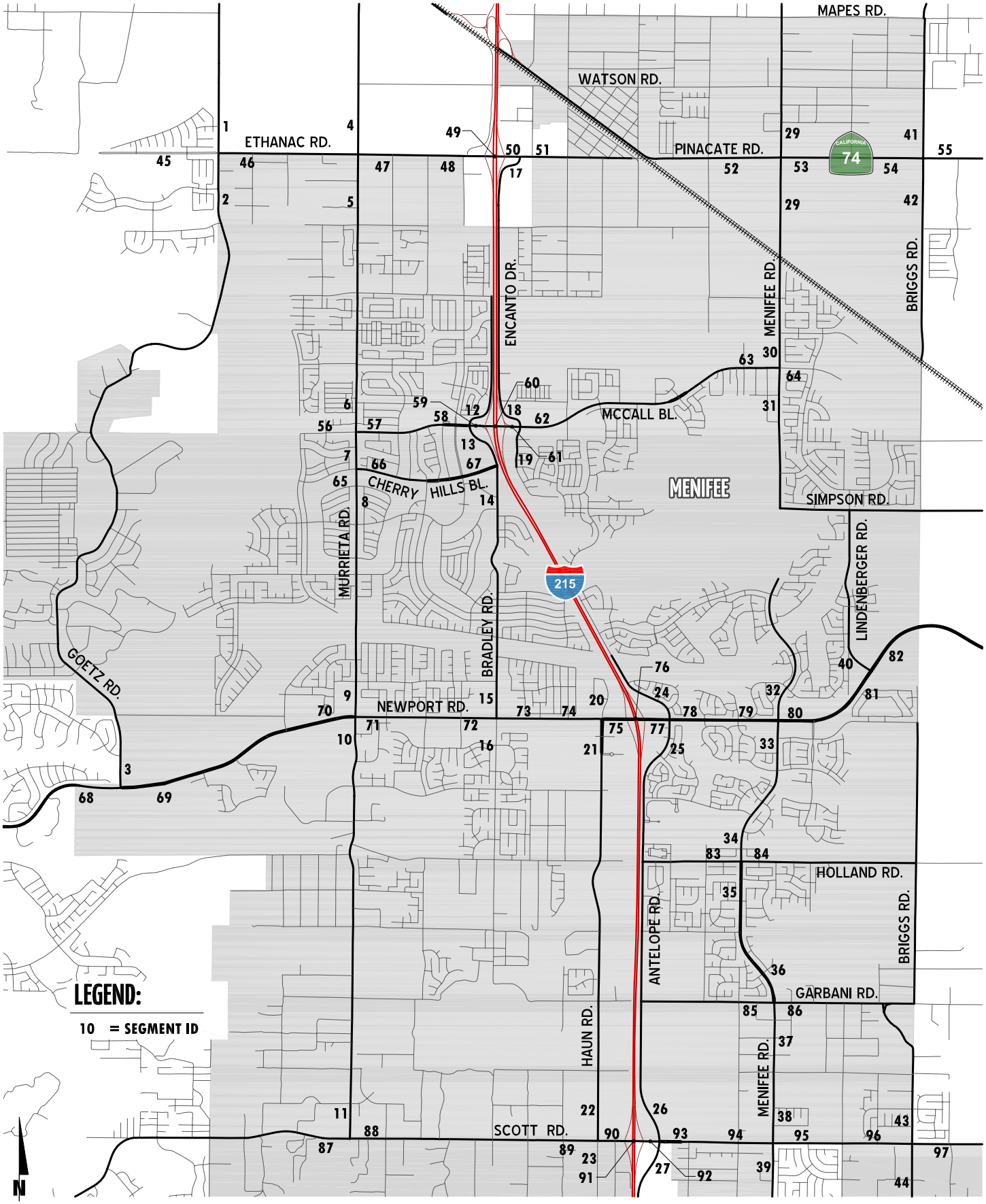


Table 1-1 (1 of 3)

Study Area Roadway Segment Locations

Roadway	ID	Segment
Goetz Road	1	North of Ethanac Rd.
	2	South of Ethanac Rd.
	3	North of Newport Rd.
Murrieta Road	4	North of Ethanac Rd.
	5	South of Ethanac Rd.
	6	North of McCall Bl.
	7	Between McCall Bl. & Cherry Hills Bl.
	8	South of Cherry Hills Bl.
	9	North of Newport Rd.
	10	South of Newport Rd.
	11	North of Scott Rd.
Bradley Road	12	North of McCall Bl.
	13	Between McCall Bl. & Cherry Hills Bl.
	14	South of Cherry Hills Bl.
	15	North of Newport Rd.
	16	South of Newport Rd.
Encanto Road	17	South of Ethanac Rd.
	18	North of McCall Bl.
	19	South of McCall Bl.
Haun Road	20	North of Newport Rd.
	21	South of Newport Rd.
	22	North of Scott Rd.
	23	South of Scott Rd
Antelope Road	24	North of Newport Rd.
	25	South of Newport Rd.
	26	North of Scott Rd.
	27	South of Scott Rd
Menifee Road	28	North of SR-74 (Pinacate Rd.)
	29	South of SR-74 (Pinacate Rd.)
	30	North of McCall Bl.
	31	Between McCall Bl. & Simpson Rd
	32	North of Newport Rd.
	33	South of Newport Rd.
	34	North of Holland Rd.
	35	South of Holland Rd.
	36	North of Garbani Rd.
	37	South of Garbani Rd.
	38	North of Scott Rd.
	39	South of Scott Rd

Table 1-1 (2 of 3)

Study Area Roadway Segment Locations

Roadway	ID	Segment
Lindenberger Road	40	North of Newport Rd.
Briggs Road	41	North of SR-74 (Pinacate Rd.)
	42	South of SR-74 (Pinacate Rd.)
	43	North of Scott Rd.
	44	South of Scott Rd
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.
	46	Between Goetz Rd & Murrieta Rd.
	47	East of Murrieta Rd.
	48	West of I-215 SB Ramp
	49	Between I-215 SB Ramp & I-215 NB Ramp
	50	Between I-215 NB Ramp & Encanto Dr.
	51	East of Encanto Dr.
	52	West of Menifee Rd.
	53	East of Menifee Rd.
	54	West of Briggs Rd.
	55	East of Briggs Rd.
McCall Boulevard	56	West of Murrieta Rd.
	57	East of Murrieta Rd.
	58	West of Bradley Rd.
	59	Between Bradley Rd & I-215 SB Ramp
	60	Between I-215 SB Ramp & I-215 NB Ramp
	61	Between I-215 NB Ramp & Encanto Dr.
	62	East of Encanto Dr.
	63	West of Menifee Rd.
	64	East of Menifee Rd.
Cherry Hills Boulevard	65	West of Murrieta Rd.
	66	East of Murrieta Rd.
	67	West of Bradley Rd.

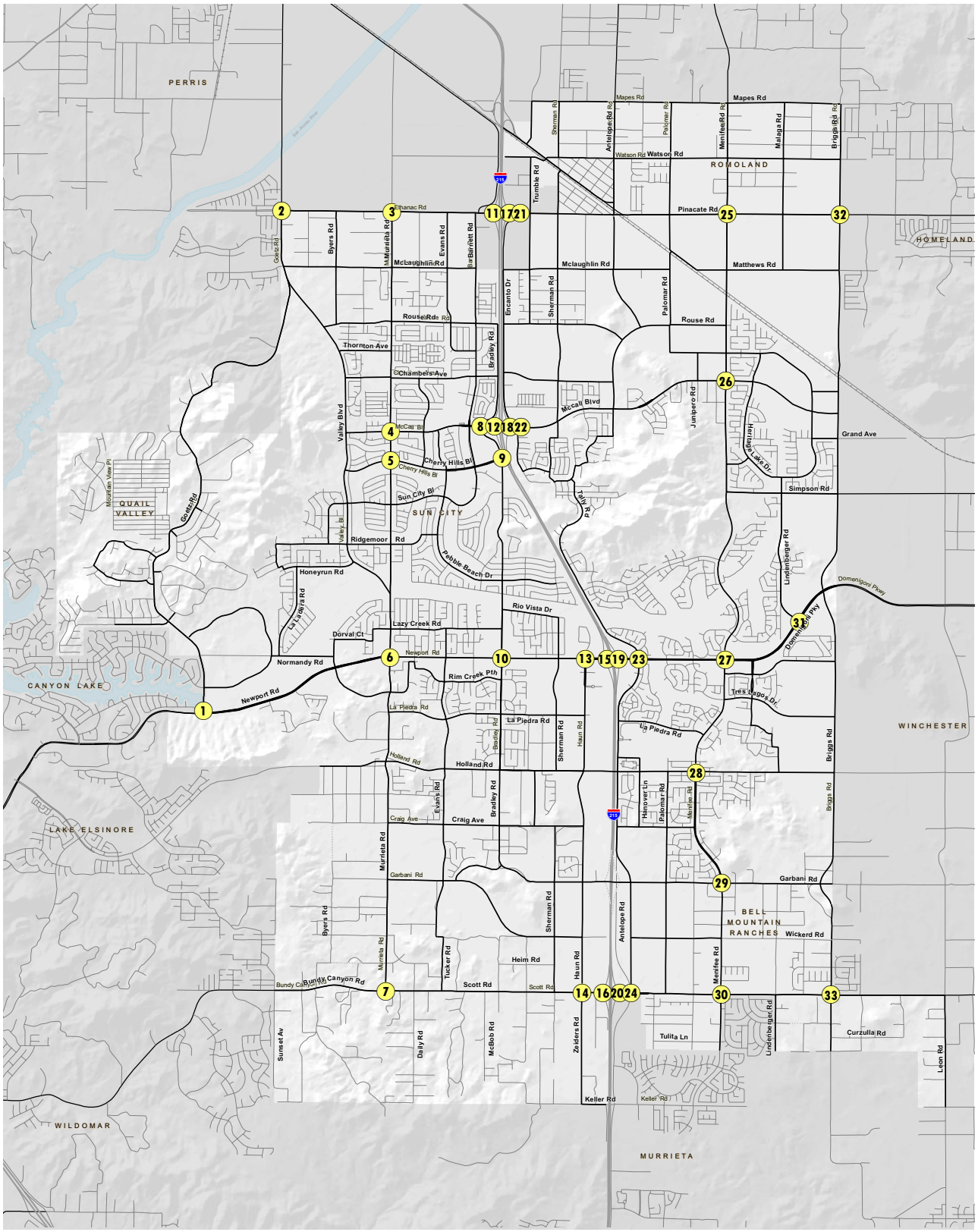
Table 1-1 (3 of 3)

Study Area Roadway Segment Locations

Roadway	ID	Segment
Newport Road	68	West of Goetz Rd.
	69	East of Goetz Rd.
	70	West of Murrieta Rd.
	71	East of Murrieta Rd.
	72	West of Bradley Rd.
	73	East of Bradley Rd.
	74	West of Haun Rd.
	75	Between Haun Rd. & I-215 SB Ramp
	76	Between I-215 SB Ramp & I-215 NB Ramp
	77	Between I-215 NB Ramp & Antelope Rd.
	78	East of Antelope Rd.
	79	West of Menifee Rd.
	80	East of Menifee Rd.
	81	West of Lindenberger Rd.
	82	East of Lindenberger Rd.
Holland Road	83	West of Menifee Rd.
	84	East of Menifee Rd.
Garbani Road	85	West of Menifee Rd.
	86	East of Menifee Rd.
Scott Road	87	West of Murrieta Rd.
	88	East of Murrieta Rd.
	89	West of Haun Rd.
	90	Between Haun Rd. & I-215 SB Ramp
	91	Between I-215 SB Ramp & I-215 NB Ramp
	92	Between I-215 NB Ramp & Antelope Rd.
	93	East of Antelope Rd.
	94	West of Menifee Rd.
	95	East of Menifee Rd.
	96	West of Briggs Rd.
	97	East of Briggs Rd.

Exhibit 1-3

Menifee Proposed Future Roadway Network



MENIFEE GENERAL PLAN

20120821Intersections 8/21/2012 0 0.5 1 Mile

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Table 1-2

Study Area Intersection Analysis Locations

ID	Intersection Location	Existing Traffic Control Type[1]
1	Goetz Road (NS) at Newport Road (EW)	TS
2	Goetz Road (NS) at Ethanac Road (EW)	TS
3	Murrieta Road (NS) at Ethanac Road (EW)	AWS
4	Murrieta Road (NS) at McCall Boulevard (EW)	TS
5	Murrieta Road (NS) at Cherry Hills Boulevard (EW)	TS
6	Murrieta Road (NS) at Newport Road (EW)	TS
7	Murrieta Road (NS) at Scott Road (EW)	AWS
8	Bradley Road (NS) at McCall Boulevard (EW)	TS
9	Bradley Road (NS) at Cherry Hills Boulevard (EW)	AWS
10	Bradley Road (NS) at Newport Road (EW)	TS
11	I-215 Southbound Ramps (NS) at Ethanac Road (EW)	TS
12	I-215 Southbound Ramps (NS) at McCall Boulevard (EW)	TS
13	Haun Road (NS) at Newport Road (EW)	TS
14	Haun Road (NS) at Scott Road (EW)	TS
15	I-215 Southbound Ramps (NS) at Newport Road (EW)	TS
16	I-215 Southbound Ramps (NS) at Scott Road (EW)	TS
17	I-215 Northbound Ramps (NS) at Ethanac Road (EW)	TS
18	I-215 Northbound Ramps (NS) at McCall Boulevard (EW)	TS
19	I-215 Northbound Ramps (NS) at Newport Road (EW)	TS
20	I-215 Northbound Ramps (NS) at Scott Road (EW)	TS
21	Encanto Drive (NS) at Ethanac Road (EW)	CSS
22	Encanto Drive (NS) at McCall Boulevard (EW)	TS
23	Antelope Road (NS) at Newport Road (EW)	TS
24	Antelope Road (NS) at Scott Road (EW)	TS
25	Menifee Road (NS) at SR-74 (Pinacate Rd.) (EW)	TS
26	Menifee Road (NS) at McCall Boulevard (EW)	TS
27	Menifee Road (NS) at Newport Road (EW)	TS
28	Menifee Road (NS) at Holland Road (EW)	AWS
29	Menifee Road (NS) at Garbani Road (EW)	AWS
30	Menifee Road (NS) at Scott Road (EW)	TS
31	Lindenberger Road (NS) at Domenigoni Parkway (EW)	TS
32	Briggs Road (NS) at SR-74 (Pinacate Rd.) (EW)	TS
33	Briggs Road (NS) at Scott Road (EW)	TS

[1] TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

Table 1-3

Study Area I-215 Segments

ID	Segment Limits
1	North of SR-74 (Ethanac Road)
2	SR-74 (Ethanac Road) to McCall Boulevard
3	McCall Boulevard to Newport Road
4	Newport Road to Scott Road
5	South of Scott Road

2.0 METHODOLOGIES

This section documents the methodologies and assumptions used to perform this traffic study.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS “A”, representing completely free-flow conditions, to LOS “F”, representing breakdown in flow resulting in stop-and-go conditions. LOS “E” represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 ROADWAY SEGMENT DAILY CAPACITY ANALYSIS

A LOS analysis was prepared on existing roadway segments within the study area using daily roadway capacities. The roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Roadway segment analysis is typically performed for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

Table 2-1 presents the City of Menifee roadway segment capacities and LOS thresholds for each facility type. The roadway segment vehicle capacity thresholds represent the maximum two-way average daily traffic volume for LOS “E” conditions and are based on the 2001 County of Riverside General Plan Circulation Element Link Volume Capacities.

The roadway segment analysis compares the ADT volume with the capacity to arrive at a volume to capacity or v/c ratio. Based on the v/c ratio, each study area roadway segment is classified into one of four categories; Acceptable (v/c 0.00-0.79), Approaching Capacity (v/c 0.80-1.00), Potentially Exceeds Capacity (v/c 1.01-1.25), and Exceeds Capacity (v/c > 1.26).

The roadway segment daily capacity analysis is used to identify those roadway facilities that potentially exceed or exceed the estimated traffic volume for LOS “E” conditions. Since the LOS for each roadway segment is largely a function of the adjacent intersection operations, it is important to consider the intersection LOS in combination with the roadway segment v/c ratios. If the adjacent intersections are operating at an acceptable LOS during peak hour conditions, then it is likely that the roadway segment will also operate at an acceptable LOS even if the v/c ratio indicates that the ADT may approach or exceed the roadway capacity. Moreover, if both the roadway segment is experience capacity

Table 2-1

Roadway Segment Vehicle Capacity Thresholds

Roadway Classification	Number of Through Lanes	Right-of-way Width (Feet)	Roadway Capacity (Average Daily Traffic)[2]
Collector	2	56 - 74	13,000
Secondary	4	88 - 100	25,900
Major	4	100 - 118	34,100
Arterial	4	106 - 128	35,900
Urban Arterial	6	130 - 152	53,900
Expressway	6	130 - 200	61,300
Expressway	8	150 - 216	81,700
Freeway	4	Caltrans	76,500
Freeway	6	Caltrans	117,500

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] Estimated Two-Way Average Daily Traffic (ADT) Capacity for Level of Service (LOS) E conditions.

constraints and the adjacent intersections are operating at unacceptable LOS, then additional through lane capacity is likely required for the roadway segment and the adjacent intersection locations.

The roadway segment analysis is presented as a planning tool to assess the adequacy of the existing and proposed General Plan Circulation Element functional roadway classifications. This information is used in combination with a review of the expected traffic demands, access restrictions and physical constraints. The roadway segment analysis

2.3 INTERSECTION PEAK HOUR CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The *Highway Capacity Manual* (HCM) (Transportation Research Board 2000) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

2.3.1 SIGNALIZED INTERSECTIONS

The City of Menifee requires signalized intersection operations analysis based on the methodology described in Chapter 16 of the HCM. Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-2.

All signalized study area intersections have utilized the Traffix software (Version 8.0 R1, 2008), with the exception of the I-215 ramp intersections which have utilized the Synchro software.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15 minute volumes. Common practice for LOS analysis is to use a peak 15-mintue rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. For existing (2012) conditions the observed (counted) PHF were used to establish the peak hour volumes. A uniform PHF of 0.95 was used to calculate the long-range future peak hour volumes.

Table 2-2

Signalized Intersection LOS Thresholds[1]

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00
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.	35.01 to 55.00
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up

[1] Source: HCM 2000, Chapter 16

2.3.2 UNSIGNALIZED INTERSECTIONS

The City of Menifee requires the operations of unsignalized intersections be evaluated using the methodology described in Chapter 17 of the HCM. The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-3). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole. All unsignalized study area intersections have utilized the Traffix software (Version 8.0 R1, 2008).

2.4 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This traffic study uses the signal warrant criteria presented in the latest edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)*, as amended by the *2012 California MUTCD (CA MUTCD)*, for all study area intersections.

The signal warrant criteria for existing (2012) conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. Both the FHWA's *MUTCD* and the *2012 CA MUTCD* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, this traffic study utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 criteria are basically identical for both the FHWA's *MUTCD* and the *2012 CA MUTCD*. Warrant 3 is appropriate to use for this traffic study because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating at or above 40 miles per hour).

While the analysis worksheet provides an indication that a signal is warranted, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of traffic control signal. Rather, the planning level warrants indicate the need for additional engineering analysis based on existing conditions to demonstrate that installing a traffic control signal will improve the overall safety and/or operation of the intersection.

2.5 LOS CRITERIA

LOS "D" is generally considered acceptable at intersections within the City of Menifee. LOS "E" may be allowed in designated Economic Development Corridors to the extent that it would support transit-

Table 2-3

Unsignalized Intersection LOS Thresholds[1]

Level of Service	Description	Average Control Delay (Seconds)
A	Little or no delays.	0 to 10.00
B	Short traffic delays.	10.01 to 15.00
C	Average traffic delays.	15.01 to 25.00
D	Long traffic delays.	25.01 to 35.00
E	Very long traffic delays.	35.01 to 50.00
F	Extreme traffic delays with intersection capacity exceeded.	> 50.00

[1] Source: HCM 2000, Chapter 17

oriented development and pedestrian communities. The LOS criteria recognizes the physical and financial limitations of providing additional infrastructure to satisfy peak hour traffic demands considering that traffic congestion itself encourages the use of alternative modes of transportation. LOS "E" may also be used at constrained intersections in close proximity to I-215 such as Haun/Newport, Bradley/McCall, Antelope/Scott, and Haun/Scott.

3.0 REGULATORY SETTING

Local planning activities are responsive to the broader guidelines established by state and federal agencies. This section describes the regulatory setting for the proposed City of Menifee General Plan Circulation Element.

3.1 CALIFORNIA ASSEMBLY BILL 32 (2006) AND SENATE BILL 375 (2008)

Assembly Bill 32, the Global Warming Solutions Act of 2006 (AB 32), is the primary state policy created with the purpose of reducing greenhouse gas emissions in California. AB 32 created emissions reduction targets and granted authority over emissions reduction to the California Air Resources Board (ARB). Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008 (SB 375), which was passed by the legislature as a tool for working towards AB 32's reduction goals, requires ARB to set regional GHG emissions targets and requires each California metropolitan planning organizations (MPO) to develop a Sustainable Community Strategy (SCS) that integrates housing, transportation, and land use policy. These mandates were designed with the intention of reducing vehicle miles traveled, and thus, GHG emissions. Additionally the California Air Resources Board (CARB) Scoping Plan outlines ways to achieve GHG reductions in California as required by AB 32.

RELATIONSHIP OF THE CITY OF MENIFEE CIRCULATION PLAN TO AB 32 AND SB 375: The City of Menifee Circulation Plan defines a network of bicycle routes, transit, neighborhood electric vehicle (NEV)/golf cart routes and pedestrian accommodations that encourages Menifee residents to utilize modes of transportation other than the automobile. The Plan provides a network to connect to regional bicycle and pedestrian trails from the Western Riverside County Non-Motorized Transportation Plan (Urban Crossroads, Inc., June 2010). The Non-Motorized Transportation Plan evaluates demand for such facilities. This City of Menifee General Plan Traffic Study also describes public transit, and NEV connectivity to major employment and activity centers to facilitate access to these destinations without the use of an automobile.

3.2 WESTERN RIVERSIDE COUNTY NON-MOTORIZED TRANSPORTATION PLAN

The Western Riverside Council of Governments (WRCOG) adopted a Non-Motorized Transportation Plan (NMTP) in 2010. The NMTP includes a system of regional routes through western Riverside County, including the City of Menifee. Although the NMTP is non-binding to participating agencies, the plan consolidated adopted bike plans where available and created a recommended system of supporting routes to connect systems to each other and serve as regional non-motorized transportation backbone. The NMTP included four routes that directly serve Menifee and connect to neighboring jurisdictions. These regionally significant routes were identified in the NMTP as follows:

- Route 15: Future Class I bike path along Salt Creek with an eastern connection to the City of Hemet and a western connection to the City of Lake Elsinore.

- Route 19: Future Class II bike lane along Scott Road/Bundy Canyon Road connecting to Mission Trail in the City of Lake Elsinore and Washington Street in French Valley.
- Route 23: Future Class II bike lane along Bradley Road/Holland Road/Haun Road with a northern terminus at Salt Creek in the City of Menifee and connecting to the City of Murrieta at Keller Road/Antelope Road.
- Route 24: Future Class II bike lane along Mathews Road connecting to the City of Perris at Case Road and County of Riverside at Leon Road.

RELATIONSHIP OF THE CITY OF MENIFEE CIRCULATION PLAN TO THE NMTP: The City of Menifee Circulation Plan provides a framework for key routes and facilities that will enhance connectivity to NMTP routes within the City of Menifee and between nearby jurisdictions. The proposed plan enables travel by various modes to major activity areas, including civic and county facilities, hospitals, libraries, major parks and recreation area, colleges, malls and major retail centers and large employment centers. It also serves existing and future planned transit facilities, including links to potential future Metrolink stations.

3.3 AB 1358 CALIFORNIA COMPLETE STREETS ACT OF 2008

The Complete Street Act of 2008 (Assembly Bill 1358) was developed in response to and in support of other legislation aimed at reducing vehicle emissions through reduced trip length and frequency combined with changes in land use policies. Specifically, the bill directs that:

> *"…commencing January 1, 2011, that the legislative body of a city or county, upon any substantive revision of the circulation element of a general plan, modify the circulation element to plan for a balanced, multi-modal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation,* ***in a manner that is suitable to the rural, suburban, or urban context of the general plan.****" [emphasis added]*

The bill includes several key provisions including a requirement that the state amend guidelines to show how "appropriate accommodation varies depending on its transportation and land use context." Reducing vehicle miles travelled and enabling short trips in an automobile to be replaced by biking, walking, neighborhood electric vehicles (NEVs)/ golf carts, and use of public transit is the goal. Ultimately, a well balanced transportation system can move more people (rather than vehicles) efficiently and at a reasonable cost. There is no-one-size-fits-all solution. The City of Menifee is home to a diverse cross section of individuals, families, and commerce. The transportation system should reflect the range of needs in a well thought out manner.

The Complete Streets Act is supported by Caltrans Deputy Directive DD-64-R1. DD-64-R1 memorializes the importance of pedestrian and bicycle facilities to the state's transportation system and outlines responsibilities for Caltrans employees to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of complete streets throughout the state.

RELATIONSHIP OF THE CITY OF MENIFEE CIRCULATION PLAN TO THE COMPLETE STREETS ACT: The City of Menifee Circulation Plan meets the goals and policies of the Complete Streets Act in several ways. First, the Plan fundamentally increases the range of transportation options for travel within the City of Menifee and to adjacent western Riverside County jurisdictions by identifying a backbone network of bicycle and pedestrian routes. This on- and off-street network of routes improves safety for pedestrians and cyclists by providing dedicated facilities apart from motorist. The Plan also addresses ancillary facilities that are necessary to make a complete street work: the Plan establishes preferred or "typical" design standards for route classifications and addresses a variety of modes in layered transportation networks.

3.4 THE REGIONAL TRANSPORTATION PLAN (RTP)

On April 4, 2012, the Regional Council of the Southern California Association of Governments (SCAG) adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future. The 2012–2035 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As such, the 2012–2035 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 time frame and clear steps to move toward this objective.

The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

This RTP/SCS achieves greenhouse gas emission-reduction targets set by ARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis. This air quality benefit is made possible largely by more sustainable planning, integrating transportation and land use decisions to allow Southern Californians to live closer to where they work and play, and to high-quality transit service. As a result, more residents will be able to use transit and active transportation as a safe and attractive means of travel.

RELATIONSHIP OF THE CITY OF MENIFEE CIRCULATION PLAN TO SCAG'S RTP/SCS: The City of Menifee Circulation Plan supports the goals identified in SCAG's RTP/SCS in a variety of ways. The Plan seeks to integrate a variety of modes through a series of layered transportation networks (see Section 5 of this traffic study). A system of paths, sidewalks, and trails provides the most direct route to potential destinations. Accommodations for NEVs and golf carts are provided, and key transit nodes are identified. In addition, the Land Use Element sets the stage for improvements in the balance of jobs and housing within the City.

It is recommended that the City of Menifee continue to coordinate with the Riverside County Transportation Commission, Riverside Transit Agency, Western Riverside Council of Governments and SCAG to ensure that the Plan is integrated with the RTP and consistent with sub regional initiatives.

3.5 RIVERSIDE COUNTY CONGESTION MANAGEMENT PROGRAM (CMP)

The Congestion Management Program in effect in Riverside County was approved by the Riverside County Transportation Commission (RCTC) in 2010. All freeways and selected arterial roadways in the county are designated elements of the CMP system of highways and roadways. There are two CMP system roadways in the City, I-215 and SR-74. Traffic impacts to these two roadways that would result from General Plan buildout are analyzed in this study. RCTC has adopted a minimum Level of Service threshold of LOS "E" for CMP facilities.

3.6 RIVERSIDE COUNTY GENERAL PLAN CIRCULATION ELEMENT

Since incorporation of the City in 2008, the County of Riverside's General Plan Circulation Element has been utilized for the purposes of providing a transportation framework. The County's Circulation Element was adopted in 2003 through the Riverside County Integrated Project (RCIP). The RCIP represented a comprehensive planning process to determine future placement of buildings, roads, and open spaces for Riverside County. The purpose of the RCIP was to create plans that are coherent and consistent for transportation, land use, and the environment.

The RCIP vehicular circulation system is anchored by Interstate 215, which is the major thoroughfare in this portion of the County, linking Menifee to northern Riverside County and San Diego County. A system of connected major and arterial highways and collector roads serves local uses and augments Interstate 215 in moving through traffic to and from other communities. Expressways and arterials include Ethanac Road, McCall Boulevard, Newport Road, Scott Road, Briggs Road, Murrieta Road, and Menifee Road.

The adopted RCIP roadway network provides the basis for the developing the City of Menifee General Plan roadway network. This is critical since any changes to the roadway classifications and/or cross-sections will impact future development within the City. The general plan roadway network defines the

right-of-way dedications and capacity requirements needed to support buildout of proposed general plan land uses.

Exhibit 3-1 shows the RCIP roadway network adopted in the County of Riverside General Plan Circulation Element in 2003, and Exhibit 3-2 illustrates the County of Riverside General Plan roadway cross-sections.

Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target level of service (LOS): LOS "C" on all County-maintained roads and conventional State Highways. As an exception, LOS "D" may be allowed in Community Development areas at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways or conventional State Highways. LOS "E" may be allowed in designated Community Centers to the extent that it would support transit-oriented development and pedestrian communities.

Regarding Caltrans' ramp connections to arterial intersections and other Caltrans maintained facilities, the published Caltrans traffic study guidelines (December 2002) states the following:

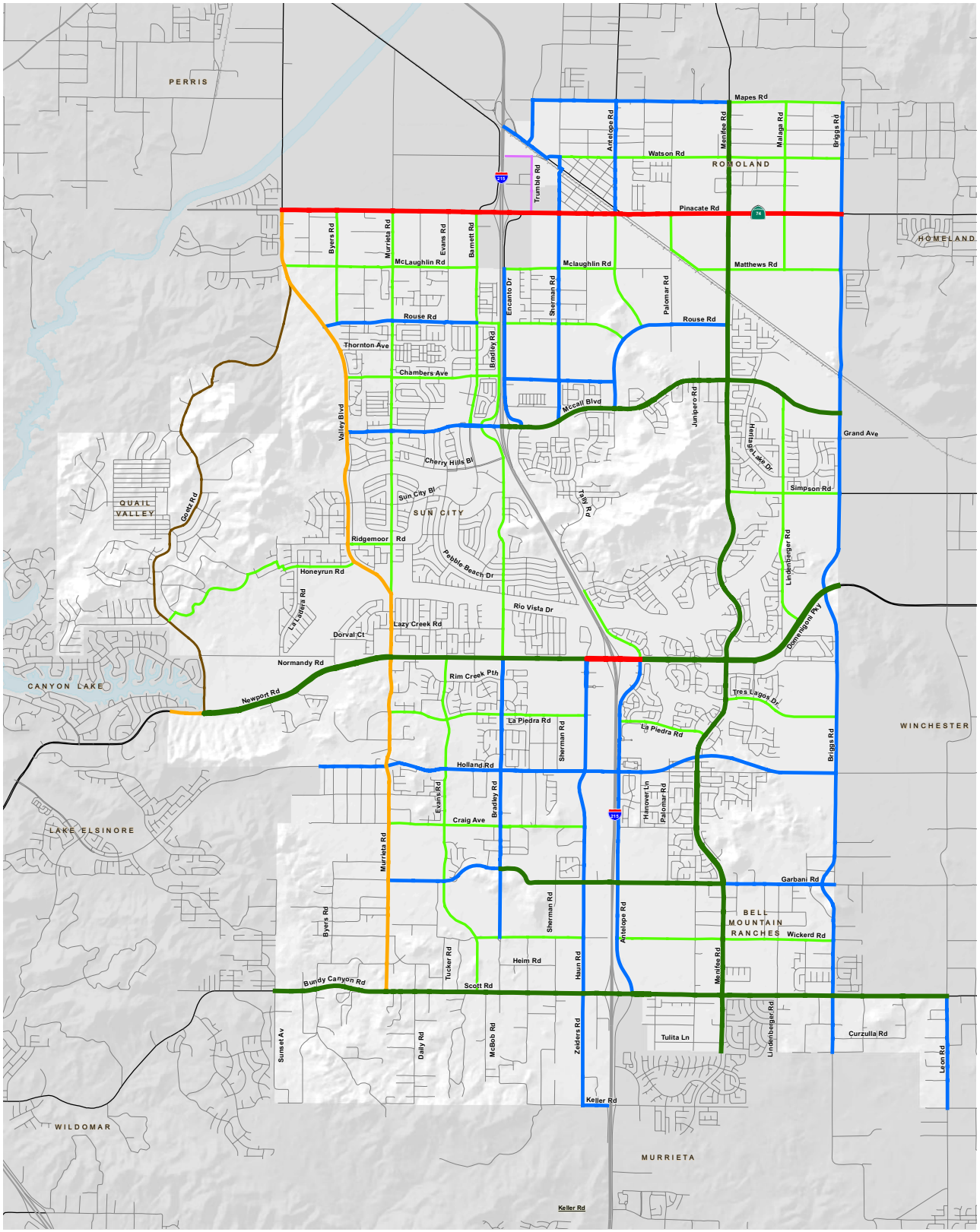
> *"Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS."*

Caltrans has worked with the County of Riverside to establish a local threshold for freeway-to-arterial interchange intersections of LOS "D", consistent with the County's stated threshold. As such, LOS "D" is considered to be the limit of acceptable traffic operations during the peak hour at the freeway-to-arterial interchange intersections maintained by Caltrans.

RCIP multi-use trails accommodate hikers, bicyclists, and others as an integral part of the County's circulation system. Planned bikeways in the Menifee area include regional and community trails on the north and south sides of the Salt Creek watercourse, with an undercrossing of the I-215 corridor. RCIP Scenic Highways in the Sun City/Menifee Valley area include Interstate 215 from McCall Boulevard to the southerly Plan boundary; McCall Boulevard from Interstate 215 on the west to Menifee Road on the east; and Menifee Road from McCall Boulevard to the northerly Plan boundary.

Exhibit 3-1

2003 RCIP Roadway Network



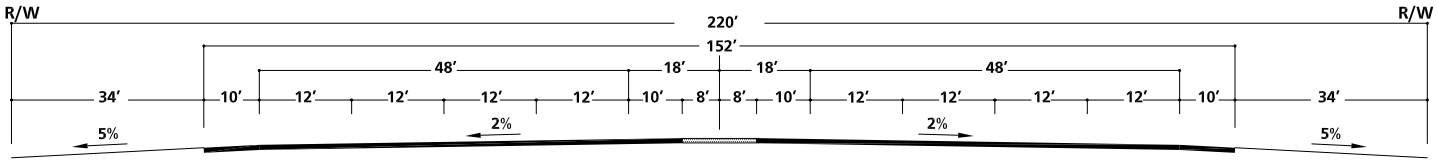
MENIFEE GENERAL PLAN

URBAN CROSSROADS

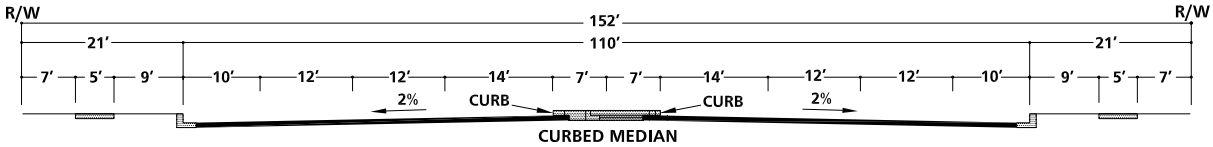
20120724RCIP 8/21/2012 0 0.5 1 Mile

EXHIBIT 3-2

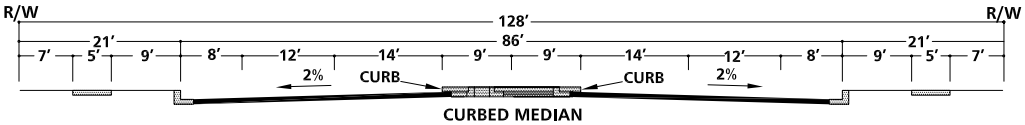
RIVERSIDE COUNTY GENERAL PLAN ROADWAY CROSS-SECTIONS (ADOPTED 2003)



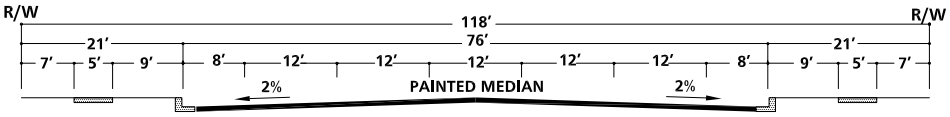
EXPRESSWAY - 8 LANES



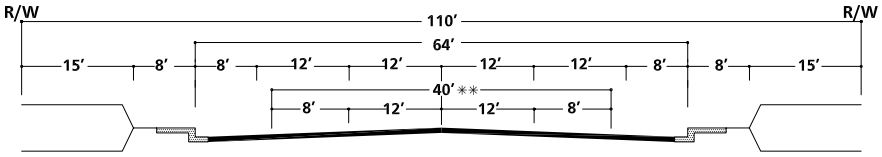
URBAN ARTERIAL HIGHWAY ✳



ARTERIAL HIGHWAY ✳

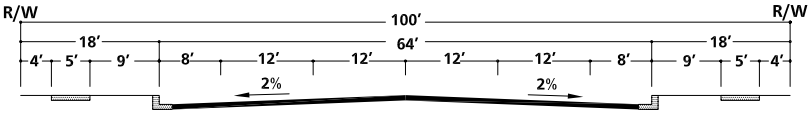


MAJOR HIGHWAY - 4 LANES

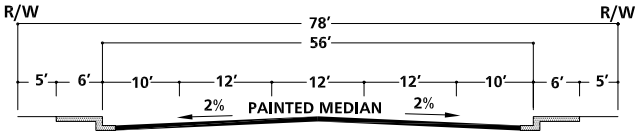


MOUNTAIN ARTERIAL - 2 TO 4 LANES

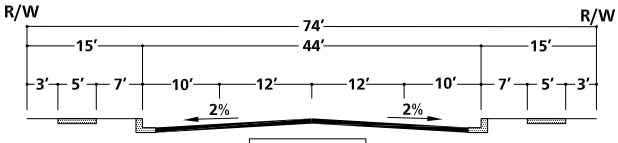
✳✳ 2 LANE SECTION



SECONDARY HIGHWAY



INDUSTRIAL COLLECTOR



COLLECTOR

✳ *IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.*

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE

4.0 EXISTING CONDITIONS

This section provides a summary of the existing circulation system, the adopted County of Riverside General Plan Circulation Network, a review of existing daily roadway segment conditions, peak hour intersection operations, traffic signal warrants, I-215 mainline analysis, truck activities, and an estimate of the existing VMT within the City of Menifee.

4.1 CIRCULATION NETWORK

The City of Menifee circulation network currently suffers from limited connectivity to key destinations within the community. The existing roadway network is restricted at key locations where traffic bottlenecks are creating increased vehicle delay and backups. These bottlenecks routinely materialize during peak traffic conditions and are magnified with flooding conditions during severe winter storm events.

The I-215 and Salt Creek represent significant constraints to the roadway network in the City of Menifee. The I-215 divides the City by limiting east-west directional access to key interchange locations at Ethanac Road, McCall Boulevard, Newport Road and Scott Road. In addition, the distance between the freeway interchanges range from 2 to 3 miles requiring increased travel in the north-south direction to go across the I-215. In the north-south direction, the Salt Creek channel also limits the mobility of drivers in the City of Menifee. North-south travel is restricted to key arterial roads with an overpass of the Salt Creek channel such as Murrieta Road, Bradley Road, Menifee Road, Lindenberger Road and Winchester Road.

Based on a review of the existing circulation system, the City of Menifee provides approximately 544 miles of mostly paved roads. Roughly 77% of all roads are unclassified local roads providing direct access to the residential areas within the community. Exhibit 4-1 presents the number of through travel lanes for existing roadways and the lane configuration and traffic control devices for existing intersections in the study area.

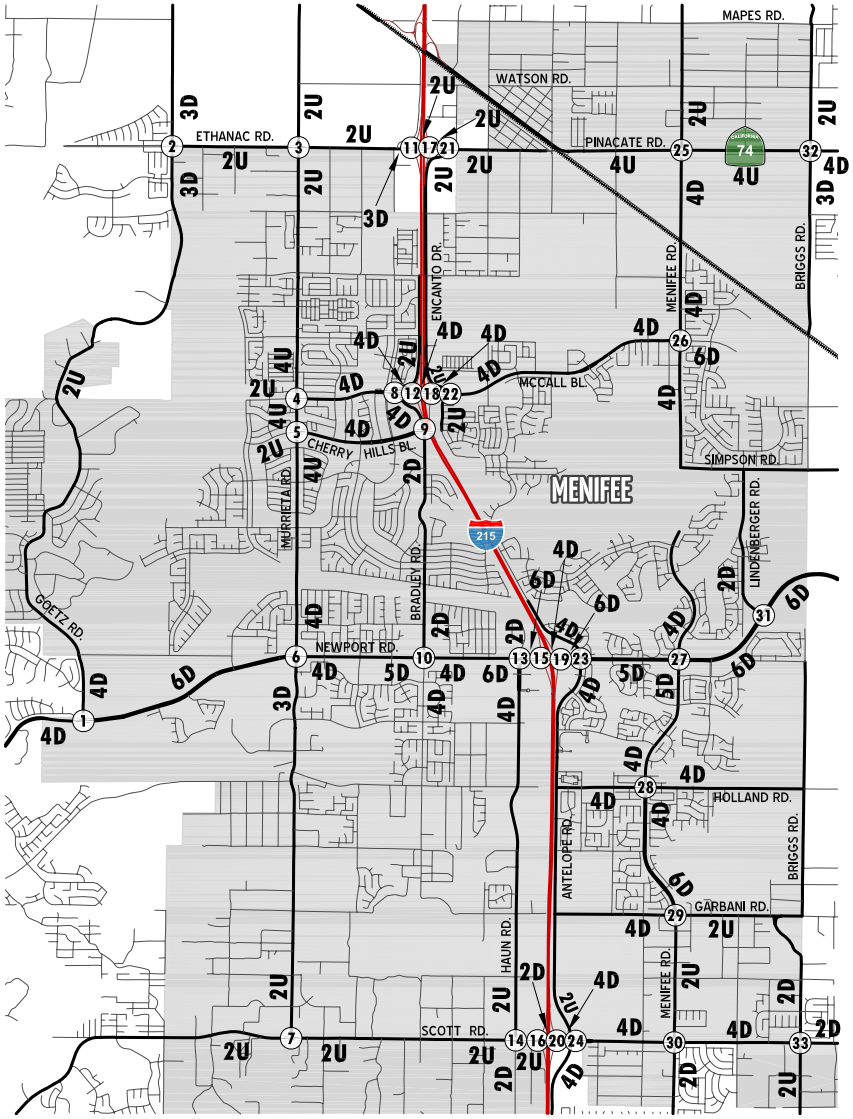
In the City of Menifee, roadways are characterized by their functional classification (Class) that defines the level of mobility and access. Freeways such as the I-215 are intended to serve through traffic traveling relatively long-distances. They provide no access to adjacent land except at interchanges. The primary purpose of arterial streets such as Newport Road is to move the maximum amount traffic as efficiently and safely as reasonable. On arterial streets, mobility overshadows the need to provide access to fronting properties. Secondary streets such as Bradley Road serve as a link between local streets and arterial streets. Local streets provide direct access to individual homes that front them.

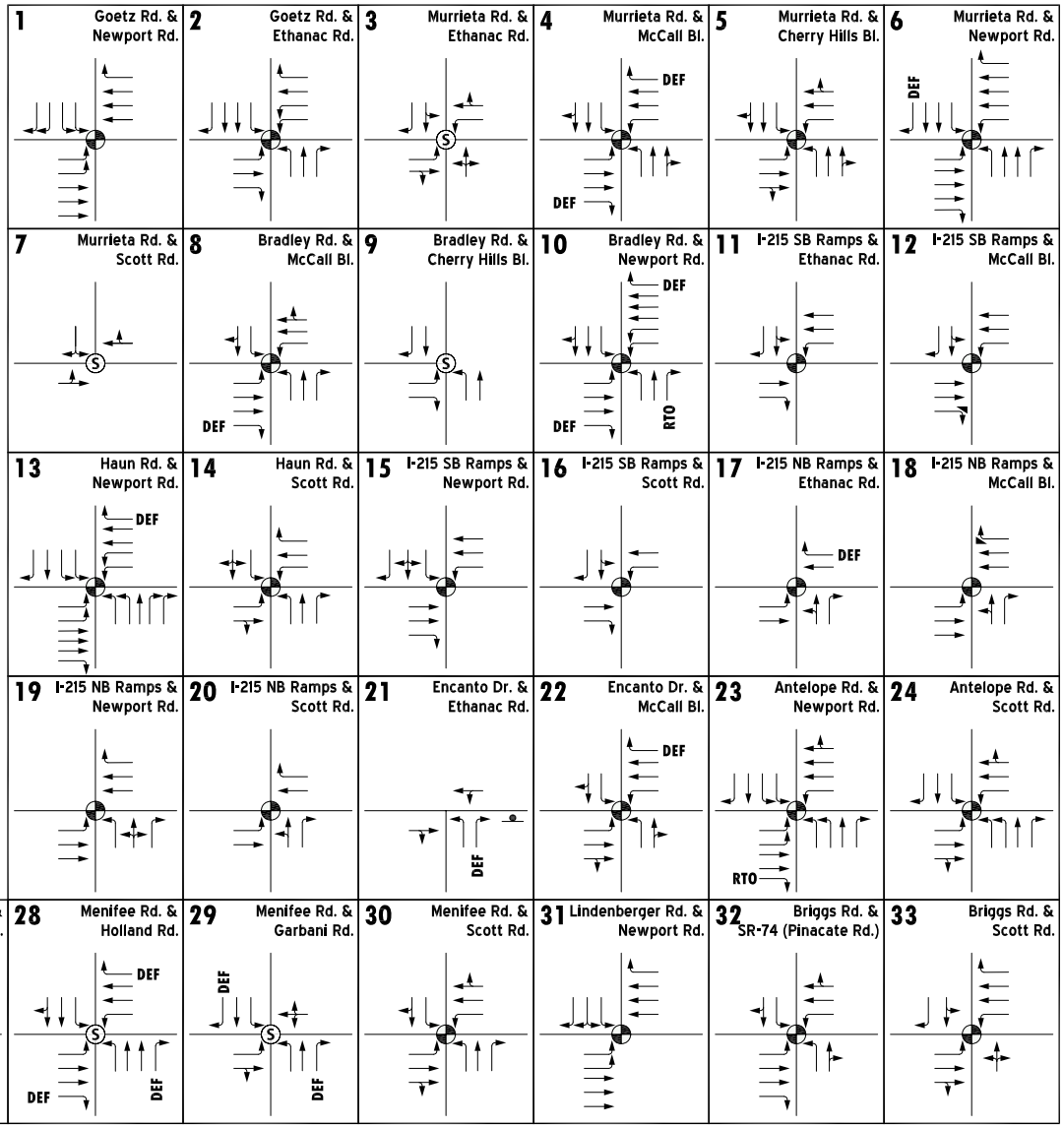
4.2 TRAFFIC COUNTS

Existing AM and PM peak hour intersection volumes are shown on Exhibits 4-2 and 4-3, respectively. The Existing AM and PM peak hour intersection turning movement counts collected in May 2012 are included in Appendix 4.1. Existing average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 4-4. The ADT volumes shown on the I-215 are based upon published Caltrans

EXHIBIT 4-1

EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS





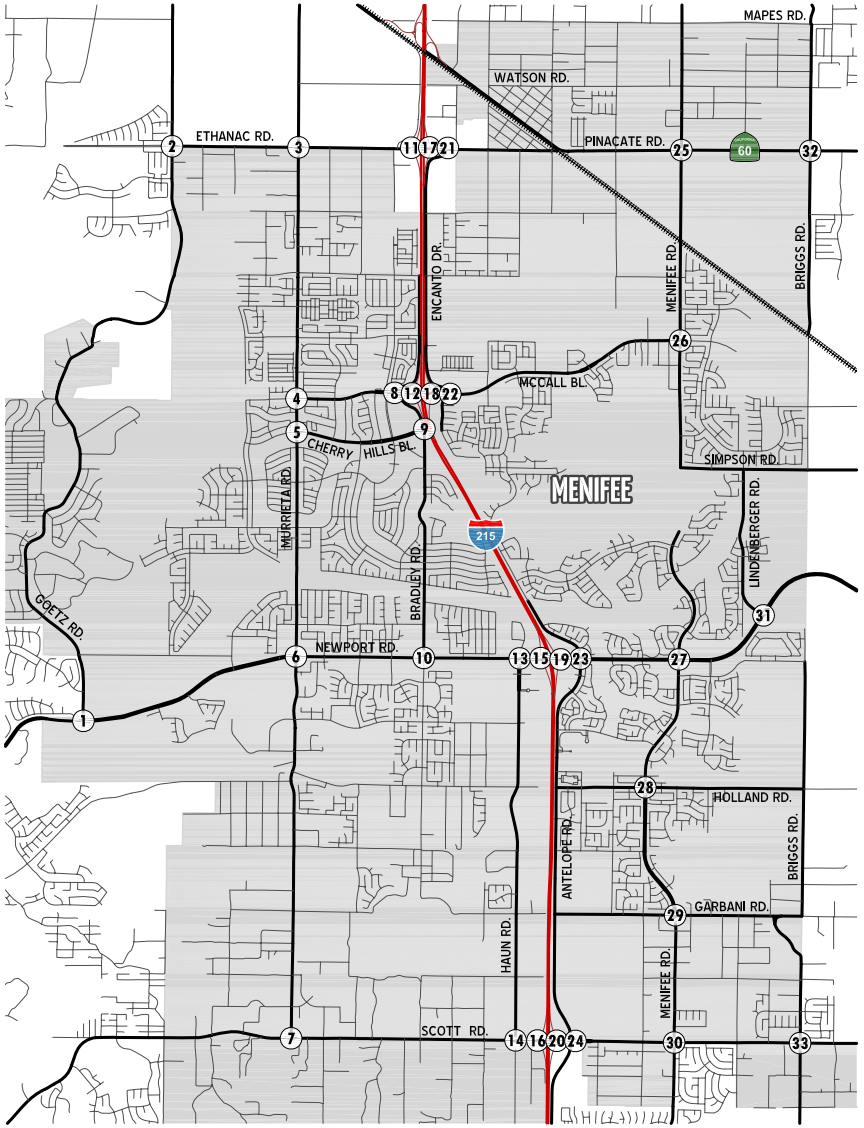
LEGEND:

- = TRAFFIC SIGNAL
- S = ALL WAY STOP
- = STOP SIGN
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- = FREE RIGHT TURN
- RTO = RIGHT TURN OVERLAP
- DEF = DEFACTO RIGHT TURN

N

EXHIBIT 4-2

EXISTING (2012) AM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

	239 155	81 481
70 370		

2 Goetz Rd. & Ethanac Rd.

18 192 121		118 10 178
11 19 2	1 130 120	

3 Murrieta Rd. & Ethanac Rd.

10 26 9		22 195 97
1 222 35	91 126 119	

4 Murrieta Rd. & McCall Bl.

61 172 68		68 53 90
74 106 3	2 150 96	

5 Murrieta Rd. & Cherry Hills Bl.

46 213 22		18 18 33
10 46 38	7 195 34	

6 Murrieta Rd. & Newport Rd.

114 41 445		195 545 46
103 674 15	19 38 26	

7 Murrieta Rd. & Scott Rd.

153 86		70 275
84 254		

8 Bradley Rd. & McCall Bl.

10 63 117		52 411 451
29 470 60	37 34 295	

9 Bradley Rd. & Cherry Hills Bl.

43 215		
55 53	82 233	

10 Bradley Rd. & Newport Rd.

93 205 201		128 555 225
119 792 119	174 246 325	

11 I-215 SB Ramps & Ethanac Rd.

141 1 43		440 113
441 318		

12 I-215 SB Ramps & McCall Bl.

184 0 120		730 389
648 234		

13 Haun Rd. & Newport Rd.

42 41 90		247 784 334
95 1050 139	85 35 224	

14 Haun Rd. & Scott Rd.

61 9 403		267 312 5
62 344 8	5 30 1	

15 I-215 SB Ramps & Newport Rd.

244 0 397		1121 621
940 424		

16 I-215 SB Ramps & Scott Rd.

95 0 282		489 464
404 344		

17 I-215 NB Ramps & Ethanac Rd.

		43 290
164 320	263 6 138	

18 I-215 NB Ramps & McCall Bl.

		186 923
256 512	196 2 229	

19 I-215 NB Ramps & Newport Rd.

		404 1500
253 1084	242 1 370	

20 I-215 NB Ramps & Scott Rd.

		354 838
99 587	115 1 286	

21 Encanto Dr. & Ethanac Rd.

		285 28
425 33	48 53	

22 Encanto Dr. & McCall Bl.

98 9 46		44 814 15
83 561 97	197 12 20	

23 Antelope Rd. & Newport Rd.

160 70 110		78 1340 128
70 719 665	404 40 118	

24 Antelope Rd. & Scott Rd.

284 283 69		33 552 83
132 437 304	356 111 41	

25 Menifee Rd. & SR-74 (Pinacate Rd.)

31 172 121		82 881 359
45 701 138	166 144 459	

26 Menifee Rd. & McCall Bl.

397 120 52		64 242 1
451 257 120	142 96 3	

27 Menifee Rd. & Newport Rd.

308 69 40		40 816 117
218 510 99	136 60 122	

28 Menifee Rd. & Holland Rd.

88 149 38		70 131 101
88 87 14	30 191 108	

29 Menifee Rd. & Garbani Rd.

23 206 8		8 21 32
9 10 22	10 169 19	

30 Menifee Rd. & Scott Rd.

98 102 77		75 476 73
42 353 41	125 60 81	

31 Lindenberger Rd. & Newport Rd.

214 33		12 721
147 578		

32 Briggs Rd. & SR-74 (Pinacate Rd.)

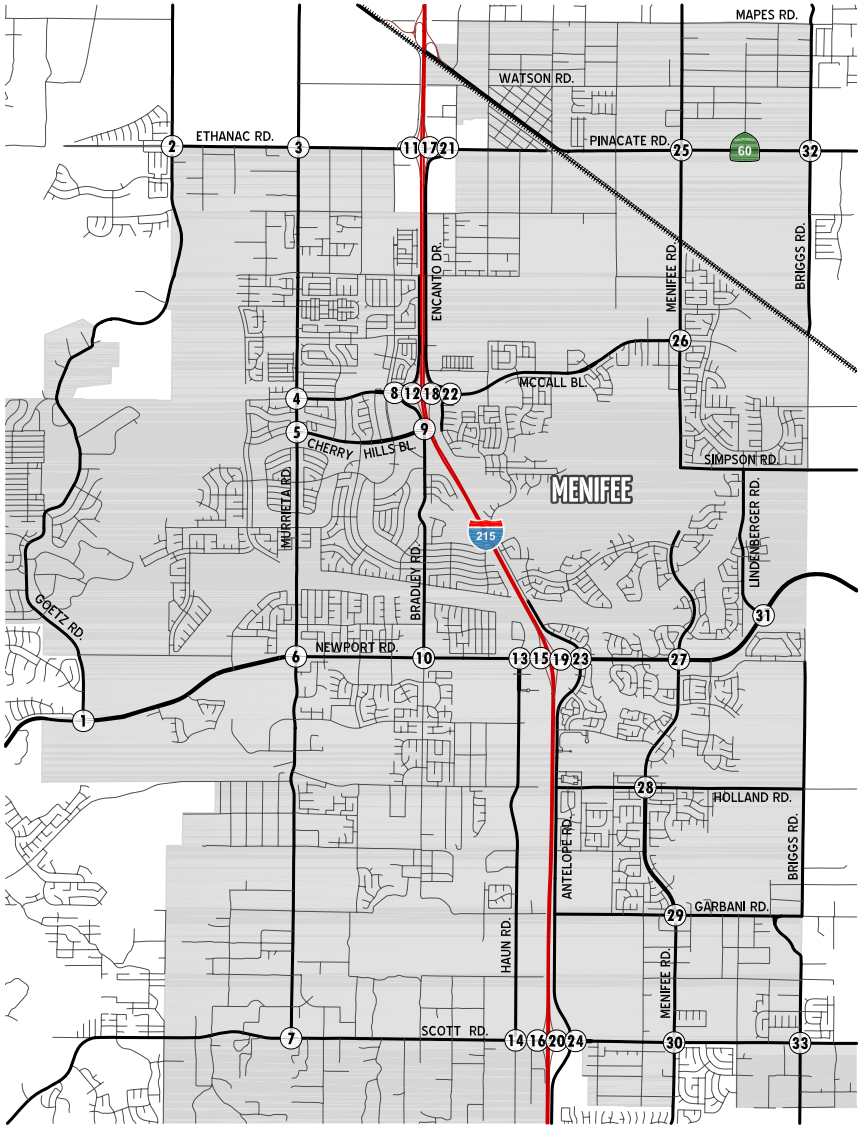
80 128 161		97 837 152
126 557 494	351 130 101	

33 Briggs Rd. & Scott Rd.

27 5 4		1 440 2
12 440 40	29 1 2	

EXHIBIT 4-3

EXISTING (2012) PM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

146	122	161
		505
329		
546		

2 Goetz Rd. & Ethanac Rd.

13	208	159
		109
		20
		178
4	1	133
8	90	
2		

3 Murrieta Rd. & Ethanac Rd.

1	78	14
		7
		254
		152
2	56	109
258	73	
75		

4 Murrieta Rd. & McCall Bl.

44	182	103
		106
		97
		115
23	1	98
63	181	
5		

5 Murrieta Rd. & Cherry Hills Bl.

7	268	19
		13
		40
		56
9	8	49
33	258	
4		

6 Murrieta Rd. & Newport Rd.

134	58	330
		318
		759
		49
162	54	52
643	56	
20		

7 Murrieta Rd. & Scott Rd.

94	75	65
		304
218		
417		

8 Bradley Rd. & McCall Bl.

19	41	104
		54
		630
		401
43	72	517
622	63	
58		

9 Bradley Rd. & Cherry Hills Bl.

69	272	
77	122	
72	354	

10 Bradley Rd. & Newport Rd.

74	152	219
		276
		872
		172
108	110	
671	151	
78	129	

11 I-215 SB Ramps & Ethanac Rd.

265	3	86
		411
		82
395		
330		

12 I-215 SB Ramps & McCall Bl.

373	2	295
		712
		285
909		
334		

13 Haun Rd. & Newport Rd.

103	90	245
		156
		1098
		551
80	312	
846	63	
289	530	

14 Haun Rd. & Scott Rd.

39	4	281
		371
		368
		10
52	2	
540	4	
4	3	

15 I-215 SB Ramps & Newport Rd.

491	2	512
		1314
		359
1260		
361		

16 I-215 SB Ramps & Scott Rd.

122	2	405
		627
		435
603		
221		

17 I-215 NB Ramps & Ethanac Rd.

		69
		280
168	213	
313	1	
	174	

18 I-215 NB Ramps & McCall Bl.

		112
		731
264	266	
940	1	
	423	

19 I-215 NB Ramps & Newport Rd.

		359
		1148
356	525	
1416	0	
	707	

20 I-215 NB Ramps & Scott Rd.

		356
		788
109	274	
899	0	
	516	

21 Encanto Dr. & Ethanac Rd.

		280
		33
395	69	
92	44	

22 Encanto Dr. & McCall Bl.

88	16	26
		34
		584
		34
174	171	
887	20	
302	37	

23 Antelope Rd. & Newport Rd.

108	61	18
		31
		836
		129
238	563	
1172	101	
713	207	

24 Antelope Rd. & Scott Rd.

253	107	57
		37
		521
		75
291	370	
804	270	
320	123	

25 Menifee Rd. & SR-74 (Pinacate Rd.)

31	134	52
		75
		584
		198
52	92	
846	152	
122	191	

26 Menifee Rd. & McCall Bl.

238	122	35
		25
		89
		1
294	94	
147	97	
155	1	

27 Menifee Rd. & Newport Rd.

126	36	15
		18
		669
		113
196	95	
885	54	
100	131	

28 Menifee Rd. & Holland Rd.

43	122	21
		37
		59
		11
42	16	
88	251	
52	14	

29 Menifee Rd. & Garbani Rd.

15	133	9
		9
		11
		16
7	26	
8	294	
14	26	

30 Menifee Rd. & Scott Rd.

68	52	46
		87
		454
		46
179	109	
593	60	
175	48	

31 Lindenberger Rd. & Newport Rd.

154	22	
		31
		616
272		
799		

32 Briggs Rd. & SR-74 (Pinacate Rd.)

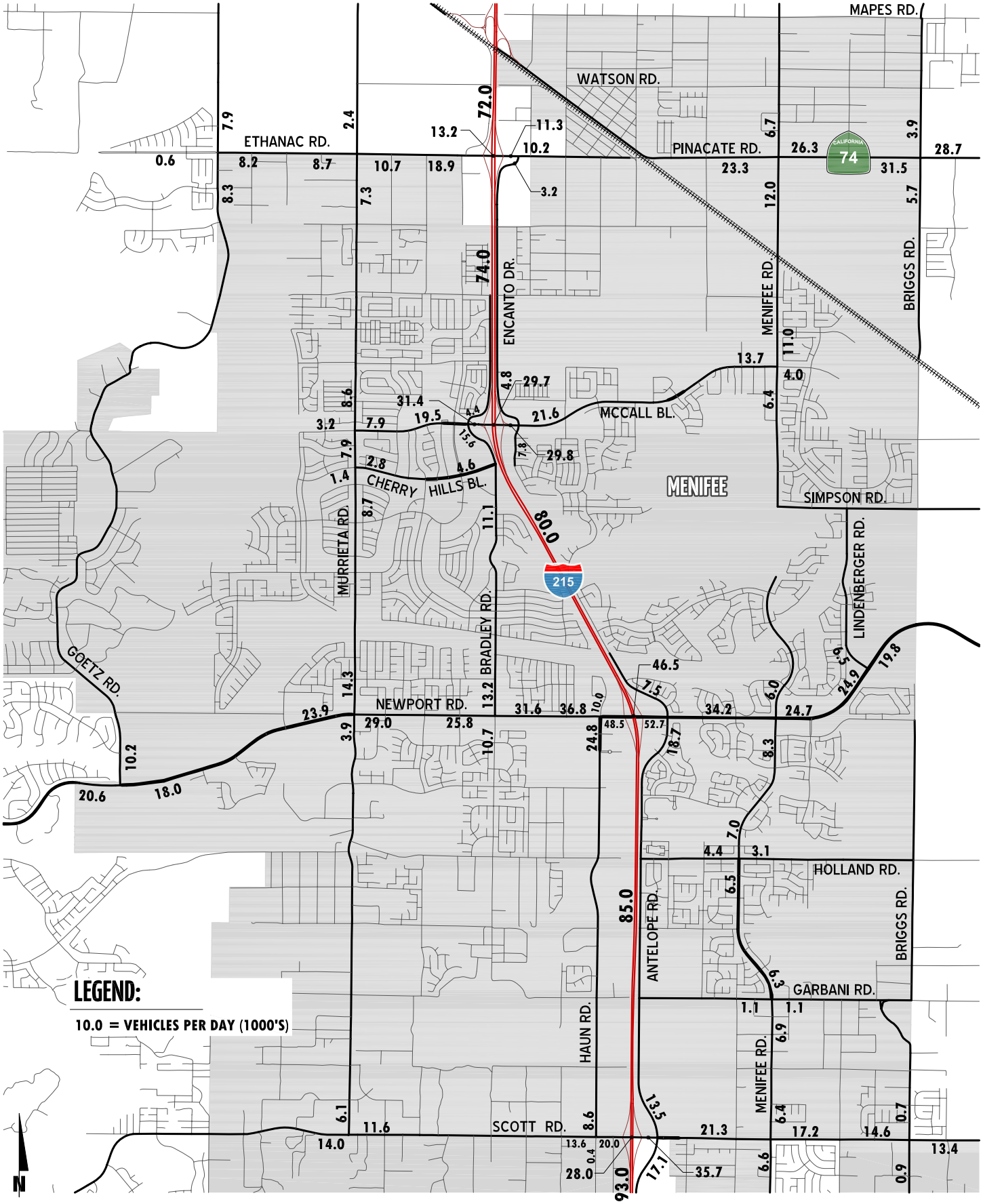
59	28	72
		32
		790
		40
60	117	
1149	40	
155	41	

33 Briggs Rd. & Scott Rd.

17	1	5
		2
		471
		2
27	26	
511	2	
31	1	

EXHIBIT 4-4

EXISTING (2012) AVERAGE DAILY TRAFFIC (ADT)



Menifee General Plan
City of Menifee, CA (JN - 06944:200.dwg)

URBAN CROSSROADS

traffic count data. The ADT volumes along the arterial roadways are based upon the 24-hour average daily traffic counts collected at ten study area roadway segments locations and estimates from the May 2012 peak hour traffic counts using the following formula for each intersection leg:

PM Peak Hour (Approach Volume + Exit Volume) x 13.5 = Leg Volume

The daily-to-peak hour ratio of 7.4% is derived from the observed relationship between the average daily traffic counts and the peak hour intersection turning movement counts. Appendix 4.2 includes the 24-hour ADT count worksheets.

4.3 ROADWAY SEGMENT ANALYSIS

The City of Menifee General Plan Circulation Element provides roadway volume capacity values that were provided previously on Table 2-1. The roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet projected traffic demands.

Table 4-1 provides a summary of the existing (2012) conditions roadway segment capacity analysis based on the capacity thresholds identified on Table 2-1. As shown on Table 4-1, 7 out of the total of 97 existing study area roadway segments potentially exceed or exceed the average daily vehicle capacity thresholds. Based on the existing conditions roadway segment analysis, the following study area roadway segments provide unacceptable roadway capacity:

ID	Roadway	Segment	V/C Ratio
26	Antelope Road	South of Newport Road	1.04
49	Ethanac Road	Between I-215 SB Ramp & I-215 NB Ramp	1.02
76	Newport Road	Between I-215 SB Ramp & I-215 NB Ramp	1.30
87	Scott Road	West of Murrieta Road	1.08
89	Scott Road	West of Haun Road	1.05
90	Scott Road	Between Haun Road & I-215 SB Ramp	1.54
91	Scott Road	Between I-215 SB Ramp & I-215 NB Ramp	1.56

As indicated in Section 2.2, the roadway segment analysis is used as a planning tool to evaluate the adequacy of existing roadway segment capacities. A v/c ratio of greater than 1.01 to 1.25 suggests that additional review is required; however, if adjacent intersections provide the lanes needed to achieve acceptable peak hour LOS, then segment capacity improvements between key intersections may not be needed. For roadway segments significantly exceeding capacity (v/c ratio > 1.25) then additional through lane roadway capacity and intersection improvements are more likely to be needed.

Table 4-1 (1 of 5)

Existing (2012) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	Estimated Daily Capacity[1]	Existing (2012) ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Goetz Road	1	North of Ethanac Rd.	3D	26,950	7,900	0.29	Acceptable
	2	South of Ethanac Rd.	3D	26,950	8,300	0.31	Acceptable
	3	North of Newport Rd.	4D	35,900	10,200	0.28	Acceptable
Murrieta Road	4	North of Ethanac Rd.	2U	13,000	2,400	0.18	Acceptable
	5	South of Ethanac Rd.	2U	13,000	7,300	0.56	Acceptable
	6	North of McCall Bl.	4U	25,900	8,600	0.33	Acceptable
	7	Between McCall Bl. & Cherry Hills Bl.	4U	25,900	7,900	0.31	Acceptable
	8	South of Cherry Hills Bl.	4U	25,900	8,700	0.34	Acceptable
	9	North of Newport Rd.	4D	35,900	14,300	0.40	Acceptable
	10	South of Newport Rd.	3D	26,950	3,900	0.14	Acceptable
	11	North of Scott Rd.	2U	18,000	6,100	0.34	Acceptable
Bradley Road	12	North of McCall Bl.	2U	13,000	4,400	0.34	Acceptable
	13	Between McCall Bl. & Cherry Hills Bl.	4D	25,900	15,600	0.60	Acceptable
	14	South of Cherry Hills Bl.	2D	18,000	11,100	0.62	Acceptable
	15	North of Newport Rd.	2D	18,000	13,200	0.73	Acceptable
	16	South of Newport Rd.	4D	34,100	10,700	0.31	Acceptable
Encanto Road	17	South of Ethanac Rd.	2U	13,000	3,200	0.25	Acceptable
	18	North of McCall Bl.	2U	13,000	4,800	0.37	Acceptable
	19	South of McCall Bl.	2U	13,000	7,800	0.60	Acceptable
Haun Road	20	North of Newport Rd.	2D	18,000	10,000	0.56	Acceptable
	21	South of Newport Rd.	4D	34,100	24,800	0.73	Acceptable
	22	North of Scott Rd.	2U	13,000	8,600	0.66	Acceptable
	23	South of Scott Rd	2D	18,000	400	0.02	Acceptable

Table 4-1 (2 of 5)

Existing (2012) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	Estimated Daily Capacity[1]	Existing (2012) ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Antelope Road	24	North of Newport Rd.	4D	25,900	7,500	0.29	Acceptable
	25	South of Newport Rd.	4D	34,100	18,700	0.55	Acceptable
	26	North of Scott Rd.	2U	13,000	13,500	**1.04**	**Potentially Exceeds**
	27	South of Scott Rd	4D	34,100	17,100	0.50	Acceptable
Menifee Road	28	North of SR-74 (Pinacate Rd.)	2U	13,000	6,700	0.52	Acceptable
	29	South of SR-74 (Pinacate Rd.)	4D	35,900	12,000	0.33	Acceptable
	30	North of McCall Bl.	4D	35,900	11,000	0.31	Acceptable
	31	Between McCall Bl. & Simpson Rd	4D	35,900	6,400	0.18	Acceptable
	32	North of Newport Rd.	4D	35,900	6,000	0.17	Acceptable
	33	South of Newport Rd.	5D	44,900	8,300	0.18	Acceptable
	34	North of Holland Rd.	4D	35,900	7,000	0.19	Acceptable
	35	South of Holland Rd.	4D	35,900	6,500	0.18	Acceptable
	36	North of Garbani Rd.	6D	53,900	6,300	0.12	Acceptable
	37	South of Garbani Rd.	2U	13,000	6,900	0.53	Acceptable
	38	North of Scott Rd.	2U	13,000	6,400	0.49	Acceptable
	39	South of Scott Rd	2D	18,000	6,600	0.37	Acceptable
Lindenberger Road	40	North of Newport Rd.	2D	18,000	6,500	0.36	Acceptable
Briggs Road	41	North of SR-74 (Pinacate Rd.)	2U	13,000	3,900	0.30	Acceptable
	42	South of SR-74 (Pinacate Rd.)	3D	25,600	5,700	0.22	Acceptable
	43	North of Scott Rd.	2D	18,000	700	0.04	Acceptable
	44	South of Scott Rd	2U	13,000	900	0.07	Acceptable

Table 4-1 (3 of 5)

Existing (2012) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	Estimated Daily Capacity[1]	Existing (2012) ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.	6D	61,300	600	0.01	Acceptable
	46	Between Goetz Rd & Murrieta Rd.	2U	13,000	8,700	0.67	Acceptable
	47	East of Murrieta Rd.	2U	13,000	10,700	0.82	Approaching
	48	West of I-215 SB Ramp	3D	30,700	18,900	0.62	Acceptable
	49	Between I-215 SB Ramp & I-215 NB Ramp	2U	13,000	13,200	**1.02**	**Potentially Exceeds**
	50	Between I-215 NB Ramp & Encanto Dr.	2U	13,000	11,300	0.87	Approaching
	51	East of Encanto Dr.	2U	13,000	10,200	0.78	Acceptable
	52	West of Menifee Rd.	4U	40,900	23,300	0.57	Acceptable
	53	East of Menifee Rd.	4U	40,900	26,300	0.64	Acceptable
	54	West of Briggs Rd.	4U	40,900	31,500	0.77	Acceptable
	55	East of Briggs Rd.	4D	40,900	28,700	0.70	Acceptable
McCall Boulevard	56	West of Murrieta Rd.	2U	13,000	3,200	0.25	Acceptable
	57	East of Murrieta Rd.	4D	34,100	7,900	0.23	Acceptable
	58	West of Bradley Rd.	4D	34,100	19,500	0.57	Acceptable
	59	Between Bradley Rd & I-215 SB Ramp	4D	34,100	31,400	0.92	Approaching
	60	Between I-215 SB Ramp & I-215 NB Ramp	4D	34,100	29,700	0.87	Approaching
	61	Between I-215 NB Ramp & Encanto Dr.	4D	35,900	29,800	0.83	Approaching
	62	East of Encanto Dr.	4D	35,900	21,600	0.60	Acceptable
	63	West of Menifee Rd.	4D	35,900	13,700	0.38	Acceptable
	64	East of Menifee Rd.	6D	53,900	4,000	0.07	Acceptable

Table 4-1 (4 of 5)

Existing (2012) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	Estimated Daily Capacity[1]	Existing (2012) ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Cherry Hills Boulevard	65	West of Murrieta Rd.	2U	13,000	1,400	0.11	Acceptable
	66	East of Murrieta Rd.	4D	25,900	2,800	0.11	Acceptable
	67	West of Bradley Rd.	4D	25,900	4,600	0.18	Acceptable
Newport Road	68	West of Goetz Rd.	4D	35,900	20,600	0.57	Acceptable
	69	East of Goetz Rd.	6D	53,900	18,000	0.33	Acceptable
	70	West of Murrieta Rd.	6D	53,900	23,900	0.44	Acceptable
	71	East of Murrieta Rd.	4D	35,900	29,000	0.81	Approaching
	72	West of Bradley Rd.	5D	44,900	25,800	0.57	Acceptable
	73	East of Bradley Rd.	4D	35,900	31,600	0.88	Approaching
	74	West of Haun Rd.	6D	53,900	36,800	0.68	Acceptable
	75	Between Haun Rd. & I-215 SB Ramp	6D	53,900	48,500	0.90	Approaching
	76	Between I-215 SB Ramp & I-215 NB Ramp	4D	35,900	46,500	**1.30**	**Exceeds**
	77	Between I-215 NB Ramp & Antelope Rd.	6D	53,900	52,700	0.98	Approaching
	78	East of Antelope Rd.	5D	44,900	34,200	0.76	Acceptable
	79	West of Menifee Rd.	5D	44,900	34,200	0.76	Acceptable
	80	East of Menifee Rd.	6D	53,900	24,700	0.46	Acceptable
	81	West of Lindenberger Rd.	6D	53,900	24,900	0.46	Acceptable
	82	East of Lindenberger Rd.	6D	53,900	19,800	0.37	Acceptable
Holland Road	83	West of Menifee Rd.	4D	34,100	4,400	0.13	Acceptable
	84	East of Menifee Rd.	4D	34,100	3,100	0.09	Acceptable
Garbani Road	85	West of Menifee Rd.	4D	34,100	1,100	0.03	Acceptable
	86	East of Menifee Rd.	2U	13,000	1,100	0.08	Acceptable

Table 4-1 (5 of 5)

Existing (2012) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	Estimated Daily Capacity[1]	Existing (2012) ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Scott Road	87	West of Murrieta Rd.	2U	13,000	14,000	**1.08**	**Potentially Exceeds**
	88	East of Murrieta Rd.	2U	13,000	11,600	0.89	Approaching
	89	West of Haun Rd.	2U	13,000	13,600	**1.05**	**Potentially Exceeds**
	90	Between Haun Rd. & I-215 SB Ramp	2U	13,000	20,000	**1.54**	**Exceeds**
	91	Between I-215 SB Ramp & I-215 NB Ramp	2D	18,000	28,000	**1.56**	**Exceeds**
	92	Between I-215 NB Ramp & Antelope Rd.	4D	35,900	35,700	0.99	Approaching
	93	East of Antelope Rd.	4D	35,900	21,300	0.59	Acceptable
	94	West of Menifee Rd.	4D	35,900	21,300	0.59	Acceptable
	95	East of Menifee Rd.	4D	35,900	17,200	0.48	Acceptable
	96	West of Briggs Rd.	4D	35,900	14,600	0.41	Acceptable
	97	East of Briggs Rd.	2D	18,000	13,400	0.74	Acceptable

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Cacacity", 1.26+ = "Exceeds Capacity"

[3] D=Divided, U=Undivided

4.4 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 of this traffic study. It is important to recognize that the intersection operations analysis reflects the existing constrained traffic count conditions. These constraints in the form of vehicle queues at closely spaced intersections significantly limit the number of vehicles that can physically be accommodated during peak hour conditions. While the traffic counts identify all the vehicles using an intersection during the peak hours, they may not fully account for the unconstrained demand at a particular location. Several intersections such as Haun Road at Scott Road, and the I-215 Ramps locations at the Newport Road and Scott Road experience vehicle delays that are not reflected in the intersection LOS analysis due to the existing constrained conditions. The constrained intersection analysis results are summarized in Table 4-2 which indicates that out of the 33 study area intersections:

- 30 operate at acceptable LOS D or better conditions during the peak hours
- 3 operate at unacceptable LOS E or worse conditions during the peak hours

The existing conditions operations analysis show that the following intersection locations will experience unacceptable LOS E or worse conditions during one or both of the peak hours.

ID	Intersection Location	AM	PM
8	Bradley Road / McCall Boulevard	E	F
16	I-215 Southbound Ramps / Scott Road	C	F
32	Briggs Road / SR-74 (Pinacate Road)	E	C

The existing conditions intersection operations analysis worksheets are included in Appendix 4.3 of this traffic study. Note that the Briggs Road/SR-74 intersection deficiency in the AM period is impacted by school traffic to Heritage High School.

4.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for existing traffic conditions are based on existing peak hour intersection volumes for unsignalized intersection locations. Out of the 33 existing study area intersection locations, six are currently unsignalized. For existing conditions, traffic signals currently appear to be warranted at the following two intersections.

ID	Intersection Location	Control Type
3	Murrieta Road (NS) at Ethanac Road (EW)	All-Way Stop
7	Murrieta Road (NS) at Scott Road (EW)	All-Way Stop

The existing conditions traffic signal warrants analysis worksheets are included in Appendix 4.4.

Table 4-2

Existing (2012) Intersection Analysis

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Existing (2012)			
			Northbound			Southbound			Eastbound			Westbound			Delay[2] (secs.)		Level of Service	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Goetz Rd / Newport Rd	TS	0	0	0	2	0	2	2	3	0	0	3	1	19.2	23.9	B	C
2	Goetz Rd / Ethanac Rd	TS	1	1	1	1	2	1	1	1	1	2	1	1	30.7	32.3	C	C
3	Murrieta Rd / Ethanac Rd	AWS	0	1	0	0	1	1	1	1	0	1	1	0	14.1	14.3	B	B
4	Murrieta Rd / McCall Blvd	TS	1	2	0	1	2	0	1	2	d	1	2	d	28.9	29.7	C	C
5	Murrieta Rd / Cherry Hills Blvd	TS	1	2	0	1	2	0	1	2	0	1	2	0	23.7	24.0	C	C
6	Murrieta Rd / Newport Rd	TS	1	2	1	1	2	d	1	3	1	1	3	1	50.7	44..1	D	D
7	Murrieta Rd / Scott Rd	AWS	0	0	0	0	1	0	0	1	0	0	1	0	13.8	30.9	B	D
8	Bradley Rd / McCall Blvd	TS	1	1	1	1	1	0	1	2	d	1	2	0	***58.6***	***>80.0***	***E***	***F***
9	Bradley Rd / Cherry Hills Blvd	AWS	1	1	0	0	1	1	1	0	1	0	0	0	10.4	12.1	B	B
10	Bradley Rd / Newport Rd	TS	1	1	1>	1	2	0	1	2	d	2	3	d	39.6	38.2	D	D
11	I-215 Southbound Ramps / Ethanac Rd	TS	0	0	0	0	1	1	0	1	1	1	2	0	15.1	16.9	B	B
12	I-215 Southbound Ramps / McCall Blvd	TS	0	0	0	0	1	1	0	2	1>>	1	2	0	17.6	23.4	B	C
13	Haun Rd / Newport Rd	TS	2	1	2	2	1	1	2	3	1	2	2	d	37.9	49.0	D	D
14	Haun Rd / Scott Rd	TS	1	1	1	1	1	0	1	1	0	1	1	1	40.4	39.3	D	D
15	I-215 Southbound Ramps / Newport Rd	TS	0	0	0	1	1	1	0	2	1	1	2	0	29.6	30.3	C	C
16	I-215 Southbound Ramps / Scott Rd	TS	0	0	0	0	1	1	0	1	1	1	1	0	31.3	***50.8***	C	***F***[4]
17	I-215 Northbound Ramps / Ethanac Rd	TS	0	1	1	0	0	0	1	1	0	0	1	d	26.2	24.4	C	C
18	I-215 Northbound Ramps / McCall Blvd	TS	0	1	1	0	0	0	1	2	0	0	2	1>>	19.1	21.4	B	C
19	I-215 Northbound Ramps / Newport Rd	TS	1	1	1	0	0	0	1	2	0	0	2	1	20.9	28.2	C	C
20	I-215 Northbound Ramps / Scott Rd	TS	0	1	1	0	0	0	1	1	0	0	1	1	20.3	31.0	C	C
21	Encanto Dr / Ethanac Rd	CSS	1	0	d	0	0	0	0	1	0	0	1	0	18.6	20.2	C	C
22	Encanto Dr / McCall Blvd	TS	1	1	0	1	1	0	1	2	0	1	2	d	20.3	22.0	C	C
23	Antelope Rd / Newport Rd	TS	2	1	1	2	1	1	2	2	1>	1	3	0	41.3	49.8	D	D
24	Antelope Rd / Scott Rd	TS	2	1	1	1	1	1	1	2	0	1	2	0	34.7	38.6	C	D
25	Menifee Rd / SR-74 (Pinacate Rd.)	TS	0	1	1	0	1	d	1	2	d	1	2	0	41.4	20.5	D	C
26	Menifee Rd / McCall Blvd	TS	1	2	d	1	2	d	2	2	0	2	2	1	46.4	33.4	D	C
27	Menifee Rd / Newport Rd	TS	1	2	1	1	2	1	1	3	0	1	2	1	45.6	35.7	D	D
28	Menifee Rd / Holland Rd	AWS	1	2	d	1	2	0	1	2	d	1	2	d	14.0	9.9	B	A
29	Menifee Rd / Garbani Rd	AWS	1	1	d	1	1	d	1	1	0	0	1	0	9.9	10.7	A	B
30	Menifee Rd / Scott Rd	TS	1	1	1	1	1	0	1	2	0	1	2	0	27.3	30.2	C	C
31	Lindenberger Rd / Newport Rd	TS	0	0	0	1	1	1	2	3	0	0	3	1	19.8	21.2	B	C
32	Briggs Rd / SR-74 (Pinacate Rd.)	TS	1	1	0	1	1	0	1	2	1	1	2	0	***56.3***	31.9	***E***	C
33	Briggs Rd / Scott Rd	TS	0	1	0	0	1	1	1	2	0	1	2	1	18.8	19.2	B	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

[2] Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 Ramp Locations have been analyzed utilizing the Synchro software.

[3] TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

[4] Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

BOLD = Unsatisfactory level of service.

4.6 I-215 MAINLINE CAPACITY ANALYSIS

Using the City of Menifee General Plan Circulation Element roadway volume capacity values provided on Table 2-1, Table 4-3 provides a summary of the existing I-215 Mainline Capacity Analysis. The roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet projected traffic demands. As shown on Table 4-3, the I-215 is approaching or potentially exceeding the daily traffic capacity thresholds on all of the 5 segments. The I-215 will continue to experience traffic delay through year 2015 until the Riverside County Transportation Commission (RCTC) completes the planned I-215 widening project. The RCTC is planning to widen the I-215 from the junction of I-15/I-215 in Temecula to State Route 60 in Riverside. The proposed I-215 widening project will add one general purpose lane and inside shoulder in both directions.

4.7 TRUCK ACTIVITIES

To describe the existing truck activities in the City of Menifee, 24-hour vehicle classification counts were collected on three study area roadway segments. The traffic counts collected in July 2012 include the following vehicle classifications:

- Passenger Cars
- Buses/Recreational Vehicles
- 3-Axle Trucks
- 4 or More Axle Trucks

The vehicle classification counts included in Appendix 4.5 enable us to accurately describe the number of trucks in the vehicle mix on different type of roadway facilities. A review of the vehicle mix on Newport Road west of Haun Road (6-lane Urban Arterial) shows that trucks represent approximately 7.4% of the overall vehicle mix. On McCall Boulevard west of Bradley Road (4-lane Major) trucks represent approximately 6.2% of the traffic vehicle mix. The observed truck mix on a 4-lane Secondary roadway was 4.0% on Bradley Road north of Newport Road.

4.8 VEHICLE MILES TRAVELLED (VMT)

Due to the importance of air quality and climate change issues in the context of CEQA baseline (existing conditions), VMT data has been extracted from the Riverside County Transportation Analysis Model (RivTAM). The VMT extracted from the model takes into account existing land use patterns and trip generation, as well as the interaction of these trips within the City and between the City and surrounding areas.

It is also important to recognize that each vehicle trip has two ends, commonly referred to as an origin and a destination. Therefore, the calculation must divide the initial VMT estimate in half to account for

Table 4-3

Existing I-215 Mainline Analysis

Roadway	ID	Segment	Through Travel Lanes	Estimated Daily Capacity[1]	Existing ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
I-215	1	North of SR-74 (Ethanac Road)	4D	76,500	72,000	0.94	Approaching
	2	SR-74 (Ethanac Road) to McCall Boulevard	4D	76,500	74,000	0.97	Approaching
	3	McCall Boulevard to Newport Road	4D	76,500	80,000	**1.05**	**Potentially Exceeds**
	4	Newport Road to Scott Road	4D	76,500	85,000	**1.11**	**Potentially Exceeds**
	5	South of Scott Road	4D	76,500	93,000	**1.22**	**Potentially Exceeds**

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

the contribution of both ends of the trip. For trips internal to the City of Menifee, the VMT attributable to both ends of the trip is accounted for. Trips that involve one trip-end outside the City of Menifee are allocated 50% to the City of Menifee and 50% to the other end of the trip. All shopping, recreational, social, and work related trips contribute to the VMT estimates. On an average daily basis, the following quantities of vehicle miles travelled are estimated for existing conditions:

- AM Peak Period – 781,000
- Mid Day Period – 1,268,000
- PM Peak Period – 1,218,000
- Nighttime Period – 865,000

Based upon RivTAM, the City of Menifee produces a total of approximately 4,132,000 VMT per day for existing conditions.

5.0 LAYERED TRANSPORTATION NETWORKS

Transportation takes many forms. Although mobility is most often expressed in automobile terms, walking, bicycling, neighborhood electric vehicles (NEVs)/ golf carts, transit and truck routes must also be considered. Environmental impact considerations, personal preference and economic situations all drive the need to accommodate "layered" networks. Various modal layers provide the framework for the City of Menifee General Plan Circulation Element (see Exhibit 5-1).

Enabling the use of transportation alternatives with modal layers provides a broader range of options for getting around town. Investment in layered networks that allow for use of these alternatives can often be provided in an efficient manner without diminishing the automobile's traditional role as the dominant mode choice.

This portion of the General Plan identifies the layered transportation networks, discusses their respective roles in personal mobility and provides a framework for a cohesive and comprehensive transportation system. A thoughtful approach toward future transportation modal layers also addresses legislative requirements, provides a basis for future strategic transportation investment and ensures a vibrant community through active mobility options. With this approach, the city is able to plan balanced infrastructure needs to maximize limited resources. In addition, development of layered transportation networks will allow the City to access various local, state and federal funding sources.

Mode choice is influenced by walk connectivity and proximity of buildings, bike accommodations, transit stop density and service characteristics, and availability of interconnected low speed routes. Layered transportation networks have been created to serve this demand. Alternative mode choices will also contribute to sustainable development by allowing users to satisfy their functional travel needs while supporting their environmental, social, and recreational interests.

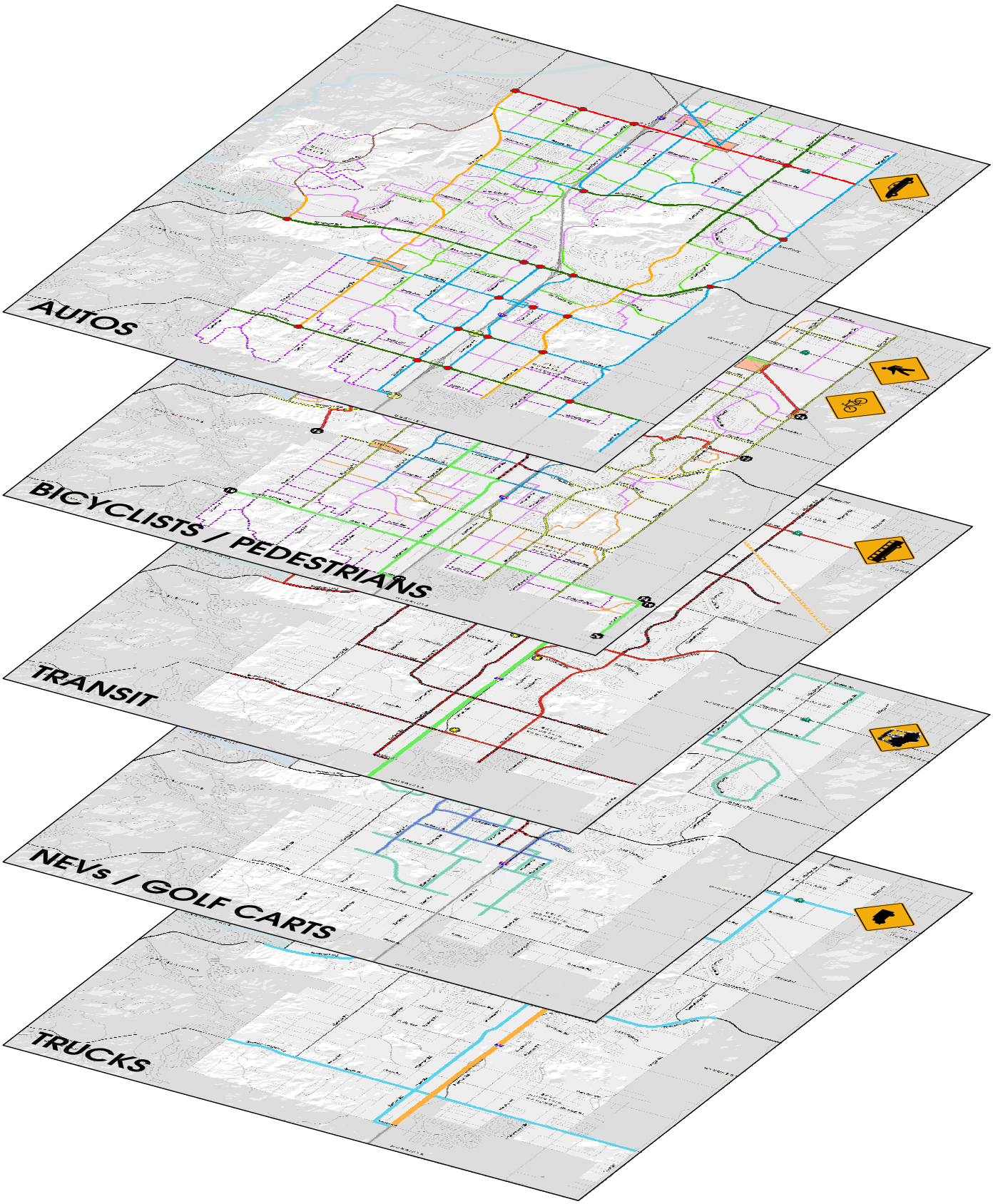
The City of Menifee is well-suited to alternative mode use, largely due to the natural environment. The climate is temperate to hot, which allows for year-round outside activity. During the most intense heat of summer or on rainy days, it is likely that travelers may choose enclosed travel modes more often than at other times of the year; they will also travel less. For the shorter trips and trips where alternate modes are faster, travelers may choose their preferred mode, regardless of weather conditions.

Layered transportation networks are designed to improve the balance between environmental concerns, community objectives, and performance (mobility and safety). Within Menifee, progress toward a sustainable transportation system can be advanced by focusing on the following objectives:

- Network Connectivity (more than one route between land uses and a mixture of low speed and high speed road connections wherever possible)

EXHIBIT 5-1

CITY OF MENIFEE
LAYERED TRANSPORTATION NETWORKS



- Operational Balance (flexibility to achieve community objectives and place making without sacrificing safety and mobility)
- Emissions Reduction/Energy Efficiency (prioritize designs which minimize idling times and vehicle miles traveled, help conserve resources and minimize waste)
- Pedestrian and Bicycle Accommodations (walkways and bikeways fully integrated)
- Transit Readiness (access to transit stops and effective interface of modes)
- Neighborhood Electric Vehicle/Golf Cart Facilities (system of NEV provisions: paths, lanes, charging stations, etc.)
- Quality Public Space (roadways spatially defined with structures and landscaping).

This chapter of the report describes the proposed Circulation Plan for the City of Menifee, focusing on the layered networks.

5.1 FUNCTIONAL ROADWAY CLASSIFICATIONS/ROADWAY CROSS-SECTIONS

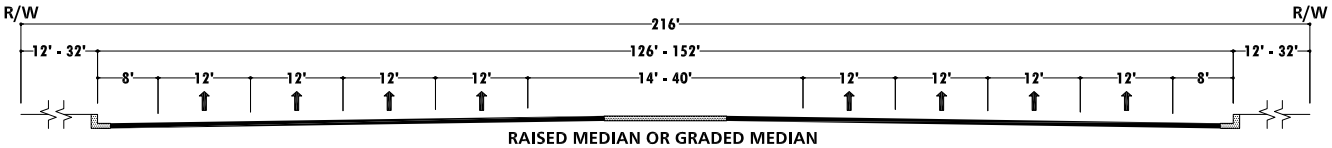
The recommended City of Menifee General Plan roadway cross-sections are shown on Exhibit 5-2. Classifications range from an Expressway/Limited Access Conventional Highway (the largest) to a Rural Local (the smallest). Several modifications to the currently adopted County (RCIP) highway cross-sections are recommended, in order to accommodate a broader array of traffic volume conditions and modes, to provide appropriate lane capacities within limited right-of-way (ROW), and to provide more detailed information on lane configurations, shoulders, medians, etc. Several cross-sections include variable curb-to-curb widths, which can accommodate existing right-of-way constraints. The increased range and flexibility of proposed City of Menifee cross sections (where different from County of Riverside standards) enables roadways to be designed for the connectivity of all users of streets (including pedestrians, bicyclists, NEVs, golf carts, and transit services) within the local context which is suitable to the suburban and rural areas of the City of Menifee. All development applications shall be designed to satisfy the ultimate right-of-way condition unless constraints are present and the City determines that a modified section is warranted.

5.1.1 EXPRESSWAY/LIMITED ACCESS CONVENTIONAL HIGHWAY

The Expressway/Limited Access Conventional Highway classification accommodates 6 to 8 through travel lanes, applicable to the Ethanac Road/SR-74 east-west corridor on the northern edge of the City of Menifee. Ethanac Road is planned to extend west to State Route 74 in Lake Elsinore, and to directly connect easterly into the existing State Route 74 alignment east of Antelope Road. Once completed, this corridor will provide a fluid east-west linkage through several jurisdictions where State Route 74 segments are currently disjointed. Consequently, regional connectivity issues will need to be addressed for this Expressway to be constructed.

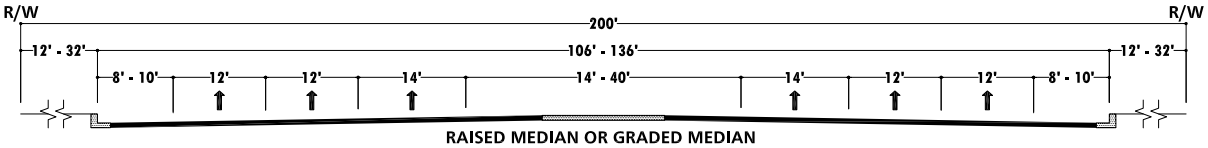
EXHIBIT 5-2 (Page 1 of 2)

CITY OF MENIFEE
GENERAL PLAN ROADWAY CROSS-SECTIONS



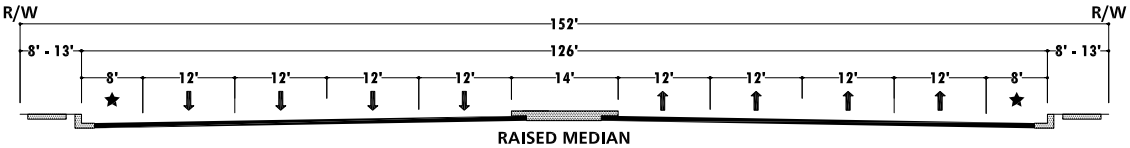
RAISED MEDIAN OR GRADED MEDIAN
WITH LEFT SHOULDERS

EXPRESSWAY - 8 LANES
(LIMITED ACCESS CONVENTIONAL HIGHWAY)



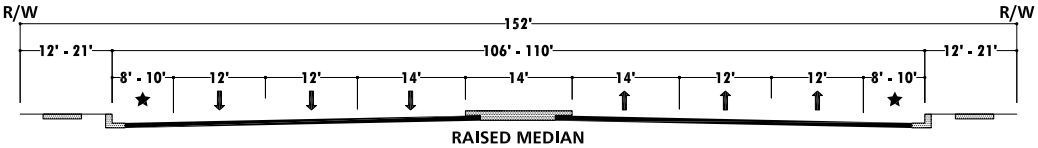
RAISED MEDIAN OR GRADED MEDIAN
WITH LEFT SHOULDERS

EXPRESSWAY - 6 LANES
(LIMITED ACCESS CONVENTIONAL HIGHWAY)



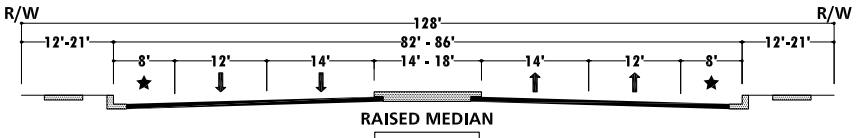
RAISED MEDIAN

URBAN ARTERIAL - 8 LANES



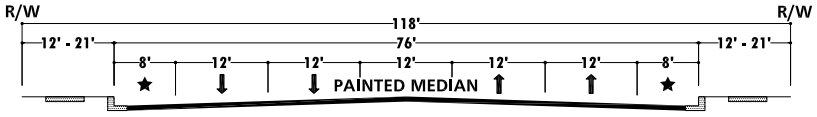
RAISED MEDIAN

URBAN ARTERIAL - 6 LANES

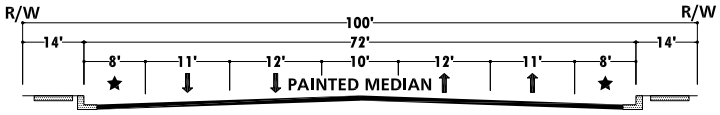


RAISED MEDIAN

ARTERIAL



MAJOR



SECONDARY
(4 LANES, WITH MEDIAN TURN LANES AND NEV/BIKE LANES)

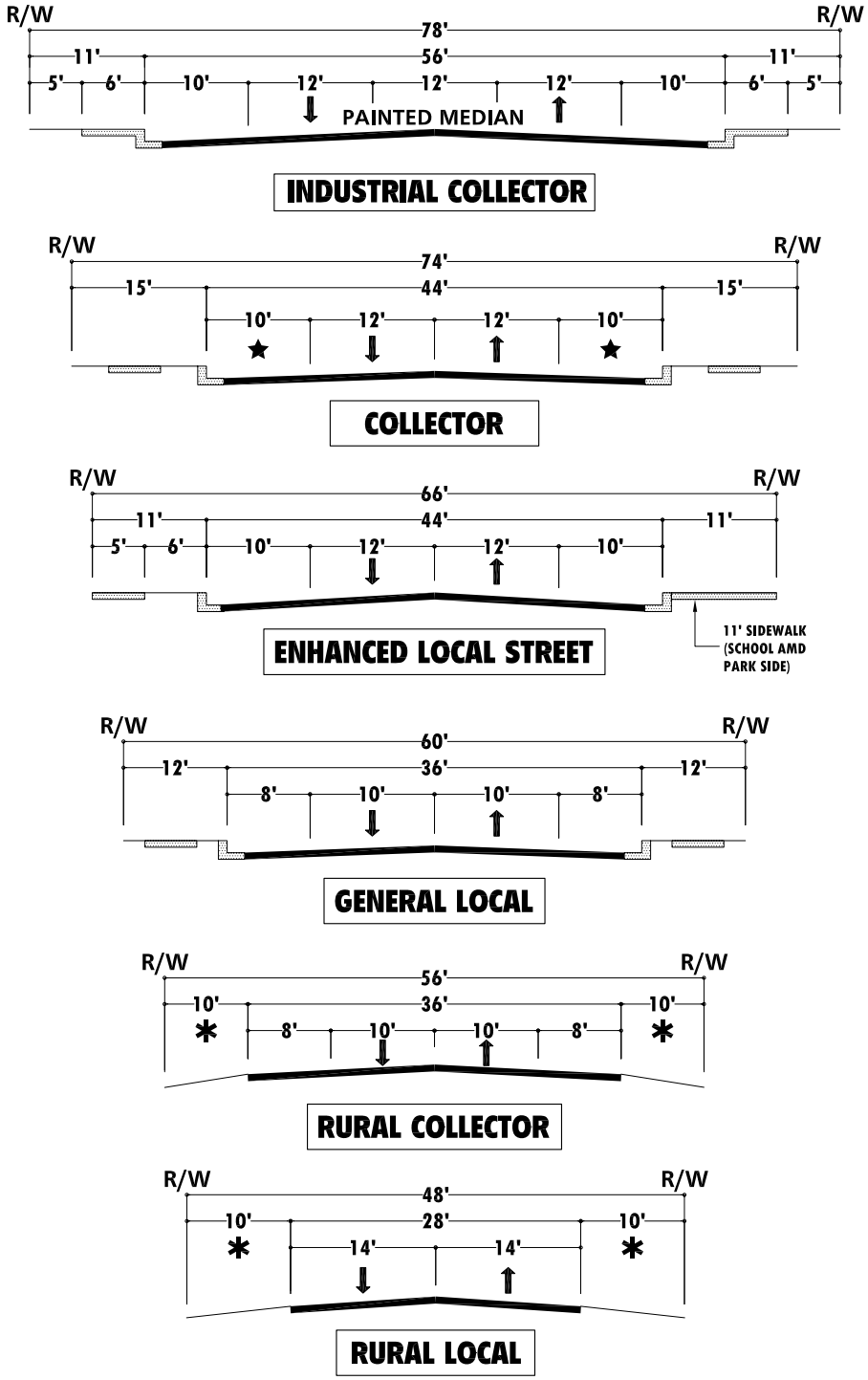
★ SHOULDERS MAY ACCOMMODATE EXCLUSIVE BIKE LANES, SHARED NEV / BIKE LANES, OR ON-STREET PARKING SUBJECT TO APPROVAL BY CITY ENGINEER.

THESE STANDARD SECTIONS ARE FOR TYPICAL ROADWAY SEGMENTS. INTERSECTION LANE REQUIREMENTS MAY INCREASE THE CROSS-SECTION WIDTHS.

SIDEWALKS MAY BE CURB-ADJACENT OR SEPARATED FROM ROADWAY BY A LANDSCAPED PARKWAY.

NOT TO SCALE

CITY OF MENIFEE
GENERAL PLAN ROADWAY CROSS-SECTIONS



★ SHOULDERS MAY ACCOMMODATE EXCLUSIVE BIKE LANES, SHARED NEV / BIKE LANES, OR ON-STREET PARKING SUBJECT TO APPROVAL BY CITY ENGINEER.

✱ RURAL PARKWAYS MAY ACCOMMODATE PEDESTRIAN DIRT PATHS AND / OR EQUESTRIAN TRAILS, AND WATER QUALITY TREATMENT SUBJECT TO APPROVAL BY CITY ENGINEER.

THESE STANDARD SECTIONS ARE FOR TYPICAL ROADWAY SEGMENTS. INTERSECTION LANE REQUIREMENTS MAY INCREASE THE CROSS-SECTION WIDTHS.

SIDEWALKS MAY BE CURB-ADJACENT OR SEPARATED FROM ROADWAY BY A LANDSCAPED PARKWAY.

NOT TO SCALE

5.1.2 URBAN ARTERIAL

The Urban Arterial is generally a six-lane section with a curbed median, although an eight lane version of this classification is required in at least one location in the City (Newport Road in the vicinity of the I-215 interchange) based upon traffic projections. The Urban Arterial cross-sections have been modified from the currently adopted County cross-section to provide more detail and more flexibility on the median and parkway widths.

5.1.3 ARTERIAL

An Arterial is a four-lane section with a raised median. The Arterial cross-section has been modified from the County typical cross-section to provide more detail and more flexibility for the median and parkway widths. Shoulders may accommodate exclusive bike lanes or shared NEV/bike lanes. Sidewalks may be curb-adjacent or separated from the roadway by a landscaped parkway, or on-street parking subject to approval.

5.1.4 MAJOR

The Major is a four-lane section with a painted median. The Major cross-section has been modified from the County cross-section to provide more flexibility for parkway widths. Shoulders may accommodate exclusive bike lanes or shared NEV/bike lanes. Sidewalks may be curb-adjacent or separated from the roadway by a landscaped parkway.

5.1.5 SECONDARY

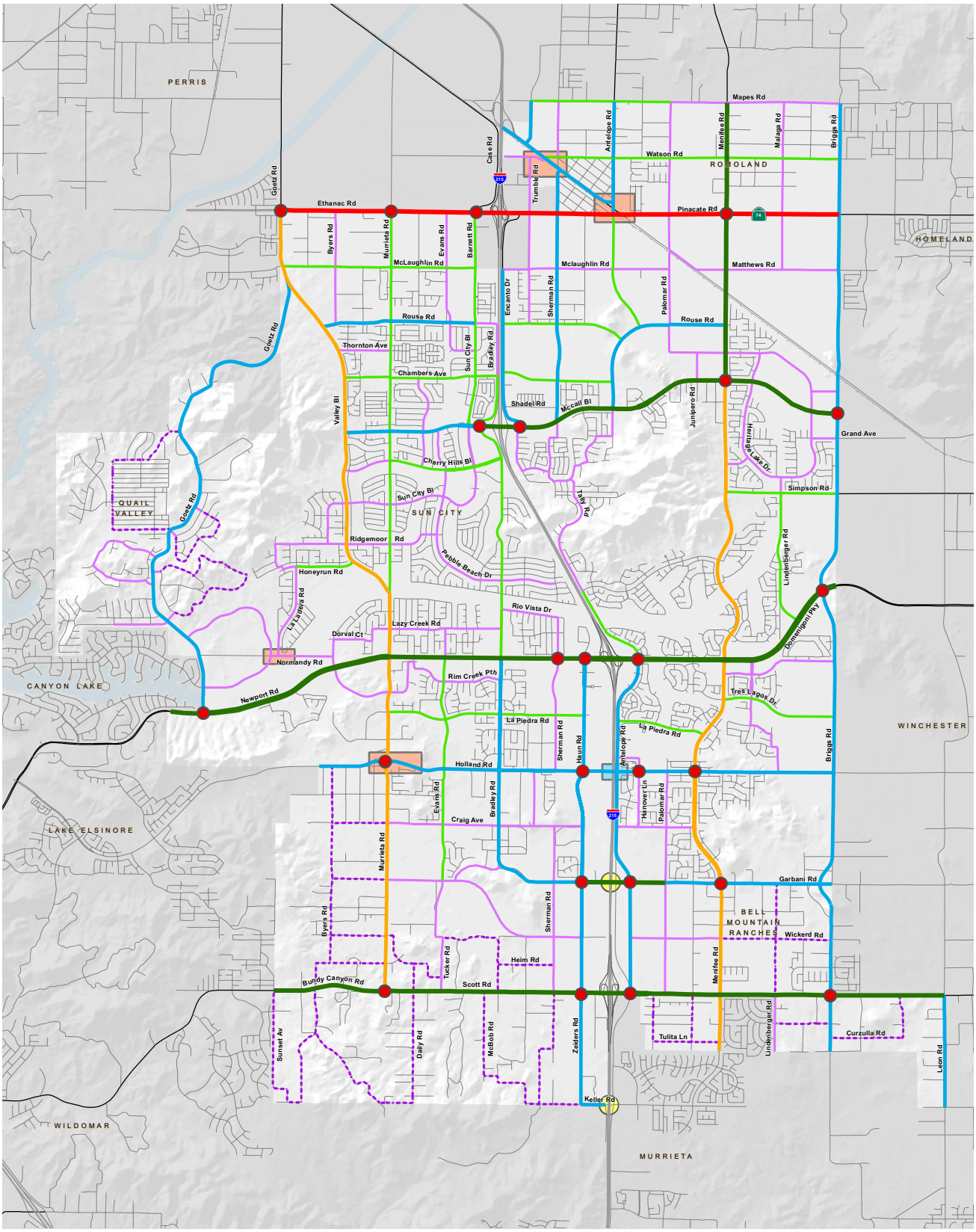
The Secondary classification is shown on Exhibit 5-2. The Secondary is a four-lane roadway that provides median turn lanes and bike lanes or shared NEV/bike lanes. The Secondary classification provides 100' right-of-way. Sidewalks should be separated from the roadway by a landscaped parkway.

5.1.6 COLLECTOR/RURAL COLLECTOR AND LOCAL STREETS

The proposed Menifee General Plan Roadway Network (Exhibit 5-3) incorporates a system of Collector streets that provide an important function for neighborhood-to-neighborhood interaction involving autos, bikes, pedestrians, and NEVs/golf carts. These two-lane, low-to-moderate speed connections should be protected and expanded where feasible. They provide an alternative to traveling on higher capacity and higher speed roads in order to navigate through the City of Menifee for short trips. Several Collector and Local roadway classifications apply to these routes and the classifications will vary with the context of each roadway segment.

Exhibit 5-3

Proposed Menifee General Plan Roadway Network



Expressway (6 to 8 Lanes, Divided)

Urban Arterial (6 to 8 Lanes, Divided)

Arterial (4 Lanes, Divided)

Major (4 Lanes, Divided)

Secondary (4 Lanes, Undivided)

Collector (2 Lanes)

Rural Collector (2 Lanes)

Future Freeway Interchange

Connectivity Analysis Zone - Roadway alignments, intersection geometrics and traffic control features subject to additional assessment

Future Freeway Overcrossing

Enhanced Intersection - Additional lanes / Right-of-Way required within 600 feet of the intersection

MENIFEE GENERAL PLAN

URBAN CROSSROADS

20130705MenifeeGP 7/22/2013 0 0.5 1 Mile

Three versions of the Collector classification are shown on Exhibit 5-2. The Collector is a two-lane undivided section with shoulders that can accommodate on-street parking or exclusive bike lanes or shared NEV/bike lanes. NEV/bike lanes would only be needed on this roadway classification if posted speed limits exceed 35mph. The Industrial Collector consists of two-lane divided sections with a painted median which can be utilized where left turn pockets are needed. The Rural Collector is a two-lane undivided section which may accommodate pedestrian dirt paths and/or equestrian trails within the parkway.

The General Local, Enhanced Local and Rural Local classifications shown of Exhibit 5-2 are basic two-lane undivided cross sections. The General Local accommodates on-street parking on both sides of the roadway as needed, and sidewalks may be curb-adjacent or separated from the roadway by a landscaped parkway. The Enhanced Local may be utilized to provide added sidewalk area adjacent to schools and parks. The Rural Local has space for only limited on-street parking (one side), and it may accommodate pedestrian dirt paths and/or equestrian trails within the parkway.

5.1.7 THE CITYWIDE ROADWAY NETWORK

Exhibit 5-3 presents the entire roadway plan. In addition to functional classifications, the plan identifies **Enhanced Intersection** locations (additional lanes/right-of-way required within 600 feet of the intersection) and **Connectivity Analysis Zones** (roadway alignments, intersections geometrics and traffic control features subject to future assessment). In coordination with City staff, Exhibit 5-3 identifies twenty-four Enhanced Intersection locations that may require additional lanes and/or right-of-way in order to satisfy the City of Menifee peak hour intersection LOS criteria described in Section 2.5. While the typical intersection lane geometrics may satisfy the LOS requirements at these locations additional enhancements may be required by the City of Menifee.

The proposed Citywide Roadway Network identifies four Connectivity Analysis Zones that may be subject to review and future consideration by the City of Menifee. These areas have been highlighted to recognize that additional evaluation of the roadway alignments, intersection geometrics and traffic control features are needed.

The proposed Menifee General Plan Roadway network was developed based on an extensive review of existing plans and the capacity requirements prescribed by the future Menifee Traffic Model. This review included consideration of the following:

- Geography
- Approved and Projects in Progress
- Adopted Specific Plans
- Adopted and Planned County of Riverside Roadway General Plan Circulation Element
- City of Perris General Plan
- City of Canyon Lake Zoning Map

- City of Murrieta General Plan
- City of Lake Elsinore General Plan
- City of Wildomar General Plan

The General Plan roadway network is designed to support the vision for the Menifee that is reflected in the land use element. The proposed network will provide the necessary roadway infrastructure and connectivity to accommodate the population and employment growth planned for the City of Menifee.

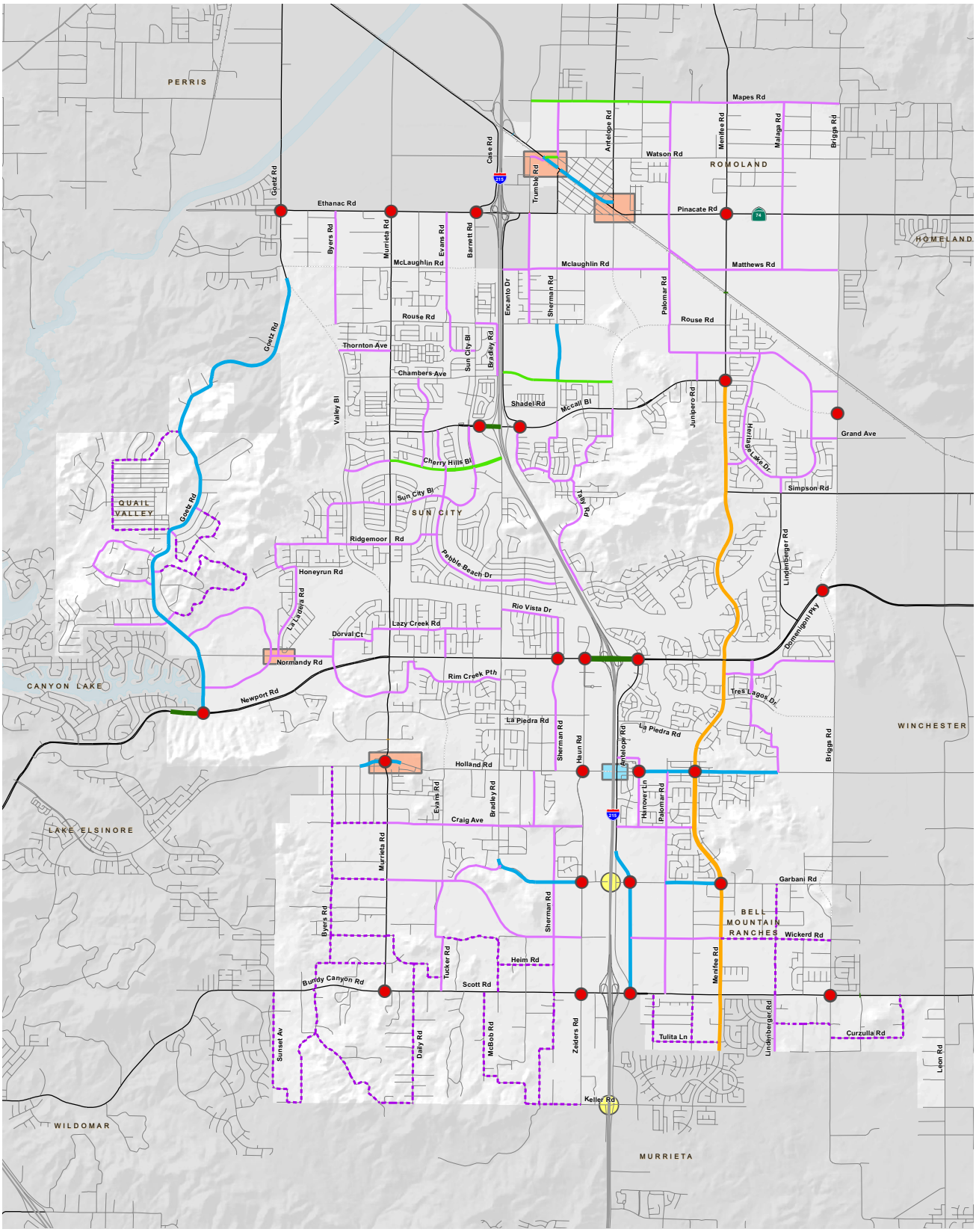
Exhibit 5-4 depicts the locations where changes from the County 2003 RCIP General Plan roadway network are proposed. These changes include modifications in the roadway classifications and additions of new roadway segments and features to promote network connectivity. To the best of our knowledge these improvements can be implemented in the long term, but future design efforts based on in-depth engineering work will be necessary to ultimately resolve any questions of feasibility.

A detailed description comparing the study area roadway segment classification on the proposed Roadway Network to the County General Plan network is included in Table 5-1. Changes between the RCIP 2035 and Menifee Post-2035 roadway network are also highlighted on Table 5-1. While the segments identified on Table 5-1 are limited to the study area roadway segments, Exhibit 5-4 shows the proposed modifications for the entire City of Menifee roadway network. In general, classifications have been further stratified and the City of Menifee collector system is now included. In addition, Table 5-1 suggests that with improvements to the overall network connectivity through the use of collector/local routes, several roads within the City can be downsized and still provide adequate capacity to serve buildout of the proposed General Plan Land Use.

Exhibit 5-5 highlights the currently proposed network features in the State Route 74/Ethanac Road convergence area. Mathews Road (SR-74) currently turns into Pinacate Road (SR-74) just east of Antelope Road, as it does not currently have a connection south of Ethanac Road/Pinacate Road. When the direct connection of Ethanac Road to SR-74 occurs in the future, the current diagonal alignment of Mathews Road (SR-74) is proposed to “T” into Antelope Road north of Ethanac Road/Pinacate Road. This area is identified as one of the Connectivity Analysis Zones acknowledging that additional review of the roadway alignments, intersection geometrics and traffic control features are needed.

EXHIBIT 5-4

Proposed Menifee / 2003 RCIP Modifications



Expressway (6 to 8 Lanes, Divided)

Urban Arterial (6 to 8 Lanes, Divided)

Arterial (4 Lanes, Divided)

Major (4 Lanes, Divided)

Mountain Arterial (4 Lanes, Undivided)

Secondary (4 Lanes, Undivided)

Collector (2 Lanes)

Rural Collector (2 Lanes)

Future Freeway Interchange

Connectivity Analysis Zone - Roadway alignments, intersection geometrics and traffic control features subject to additional assessment

Future Freeway Overcrossing

Enhanced Intersection - Additional lanes / Right-of-Way required within 600 feet of the intersection

MENIFEE GENERAL PLAN

URBAN CROSSROADS

20130705MenifeeChanges 7/22/2013 0 0.5 1 Mile

Table 5-1 (1 of 5)

Roadway Classification Comparison

Roadway	ID	Segment	RCIP 2035		Menifee Post-2035	
			Class	Lanes[1]	Class	Lanes[1]
Goetz Road	1	North of Ethanac Rd.	Arterial	4D	Arterial	4D
	2	South of Ethanac Rd.	Arterial	4D	Arterial	4D
	3	North of Newport Rd.	**Mountain**	**4D**	**Arterial**	**4D**
Murrieta Road	4	North of Ethanac Rd.	Secondary	4U	Secondary	4U
	5	South of Ethanac Rd.	Secondary	4U	Secondary	4U
	6	North of McCall Bl.	Secondary	4U	Secondary	4U
	7	Between McCall Bl. & Cherry Hills Bl.	Secondary	4U	Secondary	4U
	8	South of Cherry Hills Bl.	Secondary	4U	Secondary	4U
	9	North of Newport Rd.	Arterial	4D	Arterial	4D
	10	South of Newport Rd.	Arterial	4D	Arterial	4D
	11	North of Scott Rd.	Arterial	4D	Arterial	4D
Bradley Road	12	North of McCall Bl.	Secondary	4U	Secondary	4U
	13	Between McCall Bl. & Cherry Hills Bl.	Secondary	4D	Secondary	4D
	14	South of Cherry Hills Bl.	Secondary	4U	Secondary	4U
	15	North of Newport Rd.	Secondary	4U	Secondary	4U
	16	South of Newport Rd.	Major	4D	Major	4D
Encanto Road	17	South of Ethanac Rd.	Major	4D	Major	4D
	18	North of McCall Bl.	Major	4D	Major	4D
	19	South of McCall Bl.	**Local**	**2U**	**Collector**	**2U**
Haun Road	20	North of Newport Rd.	Local	2U	Local	2U
	21	South of Newport Rd.	Major	4D	Major	4D
	22	North of Scott Rd.	Major	4D	Major	4D
	23	South of Scott Rd	Major	4D	Major	4D

Table 5-1 (2 of 5)

Roadway Classification Comparison

Roadway	ID	Segment	RCIP 2035		Menifee Post-2035	
			Class	Lanes[1]	Class	Lanes[1]
Antelope Road	24	North of Newport Rd.	Secondary	4D	Secondary	4D
	25	South of Newport Rd.	Major	4D	Major	4D
	26	North of Scott Rd.	Major	4D	Major	4D
	27	South of Scott Rd	Major	4D	Major	4D
Menifee Road	28	North of SR-74 (Pinacate Rd.)	Urban	6D	Urban	6D
	29	South of SR-74 (Pinacate Rd.)	Urban	6D	Urban	6D
	30	North of McCall Bl.	Urban	6D	Urban	6D
	31	Between McCall Bl. & Simpson Rd	**Urban**	**6D**	**Arterial**	**4D**
	32	North of Newport Rd.	**Urban**	**6D**	**Arterial**	**4D**
	33	South of Newport Rd.	**Urban**	**6D**	**Arterial**	**4D**
	34	North of Holland Rd.	**Urban**	**6D**	**Arterial**	**4D**
	35	South of Holland Rd.	**Urban**	**6D**	**Arterial**	**4D**
	36	North of Garbani Rd.	**Urban**	**6D**	**Arterial**	**4D**
	37	South of Garbani Rd.	**Urban**	**6D**	**Arterial**	**4D**
	38	North of Scott Rd.	**Urban**	**6D**	**Arterial**	**4D**
	39	South of Scott Rd	**Urban**	**6D**	**Arterial**	**4D**
Lindenberger Road	40	North of Newport Rd.	Secondary	4U	Secondary	4U
Briggs Road	41	North of SR-74 (Pinacate Rd.)	Major	4D	Major	4D
	42	South of SR-74 (Pinacate Rd.)	Major	4D	Major	4D
	43	North of Scott Rd.	Major	4D	Major	4D
	44	South of Scott Rd	Major	4D	Major	4D

Table 5-1 (3 of 5)

Roadway Classification Comparison

Roadway	ID	Segment	RCIP 2035		Menifee Post-2035	
			Class	Lanes[1]	Class	Lanes[1]
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.	Expressway	6D	Expressway	6D
	46	Between Goetz Rd & Murrieta Rd.	Expressway	6D	Expressway	6D
	47	East of Murrieta Rd.	Expressway	6D	Expressway	6D
	48	West of I-215 SB Ramp	**Expressway**	**6D**	**Expressway**	**8D**
	49	Between I-215 SB Ramp & I-215 NB Ramp	**Expressway**	**6D**	**Expressway**	**8D**
	50	Between I-215 NB Ramp & Encanto Dr.	**Expressway**	**6D**	**Expressway**	**8D**
	51	East of Encanto Dr.	**Expressway**	**6D**	**Expressway**	**8D**
	52	West of Menifee Rd.	**Expressway**	**6D**	**Expressway**	**8D**
	53	East of Menifee Rd.	**Expressway**	**6D**	**Expressway**	**8D**
	54	West of Briggs Rd.	**Expressway**	**6D**	**Expressway**	**8D**
	55	East of Briggs Rd.	**Expressway**	**6D**	**Expressway**	**8D**
McCall Boulevard	56	West of Murrieta Rd.	Major	4D	Major	4D
	57	East of Murrieta Rd.	Major	4D	Major	4D
	58	West of Bradley Rd.	Major	4D	Major	4D
	59	Between Bradley Rd & I-215 SB Ramp	**Major**	**4D**	**Urban**	**6D**
	60	Between I-215 SB Ramp & I-215 NB Ramp	Urban	6D	Urban	6D
	61	Between I-215 NB Ramp & Encanto Dr.	Urban	6D	Urban	6D
	62	East of Encanto Dr.	Urban	6D	Urban	6D
	63	West of Menifee Rd.	Urban	6D	Urban	6D
	64	East of Menifee Rd.	Urban	6D	Urban	6D

Table 5-1 (4 of 5)

Roadway Classification Comparison

Roadway	ID	Segment	RCIP 2035		Menifee Post-2035	
			Class	Lanes[1]	Class	Lanes[1]
Cherry Hills Boulevard	65	West of Murrieta Rd.	**Local**	**2U**	**Collector**	**2U**
	66	East of Murrieta Rd.	**Local**	**4D**	**Secondary**	**4D**
	67	West of Bradley Rd.	**Local**	**4D**	**Secondary**	**4D**
Newport Road	68	West of Goetz Rd.	Arterial	4D	Urban	6D
	69	East of Goetz Rd.	Urban	6D	Urban	6D
	70	West of Murrieta Rd.	Urban	6D	Urban	6D
	71	East of Murrieta Rd.	Urban	6D	Urban	6D
	72	West of Bradley Rd.	Urban	6D	Urban	6D
	73	East of Bradley Rd.	Urban	6D	Urban	6D
	74	West of Haun Rd.	Urban	6D	Urban	6D
	75	Between Haun Rd. & I-215 SB Ramp	**Expressway**	**8D**	**Urban**	**8D**
	76	Between I-215 SB Ramp & I-215 NB Ramp	**Expressway**	**8D**	**Urban**	**8D**
	77	Between I-215 NB Ramp & Antelope Rd.	**Expressway**	**8D**	**Urban**	**8D**
	78	East of Antelope Rd.	Urban	6D	Urban	6D
	79	West of Menifee Rd.	Urban	6D	Urban	6D
	80	East of Menifee Rd.	Urban	6D	Urban	6D
	81	West of Lindenberger Rd.	Urban	6D	Urban	6D
	82	East of Lindenberger Rd.	Urban	6D	Urban	6D
Holland Road	83	West of Menifee Rd.	Major	4D	Major	4D
	84	East of Menifee Rd.	Major	4D	Major	4D
Garbani Road	85	West of Menifee Rd.	**Urban**	**6D**	**Major**	**4D**
	86	East of Menifee Rd.	Major	4D	Major	4D

Table 5-1 (5 of 5)

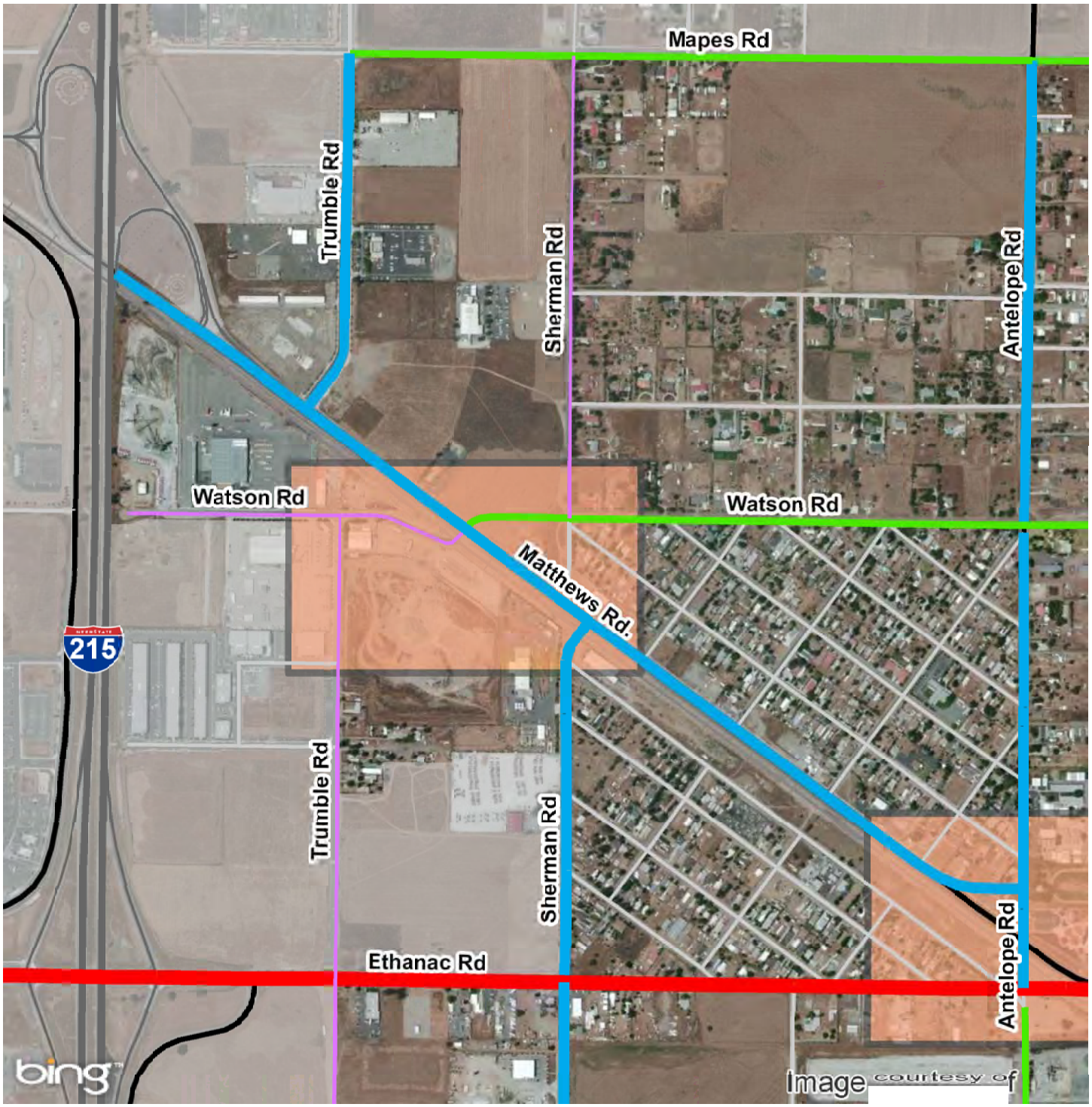
Roadway Classification Comparison

Roadway	ID	Segment	RCIP 2035		Menifee Post-2035	
			Class	Lanes[1]	Class	Lanes[1]
Scott Road	87	West of Murrieta Rd.	Urban	6D	Urban	6D
	88	East of Murrieta Rd.	Urban	6D	Urban	6D
	89	West of Haun Rd.	Urban	6D	Urban	6D
	90	Between Haun Rd. & I-215 SB Ramp	Urban	6D	Urban	6D
	91	Between I-215 SB Ramp & I-215 NB Ramp	Urban	6D	Urban	6D
	92	Between I-215 NB Ramp & Antelope Rd.	Urban	6D	Urban	6D
	93	East of Antelope Rd.	Urban	6D	Urban	6D
	94	West of Menifee Rd.	Urban	6D	Urban	6D
	95	East of Menifee Rd.	Urban	6D	Urban	6D
	96	West of Briggs Rd.	Urban	6D	Urban	6D
	97	East of Briggs Rd.	Urban	6D	Urban	6D

Changes between the RCIP 2035 and Menifee Post-2035 roadway classifications are highlighted.

[1] D= Divided; U = Undivided

Exhibit 5-5
State Route 74/Ethanac Road Convergence Area
Proposed Menifee General Plan Roadway Network



Expressway

Major

Secondary

Collector/Interconnected Local

Connectivity Analysis Zone - Roadway alignments, intersection geometrics and traffic control features subject to additional assessment

MENIFEE GENERAL PLAN

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20121115MenifeeGPz 11/15/2012 0 0.5 1 Mile

5.2 BIKEWAY AND COMMUNITY PEDESTRIAN NETWORK

The proposed Menifee Bikeway and Community Pedestrian Network (Exhibit 5-6) works in conjunction with the proposed Menifee General Plan Roadway Network to provide a framework for key routes and facilities that will enhance connectivity for all users. The layered networks enable travel by various modes to major activity areas, including civic and county facilities, hospitals, libraries, major parks and recreation area, colleges, malls and major retail centers and large employment centers.

A robust sidewalk and bikeway network provides an alternate to the automobile. Thoughtful and strategic investment can help to reduce emission-related pollution, congestion and improve overall community character. In addition, a well-designed pedestrian-based system can encourage usage.

There are 10 elementary schools, 4 middle schools, 2 high schools, and 5 private or parochial schools in Menifee. Additionally, Mount San Jacinto Community College (Menifee Valley Campus) is in Menifee, and several transit nodes have been identified. The proposed Menifee Bikeway and Community Pedestrian Network provide linkages to these key destinations.

5.2.1 PEDESTRIAN / MOBILITY DEVICE USERS

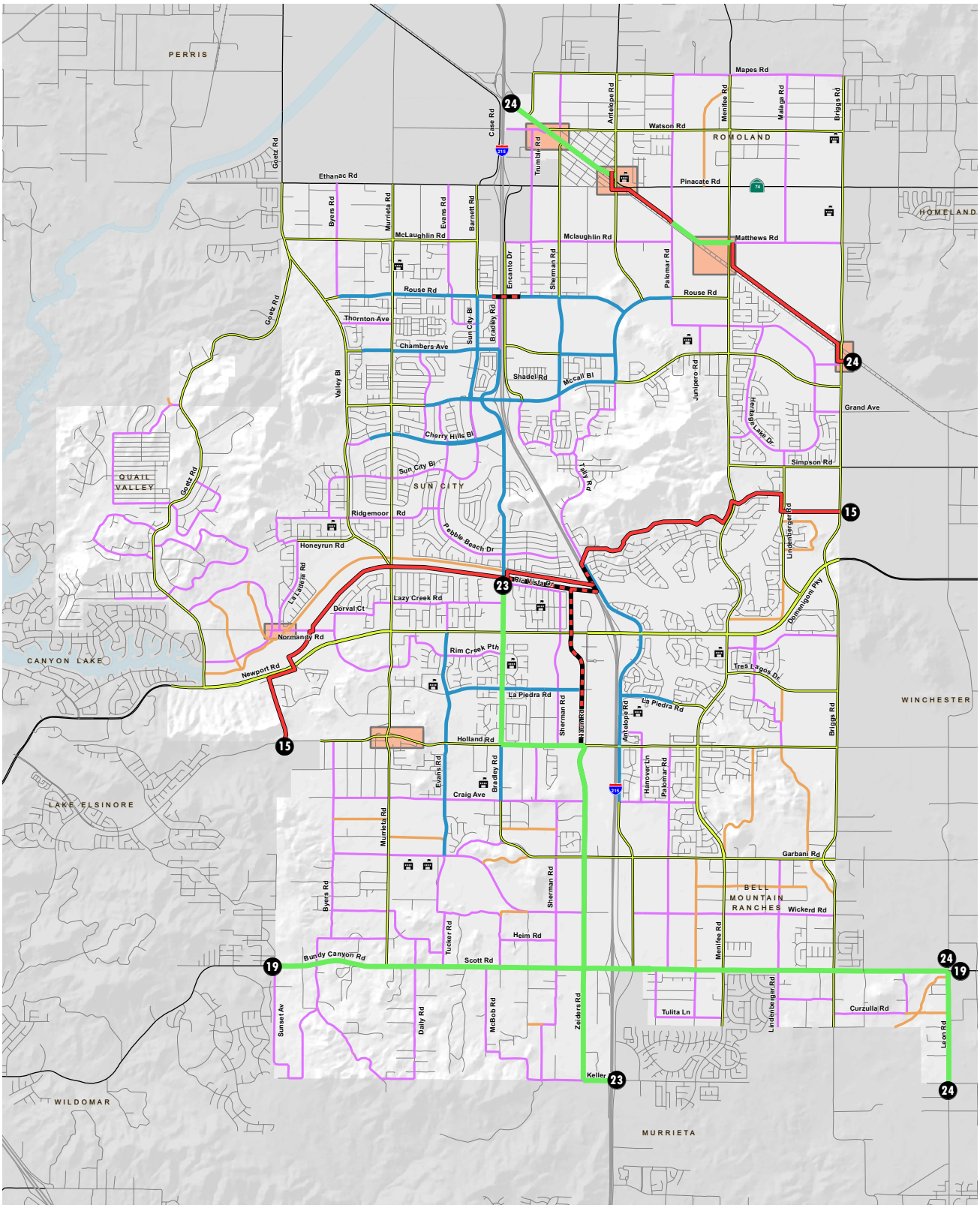
Walking is the simplest form of transportation available. Sidewalks, paths and trails serve as the pedestrian roadway, and are therefore an integral part of the roadway network discussed above. Walking trips are made out of necessity, preference or simple for exercise. Walking trips are traditional shorter in length (less than one mile) compared to other modes. Typical walking trips are to neighborhood shopping, school, parks/recreation, visit friends, or to a transit stop. Without a formal structure in place, walkers will forge a new path, follow unsafe routes or seek out less convenient or more costly alternatives. Neighborhoods and activity centers (such as schools, parks, retail, employment, etc.) should be accessible by foot wherever practical.

Walking is the least expensive transportation mode, so building and maintaining a high quality pedestrian infrastructure is advisable to help ensure that the community will be a safe, convenient, and attractive place to walk, emphasizing safe routes to school, core area paths, and connections to transit. Everyone is a pedestrian at some point during the day. We all walk with or without mobility aids (including wheelchairs, walkers, crutches, canes, scooters, and service animals used by people with disabilities), whether to a school, transit stop, to a parked car, to work, or for exercise.

5.2.2 PEDESTRIAN DESIGN CONSIDERATIONS

Walkways should be designed and built to accommodate a variety of users in a safe setting with continuity throughout the community. The design and operation of pedestrian oriented areas should carefully integrate the needs of pedestrians, motor vehicles, transit riders and bicycle users. In general the following elements should be considered:

Exhibit 5-6
Proposed Menifee Bikeway and Community Pedestrian Network



- Subregional Route - Off-Road Bike Trail (Class I)
- Subregional Route - On-Street Bike Lanes (Class II)
- Community Off-Road NEV/ Bike Trail (Class I)
- Community On-Street NEV/Bike Lanes (Class II)
- Community On-Street Bike Lanes (Class II)
- Community Hiking / Biking Trail Opportunity
- Class III Bike Routes
- Connectivity Analysis Zone - Trail alignments and traffic control features subject to additional assessment
- Existing Schools
- Subregional Route Number (WRCOG Non-Motorized Transportation Plan)

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20130705Bikeways 7/22/2013 0 0.5 1 Mile

- Schools should be accessible by foot wherever safe and practical. Ideally, sidewalks and/or paths should be provided within a minimum one-half mile radius of all schools. This distance allows for a 10-20 minute walk to school and can reduce car trips during congested periods. The radius can be expanded for high school locations and still provide for the 10-20 minute target walking time. Longer trips may occur but are less common. State and Federal funding may be available through various “safe routes to schools” programs.
- Community centers (shopping, recreation, worship, etc.) should include careful attention to off-site accessibility and on-site pedestrian movement. Large shopping centers often inhibit pedestrian trips and increase the need for on-site parking through auto-centric design and a lack of safe pathways within the center. Each site is unique and will require thoughtful layout to address parking space ratio requirements and encourage non-automotive trips. Parking requirement reductions should be considered for pedestrian-friendly, walkable centers.
- Neighborhoods should be linked to one another through a network of paths, sidewalks and access points. Cul-de-sac should include gateways that enable access to neighboring blocks without requiring circuitous routes. Neighborhoods without connections discourage interaction and encourage vehicular trips.
- Bus stops should include sidewalks and an ADA accessible pad wherever possible. Most transit agencies plan bus stops with a one-half to three-mile radius for maximum ridership potential. If transit usage is to be encouraged in lieu of vehicular trips, sidewalks and paths off of paved road surfaces should be considered wherever possible.

Safe pedestrian crossings are critical components of the pedestrian network. Although the California Vehicle Code states that a crosswalk implicitly exits on every leg at every intersection, it is important to recognize that visibility and safety are important factors that determine where people will attempt to cross a street. The following guidelines are recommended for pedestrian crossings, including both signalized and unsignalized crosswalks:

- Crosswalks should meet MUTCD standards and criteria, with wide crosswalks considered in areas of high pedestrian volumes.
- The City should use high-visibility crosswalks, especially along busy streets, in school zones, along pedestrian-oriented streets, and where a significant number of pedestrians are present. "Zebra" style crosswalks are most visible.
- Unsignalized pedestrian crosswalks should be adequately lighted, have clear sight distances, and be free from obstructions, such as landscaping and poles.
- Appropriate pedestrian crossing signs should be displayed in advance of, and adjacent to, all marked unsignalized crosswalks in order to enhance visibility of pedestrians by motorists.
- Mid-block crosswalks should be designated only in areas with relatively high pedestrian activity and crossing patterns, or where the distance to the nearest crosswalk is greater than 600 feet.
- At signalized intersections, efforts should be made to install marked crosswalks at every leg of the intersection where feasible, given traffic and other considerations.

- All crossings should meet ADA standards and guidelines.
  ADA-compliant curb ramps should be provided at all corners. Where physically feasible, every corner should have two perpendicular ramps.
- Where feasible, pedestrian crossing islands should be considered where pedestrians are required to cross a wide multi-lane street.
- Curb extensions should be considered at intersection corners as a way to minimize the crossing distance of pedestrians and to increase visibility.
- Raised crosswalks also contribute to pedestrian safety through catching the attention of drivers, slowing automobiles, and they provide a more comfortable walking environment. According to the Federal Highway Administration (FHWA), raised crosswalks increase pedestrian visibility and eliminate the need for curb ramps, which improves access for people with mobility impairments and increases the sidewalk area available to pedestrians waiting to cross the street.

5.2.3 BICYCLE PLANNING CONSIDERATIONS

Bicycles are used for recreation and commute trips to schools, jobs, parks, activity centers, and other social activities. Streets and communities that are oriented toward multi-modal travel tend to be viewed as more active, inviting, vibrant, and environmentally conscious. Bikes can be accommodated through thoughtful street design, striped lanes and separate off-street paths. Destinations can encourage bicycle trips through careful parking lot design to avoid conflicts with cars and pedestrians, security (racks/lockers), comfort stations including drinking fountains, benches and restrooms where practical, and well maintained surfaces.

Menifee's roadway network, relatively flat terrain and typical California weather provides an ideal setting for promoting and encouraging bicycle usage as a healthy and reliable transportation alternative with significant recreational potential. Key bicycle planning considerations include:

1. Bicyclists need streets and paths to ride on where they feel safe and visible.
2. Bikeway types are planned according to rights-of-way, traffic volumes, destination points and other factors.
3. A comprehensive network will contain closely spaced parallel routes and connections to accommodate trips of all lengths.
4. Consider different levels of riders when planning routes and network features: riders may be beginners, intermediate or advanced riders, each with varying comfort levels and needs.
5. Bicyclists need secure parking at their destinations. Commuters often need longer term parking such lockers. Neighborhood travels may find simple bike racks sufficient.
6. Access to transit should be encouraged wherever practical to take advantage of RTA's extensive use of bike racks on buses.
7. Large employers can foster bicycling by commuters by providing showers, clothing lockers and a place to change clothes at work.

8. Bicycle education should be actively promoted through K-12 schools, community centers and other public outlets.

5.2.4 BIKEWAY DEFINITIONS

Bikeway planning and design typically conforms to standards developed and endorsed by the California Department of Transportation (Caltrans) and the American Association of State Highway and Transportation Officials (AASHTO). Specific design recommendations and planning concepts have been developed to provide a level of consistency while encouraging local needs. Bicycle facilities are generally categorized in three separate classes with distinct objectives and characteristics.

Class I Bike Trails: Provides for bicycle travel on a paved or graded path outside of a road right of way. Bike trails may be shared with other uses, such as pedestrians on a multi-use trail. Class I bike trails are typically 8-12 feet in width to accommodate bi-directional travel.

Class II Bike Lanes: Provides a striped lane within the road right of way for one-way bicycle travel. Bike lanes may be shared with NEVs and/or golf carts under certain circumstances. Bike lanes are typically 5-8 feet in width adjacent to the curb lane. On-street parking with Class II bike lanes will require safety considerations.

Class III Bike Routes: Bike routes are signed but not striped for bicycle use. Bike routes are generally planned on low volume, low speed, local and collector streets where vehicular conflicts are minimal.

5.2.5 SUBREGIONAL CONTEXT

The County of Riverside's Riverside County Integrated Plan (RCIP), adopted in 2003, included a conceptual Trails and Bikeway System for the Sun City/Menifee Valley Area Plan. Much of this area was later incorporated into the City of Menifee. The conceptual system combined regional and community trails with potential Class I bike Trails. Looking forward, the proposed Menifee Bikeway and Community Pedestrian Network (Exhibit 5-6) now focuses on specific community needs and sets the stage for a comprehensive and effect system which supports pedestrian and bicycle travel.

The Western Riverside Council of Governments (WRCOG) adopted a Non-Motorized Transportation Plan (NMTP) in 2010. The NMTP includes a system of regional routes through western Riverside County, including the City of Menifee. Although the NMTP is non-binding to participating agencies, the plan consolidated adopted bike plans where available and created a recommended system of supporting routes to connect systems to each other and serve as regional non-motorized transportation backbone. The NMTP included four routes that directly serve Menifee and connect to neighboring jurisdictions. These regionally significant routes were identified in the NMTP as follows:

- Route 15: Future Class I bike path along Salt Creek with an eastern connection to Hemet and a western connection to Lake Elsinore
- Route 19: Future Class II bike lane along Scott Road/Bundy Canyon connecting to Mission Trail in Lake Elsinore and Washington Street in French Valley
- Route 23: Future Class II bike lane along Bradley Road/Holland Road/Haun Road with a northern terminus at Salt Creek in Menifee and connecting to Murrieta at Keller/Antelope
- Route 24: Future Class II bike lane along Mathews road connecting to Perris at Case Road and County of Riverside at Leon Road

The proposed Menifee Bikeway and Community Pedestrian Network (Exhibit 5-6) incorporates and refines these subregional bicycle and pedestrian trails from the NMTP.

5.3 POTENTIAL TRANSIT NETWORK

The network of potential transit services shown on Exhibit 5-7 works in conjunction with the proposed Menifee General Plan Roadway Network and the proposed Menifee Bikeway and Community Pedestrian Network to provide a framework for key routes and facilities that will further enhance connectivity for all users.

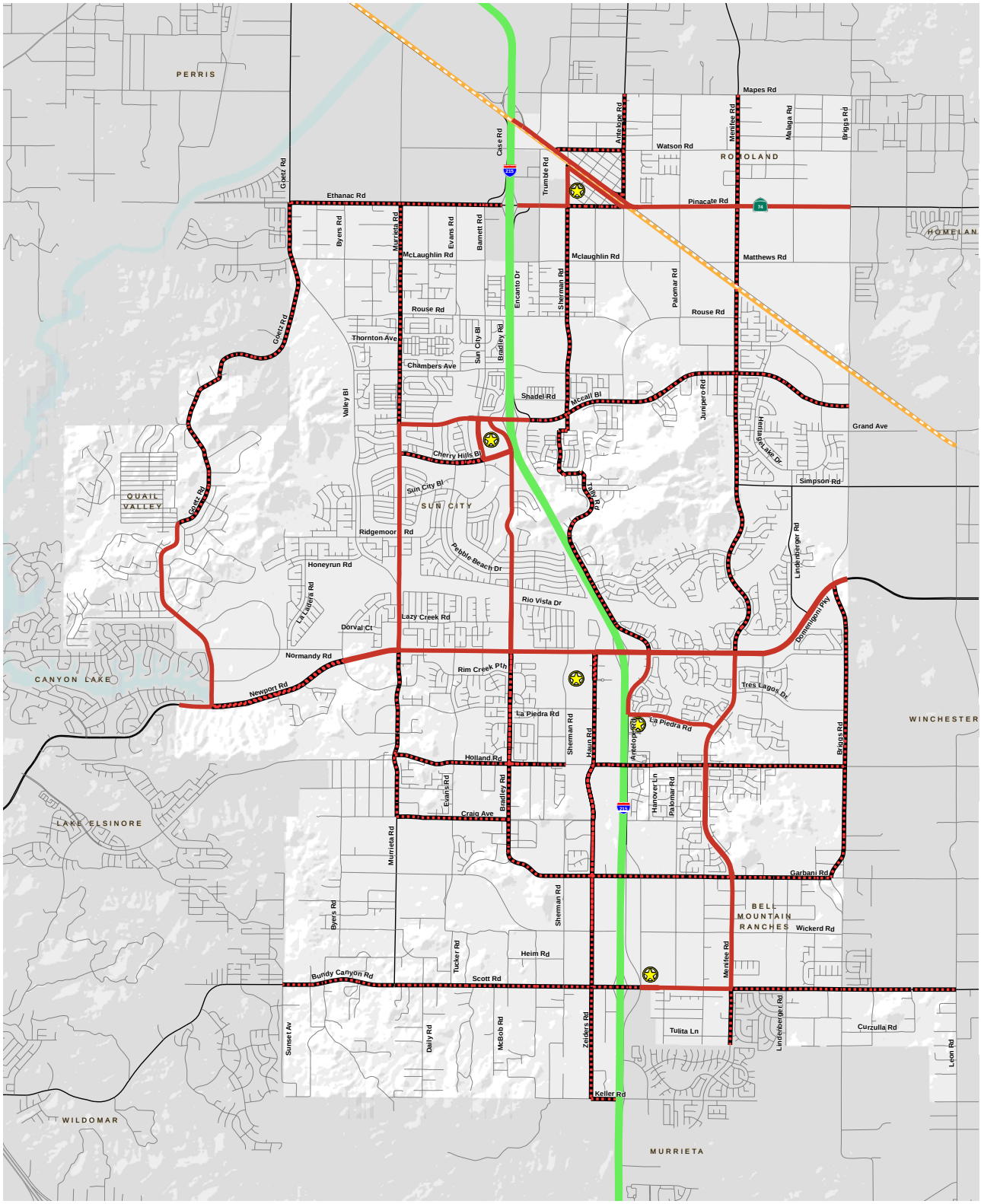
The Riverside Transit Agency (RTA) provides fixed route and Dial-A-Ride bus service within the City of Menifee and neighboring jurisdictions. Fixed route service represents established routes that follow fixed timetables. RTA currently provides six fixed routes that operate within and through the City of Menifee serving residential, business and educational institutions. RTA reviews and updates fixed route bus service three times annually and makes adjustments to the system as needed to address ridership, budgetary and other factors. Dial-A-Ride service is a demand response shuttle-type service that complements the fixed route system by providing accessible transit to address Americans with Disabilities Act (ADA) mandates. Dial-A Ride is also available to seniors for travel within the city. Dial-A-Ride shuttles operate within three-quarters of a mile of any RTA fixed route service.

Bus stops are generally placed by RTA on public rights of way. These stops may include signage only, bus bench, shelter or other amenities. Maintenance of bus stops is provided either by RTA or by the City according to an agreement. Ideally, bus stops should be ADA accessible but may have limited access in rural areas or confined locations.

Transit ridership in some communities is high enough to warrant a transit node or center. Transit centers often host multiple routes that overlap or converge for efficient transfers from one bus to another. Transit Centers may be stand alone or located within large shopping centers, college campuses or other transit-dense location. As the City of Menifee grows, a transit center may be considered to facilitate commuter express bus service, fixed route bus service, future connections to Perris Valley Metrolink stations and carpools. The location of a transit node or center is determined by ridership demand, design elements (such as parking garage or surface parking needs and bus bays),

Exhibit 5-7

Potential Menifee Transit Services



Exisitng On-Road Transit Service (RTA)

Potential Future On-Road Transit Service

Potential Future Rail Service

Express Bus Service

Transit Node

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20130705BusRoutes 7/5/2013 0 0.5 1 Mile

and coordination with other modes of travel. Five potential transit node locations within the City of Menifee are shown on Exhibit 5-7. These five transit node locations represent key locations that may benefit from transit services. The node locations include Sun City core, Mount San Jacinto College and key centers of commercial retail activity.

5.3.1 LOCALLY OPERATED SERVICE

Several cities through Riverside County have elected to provide local shuttle or Dial-A-Ride service to better serve the local community. Cities that have their own system, as a compliment to RTA, include Corona, Banning and Beaumont. Funding is available through select grant programs administered through Riverside County Transportation Commission (RCTC), state or federal agencies. Menifee may review the level of service received through RTA from time to time to see if a locally operated system is efficient and cost effective particularly for senior services.

5.3.2 SPECIALIZED FIXED ROUTE TRANSIT TYPES

To serve the travel needs of a community, there are a variety of specialized transit opportunities that might be considered. These types of uses may include the following:

Bus Rapid Transit (BRT): Traditional fixed route buses travel along a major roadway with closely spaced bus stops which are typically located at each major intersection. BRT service differs from other fixed service in that it uses fewer stops with greater spacing to permit faster point-to-point travel. BRT routes may also use higher capacity bus stops, special travel lanes, traffic signal priority and/or unique vehicles. The I-215 corridor through Menifee has been evaluated as a potential BRT route. BRT works best when connecting multiple communities with high transit usage and a need to move people quickly and efficiently.

Commuter Bus: RTA provides several commuter-based fixed route buses throughout the system. There are currently two routes that directly serve Menifee commuters. These buses provide “express” service that uses the I-215 for portions of the route. RTA CommuterLink Route 208 connects Temecula to downtown Riverside with a stop near McCall Boulevard/Bradley Road. RTA CommuterLink Route 212 connects Hemet to downtown Riverside via SR-74 and I-215 but the nearest stop is at the Perris Station Transit Center.

Metrolink: Commuter rail is provided in several counties in southern California by Metrolink. Metrolink provides service to Riverside County through several rail lines travelling to Los Angeles, Orange, San Bernardino and San Diego counties. Riverside County Transportation Commission (RCTC), in partnership with Metrolink, is responsible for rail planning and funding within Riverside County. RCTC is currently planning an extension of existing rail service from Riverside/San Bernardino along the I-215 and terminating in the City of Perris. The Perris Valley line will provide commuter rail service to Menifee at a Metrolink station planned at Case Road west of I-215. Future service could be extended

into Hemet/San Jacinto if ridership demand and other important considerations are met. In addition, the City of Menifee has expressed a desire to add a Metrolink station to serve the community.

According to the Year 2000 Post-Census Regional Travel Survey, Final Report of Survey Results (Southern California Association of Governments, Fall, 2003), for existing conditions in Riverside County, 0.4% of trips are served by transit. For the entire SCAG region, transit accommodates approximately 1.8% of person trips. As transit service is expanded, the proportion of trips served by transit (i.e. the transit mode share) is expected to increase.

5.4 NEIGHBORHOOD ELECTRIC VEHICLES/GOLF CARTS

In 1999, Riverside County adopted a Golf Cart Plan that enables residents in the Sun City community to use golf carts on certain public streets. Golf carts provide a reliable, environmentally friendly way to travel within a defined network to shop, visit and explore. Neighborhood electric vehicles (NEVs) are a relatively recent mode choice within the low speed vehicle (LSV) family that is gaining attention and expanding travel choices.

5.4.1 NEV/GOLF CART PLAN FEATURES

NEVs and golf carts have similar characteristics but also contain important differences. NEVs may operate on any roadway with a posted speed limit of 35 miles per hour (MPH) or less unless specifically prohibited by an adopted NEV plan. NEVs are permitted to operate in separate lanes on roads with posted speed limits of 40 MPH or greater when included in an approved NEV Plan. Golf carts are restricted to private property, golf courses or with one mile of a golf course if the street is identified in an approved Golf Cart Plan such as the Sun City Golf Cart Plan. The proposed Menifee neighborhood electric vehicle network expands the original Sun City golf cart plan and identifies areas throughout the City of Menifee that will accommodate the use of NEV's/golf carts. Licensing, vehicle registration, safety equipment and operational capabilities also differ with NEVs as the more closely regulated vehicle type. These vehicles are subject to established Department of Motor Vehicles laws and regulations.

In 2010, WRCOG adopted the 4-City Neighborhood Electric Vehicle Plan. This first-of-its-kind study identified network features and connections for NEV operations within and between the Cities of Corona, Moreno Valley, Norco and Riverside. The non-binding study garnered significant enthusiasm for other jurisdictions which led to passage of Assembly Bill 61 or AB 61 (Jeffries). AB 61 took the necessary step of gaining legislative approval for all jurisdictions in Riverside County to plan, adopt and implement an NEV Plan in any supportive community. The City is permitted to use the approved legislation to adopt and implement an NEV plan. This presents a unique opportunity for the City of Menifee, since Assembly Bill 61 provides the framework for adopting and implementing an NEV plan. An important feature of NEV Plans is to identify not only low speed routes where NEVs are legally permitted to operate, but also roadways that have higher speed limits and separate NEV lanes. NEV

lanes are similar those used for bikeway classification as Class II bike lanes and, where appropriate, may overlap and certain segments of the bikeway network. This approach has been used successfully in the City of Lincoln north of Sacramento with great success and is the basis for the WRCOG 4-City Neighborhood Electric Vehicle Plan recommended backbone network.

5.4.2 POTENTIAL NEV/GOLF CART PLAN

The network of potential NEV routes shown on Exhibit 5-8 works in conjunction with the proposed Menifee General Plan Roadway Network and the proposed Menifee Bikeway and Community Pedestrian Network to provide a framework for low speed vehicle usage. The concept plan depicts the existing Golf cart plan roadways as well as potential NEV routes as either Class I routes (off-street), Class II striped lanes (on-street shared lanes with bikes), and Class III preferred local routes (on-street, signed only). NEVs may be legally operated on any local street with a posted speed limit of 35 MPH of less unless specifically prohibited by local ordinance.

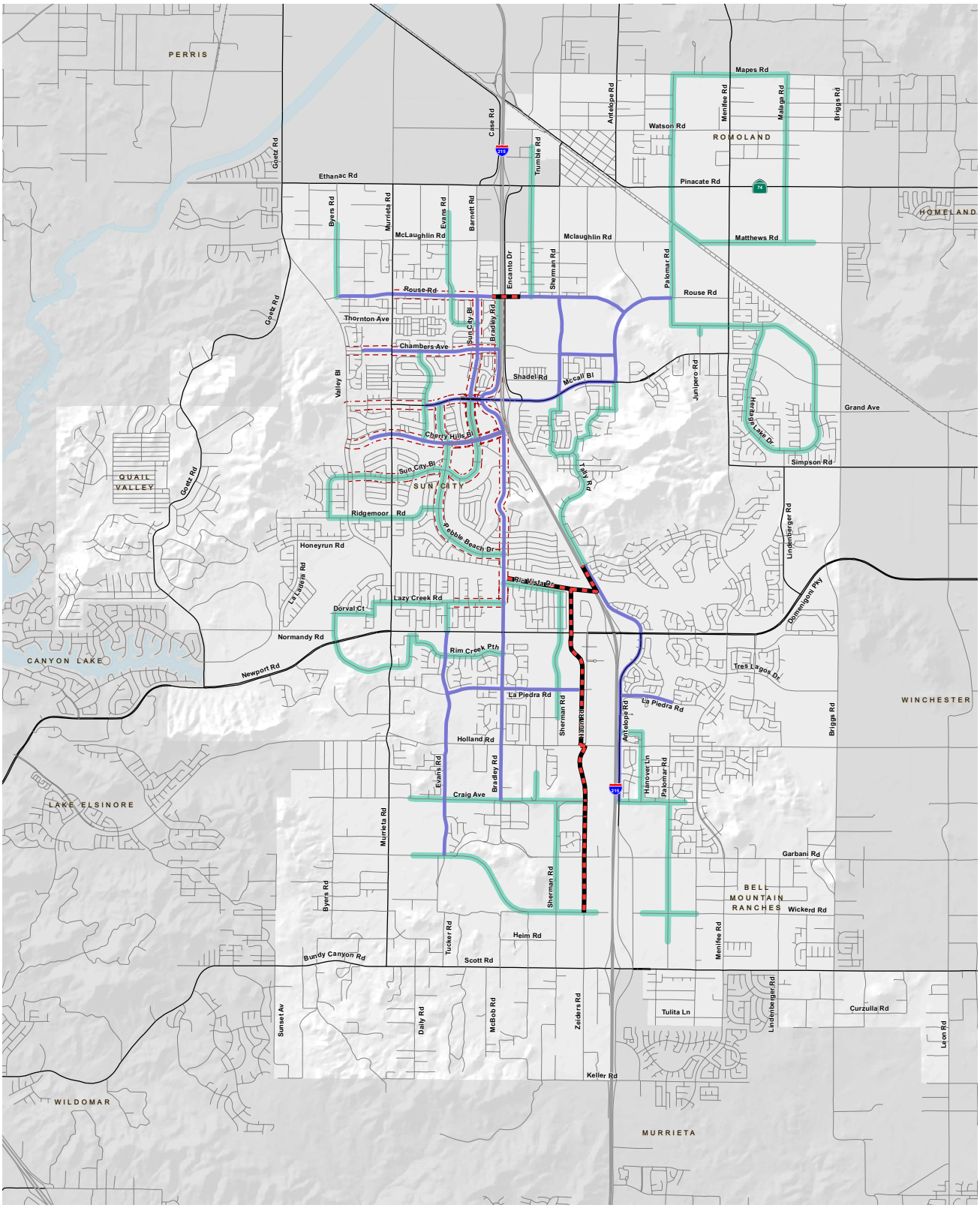
The conceptual plan was developed with the following guiding considerations:

- Identify routes with the highest potential for use and where vehicle interaction can be coordinated
- Select backbone facilities with that have relatively low traffic (acceptable levels of service) with emphasis on Major and Secondary arterials
- Avoid high traffic interchanges where potential vehicular conflicts (turning movements) pose a significant safety concern
- Provide connections to schools (pre-school through college), shopping, activity center, and residential neighborhoods
- Recognize that NEVs/golf carts are an alternative transportation choice with potential for reducing vehicular trips and related emissions for a limited population
- Maximize existing and planned alternative mode transportation investment wherever possible by enable use of special lanes and trails where they make sense

Neighborhood electric vehicles (NEVs) are a street legal, low cost, energy efficient, zero emissions mode of local travel that is currently available – but current impediments to widespread usage include the following: (1) lack of interconnected low speed routes, and (2) driver confusion regarding where these vehicles can safely be operated. These problems can be addressed in Menifee by the implementation of an integrated local NEV plan which overcomes connection issues, identifies safe routes, and enable clear communication about where residents can go in low speed vehicles.

The unintended consequence of providing a high level of mobility on our roadways includes high-speed auto-oriented patterns that sometimes inhibit the operation of low speed vehicles and other modes. Drivers are gradually becoming aware of the official low speed vehicle classification, commonly described as NEVs, which are already approved at federal and state levels for use on public streets.

Exhibit 5-8
Potential Menifee Neighborhood Electric Vehicle Network



NEV/Bike Lanes (Class II Routes)

Shared Use Roadway (Potentially Signed, Class III Routes, on Two-Lane Roadways with Speed Limits of 35 MPH or Less; NEV/Bike Lanes on Roadways with Speed Limits Greater than 35 MPH)

Adopted Sun City Golf Cart Plan

Off-Road Golf Cart/NEV/Bike Trail (Class I)

With their emphasis on short trips and speed capabilities capped at 25mph, NEVs are generally restricted to streets with posted speed limits of 35mph or less. Drivers need to know where they can safely operate NEVs in Menifee – until they do, confusion regarding NEVs will exacerbate conflicts with auto drivers and bicyclists, and the appropriate use of low speed vehicles by both businesses and residents will be restrained.

5.4.3 ACCOMMODATING A LOW SPEED TRAVEL CULTURE IN MENIFEE

Accommodating low speed zero emission vehicles is a potent strategy to reduce greenhouse gas (GHG) emissions while encouraging a healthier level of community interaction. Although some level of NEV ownership and operation will occur regardless of the city's attention to the matter, Menifee can proactively address conflicting mode issues and encourage safe NEV operations by identifying the suitable NEV backbone routes, implementing street signage and striping of lanes for appropriate operation of low speed vehicles, providing parking incentives and low cost charging stations, and promoting the NEV plan to the public – activities that are essential to acceptance and use of NEVs by residents and businesses.

To accommodate the NEV users, special parking areas can be provided in local grocery and commercial shopping centers. There has been an increase in NEV usage by the general public for transporting kids to school, shopping, and other neighborhood trips. NEV accommodations make available an economic mode of transportation for those who cannot walk or ride a bicycle long distances, as well as for those who do not wish to operate a heavier high speed car for short local trips.

The modern NEV can travel 30 miles between charges. They plug into any 110V outlet, in a garage, or at an outlet at a neighborhood commercial center. Any NEV parking site that would have NEVs parked for several hours would likely benefit from available charging infrastructure. Visitors driving their NEV to a neighbor's house for an afternoon party would enjoy having an external electric outlet to charge from as well.

There are also opportunities to utilize solar photovoltaic-integrated parking shade structures or home systems to charge NEVs. Structures could be located at destinations where NEVs park during the day (opportunity charging), increasing the vehicle's range and yet not impacting daytime peak loads on the grid. The solar parking shade structure may also be considered at key destinations throughout the community to encourage the use of low speed travel using a NEV.

5.4.4 NEVS, TRANSIT AND BIKES – STRATEGIES FOR SAFE OPERATIONS

The mix of NEVs with autos and buses and bikes and pedestrians raises safety concerns that must be addressed. Cities do not expect a bicycle or bus to meet the same safety standards as a passenger car. A NEV should therefore be held to the standards defined by its class.

In terms of vehicle class, the NEV has an exemplary safety record. Although thousands of NEVs have been operating on public roads for the past ten years, there is no evidence in either the U.S. or Canada that NEVs have been involved in a disproportional share of roadway accidents. Nor is there evidence that NEV injuries or fatalities have been unusual.

The admirable NEV safety record can be attributed to low operating speeds (such things as better driver control at lower speeds, and shorter braking distances), reduced trip lengths (general use of NEVs within neighborhoods / communities) and awareness of ambient conditions (drivers of NEVs are generally aware of their operating limitations and drive them appropriately). The NEV also provides an increase in occupant protection when compared to other low speed transportation options in the marketplace such as bicycles and motor scooters.

NEVs are a desirable part of the urban fabric. When NEVs are combined with car sharing options at transit stations, the transit services become more convenient. Because NEVs generally share the same road space as other motorized vehicles, bicyclists benefit from their clean and lower speed operation. There will always be situations on our streets where cars, trucks, bikes, motorcycles, NEVs and pedestrians must cross the same space. Because motorized vehicles are generally becoming quieter in their designs, visual caution is necessary by all users of streets, drivers must be vigilant for the needs of visually impaired pedestrians, and all aspects of our transportation networks need to be professionally evaluated in terms of vehicle operations and pedestrian safety.

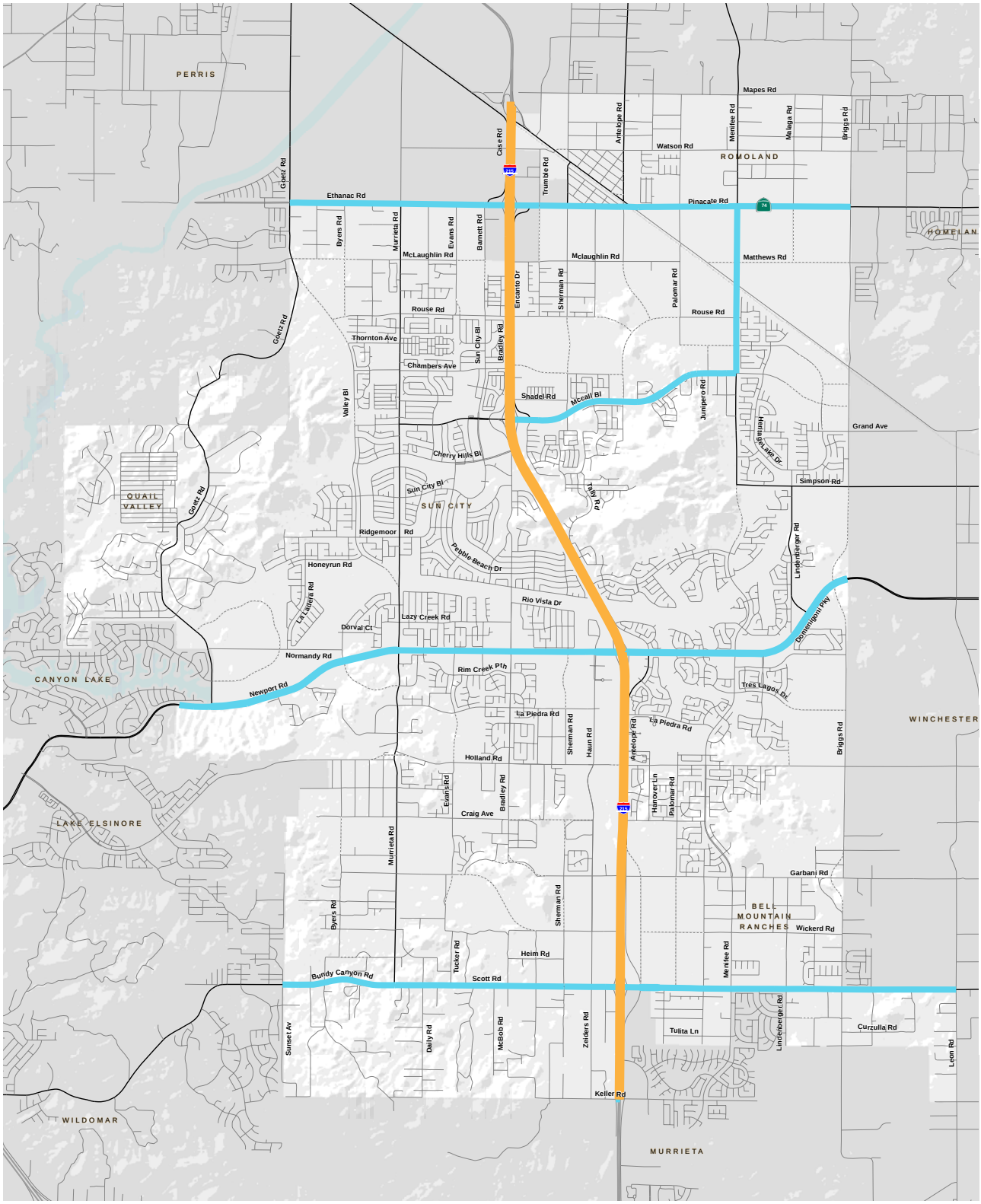
5.5 TRUCK ROUTES

The County of Riverside has identified only two regional truck routes within the City of Menifee, the I-215 and SR-74. The network of potential truck routes shown on Exhibit 5-9 works in conjunction with the proposed Menifee General Plan Roadway Network to provide a framework for truck routes that serve key commercial areas.

The truck routing issue involves several components. First, truck drivers do not always have good information about the approved truck routes or the truck restricted routes. In some cases, truck routes are not consistent from one jurisdiction to another, leading to driver confusion. Some routes are also not well signed. Truck drivers often use internet sourced maps to determine routing, which may be misleading because not all “major” routes on map sources actually allow trucks. Some may in fact be truck restricted but there is no easy way for the drivers to know this information. Finally, in some cases all of these factors lead trucks to use a route that should not be used due to adjacent sensitive land uses such as residential or schools, or they use routes that are not adequate for heavy vehicle activity due to physical design features such as horizontal and vertical curves, or pavement condition.

To support the demand for truck activities five additional truck routes have been identified for the City of Menifee. Based on a review of the existing and proposed land uses that support heavy trucks, the following truck routes are identified on Exhibit 5-9:

Exhibit 5-9
Potential Menifee Truck Routes



Truck Route

I-215 Freeway Corridor

The designated truck routes within the City have been selected because of their accessibility to the freeway and key industrial/commercial areas. The designation of truck routes does not prevent trucks from using other roads or streets to make deliveries to individual addresses, or for other reasons as defined in the State of California *Motor Vehicle Code.*

MENIFEE GENERAL PLAN

URBAN CROSSROADS

20130705TruckRoutes 7/5/2013 0 0.5 1 Mile

1. Menifee Road from State Route 74 (Pinacate Road) to McCall Boulevard
2. McCall Boulevard from I-215 to Menifee Road
3. Newport Road
4. Bundy Canyon Road/Scott Road

The City of Menifee will follow the procedures specified in the California Vehicle Code in order to establish additional truck routes within the City.

5.6 AIR TRAVEL

The Ontario International Airport is about 44 miles to the northwest. Passenger service is also available at the Palm Springs International Airport and Riverside Municipal Airport. Four smaller airports also operate in the Menifee area. French Valley Airport is a county-owned public-use airport off Highway 79 in Murrieta. French Valley Airport has one asphalt-paved runway. The county-owned Hemet-Ryan Airport off Stetson Avenue in Hemet has a 4,300-foot runway and also has general aviation facilities. Skylark Field Airport in Lake Elsinore is a private airport with three runways and is used for general aviation and skydiving activities. Perris Valley Airport is a privately owned and operated airport open to public use. The airport has one runway and is used for general aviation and extensive skydiving. A skydiving drop zone operates at the airport, and skydivers land about 50 feet from the runway. As identified in the Riverside County Airport Land Use Plan, the northwestern portion of Menifee lies in the Compatibility Zone E of the Perris Valley Airport and is subject to land use restriction standards.

March Air Reserve Base in unincorporated Riverside County area, north of Perris and west of Moreno Valley, has take-off and landing flight patterns that go over the northwest portion of Menifee. Certain properties in the northern portion of the City of Menifee are within the Air Influence Area and are subject to land use restrictions established in the Comprehensive Land Use Plan for the March Air Reserve Base.

5.7 SCENIC HIGHWAYS

The County of Riverside has identified four County Eligible Scenic Highways in the Sun City/Menifee Valley area: Interstate 215 from McCall Boulevard to the southerly Plan boundary; McCall Boulevard from Interstate 215 on the west to Menifee Road on the east; Menifee Road from McCall Boulevard to the northerly Plan boundary, and State Route 74 from Interstate 215 to the easterly Plan boundary. Scenic Highways provide the motorist with views of distinctive natural characteristics that are not typical of other areas in the City. The intent of these designations is to conserve significant scenic resources along scenic highways for future generations, and to manage development along scenic highways and corridors so that it will not detract from the area's natural characteristics.

6.0 MENIFEE TRAFFIC MODEL

The section describes the development and application of the Menifee Traffic Model that is used to estimate interim Year 2035 conditions, future Post-2035 traffic conditions and VMT.

6.1 RIVERSIDE TRANSPORTATION ANALYSIS MODEL (RIVTAM)

The County of Riverside released the Riverside County Transportation Analysis Model (RivTAM) in 2010, which has since been updated for analysis of the proposed City of Menifee General Plan. The City of Menifee refined version of RivTAM has been developed to evaluate the trip-making characteristics and resulting travel patterns of the Menifee General Plan. In order to accomplish this, the land uses in the City of Menifee were translated into socio-economic data, the roadway network was updated, and the model processes were performed. The resulting forecasts were evaluated to determine the appropriate circulation system features to support the General Plan Circulation Element Traffic Study.

RivTAM is a focused traffic model that is consistent with the SCAG Regional Model and includes the entire southern California region (Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties). It includes the greatest level of detail within the primary analysis or study area, with the least detail included in those parts of the model which are geographically distant from the primary study area.

In addition to the trip generation, trip distribution, time of day factoring, and traffic assignment steps, RivTAM also includes a mode choice component, explicitly calculating mode share for transit and non-motorized travel components. The model also incorporates “feedback loops” that are intended to increase the sensitivity of the model to changes in travel supply and demand in reaching equilibrium / convergence between supply and demand.

6.2 TRAFFIC ANALYSIS ZONE STRUCTURE AND NETWORK

Based on a review of the proposed City of Menifee General Plan land use, and topography several Traffic Analysis Zone splits were made to improve the model results. In addition to the proposed Menifee Model network splits, several changes were made to the centroid connectors to better represent the loading of traffic on network.

Many highway network coding changes were necessary to create the City of Menifee refined Version of RivTAM. To develop the City of Menifee traffic model, each individual RivTAM roadway link was reviewed for consistency and network connectivity. Based on this review, the following changes were made to the network:

- Watson Road had direct access to the freeway north of the Ethanac/I-215 Interchange. This network coding error was corrected.

- Cherry Hills Boulevard was reclassified as Secondary roadway.
- The erroneous extension of Grand Avenue south of McCall Boulevard at Menifee Road was corrected.
- Bradley Road at Craig Avenue was coded in the network as an overcrossing - this has been corrected to reflect an at-grade intersection.
- The southbound I-215 ramps were connected to Keller Road

6.3 SOCIO-ECONOMIC DATA INPUTS

The model socio-economic datasets for representation of long range future conditions were obtained from the project team and input to the RivTAM Post-2035 scenarios. The data is derived from the proposed Menifee General Plan Land Use Element for future city buildout conditions. The buildout data reflects occupancy of the land uses ultimately envisioned for the City of Menifee at this time and does not correspond to a specific horizon year (unlike the approach taken in the Regional Transportation Plan). Therefore, the General Plan buildout data is not directly comparable to the RivTAM 2035 data, which is derived from the Regional Transportation Plan dataset.

7.0 FUTURE TRAFFIC CONDITIONS

This section provides a summary of the three future traffic analysis conditions including one interim year scenario (RCIP 2035), and two separate buildout (Post-2035) scenarios. The RCIP 2035 scenario includes nominal growth in City of Menifee employment in comparison to existing conditions, and a population growth of approximately 30 percent. The Post-2035 scenarios account for full occupancy of residential and non-residential land uses included in the proposed General Plan Land Use Element.

Buildout of the proposed land use plan is projected to accommodate approximately 63,754 dwelling units and 158,948 people (approximately 80% increase in population over existing conditions). The buildout scenarios potentially increase employment by more than 80,000 jobs (a fivefold increase over existing conditions) and greatly improves the jobs/housing balance within the City.

All future traffic volume forecasts have been developed from the traffic model using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between existing conditions and future year conditions. In addition, all of the average daily traffic volume forecasts and the future turning movement estimates have been reviewed for reasonableness and ensure a minimum growth of ten (10) percent.

7.1 RCIP 2035 TRAFFIC FORECASTS

The interim year RCIP 2035 traffic forecasts reflect the currently adopted County of Riverside's General Plan Circulation Element that was adopted in 2003 through the Riverside County Integrated Project (RCIP). The RivTAM model reflects the RCIP 2035 conditions and roadway network classifications shown on Exhibit 3-1. The refined model forecast calculations for RCIP 2035 conditions are included in Appendix 7.1. Exhibit 7-1 presents the Average Daily Traffic Volumes expected for interim year RCIP 2035 conditions. Exhibits 7-2 and 7-3 provide the interim year RCIP 2035 AM and PM peak hour intersection turning movement volumes.

Future year roadway segment capacities and intersection lane configurations have been based upon the General Plan buildout roadway cross-sections. Locations requiring additional turn lanes (i.e., dual left turn lanes and / or exclusive right turn lanes) may require additional right of way in the immediate vicinity of the intersection. Monitoring/ongoing analysis of arterial level intersections should be conducted in conjunction with specific development projects to ensure that adequate intersection configurations are implemented in a phased manner in conjunction with ongoing development.

7.1.1 ROADWAY SEGMENT ANALYSIS

Table 7-1 provides a summary of the interim year RCIP 2035 conditions roadway segment capacity analysis based on the capacity thresholds identified on Table 2-1. As shown on Table 7-1, only one out of

EXHIBIT 7-1

RCIP (2035) AVERAGE DAILY TRAFFIC (ADT)

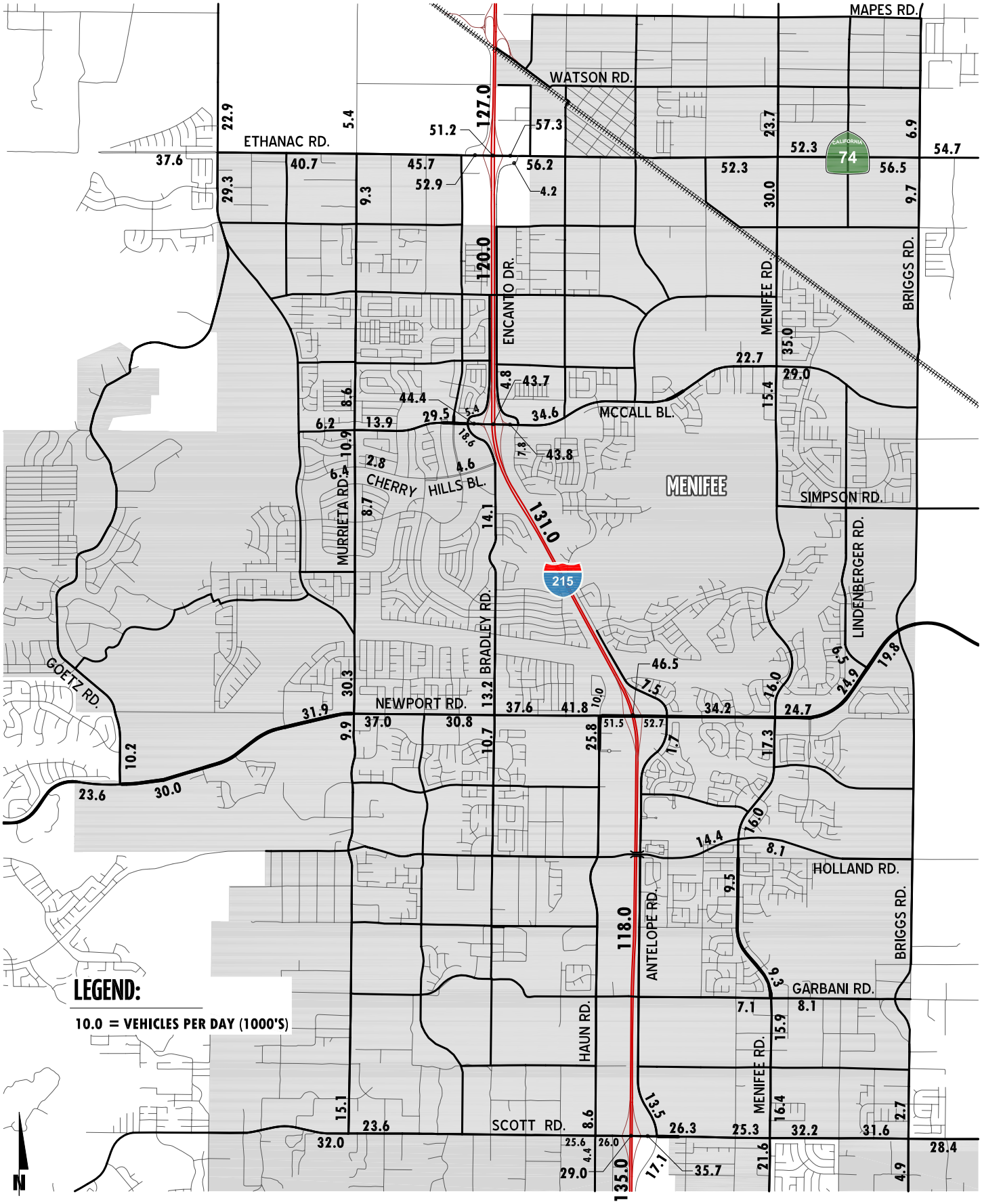
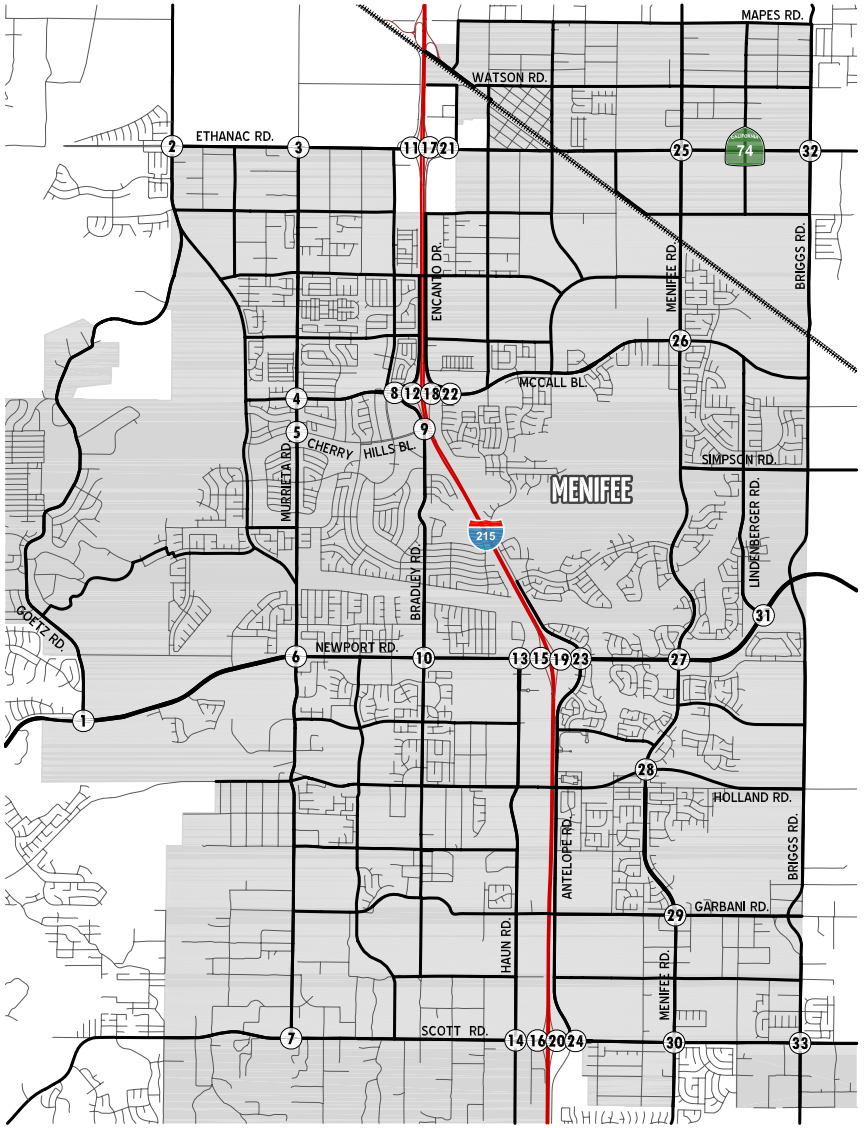


EXHIBIT 7-2

RCIP (2035)
AM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

239	1	432
144	802	10
70	678	3
15	3	25

2 Goetz Rd. & Ethanac Rd.

521	224	239
188	968	695
92	663	41
61	130	498

3 Murrieta Rd. & Ethanac Rd.

50	32	57
95	1345	167
3	1387	43
108	126	179

4 Murrieta Rd. & McCall Bl.

86	181	79
95	170	215
74	191	5
4	150	150

5 Murrieta Rd. & Cherry Hills Bl.

178	220	22
20	40	33
83	114	173
16	214	34

6 Murrieta Rd. & Newport Rd.

350	118	762
333	703	55
303	835	31
32	84	26

7 Murrieta Rd. & Scott Rd.

508	116	
100	779	
274	672	

8 Bradley Rd. & McCall Bl.

15	63	174
71	753	529
38	812	69
45	34	347

9 Bradley Rd. & Cherry Hills Bl.

48	303	
58	62	
84	276	

10 Bradley Rd. & Newport Rd.

93	205	239
142	730	237
130	1067	124
183	246	355

11 I-215 SB Ramps & Ethanac Rd.

272	205	
257	1533	
1795	318	

12 I-215 SB Ramps & McCall Bl.

206	0	202
1147	563	
1046	287	

13 Haun Rd. & Newport Rd.

44	41	93
247	947	342
104	1375	161
107	36	276

14 Haun Rd. & Scott Rd.

125	40	403
267	687	24
75	697	96
118	156	9

15 I-215 SB Ramps & Newport Rd.

320	415	
646	1216	
1240	504	

16 I-215 SB Ramps & Scott Rd.

148	282	
464	715	
521	488	

17 I-215 NB Ramps & Ethanac Rd.

161	1402	
1758	242	
388	511	

18 I-215 NB Ramps & McCall Bl.

192	1498	
256	992	
212	2	345

19 I-215 NB Ramps & Newport Rd.

404	1561	
1244	411	
301	396	

20 I-215 NB Ramps & Scott Rd.

248		
354	931	
110	693	
2	532	

21 Encanto Dr. & Ethanac Rd.

1515	122	
2217	52	
48	77	

22 Encanto Dr. & McCall Bl.

105	9	57
44	1376	15
89	1148	100
209	12	25

23 Antelope Rd. & Newport Rd.

160	70	112
88	1401	129
83	809	748
404	45	119

24 Antelope Rd. & Scott Rd.

284	295	158
49	645	125
132	789	304
356	125	103

25 Menifee Rd. & SR-74 (Ethanac Rd.)

149	554	318
196	1359	370
254	1391	336
452	609	681

26 Menifee Rd. & McCall Bl.

397	475	518
854	613	11
544	618	120
142	392	24

27 Menifee Rd. & Newport Rd.

509	299	123
151	816	246
415	510	105
136	205	164

28 Menifee Rd. & Holland Rd.

275	291	85
97	313	150
138	168	24
59	219	152

29 Menifee Rd. & Garbani Rd.

68	335	10
8	97	81
13	104	286
255	265	213

30 Menifee Rd. & Scott Rd.

98	305	232
289	513	309
79	739	85
222	381	570

31 Lindenberger Rd. & Newport Rd.

215	34	
13	766	
149	583	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

88	128	258
146	1404	208
195	1404	695
399	132	168

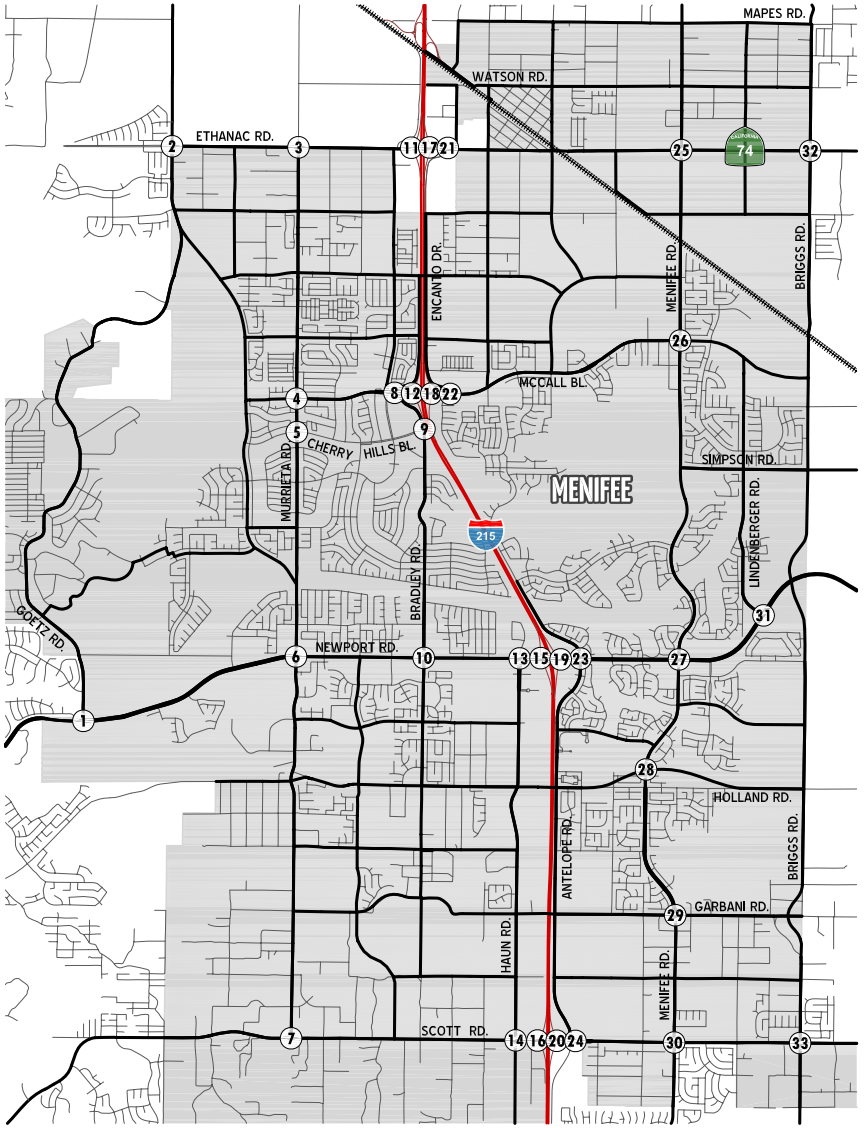
33 Briggs Rd. & Scott Rd.

54	5	6
1	896	2
12	1482	84
51	1	2

N

EXHIBIT 7-3

RCIP (2035)
PM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

146	3	263
329	1216	9
9	2	17
437	819	34

2 Goetz Rd. & Ethanac Rd.

88	208	279
91	662	69
17	109	586
285	734	707

3 Murrieta Rd. & Ethanac Rd.

4	78	72
13	1664	81
72	133	204
65	1664	242

4 Murrieta Rd. & McCall Bl.

44	182	139
26	156	8
1	194	235
145	146	229

5 Murrieta Rd. & Cherry Hills Bl.

139	277	19
156	96	43
100	270	49
13	131	56

6 Murrieta Rd. & Newport Rd.

388	143	581
534	803	35
96	160	56
636	946	52

7 Murrieta Rd. & Scott Rd.

414	121	
668	989	
102	1006	

8 Bradley Rd. & McCall Bl.

24	41	154
68	1123	58
77	70	658
102	1174	480

9 Bradley Rd. & Cherry Hills Bl.

69	320	
87	73	
132	498	

10 Bradley Rd. & Newport Rd.

83	152	255
123	913	79
117	151	142
338	1230	188

11 I-215 SB Ramps & Ethanac Rd.

268	118	
1752	452	
229	1893	

12 I-215 SB Ramps & McCall Bl.

375	2	307
1452	483	
1381	489	

13 Haun Rd. & Newport Rd.

117	90	260
87	1012	330
363	63	530
157	1427	582

14 Haun Rd. & Scott Rd.

146	41	281
168	874	142
72	36	14
371	892	67

15 I-215 SB Ramps & Newport Rd.

644	512	
1367	435	
359	1522	

16 I-215 SB Ramps & Scott Rd.

199	405	
708	288	
435	996	

17 I-215 NB Ramps & Ethanac Rd.

1466	404	
224	567	
482	1898	

18 I-215 NB Ramps & McCall Bl.

264	1495	
346	1	485
130	1524	

19 I-215 NB Ramps & Newport Rd.

1467	412	
592	707	
359	1289	

20 I-215 NB Ramps & Scott Rd.

477		
153	960	
0	578	
356	954	

21 Encanto Dr. & Ethanac Rd.

1941	92	
141	99	
2239	51	

22 Encanto Dr. & McCall Bl.

95	16	26
182	1486	312
182	20	37
48	1377	47

23 Antelope Rd. & Newport Rd.

122	65	19
244	1200	730
614	102	209
31	912	130

24 Antelope Rd. & Scott Rd.

253	121	94
291	927	320
370	298	187
72	687	138

25 Menifee Rd. & SR-74 (Ethanac Rd.)

146	793	181
202	1441	353
246	686	378
252	1158	494

26 Menifee Rd. & McCall Bl.

260	563	898
294	673	155
115	529	29
756	605	29

27 Menifee Rd. & Newport Rd.

404	263	116
436	885	100
95	376	315
94	669	193

28 Menifee Rd. & Holland Rd.

177	122	51
223	329	71
38	503	20
114	215	11

29 Menifee Rd. & Garbani Rd.

33	133	9
42	38	282
355	526	36
19	178	113

30 Menifee Rd. & Scott Rd.

68	344	210
179	747	320
195	361	564
404	627	605

31 Lindenberger Rd. & Newport Rd.

155	24	
272	846	
32	616	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

191	64	207
139	2030	218
234	93	73
77	1626	58

33 Briggs Rd. & Scott Rd.

18	1	5
68	1199	61
80	3	1
3	1541	2

N

Table 7-1 (1 of 5)

RCIP (2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	RCIP Class	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Goetz Road	1	North of Ethanac Rd.	4D	Arterial	35,900	22,900	0.64	Acceptable
	2	South of Ethanac Rd.	4D	Arterial	35,900	29,300	0.82	Approaching
	3	North of Newport Rd.	4D	Mountain	37,200	10,200	0.27	Acceptable
Murrieta Road	4	North of Ethanac Rd.	4U	Secondary	25,900	5,400	0.21	Acceptable
	5	South of Ethanac Rd.	4U	Secondary	25,900	9,300	0.36	Acceptable
	6	North of McCall Bl.	4U	Secondary	25,900	8,600	0.33	Acceptable
	7	Between McCall Bl. & Cherry Hills Bl.	4U	Secondary	25,900	10,900	0.42	Acceptable
	8	South of Cherry Hills Bl.	4U	Secondary	25,900	8,700	0.34	Acceptable
	9	North of Newport Rd.	4D	Arterial	35,900	30,300	0.84	Approaching
	10	South of Newport Rd.	4D	Arterial	35,900	9,900	0.28	Acceptable
	11	North of Scott Rd.	4D	Arterial	35,900	15,100	0.42	Acceptable
Bradley Road	12	North of McCall Bl.	4U	Secondary	25,900	5,400	0.21	Acceptable
	13	Between McCall Bl. & Cherry Hills Bl.	4D	Secondary	25,900	18,600	0.72	Acceptable
	14	South of Cherry Hills Bl.	4U	Secondary	25,900	14,100	0.54	Acceptable
	15	North of Newport Rd.	4U	Secondary	25,900	13,200	0.51	Acceptable
	16	South of Newport Rd.	4D	Major	34,100	10,700	0.31	Acceptable
Encanto Road	17	South of Ethanac Rd.	4D	Major	34,100	4,200	0.12	Acceptable
	18	North of McCall Bl.	4D	Major	34,100	4,800	0.14	Acceptable
	19	South of McCall Bl.	2U	Local	13,000	7,800	0.60	Acceptable
Haun Road	20	North of Newport Rd.	2U	Local	13,000	10,000	0.77	Acceptable
	21	South of Newport Rd.	4D	Major	34,100	25,800	0.76	Acceptable
	22	North of Scott Rd.	4D	Major	34,100	8,600	0.25	Acceptable
	23	South of Scott Rd	4D	Major	34,100	4,400	0.13	Acceptable

Table 7-1 (2 of 5)

RCIP (2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	RCIP Class	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Antelope Road	24	North of Newport Rd.	4D	Secondary	25,900	7,500	0.29	Acceptable
	25	South of Newport Rd.	4D	Major	34,100	18,700	0.55	Acceptable
	26	North of Scott Rd.	4D	Major	34,100	13,500	0.40	Acceptable
	27	South of Scott Rd	4D	Major	34,100	17,100	0.50	Acceptable
Menifee Road	28	North of SR-74 (Pinacate Rd.)	6D	Urban	53,900	23,700	0.44	Acceptable
	29	South of SR-74 (Pinacate Rd.)	6D	Urban	53,900	30,000	0.56	Acceptable
	30	North of McCall Bl.	6D	Urban	53,900	35,000	0.65	Acceptable
	31	Between McCall Bl. & Simpson Rd	6D	Urban	53,900	15,400	0.29	Acceptable
	32	North of Newport Rd.	6D	Urban	53,900	16,000	0.30	Acceptable
	33	South of Newport Rd.	6D	Urban	53,900	17,300	0.32	Acceptable
	34	North of Holland Rd.	6D	Urban	53,900	16,000	0.30	Acceptable
	35	South of Holland Rd.	6D	Urban	53,900	9,500	0.18	Acceptable
	36	North of Garbani Rd.	6D	Urban	53,900	9,300	0.17	Acceptable
	37	South of Garbani Rd.	6D	Urban	53,900	15,900	0.29	Acceptable
	38	North of Scott Rd.	6D	Urban	53,900	16,400	0.30	Acceptable
	39	South of Scott Rd	6D	Urban	53,900	21,600	0.40	Acceptable
Lindenberger Road	40	North of Newport Rd.	4U	Secondary	25,900	6,500	0.25	Acceptable
Briggs Road	41	North of SR-74 (Pinacate Rd.)	4D	Major	34,100	6,900	0.20	Acceptable
	42	South of SR-74 (Pinacate Rd.)	4D	Major	34,100	9,700	0.28	Acceptable
	43	North of Scott Rd.	4D	Major	34,100	2,700	0.08	Acceptable
	44	South of Scott Rd	4D	Major	34,100	4,900	0.14	Acceptable

Table 7-1 (3 of 5)

RCIP (2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	RCIP Class	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.	6D	Expressway	61,300	37,600	0.61	Acceptable
	46	Between Goetz Rd & Murrieta Rd.	6D	Expressway	61,300	40,700	0.66	Acceptable
	47	East of Murrieta Rd.	6D	Expressway	61,300	45,700	0.75	Acceptable
	48	West of I-215 SB Ramp	6D	Expressway	61,300	52,900	0.86	Approaching
	49	Between I-215 SB Ramp & I-215 NB Ramp	6D	Expressway	61,300	51,200	0.84	Approaching
	50	Between I-215 NB Ramp & Encanto Dr.	6D	Expressway	61,300	57,300	0.93	Approaching
	51	East of Encanto Dr.	6D	Expressway	61,300	56,200	0.92	Approaching
	52	West of Menifee Rd.	6D	Expressway	61,300	52,300	0.85	Approaching
	53	East of Menifee Rd.	6D	Expressway	61,300	52,300	0.85	Approaching
	54	West of Briggs Rd.	6D	Expressway	61,300	56,500	0.92	Approaching
	55	East of Briggs Rd.	6D	Expressway	61,300	54,700	0.89	Approaching
McCall Boulevard	56	West of Murrieta Rd.	4D	Major	34,100	6,200	0.18	Acceptable
	57	East of Murrieta Rd.	4D	Major	34,100	13,900	0.41	Acceptable
	58	West of Bradley Rd.	4D	Major	34,100	29,500	0.87	Approaching
	59	Between Bradley Rd & I-215 SB Ramp	4D	Major	34,100	44,400	**1.30**	**Exceeds**
	60	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	43,700	0.81	Approaching
	61	Between I-215 NB Ramp & Encanto Dr.	6D	Urban	53,900	43,800	0.81	Approaching
	62	East of Encanto Dr.	6D	Urban	53,900	34,600	0.64	Acceptable
	63	West of Menifee Rd.	6D	Urban	53,900	22,700	0.42	Acceptable
	64	East of Menifee Rd.	6D	Urban	53,900	29,000	0.54	Acceptable

Table 7-1 (4 of 5)

RCIP (2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	RCIP Class	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Cherry Hills Boulevard	65	West of Murrieta Rd.	2U	Local	13,000	6,400	0.49	Acceptable
	66	East of Murrieta Rd.	4D	Local	25,900	2,800	0.11	Acceptable
	67	West of Bradley Rd.	4D	Local	25,900	4,600	0.18	Acceptable
Newport Road	68	West of Goetz Rd.	4D	Arterial	35,900	23,600	0.66	Acceptable
	69	East of Goetz Rd.	6D	Urban	53,900	30,000	0.56	Acceptable
	70	West of Murrieta Rd.	6D	Urban	53,900	31,900	0.59	Acceptable
	71	East of Murrieta Rd.	6D	Urban	53,900	37,000	0.69	Acceptable
	72	West of Bradley Rd.	6D	Urban	53,900	30,800	0.57	Acceptable
	73	East of Bradley Rd.	6D	Urban	53,900	37,600	0.70	Acceptable
	74	West of Haun Rd.	6D	Urban	53,900	41,800	0.78	Acceptable
	75	Between Haun Rd. & I-215 SB Ramp	8D	Expressway	81,700	51,500	0.63	Acceptable
	76	Between I-215 SB Ramp & I-215 NB Ramp	8D	Expressway	81,700	46,500	0.57	Acceptable
	77	Between I-215 NB Ramp & Antelope Rd.	8D	Expressway	81,700	52,700	0.65	Acceptable
	78	East of Antelope Rd.	6D	Urban	53,900	34,200	0.63	Acceptable
	79	West of Menifee Rd.	6D	Urban	53,900	34,200	0.63	Acceptable
	80	East of Menifee Rd.	6D	Urban	53,900	24,700	0.46	Acceptable
	81	West of Lindenberger Rd.	6D	Urban	53,900	24,900	0.46	Acceptable
	82	East of Lindenberger Rd.	6D	Urban	53,900	19,800	0.37	Acceptable
Holland Road	83	West of Menifee Rd.	4D	Major	34,100	14,400	0.42	Acceptable
	84	East of Menifee Rd.	4D	Major	34,100	8,100	0.24	Acceptable
Garbani Road	85	West of Menifee Rd.	6D	Urban	53,900	7,100	0.13	Acceptable
	86	East of Menifee Rd.	4D	Major	34,100	8,100	0.24	Acceptable

Table 7-1 (5 of 5)

RCIP (2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes[3]	RCIP Class	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Scott Road	87	West of Murrieta Rd.	6D	Urban	53,900	32,000	0.59	Acceptable
	88	East of Murrieta Rd.	6D	Urban	53,900	23,600	0.44	Acceptable
	89	West of Haun Rd.	6D	Urban	53,900	25,600	0.47	Acceptable
	90	Between Haun Rd. & I-215 SB Ramp	6D	Urban	53,900	26,000	0.48	Acceptable
	91	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	29,000	0.54	Acceptable
	92	Between I-215 NB Ramp & Antelope Rd.	6D	Urban	53,900	35,700	0.66	Acceptable
	93	East of Antelope Rd.	6D	Urban	53,900	26,300	0.49	Acceptable
	94	West of Menifee Rd.	6D	Urban	53,900	25,300	0.47	Acceptable
	95	East of Menifee Rd.	6D	Urban	53,900	32,200	0.60	Acceptable
	96	West of Briggs Rd.	6D	Urban	53,900	31,600	0.59	Acceptable
	97	East of Briggs Rd.	6D	Urban	53,900	28,400	0.53	Acceptable

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Cacacity", 1.26+ = "Exceeds Capacity"

[3] D=Divided, U=Undivided

the total of 97 existing study area roadway segments are expected to exceed the average daily vehicle capacity thresholds.

Based on the RCIP 2035 conditions roadway segment analysis, the following the study area roadway segments provide unacceptable roadway capacity:

ID	Roadway	Segment	V/C Ratio
59	McCall Boulevard	Between Bradley Rd & I-215 SB Ramp	1.30

The roadway segment analysis for RCIP 2035 conditions shows that the proposed RivTAM roadway network will provide adequate capacity to accommodate interim year 2035 conditions on all of the study area roadway segments with the exception of McCall Boulevard between Bradley Road and I-215 southbound ramps.

7.1.2 INTERSECTION OPERATIONS ANALYSIS

Future RCIP 2035 peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 of this traffic study.

The intersection analysis results summarized in Table 7-2 indicate that out of the 33 study area intersections:

- 32 operate at acceptable LOS D or better conditions during the peak hours
- 1 operates at unacceptable LOS E or worse conditions during the peak hours

The RCIP conditions operations analysis show that the following intersection location will experience unacceptable LOS E or worse conditions during one or both of the peak hours.

ID	Intersection Location	AM	PM
8	Bradley Road / McCall Boulevard	D	F

The RCIP 2035 conditions intersection analysis worksheets are included in Appendix 7.2 of this traffic study.

7.1.3 I-215 MAINLINE CAPACITY ANALYSIS

Using the City of Menifee General Plan Circulation Element roadway volume capacity values provided on Table 2-1, Table 7-3 provides a summary of the RCIP 2035 I-215 Mainline Capacity Analysis. As shown on Table 7-3, with the planned widening of the I-215 in 2015, the planned 6-lane freeway is expected to potentially exceed the estimated daily capacity for all five of the freeway segements.

Table 7-2

RCIP (2035) Intersection Analysis

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Existing (2012)			
			Northbound			Southbound			Eastbound			Westbound			Delay[2] (secs.)		Level of Service	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Goetz Rd / Newport Rd	TS	1	1	0	2	1	1	2	2	1	1	2	1>	42	47.8	D	D
2	Goetz Rd / Ethanac Rd	TS	2	2	1>	2	2	1	2	3	d	2	3	d	46.7	38.2	D	D
3	Murrieta Rd / Ethanac Rd	TS	1	2	1	1	2	1	1	3	d	1	3	d	35.4	41.5	D	D
4	Murrieta Rd / McCall Blvd	TS	1	2	1	1	2	1	2	2	1	2	2	1	25.7	26.8	C	C
5	Murrieta Rd / Cherry Hills Blvd	TS	1	2	1	1	2	1	1	2	0	1	2	0	24.3	26.7	C	C
6	Murrieta Rd / Newport Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1>	45.5	49.6	D	D
7	Murrieta Rd / Scott Rd	TS	0	0	0	2	0	1>	2	3	0	0	3	1	19.9	24.9	B	C
8	Bradley Rd / McCall Blvd	TS	1	2	1	1	2	1	2	2	1	2	2	1	41.9	***>80.0***	D	***F***
9	Bradley Rd / Cherry Hills Blvd	TS	1	2	0	0	2	1	1	0	1	0	0	0	14.3	14.5	B	B
10	Bradley Rd / Newport Rd	TS	2	2	1>	1	2	1	2	3	1	2	3	1	37.9	40.8	D	D
11	I-215 Southbound Ramps / Ethanac Rd	TS	0	0	0	2	0	2	0	4	1>>	0	4	1>>	11.8	9.9	B	A
12	I-215 Southbound Ramps / McCall Blvd	TS	0	0	0	0	1	1	0	3	1>>	2	3	0	13.9	20.3	B	C
13	Haun Rd / Newport Rd	TS	2	1	2	2	1	1	2	3	1	2	3	1	39.2	52.5	D	D
14	Haun Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	36.7	35.7	D	D
15	I-215 Southbound Ramps / Newport Rd	TS	0	0	0	1	1	1	0	4	1>>	0	3	1>>	7.0	10.3	A	B
16	I-215 Southbound Ramps / Scott Rd	TS	0	0	0	2	0	2	0	4	1>>	0	3	2	5.5	7.9	A	A
17	I-215 Northbound Ramps / Ethanac Rd	TS	2	0	2	0	0	0	0	4	1>>	0	4	1>>	10.9	12.2	B	B
18	I-215 Northbound Ramps / McCall Blvd	TS	0	1	1	0	0	0	2	3	0	0	3	1>>	15.6	23.5	B	C
19	I-215 Northbound Ramps / Newport Rd	TS	1	1	1	0	0	0	0	3	1>>	0	4	1>>	11.4	11.1	B	B
20	I-215 Northbound Ramps / Scott Rd	TS	0	1	2	0	0	2	2	4	0	0	4	1	14.0	16.8	B	B
21	Encanto Dr / Ethanac Rd	TS	1	0	1	0	0	0	0	3	d	1	3	0	22.4	19.9	C	B
22	Encanto Dr / McCall Blvd	TS	1	1	0	2	1	1	2	3	1	1	3	1	32.1	32.3	C	C
23	Antelope Rd / Newport Rd	TS	2	2	1	2	2	1	2	3	1>	2	3	1	42.6	44.7	D	D
24	Antelope Rd / Scott Rd	TS	2	1	1	2	2	1	2	3	1	1	3	1	34.6	36.5	C	D
25	Menifee Rd / SR-74 (Pinacate Rd.)	TS	2	3	1>	2	3	1	2	3	d	2	3	d	49.6	41.0	D	D
26	Menifee Rd / McCall Blvd	TS	2	3	1	2	3	1	2	3	1	2	3	1>	50.2	34.6	D	C
27	Menifee Rd / Newport Rd	TS	2	3	1	2	3	1	2	3	1	2	3	1	40.5	35.2	D	D
28	Menifee Rd / Holland Rd	TS	2	3	1	2	3	1	2	2	1	2	2	1	27.3	27.9	C	C
29	Menifee Rd / Garbani Rd	TS	2	3	1	2	3	1	2	2	1	2	2	1	28.0	30.2	C	C
30	Menifee Rd / Scott Rd	TS	2	3	1>	2	3	1	2	3	1	2	3	1	32.5	37.8	C	D
31	Lindenberger Rd / Newport Rd	TS	0	0	0	1	1	1	2	3	0	0	3	1	19.9	21.1	B	C
32	Briggs Rd / SR-74 (Pinacate Rd.)	TS	2	2	1	2	2	1	1	3	1>	1	3	d	49.7	42.1	D	D
33	Briggs Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	30.1	31.6	C	C

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

2 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 Ramp Locations have been analyzed utilizing the Synchro software.

3 TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

4 Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

5 It is our understanding that Caltrans, in cooperation with the City of Menifee, proposes a complete re-design of the existing I-215 Freeway at Scott Road interchang As such, any physical improvements recommended at the freeway ramp intersections could be considered "throw away" improvements. Therefore, the City of Menifee should consider whether the implementation of any improvements is necessary to address this short-term impact.

Table 7-3

RCIP (2035) I-215 Mainline Analysis

Roadway	ID	Segment	Through Travel Lanes	Estimated Daily Capacity[1]	RCIP 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
I-215	1	North of SR-74 (Ethanac Road)	6D	117,500	127,000	**1.08**	**Potentially Exceeds**
	2	SR-74 (Ethanac Road) to McCall Boulevard	6D	117,500	120,000	**1.02**	**Potentially Exceeds**
	3	McCall Boulevard to Newport Road	6D	117,500	131,000	**1.11**	**Potentially Exceeds**
	4	Newport Road to Scott Road	6D	117,500	118,000	**1.00**	**Potentially Exceeds**
	5	South of Scott Road	6D	117,500	135,000	**1.15**	**Potentially Exceeds**

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

7.1.4 VEHICLE MILES TRAVELLED (VMT)

For RCIP 2035 conditions, VMT datasets have been extracted for the traffic analysis zones which encompass the City of Menifee. It is also important to recognize that each trip has two ends and in order to calculate the VMT for the City of Menifee all trip types need to be accurately described. The VMT for the City of Menifee includes the following:

- 100% of the internal to internal trips
- 50% of the internal to external trips
- 50% of the external to internal trips
- 0% of the external to external trips

All shopping, recreational, social, and work related trips contribute to the VMT estimates. On an average daily basis, the following quantities of vehicle miles travelled are projected to occur in 2035:

- AM Peak Period – 984,000
- Mid Day Period – 1,597,000
- PM Peak Period – 1,535,000
- Nighttime Period – 1,090,000

Based upon RivTAM, the City of Menifee produces a total of approximately 5,206,000 VMT per day for 2035 conditions. This level of activity is generated by an assumed service population of 133,481, consisting of 112,937 residents and 20,544 employees within the city. .

The RCIP 2035 dataset for Menifee incorporates a significant imbalance of jobs and housing, which is not in line with the General Plan vision for the city. The 2035 per capita VMT is therefore high (more than 39 vehicle miles per day per resident/employee).

7.2 PROPOSED MENIFEE GENERAL PLAN POST-2035 TRAFFIC FORECASTS

The proposed Menifee General Plan Post-2035 traffic forecasts are based on Menifee General Plan Land Use Element that represents future Post-2035 conditions. The buildout data reflects full buildout of the land uses ultimately envisioned for the City of Menifee at this time and does not correspond to a specific horizon year.

The Proposed Menifee General Plan traffic model reflects the roadway network classifications shown on Exhibit 5-3. The refined model forecast calculations for the Proposed Menifee General Plan Post-2035 conditions are included in Appendix 7.3. Exhibit 7-4 presents the Average Daily Traffic Volumes expected for the Proposed Menifee General Plan Post-2035 conditions. Exhibits 7-5 and 7-6 provide the Proposed Menifee General Plan Post-2035 AM and PM peak hour intersection turning movement volumes.

EXHIBIT 7-4

PROPOSED MENIFEE GENERAL PLAN (POST-2035) AVERAGE DAILY TRAFFIC (ADT)

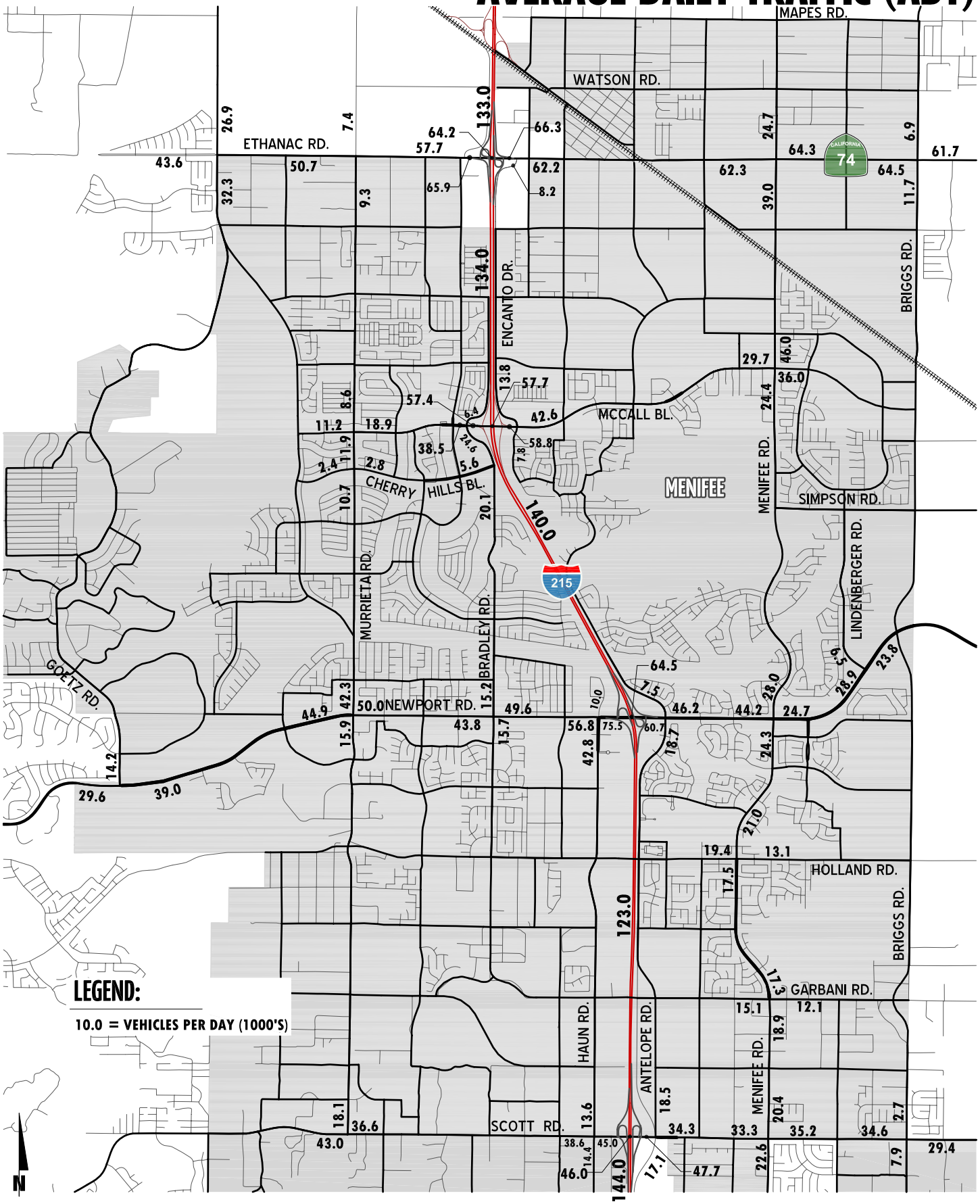
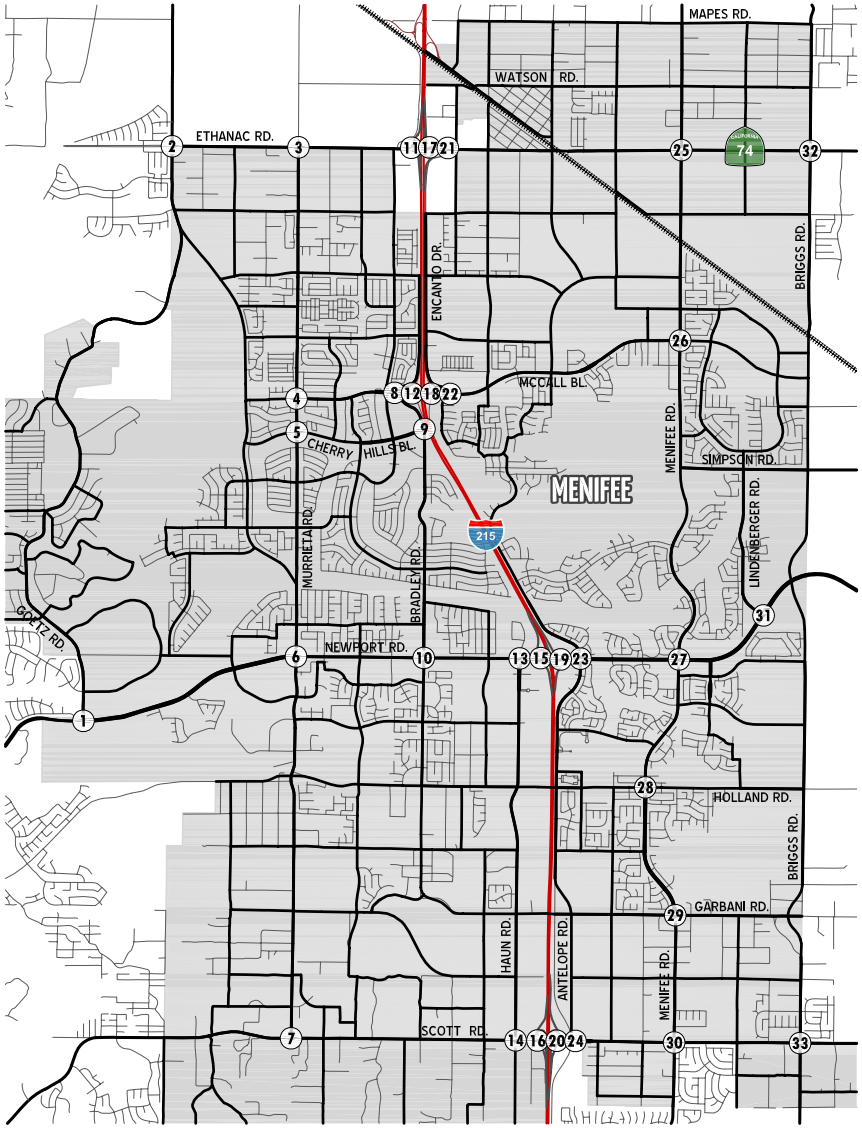


EXHIBIT 7-5

PROPOSED MENIFEE GENERAL PLAN (POST-2035) AM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

239	1	686
193	866	10
70	864	3
15	3	25

2 Goetz Rd. & Ethanac Rd.

575	317	541
213	839	771
96	1083	42
36	130	606

3 Murrieta Rd. & Ethanac Rd.

123	60	187
99	1563	147
3	1923	35
91	126	195

4 Murrieta Rd. & McCall Bl.

95	172	68
68	209	221
121	392	13
6	150	152

5 Murrieta Rd. & Cherry Hills Bl.

72	309	29
21	18	33
19	63	58
7	208	34

6 Murrieta Rd. & Newport Rd.

457	155	947
399	845	67
473	1246	49
44	115	32

7 Murrieta Rd. & Scott Rd.

467	273	
139	941	
233	1266	

8 Bradley Rd. & McCall Bl.

18	63	150
83	999	610
61	1085	107
93	57	533

9 Bradley Rd. & Cherry Hills Bl.

43	421	
58	62	
92	486	

10 Bradley Rd. & Newport Rd.

125	216	249
191	858	272
225	1432	183
237	324	409

11 I-215 SB Ramps & Ethanac Rd.

315	240	
315	2075	
2246	363	

12 I-215 SB Ramps & McCall Bl.

244	0	296
1448	652	
1500	268	

13 Haun Rd. & Newport Rd.

42	51	90
248	1322	785
95	1634	294
191	47	514

14 Haun Rd. & Scott Rd.

81	153	403
267	1035	212
62	974	395
164	220	24

15 I-215 SB Ramps & Newport Rd.

631	529	
621	1724	
1601	637	

16 I-215 SB Ramps & Scott Rd.

220	302	
464	1500	
851	607	

17 I-215 NB Ramps & Ethanac Rd.

43	1733	
2300	186	
657	264	

18 I-215 NB Ramps & McCall Bl.

186	1828	
264	1532	
272	2	438

19 I-215 NB Ramps & Newport Rd.

404	1887	
1652	478	
458	371	

20 I-215 NB Ramps & Scott Rd.

578		
354	1386	
193	960	
2	476	

21 Encanto Dr. & Ethanac Rd.

1726	169	
2463	101	
50	69	

22 Encanto Dr. & McCall Bl.

304	9	69
44	1489	15
204	1585	181
221	12	20

23 Antelope Rd. & Newport Rd.

170	70	165
108	1717	221
78	1200	745
404	40	205

24 Antelope Rd. & Scott Rd.

355	311	207
64	992	131
135	997	304
393	112	93

25 Menifee Rd. & SR-74 (Ethanac Rd.)

170	678	367
177	1705	501
197	1528	391
565	546	866

26 Menifee Rd. & McCall Bl.

426	660	591
1157	787	17
627	679	154
177	666	40

27 Menifee Rd. & Newport Rd.

737	489	106
170	816	301
760	510	209
163	350	161

28 Menifee Rd. & Holland Rd.

351	515	77
87	441	294
152	209	57
135	315	247

29 Menifee Rd. & Garbani Rd.

273	469	20
8	242	71
38	121	242
353	443	142

30 Menifee Rd. & Scott Rd.

143	373	254
356	769	295
111	717	92
328	463	479

31 Lindenberger Rd. & Newport Rd.

214	37	
22	1007	
168	578	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

114	128	251
137	1907	218
181	1416	721
485	130	153

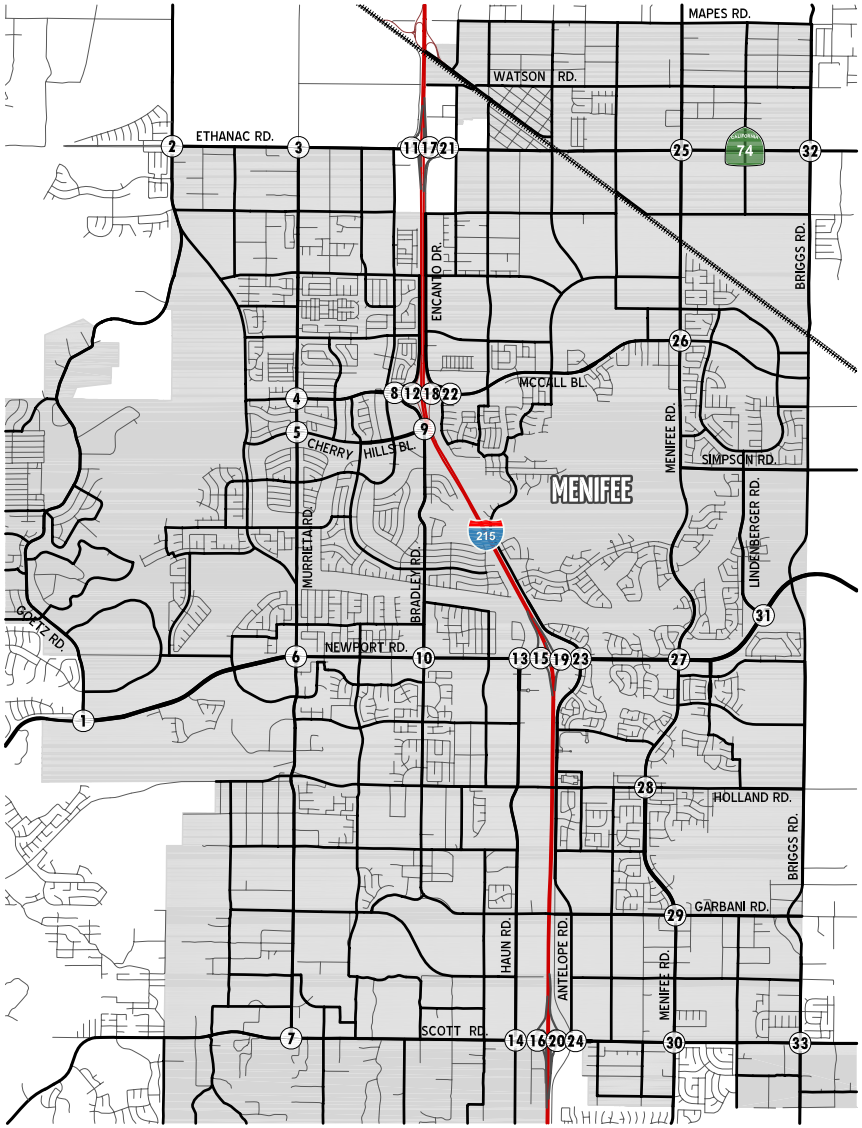
33 Briggs Rd. & Scott Rd.

71	5	4
1	1170	2
19	1334	114
89	1	2

N

EXHIBIT 7-6

PROPOSED MENIFEE GENERAL PLAN (POST-2035) PM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

146	3	387
751	987	34
329	1207	9
9	2	17

2 Goetz Rd. & Ethanac Rd.

92	208	315
495	1185	897
87	640	48
18	127	690

3 Murrieta Rd. & Ethanac Rd.

3	78	87
184	2222	263
23	1806	75
56	213	197

4 Murrieta Rd. & McCall Bl.

53	182	130
160	301	239
43	254	13
2	207	241

5 Murrieta Rd. & Cherry Hills Bl.

18	315	20
22	78	56
28	46	6
14	399	49

6 Murrieta Rd. & Newport Rd.

496	185	752
937	1433	80
656	1025	45
140	227	83

7 Murrieta Rd. & Scott Rd.

383	194	
236	1797	
644	1276	

8 Bradley Rd. & McCall Bl.

53	92	295
93	1498	763
70	1427	105
125	80	916

9 Bradley Rd. & Cherry Hills Bl.

77	575	
81	79	
155	824	

10 Bradley Rd. & Newport Rd.

200	298	378
353	1650	237
200	1173	155
320	297	240

11 I-215 SB Ramps & Ethanac Rd.

268	111	
292	2496	
2084	482	

12 I-215 SB Ramps & McCall Bl.

392	2	295
1962	621	
1991	647	

13 Haun Rd. & Newport Rd.

103	90	265
161	1733	1038
80	1560	488
501	66	1113

14 Haun Rd. & Scott Rd.

146	86	281
371	1338	209
163	1388	265
297	161	99

15 I-215 SB Ramps & Newport Rd.

679	512	
359	2253	
2273	665	

16 I-215 SB Ramps & Scott Rd.

232	405	
501	1811	
1493	567	

17 I-215 NB Ramps & Ethanac Rd.

372	2498	
1837	358	
290	403	

18 I-215 NB Ramps & McCall Bl.

141	2229	
264	2022	
354	1	548

19 I-215 NB Ramps & Newport Rd.

401	1746	
1864	921	
866	707	

20 I-215 NB Ramps & Scott Rd.

794		
356	1518	
395	1503	
0	516	

21 Encanto Dr. & Ethanac Rd.

2512	44	
2124	116	
358	146	

22 Encanto Dr. & McCall Bl.

213	16	26
64	1944	34
501	1751	318
213	20	37

23 Antelope Rd. & Newport Rd.

108	64	32
62	1476	251
238	1620	713
563	109	368

24 Antelope Rd. & Scott Rd.

334	128	169
158	1155	160
386	1313	320
385	337	189

25 Menifee Rd. & SR-74 (Ethanac Rd.)

104	712	129
215	1244	669
188	1676	519
382	848	585

26 Menifee Rd. & McCall Bl.

299	796	954
796	715	42
351	959	242
206	843	47

27 Menifee Rd. & Newport Rd.

756	363	104
78	669	165
765	885	132
234	666	374

28 Menifee Rd. & Holland Rd.

120	161	79
146	298	26
180	646	134
79	968	93

29 Menifee Rd. & Garbani Rd.

116	150	9
43	229	49
331	85	424
298	767	26

30 Menifee Rd. & Scott Rd.

84	428	229
423	754	512
228	1045	510
273	439	486

31 Lindenberger Rd. & Newport Rd.

192	36	
38	682	
333	1139	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

191	79	210
122	1579	69
257	2318	302
260	170	82

33 Briggs Rd. & Scott Rd.

27	1	5
3	1555	2
78	1413	71
101	3	2

7.2.1 ROADWAY SEGMENT ANALYSIS

Table 7-4 provides a summary of the interim year Proposed Menifee General Plan Post-2035 conditions roadway segment capacity analysis based on the capacity thresholds identified on Table 2-1. As shown on Table 7-4, 8 out of the total of 97 existing study area roadway segments are expected to exceed the average daily vehicle capacity thresholds. Based on the Proposed Menifee General Plan Post-2035 conditions roadway segment analysis, the following 8 study area roadway segments may exceed the roadway capacity:

ID	Roadway	Segment	V/C Ratio
9	Murrieta Road	North of Newport Rd.	1.18
21	Haun Road	South of Newport Rd.	1.26
58	McCall Boulevard	West of Bradley Rd.	1.13
59	McCall Boulevard	Between Bradley Rd & I-215 SB Ramp	1.06
60	McCall Boulevard	Between I-215 SB Ramp & I-215 NB Ramp	1.07
61	McCall Boulevard	Between I-215 NB Ramp & Encanto Dr.	1.09
74	Newport Road	West of Haun Rd.	1.05
75	Newport Road	Between Haun Rd. & I-215 SB Ramp	1.05

The roadway segment analysis for Proposed Menifee General Plan Post-2035 conditions show that the proposed City of Menifee General Plan roadway network will provide adequate capacity to accommodate interim Post-2035 conditions on all of the study area roadway segments with eight segments potentially exceeding capacity.

As indicated in Section 2.2, the roadway segment analysis is used as a planning tool to evaluate the adequacy of existing roadway segment capacities. A v/c ratio of greater than 1.01 to 1.25 suggests that additional review is required; however, if adjacent intersections provide the lanes needed to achieve acceptable peak hour LOS, then segment capacity improvements between key intersections may not be needed. For roadway segments significantly exceeding capacity (v/c ratio > 1.25) then additional through lane roadway capacity and intersection improvements are more likely to be needed.

7.2.2 INTERSECTION OPERATIONS ANALYSIS

Future Proposed Menifee General Plan Post-2035 peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 of this traffic study. The intersection analysis results summarized in Table 7-5 indicate that out of the 33 study area intersections:

- 29 operate at acceptable LOS D or better conditions during the peak hours
- 4 operates at unacceptable LOS E or worse conditions during the peak hours

Table 7-4 (1 of 5)

Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	GP Proposed ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Goetz Road	1	North of Ethanac Rd.	4D	Arterial	35,900	26,900	0.75	Acceptable
	2	South of Ethanac Rd.	4D	Arterial	35,900	32,300	0.90	Approaching
	3	North of Newport Rd.	4D	Arterial	35,900	14,200	0.40	Acceptable
Murrieta Road	4	North of Ethanac Rd.	4U	Secondary	25,900	7,400	0.29	Acceptable
	5	South of Ethanac Rd.	4U	Secondary	25,900	9,300	0.36	Acceptable
	6	North of McCall Bl.	4U	Secondary	25,900	8,600	0.33	Acceptable
	7	Between McCall Bl. & Cherry Hills Bl.	4U	Secondary	25,900	11,900	0.46	Acceptable
	8	South of Cherry Hills Bl.	4U	Secondary	25,900	10,700	0.41	Acceptable
	9	North of Newport Rd.	4D	Arterial	35,900	42,300	**1.18**	**Potentially Exceeds**
	10	South of Newport Rd.	4D	Arterial	35,900	15,900	0.44	Acceptable
	11	North of Scott Rd.	4D	Arterial	35,900	18,100	0.50	Acceptable
Bradley Road	12	North of McCall Bl.	4U	Secondary	25,900	6,400	0.25	Acceptable
	13	Between McCall Bl. & Cherry Hills Bl.	4D	Secondary	25,900	24,600	0.95	Approaching
	14	South of Cherry Hills Bl.	4U	Secondary	25,900	20,100	0.78	Acceptable
	15	North of Newport Rd.	4U	Secondary	25,900	15,200	0.59	Acceptable
	16	South of Newport Rd.	4D	Major	34,100	15,700	0.46	Acceptable
Encanto Road	17	South of Ethanac Rd.	4D	Major	34,100	8,200	0.24	Acceptable
	18	North of McCall Bl.	4D	Major	34,100	13,800	0.40	Acceptable
	19	South of McCall Bl.	2U	Collector	13,000	7,800	0.60	Acceptable
Haun Road	20	North of Newport Rd.	2U	Local	13,000	10,000	0.77	Acceptable
	21	South of Newport Rd.	4D	Major	34,100	42,800	**1.26**	**Exceeds**
	22	North of Scott Rd.	4D	Major	34,100	13,600	0.40	Acceptable
	23	South of Scott Rd	4D	Major	34,100	14,400	0.42	Acceptable

Table 7-4 (2 of 5)

Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	GP Proposed ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Antelope Road	24	North of Newport Rd.	4D	Secondary	25,900	7,500	0.29	Acceptable
	25	South of Newport Rd.	4D	Major	34,100	18,700	0.55	Acceptable
	26	North of Scott Rd.	4D	Major	34,100	18,500	0.54	Acceptable
	27	South of Scott Rd	4D	Major	34,100	17,100	0.50	Acceptable
Menifee Road	28	North of SR-74 (Pinacate Rd.)	6D	Urban	53,900	24,700	0.46	Acceptable
	29	South of SR-74 (Pinacate Rd.)	6D	Urban	53,900	39,000	0.72	Acceptable
	30	North of McCall Bl.	6D	Urban	53,900	46,000	0.85	Approaching
	31	Between McCall Bl. & Simpson Rd	4D	Arterial	35,900	24,400	0.68	Acceptable
	32	North of Newport Rd.	4D	Arterial	35,900	28,000	0.78	Acceptable
	33	South of Newport Rd.	4D	Arterial	35,900	24,300	0.68	Acceptable
	34	North of Holland Rd.	4D	Arterial	35,900	21,000	0.58	Acceptable
	35	South of Holland Rd.	4D	Arterial	35,900	17,500	0.49	Acceptable
	36	North of Garbani Rd.	4D	Arterial	35,900	17,300	0.48	Acceptable
	37	South of Garbani Rd.	4D	Arterial	35,900	18,900	0.53	Acceptable
	38	North of Scott Rd.	4D	Arterial	35,900	20,400	0.57	Acceptable
	39	South of Scott Rd	4D	Arterial	35,900	22,600	0.63	Acceptable
Lindenberger Road	40	North of Newport Rd.	4U	Secondary	25,900	6,500	0.25	Acceptable
Briggs Road	41	North of SR-74 (Pinacate Rd.)	4D	Major	34,100	6,900	0.20	Acceptable
	42	South of SR-74 (Pinacate Rd.)	4D	Major	34,100	11,700	0.34	Acceptable
	43	North of Scott Rd.	4D	Major	34,100	2,700	0.08	Acceptable
	44	South of Scott Rd	4D	Major	34,100	7,900	0.23	Acceptable

Table 7-4 (3 of 5)

Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	GP Proposed ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.	6D	Expressway	61,300	43,600	0.71	Acceptable
	46	Between Goetz Rd & Murrieta Rd.	6D	Expressway	61,300	50,700	0.83	Approaching
	47	East of Murrieta Rd.	6D	Expressway	61,300	57,700	0.94	Approaching
	48	West of I-215 SB Ramp	8D	Expressway	81,700	65,900	0.81	Approaching
	49	Between I-215 SB Ramp & I-215 NB Ramp	8D	Expressway	81,700	64,200	0.79	Acceptable
	50	Between I-215 NB Ramp & Encanto Dr.	8D	Expressway	81,700	66,300	0.81	Approaching
	51	East of Encanto Dr.	8D	Expressway	81,700	62,200	0.76	Acceptable
	52	West of Menifee Rd.	8D	Expressway	81,700	62,300	0.76	Acceptable
	53	East of Menifee Rd.	8D	Expressway	81,700	64,300	0.79	Acceptable
	54	West of Briggs Rd.	8D	Expressway	81,700	64,500	0.79	Acceptable
	55	East of Briggs Rd.	8D	Expressway	81,700	61,700	0.76	Acceptable
McCall Boulevard	56	West of Murrieta Rd.	4D	Major	34,100	11,200	0.33	Acceptable
	57	East of Murrieta Rd.	4D	Major	34,100	18,900	0.55	Acceptable
	58	West of Bradley Rd.	4D	Major	34,100	38,500	**1.13**	**Potentially Exceeds**
	59	Between Bradley Rd & I-215 SB Ramp	6D	Urban	53,900	57,400	**1.06**	**Potentially Exceeds**
	60	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	57,700	**1.07**	**Potentially Exceeds**
	61	Between I-215 NB Ramp & Encanto Dr.	6D	Urban	53,900	58,800	**1.09**	**Potentially Exceeds**
	62	East of Encanto Dr.	6D	Urban	53,900	42,600	0.79	Acceptable
	63	West of Menifee Rd.	6D	Urban	53,900	29,700	0.55	Acceptable
	64	East of Menifee Rd.	6D	Urban	53,900	36,000	0.67	Acceptable

Table 7-4 (4 of 5)

Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	GP Proposed ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Cherry Hills Boulevard	65	West of Murrieta Rd.	2U	Collector	13,000	2,400	0.18	Acceptable
	66	East of Murrieta Rd.	4D	Secondary	25,900	2,800	0.11	Acceptable
	67	West of Bradley Rd.	4D	Secondary	25,900	5,600	0.22	Acceptable
Newport Road	68	West of Goetz Rd.	6D	Urban	53,900	29,600	0.55	Acceptable
	69	East of Goetz Rd.	6D	Urban	53,900	39,000	0.72	Acceptable
	70	West of Murrieta Rd.	6D	Urban	53,900	44,900	0.83	Approaching
	71	East of Murrieta Rd.	6D	Urban	53,900	50,000	0.93	Approaching
	72	West of Bradley Rd.	6D	Urban	53,900	43,800	0.81	Approaching
	73	East of Bradley Rd.	6D	Urban	53,900	49,600	0.92	Approaching
	74	West of Haun Rd.	6D	Urban	53,900	56,800	**1.05**	**Potentially Exceeds**
	75	Between Haun Rd. & I-215 SB Ramp	8D	Urban	71,800	75,500	**1.05**	**Potentially Exceeds**
	76	Between I-215 SB Ramp & I-215 NB Ramp	8D	Urban	71,800	64,500	0.90	Approaching
	77	Between I-215 NB Ramp & Antelope Rd.	8D	Urban	71,800	60,700	0.85	Approaching
	78	East of Antelope Rd.	6D	Urban	53,900	46,200	0.86	Approaching
	79	West of Menifee Rd.	6D	Urban	53,900	44,200	0.82	Approaching
	80	East of Menifee Rd.	6D	Urban	53,900	24,700	0.46	Acceptable
	81	West of Lindenberger Rd.	6D	Urban	53,900	28,900	0.54	Acceptable
	82	East of Lindenberger Rd.	6D	Urban	53,900	23,800	0.44	Acceptable
Holland Road	83	West of Menifee Rd.	4D	Major	34,100	19,400	0.57	Acceptable
	84	East of Menifee Rd.	4D	Major	34,100	13,100	0.38	Acceptable
Garbani Road	85	West of Menifee Rd.	4D	Major	34,100	15,100	0.44	Acceptable
	86	East of Menifee Rd.	4D	Major	34,100	12,100	0.35	Acceptable

Table 7-4 (5 of 5)

Proposed Menifee General Plan (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	GP Proposed ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Scott Road	87	West of Murrieta Rd.	6D	Urban	53,900	43,000	0.80	Acceptable
	88	East of Murrieta Rd.	6D	Urban	53,900	36,600	0.68	Acceptable
	89	West of Haun Rd.	6D	Urban	53,900	38,600	0.72	Acceptable
	90	Between Haun Rd. & I-215 SB Ramp	6D	Urban	53,900	45,000	0.83	Approaching
	91	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	46,000	0.85	Approaching
	92	Between I-215 NB Ramp & Antelope Rd.	6D	Urban	53,900	47,700	0.88	Approaching
	93	East of Antelope Rd.	6D	Urban	53,900	34,300	0.64	Acceptable
	94	West of Menifee Rd.	6D	Urban	53,900	33,300	0.62	Acceptable
	95	East of Menifee Rd.	6D	Urban	53,900	35,200	0.65	Acceptable
	96	West of Briggs Rd.	6D	Urban	53,900	34,600	0.64	Acceptable
	97	East of Briggs Rd.	6D	Urban	53,900	29,400	0.55	Acceptable

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Cacacity", 1.26+ = "Exceeds Capacity"

Table 7-5

Proposed Menifee General Plan (Post-2035) Intersection Analysis

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Goetz Rd / Newport Rd	TS	1	1	0	2	1	1	2	3	1	1	3	1>	31.3	39.1	C	D
2	Goetz Rd / Ethanac Rd	TS	2	2	1>	2	2	1>	2	3	d	2	3	d	46.8	42.7	D	D
3	Murrieta Rd / Ethanac Rd	TS	1	2	1	1	2	1	2	3	d	2	3	d	44.8	49.2	D	D
4	Murrieta Rd / McCall Blvd	TS	1	2	1	1	2	1	2	2	1	2	2	1	26.2	26.6	C	C
5	Murrieta Rd / Cherry Hills Blvd	TS	1	2	1	1	2	1	1	2	0	1	2	0	23.5	24.1	C	C
6	Murrieta Rd / Newport Rd	TS	2	2	1	2	2	1>	2	3	1	2	3	1>	36.9	49.7	D	D
7	Murrieta Rd / Scott Rd	TS	0	0	0	2	0	1>	2	3	0	0	3	1	19.8	31.3	B	C
8	Bradley Rd / McCall Blvd	TS	1	2	1>	1	2	1	2	2	1	2	2	1	42.5	***>80.0***	D	***F***
9	Bradley Rd / Cherry Hills Blvd	TS	1	2	0	0	2	1	1	0	1	0	0	0	14	15	B	B
10	Bradley Rd / Newport Rd	TS	2	2	1>	1	2	1	2	3	1	2	3	1	39.2	41.9	D	D
11	I-215 Southbound Ramps / Ethanac Rd	TS	0	0	0	2	0	2	0	4	1>>	0	4	1>>	11.8	9.2	B	A
12	I-215 Southbound Ramps / McCall Blvd	TS	0	0	0	0	1	1	0	3	1>>	2	3	0	20.8	29.5	C	C
13	Haun Rd / Newport Rd	TS	2	1	2>	2	1	1	2	3	1>	2	3	1	***>80.0***	***>80.0***	***F***	***F***
14	Haun Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	38.9	39.5	D	D
15	I-215 Southbound Ramps / Newport Rd	TS	0	0	0	1	1	1	0	4	1>>	0	3	1>>	13.7	13.9	B	B
16	I-215 Southbound Ramps / Scott Rd	TS	0	0	0	2	0	2	0	4	1>>	0	3	2	5.9	7.8	A	A
17	I-215 Northbound Ramps / Ethanac Rd	TS	2	0	2	0	0	0	0	4	1>>	0	4	1>>	11.5	12.0	B	B
18	I-215 Northbound Ramps / McCall Blvd	TS	0	1	1	0	0	0	2	3	0	0	3	1>>	21.3	25.8	C	C
19	I-215 Northbound Ramps / Newport Rd	TS	1	1	1	0	0	0	0	3	1>>	0	4	1>>	16.8	19.2	B	B
20	I-215 Northbound Ramps / Scott Rd	TS	0	1	2	0	0	2	2	4	0	0	4	1	14.2	15.2	B	B
21	Encanto Dr / Ethanac Rd	TS	1	0	1	0	0	0	0	4	1	1	4	0	21.6	20.2	C	C
22	Encanto Dr / McCall Blvd	TS	1	1	0	2	1	1>	2	3	1	1	3	1	34.7	54.9	C	D
23	Antelope Rd / Newport Rd	TS	2	2	1	2	2	1	2	3	1>	2	3	1	45.2	53.2	D	D
24	Antelope Rd / Scott Rd	TS	2	1	1	2	2	1	2	3	1	1	3	1	37.6	41.6	D	D
25	Menifee Rd / SR-74 (Pinacate Rd.)	TS	2	3	1>	2	3	1	2	4	1>	2	4	1	***61.3***	47.3	***F***[4]	D
26	Menifee Rd / McCall Blvd	TS	2	3	1	2	3	1	2	3	1	2	3	1>	***>80.0***	44.6	***F***	D
27	Menifee Rd / Newport Rd	TS	2	2	1>	2	2	1>	2	3	1	2	3	1	39.2	39.5	D	D
28	Menifee Rd / Holland Rd	TS	2	2	1	2	2	1	2	2	1	2	2	1	29.6	32.8	C	C
29	Menifee Rd / Garbani Rd	TS	2	2	1	2	2	1	2	2	1	2	2	1	30.0	37.4	C	D
30	Menifee Rd / Scott Rd	TS	2	2	1>	2	2	1	2	3	1	2	3	1	35.0	45.4	C	D
31	Lindenberger Rd / Newport Rd	TS	0	0	0	1	1	1	2	3	0	0	3	1	20.6	21.8	C	C
32	Briggs Rd / SR-74 (Pinacate Rd.)	TS	2	2	1	2	2	1	2	4	1>	2	4	1	42.4	36.0	D	D
33	Briggs Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	30.1	32.2	C	C

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

2 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 Ramp Locations have been analyzed utilizing the Synchro software.

3 TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

4 Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

BOLD = Unsatisfactory level of service.

The Proposed Menifee General Plan Post-2035 peak hour conditions analysis show that the following intersection location will experience unacceptable LOS E or worse conditions during one or both of the peak hours.

ID	Intersection Location	AM	PM
8	Bradley Road / McCall Boulevard	D	F
13	Haun Road / Newport Road	F	F
25	Menifee Road / SR-74 (Pinacate Road)	F	D
26	Menifee Road / McCall Boulevard	F	D

The Proposed Menifee General Plan Post-2035 conditions intersection operations analysis worksheets are included in Appendix 7.4 of this traffic study. Table 7-6 identifies the additional lane requirements needed to mitigate the unacceptable peak hour LOS. The intersection analysis with improvements are included in Appendix 7.5.

7.2.3 I-215 MAINLINE CAPACITY ANALYSIS

Table 7-7 provides a summary of the Proposed Menifee General Plan Post-2035 I-215 Mainline Capacity Analysis. As shown on Table 7-7, with the planned widening of the I-215 in 2015, the planned 6-lane freeway is generally expected to exceed the estimated daily capacity.

7.2.4 VEHICLE MILES TRAVELLED (VMT)

For Post-2035 conditions with the Proposed Menifee General Plan, VMT datasets have been extracted for the traffic analysis zones which encompass the City of Menifee. It is also important to recognize that each trip has two ends and in order to calculate the VMT for the City of Menifee all trip types need to be accurately described. The VMT for the City of Menifee includes the following:

- 100% of the internal to internal trips
- 50% of the internal to external trips
- 50% of the external to internal trips
- 0% of the external to external trips

All shopping, recreational, social, and work related trips contribute to the VMT estimates. On an average daily basis, the following quantities of vehicle miles travelled are projected to occur for buildout conditions:

- AM Peak Period – 1,093,000
- Mid Day Period – 1,810,000
- PM Peak Period – 1,799,000
- Nighttime Period – 1,255,000

Table 7-6

Proposed Menifee General Plan Post-2035 Intersection Analysis, With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
8	Bradley Rd / McCall Blvd																	
	-Without Mitigation	TS	1	2	1>	1	2	1	2	2	1	2	2	1	42.5	***>80.0***	D	***F***
	-With Mitigation	TS	1	2	**2>**	1	2	1	2	**3**	1	2	**3**	1	34.5	45.6	C	D
13	Haun Rd / Newport Rd																	
	-Without Mitigation	TS	2	1	2>	2	1	1	2	3	1>	2	3	1	***>80.0***	***>80.0***	***F***	***F***
	-With Mitigation[5]	TS	2	1	2>	2	1	1	2	**4**	1>	2	**4**	1	***55.4***	***78.1***	***E***	***E***
	-With Additional Mitigation[6]	TS	2	1	2>	2	1	1	2	**4**	1>	2	**4**	1	26.5	39.0	C	D
25	Menifee Rd / SR-74 (Pinacate Rd.)																	
	-Without Mitigation	TS	2	3	1>	2	3	1	2	4	1>	2	4	1	***61.3***	47.3	***F***[4]	D
	-With Mitigation	TS	2	3	**2>**	2	3	1	2	4	1>	2	4	1	46.3	46.4	D	D
26	Menifee Rd / McCall Blvd																	
	-Without Mitigation	TS	2	3	1	2	3	1	2	3	1	2	3	1>	***>80.0***	44.6	***F***	D
	-With Mitigation	TS	2	3	1	2	3	**1>**	2	3	1	2	3	**2>**	40.2	42.1	D	D

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; **1** = Improvement

2 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 ramp locations have been analyzed utilizing the Synchro software.

3 TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

4 Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

5 In addition to the lane improvements shown, the removal of the southbound crosswalk (west leg) is recommended.

6 In addition to the lane improvements shown, the removal of both the northbound (east leg) and southbound (west leg) crosswalks is recommended.

BOLD = Unsatisfactory level of service.

Table 7-7

Proposed Menifee General Plan (Post-2035) I-215 Mainline Analysis

Roadway	ID	Segment	Through Travel Lanes	Estimated Daily Capacity[1]	Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
I-215	1	North of SR-74 (Ethanac Road)	6D	117,500	133,000	**1.13**	**Potentially Exceeds**
	2	SR-74 (Ethanac Road) to McCall Boulevard	6D	117,500	134,000	**1.14**	**Potentially Exceeds**
	3	McCall Boulevard to Newport Road	6D	117,500	140,000	**1.19**	**Potentially Exceeds**
	4	Newport Road to Scott Road	6D	117,500	123,000	**1.05**	**Potentially Exceeds**
	5	South of Scott Road	6D	117,500	144,000	**1.23**	**Potentially Exceeds**

[1] Approximate recommended ADT based upon Figure C-3 of the County of Riverside General Plan Circulation Element

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

Based upon RivTAM, the City of Menifee produces a total of approximately 5,956,000 VMT per day for Post-2035 conditions with the Proposed Menifee General Plan. This level of activity is generated by an assumed service population of 272,644, consisting of 172,090 residents and 100,554 employees within the city.

The Post-2035 dataset with the Proposed Menifee General Plan significantly improves the balance of jobs and housing within the city, in comparison to existing and RCIP 2035 datasets that indicate a shortfall of local jobs. The Post-2035 per capita VMT with the Proposed Menifee General Plan is therefore 44% lower than the RCIP 2035 scenario (slightly less than 22 vehicle miles per day per resident/employee).

7.3 GENERAL PLAN EDC ALTERNATIVE POST-2035 TRAFFIC FORECASTS

The proposed General Plan EDC Alternative Post-2035 traffic forecasts are based on Menifee General Plan Land Use Element with the proposed land use change affecting 174 acres in the southwest corner of the General Plan Study Area, westerly of Interstate 215 and southerly of Scott Road. A summary of the differences between the primary Post-2035 scenario and the expanded Economic Development Corridor (EDC) Post 2035 scenario are shown below.

- Increase the EDC area
  - add 174 acres to the southwest corner of the EDC
  - increase nonretail 2,880,187 square feet

- Reduce the Rural Residential area
  - remove 4 acres of RR1 Rural Residential (1 a min) and 170 acres of RR2 Rural Residential (2 acre min)
  - reduce population by 550 persons
  - reduce total units by 89

The General Plan EDC Alternative traffic model reflects the roadway network classifications shown on Exhibit 5-3. The refined model forecast calculations for the General Plan EDC Alternative Post-2035 conditions are included in Appendix 7.6. Exhibit 7-7 presents the Average Daily Traffic Volumes expected for the General Plan EDC Alternative Post-2035 conditions. Exhibits 7-8 and 7-9 provide the General Plan EDC Alternative Post-2035 AM and PM peak hour intersection turning movement volumes.

EXHIBIT 7-7

GENERAL PLAN EDC ALTERNATIVE (POST-2035) AVERAGE DAILY TRAFFIC (ADT)

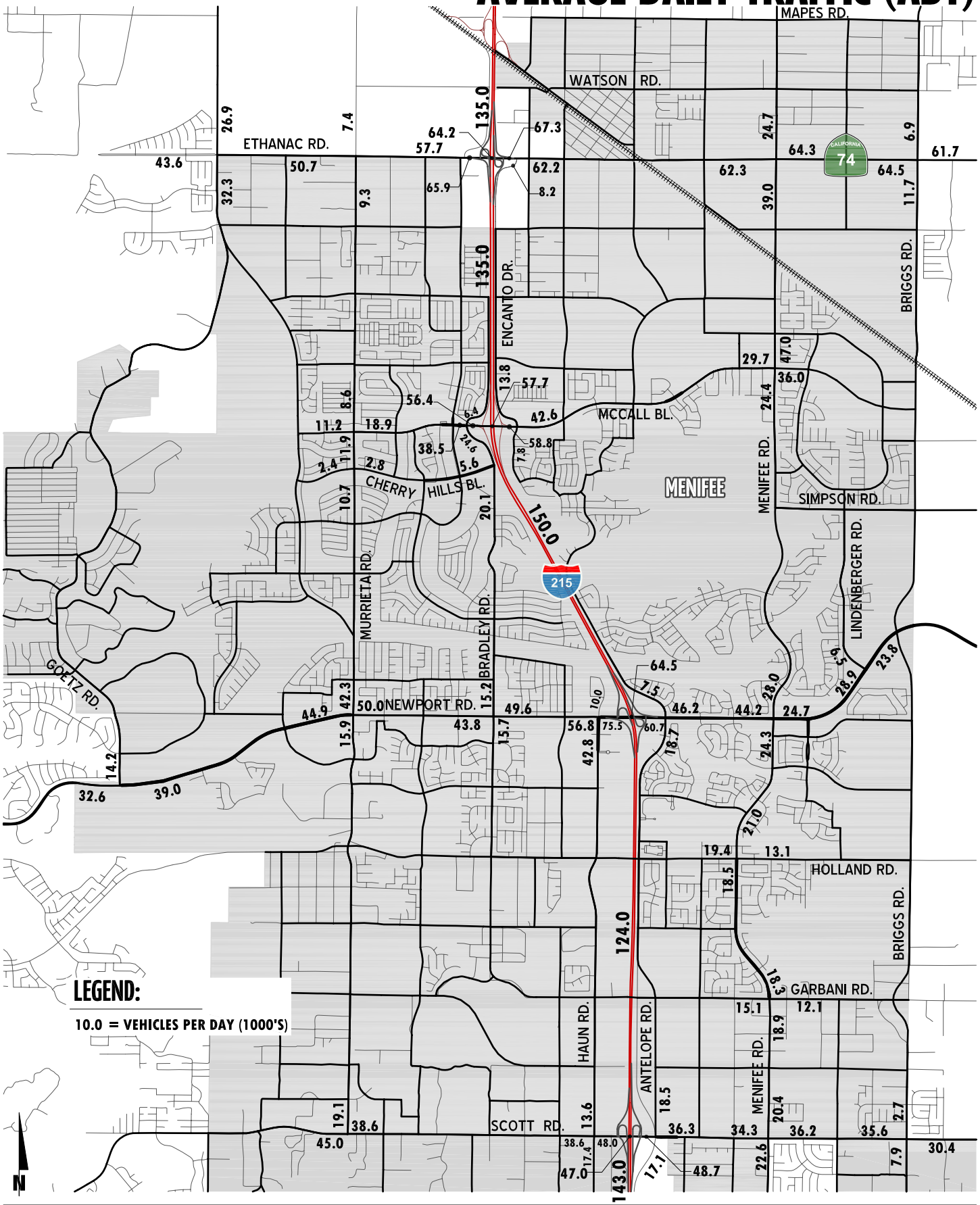
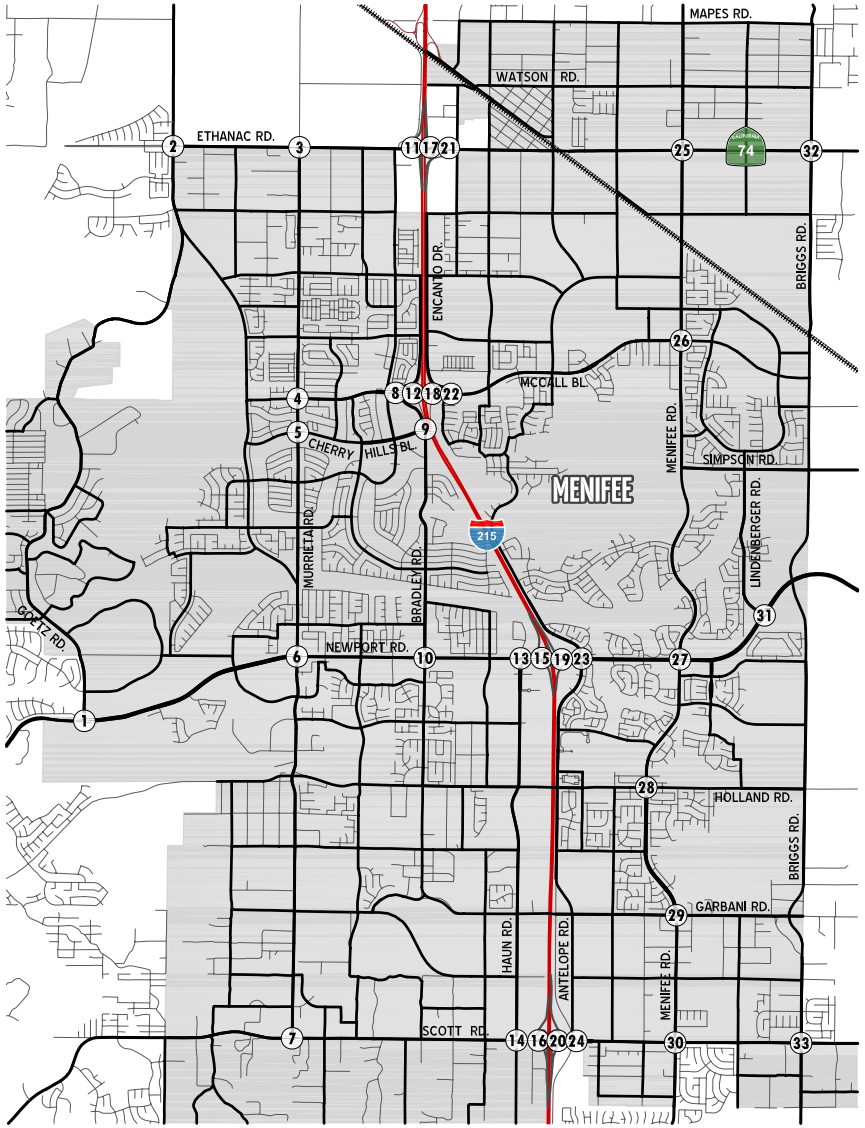


EXHIBIT 7-8

GENERAL PLAN EDC ALTERNATIVE (POST-2035) AM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

239	1	696
193	864	10
70	864	3
15	3	25

2 Goetz Rd. & Ethanac Rd.

576	323	553
213	829	775
97	1099	43
35	130	599

3 Murrieta Rd. & Ethanac Rd.

122	61	198
101	1546	147
3	1929	35
91	126	193

4 Murrieta Rd. & McCall Bl.

95	172	68
68	209	220
124	398	13
6	150	145

5 Murrieta Rd. & Cherry Hills Bl.

70	311	28
20	18	33
18	62	60
7	207	34

6 Murrieta Rd. & Newport Rd.

465	168	947
391	839	71
477	1248	54
42	109	30

7 Murrieta Rd. & Scott Rd.

452	308	
145	943	
226	1367	

8 Bradley Rd. & McCall Bl.

17	63	151
80	994	621
57	1088	106
89	52	524

9 Bradley Rd. & Cherry Hills Bl.

43	430	
58	62	
91	476	

10 Bradley Rd. & Newport Rd.

128	219	253
185	856	269
221	1435	183
238	315	406

11 I-215 SB Ramps & Ethanac Rd.

308	260	
327	2063	
2250	360	

12 I-215 SB Ramps & McCall Bl.

238	0	297
1457	653	
1486	277	

13 Haun Rd. & Newport Rd.

42	51	90
247	1312	791
95	1626	298
190	47	513

14 Haun Rd. & Scott Rd.

61	186	454
267	1052	433
62	941	401
159	222	44

15 I-215 SB Ramps & Newport Rd.

619	536	
621	1731	
1594	635	

16 I-215 SB Ramps & Scott Rd.

298	325	
464	1692	
878	625	

17 I-215 NB Ramps & Ethanac Rd.

43	1728	
2323	187	
668	266	

18 I-215 NB Ramps & McCall Bl.

186	1838	
264	1519	
272	2	431

19 I-215 NB Ramps & Newport Rd.

404	1826	
1652	478	
526	371	

20 I-215 NB Ramps & Scott Rd.

626		
354	1530	
187	1016	
2	467	

21 Encanto Dr. & Ethanac Rd.

1723	171	
2489	100	
48	70	

22 Encanto Dr. & McCall Bl.

303	9	70
44	1500	15
204	1568	178
221	12	20

23 Antelope Rd. & Newport Rd.

160	70	165
107	1666	222
77	1235	711
404	40	204

24 Antelope Rd. & Scott Rd.

351	316	193
66	1162	138
150	1029	304
371	111	83

25 Menifee Rd. & SR-74 (Ethanac Rd.)

172	691	370
171	1706	502
193	1533	397
572	535	868

26 Menifee Rd. & McCall Bl.

431	670	596
1150	784	17
622	674	153
175	658	39

27 Menifee Rd. & Newport Rd.

743	503	107
171	816	312
761	510	215
158	338	157

28 Menifee Rd. & Holland Rd.

354	540	79
84	436	303
152	215	61
133	306	248

29 Menifee Rd. & Garbani Rd.

282	491	19
8	249	74
40	110	250
326	424	117

30 Menifee Rd. & Scott Rd.

162	372	278
343	859	290
104	751	88
339	413	481

31 Lindenberger Rd. & Newport Rd.

214	37	
22	1027	
168	578	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

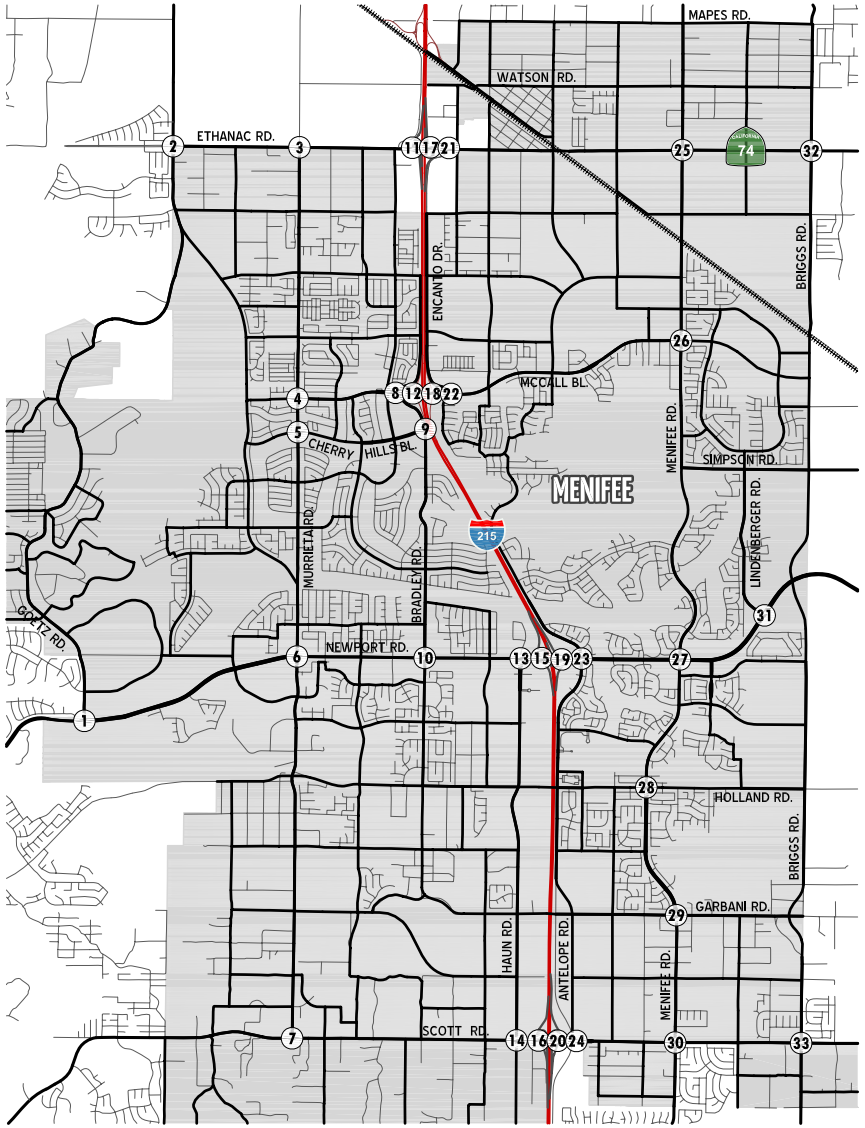
255	128	189
125	1687	152
548	1399	708
438	130	101

33 Briggs Rd. & Scott Rd.

27	5	12
2	1363	6
12	1603	40
29	1	5

EXHIBIT 7-9

GENERAL PLAN EDC ALTERNATIVE (POST-2035) PM PEAK HOUR INTERSECTION VOLUMES



1 Goetz Rd. & Newport Rd.

146	3	388
761	985	34
329	1201	9
9	2	17

2 Goetz Rd. & Ethanac Rd.

92	208	313
503	1187	898
89	637	49
19	130	687

3 Murrieta Rd. & Ethanac Rd.

3	78	80
181	2225	265
23	1803	75
56	217	201

4 Murrieta Rd. & McCall Bl.

54	182	132
165	302	233
44	254	13
2	214	244

5 Murrieta Rd. & Cherry Hills Bl.

18	306	19
23	78	48
28	46	6
14	409	49

6 Murrieta Rd. & Newport Rd.

496	179	752
951	1450	78
655	1023	43
144	233	85

7 Murrieta Rd. & Scott Rd.

385	210	
264	1895	
636	1280	

8 Bradley Rd. & McCall Bl.

53	91	296
93	1500	755
70	1420	103
125	80	917

9 Bradley Rd. & Cherry Hills Bl.

76	565	
82	78	
155	824	

10 Bradley Rd. & Newport Rd.

201	298	374
356	1655	236
203	1166	156
324	302	239

11 I-215 SB Ramps & Ethanac Rd.

268	138	
293	2506	
2082	484	

12 I-215 SB Ramps & McCall Bl.

393	2	299
1955	618	
1989	644	

13 Haun Rd. & Newport Rd.

103	90	264
160	1736	1036
80	1556	491
512	67	1122

14 Haun Rd. & Scott Rd.

104	85	281
420	1314	285
129	1526	250
302	191	163

15 I-215 SB Ramps & Newport Rd.

676	512	
359	2256	
2270	672	

16 I-215 SB Ramps & Scott Rd.

226	405	
487	1888	
1714	572	

17 I-215 NB Ramps & Ethanac Rd.

378	2512	
1867	353	
287	375	

18 I-215 NB Ramps & McCall Bl.

143	2224	
264	2024	
349	1	556

19 I-215 NB Ramps & Newport Rd.

396	1786	
1932	850	
829	707	

20 I-215 NB Ramps & Scott Rd.

799		
356	1576	
357	1762	
0	516	

21 Encanto Dr. & Ethanac Rd.

2529	44	
2126	116	
361	144	

22 Encanto Dr. & McCall Bl.

213	16	26
63	1941	34
503	1758	319
213	20	37

23 Antelope Rd. & Newport Rd.

108	64	32
62	1511	252
238	1688	713
563	109	372

24 Antelope Rd. & Scott Rd.

325	121	158
150	1223	152
414	1444	420
384	336	188

25 Menifee Rd. & SR-74 (Ethanac Rd.)

103	712	130
218	1236	667
188	1676	512
381	864	594

26 Menifee Rd. & McCall Bl.

297	797	962
804	713	42
350	959	241
209	867	49

27 Menifee Rd. & Newport Rd.

754	356	103
78	669	161
780	885	131
238	679	377

28 Menifee Rd. & Holland Rd.

116	158	76
148	295	26
187	655	139
79	989	92

29 Menifee Rd. & Garbani Rd.

116	151	9
40	214	46
332	84	423
301	785	26

30 Menifee Rd. & Scott Rd.

86	418	236
436	766	495
246	1114	516
268	439	480

31 Lindenberger Rd. & Newport Rd.

200	37	
38	673	
334	1148	

32 Briggs Rd. & SR-74 (Ethanac Rd.)

712	28	76
32	1467	40
433	1967	194
201	40	41

33 Briggs Rd. & Scott Rd.

17	1	8
5	1569	4
27	1784	31
26	2	3

7.3.1 ROADWAY SEGMENT ANALYSIS

Table 7-8 provides a summary of the interim year General Plan EDC Alternative Post-2035 conditions roadway segment capacity analysis based on the capacity thresholds identified on Table 2-1. As shown on Table 7-8, 8 out of the total of 97 existing study area roadway segments are expected to exceed the average daily vehicle capacity thresholds. Based on the General Plan EDC Alternative Post-2035 conditions roadway segment analysis, the following 8 study area roadway segments may exceed the roadway capacity:

ID	Roadway	Segment	V/C Ratio
9	Murrieta Road	North of Newport Rd.	1.18
21	Haun Road	South of Newport Rd.	1.26
58	McCall Boulevard	West of Bradley Rd.	1.13
59	McCall Boulevard	Between Bradley Rd & I-215 SB Ramp	1.05
60	McCall Boulevard	Between I-215 SB Ramp & I-215 NB Ramp	1.07
61	McCall Boulevard	Between I-215 NB Ramp & Encanto Dr.	1.09
74	Newport Road	West of Haun Rd.	1.07
75	Newport Road	Between Haun Rd. & I-215 SB Ramp	1.09

The roadway segment analysis for General Plan EDC Alternative Post-2035 conditions shows that the proposed City of Menifee General Plan roadway network will provide adequate capacity to accommodate interim Post-2035 conditions on all of the study area roadway segments with eight segments potentially exceeding capacity.

As indicated in Section 2.2, the roadway segment analysis is used as a planning tool to evaluate the adequacy of existing roadway segment capacities. A v/c ratio of greater than 1.01 to 1.25 suggests that additional review is required; however, if adjacent intersections provide the lanes needed to achieve acceptable peak hour LOS, then segment capacity improvements between key intersections may not be needed. For roadway segments significantly exceeding capacity (v/c ratio > 1.25) then additional through lane roadway capacity and intersection improvements are more likely to be needed.

7.3.2 INTERSECTION OPERATIONS ANALYSIS

Future General Plan EDC Alternative Post-2035 peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 of this traffic study. The intersection analysis results summarized in Table 7-9 indicate that out of the 33 study area intersections:

- 29 operate at acceptable LOS D or better conditions during the peak hours
- 4 operates at unacceptable LOS E or worse conditions during the peak hours

Table 7-8 (1 of 5)

General Plan EDC Alternative (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Goetz Road	1	North of Ethanac Rd.	4D	Major	34,100	26,900	0.79	Acceptable
	2	South of Ethanac Rd.	4D	Major	34,100	32,300	0.95	Approaching
	3	North of Newport Rd.	4D	Major	34,100	14,200	0.42	Acceptable
Murrieta Road	4	North of Ethanac Rd.	4U	Secondary	25,900	7,400	0.29	Acceptable
	5	South of Ethanac Rd.	4U	Secondary	25,900	9,300	0.36	Acceptable
	6	North of McCall Bl.	4U	Secondary	25,900	8,600	0.33	Acceptable
	7	Between McCall Bl. & Cherry Hills Bl.	4U	Secondary	25,900	11,900	0.46	Acceptable
	8	South of Cherry Hills Bl.	4U	Secondary	25,900	10,700	0.41	Acceptable
	9	North of Newport Rd.	4D	Arterial	35,900	42,300	**1.18**	**Potentially Exceeds**
	10	South of Newport Rd.	4D	Arterial	35,900	15,900	0.44	Acceptable
	11	North of Scott Rd.	4D	Arterial	35,900	19,100	0.53	Acceptable
Bradley Road	12	North of McCall Bl.	4U	Secondary	25,900	6,400	0.25	Acceptable
	13	Between McCall Bl. & Cherry Hills Bl.	4D	Secondary	25,900	24,600	0.95	Approaching
	14	South of Cherry Hills Bl.	4U	Secondary	25,900	20,100	0.78	Acceptable
	15	North of Newport Rd.	4U	Secondary	25,900	15,200	0.59	Acceptable
	16	South of Newport Rd.	4D	Major	34,100	15,700	0.46	Acceptable
Encanto Road	17	South of Ethanac Rd.	4D	Major	34,100	8,200	0.24	Acceptable
	18	North of McCall Bl.	4D	Major	34,100	13,800	0.40	Acceptable
	19	South of McCall Bl.	2U	Collector	13,000	7,800	0.60	Acceptable
Haun Road	20	North of Newport Rd.	2U	Local	13,000	10,000	0.77	Acceptable
	21	South of Newport Rd.	4D	Major	34,100	42,800	**1.26**	**Exceeds**
	22	North of Scott Rd.	4D	Major	34,100	13,600	0.40	Acceptable
	23	South of Scott Rd	4D	Major	34,100	17,400	0.51	Acceptable

Table 7-8 (2 of 5)

General Plan EDC Alternative (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Antelope Road	24	North of Newport Rd.	4D	Secondary	25,900	7,500	0.29	Acceptable
	25	South of Newport Rd.	4D	Major	34,100	18,700	0.55	Acceptable
	26	North of Scott Rd.	4D	Major	34,100	18,500	0.54	Acceptable
	27	South of Scott Rd	4D	Major	34,100	17,100	0.50	Acceptable
Menifee Road	28	North of SR-74 (Pinacate Rd.)	6D	Urban	53,900	24,700	0.46	Acceptable
	29	South of SR-74 (Pinacate Rd.)	6D	Urban	53,900	39,000	0.72	Acceptable
	30	North of McCall Bl.	6D	Urban	53,900	47,000	0.87	Approaching
	31	Between McCall Bl. & Simpson Rd	6D	Urban	53,900	24,400	0.45	Acceptable
	32	North of Newport Rd.	4D	Arterial	35,900	28,000	0.78	Acceptable
	33	South of Newport Rd.	4D	Arterial	35,900	24,300	0.68	Acceptable
	34	North of Holland Rd.	4D	Arterial	35,900	21,000	0.58	Acceptable
	35	South of Holland Rd.	4D	Arterial	35,900	18,500	0.52	Acceptable
	36	North of Garbani Rd.	4D	Arterial	35,900	18,300	0.51	Acceptable
	37	South of Garbani Rd.	4D	Arterial	35,900	18,900	0.53	Acceptable
	38	North of Scott Rd.	4D	Arterial	35,900	20,400	0.57	Acceptable
	39	South of Scott Rd	4D	Arterial	35,900	22,600	0.63	Acceptable
Lindenberger Road	40	North of Newport Rd.	4U	Secondary	25,900	6,500	0.25	Acceptable
Briggs Road	41	North of SR-74 (Pinacate Rd.)	4D	Major	34,100	6,900	0.20	Acceptable
	42	South of SR-74 (Pinacate Rd.)	4D	Major	34,100	11,700	0.34	Acceptable
	43	North of Scott Rd.	4D	Major	34,100	2,700	0.08	Acceptable
	44	South of Scott Rd	4D	Major	34,100	7,900	0.23	Acceptable

Table 7-8 (3 of 5)

General Plan EDC Alternative (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
SR-74 (Ethanac/Pinacate Road)	45	West of Goetz Rd.	6D	Expressway	61,300	43,600	0.71	Acceptable
	46	Between Goetz Rd & Murrieta Rd.	6D	Expressway	61,300	50,700	0.83	Approaching
	47	East of Murrieta Rd.	6D	Expressway	61,300	57,700	0.94	Approaching
	48	West of I-215 SB Ramp	8D	Expressway	81,700	65,900	0.81	Approaching
	49	Between I-215 SB Ramp & I-215 NB Ramp	8D	Expressway	81,700	64,200	0.79	Acceptable
	50	Between I-215 NB Ramp & Encanto Dr.	8D	Expressway	81,700	67,300	0.82	Approaching
	51	East of Encanto Dr.	8D	Expressway	81,700	62,200	0.76	Acceptable
	52	West of Menifee Rd.	8D	Expressway	81,700	62,300	0.76	Acceptable
	53	East of Menifee Rd.	8D	Expressway	81,700	64,300	0.79	Acceptable
	54	West of Briggs Rd.	8D	Expressway	81,700	64,500	0.79	Acceptable
	55	East of Briggs Rd.	8D	Expressway	81,700	61,700	0.76	Acceptable
McCall Boulevard	56	West of Murrieta Rd.	4D	Major	34,100	11,200	0.33	Acceptable
	57	East of Murrieta Rd.	4D	Major	34,100	18,900	0.55	Acceptable
	58	West of Bradley Rd.	4D	Major	34,100	38,500	**1.13**	**Potentially Exceeds**
	59	Between Bradley Rd & I-215 SB Ramp	6D	Urban	53,900	56,400	**1.05**	**Potentially Exceeds**
	60	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	57,700	**1.07**	**Potentially Exceeds**
	61	Between I-215 NB Ramp & Encanto Dr.	6D	Urban	53,900	58,800	**1.09**	**Potentially Exceeds**
	62	East of Encanto Dr.	6D	Urban	53,900	42,600	0.79	Acceptable
	63	West of Menifee Rd.	6D	Urban	53,900	29,700	0.55	Acceptable
	64	East of Menifee Rd.	6D	Urban	53,900	36,000	0.67	Acceptable

Table 7-8 (4 of 5)

General Plan EDC Alternative (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Cherry Hills Boulevard	65	West of Murrieta Rd.	2U	Collector	13,000	2,400	0.18	Acceptable
	66	East of Murrieta Rd.	4D	Secondary	25,900	2,800	0.11	Acceptable
	67	West of Bradley Rd.	4D	Secondary	25,900	5,600	0.22	Acceptable
Newport Road	68	West of Goetz Rd.	6D	Urban	53,900	32,600	0.60	Acceptable
	69	East of Goetz Rd.	6D	Urban	53,900	39,000	0.72	Acceptable
	70	West of Murrieta Rd.	6D	Urban	53,900	44,900	0.83	Approaching
	71	East of Murrieta Rd.	6D	Urban	53,900	50,000	0.93	Approaching
	72	West of Bradley Rd.	6D	Urban	53,900	43,800	0.81	Approaching
	73	East of Bradley Rd.	6D	Urban	53,900	49,600	0.92	Approaching
	74	West of Haun Rd.	6D	Urban	53,900	56,800	**1.05**	**Potentially Exceeds**
	75	Between Haun Rd. & I-215 SB Ramp	8D	Urban	71,800	75,500	**1.05**	**Potentially Exceeds**
	76	Between I-215 SB Ramp & I-215 NB Ramp	8D	Urban	71,800	64,500	0.90	Approaching
	77	Between I-215 NB Ramp & Antelope Rd.	8D	Urban	71,800	60,700	0.85	Approaching
	78	East of Antelope Rd.	6D	Urban	53,900	46,200	0.86	Approaching
	79	West of Menifee Rd.	6D	Urban	53,900	44,200	0.82	Approaching
	80	East of Menifee Rd.	6D	Urban	53,900	24,700	0.46	Acceptable
	81	West of Lindenberger Rd.	6D	Urban	53,900	28,900	0.54	Acceptable
	82	East of Lindenberger Rd.	6D	Urban	53,900	23,800	0.44	Acceptable
Holland Road	83	West of Menifee Rd.	4D	Major	34,100	19,400	0.57	Acceptable
	84	East of Menifee Rd.	4D	Major	34,100	13,100	0.38	Acceptable
Garbani Road	85	West of Menifee Rd.	4D	Major	34,100	15,100	0.44	Acceptable
	86	East of Menifee Rd.	4D	Major	34,100	12,100	0.35	Acceptable

Table 7-8 (5 of 5)

General Plan EDC Alternative (Post-2035) Roadway Segment Analysis

Roadway	ID	Segment	Through Travel Lanes	Menifee Class	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
Scott Road	87	West of Murrieta Rd.	6D	Urban	53,900	45,000	0.83	Approaching
	88	East of Murrieta Rd.	6D	Urban	53,900	38,600	0.72	Acceptable
	89	West of Haun Rd.	6D	Urban	53,900	38,600	0.72	Acceptable
	90	Between Haun Rd. & I-215 SB Ramp	6D	Urban	53,900	48,000	0.89	Approaching
	91	Between I-215 SB Ramp & I-215 NB Ramp	6D	Urban	53,900	47,000	0.87	Approaching
	92	Between I-215 NB Ramp & Antelope Rd.	6D	Urban	53,900	48,700	0.90	Approaching
	93	East of Antelope Rd.	6D	Urban	53,900	36,300	0.67	Acceptable
	94	West of Menifee Rd.	6D	Urban	53,900	34,300	0.64	Acceptable
	95	East of Menifee Rd.	6D	Urban	53,900	36,200	0.67	Acceptable
	96	West of Briggs Rd.	6D	Urban	53,900	35,600	0.66	Acceptable
	97	East of Briggs Rd.	6D	Urban	53,900	30,400	0.56	Acceptable

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Cacacity", 1.26+ = "Exceeds Capacity"

Table 7-9

General Plan EDC Alternative (Post-2035) Intersection Analysis

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Goetz Rd / Newport Rd	TS	1	1	0	2	1	1	2	3	1	1	3	1>	31.3	39.4	C	D
2	Goetz Rd / Ethanac Rd	TS	2	2	1>	2	2	1>	2	3	d	2	3	d	47.5	42.8	D	D
3	Murrieta Rd / Ethanac Rd	TS	1	2	1	1	2	1	2	3	d	2	3	d	46.7	49.3	D	D
4	Murrieta Rd / McCall Blvd	TS	1	2	1	1	2	1	2	2	1	2	2	1	26.2	26.6	C	C
5	Murrieta Rd / Cherry Hills Blvd	TS	1	2	1	1	2	1	1	2	0	1	2	0	23.5	24.0	C	C
6	Murrieta Rd / Newport Rd	TS	2	2	1	2	2	1>	2	3	1	2	3	1>	36.9	50.8	D	D
7	Murrieta Rd / Scott Rd	TS	0	0	0	2	0	1>	2	3	0	0	3	1	19.8	32.9	B	C
8	Bradley Rd / McCall Blvd	TS	1	2	1>	1	2	1	2	2	1	2	2	1	42.6	***>80.0***	D	***F***
9	Bradley Rd / Cherry Hills Blvd	TS	1	2	0	0	2	1	1	0	1	0	0	0	14	15	B	B
10	Bradley Rd / Newport Rd	TS	2	2	1>	1	2	1	2	3	1	2	3	1	39.2	42	D	D
11	I-215 Southbound Ramps / Ethanac Rd	TS	0	0	0	2	0	2	0	4	1>>	0	4	1>>	11.8	9	B	A
12	I-215 Southbound Ramps / McCall Blvd	TS	0	0	0	0	1	1	0	3	1>>	2	3	0	20.2	29.2	C	C
13	Haun Rd / Newport Rd	TS	2	1	2>	2	1	1	2	3	1>	2	3	1	***>80.0***	***>80***	***F***	***F***
14	Haun Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	45.5	41.8	D	D
15	I-215 Southbound Ramps / Newport Rd	TS	0	0	0	1	1	1	0	4	1>>	0	3	1>>	14.6	13.9	B	B
16	I-215 Southbound Ramps / Scott Rd	TS	0	0	0	2	0	2	0	4	1>>	0	3	2	7.7	7.5	A	A
17	I-215 Northbound Ramps / Ethanac Rd	TS	2	0	2	0	0	0	0	4	1>>	0	4	1>>	11.6	12.3	B	B
18	I-215 Northbound Ramps / McCall Blvd	TS	0	1	1	0	0	0	2	3	0	0	3	1>>	20.5	27.3	C	C
19	I-215 Northbound Ramps / Newport Rd	TS	1	1	1	0	0	0	0	3	1>>	0	4	1>>	15.2	18.5	B	B
20	I-215 Northbound Ramps / Scott Rd	TS	0	1	2	0	0	2	2	4	0	0	4	1	15.3	15.0	B	B
21	Encanto Dr / Ethanac Rd	TS	1	0	1	0	0	0	0	4	1	1	4	0	31.0	23.5	C	C
22	Encanto Dr / McCall Blvd	TS	1	1	0	2	1	1>	2	3	1	1	3	1	34.7	54.9	C	D
23	Antelope Rd / Newport Rd	TS	2	2	1	2	2	1	2	3	1>	2	3	1	34.5	37.1	C	D
24	Antelope Rd / Scott Rd	TS	2	1	1	2	2	1	2	3	1	1	3	1	38.1	43.1	D	D
25	Menifee Rd / SR-74 (Pinacate Rd.)	TS	2	3	1>	2	3	1	2	4	1>	2	4	1	***61.8***	47.1	***F***[4]	D
26	Menifee Rd / McCall Blvd	TS	2	3	1	2	3	1	2	3	1	2	3	1>	***>80.0***	45.6	***F***	D
27	Menifee Rd / Newport Rd	TS	2	2	1>	2	2	1>	2	3	1	2	3	1	39.4	39.8	D	D
28	Menifee Rd / Holland Rd	TS	2	2	1	2	2	1	2	2	1	2	2	1	29.7	33.3	C	C
29	Menifee Rd / Garbani Rd	TS	2	2	1	2	2	1	2	2	1	2	2	1	29.8	37.9	C	D
30	Menifee Rd / Scott Rd	TS	2	2	1>	2	2	1	2	3	1	2	3	1	35.1	45.1	D	D
31	Lindenberger Rd / Newport Rd	TS	0	0	0	1	1	1	2	3	0	0	3	1	20.6	21.7	C	C
32	Briggs Rd / SR-74 (Pinacate Rd.)	TS	2	2	1	2	2	1>	2	4	1>	2	4	1	46.7	44.3	D	D
33	Briggs Rd / Scott Rd	TS	2	2	1	2	2	1	2	3	1	2	3	1	31.7	33.9	C	C

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

2 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 Ramp Locations have been analyzed utilizing the Synchro software.

3 TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

4 Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

BOLD = Unsatisfactory level of service.

The General Plan EDC Alternative Post-2035 peak hour conditions analysis show that the following intersection location will experience unacceptable LOS E or worse conditions during one or both of the peak hours.

ID	Intersection Location	AM	PM
8	Bradley Road / McCall Boulevard	D	F
13	Haun Road / Newport Road	F	F
25	Menifee Road / SR-74 (Pinacate Road)	F	D
26	Menifee Road / McCall Boulevard	F	D

The General Plan EDC Alternative Post-2035 conditions intersection operations analysis worksheets are included in Appendix 7.7 of this traffic study. Table 7-10 identifies the additional lane requirements needed to mitigate the unacceptable peak hour LOS. The intersection analysis with improvements are included in Appendix 7.8.

7.3.3 I-215 MAINLINE CAPACITY ANALYSIS

Table 7-11 provides a summary of the General Plan EDC Alternative Post-2035 I-215 Mainline Capacity Analysis. As shown on Table 7-11, with the planned widening of the I-215 in 2015, the planned 6-lane freeway is generally expected to exceed the average daily vehicle capacity threshold.

7.3.4 VEHICLE MILES TRAVELLED (VMT)

For Post-2035 conditions with the General Plan EDC Alternative, VMT datasets have been extracted for the traffic analysis zones which encompass the City of Menifee. It is also important to recognize that each trip has two ends and in order to calculate the VMT for the City of Menifee all trip types need to be accurately described. The VMT for the City of Menifee includes the following:

- 100% of the internal to internal trips
- 50% of the internal to external trips
- 50% of the external to internal trips
- 0% of the external to external trips

VMT datasets have been extracted for all trips starting and/or stopping in the traffic analysis zones which encompass the City of Menifee. All shopping, recreational, social, and work related trips contribute to the VMT estimates. On an average daily basis, the following quantities of vehicle miles travelled are projected to occur for buildout conditions:

- AM Peak Period – 1,126,000
- Mid Day Period – 1,819,000
- PM Peak Period – 1,903,000

Table 7-10

General Plan EDC Alternative (Post-2035) Intersection Analysis, With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
8	Bradley Rd / McCall Blvd																	
	- Without Mitigation	TS	1	2	1>	1	2	1	2	2	1	2	2	1	42.6	***>80.0***	D	***F***
	- With Mitigation	TS	1	2	**2>**	1	2	1	2	**3**	1	2	**3**	1	34.7	45.4	C	D
13	Haun Rd / Newport Rd																	
	- Without Mitigation	TS	2	1	2>	2	1	1	2	3	1>	2	3	1	***>80.0***	***>80***	***F***	***F***
	- With Mitigation[5]	TS	2	1	2>	2	1	1	2	**4**	1>	2	**4**	1	***55.8***	***77.7***	***E***	***E***
	- With Additonal Mitigation[6]	TS	2	1	2>	2	1	1	2	**4**	1>	2	**4**	1	26.5	39.3	C	D
25	Menifee Rd / SR-74 (Pinacate Rd.)																	
	- Without Mitigation	TS	2	3	1>	2	3	1	2	4	1>	2	4	1	***61.8***	47.1	***F***[4]	D
	- With Mitigation	TS	2	3	**2>**	2	3	1	2	4	1>	2	4	1	46.7	46.1	D	D
26	Menifee Rd / McCall Blvd																	
	- Without Mitigation	TS	2	3	1	2	3	1	2	3	1	2	3	1>	***>80.0***	45.6	***F***	D
	- With Mitigation	TS	2	3	1	2	3	**1>**	2	3	1	2	3	**2>**	40.0	42.9	D	D

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; **1** = Improvement

2 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. The I-215 Ramp Locations have been analyzed utilizing the Synchro software.

3 TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-street Stop

4 Volume-to-capacity ratio is greater than 1.00; Intersection unstable; Level of Service "F".

5 In addition to the lane improvements shown, the removal of the southbound crosswalk (west leg) is recommended.

6 In addition to the lane improvements shown, the removal of both the northbound (east leg) and southbound (west leg) crosswalks is recommended.

BOLD = Unsatisfactory level of service.

Table 7-11

General Plan EDC Alternative (Post-2035) I-215 Mainline Analysis

Roadway	ID	Segment	Through Travel Lanes	Estimated Daily Capacity[1]	EDC Post 2035 ADT	Volume/ Capacity Ratio	Average Daily Vehicle Capacity Threshold[2]
I-215	1	North of SR-74 (Ethanac Road)	6D	117,500	135,000	**1.15**	**Potentially Exceeds**
	2	SR-74 (Ethanac Road) to McCall Boulevard	6D	117,500	135,000	**1.15**	**Potentially Exceeds**
	3	McCall Boulevard to Newport Road	6D	117,500	150,000	**1.28**	**Exceeds**
	4	Newport Road to Scott Road	6D	117,500	124,000	**1.06**	**Potentially Exceeds**
	5	South of Scott Road	6D	117,500	143,000	**1.22**	**Potentially Exceeds**

[1] Source: County of Riverside General Plan Circulation Element Link Volume Capacities/Level of Service, March 2001.

[2] The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range: 0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

- Nighttime Period – 1,265,000

Based upon RivTAM, the City of Menifee produces a total of approximately 6,113,000 VMT per day for Post-2035 conditions with the General Plan EDC Alternative. This level of activity is generated by an assumed service population of 286,973, consisting of 171,540 residents and 115,433 employees within the city.

The Post-2035 dataset with the General Plan EDC Alternative further improves the balance of jobs and housing within the city in comparison to the Proposed Menifee General Plan, and significantly improves the jobs/housing balance in comparison to existing and RCIP 2035 datasets that indicate a shortfall of local jobs. The Post-2035 per capita VMT with the General Plan EDC Alternative is therefore 46% lower than the RCIP 2035 scenario (slightly more than 21 vehicle miles per day per resident/employee).

8.0 GOALS AND POLICIES

Menifee's vision is that there will be more circulation options as the City and the region grow. Personal vehicles will continue to provide individual mobility and flexibility for travel, though fuel systems will change and guidance technology will become more sophisticated. The circulation roadway system will be coordinated with future land use patterns and levels of buildout.

8.1 ROADWAY NETWORK

The City of Menifee Roadway Network (Exhibit 5-3) presents the entire roadway plan. In addition to the functional roadway classifications, the plan identifies Enhanced Intersection locations (additional lanes/right-of-way required within 600 feet of the intersection) and Connectivity Analysis Zones (roadway alignments, intersections geometrics and traffic control features subject to future assessment).

Goal C1: ***A roadway network that meets the circulation needs of all residents, employees and visitors to the City of Menifee.***

Policies

C-1.1 Require roadways to:

- Comply with federal, state and local design and safety standards.
- Meet the needs of multiple transportation modes and users.
- Be compatible with the streetscape and surrounding land uses.
- Be maintained in accordance with best practices.

C-1.2 Require development to mitigate its traffic impacts and achieve a peak hour Level of Service (LOS) D or better at intersections, except at constrained intersections at close proximity to the I-215 where LOS E may be permitted.

C-1.3 Work with Caltrans, RCTC and others to identify, fund and implement needed improvements to roadways identified in the Citywide Roadway Network.

C-1.4 Promote development of local street patterns that unify neighborhoods, and we work with neighboring jurisdictions to provide compatible roadway linkages at the City limits.

C-1.5 Minimize idling times and vehicle miles traveled to conserve resources, protect air quality, and limit greenhouse gas emissions.

8.2 BICYLCES AND PEDESTRIANS

The Menifee Bikeway and Community Pedestrian Network (Exhibit 5-6) works in conjunction with the Menifee General Plan Roadway Network to provide a framework for key routes and facilities that will enhance connectivity for all users. The layered networks enable travel by various modes to schools,

civic and county facilities, hospitals, libraries, major parks and recreation areas, colleges, malls and other retail centers, and employment districts. In Menifee, walking and bicycling contribute to an efficient mode of transportation and promote a healthy lifestyle. Development patterns, a mix of land uses and the design of our roadways, buildings and development sites are an integral part of the pedestrian and bicycle system.

Goal C2: ***A bikeway and community pedestrian network that facilitates and encourages non-motorized travel throughout the City of Menifee.***

Policies

C-2.1 Require on- and off-street pathways to:

- Comply with federal, state and local design and safety standards.
- Meet the needs of multiple types of users (families, commuters, recreational beginners, exercise experts), and meet ADA standards and guidelines.
- Be compatible with the streetscape and surrounding land uses.
- Be maintained in accordance with best practices.

C-2.2 Provide off-street multipurpose trails and on-street bike lanes as our primary paths of citywide travel, and explore the shared use of low speed roadways for connectivity wherever it is safe to do so.

C-2.3 Require walkways that promote safe and convenient travel between residential areas, businesses, schools, parks, recreation areas, transit facilities, and other key destination points.

C-2.4 Explore opportunities to expand the pedestrian and bicycle networks; this includes consideration of utility easements, drainage corridors, road right-of-ways and other potential options.

C-2.5 Work with the Western Riverside Council of Governments to implement the Non-Motorized Transportation Plan for Western Riverside County.

8.3 PUBLIC TRANSIT

The network of potential transit services shown on Exhibit 5-7: Potential Transit Services, works in conjunction with the proposed Menifee General Plan Roadway Network and the proposed Menifee Bikeway and Community Pedestrian Network to provide a framework for key routes and facilities that will further enhance connectivity for all users. The Riverside Transit Agency (RTA) provides fixed route and Dial-A-Ride bus service within the City of Menifee and neighboring jurisdictions. As the City of Menifee grows, transit nodes or transit centers may be considered to facilitate commuter express bus service, fixed route bus service, future connections to Perris Valley Metrolink stations and carpools. Though the development and operation of most public transit services and facilities are outside the City's authority, the City actively promotes transit through sound land planning, urban design, and active participation in regional transportation agencies.

Goal C3: ***A public transit system that is a viable alternative to automobile travel and meets basic transportation needs of the transit dependent.***

Policies

C-3.1 Maintain a proactive working partnership with transit providers to ensure that adequate public transit service is available.

C-3.2 Require new development to provide transit facilities, such as bus shelters, transit bays and turnouts, as necessary.

C-3.3 Provide additional development-related incentives to those inherent in the Land Use Plan for projects that promote transit use.

C-3.4 Advocate expansion of Metrolink service to the area.

C-3.5 Work with regional transit agencies to secure convenient feeder service from the Metrolink station to employment districts and transit nodes in Menifee.

C-3.6 Require the future development of community-wide facilities, such as libraries, schools, parks, and community centers, to be sited in transit-ready areas that can be served and made accessible by public transit. Conversely, plan (and coordinate with other transit agencies to plan) future transit routes to serve existing community facilities.

8.4 NEIGHBORHOOD ELECTRIC VEHICLES/GOLF CARTS

Golf carts provide a reliable, environmentally friendly way to travel within a defined network to shop, visit and explore. Neighborhood Electric Vehicles (NEVs) are a relatively recent mode choice within the low speed vehicle (LSV) family that is gaining attention and expanding travel choices. NEVs and golf carts have similar characteristics but also contain important differences, including the types of roadway they can operate on and how they are regulated. The network of potential NEV routes shown on Exhibit 5-8: Potential Neighborhood Electric Vehicle Network, works in conjunction with the proposed Menifee General Plan Roadway Network and the proposed Menifee Bikeway and Community Pedestrian Network to provide a framework for low speed vehicle usage.

Goal C4: ***Diversified local transportation options that include Neighborhood Electric Vehicles and golf carts.***

Policies

C-4.1 Encourage the use of neighborhood electric vehicles (NEVs) and golf carts instead of automobiles for local trips.

8.5 GOODS MOVEMENT

The movement of goods to and through Menifee is critical to our economy, enabling growth of industrial and transportation-related businesses in the City and region. However, trucks generate noise and air pollutants and contribute to traffic congestion along roadways. Designated truck routes through the City of Menifee are illustrated on Exhibit 5-9: Truck Routes. Truck routes are established to designate specific roadways on which trucks may travel within and through the City. These routes direct trucks away from streets which are inappropriate or inadequate to serve substantial truck traffic. Trucks are allowed to access locations on other general plan roads and local streets for site deliveries (i.e. goods delivery or moving vans); however, they must take the most direct route to and from the designated truck routes.

Goal C5: An efficient flow of goods through the City that maximizes economic benefits and minimizes negative impacts.

Policies

C-5.1 Designate and maintain a network of City truck routes that provide for the effective transport of goods while minimizing negative impacts on local circulation and noise-sensitive land uses.

C-5.2 Work with regional and subregional transportation agencies to plan and implement goods movement strategies, including those that improve mobility, deliver goods efficiently and minimize negative environmental impacts.

C-5.3 Support efforts to reduce/eliminate the negative environmental impacts of goods movement.

8.6 SCENIC HIGHWAYS

The City of Menifee contains a multitude of natural visual resources, including low-lying valleys, mountains, and rock formations. These features are often enjoyed via the City's roadways. Due to the visual significance of many of these areas, several roadways in Menifee have been officially recognized as Eligible County Scenic Highways. Eligible County Scenic Highways are county highways that have outstanding scenic qualities; although there is no official list of county highways eligible for scenic designation (as there is with state highways), they are considered eligible and do not require legislative action (like state highways do). The status of a proposed County Scenic Highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Scenic highways provide the motorist with views of distinctive natural characteristics that are not typical of other areas in the region. Designating these roadways as "scenic highways" memorizes the City's intent to conserve its significant scenic resources for future generations and to manage development adjacent to these roadways so that it will not detract from the area's natural characteristics. There are three County Eligible Scenic Highways in the City of Menifee: I-215 from McCall Boulevard south to the

City boundary; McCall Boulevard from I-215 on the west to Menifee Road on the east; and Menifee Road from McCall Boulevard north to the City boundary.

Goal C6: ***Scenic highway corridors that are preserved and protected from change which would diminish the aesthetic value of lands adjacent to the designated routes.***

Policies

C-6.1 Design developments within designated scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses.

C-6.2 Work with federal, state, and County agencies, and citizen groups to ensure compatible development within scenic corridors.

C-6.3 Utilize design and land development strategies to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors.

C-6.4 Incorporate riding, hiking, and bicycle trails and other compatible public recreational facilities within scenic corridors.

C-6.5 Ensure that the design and appearance of new landscaping, structures, equipment, signs, or grading within Eligible County scenic highway corridors are compatible with the surrounding scenic setting or environment.

9.0 IMPLEMENTATION

To satisfy the City of Menifee's goals and policies to provide for more circulation options, implementation measures were developed for each of the "layered networks". Table 9-1 describes the implementation measures needed to accomplish the City of Menifee's General Plan Circulation Element Goals and Policies.

The proposed Menifee General Plan Roadway Network (see Exhibit 5-3) is designed to accommodate other "layered" networks of bicycle routes and pedestrian accommodations, transit services, neighborhood electric vehicle (NEV)/golf cart routes, truck routes and scenic highways. The roadway network has been evaluated in terms of long range future capacity requirements using the Riverside County Transportation Analysis Model (RivTAM), which takes into consideration the cumulative growth of adjacent Cities and unincorporated County areas. The proposed Menifee Circulation Plan maintains network continuity with the Riverside County General Plan Circulation Element at the Plan boundaries.

The focused analysis area for the City of Menifee General Plan Traffic Study is the incorporated City limits. This approach is consistent with other General Plans prepared in the western Riverside County region including traffic studies for the City of Perris, City of Hemet, City of Murrieta and City of Lake Elsinore General Plans. As part of the City of Menifee's General Plan, the City evaluated future intersection levels of service (LOS) for the potential to exceed the City's traffic standards. The General Plan Circulation Element Traffic Study analyzed the levels of service within the City on roadways segments and intersections for the existing (2012) conditions, one interim year scenario (RCIP 2035), and two separate buildout (Post-2035) scenarios. Cumulative development projected to occur outside the City has been incorporated through use RivTAM.

Although the General Plan Circulation Element Traffic Study does not specifically address intersections located outside the City of Menifee, these intersections have been analyzed in prior traffic studies for specific plans in the City and appropriate mitigation has been required. As these specific plans develop, each developer will be required to fund or complete transportation improvements necessary to mitigate traffic impacts, including impacts to intersections in adjacent cities and Riverside County. Additionally, future traffic impact analyses required for individual development projects in the City would be required to identify the project study area where potential traffic impacts associated with the new development could occur. If the study area includes intersections and roadway segments in adjacent jurisdictions, future development projects would be required to evaluate traffic impacts. Traffic impacts identified by individual development projects in the City of Menifee would be required to implement or contribute to improvements in adjacent jurisdictions impacted by the project.

The primary implementing programs of the existing Riverside County Integrated Project (RCIP), adopted by the City of Menifee at incorporation, are proposed to remain in place or be augmented by the proposed City of Menifee General Plan Circulation Element. These programs include monitoring of land use changes that affect the circulation system, network connectivity, and interagency cooperation.

Table 9-1

Action	Topic	Implementation Action	Responsible Department	Timing	Resources Required to Complete
Roadway Network					
Action C1	Roadway Network	Require street dedications from new development projects that are consistent with the right-of- way width identified by the General Plan, including additional right-of-way for those development projects located adjacent to Enhanced Intersection locations, as identified in Exhibit 5-3: Roadway Network.	Community Development and Engineering Departments	Ongoing	Adequate staff resources
Action C2	Roadway Network	Resolve the roadway alignments, intersections geometrics and traffic control features within the Connectivity Analysis Zones identified in Exhibit 5-3: Roadway Network prior to approval of new development projects which significantly impact or constrain alignment alternatives in those zones.	Community Development and Engineering Departments	Ongoing	Adequate staff resources
Action C3	Roadway Network	Develop master plans for scenic preservation and high-speed, limited vehicular access for Ethanac Road/Highway 74, Newport Road/Domenigoni Parkway, and Bundy Canyon Road/Scott Road as they traverse from the western to the eastern City boundaries.	Community Development and Engineering Departments	Short term (5 years)	Adequate staff resources
Action C4	Roadway Network	Require Traffic Impact Analysis for new development projects to identify specific mitigation to traffic impacts generated by the new development. Traffic Impact Analyses shall be submitted in a format acceptable to the City Engineer and be subject to his/her review and approval.	Community Development and Engineering Departments	Ongoing	Adequate staff resources
Action C5	Roadway Network	Require adequate drop-off and pick-up facilities at all new schools for the safety of school children, and to minimize traffic congestion.	Community Development and Public Works Departments	Ongoing	Adequate staff resources
Action C6	Roadway Network	Develop rural street section standards for areas where full street improvements (e.g., curb, gutter or sidewalk) do not exist, where it is determined the rural character of the neighborhood should be maintained, or in new development proposed with a rural street scene. Rural street section standards shall accommodate pedestrian access, and shall incorporate storm drainage design features to avoid surface ponding of water, flooding of adjacent property, as well as to accommodate general storm water runoff from the neighborhood.	Community Development and Engineering Departments	Short term (2 years)	Adequate staff resources
Action C7	Roadway Network	Upgrade and maintain traffic signal-interconnect systems to efficiently coordinate and control traffic flow on arterial streets, including the installation or removal of separate left-turn phasing where warranted. Traffic signal timing should adequately provide for safe pedestrian crossing.	Engineering and Public Works Departments	Short term (5 years)	Adequate staff resources, funding for upgrade projects
Action C8	Roadway Network	Periodically analyze and improve high-accident locations to improve traffic flow and safety.	Engineering and Public Works Departments	Ongoing	Adequate staff resources

Table 9-1

Action	Topic	Implementation Action	Responsible Department	Timing	Resources Required to Complete
Action C9	Roadway Network	Discourage parcel access points taken off major roadway	Engineering and Public Works Departments	Ongoing	Adequate staff resources
Action C10	Roadway Network	Allow roundabouts or other innovative design solutions when a thorough traffic impact assessment has been conducted demonstrating that such an intersection design alternative would manage traffic flow, and improve safety, if it is physically and economically feasible.	Engineering and Public Works Departments	Ongoing	Adequate staff resources
Action C11	Roadway Network	Create a road maintenance district to repair and maintain roads within the City located south of the Salt Creek Channel.	Community Development, Engineering, and Public Works Departments	Short term (5 years)	Adequate staff resources
Action C12	Roadway Network	Prepare a multi-year Transportation Improvement Program (TIP) that establishes improvement priorities and scheduling for transportation project construction over a period of 5 to 7 years. The TIP will be reviewed and updated annually.	Community Development and Engineering Departments	Short term (2 years)	Adequate staff resources
Bikeway and Pedestrian Network					
Action C13	Bikeway and Pedestrian Network	Encourage developers to provide bikeway and pedestrian connections between developed land uses, as well as bicycle parking accommodations for employees and customers.	Community Development Department	Ongoing	Adequate staff resources
Action C14	Bikeway and Pedestrian Network	Require Subregional and Community Off-Road Bike Trail dedications from new development projects that are consistent with the alignments identified in Exhibit C-4: Bikeway and Community Pedestrian Network.	Community Development Department	Ongoing	Adequate staff resources
Action C15	Bikeway and Pedestrian Network	Resolve the bikeway alignments, intersections crossings and traffic control features within the Connectivity Analysis Zones identified in Exhibit 5-3: Roadway Network prior to approval of new development projects which significantly impact or constrain alignment alternatives in those zones.	Community Development Department	Ongoing	Adequate staff resources
Action C16	Bikeway and Pedestrian Network	Develop and maintain bicycle and walking trail system brochures and maps that educate and inform trail users. This information should be made available on the City's website.	Community Development Department	Short term (2 years)	Adequate staff resources

Table 9-1

Action	Topic	Implementation Action	Responsible Department	Timing	Resources Required to Complete
Action C17	Bikeway and Pedestrian Network	Establish and maintain design standards for the development of various types of bikeway and related improvements—e.g., parkways, bridges, trail heads, and rest stops—that may be necessary to implement the Menifee Bikeway and Community Pedestrian Network (Exhibit 5-6). Bikeways shall be designed and constructed in accordance with Chapter 1000, Bikeway Planning and Design, of the Caltrans Highway Design Manual, or as otherwise approved by the City Engineer.	Community Development and Engineering Departments	Short term (5 years)	Adequate staff resources
Action C18	Bikeway and Pedestrian Network	Aggressively seek funding for trails and bikeways from federal and state sources.	Community Development, Engineering, and Public Works Departments	Ongoing	Adequate staff resources
Action C19	Bikeway and Pedestrian Network	Create a Bicycle Master Plan for the City.	Community Development and Public Works Departments	Long term (10 years)	Adequate staff resources
Action C20	Bikeway and Pedestrian Network	Revise Municipal Zoning Code to require bicycle parking at multi-family residential sites in addition to requirements for commercial, service and offices uses.	Community Development Department	Short term (2 years)	Adequate staff resources
Public Transit					
Action C21	Public Transit	Require bus shelters, transit bays and turnouts, where appropriate, from new development projects along the existing and potential future transit service routes identified in Exhibit 5-7.	Community Development Department	Ongoing	Adequate staff resources
Action C22	Public Transit	Encourage developers to implement transit oriented design best practices in the vicinity of the five Transit Nodes identified in Exhibit 5-7: Potential Transit Services.	Community Development Department	Ongoing	Adequate staff resources
Action C23	Public Transit	Develop local transit routes (bus, shuttle or trams) to circulate people between retail centers, medical facilities, offices, schools and residential areas to provide community mobility options.	Community Development Department	Ongoing	Funding to support circulator system
Action C24	Public Transit	Participate in and influence regional transportation programs that seek new and creative solutions in public transportation, transportation systems, and traffic management.	Community Development and Engineering Departments	Ongoing	Adequate staff resources

Table 9-1

Action	Topic	Implementation Action	Responsible Department	Timing	Resources Required to Complete
Neighborhood Electric Vehicles and Golf Cards					
Action C25	NEV and Golf Carts	Prepare an integrated NEV/Golf Cart Study that covers the entire City and expands upon the backbone network identified in Exhibit 5-8: Potential Neighborhood Electric Vehicle Network.	Community Development Department	Short term (5 years)	Adequate staff resources and/or funding for consultant services
Action C26	NEV and Golf Carts	Identify areas where public and private parking lots should provide for NEV parking and NEV recharging stations.	Community Development Department	Short term (5 years)	Adequate staff resources
Action C27	NEV and Golf Carts	Work with WRCOG Clean Cities Coalition and SCAQMD to install electric vehicle charging stations in high traffic areas through grant-funded programs to encourage electric vehicle use.	Public Works Department	Ongoing	Adequate staff resources and funding for installation.
Action C28	NEV and Golf Carts	Revise the permit fees and processing schedule to provide incentives to new and existing commercial, industrial, public, school, medical, and residential projects that provide parking spaces reserved for electric vehicles (NEVs and EVs) and have a charging connection. Incentives could include giving priority in plan review, processing, and field inspection services.	Community Development and Building and Safety Departments	Short term (5 years)	Adequate staff resources
Goods Movement					
Action C29	Goods Movement	Adopt an ordinance implementing the proposed truck routes identified in Exhibit C-7: Truck Routes.	Community Development Department	Short term (1 year)	Adequate staff resources
Action C30	Goods Movement	Evaluate the use of weight restrictions on roadways where safety and maintenance considerations compel the reduction of heavy truck travel	Engineering and Public Works Departments	Short term (2 years)	Adequate staff resources
Scenic Highways					
Action C31	Scenic Highways	Study potential scenic highway corridors for possible inclusion in the Caltrans Scenic Highways Plan.	Community Development Department	Short term (5 years)	Adequate staff resources
Action C32	Scenic Highways	Require development within scenic highway corridors to utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the area.	Community Development Department	Ongoing	Adequate staff resources
Action C33	Scenic Highways	Require development within scenic highway corridors to make dedications consistent with the Scenic Highways Plan when necessary to preserve unique or special visual features.	Community Development Department	Ongoing	Adequate staff resources
Action C34	Scenic Highways	Require new or relocated electric or communication distribution lines, which would be visible from Eligible County Scenic Highways, to be placed underground.	Engineering and Public Works Departments	Ongoing	Adequate staff resources

Table 9-1

Action	Topic	Implementation Action	Responsible Department	Timing	Resources Required to Complete
Action C35	Scenic Highways	In the City's Municipal Code, prohibit offsite outdoor advertising displays and require that the size, height, and type of on-premise signs that are visible from Designated and Eligible State and County Scenic Highways be the minimum necessary for identification.	Community Development Department	Short term (2 years)	Adequate staff resources

Furthermore, one of the required elements of RCTC's Congestion Management Program (CMP) for Riverside County is a program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts. The legislation also states that when the level of service fails to achieve the adopted standard, a deficiency plan must be adopted. To address regional transportation improvements, voters approved the extension of Measure A in 2002 and approved the Transportation Uniform Mitigation Fee or TUMF. Under the TUMF, developers of residential, industrial, and commercial property pay a development fee to fund transportation projects that will be required as a result of the growth the projects create. The Western Riverside Council of Governments administers the TUMF, with Menifee as a participating jurisdiction.

RCTC implements the Regional Arterial Program, which was adopted in September 2004. The program consists of 24 projects located throughout western Riverside County. To date, three projects have been completed and three are under construction. RCTC receives 48.1% of all fees to fund these regional projects. The balance, 3.8%, is allocated to transit projects programmed by the Riverside Transit Agency. The TUMF is expected to create almost $3 billion in transportation projects for western Riverside County, with more than $1.4 billion programmed and implemented by RCTC. Therefore, regional traffic impacts of incremental development in the City of Menifee are addressed by participation in the TUMF Program, in addition to the Traffic Impact Analysis requirements resulting from City of Menifee development review procedures.