



Section 5.4

Traffic and Circulation



5.4 TRAFFIC AND CIRCULATION

This section addresses the City of Murrieta's existing traffic conditions, the impacts of future traffic growth, planned physical improvements, and additional improvements to accommodate growth. This section is based upon the *Traffic Impact Analysis* (Draft January 2011, Final September 2011), prepared by Iteris, and included as Appendix C.

5.4.1 REGULATORY SETTING

The City of Murrieta is located in southeastern Riverside County, and is comprised of 26,852 acres (41.96 square miles) of which 21,511 acres (33.61 square miles) is located within the City Limits and 5,341 acres (8.34 square miles) is located within the City's Sphere of Influence. Surrounding cities include Menifee to the north, Temecula to the south and east, Wildomar to the west, and unincorporated Riverside County to the north, south, and east. The San Diego County border is just south of Temecula, and Orange County lies on the other side of the Santa Ana Mountains to the west. Regional access to the City is provided by the Interstates 15 (I-15), the Corona Freeway, and 215 (I-215), the Escondido Freeway.

Much of the transportation system in the City of Murrieta is owned and controlled by the City, such as the local, collector and arterial street system, and most of the traffic signals. Some of the facilities, however, are owned and controlled by other agencies, including Caltrans and the County of Riverside, or shared with other jurisdictions, such as the Cities of Temecula and Wildomar. Similarly, while much of the funding for the transportation system is local, significant funds for improvement and maintenance also come from other sources including State, Federal and County-level funding sources. Finally, transportation planning and programming is the responsibility of a number of agencies including the City of Murrieta, the County of Riverside, the Riverside County Transportation Commission (RCTC), and the Southern California Association of Governments (SCAG). At the State level, Caltrans is the agency responsible for funding and maintaining the State Highway System and Interstate Highway System.

The regional planning agencies of RCTC and SCAG are responsible for regional transportation planning, traffic forecasting, developing regional plans, and distributing regional transportation funds. At the County level, the County of Riverside operates some county facilities, and also administers Measure A, the local county half-cent sales tax for transportation. Several transportation plans and project lists are prepared by the various agencies, including the Regional Transportation Plan (RTP) by SCAG, with input from all other agencies, and the State and Regional Transportation Improvement Programs (STIP and RTIP). The Western Riverside Council of Governments (WRCOG) developed and administers the Transportation Uniform



Mitigation Fee (TUMF) program. This section provides a brief overview of local and regional transportation planning and programming, and how it affects the City of Murrieta.

CALIFORNIA STATE SENATE BILL 375 (SB 375)

California State Senate Bill 375 (SB 375) became law effective January 1, 2009 as implementing legislation of Assembly Bill 32 (AB 32), which requires the state to reduce Greenhouse Gas (GHG) emissions across all industry sectors back to 1990 levels by the year 2020. Both laws are administered and enforced through the California Air Resources Board (CARB).

Given that the transportation sector is the largest contributor to GHG pollution throughout California, SB 375 targets reduction of GHG emissions specific to cars and light trucks. The law requires each of the State’s 18 Metropolitan Planning Organizations (MPO) to develop a Sustainable Communities Strategy (SCS), which will include specific strategies for improving land use and transportation efficiency. The Southern California Association of Governments (SCAG) is the MPO for six counties (Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial) and includes 184 cities. The primary strategy includes the identification and development of higher density, mixed-use projects around public transportation system stations. Other supported strategies relate to the integration of Intelligent Transportation Systems (ITS) to improve circulation on freeways and arterials.

Every SCS to be developed under SB 375 is required to be integrated into each MPO’s Regional Transportation Plan, thus encouraging local jurisdictions to comply. Transportation improvement projects not listed in the RTP become ineligible to receive funding from some state and federal programs.

STATE TRANSPORTATION IMPROVEMENT PROGRAM

The State Transportation Improvement Program (STIP) is a multi-year capital improvement program for transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. STIP programming generally occurs every two years. The programming cycle begins with the release of a proposed fund estimate in July of odd-numbered years, followed by California Transportation Commission (CTC) adoption of the fund estimate in August (odd years). The fund estimate serves to identify the amount of new funds available for the programming of transportation projects. Once the fund estimate is adopted, Caltrans and the regional planning agencies prepare transportation improvement plans for submittal to the CTC by December 15th (odd years). Caltrans prepares the Interregional Transportation Improvement Program (ITIP) and regional agencies prepare the Regional Transportation Improvement Plans (RTIPs). Public hearings are held in January (even years) in both northern and southern California. The STIP is adopted by the CTC by April (even years).



Cities and other local agencies work through their Regional Transportation Planning Agency (RTPA) to nominate projects for inclusion in the STIP. Once projects are programmed, agencies may begin the project implementation process. RTPAs such as RCTC, are allocated 75 percent of STIP funding for regional transportation projects in their Regional Improvement Program (RIP), and Caltrans is allocated 25 percent for inter-regional transportation projects in the Inter-regional Improvement Program (IIP).

All STIP projects that directly affect the City of Murrieta are included in the RTIP. Refer to the list of RTIP projects under the Regional Transportation Plan following for a complete list of STIP projects in Murrieta.

REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (RTP) is developed, maintained, and updated by the Southern California Association of Governments (SCAG), Southern California's MPO. SCAG encompasses the six counties in Southern California including Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial. On May 8, 2008, the 2008 RTP: Making the Connections was adopted by the Regional Council of the Southern California Association of Governments.

The RTP project list is divided into three sections. At the center is the RTIP (discussed above), which forms the foundation of the RTP project investment strategy and represents the first six years of already-committed funding. The RTP also contains an additional financially constrained set of transportation projects above and beyond the RTIP. Finally, the Strategic Plan represents an unconstrained, illustrative list of potential projects that the region would pursue given additional funding.

Current RTIP Projects:

- At I-15/California Oaks Road/Kalmia Street Interchange – Reconfigure ramps (construct NB/SB loop on-ramps, relocate SB off-ramp), widen California Oaks from four to six lanes from UC to California Oaks Plaza (RIV010204).
- I-15/Clinton Keith Road Interchange – Reconstruct/widen OC two to six lanes and ramps one and two lanes to three and four lanes, add NB/SB auxiliary lanes prior to and after exit/entry ramps and left-turn lanes (RIV62034).
- In Western Riverside County on State Route 79 (SR-79/Winchester Road) – Widen from two to four lanes from Thompson Road to Domenigoni Parkway (46460).
- At I-215/Clinton Keith Road Interchange – Construct partial cloverleaf: widen OC two to six lanes, reconstruct ramps (widening to existing NB/SB diamond ramps and construct new NB/SB loop on ramps (RIV010203).



- At I-215/Scott Road Interchange near Murrieta – Reconstruct/widen interchange from two to six lanes and ramps from one to two lanes (RIV011232).
- In Murrieta on I-215 at Linnel Lane – Construct new four lane (two lanes each direction) OC from McElwain Road to Meadowlark Lane including sidewalks and bike lanes (RIV060104).
- On I-215 in southwest Riverside County from Murrieta Hot Springs Road to Scott Road: Construct a third mixed-flow lane in each direction (widens I-215 from four to six MF lanes – three in each direction (RIV070305).
- On I-215 in southwest Riverside County from Scott Road to Nuevo Road Interchange: Construct a third mixed flow lane in each direction (widens I-215 from four to six lanes – three in each direction (RIV070309).
- On I-215 at Los Alamos Road Interchange: Reconstruct/widen interchange two to six lanes (three lanes each direction) from Hancock Avenue to Whitewood Road, widen ramps (one to two and one to three lanes) (RIV62040).
- In Riverside County near Murrieta, reconstruct and widen Scott Road from two to six lanes between I-215 and SR-79 (RIV010205).
- In Riverside County and Murrieta – Extend/construct Clinton Keith Road (six lanes total – approximately 3.4 miles) with two bridges from Antelope Road to Winchester Road/SR-79 (RIV011236).
- In Murrieta – Construct new two lane Guava Street Bridge (400 feet) over Murrieta Creek from Washington Avenue to Adams Avenue with shoulders and all required approaches (RIV031204).

RIVERSIDE COUNTY MEASURE A

Transportation issues in the City of Murrieta are overseen by the Riverside County Transportation Commission (RCTC), the transportation planning agency responsible for regional planning in Riverside County. As the County Transportation Authority, RCTC administers Measure A, the voter approved half-cent transportation sales tax adopted by Riverside County voters in 1976, and extended to the year 2039 by voters in 2002. Since its implementation, Measure A has provided a steady source of revenue for transportation improvements in the County of Riverside, raising nearly \$1 billion from 1989 through 2009. Measure A funded projects that benefit the City of Murrieta include:



Completed Projects:

- Addition of call boxes to state and interstate highways.
- Commuter Rail – Provided Metrolink commuter rail service from Riverside to Los Angeles and Orange, including five stations and tracks.

Ongoing Projects:

- Rideshare and Specialized Transit Services – Implement programs to promote the use of carpools, vanpools and other rideshare arrangements. Funded new and existing services to assist seniors and persons with disabilities.
- Local Street and Roads – Measure A revenues are provided to each city and county to improve, maintain and repair high priority local streets and roads. Measure A funds supplement and do not replace other revenues previously available for transportation projects.
- Park and Ride Lots – Lease park and ride lots at various locations on I-5, I-215, SR-60, and SR-91.

Future Projects:

- SR-79 – Widen to four lanes from Newport Road to Keller Road.
- Commuter Rail – Extend Metrolink service from Riverside to Perris on the Perris Valley Line. Construct a bus and rail multimodal facility in Downtown Perris.

WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS TRANSPORTATION UNIFORM MITIGATION FEE

The City of Murrieta is a member of the Western Riverside Council of Governments (WRCOG). The WRCOG is a voluntary association that represents member local governments, in order to provide cooperative planning, coordination, and technical assistance on issues of mutual concern that cross jurisdictional lines. WRCOG addresses issues of regional importance in the area of goods movement, rail crossings and growth. WRCOG also developed and administer the Transportation Uniform Mitigation Fee (TUMF), a program that ensures that new development pays its fair share for the increased traffic that it creates. The TUMF program will provide significant additional funds from new development to make improvements to the Regional System, complementing funds generated by Measure A, local transportation fee programs and other potential funding sources. The establishment of this fee on new development establishes a manner by which developers contribute their fair share to the regional transportation system. Currently, TUMF fees are allocated as follows:



- Regional Transit Improvements – 2.6 percent of TUMF funds are allocated to the Riverside Transit Agency for regional transit improvements.
- Regionally Significant Transportation Improvements – 48.7 percent of TUMF funds are allocated to the RCTC for programming improvements to arterials of regional significance.
- Zones – The WRCOG area is split into five zones; Murrieta is located in the Southwest TUMF Zone, along with unincorporated county area and the Cities of Temecula, Wildomar, Canyon Lake, and Lake Elsinore. 48.7 percent of TUMF funds are allocated to the five Zones for improvements to the Regional System of Highways and Arterials. The amount of TUMF funds allocated to each Zone is proportionate to the amount of TUMF revenue generated from each Zone.

RIVERSIDE COUNTY CONGESTION MANAGEMENT PROGRAM

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California, with an urbanized area of more than 50,000 population, including Riverside, to prepare a Congestion Management Plan (CMP). The CMP, which was prepared by the RCTC in consultation with the County and cities in Riverside County, is an effort to more directly align land use, transportation, and air quality management efforts, to promote reasonable growth management programs that effectively use statewide transportation funds, while ensuring that new development pays its fair share of needed transportation improvements. Additionally, the passage of Proposition 111 provided additional transportation funding through a \$0.09 per gallon increase in the State gas tax.

Although implementation of the CMP was made voluntary by the passage of AB 2419, the CMP requirement has been retained in all five urbanized counties within the SCAG region. In addition to its value as a transportation management tool, CMPs have been retained in these counties because of the Federal Congestion Management System requirement that applies to all large urban areas that are not in attainment of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the Regional Agency (SCAG).

The focus of the CMP is the development of an Enhanced Traffic Monitoring System in which real-time traffic count data can be accessed by RCTC to evaluate the condition of the Congestion Management System (CMS) as well as meet other monitoring requirements at the State and Federal levels. Per the CMP adopted level of service (LOS) standard of “E”, when a CMS segment falls to “F”, a deficiency plan is required. Preparation of a deficiency plan would be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency would also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including Transportation Demand Management (TDM) strategies and transit alternatives, and a schedule of mitigating the



deficiency. To ensure that the CMS is appropriately monitored to reduce the occurrence of CMP deficiencies, it is the responsibility of local agencies, when reviewing and approving development proposals, to consider the traffic impacts on the CMS.

CMP facilities within the City of Murrieta are I-15, I-215, and SR-79. A CMP analysis was not required for the proposed General Plan 2035 as the City requirements for a traffic study exceed the CMP requirements and the proposed project met the City requirements. Furthermore, the CMP for Riverside County does not address specific intersections.

COUNTY OF RIVERSIDE GENERAL PLAN

The County of Riverside General Plan includes a range of objectives and policies that address various aspects of circulation, including but not limited to roadways, public transportation, trucking, and non-motorized facilities.

5.4.2 ENVIRONMENTAL SETTING

GENERAL METHODOLOGY

Traffic volumes used in the *Traffic Impact Analysis* were developed through the use of a travel demand model, which is specific to the City of Murrieta, and consistent with the Riverside County Traffic Analysis Model (RivTAM), and the SCAG travel demand model.

The development of the Murrieta Focused Travel Demand Model (Murrieta Model) is based on the Year 2008 Riverside Traffic Analysis Model (RivTAM) in TransCAD platform. The purpose for the development of this focused and detailed model is for use in General Plan traffic forecasting. The Murrieta Model covers all of the six counties in the SCAG region. New zone structure with 925 zones was designed to detail the Murrieta area and to aggregate a set of zones outside of the area. The model roadway network within the City and the Sphere of Influence area was expanded to include roadways classified as Collector and above, as shown in the existing (2006) City of Murrieta General Plan Circulation Element.

The structure of the Murrieta Model is consistent with the RivTAM model to ensure the compatibility between the two models. Building on RivTAM also minimizes the time and effort needed to maintain and update Murrieta as new elements of the RivTAM model are put into the model job stream. Specifically, the model consists of traditional four step modeling process including trip generation, trip distribution, mode split, and traffic assignment. Two model scenarios were included in the Murrieta Model, namely the base year 2008 and the forecast year 2035. Given the updated zone structure, corresponding modifications regarding the input data tables and matrices in the four steps were conducted for both of the model scenarios. The validation for base year 2008 was followed to ensure the results match with the both RivTAM model and traffic counts.



The validated model was then used to forecast future volumes for the different scenarios. Peak hour turning model volumes were developed for study intersections using NCHRP methodology.

FORECAST METHODOLOGY

Development of the Murrieta Model includes four main steps: 1) subdivision of traffic analysis zones, 2) highway and transit network development, 3) trip generation, and 4) trip distribution, mode split, and trip assignment. These processes are discussed in detail below.

Subdivision of Traffic Analysis Zones

Traffic Analysis Zones (TAZ) are geographic areas dividing a planning region into relatively similar areas of land use and activity. Traffic analysis zones in the City and the Sphere of Influence were determined and established with input from City staff. *Exhibit 5.4-1, City of Murrieta Traffic Analysis Zone Locations* illustrates the Murrieta Model traffic analysis zone boundaries in the City area, with zone numbers indicated.

A focused model is usually developed for a specific area based on the regional model and has a multi-tier zone system. The multi-tier zone system in the Murrieta Model was defined as follows:

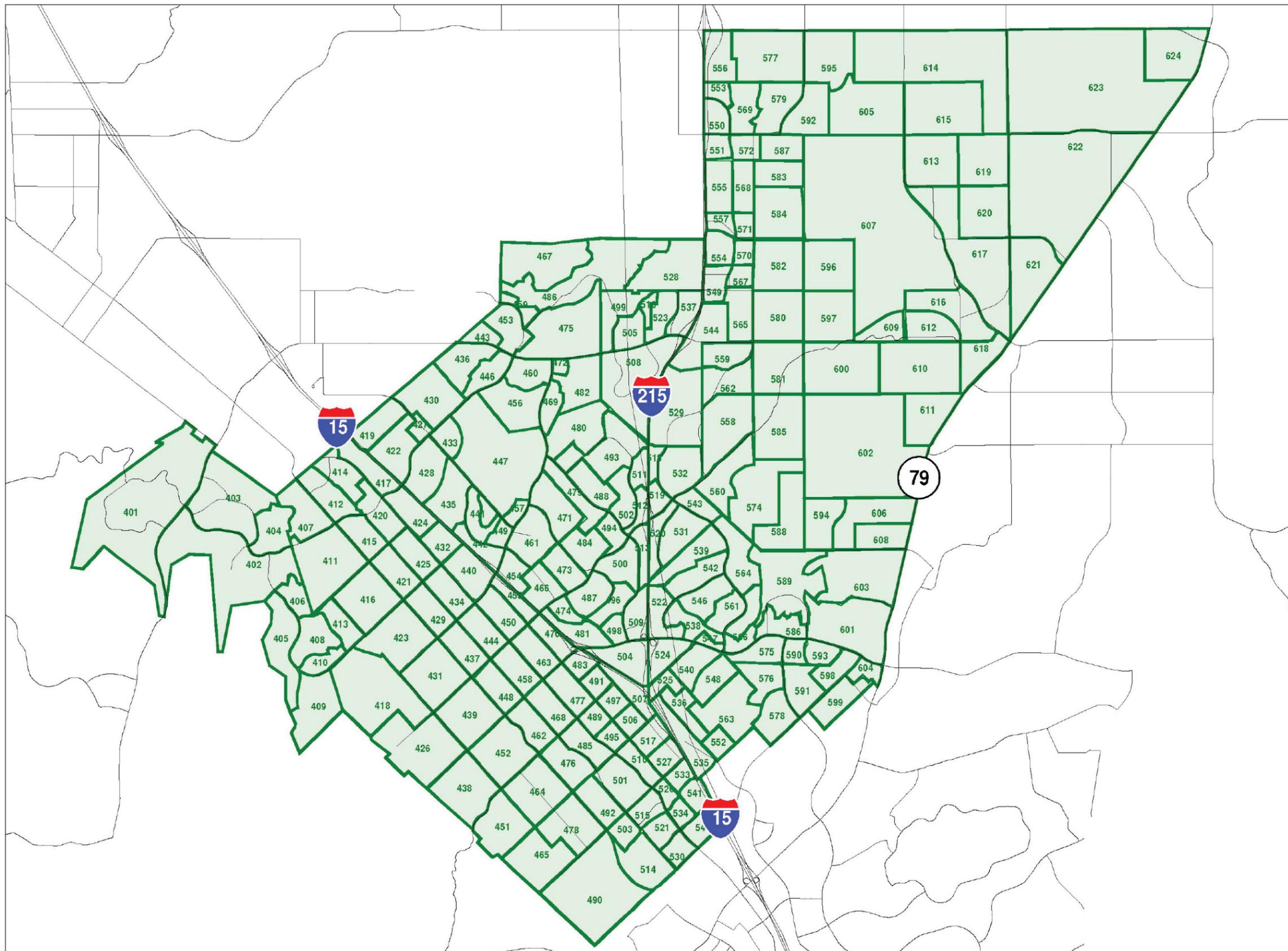
1. Aggregated TAZ at Combined Statistical Areas (CSA) level
2. Area adjacent to the first tier area (15-20 miles from the study area)
3. Area adjacent to the study area, which covers the next 15 miles buffer outside the study area
4. Murrieta study area with smaller size Traffic Analysis Zones (TAZ)

Exhibit 5.4-2, Four-Tier Zone System in Murrieta Model, illustrates the four-tier zone system. Based on the City's zone structure and land use, RivTAM TAZs were further divided into 247 TAZs within the fourth tier, with 23 zones being spare zones. Spare zones are reserved zones for probable future use. They currently generate zero trips. The third tier with 203 TAZs kept the same zone structure as the RivTAM mode. The second tier is a more aggregated RivTAM TAZ adjacent to tier 1. The aggregation based on CSA level generated 352 TAZs located in the first tier. Summary of the TAZ statistics in the Murrieta Model is presented in *Table 5.4-1, Murrieta Model Zone System Structure*. Accordingly, centroid connectors in all the tiers were rebuilt to match with the new zone system.



LEGEND

-  Murrieta TAZ Boundary
-  Roadways

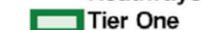


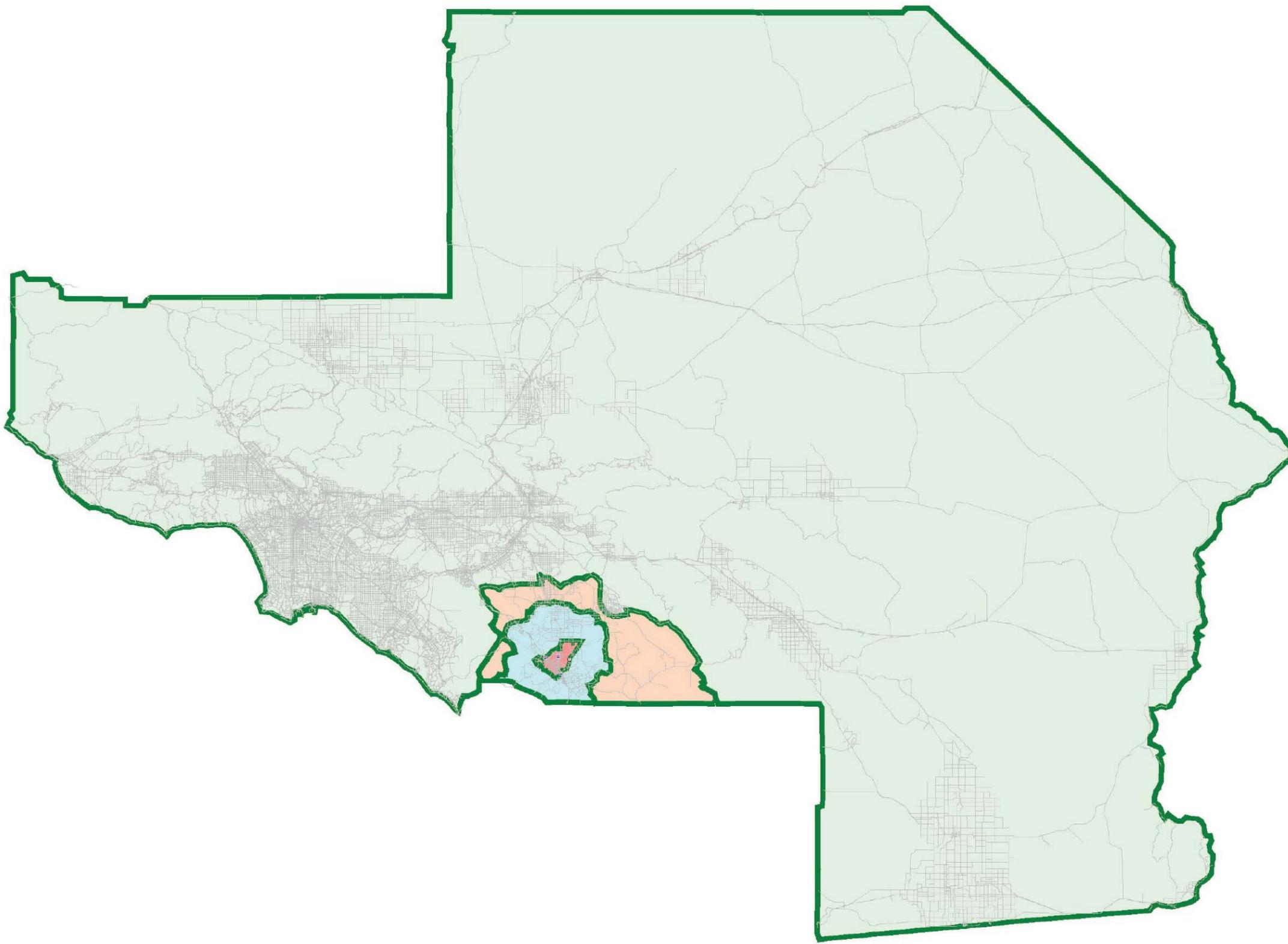


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LEGEND

-  Roadways
-  Tier One
-  Tier Two
-  Tier Three
-  Tier Four





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**Table 5.4-1
Murrieta Model Zone System Structure**

Modeling Area	TAZ	
	Number of Zones	Sequence
Imperial County	10	1-10
Los Angeles County	220	11-230
Orange County	34	231-264
Riverside County	532	265-796
San Bernardino Valley	38	797-834
Murrieta (Portion of Riverside County)	(247)	(401-647)
Ventura County	8	835-842
External/Cordon Zones	40	843-882
Airport Zones	12	883-894
Port Zones	31	895-925
Total	925	1-925

Source: Iteris, *Draft Traffic Impact Analysis*, January 28, 2011.

HIGHWAY AND TRANSIT NETWORK DEVELOPMENT

Accurate transportation model calibration and validation requires that the transportation highway network represents the same time horizon as the land-use data that is used to estimate travel demand. The RivTAM 2008 Base Year model highway network was used to develop the 2008 Murrieta Model highway network. The highway network was conflated using the network editing features and the GIS capabilities of TransCAD, and was aligned using the roadways street centerline file. Roadway links and new centroid connectors for the new traffic analysis zones were added to the highway network. Generally, all the streets currently existing in the General Plan Circulation Element were included in the model network. Local residential streets were generally not included in the network. *Exhibit 5.4-3, Existing Highway Network (2008)* illustrates a snapshot of the Murrieta Model highway network.

Highway network attributes such as speed, functional classification, facility type, capacity, and number of lanes were updated to reflect the existing conditions in the city area. No modifications or changes were made to the RivTAM highway network in the region outside the City.

The existing RivTAM transit network was also modified to ensure its compatibility with the new highway network. Several transit routes were modified to lie on the modified roadway network; however the routes were maintained the same.



TRIP GENERATION

The trip generation model estimates trip-ends for a typical weekday. A production trip end is where a trip begins from the home of the trip maker and an attraction trip-end is where a trip ends. Trip generation models are based on Socio-Economic Data (SED), in which commercial, warehouse and industrial sites are represented in terms of number of employees instead of square-footage or acreage of the development in land use models. Similar to RivTAM, 52 socioeconomic variables describing population, household, school enrollments, household income, workers, and employment were used as the major inputs for the trip generation model.

The SED data for the traffic study area were processed using two approaches due to the data availability.

The City of Murrieta provided the population and employment data for the Murrieta zones, which presented a more refined distribution pattern of population and employment compared with RivTAM model. Therefore, the SED data from the City of Murrieta was converted to RivTAM data format and used as SED input for the Murrieta zones.

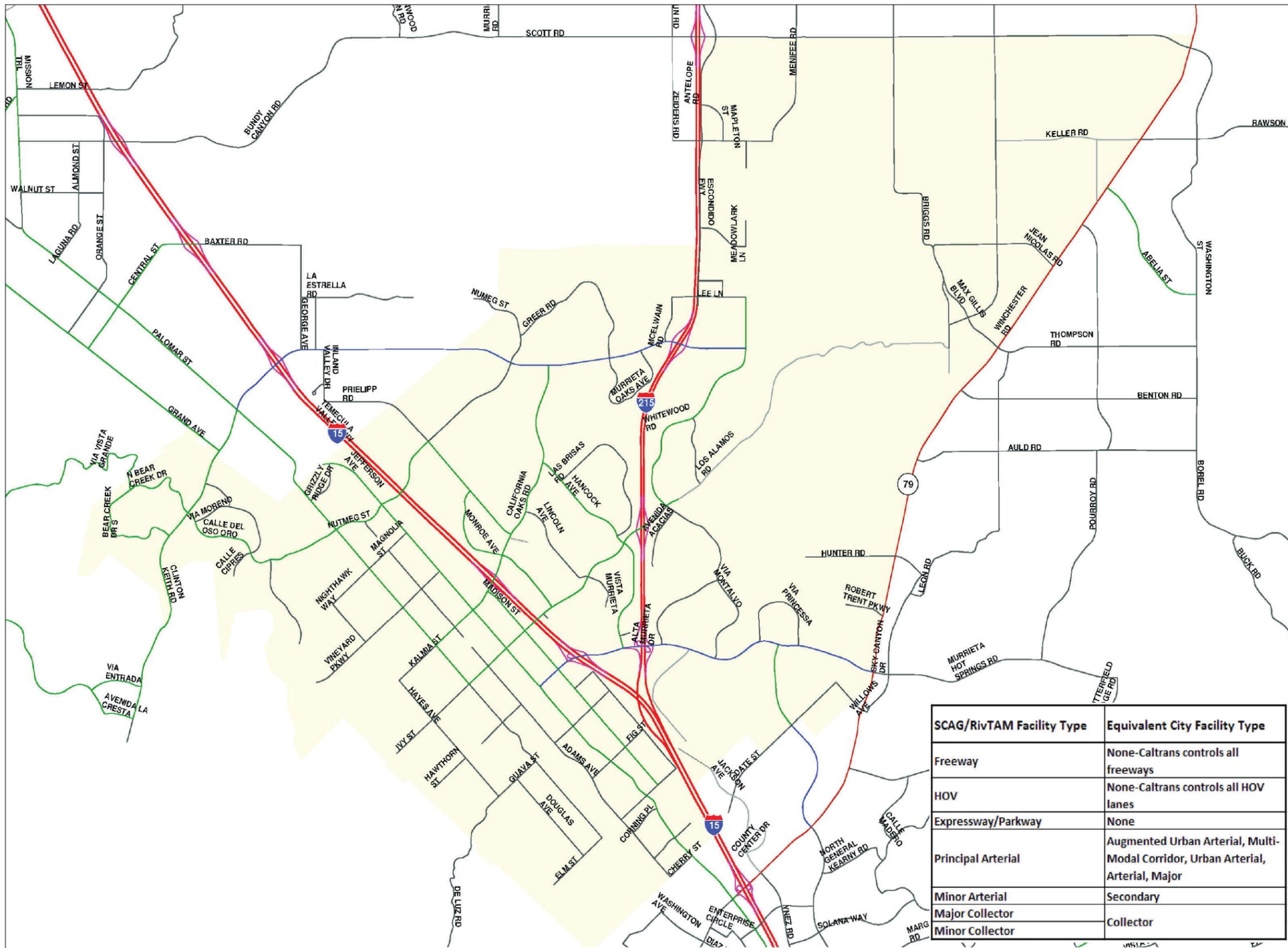
For the third tier, no change for the SED data was made since the Murrieta Model kept the same zone system as the RivTAM. As mentioned, the first tier was based on CSA, where a set of zones in SCAG were grouped to one zone. Accordingly, the SED was aggregated into the corresponding new zones.

In addition to SED input, several tables and matrices describing additional demographic characteristics used in trip generation model were also adjusted according to the Murrieta zone system. The detailed description for the input data and methodology of estimating trip production and attraction can refer to the RivTAM model validation report.

TRIP DISTRIBUTION, MODE SPLIT AND TRIP ASSIGNMENT

The trip distribution process allocates the zonal person trips generated by the trip generation model to movements between zone pairs based on the travel time/cost between the zones. The mode split determines the number of trips taking a variety of travel mode including non-motorized mode, auto mode, and transit mode. The trip assignment model loads trips to the roadway network. Similarly, there was no change in term of model structure and methodologies in these three processes. Note that several related tables and matrices in these three steps were updated according to the new zone system.

Since the City of Murrieta is very close to the San Diego County border, the daily volumes generated by the San Diego cordon station were compared to Caltrans 2008 average daily counts and were accordingly adjusted in the existing model to generate the correct number of daily trips.



LEGEND

- Freeway
- HOV
- Expressway/Parkway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Ramps

SCAG/RivTAM Facility Type	Equivalent City Facility Type
Freeway	None-Caltrans controls all freeways
HOV	None-Caltrans controls all HOV lanes
Expressway/Parkway	None
Principal Arterial	Augmented Urban Arterial, Multi-Modal Corridor, Urban Arterial, Arterial, Major
Minor Arterial	Secondary
Major Collector	Collector
Minor Collector	





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TRAFFIC ASSIGNMENT VALIDATION

The final step in the four step travel demand modeling process is the assignment of the vehicle trip tables to the highway network. The traffic assignment process chooses the specific travel route between zone pairs for any given trip for each of the peak and off-peak time periods. The selection of a particular route is based upon travel times reflecting the traffic volume, roadway capacity and speed relationships. The procedure used in the Murrieta Model is an equilibrium traffic assignment process, whereby the trip table is loaded incrementally to account for capacity restraint and travel time variations that occur when particular network links become congested. The Highway Assignment process is the last and typically the most iterative part of validation/calibration of a travel demand model. To validate the model outputs, base-year ground counts were compared to the modeled traffic volumes on the highway network. The average daily traffic (ADT) volumes for the arterial roadways were obtained from various sources including Caltrans, the City, prior studies, and collecting new counts. The primary source for freeway mainline traffic volume data is Caltrans 2008 count database.

Screenline analysis was used in the validation of trip assignment. Screenlines are imaginary lines drawn across several sections of various roadways to assess the performance of the model by comparing the total model assigned volumes and total actual counts for those roadway sections. All model links (segments) that are crossed by a screenline form a group of roadways within a corridor for which the total model produced volumes and ground traffic counts are aggregated and compared. For the Murrieta model, all screenlines have the assigned volumes within the acceptable industry validation standards and FHWA criteria. The model was also evaluated using the Root Mean Square Error (RMSE) methodology, which is a quadratic scoring rule which measures the average magnitude of the error. It was found that the RMSE for the individual screenlines and the total screenlines is well below the suggested threshold and the model shows good fit with the ground counts. In order to compare the aggregate statistics on the validity of the traffic assignment across all points in the model regardless of specific corridors or screenlines, model predicted vs. counted traffic volumes were compared on model segments with available traffic counts. The model shows good correlation between actual and observed volumes. An analysis of a final measure of comparison for the fit between observed traffic counts and estimated model volumes is the Coefficient of Determination (R^2). The recommended value of R^2 is greater than 0.88. The computed value of R^2 was estimated to be 0.96 for the Murrieta model, which shows that the model performance is within a very reasonable boundary, representing an excellent fit.

TRAFFIC VOLUME POST-PROCESSING

In order to post process the daily link volumes, model growth between the existing and future models was added to the average daily counts, where counts were available. Future forecast traffic volumes for the study intersections were developed using the approach/departure volumes from the Murrieta 2035 Model. The AM and PM peak period forecast traffic volumes were converted to peak hour volumes by applying standard peak hour conversion factors (0.38 for three hours in the AM and 0.28 for four hours in the PM peak periods). Then the intersection



turning movements were developed using the “Iterative” methodology as described in the *National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design*, Chapter 8. The method uses the base year turning volume percentages (from the traffic counts) and the projected growth (difference) in the intersection’s approach/departure volumes between the existing and future models, then proceeds through an iterative computational technique to produce a balanced, final set of adjusted future year turning volumes.

Study Intersections (Existing and Future)

A total of 62 existing and future intersections in the City were identified as study intersections by City Staff. Under the future scenarios, the intersections of Madison Avenue at Kalmia Street and I-15 SB Ramps at Kalmia Street would be reconfigured and combined into one intersection. Therefore, under the future scenarios, a total of 61 intersections were analyzed. A list of the study intersections and a map of their locations are provided in *Table 5.4-2, List of Study Intersections (Existing and Future)* and *Exhibit 5.4-4, Study Intersections*, respectively.

**Table 5.4-2
List of Study Intersections (Existing and Future)**

Int. No.	Intersection	Status
1	Menifee Rd / Scott Rd	Existing
2	Leon Rd / Scott Rd	Existing
3	Winchester Rd - SR-79 / Scott Rd	Existing
4	Antelope Rd / Keller Rd	Existing
5	Menifee-Meadowlark Rd/ Keller Rd	Existing
6	Briggs Rd / Keller Rd	Future
7	Leon Rd / Keller Rd	Existing
8	Winchester Rd - SR-79 / Keller Rd	Existing
9	Antelope Rd / Golden City Drive – Baxter Rd	Future
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Rd	Future
11	Briggs Rd / Baxter Rd – Jean Nicholas	Future
12	Leon Rd / Jean Nicholas	Existing
13	Winchester Rd - SR-79 / Nicholas - Skyview	Existing
14	Antelope Rd / Linnel Lane Extension	Future
15	Whitewood-Meadowlark/ Linnel Lane Extension	Future
16	Leon Rd / Max Gillis Rd	Existing
17	Winchester Rd - SR-79 / Max Gillis - Thompson	Existing
18	California Oaks Rd / Clinton Keith Rd	Existing
19	I-215 SB Off-Ramp / Clinton Keith Rd	Existing
20	I-215 NB Off-Ramp / Clinton Keith Rd	Existing
21	Antelope Rd / Clinton Keith Rd	Under Construction
22	Meadowlark – Whitewood Rd / Clinton Keith Rd	Existing
23	Liberty Rd / Clinton Keith Rd	Future



**Table 5.4-2 [continued]
List of Study Intersections (Existing and Future)**

Int. No.	Intersection	Status
24	Leon Rd / Clinton Keith Rd	Future
25	Winchester Rd - SR-79 / Clinton Keith Rd - Benton Rd	Existing
26	Winchester Rd - SR-79 / Via Mira Mosa – Auld Rd	Existing
27	Monroe Ave / Los Alamos	Existing
28	Jefferson Ave / Murrieta Hot Springs Rd	Existing
29	Madison Ave / Murrieta Hot Springs Rd	Existing
30	I-15 SB Off-Ramp / Murrieta Hot Springs Rd	Existing
31	I-15 NB Off-Ramp / Murrieta Hot Springs Rd	Existing
32	I-215 SB Off-Ramp / Murrieta Hot Springs Rd	Existing
33	I-215 NB Off-Ramp / Murrieta Hot Springs Rd	Existing
34	Jackson Ave / Murrieta Hot Springs Rd	Existing
35	Margarita Rd/ Murrieta Hot Springs Rd	Existing
36	French Valley – Date St / Murrieta Hot Springs Rd	Future
37	Jefferson Ave / Guava St	Existing
38	Jefferson Ave / Cherry St	Existing
39	Washington Ave / Calle del Oso Oro – Nutmeg St	Existing
40	Clinton Keith Rd / Calle de Oso Oro – Bear Creek Dr	Existing
41	Jefferson Ave / Nutmeg St	Existing
42	Jefferson Ave / Magnolia St	Existing
43	Jefferson Ave / Lemon St	Existing
44	Jefferson Ave / Kalmia St	Existing
45	Jefferson Ave / Juniper St	Existing
46	Jefferson Ave / Ivy St – Los Alamos Rd	Existing
47	Madison Ave / Kalmia St	Existing
48	I-15 SB Ramps / Kalmia St	Existing
49	Monroe Ave / Murrieta Hot Springs Rd	Existing
50	Hancock Ave / Murrieta Hot Springs Rd	Existing
51	Alta Murrieta Dr / Murrieta Hot Springs Rd	Existing
52	Winchester Rd - SR-79 / Murrieta Hot Springs Rd	Existing
53	Hancock Ave / Los Alamos Rd	Existing
54	I-215 SB Ramps / Los Alamos Rd	Existing
55	I-215 NB Ramps / Los Alamos Rd	Existing
56	Whitewood Rd / Los Alamos Rd	Existing
57	Whitewood Rd / Murrieta Hot Springs Rd	Existing
58	Adams Ave / Guava St	Existing
59	Nutmeg St / Clinton Keith Rd	Existing
60	Murrieta Oaks Ave - Mitchell Rd / Clinton Keith Rd	Existing
61	I-215 SB Ramps / Scott Rd	Existing
62	I-215 NB Ramps / Scott Rd	Existing

Source: Iteris, *Draft Traffic Impact Analysis*, January 28, 2011.



Roadway Level of Service (LOS) Volume-to Capacity (V/C) Ratios

Roadway segments are evaluated by comparing average daily traffic (ADT) volumes to street capacity. Capacity is a measure of the ability of the street system to meet and serve the demands placed on it. It is generally considered the most practical measure of how well the mobility needs of the City are being met.

The capacity of the road is affected by a number of factors, including street width, roadway design, number of travel lanes, number of roadway intersections, number of driveways, presence of on-street parking, and traffic signal cycle length.

The City of Murrieta’s LOS standards, as published in the existing (2006) General Plan Circulation Element is LOS C for roadway segments.

Table 5.4-3, Daily Roadway Capacity Values and *Table 5.4-4, Roadway Segment LOS Criteria* below depict the maximum daily capacity values for each roadway type and the LOS ranges for roadway segments, respectively.

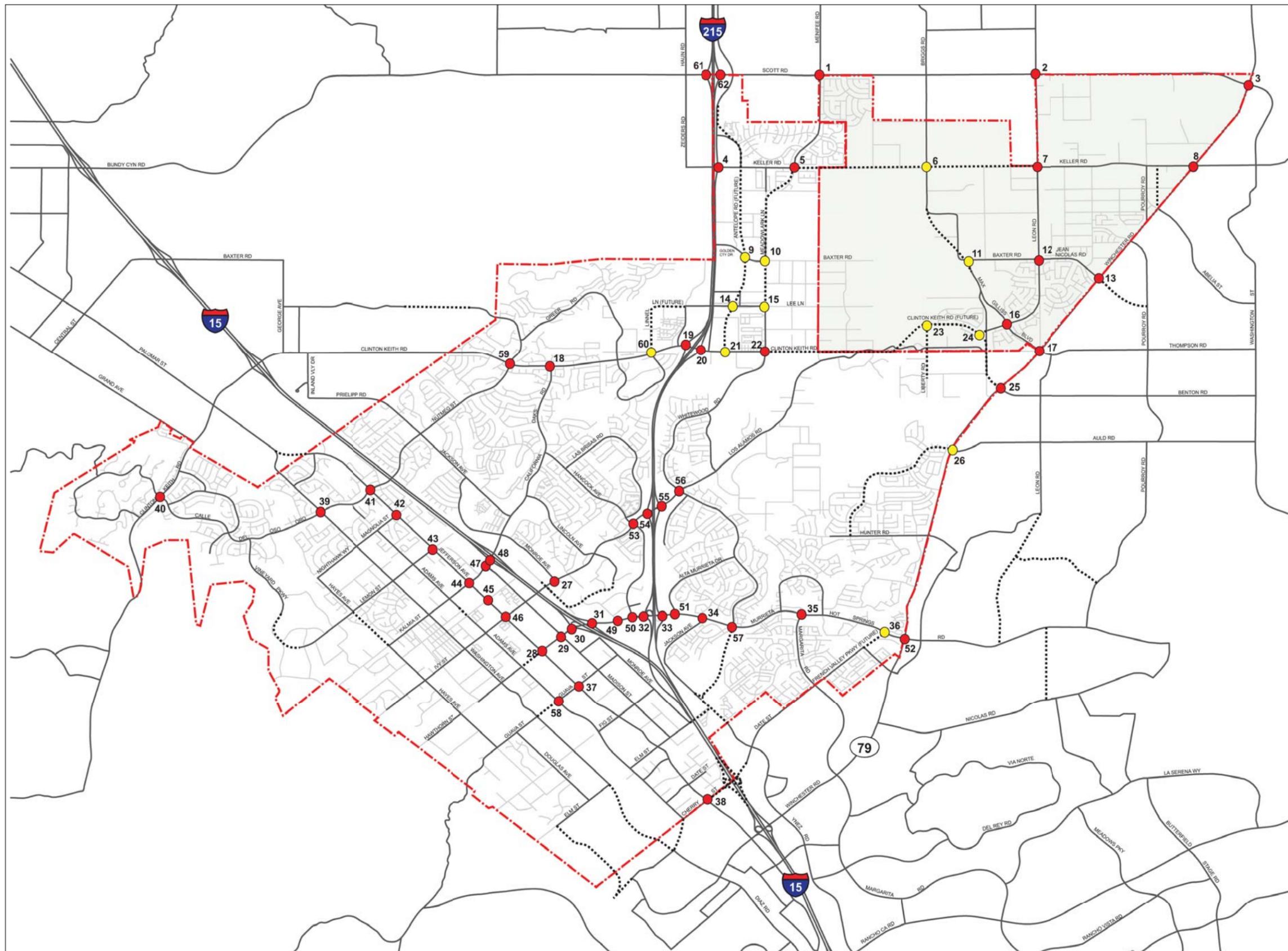
**Table 5.4-3
Daily Roadway Capacity Values**

Facility	Number of Lanes	Maximum Two-Way Volume (ADT)		
		LOS C	LOS D	LOS E
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Multi-Modal Corridor	4	28,700	32,300	35,900
Multi-Modal Corridor	6	43,100	48,500	53,900
Augmented Urban Arterial	8	57,400	64,600	71,800
Urban Arterial	6	43,100	48,500	53,900
Arterial	4	28,700	32,300	35,900
Arterial	6	43,100	48,500	53,900
Major	4	27,300	30,700	34,100
Secondary	4	20,700	23,300	25,900
Collector	2	10,400	11,700	13,000
Notes: 1. All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only. 2. Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Management Program.				



LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment





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Table 5.4-4
Roadway Segment LOS Criteria

Level of Service (LOS)	Volume-to-Capacity Ratio
A	0 – 0.60
B	> 0.60 – 0.70
C	> 0.70 – 0.80
D	> 0.80 – 0.90
E	> 0.90 – 1.00
F	> 1.00

Source: Iteris, *Draft Traffic Impact Analysis*, January 28, 2011.

Intersection LOS Criteria

Intersection operations are evaluated using a LOS system. The concept of LOS is used to characterize how well the roadway network operates. These evaluations are based on empirical data collected and reported in the *2000 Highway Capacity Manual*, which is maintained by the Transportation Research Board, as directed by the *Traffic Impact Analysis Preparation Guide* for the City of Murrieta. The *2000 Highway Capacity Manual* utilizes a methodology that accesses the average control delay at intersections. This methodology results in LOS measurements, indicating the quality of traffic flow and using letter grades from A (best) to F (worst).

The City of Murrieta's LOS standards, as published in the existing (2006) General Plan Circulation Element is LOS D for peak hour intersection operations, and LOS E at freeway interchanges.

The LOS ranges for signalized and unsignalized intersections are provided below in [Table 5.4-5, Signalized Intersection LOS Criteria](#) and [Table 5.4-6, Unsignalized Intersection LOS Criteria](#).

EXISTING CONDITIONS

Functional Classifications

The classification of a roadway is intended to establish its function, or role, in the overall circulation system. It establishes the hierarchy of streets in terms of their purpose in relation to movement of through traffic versus provision of access to adjacent land uses.

The hierarchy of roadway classifications ranges from freeways (with full control access, grade-separated interchanges, high speed/high volume traffic, emphasis on longer distance and intercity travel) to local streets and cul-de-sacs (with unlimited access to fronting properties, low speed/low volume traffic, emphasis on multi-purpose use of the paved street section for travel, parking, pedestrian and bicycle activity).



**Table 5.4-5
Signalized Intersection LOS Criteria**

Level of Service (LOS)	Description	Control Delay/Veh (sec/veh)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	> 10 – 20
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	> 20 – 35
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	> 35 – 55
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	> 55 – 80
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

**Table 5.4-6
Unsignalized Intersection LOS Criteria**

LOS	Average Control Delay (sec/veh)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.



The Augmented Urban Arterial and the potential Multi-Modal Transportation Corridors are retained to address continuing travel demand and to provide enhanced capacity and the flexibility to accommodate alternative transportation modes. Because the City wants to maintain the aesthetic presentation of roadways, all street classifications shall include landscaping features, which may include a median and parkway plantings, street trees, and rural roadway improvements where appropriate. *Table 5.4-7, City of Murrieta Functional Roadway Classifications* describes the general characteristics of the functional street classifications in the City.

**Table 5.4-7
City of Murrieta Functional Roadway Classifications**

Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Multi-Modal Transportation Corridor	86'	134'	<p>A Multi-Modal Transportation Corridor typically has four to six lanes, depending on projected traffic volumes, and a right-of-way of sufficient width to accommodate future options, such as fixed rail or high occupancy vehicles. Where feasible, these routes are designed to Caltrans expressway standards.</p> <p>Multi-Modal Transportation Corridors should provide an enhanced traffic-carrying capacity. The augmentation in capacity may be achieved by measures such as:</p> <ul style="list-style-type: none"> • The addition of through or turn lanes; • Preferential traffic signal timing and synchronization; • Loops for left turns; • Removal of on-street parking; • Intersection grade separations; • Grade separated turning movements; • Access limitation - Right turns only, or no access (streets and/or driveways); access consolidation and pedestrian grade separations.
Augmented Urban Arterial	Commercial Corridor	150'	<p>The intent of the Augmented Urban Arterial is to provide a maximum feasible at-grade cross-section for high capacity facilities in the immediate vicinity of major activity centers such as regional malls or areas of traffic concentration such as freeway interchanges. Transit options may be limited at these locations due to heavy turning movements. Augmented Urban Arterial features include:</p> <ul style="list-style-type: none"> • Eight through lanes with raised median and dual left turn lanes; • Measures that achieve "shared operations" with transit to maximize person-flow efficiency; • Restrictions on curbside parking; • The dedication of additional right-of-way/easements considered at selected intersection approaches where traffic flows require a separate right-turn lane.



Table 5.4-7 [continued]
City of Murrieta Functional Roadway Classifications

Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Urban Arterial	110'	134'	Features include: <ul style="list-style-type: none"> • A six-lane high speed highway with raised median (use for left turn movements) and striped shoulders; • Access restriction may vary depending on where the roadway serves through traffic. Generally, one-quarter mile intersection spacing should be considered as a minimum. Where overriding circumstances would not allow the desired intersection spacing policy to be met, left turn restrictions should be considered at unsignalized intersections; • Curbside parking is generally not considered appropriate along a heavily traveled facility of this type; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full width auxiliary turn lanes.
Arterial	86'	110'	Features include: <ul style="list-style-type: none"> • A four lane cross-section with raised or painted median (used for left turn movements); • Desirable minimum spacing for Major street intersections along an Arterial is approximately one-quarter mile. Minor street and driveway access may be allowed at shorter intervals but consideration should be given to left turn restrictions at these locations; • As a primary traffic carrier, curbside parking may not be considered appropriate along the more heavily traveled Arterial segments within the City; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full-width auxiliary turn lanes.
Major	76'	100'	Features include: <ul style="list-style-type: none"> • A four lane cross-section with raised or painted median (used for left turn movements); • Minimum spacing for principal street intersections along Major streets should be one-eighth mile. Where overriding circumstances would not allow the minimum spacing policy to be maintained, left turn restrictions should be considered at minor unsignalized driveways; • As a primary traffic carrier, curbside parking may not be considered appropriate along the more heavily traveled Major segments within the City; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full-width auxiliary turn lanes or dual-left turn lanes.



**Table 5.4-7 [continued]
City of Murrieta Functional Roadway Classifications**

Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Secondary	64'	88'	<p>Features include:</p> <ul style="list-style-type: none"> • A four lane cross-section without median (undivided); • Minimum intersection spacing of approximately 330 feet while avoiding direct access from private residential properties where possible; • Curbside parking is allowed except where left turn lanes are needed; • Additional right-of-way/easement dedications should be considered at select intersection approaches where a separate right-turn lane is required.
Scenic Rural Parkway	N/A	N/A	<p>The intent of a Scenic Rural Parkway is to provide a circulation facility through primarily rural areas where care must be taken to preserve environmental and historic concerns which are important to the overall character and vision of the City of Murrieta.</p> <p>A Scenic Rural Parkway would consist of two travel lanes which can be divided by a landscaped median when sufficient right-of-way can be obtained without encroaching on adjacent environmental or historic resources. Enhanced width parkways would be required to protect against adjacent resources and provide for multi-purpose trails where feasible. Exact right-of-way and intersection requirements would be determined by specific planning to respond to local environmental and historic preservation issues.</p> <p>Features include:</p> <ul style="list-style-type: none"> • A two lane roadway divided by a landscaped median where feasible, with enhanced intersection capacity where required to handle projected traffic volumes; • Rural features should be incorporated within enhanced parkways, such as split rail fencing or other rural character elements; • Existing on-site environmental and historic features worthy of preservation; • Multi-purpose trails would be provided within the right-of-way when appropriate and feasible and curbside parking is generally not considered appropriate.
Collector	44'	66'	<p>Features include:</p> <ul style="list-style-type: none"> • A two lane cross-section without median (undivided); • Primary function of collecting and distributing local traffic.

Source: *Murrieta General Plan 2035 Existing Conditions Background Report Draft*, prepared by RBF Consulting, January 2010



Regional Facilities

Regional access to the City of Murrieta is provided primarily by I-15 and I-215 which traverse generally through the western and central portion of the City, respectively. SR-79, which travels along the eastern border of the City, also provides regional access from the northeast. A summary of the facilities that provide regional access is provided below.

Interstate 15 – I-15, also known as the Corona Freeway, traverses in a generally north/south direction, diagonally through the western portion of the City of Murrieta. To the north, I-15 continues through Riverside and San Bernardino Counties and is the link to the I-10 Freeway (San Bernardino Freeway) and State Routes 91 (Riverside Freeway) and 60 (Pomona Freeway), and the greater Los Angeles area. Near the City of Murrieta, daily traffic volumes on I-15 range from approximately 109,000 to 186,000 vehicles per day.

Interstate 215 – I-215, also known as the Escondido Freeway, traverses in a north/south direction through the central portion of the City of Murrieta. To the north, I-215 continues through Riverside County and connects at its northerly terminus with SR-60 in the Moreno Valley area. Near the City of Murrieta, daily traffic volumes on I-215 range from approximately 83,000 to 91,000 vehicles per day.

State Route 79 – SR-79, also known as Winchester Road, runs in a northeasterly direction from the interchange at the I-15 freeway through the eastern portion of the City of Murrieta toward the City of Hemet. SR-79 generally provides a parallel north/south route to the I-215 freeway, east of the freeway. Existing daily traffic volumes on SR-79 range from approximately 23,500 to 31,500 vehicles per day.

Key Existing Streets

Clinton Keith Road – Clinton Keith Road is an east/west roadway that runs through the middle of the City of Murrieta. The roadway provides access to both the I-15 and I-215 Freeways at interchanges, but is discontinuous east of the I-215 Freeway. The roadway is currently two to four lanes undivided and carried 2008 traffic volumes ranging from approximately 9,100 vehicles per day west of Calle Del Oso Oro to 11,100 vehicles per day east of Calle Del Oso Oro.

Scott Road – Scott Road is an east/west road along the northern border of the City of Murrieta that runs westerly from Winchester Road and provides access to the I-215 Freeway. West of the I-215 Freeway, Scott Road transitions to Bundy Canyon Road, which provides interchange access to the I-15 Freeway. The existing roadway cross-section is two to four lanes mostly undivided between the I-215 and Winchester Road. The 2008 traffic volumes are approximately 23,300 vehicles per day at Antelope Road just east of the I-215 Freeway.



Washington Avenue – Washington Avenue is a north/south roadway that runs parallel to the I-15 freeway through the City of Murrieta and becomes Palomar Street to the north. The existing roadway is two lanes undivided south of Ivy Street, and four lanes north of Kalmia Street. A special two-lane design with angled on-street parking was recently completed in the Historic Murrieta area between Ivy Street and Kalmia Street. The 2008 traffic volumes range from approximately 600 vehicles per day east of De Luz Road to 20,800 vehicles per day west of Kalmia Street.

California Oaks Road – California Oaks Road is a north/south roadway that runs southerly from Clinton Keith Road to the I-15 Freeway where it provides freeway access at an interchange. The existing roadway cross-section is four lanes divided north of the I-15 Freeway, and two lanes undivided south of the I-15 Freeway where it becomes known as Kalmia Street. The 2008 traffic volumes range from approximately 15,100 vehicles per day immediately south of the Clinton Keith Road intersection to approximately 42,600 vehicles per day between the I-15 Freeway interchange and Monroe Avenue.

Los Alamos Road – Los Alamos Road runs diagonally northeast across the City of Murrieta providing freeway access to the I-215 Freeway at an interchange. West of the I-15 Freeway, this two lane undivided roadway becomes known as Ivy Street. The 2008/2009 traffic volumes range from approximately 3,600 (2009 traffic volume) vehicles per day south of Clinton Keith Road to 23,000 (2008 traffic volume) vehicles per day east of the I-215 Freeway. West of the I-215 Freeway, volumes are approximately 19,200 (2008 traffic volume) vehicles per day.

Murrieta Hot Springs Road – Murrieta Hot Springs Road is an east/west roadway that crosses both I-15 and I-215 Freeways just north of the freeway confluence, and provides access to both freeways with interchanges. West of Jefferson Avenue, Murrieta Hot Springs Road becomes known as Hawthorn Street. Murrieta Hot Springs Road connects to SR-79. The roadway currently has four to six lanes with medians between Madison Avenue and Jackson Avenue. The 2008 traffic volumes range from approximately 42,600 vehicles per day west of the I-15 Freeway to 61,200 vehicles per day between the I-15 and I-215 Freeways. East of I-215, the roadway volumes range from 74,500 vehicles per day at Alta Murrieta Drive, 51,200 vehicles per day west of Via Princessa West, and 40,000 vehicles per day east of Calle Del Lago.

Jefferson Avenue – Jefferson Avenue is a northwest/south roadway that runs parallel to the I-15 Freeway. Jefferson Avenue varies from four to six lanes with medians to two lanes undivided, and construction is on-going. Traffic volumes in 2008 range from approximately 2,800 vehicles per day north of Nutmeg Street to about 29,000 vehicles per day between Fig Street and Elm Street.

Jackson Avenue – Jackson Avenue is a northwest/south roadway that runs parallel to the I-15 Freeway. Jackson Avenue varies from four lanes divided at the south and two lanes undivided at the north end. The 2008 traffic volumes range from 7,100 north of Nutmeg Street to approximately 14,900 vehicles per day between Nutmeg Street and California Oaks Road.



Antelope Road – Antelope Road is a north/south frontage road that runs parallel to the I-215 Freeway. It is mostly two lanes undivided north of Clinton Keith Road. The 2008 traffic volumes range from approximately 2,300 vehicles per day north of Clinton Keith Road to 8,300 vehicles per day south of Scott Road.

Roadway Segments

Using the City of Murrieta's 2008 daily traffic volumes from *Exhibit 5.4-5, 2008 Average Daily Traffic Volumes* and the maximum daily roadway capacity values, daily V/C ratios have been determined for locations where daily traffic volumes were available. The general locations of the six roadway segments that currently operate at an unacceptable LOS (LOS D, E or F) per the City of Murrieta's LOS standards are shown below. A map of the 2008 roadway V/C ratios is shown in *Exhibit 5.4-6, 2008 Daily Volume-to-Capacity Ratios*.

LOS D

- Kalmia Street between Monroe Avenue and Jackson Avenue
- Jefferson Avenue north of Kalmia Street, and north of Elm Street
- Murrieta Hot Springs Road immediately east of I-15
- Nutmeg Street east of Jackson Avenue
- Winchester Road south of Auld Road

LOS E

- Kalmia Street between Madison Street and I-15
- Murrieta Hot Springs Road immediately west of Hancock Avenue
- Murrieta Hot Springs Road from Jackson Avenue to east of Whitewood Road

LOS F

- California Oaks Road between I-15 and Monroe Avenue
- Kalmia Street west of Adams Avenue
- Murrieta Hot Springs Road at I-215 and west of Winchester Road

Existing and Future Intersections

A total of 62 intersections (51 existing intersections and 11 future intersections) in the City of Murrieta were identified as study intersections. Of the 51 existing study intersections, 40 study intersections are currently signalized and 11 are currently stop controlled. Stop sign controlled intersections include side-street stop sign controlled (two-way stop where the major street operates freely) or all-way stop sign controlled intersections (all approaches must stop for stop signs). A list of the 62 study intersections and a map of their locations are provided in *Table 5.4-2* and illustrated in *Exhibit 5.4-4*.



Existing lane configurations and traffic volumes are illustrated in *Exhibit 5.4-7a* and *Exhibit 5.4-7b*, *Existing Lane Configurations*, and *Exhibit 5.4-8a* and *Exhibit 5.4-8b*, *Existing Peak Hour Turning Movement Volumes*, respectively. *Table 5.4-8*, *Existing Intersection Level of Service* provides the existing conditions LOS results for the 51 existing study intersections. As shown, all 51 existing study intersections currently operate at an acceptable level of service of LOS D or better.

**Table 5.4-8
Existing Intersection Level of Service**

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Ave Del/Veh	LOS	Ave Del/Veh
1	Menifee Rd / Scott Rd	B	19.8	B	18.0
2	Leon Rd / Scott Rd	B	12.4	B	13.4
3	Winchester Rd - SR-79 / Scott Rd	C	20.7	B	18.5
4	Antelope Rd / Keller Rd	B	10.4	B	13.5
5	Menifee-Meadowlark Rd/ Keller Rd	A	8.1	A	8.2
6	Briggs Rd / Keller Rd	N/A	N/A	N/A	N/A
7	Leon Rd / Keller Rd	B	10.2	B	11.6
8	Winchester Rd - SR-79 / Keller Rd	B	14.2	C	23.0
9	Antelope Rd / Golden City Drive – Baxter Rd	N/A	N/A	N/A	N/A
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Rd	N/A	N/A	N/A	N/A
11	Briggs Rd / Baxter Rd – Jean Nicholas	N/A	N/A	N/A	N/A
12	Leon Rd / Jean Nicholas	B	10.7	B	10.2
13	Winchester Rd - SR-79 / Nicholas - Skyview	A	4.0	A	5.1
14	Antelope Rd / Linnel Lane Extension	N/A	N/A	N/A	N/A
15	Whitewood-Meadowlark/ Linnel Lane Extension	N/A	N/A	N/A	N/A
16	Leon Rd / Max Gillis Rd	C	24.6	C	25.4
17	Winchester Rd - SR-79 / Max Gillis - Thompson	D	37.1	C	25.6
18	California Oaks Rd / Clinton Keith Rd	C	21.7	C	22.4
19	I-215 SB Off-Ramp / Clinton Keith Rd	C	23.9	C	26.1
20	I-215 NB Off-Ramp / Clinton Keith Rd	C	26.2	C	23.1
21	Antelope Rd / Clinton Keith Rd	N/A	N/A	N/A	N/A
22	Meadowlark – Whitewood Rd / Clinton Keith Rd	B	10.5	B	13.4
23	Liberty Rd / Clinton Keith Rd	N/A	N/A	N/A	N/A
24	Leon Rd / Clinton Keith Rd	N/A	N/A	N/A	N/A
25	Winchester Rd - SR-79 / Clinton Keith Rd - Benton Rd	B	14.4	C	21.2
26	Winchester Rd - SR-79 / Via Mira Mosa – Auld Rd	B	14.2	B	14.4
27	Monroe Ave / Los Alamos	B	15.0	B	12.4
28	Jefferson Ave / Murrieta Hot Springs Rd	C	21.2	C	20.7
29	Madison Ave / Murrieta Hot Springs Rd	C	25.3	C	34.2
30	I-15 SB Off-Ramp / Murrieta Hot Springs Rd	B	17.7	B	18.9
31	I-15 NB Off-Ramp / Murrieta Hot Springs Rd	B	11.8	B	15.3
32	I-215 SB Off-Ramp / Murrieta Hot Springs Rd	B	16.0	B	14.5



**Table 5.4-8 [continued]
Existing Intersection Level of Service**

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Ave Del/Veh	LOS	Ave Del/Veh
33	I-215 NB Off-Ramp / Murrieta Hot Springs Rd	A	5.4	A	10.0
34	Jackson Ave / Murrieta Hot Springs Rd	A	4.3	A	6.2
35	Margarita Rd/ Murrieta Hot Springs Rd	B	19.2	C	23.7
36	French Valley – Date St / Murrieta Hot Springs Rd	N/A	N/A	N/A	N/A
37	Jefferson Ave / Guava St	A	2.0	A	1.4
38	Jefferson Ave / Cherry St	C	15.2	C	15.0
39	Washington Ave / Calle del Oso Oro – Nutmeg St	C	29.2	C	26.8
40	Clinton Keith Rd / Calle de Oso Oro – Bear Creek Dr	B	13.6	B	16.2
41	Jefferson Ave / Nutmeg St	B	13.2	B	12.9
42	Jefferson Ave / Magnolia	C	18.2	C	21.2
43	Jefferson Ave / Lemon St	B	10.9	A	6.6
44	Jefferson Ave / Kalmia St	C	26.2	C	26.7
45	Jefferson Ave / Juniper St	B	18.6	B	13.8
46	Jefferson Ave / Ivy St – Los Alamos Rd	C	27.9	C	25.2
47	Madison Ave / Kalmia St	B	16.2	C	20.3
48	I-15 SB Ramps / Kalmia St	C	20.4	C	21.0
49	Monroe Ave / Murrieta Hot Springs Rd	C	15.8	C	23.8
50	Hancock Ave / Murrieta Hot Springs Rd	B	11.7	B	14.7
51	Alta Murrieta Dr / Murrieta Hot Springs Rd	C	21.3	C	28.1
52	Winchester Rd (SR-79) / Murrieta Hot Springs Rd	C	24.0	C	26.4
53	Hancock Ave / Los Alamos Rd	C	28.4	C	34.5
54	I-215 SB Ramps / Los Alamos Rd	B	18.0	B	15.6
55	I-215 NB Ramps / Los Alamos Rd	B	15.4	B	15.0
56	Whitewood Rd / Los Alamos Rd	C	26.7	C	26.0
57	Whitewood Rd / Murrieta Hot Springs Rd	B	12.6	A	9.7
58	Adams Ave / Guava St	A	8.6	A	9.3
59	Nutmeg St / Clinton Keith Rd	C	20.6	C	21.0
60	Murrieta Oaks Ave – Mitchell Rd/Clinton Keith Rd	B	14.5	A	5.8
61	I-215 SB Ramps / Scott Rd	C	23.2	C	25.6
62	I-215 NB Ramps / Scott Rd	B	18.0	C	23.4

Source: Iteris, *Draft Traffic Impact Analysis*, January 28, 2011.

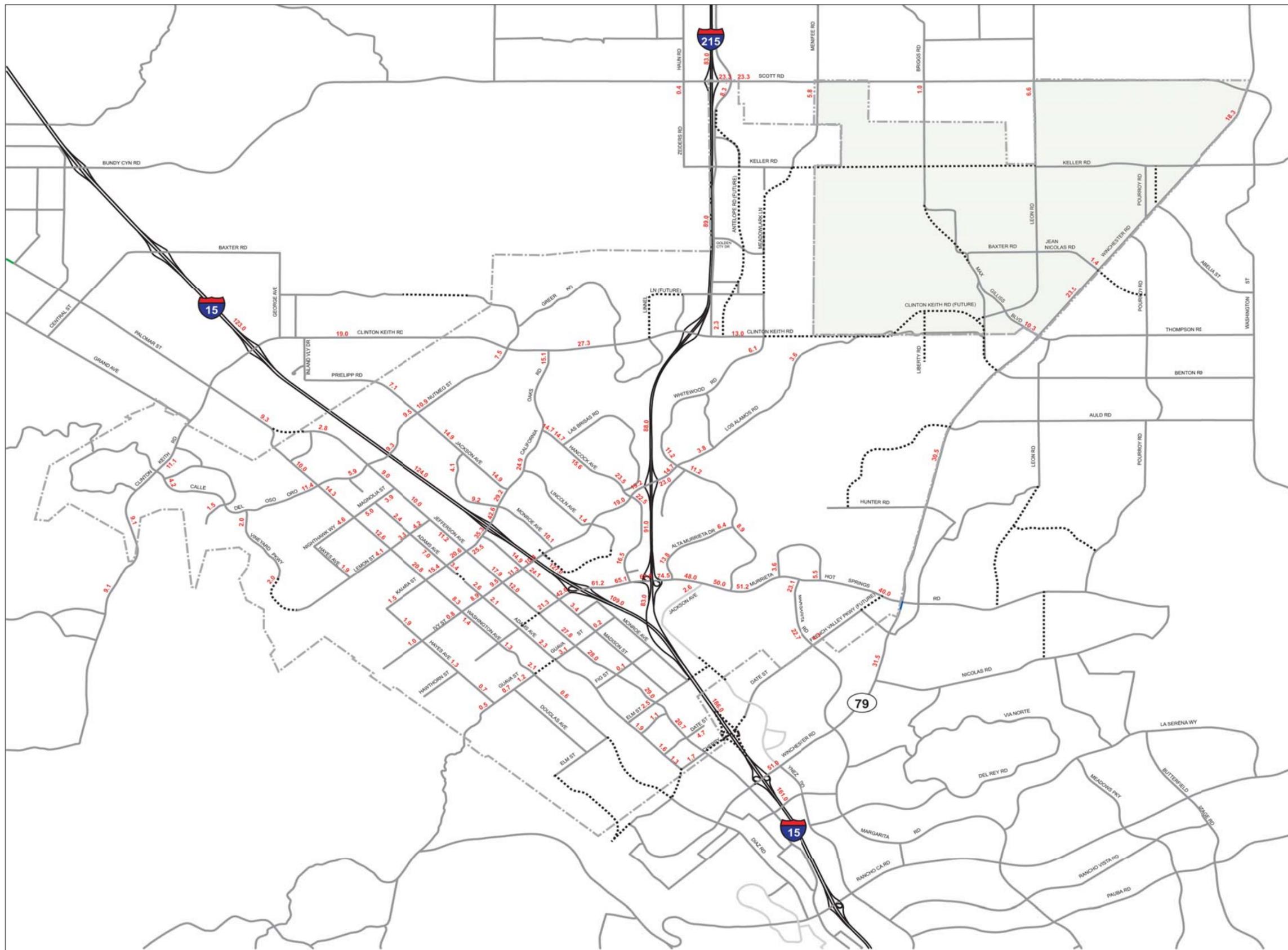


LEGEND

- 17.6 ADT Volume (in Thousands)
- City of Murrieta Boundary
- Sphere of Influence

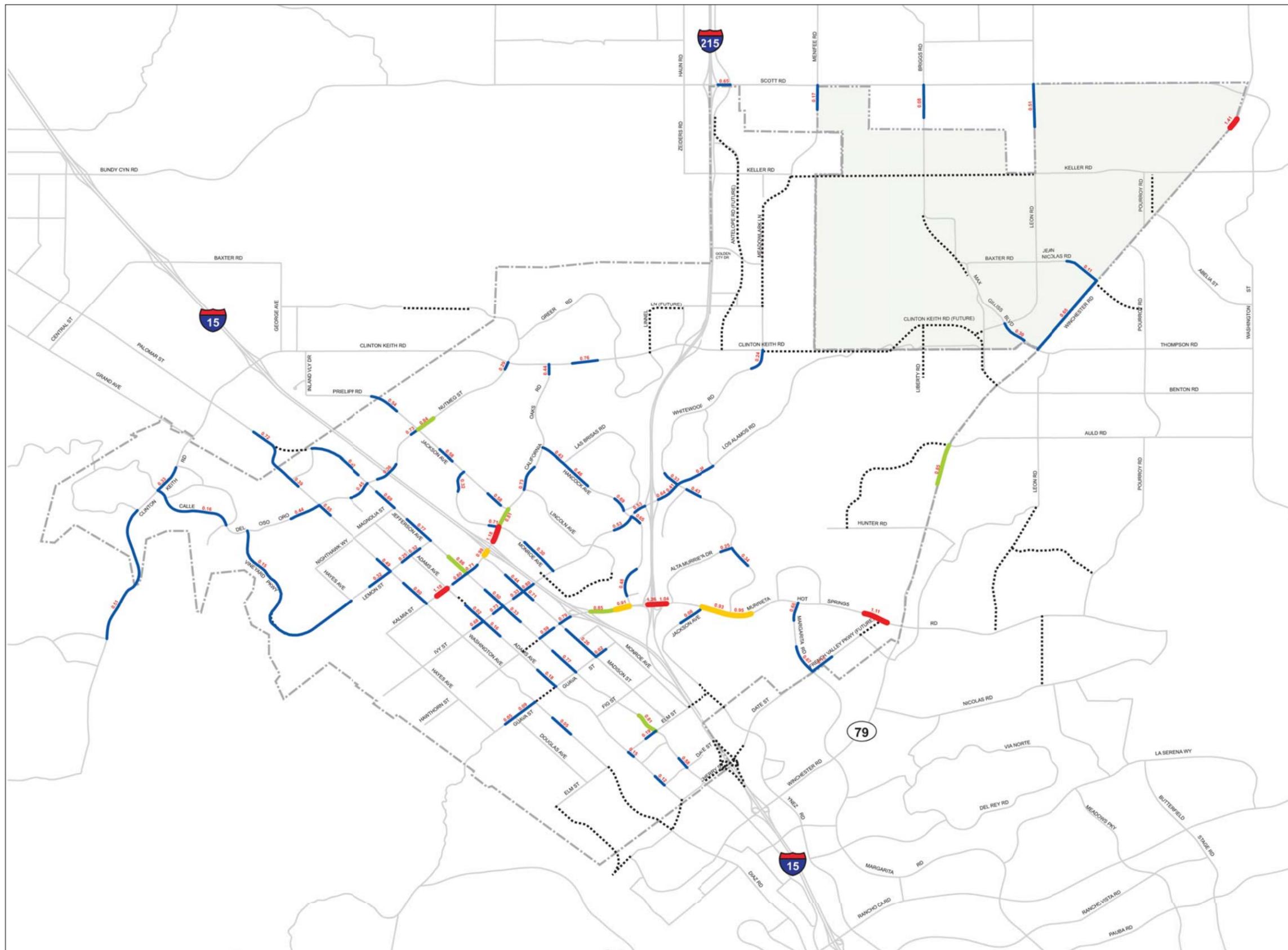


Source: City of Murrieta.





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LEGEND

- 0.73 Volume/Capacity Ratio
- LOS A - C
- LOS D
- LOS E
- LOS F
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment



Source: RBF Consulting.

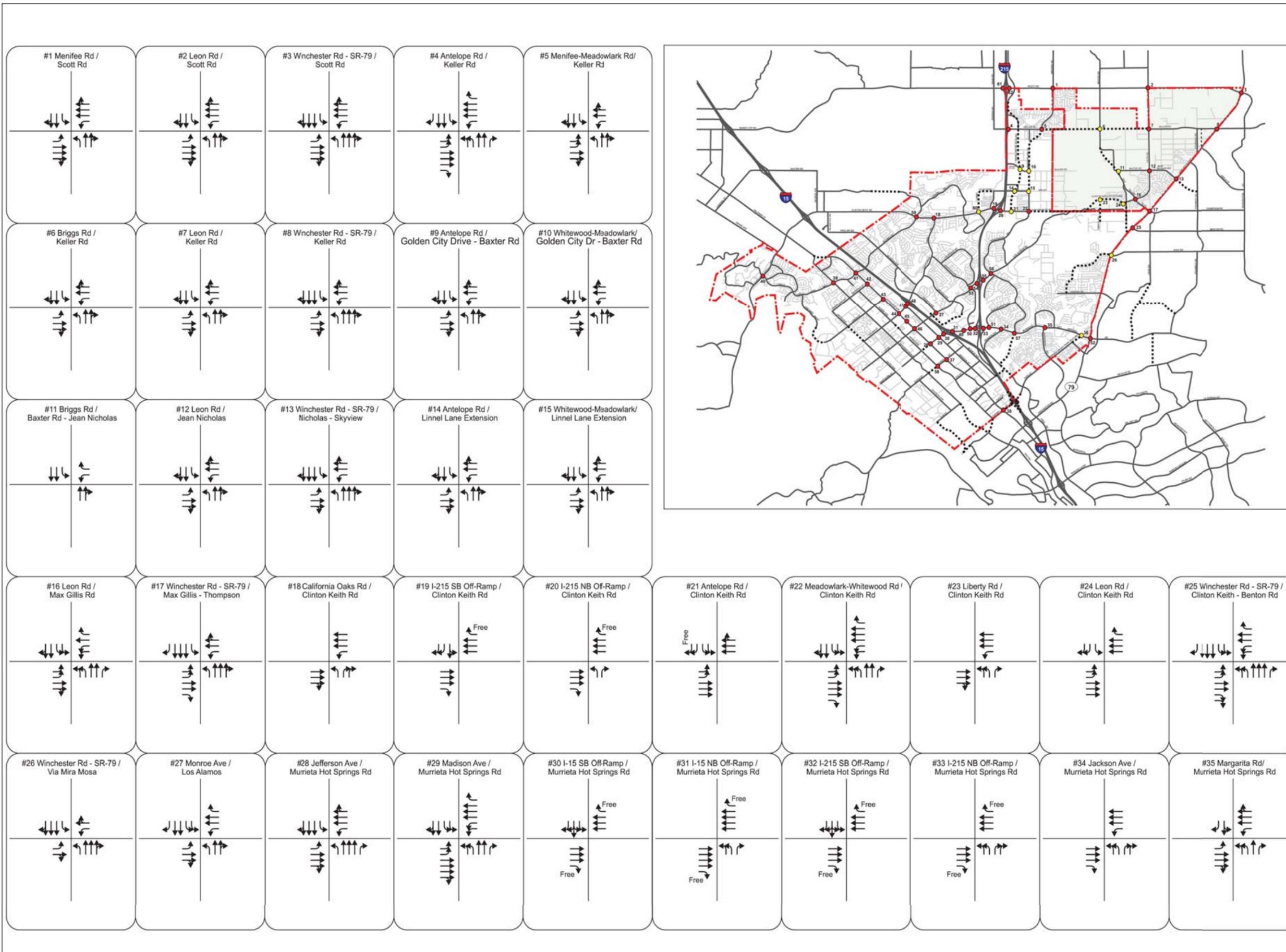


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LEGEND

- Through Lane
- ↪ Turn Lane
- ↔ Shared Lane
- * Assumed Lane Configuration



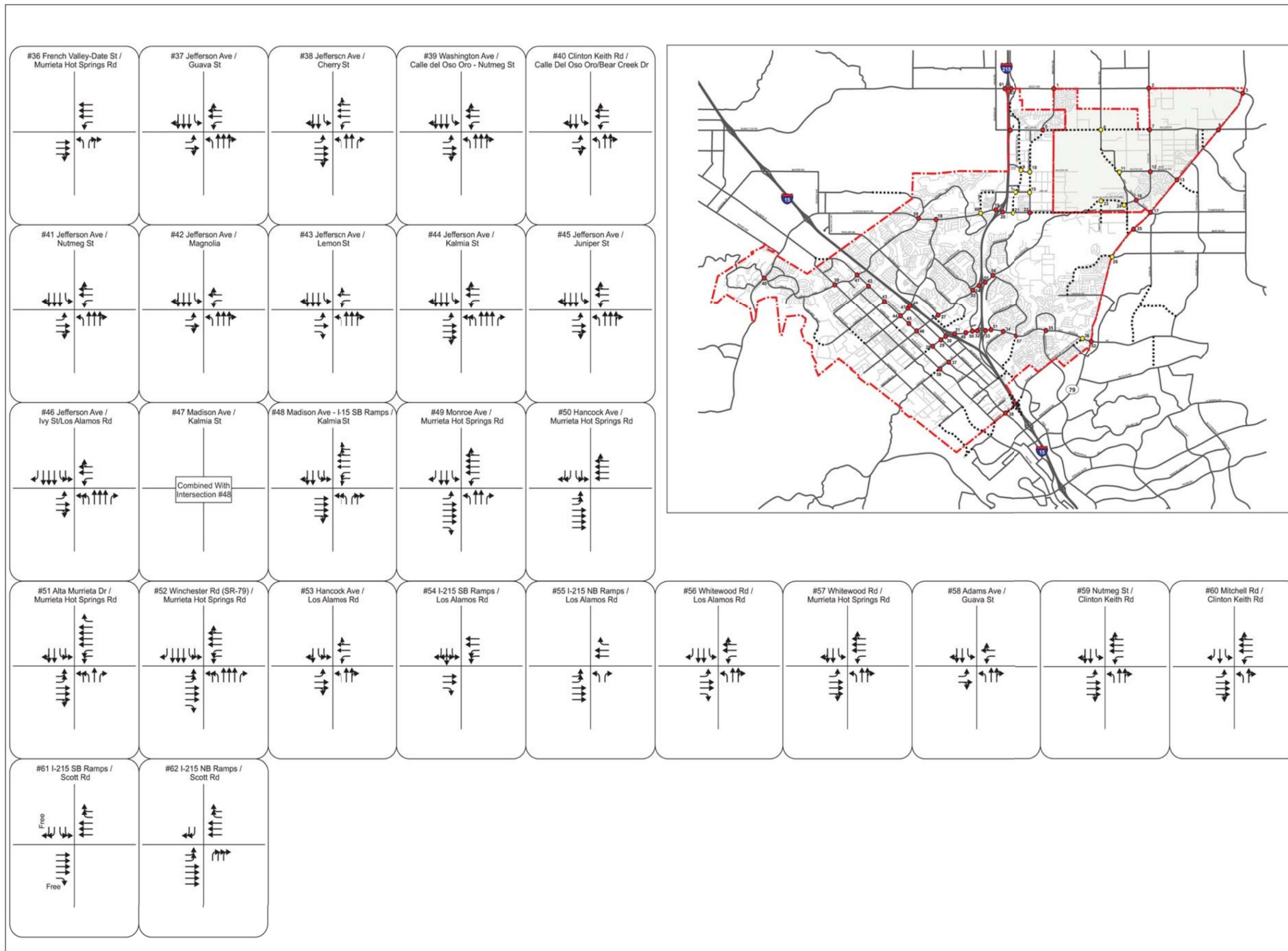


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LEGEND

- Through Lane
- ↪ Turn Lane
- ↔ Shared Lane
- Assumed Lane Configuration



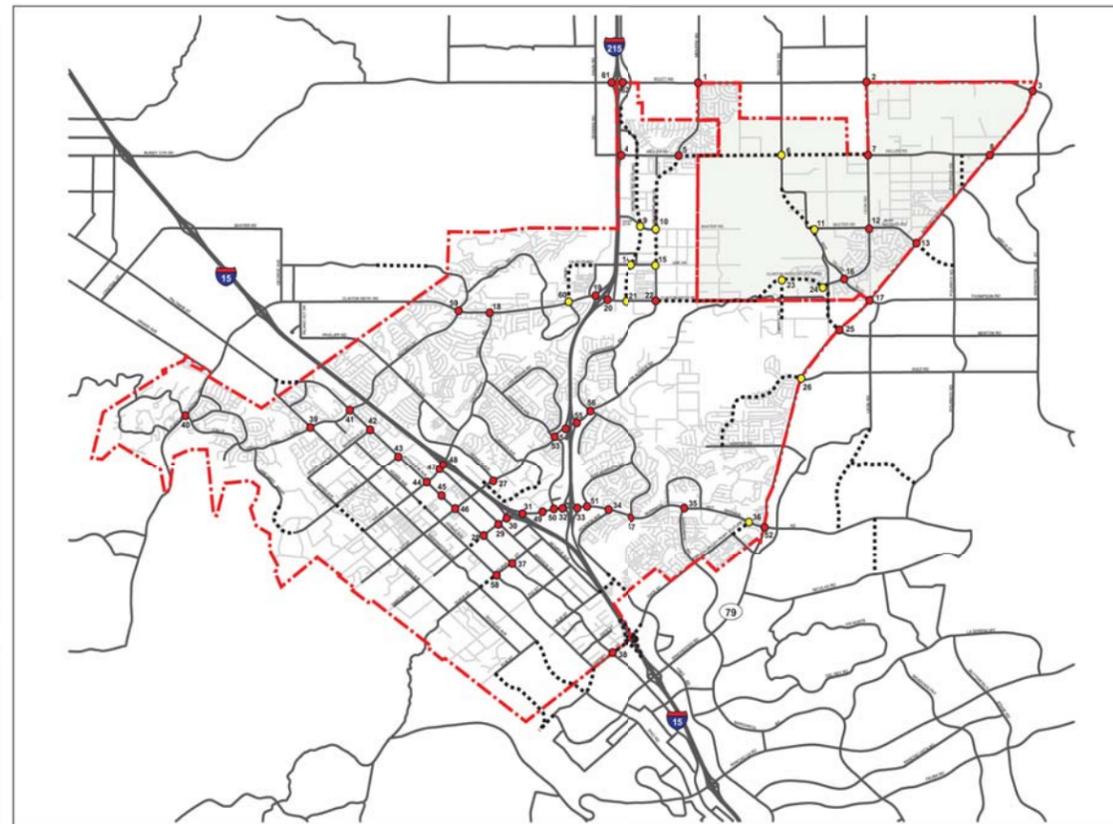


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LEGEND

- Existing Study Intersection
- Future Study Intersection
- - - City of Murrieta Boundary
- Sphere of Influence
- - - - - Future Roadway Alignment
- $\leftarrow 31/20$ AM Peak Hr/PM Peak Hr



<p>#1 Menifee Rd / Scott Rd</p> <p>100/107 85/102 64/43 80/48 69/48</p> <p>74/145 364/545 54/159</p>	<p>#2 Leon Rd / Scott Rd</p> <p>157 19/10 2/1</p> <p>3/5 210/204 11/6</p> <p>4/7 195/181 240/261</p>	<p>#3 Winchester Rd - SR-79 / Scott Rd</p> <p>52/80 77/153 142/123</p> <p>155/171 64/59 3/0</p> <p>86/81 74/60 55/67</p> <p>9/3 433/891 91/75</p>	<p>#4 Antelope Rd / Keller Rd</p> <p>9/7 115/63 11/11</p> <p>29/19 17/2 270/72</p> <p>8/10 2/5 8/7</p> <p>110/271 112/315 6/14</p>	<p>#5 Menifee-Meadowlark / Keller Rd</p> <p>12/11 11/12</p> <p>10/10 31/20</p> <p>105/119 19/32</p>
<p>#6 Briggs Rd / Keller Rd</p> <p>Future Intersection</p>	<p>#7 Leon Rd / Keller Rd</p> <p>244/240 7/1</p> <p>6/3 1/0 1/5</p> <p>0/1</p> <p>0/4 238/258 0/1</p>	<p>#8 Winchester Rd - SR-79 / Keller Rd</p> <p>0/2 793/624</p> <p>0/3 0/1</p> <p>1/1</p> <p>0/3 502/913 0/1</p>	<p>#9 Antelope Rd / Golden City Drive - Baxter Rd</p> <p>Future Intersection</p>	<p>#10 Whitewood-Meadowlark / Golden City Dr - Baxter Rd</p> <p>Future Intersection</p>
<p>#11 Briggs Rd / Baxter Rd - Jean Nicholas</p> <p>Future Intersection</p>	<p>#12 Leon Rd / Jean Nicholas</p> <p>230/224 16/2</p> <p>71/34 27/8</p> <p>15/19 208/229</p>	<p>#13 Winchester Rd - SR-79 / Nicholas - Skyview</p> <p>35/18 953/632 2/0</p> <p>0/3 0/1</p> <p>26/25 29/22</p> <p>0/2 474/1120 48/78</p>	<p>#14 Antelope Rd / Linnel Lane Extension</p> <p>Future Intersection</p>	<p>#15 Whitewood-Meadowlark / Linnel Lane Extension</p> <p>Future Intersection</p>
<p>#16 Leon Rd / Max Gilliss Rd</p> <p>127/39 43/22 196/197</p> <p>132/212 345/216 96/98</p> <p>91/18 387/70 146/25</p> <p>101/168 30/62 173/84</p>	<p>#17 Winchester Rd - SR-79 / Max Gilliss - Thompson</p> <p>5/32 172/636 12/25</p> <p>6/10 212/103 158/132</p> <p>33/44 58/115 508/294</p> <p>115/251 496/1197 358/409</p>	<p>#18 California Oaks Rd / Clinton Keith Rd</p> <p>508/608 437/312</p> <p>493/602 113/89</p> <p>339/554 111/162</p>	<p>#19 I-215 SB Off-Ramp / Clinton Keith Rd</p> <p>629/988 2/2</p> <p>368/405 207/77</p> <p>786/710 514/403</p>	<p>#20 I-215 NB Off-Ramp / Clinton Keith Rd</p> <p>100/81 489/261</p> <p>467/455 486/274</p> <p>432/88 0/1 128/241</p>
<p>#26 Winchester Rd - SR-79 / Via Mira Mosa</p> <p>104/55 40/1069 16/12</p> <p>28/86 16/16 184/304</p> <p>128/58 18/11 37/27</p> <p>409/204 789/1893 12/24</p>	<p>#27 Monroe Ave / Los Alamos</p> <p>61/1063 288/172</p> <p>302/134 507/447</p> <p>70/167 315/946</p>	<p>#28 Jefferson Ave / Murrieta Hot Springs Rd</p> <p>5/27 626/555</p> <p>190/246 652/289</p> <p>189/976 203/965</p>	<p>#29 Madison Ave / Murrieta Hot Springs Rd</p> <p>69/40 12/12 120/212 79/78</p> <p>127/162 710/424 354/419</p> <p>68/206 318/868 43/103</p> <p>147/562 63/286 28/63</p>	<p>#30 I-15 SB Off-Ramp / Murrieta Hot Springs Rd</p> <p>39/27 273/172</p> <p>47/112 956/1078</p> <p>446/1599 194/366</p>
<p>#21 Antelope Rd / Clinton Keith Rd</p> <p>Future Intersection</p>	<p>#22 Meadowlark-Whitewood Rd / Clinton Keith Rd</p> <p>87/161 141/62</p> <p>1/0 7/1 34/0</p> <p>136/161 4/3 173/152</p> <p>30/3 76/380 154/248</p>	<p>#23 Liberty Rd / Clinton Keith Rd</p> <p>Future Intersection</p>	<p>#24 Leon Rd / Clinton Keith Rd</p> <p>Future Intersection</p>	<p>#25 Winchester Rd - SR-79 / Benton Rd</p> <p>1369/865 267/255</p> <p>142/357 301/280</p> <p>168/526 762/1497</p>
<p>#31 I-15 NB Off-Ramp / Murrieta Hot Springs Rd</p> <p>693/985 840/852</p> <p>115/485 1066/1942</p> <p>91/180 235/275</p>	<p>#32 I-215 SB Off-Ramp / Murrieta Hot Springs Rd</p> <p>303/600 202/202</p> <p>378/238 1343/1535</p> <p>1105/2103 53/139</p>	<p>#33 I-215 NB Off-Ramp / Murrieta Hot Springs Rd</p> <p>466/571 1591/1748</p> <p>1444/2300 115/104</p> <p>163/496 151/77</p>	<p>#34 Jackson Ave / Murrieta Hot Springs Rd</p> <p>1439/1577 69/136</p> <p>1217/1968 24/43</p> <p>52/111 66/90</p>	<p>#35 Margarita Rd / Murrieta Hot Springs Rd</p> <p>5/7 999/973 197/186</p> <p>20/9 51/3 92/1</p> <p>22/18 782/1241 581/687</p> <p>131/225 8/20 674/879</p>



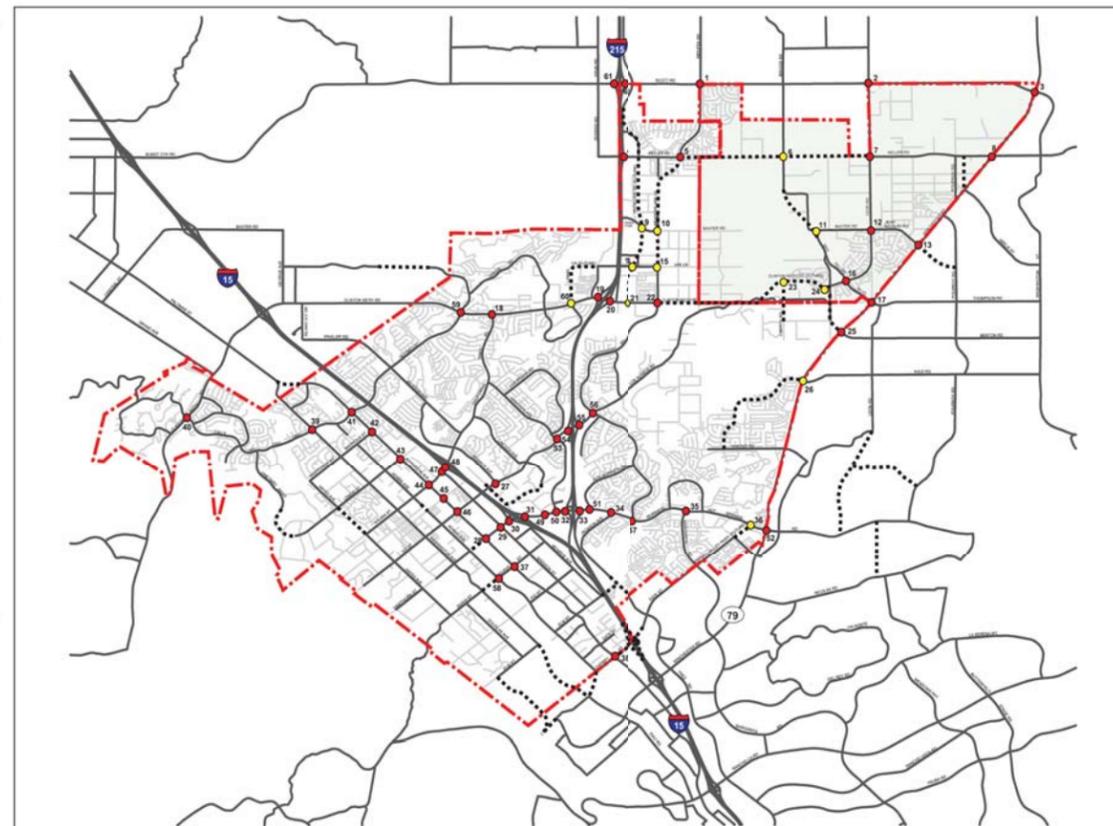


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LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- ← 31/20 AM Peak Hr/PM Peak Hr



<p>#36 French Valley-Date St / Murrieta Hot Springs Rd</p> <p style="text-align: center;">Future Intersection</p>	<p>#37 Jefferson Ave / Guava St</p> <p>91/01 16/19 30/9</p> <p>11/75 319/1995</p>	<p>#38 Jefferscn Ave / Cherry St</p> <p>88/247 10/4 50/76</p> <p>553/1372 105/55</p>	<p>#39 Washington Ave / Calle del Oso Oro - Nutmeg St</p> <p>57/35 264/278 49/6</p> <p>31/89 109/258 162/124</p> <p>36/20 223/121 551/275</p> <p>101/113 199/319 226/327</p>	<p>#40 Clinton Keith Rd / Calle Del Oso Oro/Bear Creek Dr</p> <p>64/53 26/37 64/75</p> <p>69/67 37/22 2/3</p> <p>155/35 262/255 2/1</p>
<p>#41 Jefferson Ave / Nutmeg St</p> <p>7/9 93/44 11/14</p> <p>22/29 250/227 261/125</p> <p>15/11 181/179 178/94</p> <p>136/195 32/84 80/221</p>	<p>#42 Jefferson Ave / Magnolia</p> <p>14/38 4/5</p> <p>1/7 6/7 17/5</p> <p>124/67 3/7 95/33</p> <p>6/9 164/480 56/96</p>	<p>#43 Jefferscn Ave / Lemon St</p> <p>24 101/32 9/1</p> <p>2/4 3/4 1/4</p> <p>21/7 1/0 82/37</p> <p>0/1 25/16 76/78</p>	<p>#44 Jefferson Ave / Kalmia St</p> <p>52/11 273/186 2/2</p> <p>200/298 428/458 138/128</p> <p>19/20 518/515 207/198</p> <p>97/233 126/226 115/191</p>	<p>#45 Jefferson Ave / Juniper St</p> <p>23/45 78/47 8/10</p> <p>54/48 84/53 79/55</p> <p>15/74 258/738 69/61</p>
<p>#46 Jefferson Ave / Ivy St/Los Alamos Rd</p> <p>37/36 44/297 152/148</p> <p>132/132 120/161 171/98</p> <p>27/44 145/245 102/129</p> <p>39/402 171/627 100/180</p>	<p>#47 Madison Ave / Kalmia St</p> <p>772/952 310/383</p> <p>765/1020 107/172</p> <p>237/537 108/190</p>	<p>#48 Madison Ave / I-15 SB Ramps / Kalmia St</p> <p>69/306 2/2 168/36</p> <p>773/987 412/385</p> <p>483/1109 373/408</p>	<p>#49 Monroe Ave / Murrieta Hot Springs Rd</p> <p>130</p> <p>25/30 1463/1574</p> <p>125/227 1097/2111</p>	<p>#50 Hancock Ave / Murrieta Hot Springs Rd</p> <p>141/183 147/569</p> <p>464/421 1346/1465</p> <p>227/237 884/1924</p>
<p>#51 Alta Murrieta Dr / Murrieta Hot Springs Rd</p> <p>297/112 94/132 61/208</p> <p>107/112 1350/1293 72/119</p> <p>249/717 995/1697 235/499</p> <p>14/45 57/195 175/394</p>	<p>#52 Winchester Rd (SR-79) / Murrieta Hot Springs Rd</p> <p>37/62 340/412 268/273</p> <p>512/611 318/522 137/207</p> <p>135/204 729/1689 118/250</p>	<p>#53 Hancock Ave / Los Alamos Rd</p> <p>293/295 711/537 226/163</p> <p>125/198 601/965 66/62</p> <p>93/290 143/559 51/149</p>	<p>#54 I-215 SB Ramps / Los Alamos Rd</p> <p>897/408 1/1 191/192</p> <p>899/738 250/160</p> <p>801/1441 426/287</p>	<p>#55 I-215 NB Ramps / Los Alamos Rd</p> <p>72/165 951/774</p> <p>242/394 670/1181</p> <p>107/175 1/4 209/129</p>
<p>#56 Whitewood Rd / Los Alamos Rd</p> <p>6/18 270/207 33/70</p> <p>124/269 226/353 64/265</p> <p>59/64 90/343 126/197</p>	<p>#57 Whitewood Rd / Murrieta Hot Springs Rd</p> <p>241/417 1556/1776 23/21</p> <p>31/101 1106/1903 4/6</p> <p>43/16 39/5 4/6</p>	<p>#58 Adams Ave / Guava St</p> <p>44/90 3/7</p> <p>2/26 13/86</p>	<p>#59 Nutmeg St / Clinton Keith Rd</p> <p>39/73 404/397 206/210</p> <p>17/52 357/533 79/69</p> <p>201/192 34/61 69/48</p>	<p>#60 Mitchell Rd / Clinton Keith Rd</p> <p style="text-align: center;">Future Intersection</p>
<p>#61 I-215 SB Ramps / Scott Rd</p> <p>88/114 4/4 259/334</p> <p>501/603 447/465</p> <p>535/580 320/165</p>	<p>#62 I-215 NB Ramps / Scott Rd</p> <p>380/364 792/913</p> <p>108/112 603/780</p> <p>349/468 12/6 145/182</p>			





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TRUCK ROUTES

The designation of truck routes is intended to route truck traffic on City arterials so that trucks cause the least amount of neighborhood disruption. Roadways providing access to the freeways are those most likely to be designated for truck routes. The designated truck routes within the City are shown on Exhibit 5-9, Potential Truck Routes. These streets 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*.

TRANSIT SERVICES

Public transit service in and around the City of Murrieta is provided by the Riverside Transit Agency (RTA). The RTA currently offers five fixed bus routes in the City of Murrieta with a variety of fare options for passengers including base fares, day passes, 7-day passes, and 30-day passes; refer to Exhibit 5.4-10, Existing Transit Routes. General and youth (grades 1-12) base fares for fixed routes are \$1.50, senior/disabled/Medicare card holder base fares are \$0.70, and a child's base fare (46" tall or under) is \$0.25. RTA routes 202, 204, 206, 208, 210, 212, and 217 are commuter routes with fares of \$3.00 for general and youth, and \$2.00 for senior/disabled/Medicare card holders and children.

In addition to fixed and commuter bus services, the City of Murrieta also offers a Dial-A-Ride (DAR) service. The Buddy Fare is part of DAR and offers groups of two to 10 people a ride for \$3.00 each way for the entire group, provided all passengers can be picked up within one-half mile of each other and all are traveling to the same destination. DAR also operates a Senior/Disabled DAR service for seniors age 60 and above and for anyone carrying an RTA Disabled ID card or an Americans with Disabilities Act (ADA) card. DAR gives priority service to individuals who are certified under the ADA. Dial-A-Ride fares are \$3.00 for senior/disabled/Medicare card holders and \$0.50 for children (46" tall or under).

A summary of the RTA transit routes that serve the City of Murrieta is provided below.

- **RTA Route 23 (Temecula-Murrieta-Wildomar)** – RTA Route 23 operates between the Community Center in Temecula and the Inland Valley Regional Medical Center in Wildomar. Key points of interest along Route 23 in the City of Murrieta include Vista Murrieta High School, Rancho Springs Medical Center, Murrieta Springs Plaza, Murrieta Senior Center and City Hall, and Murrieta Valley High School. Weekday AM peak hour headway is approximately one hour and 20 minutes, weekday PM peak hour headway ranges between 40 minutes and an hour and 15 minutes, and weekend mid-day peak hour headway is one hour. Days of operation are Monday through Sunday, with reduced service on New Year's Day, Memorial Day, Independence Day, and Labor Day, and no service on Thanksgiving Day and Christmas Day.



- ***RTA Route 61 (Sun City – Menifee – Murrieta – Temecula)*** – RTA Route 61 operates between the County Center in Temecula and the Menifee Valley Medical Center in Menifee. A key point of interest along Route 61 in the City of Murrieta is the Rancho Springs Medical Center. Weekday peak hour headway is approximately one hour and 15 minutes. Days of operation are Monday through Friday. Route 61 does not operate on weekends or on New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.
- ***RTA Commuter Link Route 202 (Murrieta – Temecula – Oceanside Transit Center)*** – RTA Route 202 is a commuter route that operates between Oceanside and Murrieta, and provides a direct link to the Oceanside Transit Center. Route 202 operates four morning trips and three evening trips that correspond with the Amtrak departure/arrival schedule. Days of operation are Monday through Friday. Route 202 does not operate on weekends or on New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.
- ***RTA Commuter Link Route 206 (Temecula – Murrieta – Lake Elsinore – Corona Metrolink)*** – RTA Route 206 is a commuter route that operates between Temecula and Corona, and provides a direct link to the North Main Corona Metrolink Station. Route 206 operates five northbound trips and four southbound trips during the morning, and two northbound trips and six southbound trips during the evening to correspond with the Metrolink departure/arrival schedule. Days of operation are Monday through Friday. Route 206 does not operate on weekends or on New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.
- ***RTA Commuter Link Route 208 (Temecula – Murrieta – Sun City – Perris – Moreno Valley – Downtown Terminal)*** – RTA Route 208 is a commuter route that operates between Temecula and Riverside, and provides a direct link to the Riverside-Downtown Metrolink station and bus terminal. Route 208 operates five northbound trips and three southbound trips during the morning, and four northbound trips and four southbound trips during the evening to correspond with the Metrolink departure/arrival schedule. Days of operation are Monday through Friday. Route 208 does not operate on weekends or on New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.
- ***RTA Dial-A-Ride Murrieta/Temecula*** – RTA DAR Murrieta/Temecula is a reservation-based transportation service that travels to and from locations within the Cities of Murrieta and Temecula, and parts of Winchester. Reservation hours are Monday through Friday, 7:00 AM to 6:00 PM, and on weekends from 8:00 AM to 5:00 PM.



RAILWAYS

While the City experienced a large boom due in part to the installation of Southern California Railroad tracks in 1892, the trains ceased operation in 1935. There are currently no active railways in the City of Murrieta.

AVIATION FACILITIES

The French Valley Airport is a county-owned public-use airport located on SR-79 in unincorporated Riverside County, adjacent to Murrieta and Temecula. The airport covers an area of approximately 261 acres, with a single, 6,000-foot long, 75-foot wide asphalt runway. The airport has an average of 269 aircraft operations per day (for the 12-month period ending March 31, 2006), 60 percent are for local general aviation. The 2007 French Valley Airport Land Use Compatibility Plan establishes policies for determining consistency between development projects within the Airport Influence Area, and the objectives set forth in the State Aeronautics Act (Public Utilities Code Section 21670-21679.5). Those objectives call for the Riverside County Airport Land Use Commission to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible land uses. The Airport Influence Area includes land in the City of Murrieta, and extends approximately 2.6 miles beyond the airport property line. Refer to [Section 5.1, Land Use](#); [Section 5.7, Noise](#); and [Section 5.14, Hazards and Hazardous Materials](#), for impacts related to the French Valley Airport.

BIKEWAYS AND PEDESTRIAN FACILITIES

The trail and pedestrian systems are made up of sidewalks, pathways, bicycle lanes, and hiking and equestrian trail corridors. These systems enhance the walkability of the community and provide an alternative means of recreational and other travel opportunities. Although the City does not have an officially adopted bicycle map, Murrieta has bicycle trails and lane corridors, as well as traditional sidewalks and pathways, which provide access to parks, shopping centers, employment areas, and public facilities. Facilities include Class I bikeways, which are dedicated rights-of-way designed to be shared with pedestrians, Class II bike and are located both off-street (Class I) and on-street (Class II and III); refer to [Exhibit 5.4-11, Trails and Bikeways](#). The hiking and equestrian corridors provide recreational opportunities through major conservation and open space areas.

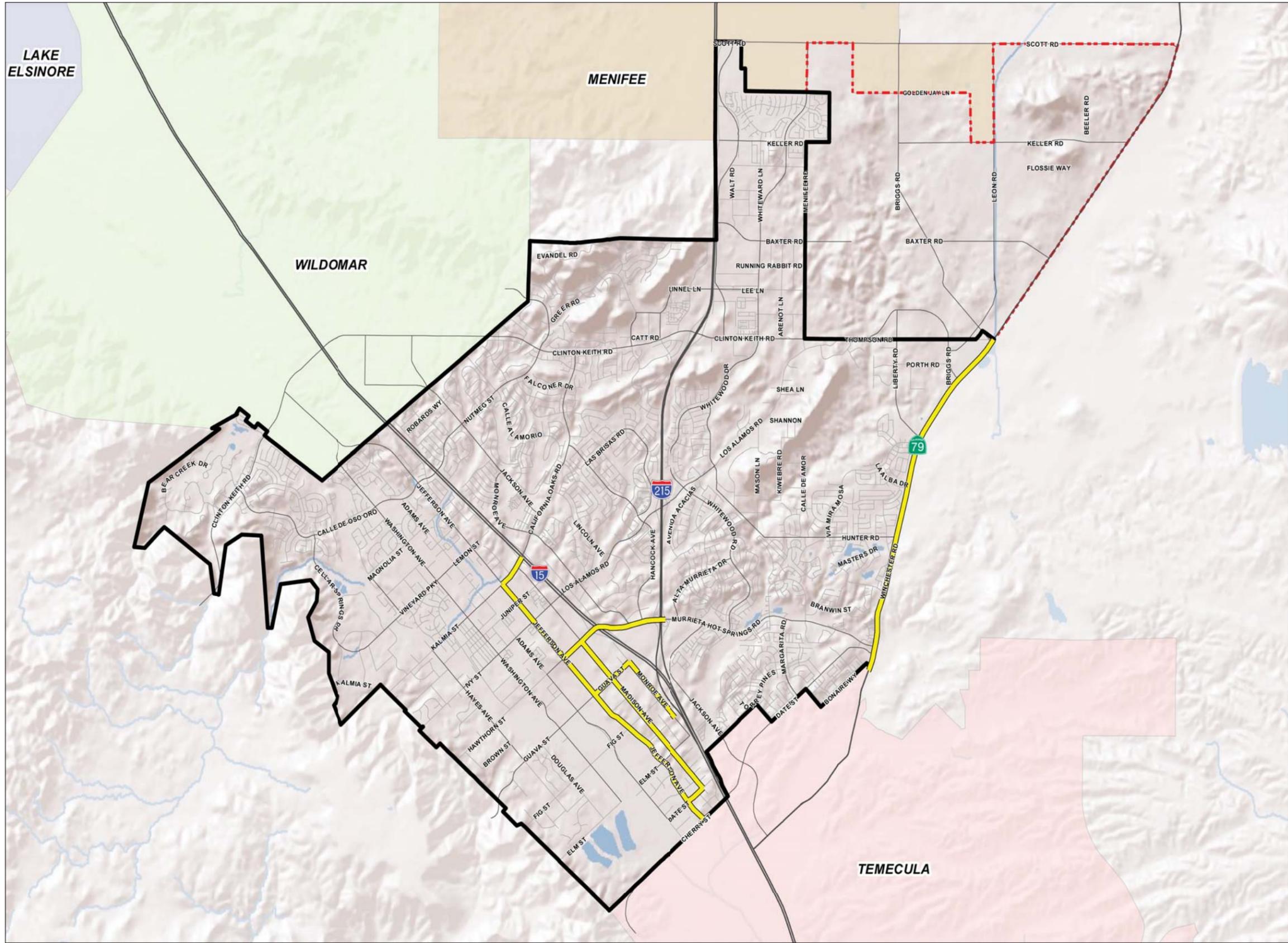


5.4.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, traffic and circulation impacts resulting from the implementation of the proposed General Plan 2035 may be considered significant if they would result in the following:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (Refer to Section 5.14, Hazards and Hazardous Materials).
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

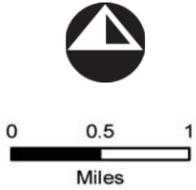
Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.



LEGEND

-  Truck Routes
-  Sphere of Influence
-  City Boundary

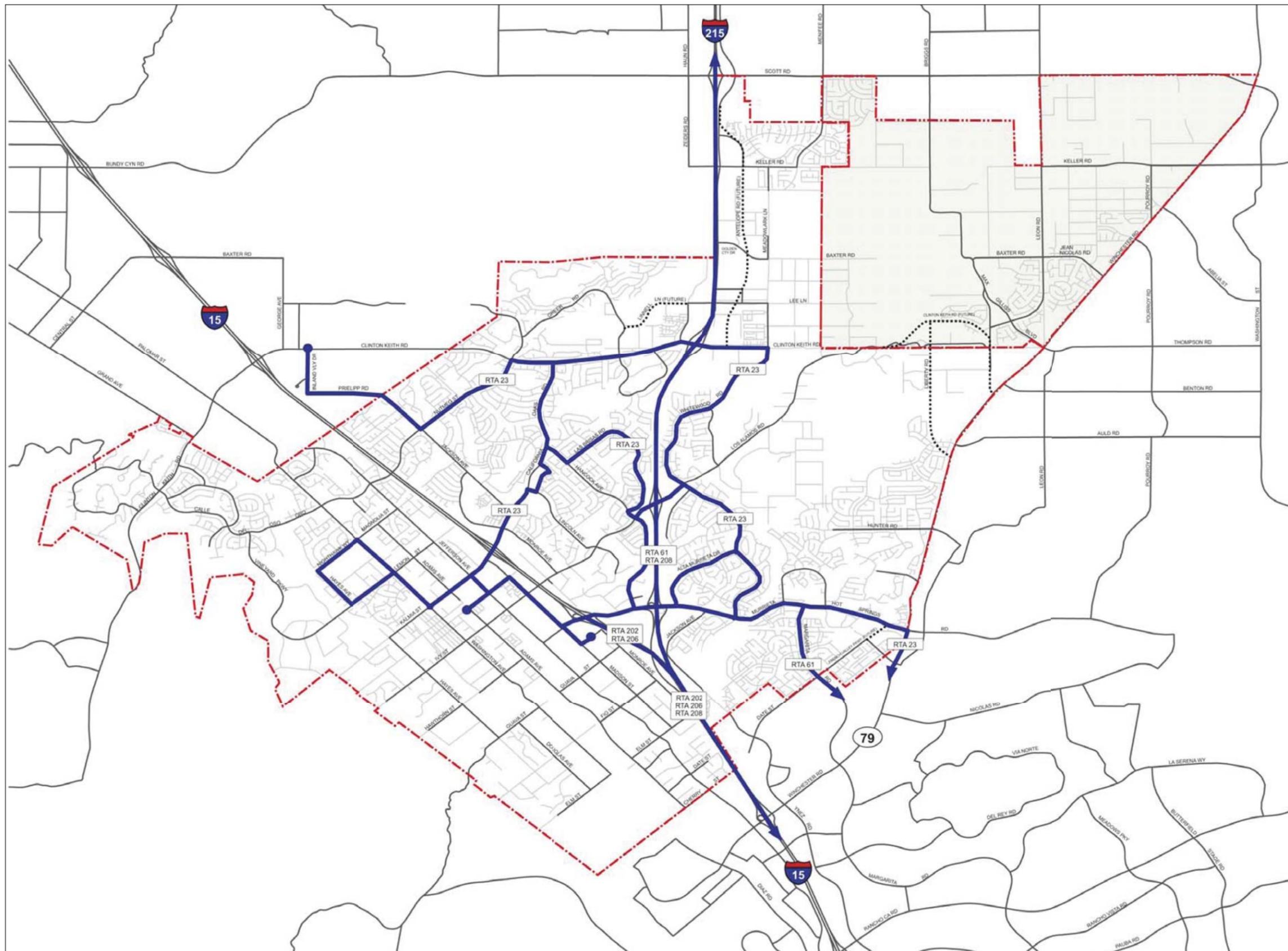
Truck Routes are designated per Municipal Code Section 10.28.050.



Source: County of Riverside, City of Murrieta, and ESRI - World Shaded Relief.

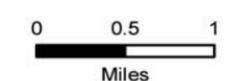


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LEGEND

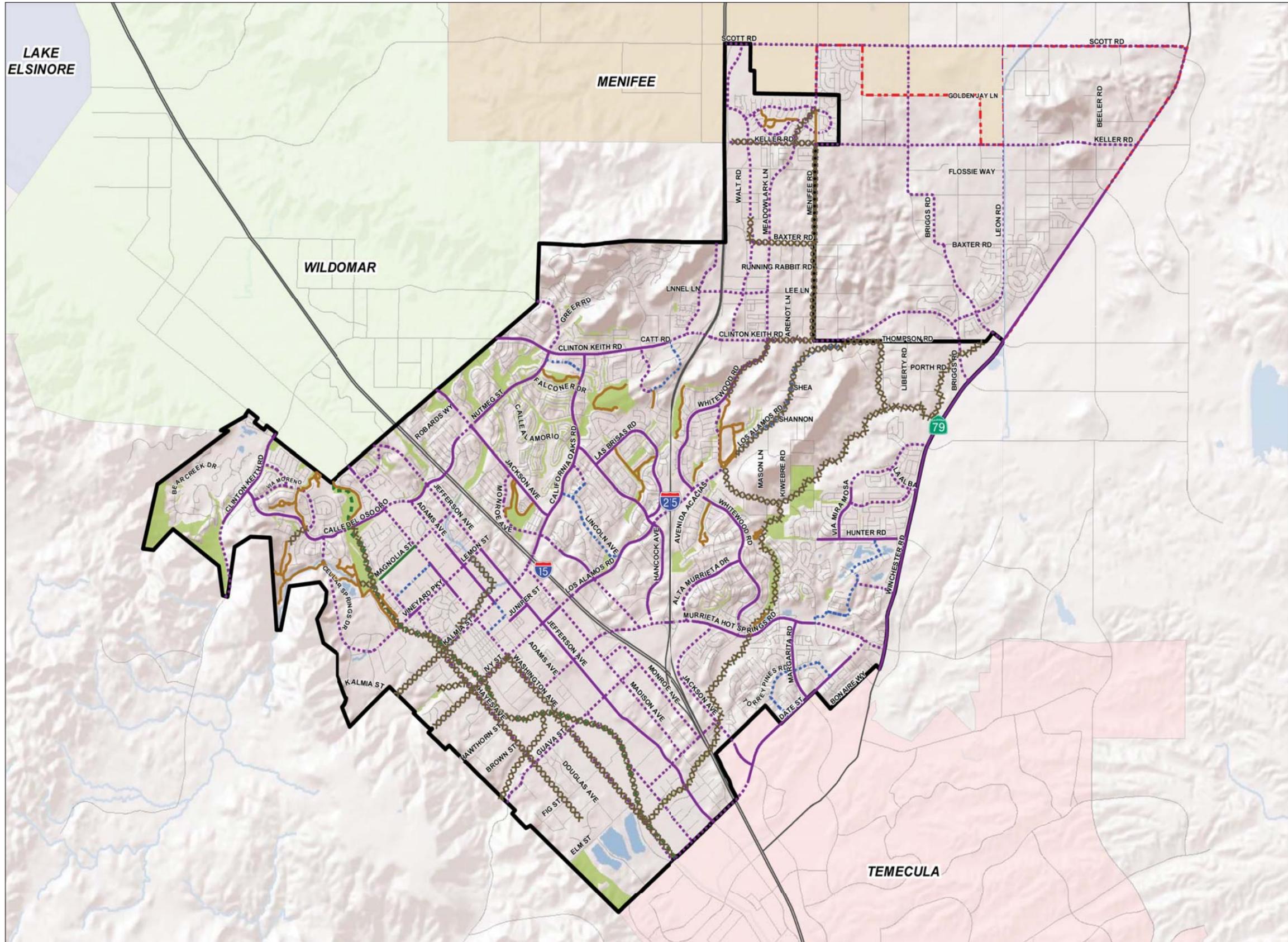
-  Bus Transit Line
-  City of Murrieta Boundary
-  Sphere of Influence
-  Future Roadway Alignment



Source: RBF Consulting.



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LEGEND

Bikeways

Class I: Off-Road
Paved Bike Path

- Class I - Existing
- Class I - Proposed

Class II: On-Road
Striped Bike Lane

- Class II - Existing
- Class II - Proposed

Class III: On-Road
Bike Route (Signage Only)

- Class III - Proposed

Multi-Purpose Trails

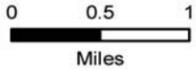
Open to horses, bikes and walking

- Existing
- xxxxxx Proposed

Open Space

Sphere of Influence

City Boundary



Source: City of Murrieta, and ESRI - World Shaded Relief.



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5.4.4 PROJECT IMPACTS AND MITIGATION MEASURES

PROPOSED GENERAL PLAN 2035 TRAFFIC OPERATIONS

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD CONFLICT WITH AN APPLICABLE PLAN, ORDINANCE, OR POLICY ESTABLISHING MEASURES OF EFFECTIVENESS FOR INTERSECTIONS.**

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis: The land uses contained within the recommended scenario, which is the recommended land use plan for the proposed General Plan 2035, were converted into socioeconomic (SED) data, and input into the Murrieta travel demand model. The data is summarized for the City and the Sphere of Influence in *Table 5.4-9, SED Summary*.

**Table 5.4-9
SED Summary**

	Population			Households			Employment		
	City	Sphere	Total	City	Sphere	Total	City	Sphere	Total
Recommended Scenario (Proposed Project)	133,261	25,499	158,760	44,484	8,489	52,973	130,153	3,086	133,239
Source: Iteris, <i>Traffic Impact Analysis</i> , September 8, 2011.									

The future roadway network generally conforms to the current adopted (2006) Murrieta Circulation Element. The City has identified changes to the roadway network; these have been incorporated into the travel demand mode. Other changes in the model were made in order to reflect how the roadways generally function. Changes include:

- Jefferson Avenue from Lemon Street to north of Nutmeg Street – modeled as six Lanes.
- Keller Road between Menifee Road and Briggs Road added as a Secondary.
- Removal of connection of Linnel Lane to Greer Road.
- Removal of connection of Liberty Road to Winchester Road.
- Removal of the connection of Monroe Avenue at Elm Street.



- Removal of Hunter Road as a Collector from west of Via Mira Mosa to Whitewood Road.
- Extension of Whitewood Road as a Major between Murrieta Hot Springs Road and Jackson Avenue (when modeled).
- Hayes Avenue from Guava Street to Kalmia Avenue – and between Nighthawk Way and Vineyard Parkway – modeled as a Collector.
- Washington Avenue from Hawthorn Street to Kalmia Avenue – modeled as a Collector.
- Nighthawk Way/Magnolia Street between Hayes Avenue to Jefferson Street – modeled as a Collector.
- Kalmia Street from west City boundary to Washington Avenue; Ivy Street from West City Limits to Washington Avenue; portions of Hawthorne Street from west City boundary to Adams Avenue; Douglas Avenue from Elm Street to Guava Street; Washington Avenue from south City boundary to Elm Street; Date Street from Adams Avenue to Madison Avenue; Corning Place between Adams Avenue and Jefferson Avenue; Adams Avenue between Ivy Street and Magnolia Street, and south of Calle del Oso Oro; Fig Street between Adams Avenue and Monroe Avenue – all modeled as Collectors.
- Elm Street between Hayes Avenue and Washington Avenue; and Hayes Avenue between south City boundary and Elm Avenue – modeled as Secondaries.
- Nutmeg Street between Clinton Keith Road and north City boundary; Lincoln Avenue between Los Alamos Road and California Oaks Road; Vista Murrieta from Monroe Avenue to Los Alamos Road; and Greer Road between Clinton Keith Road the Greer Ranch Entry Gate – all modeled as Collectors.
- McElwain Road between Clinton Keith Road and Linnel Lane – modeled as Secondary.
- Linnel Lane between Meadowlark Road and City boundary; Somers Road between old Antelope Road and Antelope Road; Keller Road between Menifee Road and Briggs Road – all modeled as Secondaries.
- Ruth Ellen Way between Whitewood Road and Los Alamos Road; Los Alamos Road from east of Whitewood Road to south of Clinton Keith Road; Via Mira Mosa between Winchester Road and Hunter Road; Liberty Road south of Clinton Keith Road – all modeled as Collectors.



Other than the extension of Whitewood Road between Jackson Avenue and Murrieta Hot Springs Road, the 2035 buildout model network is consistent throughout the recommended scenario. The resultant travel demand model volumes were post-processed to obtain roadway link and intersection volumes. The number of travel lanes in the buildout model is shown in *Exhibit 5.4-12, Future Roadway Lanes*.

For intersections, the buildout intersection lane configurations incorporate the General Plan buildout number of through lanes; and assume a separate left turn lane and a shared right turn lane. If intersections, or legs of intersections, have already been built to their maximum configuration or already designed; these lanes were incorporated.

As part of improvements planned for the I-15 Southbound off-ramp at Kalmia Street/California Oaks Road, the southbound ramp would be relocated and placed opposite Madison Avenue. Therefore, the levels of service for the Madison Avenue at Kalmia Street intersection is not shown in future LOS tables.

Intersection traffic control assumed for future conditions is shown in *Table 5.4-10, Future Intersection Traffic Control*.

Recommended Scenario (Proposed General Plan 2035 Land Uses)

Levels of service associated with the buildout of the proposed General Plan 2035 Land Use Policy Map (recommended scenario) were calculated for both roadway links and intersections.

ROADWAY LEVEL OF SERVICE

Using the recommended scenario daily traffic volumes and the maximum daily roadway capacity values, daily V/C ratios have been determined; refer to *Exhibit 5.4-13, General Plan 2035 Average Daily Traffic Volumes*. The following roadway segments are projected to operate at an unacceptable LOS (LOS D, E or F) per the City of Murrieta's LOS standards. The daily V/C ratios are shown in *Exhibit 5.4-14, General Plan 2035 Daily Volume-to-Capacity Ratios* and generally include, but are not limited to, the following:

LOS D (shown in green on Exhibit 5.4-14):

- Portions of Jefferson Avenue, Washington Avenue, Meadowlark Lane/Meniffee Road, Leon Rod, and Whitewood Road.

LOS E (shown in yellow on Exhibit 5.4-14):

- Portions of Jefferson Avenue, California Oaks Road, Murrieta Hot Springs Road, Clinton Keith Road, Hancock Avenue, and Meadowlark Lane/Meniffee Road.



LOS F (shown in red on Exhibit 5.4-14):

Portions of Jefferson Avenue, Los Alamos Road, Clinton Keith Road, Winchester Road, Murrieta Hot Springs Road, Meadowlark Lane/Menifee Road, and Antelope Road.

INTERSECTION LEVEL OF SERVICE

The peak hour turning movement volumes are shown in *Exhibit 5.4-15a* and *Exhibit 5.4-15b, General Plan 2035 Peak Hour Turning Movement Volumes*.

Table 5.4-11, General Plan 2035 Intersection Level of Service provides the LOS results for the 61 study intersections. As shown in *Table 5.4-11*, 43 of the 61 intersections would operate at acceptable levels; however the following 18 intersections would operate at levels of service that do not meet the City’s standards of acceptability.

- Intersection 1: Menifee Road / Scott Road
- Intersection 3: Winchester Road – SR-79 / Scott Road
- Intersection 4: Antelope Road / Keller Road
- Intersection 9: Antelope Road / Golden City Drive – Baxter Road
- Intersection 10: Whitewood – Meadowlark / Golden City Drive – Baxter Road
- Intersection 18: California Oaks Road / Clinton Keith Road
- Intersection 20: I-215 NB Off-Ramp / Clinton Keith Road
- Intersection 22: Meadowlark – Whitewood Road / Clinton Keith Road
- Intersection 25: Winchester Road – SR-79 / Clinton Keith Road – Benton Road
- Intersection 28: Jefferson Avenue / Murrieta Hot Springs Road
- Intersection 29: Madison Avenue / Murrieta Hot Springs Road
- Intersection 44: Jefferson Avenue / Kalmia Street
- Intersection 52: Winchester Road (SR-79) / Murrieta Hot Springs Road
- Intersection 53: Hancock Avenue / Los Alamos Road
- Intersection 54: I-215 SB Ramps / Los Alamos Road
- Intersection 57: Whitewood Road / Murrieta Hot Springs Road
- Intersection 59: Nutmeg Street / Clinton Keith Road
- Intersection 60: Mitchell Road / Clinton Keith Road



**Table 5.4-10
Future Intersection Traffic Control**

Int. No.	Intersection	Future Traffic Control
1	Menifee Rd / Scott Rd	Signalized
2	Leon Rd / Scott Rd	Signalized
3	Winchester Rd – SR-79 / Scott Rd	Signalized
4	Antelope Rd / Keller Rd	Signalized
5	Menifee-Meadowlark Rd/ Keller Rd	Signalized
6	Briggs Rd / Keller Rd	Signalized
7	Leon Rd / Keller Rd	Signalized
8	Winchester Rd – SR-79 / Keller Rd	Signalized
9	Antelope Rd / Golden City Drive – Baxter Rd	Signalized
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Rd	Signalized
11	Briggs Rd / Baxter Rd – Jean Nicholas	Signalized
12	Leon Rd / Jean Nicholas	Signalized
13	Winchester Rd – SR-79 / Nicholas – Skyview	Signalized
14	Antelope Rd / Linnel Lane Extension	Signalized
15	Whitewood-Meadowlark/ Linnel Lane Extension	Signalized
16	Leon Rd / Max Gillis Rd	Signalized
17	Winchester Rd – SR-79 / Max Gillis – Thompson	Signalized
18	California Oaks Rd / Clinton Keith Rd	Signalized
19	I-215 SB Off-Ramp / Clinton Keith Rd	Signalized
20	I-215 NB Off-Ramp / Clinton Keith Rd	Signalized
21	Antelope Rd / Clinton Keith Rd	Signalized
22	Meadowlark – Whitewood Rd / Clinton Keith Rd	Signalized
23	Liberty Rd / Clinton Keith Rd	Signalized
24	Leon Rd / Clinton Keith Rd	Signalized
25	Winchester Rd – SR-79 / Benton Rd	Signalized
26	Winchester Rd – SR-79 / Via Mira Mosa – Auld Rd	Signalized
27	Monroe Ave / Los Alamos	Signalized
28	Jefferson Ave / Murrieta Hot Springs Rd	Signalized
29	Madison Ave / Murrieta Hot Springs Rd	Signalized
30	I-15 SB Off-Ramp / Murrieta Hot Springs Rd	Signalized
31	I-15 NB Off-Ramp / Murrieta Hot Springs Rd	Signalized
32	I-215 SB Off-Ramp / Murrieta Hot Springs Rd	Signalized
33	I-215 NB Off-Ramp / Murrieta Hot Springs Rd	Signalized
34	Jackson Ave / Murrieta Hot Springs Rd	Signalized
35	Margarita Rd/ Murrieta Hot Springs Rd	Signalized
36	French Valley – Date St / Murrieta Hot Springs Rd	Signalized
37	Jefferson Ave / Guava St	Signalized
38	Jefferson Ave / Cherry St	Signalized
39	Washington Ave / Calle del Oso Oro – Nutmeg St	Signalized
40	Clinton Keith Rd / Calle de Oso Oro – Bear Creek Dr	Signalized
41	Jefferson Ave / Nutmeg St	Signalized



**Table 5.4-10 [continued]
Future Intersection Traffic Control**

Int. No.	Intersection	Future Traffic Control
42	Jefferson Ave / Magnolia St	Signalized
43	Jefferson Ave / Lemon St	Signalized
44	Jefferson Ave / Kalmia St	Signalized
45	Jefferson Ave / Juniper St	Signalized
46	Jefferson Ave / Ivy St – Los Alamos Rd	Signalized
47	Madison Ave / Kalmia St	N/A
48	I-15 SB Ramps / Kalmia St	Signalized
49	Monroe Ave / Murrieta Hot Springs Rd	Signalized
50	Hancock Ave / Murrieta Hot Springs Rd	Signalized
51	Alta Murrieta Dr / Murrieta Hot Springs Rd	Signalized
52	Winchester Rd - SR-79 / Murrieta Hot Springs Rd	Signalized
53	Hancock Ave / Los Alamos Rd	Signalized
54	I-215 SB Ramps / Los Alamos Rd	Signalized
55	I-215 NB Ramps / Los Alamos Rd	Signalized
56	Whitewood Rd / Los Alamos Rd	Signalized
57	Whitewood Rd / Murrieta Hot Springs Rd	Signalized
58	Adams Ave / Guava St	Signalized
59	Nutmeg St / Clinton Keith Rd	Signalized
60	Mitchell Rd / Clinton Keith Rd	Signalized
61	I-215 SB Ramps / Scott Rd	Signalized
62	I-215 NB Ramps / Scott Rd	Signalized

Source: Iteris, *Traffic Impact Analysis*, September 8, 2011.



**Table 5.4-11
General Plan 2035 Intersection Level of Service**

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Ave Del/Veh	LOS	Ave Del/Veh
1	Menifee Rd / Scott Rd	E	68.3	F	86.3
2	Leon Rd / Scott Rd	C	27.9	D	46.7
3	Winchester Rd - SR-79 / Scott Rd	F	177.4	F	284.5
4	Antelope Rd / Keller Rd	F	158.6	D	49.9
5	Menifee-Meadowlark Rd/ Keller Rd	E	68.8	D	47.6
6	Briggs Rd / Keller Rd	B	18.5	B	19.0
7	Leon Rd / Keller Rd	B	12.3	C	26.2
8	Winchester Rd - SR-79 / Keller Rd	A	1.6	A	1.6
9	Antelope Rd / Golden City Drive – Baxter Rd	C	25.2	F	89.2
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Rd	F	107.7	F	113.6
11	Briggs Rd / Baxter Rd – Jean Nicholas	A	8.8	A	8.3
12	Leon Rd / Jean Nicholas	C	22.1	C	26.4
13	Winchester Rd - SR-79 / Nicholas - Skyview	B	19.7	C	28.5
14	Antelope Rd / Linnel Lane Extension	C	22.1	C	28.5
15	Whitewood-Meadowlark/ Linnel Lane Extension	C	26.0	D	43.7
16	Leon Rd / Max Gillis Rd	D	51.9	D	40.3
17	Winchester Rd - SR-79 / Max Gillis - Thompson	C	27.1	D	37.8
18	California Oaks Rd / Clinton Keith Rd	E	60.7	C	20.7
19	I-215 SB Off-Ramp / Clinton Keith Rd	A	7.9	B	11.5
20	I-215 NB Off-Ramp / Clinton Keith Rd	F	124.7	B	17.1
21	Antelope Rd / Clinton Keith Rd	A	5.1	A	4.5
22	Meadowlark – Whitewood Rd / Clinton Keith Rd	F	145.9	F	121.7
23	Liberty Rd / Clinton Keith Rd	A	7.4	B	10.0
24	Leon Rd / Clinton Keith Rd	C	26.0	C	28.6
25	Winchester Rd - SR-79 / Clinton Keith Rd - Benton Rd	D	38.8	D	53.7
26	Winchester Rd - SR-79 / Via Mira Mosa – Auld Rd	C	24.1	C	25.1
27	Monroe Ave / Los Alamos	C	24.5	C	27.5
28	Jefferson Ave / Murrieta Hot Springs Rd	F	133.3	F	206.4
29	Madison Ave / Murrieta Hot Springs Rd	C	26.6	F	129.6
30	I-15 SB Off-Ramp / Murrieta Hot Springs Rd	B	16.1	B	14.3
31	I-15 NB Off-Ramp / Murrieta Hot Springs Rd	A	5.7	A	7.9
32	I-215 SB Off-Ramp / Murrieta Hot Springs Rd	B	12.5	B	10.8
33	I-215 NB Off-Ramp / Murrieta Hot Springs Rd	A	5.6	A	9.4
34	Jackson Ave / Murrieta Hot Springs Rd	A	5.1	A	8.5
35	Margarita Rd/ Murrieta Hot Springs Rd	C	24.6	D	49.2
36	French Valley – Date St / Murrieta Hot Springs Rd	B	12.9	B	18.4
37	Jefferson Ave / Guava St	A	9.4	A	7.9



**Table 5.4-11 [continued]
General Plan 2035 Intersection Level of Service**

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Ave Del/Veh	LOS	Ave Del/Veh
38	Jefferson Ave / Cherry St	C	21.8	D	37.8
39	Washington Ave / Calle del Oso Oro – Nutmeg St	C	27.6	C	27.5
40	Clinton Keith Rd / Calle de Oso Oro – Bear Creek Dr	C	23.7	B	16.5
41	Jefferson Ave / Nutmeg St	D	51.1	D	36.0
42	Jefferson Ave / Magnolia	B	10.7	A	9.4
43	Jefferson Ave / Lemon St	C	28.2	B	18.3
44	Jefferson Ave / Kalmia St	E	59.3	F	159.9
45	Jefferson Ave / Juniper St	C	23.4	C	22.3
46	Jefferson Ave / Ivy St – Los Alamos Rd	C	26.8	D	35.8
47	Madison Ave / Kalmia St	N/A	N/A	N/A	N/A
48	I-15 SB Ramps / Kalmia St	C	29.4	C	30.9
49	Monroe Ave / Murrieta Hot Springs Rd	A	8.0	B	16.2
50	Hancock Ave / Murrieta Hot Springs Rd	B	17.6	B	17.6
51	Alta Murrieta Dr / Murrieta Hot Springs Rd	C	23.8	D	51.9
52	Winchester Rd (SR-79) / Murrieta Hot Springs Rd	F	107.8	F	104.8
53	Hancock Ave / Los Alamos Rd	F	84.6	F	223.1
54	I-215 SB Ramps / Los Alamos Rd	E	77.2	F	157.8
55	I-215 NB Ramps / Los Alamos Rd	C	25.5	C	24.4
56	Whitewood Rd / Los Alamos Rd	D	44.4	D	44.6
57	Whitewood Rd / Murrieta Hot Springs Rd	C	28.3	F	88.7
58	Adams Ave / Guava St	B	12.2	B	14.3
59	Nutmeg St / Clinton Keith Rd	F	96.5	E	78.4
60	Mitchell Rd / Clinton Keith Rd	C	20.4	F	120.7
61	I-215 SB Ramps / Scott Rd	A	8.5	A	8.1
62	I-215 NB Ramps / Scott Rd	B	15.9	B	16.2

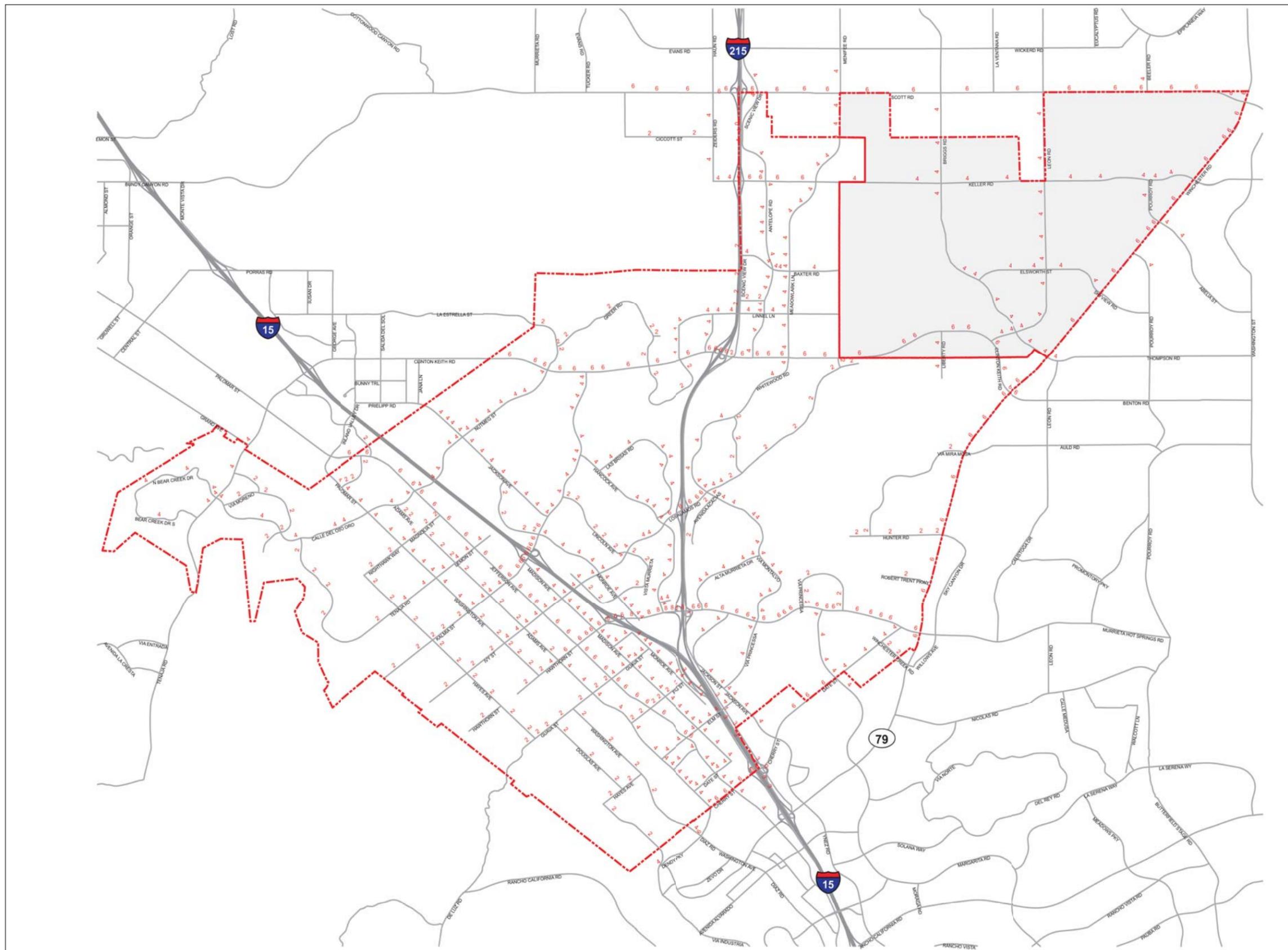
Source: Iteris, *Traffic Impact Analysis*, September 8, 2011.

Notes:
Bold = LOS D, E, or F



LEGEND

- 4 Future Number of Lanes (2-Way)
- City of Murrieta Boundary
- Sphere of Influence



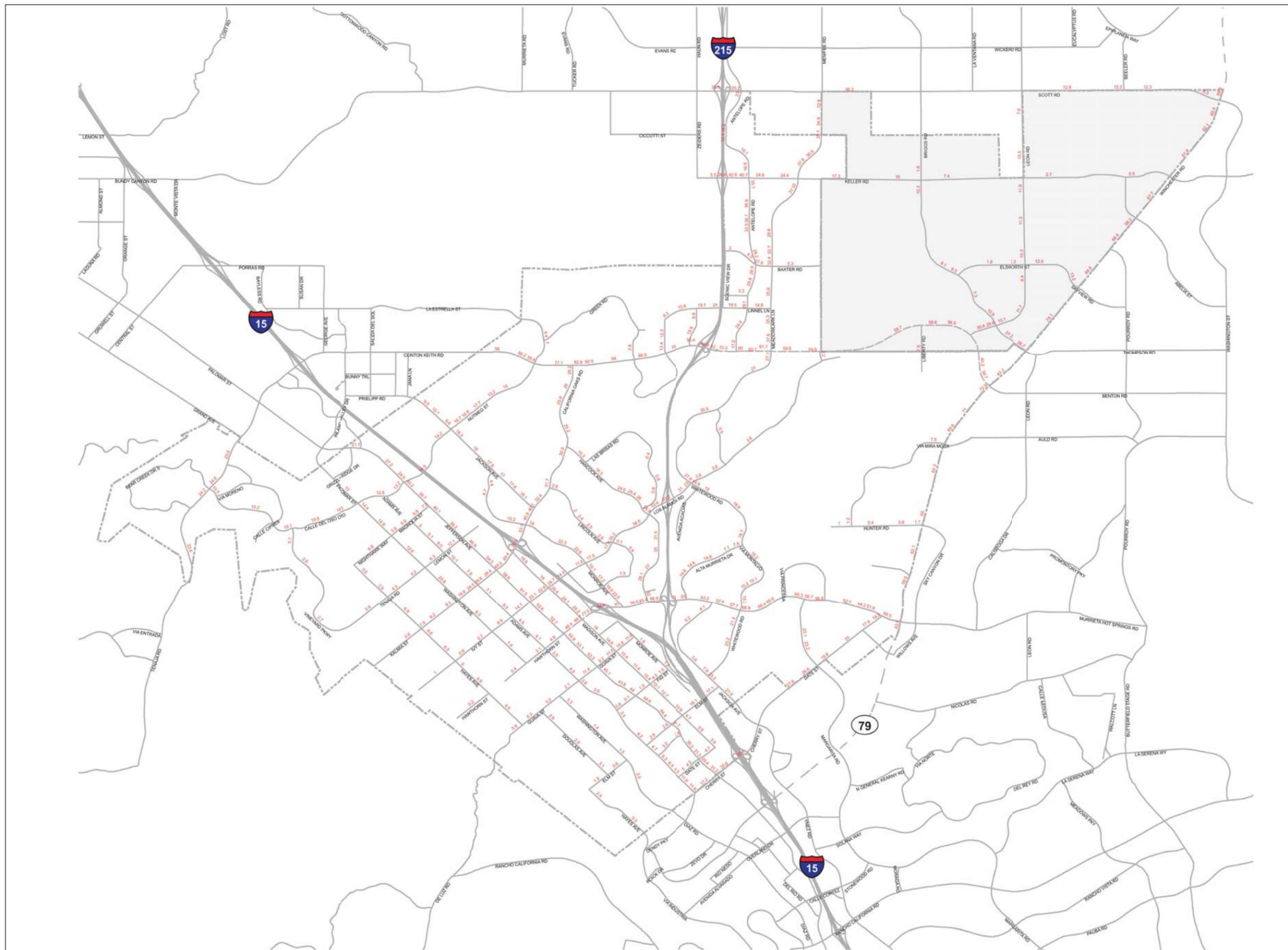


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LEGEND

- 17.6 ADT Volume (in Thousands)
- City of Murrieta Boundary
- Sphere of Influence



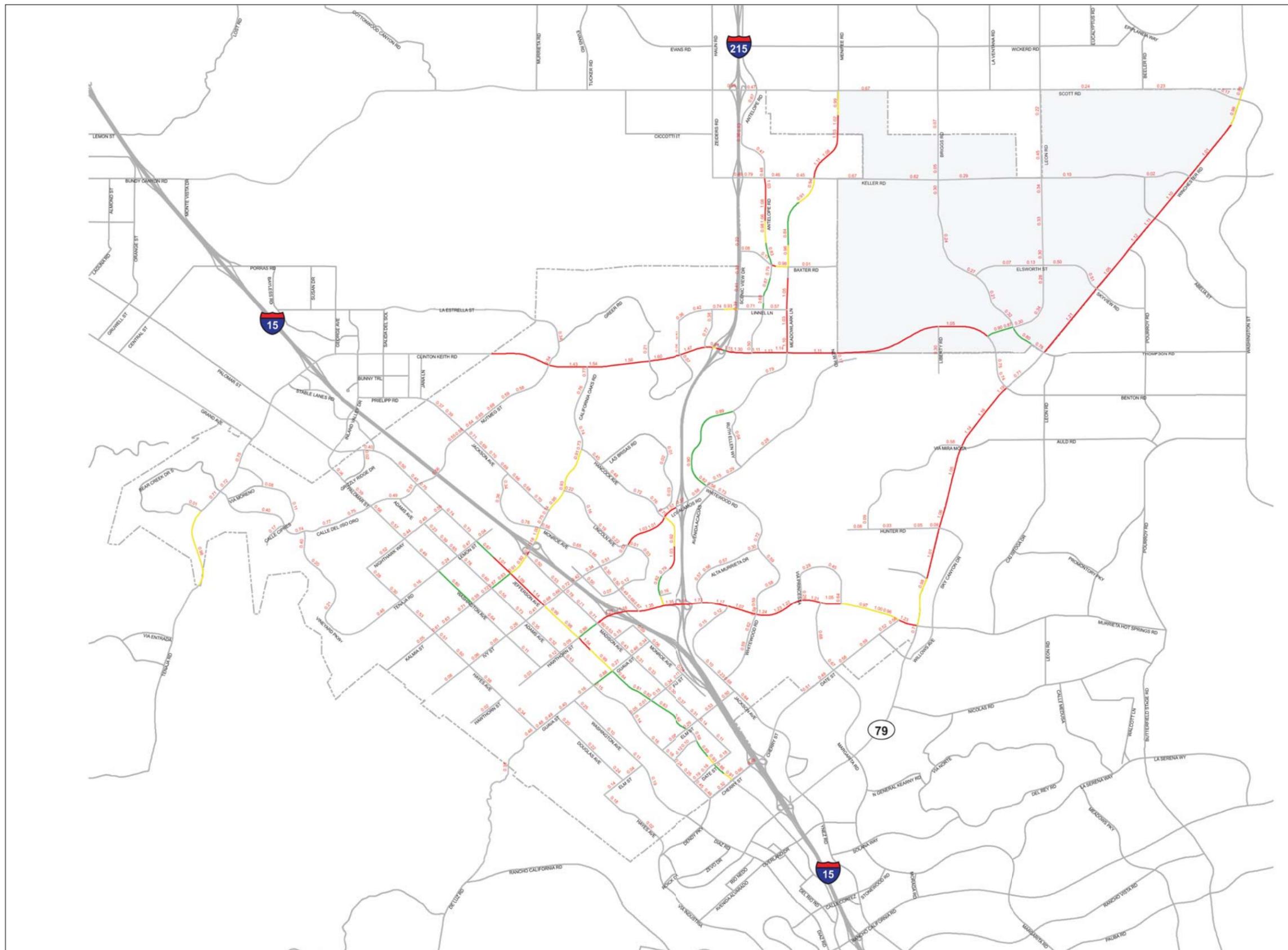


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LEGEND

- 0.87 Daily Volume/Capacity Ratio
- LOS D
- LOS E
- LOS F
- City of Murrieta Boundary
- Sphere of Influence





Back of 11 x 17 exhibit.



Recommended Improvements

Improvements are recommended for the 2035 buildout roadway network and for intersection capacity augmentation; so that the roadways and intersection meet City LOS standards. Adequate intersection performance during peak traffic hours can be ensured with enhanced intersection geometrics which satisfy turning movement and through traffic capacity demands. In many instances, this may require additional left turn lanes, and right turn deceleration lanes on intersection approaches of the major roadway.

ROADWAY IMPROVEMENTS

Roadway link improvements that were contained in the travel demand model include:

- Jefferson Avenue from Lemon Avenue to north of Nutmeg Street as an Arterial Street.
- Removal of the Linnel Lane extension between Greer Road and Mitchell Road.
- Inclusion of the Whitewood Road extension between Jackson Avenue and Murrieta Hot Springs Road.
- Adding the missing link of Keller Road between Menifee Road and Briggs Road.
- Upgrading of several roadway facilities to Collector and Secondary roads, in the area of Murrieta west of I-15, to better reflect how they operate.
- Changes to other roadway classifications (both upgrades and downgrades) within the City.

With implementation of these improvements, there are roadways segments throughout the City that are projected to not meet the City's performance standards under the proposed General Plan 2035 buildout conditions (LOS D, E, or F), and thus result in a significant unavoidable impact (refer to *Exhibit 5.4-14*).

INTERSECTION IMPROVEMENTS

Enhanced intersection geometrics and upgraded signal operations (such as protected phasing and overlap phasing) have been shown on *Exhibit 5.4-16a* and *Exhibit 5.4-16b*, *General Plan 2035 Enhanced Intersection Lane Configurations*. The projected level of service for the General Plan 2035 with enhanced geometrics is illustrated in *Table 5.4-12, General Plan 2035 Buildout Intersections with Enhanced Geometrics Level of Service*.



**Table 5.4-12
General Plan 2035 Intersections with Enhanced Geometrics Level of Service**

Int. No.	Intersection	Recommended Scenario				Recommended Scenario with Enhanced Geometrics				Project Impact (Exceeds LOS Standards)	Residual Impact (Exceeds LOS Standards After Enhancements)
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		LOS	Ave Del/Veh	LOS	Ave Del/Veh	LOS	Ave Del/Veh	LOS	Ave Del/Veh		
1	Menifee Rd / Scott Rd	E	68.3	F	86.3	E	64.5	E	76.4	Yes	Yes
2	Leon Rd / Scott Rd	C	27.9	D	46.7	C	26.6	C	32.5		
3	Winchester Rd – SR-79 / Scott Rd	F	177.4	F	284.5	F	132.7	F	187.8	Yes	Yes
4	Antelope Rd / Keller Rd	F	158.6	D	49.9					Yes	Yes
5	Menifee-Meadowlark Rd/ Keller Rd	E	68.8	D	47.6					Yes	Yes
6	Briggs Rd / Keller Rd	B	18.5	B	19.0	B	18.5	B	19.1		
7	Leon Rd / Keller Rd	B	12.3	C	26.2						
8	Winchester Rd – SR-79 / Keller Rd	A	1.6	A	1.6						
9	Antelope Rd / Golden City Drive – Baxter Rd	C	25.2	F	89.2	C	20.3	E	55.2	Yes	Yes
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Rd	F	107.7	F	113.6	E	75.8	F	108.0	Yes	Yes
11	Briggs Rd / Baxter Rd – Jean Nicholas	A	8.8	A	8.3						
12	Leon Rd / Jean Nicholas	C	22.1	C	26.4						
13	Winchester Rd – SR-79 / Nicholas – Skyview	B	19.7	C	28.5						
14	Antelope Rd / Linnel Lane Extension	C	22.1	C	28.5	C	21.4	C	23.4		
15	Whitewood-Meadowlark/ Linnel Lane Extension	C	26.0	D	43.7	C	24.6	D	38.7		
16	Leon Rd / Max Gillis Rd	D	51.9	D	40.3						
17	Winchester Rd – SR-79 / Max Gillis – Thompson	C	27.1	D	37.8						
18	California Oaks Rd / Clinton Keith Rd	E	60.7	C	20.7					Yes	Yes
19	I-215 SB Off-Ramp / Clinton Keith Rd	A	7.9	B	11.5						
20	I-215 NB Off-Ramp / Clinton Keith Rd	F	124.7	B	17.1					Yes	Yes
21	Antelope Rd / Clinton Keith Rd	A	5.1	A	4.5						
22	Meadowlark – Whitewood Rd / Clinton Keith Rd	F	145.9	F	121.7					Yes	Yes
23	Liberty Rd / Clinton Keith Rd	A	7.4	B	10.0						
24	Leon Rd / Clinton Keith Rd	C	26.0	C	28.6						
25	Winchester Rd – SR-79 / Clinton Keith Rd – Benton Rd	D	38.8	D	53.7						
26	Winchester Rd – SR-79 / Via Mira Mosa – Auld Rd	C	24.1	C	25.1						
27	Monroe Ave / Los Alamos	C	24.5	C	27.5						
28	Jefferson Ave / Murrieta Hot Springs Rd	F	133.3	F	206.4	E	56.1	F	115.8	Yes	Yes
29	Madison Ave / Murrieta Hot Springs Rd	C	26.6	F	129.6	C	23.5	D	51.1	Yes	
30	I-15 SB Off-Ramp / Murrieta Hot Springs Rd	B	16.1	B	14.3						
31	I-15 NB Off-Ramp / Murrieta Hot Springs Rd	A	5.7	A	7.9						
32	I-215 SB Off-Ramp / Murrieta Hot Springs Rd	B	12.5	B	10.8						
33	I-215 NB Off-Ramp / Murrieta Hot Springs Rd	A	5.6	A	9.4						
34	Jackson Ave / Murrieta Hot Springs Rd	A	5.1	A	8.5						
35	Margarita Rd/ Murrieta Hot Springs Rd	C	24.6	D	49.2						



Table 5.4-12 [continued]
General Plan 2035 Intersections with Enhanced Geometrics Level of Service

Int. No.	Intersection	Recommended Scenario				Recommended Scenario with Enhanced Geometrics				Project Impact (Exceeds LOS Standards)	Residual Impact (Exceeds LOS Standards After Enhancements)
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		LOS	Ave Del/Veh	LOS	Ave Del/Veh	LOS	Ave Del/Veh	LOS	Ave Del/Veh		
36	French Valley – Date St / Murrieta Hot Springs Rd	B	12.9	B	18.4						
37	Jefferson Ave / Guava St	A	9.4	A	7.9						
38	Jefferson Ave / Cherry St	C	21.8	D	37.8						
39	Washington Ave / Calle del Oso Oro – Nutmeg St	C	27.6	C	27.5						
40	Clinton Keith Rd / Calle de Oso Oro – Bear Creek Dr	C	23.7	B	16.5						
41	Jefferson Ave / Nutmeg St	D	51.1	D	36.0						
42	Jefferson Ave / Magnolia	B	10.7	A	9.4						
43	Jefferson Ave / Lemon St	C	28.2	B	18.3						
44	Jefferson Ave / Kalmia St	E	59.3	F	159.9	E	60.3	F	158.5	Yes	Yes
45	Jefferson Ave / Juniper St	C	23.4	C	22.3						
46	Jefferson Ave / Ivy St – Los Alamos Rd	C	26.8	D	35.8	C	26.8	D	36.5		
47	Madison Ave / Kalmia St	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
48	I-15 SB Ramps / Kalmia St	C	29.4	C	30.9						
49	Monroe Ave / Murrieta Hot Springs Rd	A	8.0	B	16.2						
50	Hancock Ave / Murrieta Hot Springs Rd	B	17.6	B	17.6						
51	Alta Murrieta Dr / Murrieta Hot Springs Rd	C	23.8	D	51.9						
52	Winchester Rd (SR-79) / Murrieta Hot Springs Rd	F	107.8	F	104.8					Yes	Yes
53	Hancock Ave / Los Alamos Rd	F	84.6	F	223.1					Yes	Yes
54	I-215 SB Ramps / Los Alamos Rd	E	77.2	F	157.8					Yes	Yes
55	I-215 NB Ramps / Los Alamos Rd	C	25.5	C	24.4						
56	Whitewood Rd / Los Alamos Rd	D	44.4	D	44.6						
57	Whitewood Rd / Murrieta Hot Springs Rd	C	28.3	F	88.7	C	28.4	F	90.3	Yes	Yes
58	Adams Ave / Guava St	B	12.2	B	14.3						
59	Nutmeg St / Clinton Keith Rd	F	96.5	E	78.4					Yes	Yes
60	Mitchell Rd / Clinton Keith Rd	C	20.4	F	120.7	B	18.7	C	29.6	Yes	
61	I-215 SB Ramps / Scott Rd	A	8.5	A	8.1						
62	I-215 NB Ramps / Scott Rd	B	15.9	B	16.2						
	Notes: Bold = Significant Unavoidable Impact (LOS D, E, or F)										



With implementation of the enhanced geometrics, the following 16 intersections are projected to operate at levels of service that do not meet the City’s standards, and thus result in a significant unavoidable significant impact (refer to Table 5.4-12):

- Intersection 1: Menifee Rd / Scott Rd
- Intersection 3: Winchester Road – SR-79 / Scott Road
- Intersection 4: Antelope Road / Keller Road
- Intersection 9: Antelope Road / Golden City Drive – Baxter Road
- Intersection 10: Whitewood – Meadowlark / Golden City Dr – Baxter Road
- Intersection 18: California Oaks Road / Clinton Keith Road
- Intersection 20: I-215 NB Off-Ramp / Clinton Keith Road
- Intersection 22: Meadowlark – Whitewood Road / Clinton Keith Road
- Intersection 25: Winchester Road – SR-79 / Clinton Keith Road – Benton Road
- Intersection 28: Jefferson Avenue / Murrieta Hot Springs Road
- Intersection 44: Jefferson Avenue / Kalmia St
- Intersection 52: Winchester Road (SR-79) / Murrieta Hot Springs Road
- Intersection 53: Hancock Avenue / Los Alamos Road
- Intersection 54: I-215 SB Ramps / Los Alamos Road
- Intersection 57: Whitewood Road / Murrieta Hot Springs Road
- Intersection 59: Nutmeg St / Clinton Keith Road

GENERAL PLAN 2035 CIRCULATION MAP

As noted above, a number of roadway and intersection geometric enhancements and improvements would be needed to accommodate the traffic levels for the proposed General Plan 2035. In most cases, the improvements needed to achieve acceptable LOS would consist of additional turn lanes at critical intersections. In some cases however, additional through lanes at key intersections would be needed, indicating the potential need for an upgraded roadway classifications for the roadway segment approaches to those intersections. The roadway network for the proposed General Plan 2035 is shown on Exhibit 5.4-17, General Plan 2035 Circulation Map.

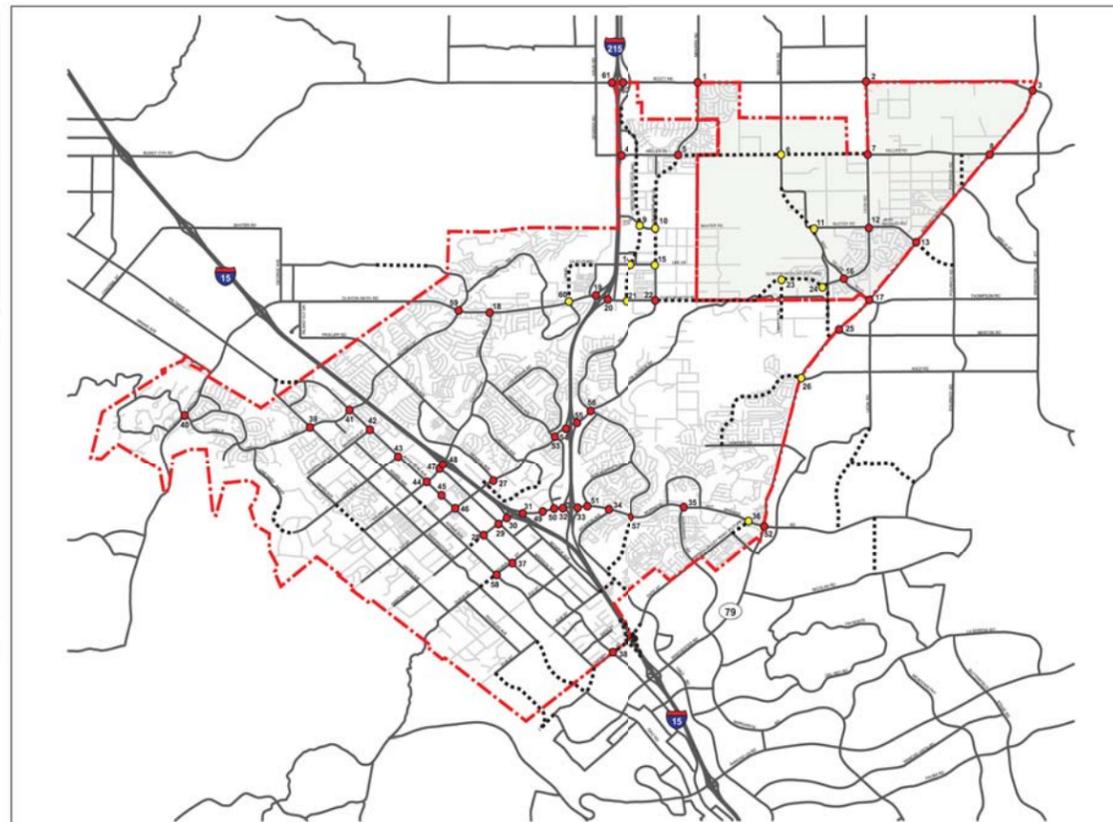
Impact Conclusions

Roadway Segments: Even with installation of the recommended improvements, implementation of the proposed General Plan 2035 would result in unacceptable levels of service on the roadway segments shown as LOS D in green, LOS E in yellow, and LOS F in red on Exhibit 5.4-14. Thus, impacts are concluded to be significant unavoidable impacts for the roadway segments shown as LOS D, LOS E, and LOS F on Exhibit 5.4-14. All other roadway segments would operate at acceptable levels of service.



LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- ← 31/20 AM Peak Hr/PM Peak Hr



<p>#1 Menifee Rd / Scott Rd</p> <p>93 (69) ← 484 (282) ← 253 (196) ←</p> <p>251 (566) → 479 (546) → 864 (408) →</p> <p>102 (272) → 510 (967) → 316 (458) →</p>	<p>#2 Leon Rd / Scott Rd</p> <p>489 (373) ← 444 (209) ← 101 (63) ←</p> <p>157 (155) → 360 (374) → 14 (4) →</p> <p>2 (18) → 198 (411) → 104 (563) →</p>	<p>#3 Winchester Rd - SR-79 / Scott Rd</p> <p>611 (156) ← 265 (821) ← 57 (82) ←</p> <p>963 (1066) → 151 (222) → 17 (0) →</p> <p>117 (113) → 178 (286) → 68 (119) →</p>	<p>#4 Antelope Rd / Keller Rd</p> <p>47 (142) ← 72 (27) ← 94 (63) ←</p> <p>27 (167) → 467 (658) → 758 (228) →</p> <p>405 (828) → 791 (753) → 1203 (209) →</p>	<p>#5 Menifee-Meadowlark / Keller Rd</p> <p>98 (331) ← 1061 (989) ← 1089 (596) ←</p> <p>125 (121) → 400 (392) → 299 (176) →</p> <p>495 (765) → 199 (314) → 565 (468) →</p>					
<p>#6 Briggs Rd / Keller Rd</p> <p>81 (1) ← 40 (50) ← 7 (18) ←</p> <p>1 (6) → 344 (295) → 15 (9) →</p> <p>1 (20) → 72 (347) → 492 (765) →</p>	<p>#7 Leon Rd / Keller Rd</p> <p>888 (78) ← 898 (88) ← 951 (91) ←</p> <p>5 (3) → 65 (190) → 7 (17) →</p> <p>2 (88) → 60 (81) → 106 (281) →</p>	<p>#8 Winchester Rd - SR-79 / Keller Rd</p> <p>101 (2) ← 472 (203) ← 7 (1) ←</p> <p>50 (25) → 20 (16) → 13 (10) →</p> <p>1 (2) → 10 (59) → 1 (2) →</p>	<p>#9 Antelope Rd / Golden City Drive - Baxter Rd</p> <p>912 (2) ← 707 (479) ← 27 (52) ←</p> <p>604 (896) → 203 (178) → 397 (354) →</p> <p>1 (5) → 75 (202) → 11 (46) →</p>	<p>#10 Whitewood-Meadowlark / Golden City Dr - Baxter Rd</p> <p>956 (82) ← 596 (82) ← 1088 (82) ←</p> <p>2 (2) → 15 (7) → 1 (0) →</p> <p>59 (319) → 4 (12) → 739 (967) →</p>					
<p>#11 Briggs Rd / Baxter Rd - Jean Nicholas</p> <p>91 (89) ← 83 (659) ← 53 (9) ←</p> <p>75 (87) → 9 (10) →</p> <p>43 (89) → 206 (430) →</p>	<p>#12 Leon Rd / Jean Nicholas</p> <p>231 (123) ← 192 (559) ← 182 (111) ←</p> <p>249 (446) → 22 (123) → 157 (114) →</p> <p>2 (2) → 145 (128) → 13 (12) →</p>	<p>#13 Winchester Rd - SR-79 / Nicholas - Skyview</p> <p>202 (67) ← 962 (202) ← 17 (33) ←</p> <p>166 (125) → 327 (439) → 106 (150) →</p> <p>37 (37) → 330 (650) → 132 (118) →</p>	<p>#14 Antelope Rd / Linnel Lane Extension</p> <p>69 (86) ← 101 (570) ← 284 (525) ←</p> <p>220 (426) → 120 (562) → 6 (58) →</p> <p>199 (117) → 507 (363) → 125 (394) →</p>	<p>#15 Whitewood-Meadowlark / Linnel Lane Extension</p> <p>182 (41) ← 2511 (5131) ← 381 (622) ←</p> <p>324 (779) → 144 (775) → 45 (223) →</p> <p>33 (22) → 556 (335) → 114 (154) →</p>					
<p>#16 Leon Rd / Max Gillis Rd</p> <p>353 (182) ← 386 (652) ← 393 (721) ←</p> <p>182 (365) → 322 (344) → 631 (565) →</p> <p>100 (100) → 470 (199) → 767 (465) →</p>	<p>#17 Winchester Rd - SR-79 / Max Gillis - Thompson</p> <p>291 (492) ← 91 (611) ← 2 (699) ←</p> <p>39 (87) → 298 (242) → 31 (32) →</p> <p>609 (759) → 165 (310) → 279 (140) →</p>	<p>#18 California Oaks Rd / Clinton Keith Rd</p> <p>1675 (2820) → 773 (439) →</p> <p>2680 (2396) → 307 (112) →</p>	<p>#19 I-215 SB Off-Ramp / Clinton Keith Rd</p> <p>74 (85) ← 85 (609) ← 27 (80) ←</p> <p>227 (219) → 2089 (2369) →</p> <p>2401 (2930) → 496 (784) →</p>	<p>#20 I-215 NB Off-Ramp / Clinton Keith Rd</p> <p>233 (314) → 2305 (2836) →</p> <p>1797 (1562) → 334 (280) →</p>	<p>#21 Antelope Rd / Clinton Keith Rd</p> <p>41 (51) ← 92 (91) ←</p> <p>296 (427) → 1643 (1645) →</p> <p>388 (117) → 1869 (1228) →</p>	<p>#22 Meadowlark-Whitewood Rd / Clinton Keith Rd</p> <p>212 (167) ← 431 (212) ← 51 (730) ←</p> <p>594 (1031) → 1187 (701) → 943 (314) →</p> <p>1386 (352) → 486 (1452) → 82 (506) →</p>	<p>#23 Liberty Rd / Clinton Keith Rd</p> <p>2610 (2078) → 44 (41) →</p> <p>1615 (2323) → 205 (323) →</p>	<p>#24 Leon Rd / Clinton Keith Rd</p> <p>441 (121) ← 153 (812) ←</p> <p>561 (877) → 858 (913) →</p> <p>396 (638) → 1420 (1950) →</p>	<p>#25 Winchester Rd - SR-79 / Benton Rd</p> <p>96 (57) ← 100 (485) ← 142 (1100) ←</p> <p>32 (92) → 614 (720) → 344 (241) →</p> <p>38 (83) → 470 (704) → 978 (1387) →</p>
<p>#26 Winchester Rd - SR-79 / Via Mira Mosa</p> <p>101 (101) ← 19 (352) ← 13 (209) ←</p> <p>29 (129) → 19 (40) → 177 (229) →</p> <p>358 (229) → 49 (28) → 95 (54) →</p>	<p>#27 Monroe Ave / Los Alamos</p> <p>352 (182) ← 696 (191) ← 802 (119) ←</p> <p>473 (467) → 994 (975) → 63 (84) →</p> <p>46 (229) → 351 (1460) → 134 (165) →</p>	<p>#28 Jefferson Ave / Murrieta Hot Springs Rd</p> <p>418 (107) ← 616 (205) ← 7 (707) ←</p> <p>921 (891) → 93 (90) → 876 (581) →</p> <p>15 (40) → 76 (210) → 21 (111) →</p>	<p>#29 Madison Ave / Murrieta Hot Springs Rd</p> <p>74 (189) → 1769 (1185) → 754 (791) →</p> <p>117 (346) → 1137 (1505) → 271 (279) →</p>	<p>#30 I-15 SB Off-Ramp / Murrieta Hot Springs Rd</p> <p>7 (112) → 808 (476) → 127 (224) →</p> <p>47 (112) → 2301 (2188) →</p> <p>1385 (2533) → 215 (487) →</p>	<p>#31 I-15 NB Off-Ramp / Murrieta Hot Springs Rd</p> <p>598 (1637) → 1546 (1582) →</p> <p>2202 (2848) → 210 (370) →</p>	<p>#32 I-215 SB Off-Ramp / Murrieta Hot Springs Rd</p> <p>362 (107) ← 83 (470) ← 29 (362) ←</p> <p>378 (238) → 2599 (2338) →</p> <p>1838 (3377) → 53 (139) →</p>	<p>#33 I-215 NB Off-Ramp / Murrieta Hot Springs Rd</p> <p>663 (383) → 2623 (2361) →</p> <p>1583 (2331) → 115 (104) →</p>	<p>#34 Jackson Ave / Murrieta Hot Springs Rd</p> <p>2024 (2568) → 149 (213) →</p> <p>1217 (1910) → 38 (59) →</p>	<p>#35 Margarita Rd / Murrieta Hot Springs Rd</p> <p>71 (38) → 1793 (1609) → 302 (273) →</p> <p>161 (51) → 750 (1752) → 462 (538) →</p>



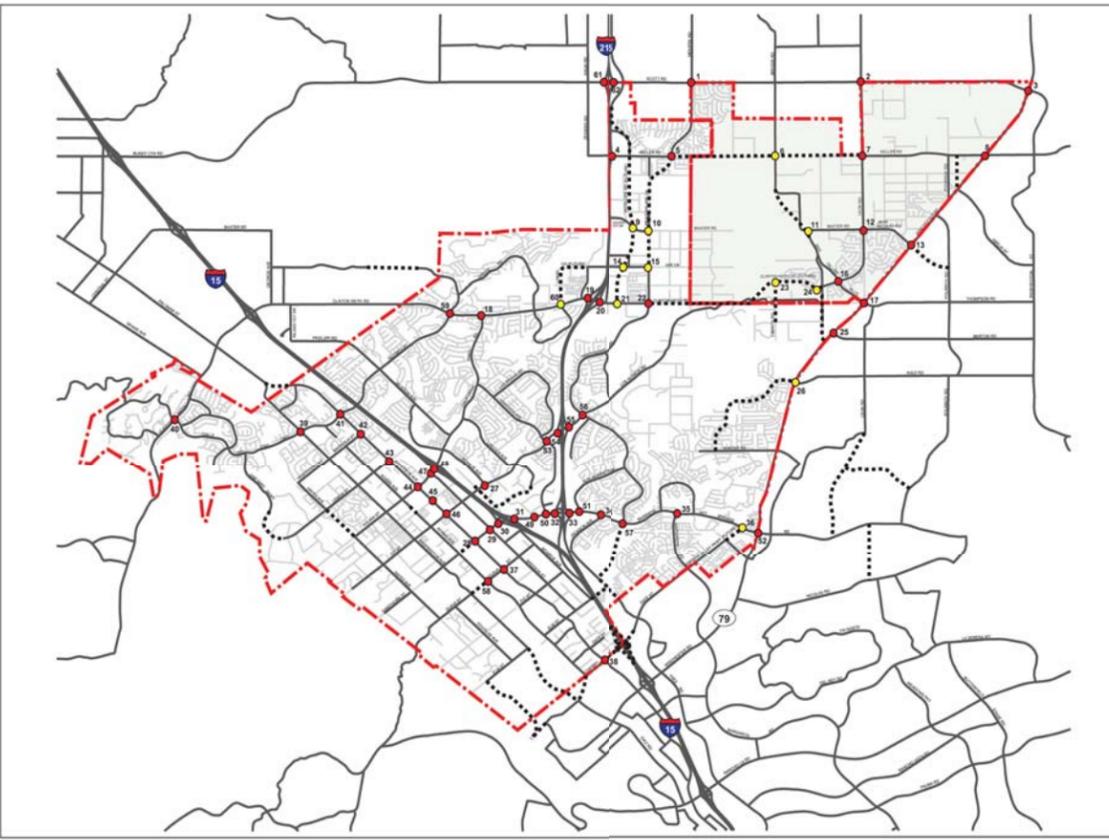


Back of 11 x 17 exhibit.



LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- ← 31/20 AM Peak Hr/PM Peak Hr



<p>#36 French Valley-Date St / Murrieta Hot Springs Rd</p> <p>← 2004 (1697) ← 805 (453)</p> <p>1182 (1808) → 269 (343) →</p> <p>↔ 829 (1110)</p>	<p>#37 Jefferson Ave / Guava St</p> <p>← 306 (349) ← 1420 (1174)</p> <p>176 (103) → 108 (86) → 89 (133) →</p> <p>↔ 10 (16) ↔ 32 (71) ↔ 2 (2)</p> <p>↔ 3 (10) ↔ 1363 (3281)</p>	<p>#38 Jefferson Ave / Chery St</p> <p>← 198 (198) ← 198 (198) ← 640 (226)</p> <p>48 (1060) → 6 (40) →</p> <p>↔ 893 (666) ↔ 1311 (793) ↔ 147 (122)</p> <p>↔ 1 (2) ↔ 196 (823) ↔ 86 (29)</p>	<p>#39 Washington Ave / Calle del Oso Oro - Nutmeg St</p> <p>← 88 (55) ← 88 (55) ← 812 (236)</p> <p>64 (28) → 602 (209) → 742 (276) →</p> <p>↔ 38 (163) ↔ 189 (635) ↔ 151 (164)</p> <p>↔ 126 (134) ↔ 164 (306) ↔ 262 (421)</p>	<p>#40 Clinton Keith Rd / Calle Del Oso Oro/Bear Creek Dr</p> <p>← 192 (91) ← 151 (91) ← 111 (91)</p> <p>269 (187) → 613 (520) → 172 (142) →</p> <p>↔ 19 (9) ↔ 598 (747) ↔ 420 (226)</p> <p>↔ 268 (208) ↔ 107 (179) ↔ 63 (80)</p>
<p>#41 Jefferson Ave / Nutmeg St</p> <p>← 69 (97) ← 887 (1155) ← 96 (103)</p> <p>93 (61) → 223 (133) → 509 (249) →</p> <p>↔ 67 (145) ↔ 171 (223) ↔ 366 (300)</p> <p>↔ 272 (377) ↔ 321 (1208) ↔ 181 (624)</p>	<p>#42 Jefferson Ave / Magnolia</p> <p>← 247 (106) ← 2543 (1571) ← 8 (01)</p> <p>158 (159) → 1 (5) → 155 (56) →</p> <p>↔ 1 (14) ↔ 3 (5) ↔ 27 (7)</p> <p>↔ 8 (11) ↔ 637 (2070) ↔ 81 (137)</p>	<p>#43 Jefferson Ave / Lemon St</p> <p>← 1001 (86) ← 596 (5) ← 272 (1)</p> <p>31 (42) → 3 (39) → 334 (270) →</p> <p>↔ 6 (13) ↔ 13 (21) ↔ 8 (16)</p> <p>↔ 28 (2) ↔ 733 (2124) ↔ 320 (418)</p>	<p>#44 Jefferson Ave / Kalmia St</p> <p>← 826 (170) ← 796 (203) ← 272 (170)</p> <p>55 (34) → 502 (658) → 349 (281) →</p> <p>↔ 556 (869) ↔ 355 (533) ↔ 223 (313)</p> <p>↔ 246 (951) ↔ 957 (1763) ↔ 281 (412)</p>	<p>#45 Jefferson Ave / Juniper St</p> <p>← 89 (89) ← 172 (202) ← 1 (7)</p> <p>137 (338) → 99 (90) → 188 (378) →</p> <p>↔ 22 (82) ↔ 101 (72) ↔ 7 (18)</p> <p>↔ 36 (67) ↔ 1298 (2787) ↔ 471 (192)</p>
<p>#46 Jefferson Ave / Ivy St/Los Alamos Rd</p> <p>← 72 (113) ← 1823 (1448) ← 327 (457)</p> <p>49 (90) → 95 (224) → 129 (187) →</p> <p>↔ 400 (494) ↔ 121 (274) ↔ 363 (259)</p> <p>↔ 111 (685) ↔ 1336 (2389) ↔ 259 (312)</p>	<p>#47 Madison Ave / Kalmia St</p> <p>Does Not Exist</p>	<p>#48 Madison Ave - I-15 SB Ramps / Kalmia St</p> <p>← 906 (676) ← 592 (15) ← 272 (6)</p> <p>1459 (2534) → 245 (265) →</p> <p>↔ 505 (614) ↔ 1139 (1505) ↔ 386 (265)</p> <p>↔ 219 (898) ↔ 119 (392)</p>	<p>#49 Monroe Ave / Murrieta Hot Springs Rd</p> <p>← 101 (101) ← 232 (7) ← 15 (5)</p> <p>101 (164) → 1156 (2579) → 34 (154) →</p> <p>↔ 21 (26) ↔ 1552 (2043) ↔ 7 (37)</p> <p>↔ 48 (199) ↔ 73 (236) ↔ 46 (178)</p>	<p>#50 Hancock Ave / Murrieta Hot Springs Rd</p> <p>← 866 (328) ← 626 (98) ← 96 (5)</p> <p>697 (755) → 1520 (3291) →</p> <p>↔ 566 (311) ↔ 2602 (2482)</p>
<p>#51 Alta Murrieta Dr / Murrieta Hot Springs Rd</p> <p>← 313 (493) ← 130 (128) ← 69 (51)</p> <p>258 (698) → 982 (1702) → 282 (518) →</p> <p>↔ 169 (153) ↔ 1871 (2320) ↔ 131 (173)</p> <p>↔ 19 (53) ↔ 82 (221) ↔ 221 (587)</p>	<p>#52 Winchester Rd (SR-79) / Murrieta Hot Springs Rd</p> <p>← 561 (1111) ← 222 (911) ← 191 (141)</p> <p>768 (1478) → 265 (1036) → 95 (280) →</p> <p>↔ 83 (99) ↔ 897 (754) ↔ 276 (244)</p> <p>↔ 155 (195) ↔ 1507 (1970) ↔ 288 (334)</p>	<p>#53 Hancock Ave / Los Alamos Rd</p> <p>← 499 (511) ← 564 (252) ← 92 (36)</p> <p>71 (105) → 969 (1967) → 72 (46) →</p> <p>↔ 614 (703) ↔ 1682 (1361) ↔ 916 (538)</p> <p>↔ 221 (871) ↔ 120 (438) ↔ 48 (124)</p>	<p>#54 I-215 SB Ramps / Los Alamos Rd</p> <p>← 153 (153) ← 504 (202) ← 202 (153)</p> <p>1419 (3121) → 478 (446) →</p> <p>↔ 1506 (1263) ↔ 220 (146)</p>	<p>#55 I-215 NB Ramps / Los Alamos Rd</p> <p>← 160 (331) ← 1185 (1182)</p> <p>591 (1589) → 1233 (1996) →</p> <p>↔ 377 (171) ↔ 550 (229)</p>
<p>#56 Whitewood Rd / Los Alamos Rd</p> <p>← 567 (567) ← 232 (678) ← 219 (232)</p> <p>823 (867) → 232 (361) → 109 (298) →</p> <p>↔ 34 (48) ↔ 241 (228) ↔ 48 (65)</p> <p>↔ 38 (34) ↔ 372 (582) ↔ 83 (139)</p>	<p>#57 Whitewood Rd / Murrieta Hot Springs Rd</p> <p>← 266 (232) ← 932 (362) ← 201 (201)</p> <p>32 (166) → 1001 (1645) → 132 (172) →</p> <p>↔ 166 (457) ↔ 2105 (2240) ↔ 514 (401)</p> <p>↔ 241 (629) ↔ 240 (314) ↔ 50 (434)</p>	<p>#58 Adams Ave / Guava St</p> <p>← 160 (160) ← 12 (63) ← 20 (40)</p> <p>23 (59) → 324 (243) → 46 (181) →</p> <p>↔ 108 (165) ↔ 258 (261) ↔ 3 (8)</p> <p>↔ 21 (27) ↔ 97 (222) ↔ 78 (37)</p>	<p>#59 Nutmeg St / Clinton Keith Rd</p> <p>← 81 (58) ← 524 (23) ← 95 (8)</p> <p>50 (92) → 2123 (1775) → 110 (61) →</p> <p>↔ 156 (380) ↔ 1317 (2056) ↔ 386 (552)</p> <p>↔ 484 (494) ↔ 41 (83) ↔ 67 (65)</p>	<p>#60 Mitchell Rd / Clinton Keith Rd</p> <p>← 806 (101) ← 96 (61) ← 96 (61)</p> <p>203 (135) → 2903 (3159) → 312 (18) →</p> <p>↔ 405 (395) ↔ 2088 (276) ↔ 78 (27)</p> <p>↔ 85 (19) ↔ 241 (134) ↔ 101 (16)</p>
<p>#61 I-215 SB Ramps / Scott Rd</p> <p>← 104 (261) ← 246 (160)</p> <p>1052 (756) → 385 (392) →</p> <p>↔ 384 (445) ↔ 866 (1529)</p>	<p>#62 I-215 NB Ramps / Scott Rd</p> <p>← 368 (652)</p> <p>156 (80) → 1199 (1012) →</p> <p>↔ 329 (395) ↔ 978 (1761)</p> <p>↔ 600 (963) ↔ 15 (7)</p>			



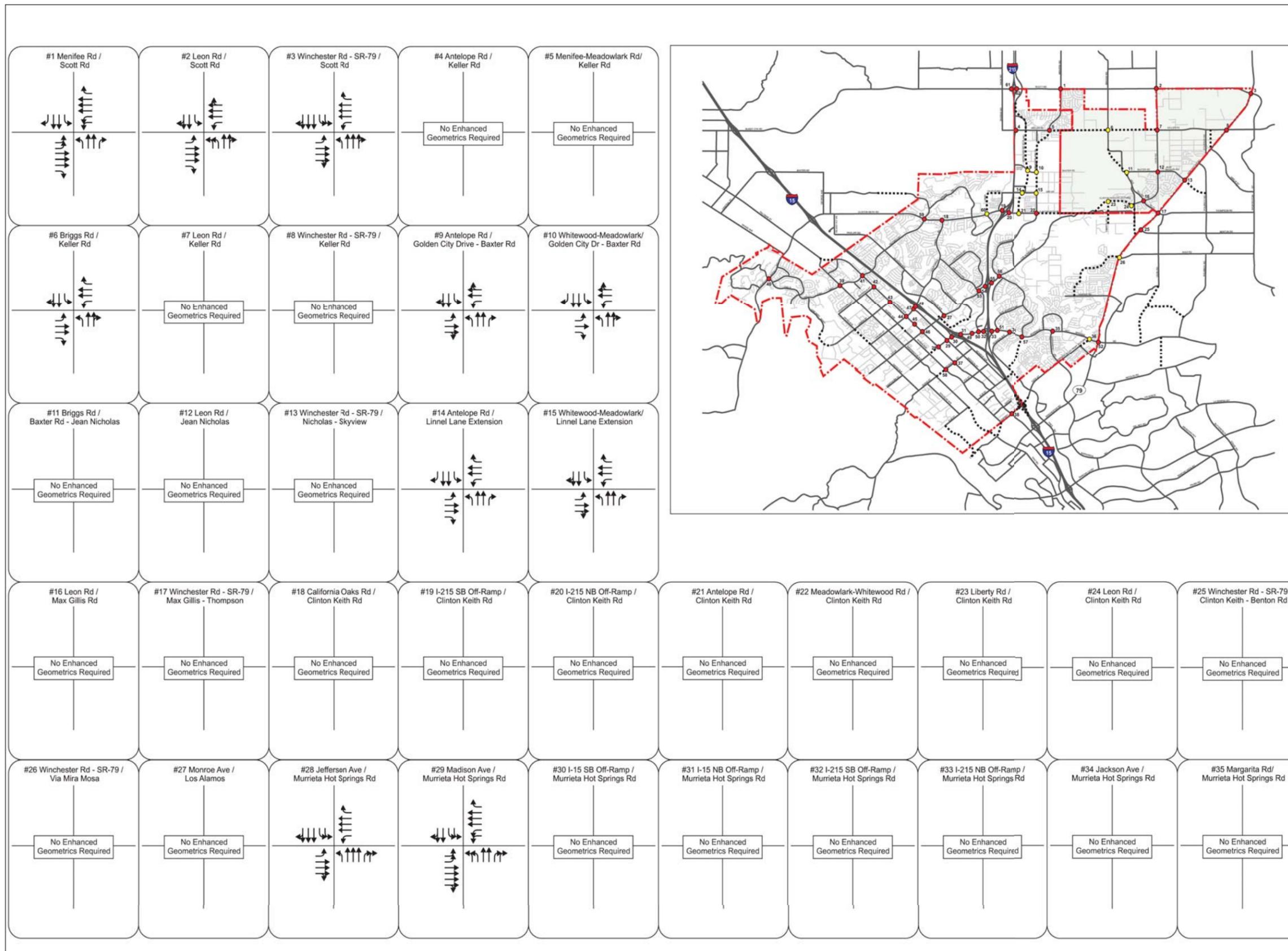


Back of 11 x 17 exhibit.



LEGEND

- Through Lane
- ↪ Turn Lane
- ↔ Shared Lane
- Assumed Lane Configuration



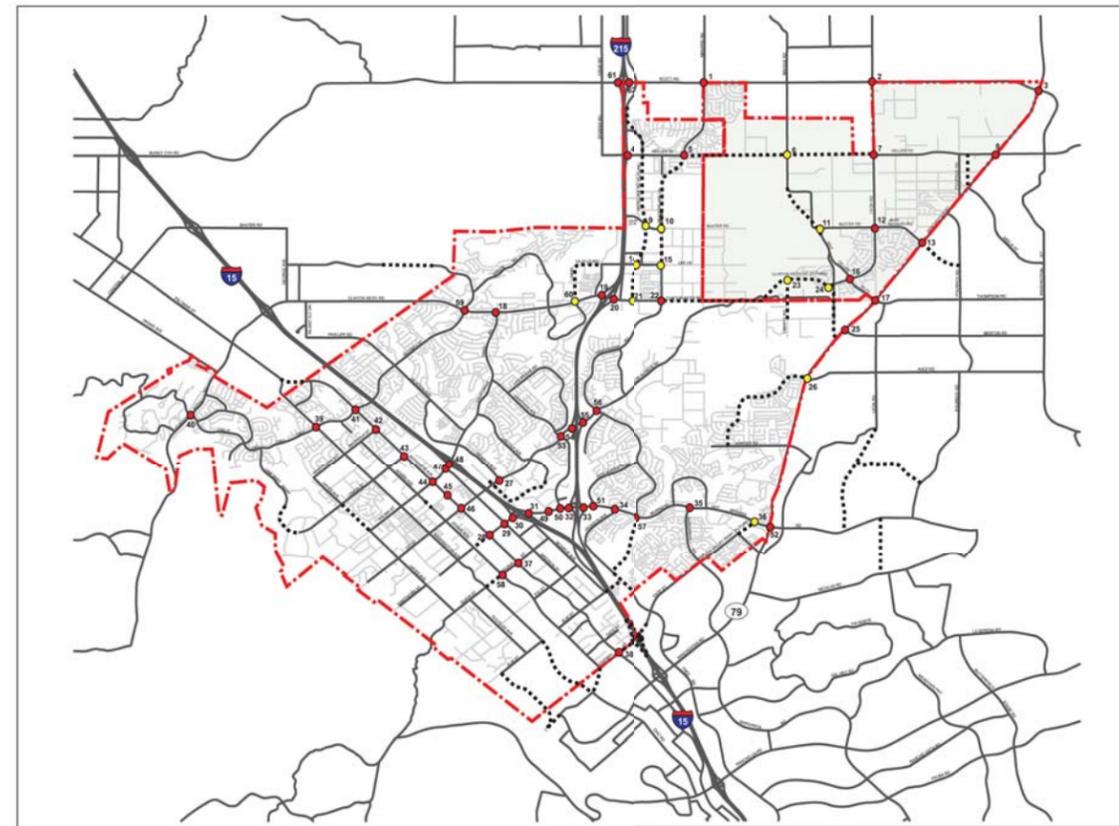


Back of 11 x 17 exhibit.



LEGEND

- Through Lane
- ↪ Turn Lane
- ↔ Shared Lane
- Assumed Lane Configuration



#36 French Valley-Date St / Murrieta Hot Springs Rd No Enhanced Geometrics Required	#37 Jefferson Ave / Guava St No Enhanced Geometrics Required	#38 Jefferson Ave / Cherry St No Enhanced Geometrics Required	#39 Washington Ave / Calle del Oso Oro - Nutmeg St No Enhanced Geometrics Required	#40 Clinton Keith Rd / Calle Del Oso Oro/Bear Creek Dr No Enhanced Geometrics Required					
#41 Jefferson Ave / Nutmeg St No Enhanced Geometrics Required	#42 Jefferson Ave / Magnolia No Enhanced Geometrics Required	#43 Jefferson Ave / Lemon St No Enhanced Geometrics Required	#44 Jefferson Ave / Kalmia St 	#45 Jefferson Ave / Juniper St No Enhanced Geometrics Required					
#46 Jefferson Ave / Ivy St/Los Alamos Rd 	#47 Madison Ave / Kalmia St Combined With Intersection #48	#48 Madison Ave - I-15 SB Ramps / Kalmia St No Enhanced Geometrics Required	#49 Monroe Ave / Murrieta Hot Springs Rd No Enhanced Geometrics Required	#50 Hancock Ave / Murrieta Hot Springs Rd No Enhanced Geometrics Required					
#51 Alta Murrieta Dr / Murrieta Hot Springs Rd No Enhanced Geometrics Required	#52 Winchester Rd (SR-79) / Murrieta Hot Springs Rd No Enhanced Geometrics Required	#53 Hancock Ave / Los Alamos Rd No Enhanced Geometrics Required	#54 I-215 SB Ramps / Los Alamos Rd No Enhanced Geometrics Required	#55 I-215 NB Ramps / Los Alamos Rd No Enhanced Geometrics Required	#56 Whitewood Rd / Los Alamos Rd No Enhanced Geometrics Required	#57 Whitewood Rd / Murrieta Hot Springs Rd 	#58 Adams Ave / Guava St No Enhanced Geometrics Required	#59 Nutmeg St / Clinton Keith Rd No Enhanced Geometrics Required	#60 Mitchell Rd / Clinton Keith Rd
#61 I-215 SB Ramps / Scott Rd No Enhanced Geometrics Required	#62 I-215 NB Ramps / Scott Rd No Enhanced Geometrics Required								





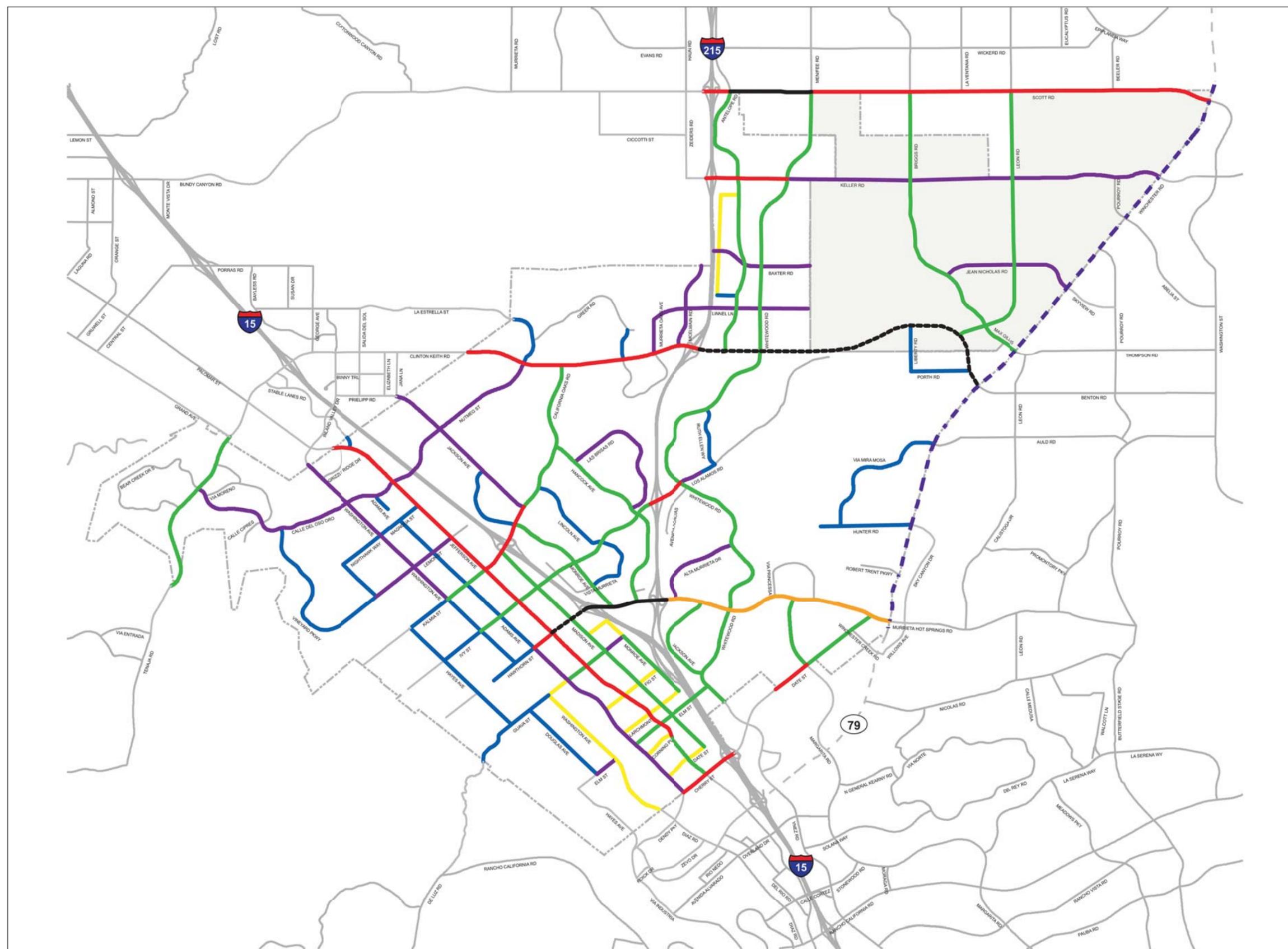
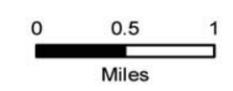
Back of 11 x 17 exhibit.



LEGEND

	* Curb to Curb / R/W
	County of Riverside Expressway 110' / 184'
	Augmented Urban Arterial 126' / 150'
	Multi-Modal Transp. Corridor 86' / 134'
	Urban Arterial 110' / 134'
	Arterial 86' / 110'
	Major 76' / 100'
	Secondary 64' / 88'
	Industrial Collector 56' / 78'
	Collector 44' / 66'
	Selected Roadways Shown for Clarity
	City of Murrieta Boundary
	Sphere of Influence

* Per City Standard Drawings





Back of 11 x 17 exhibit.



Intersections: Even with implementation of the enhanced geometrics, 16 intersections (Intersection 1, 3, 4, 9, 10, 18, 20, 22, 25, 28, 44, 52, 53, 54, 57, 59) are projected to operate at levels of service that do not meet the City’s standards, and thus result in a significant unavoidable significant impact (refer to Table 5.4-12). All other studied intersections would operate at acceptable levels of service.

Goals and Policies in the Proposed General Plan 2035:

CIRCULATION ELEMENT

Goal CIR-1 A circulation system that serves the internal circulation needs of the City, while also addressing the inter-community or through travel needs.

Policies

CIR-1.1 Ensure the transportation system can adequately serve the concentrations of population and employment activities identified by the Land Use Element.

CIR-1.2 Maintain a Level of Service “D” or better at all intersections during peak hours. Maintain a Level of Service “E” or better at freeway interchanges during peak hours.

CIR-1.3 Maintain an average daily traffic (ADT) Level of Service “C” or better for all roadway segments. As an exception, LOS “D” may be allowed in the North Murrieta Business Corridor, Clinton Keith/Mitchell, Golden Triangle North (Central Murrieta), South Murrieta Business Corridor, or the Multiple Use 3 Focus Areas, or other employment centers. LOS “D” may be allowed only at intersections of any combination of Secondary roadways, Major roadways, Urban Arterial roadways, Expressways, conventional state highways, or freeway ramps.

CIR-1.4 Continue to improve signal coordination and advanced traffic management systems at major intersections and along roadway corridors in order to optimize traffic flow through the City and reduce traffic queuing.

CIR-1.5 Maintain a set of street standards and require that all new road facilities be constructed or upgraded, where feasible, to meet City standards.

CIR-1.6 Coordinate with Caltrans to implement necessary improvements at intersections where the agencies have joint jurisdiction.

CIR-1.7 Evaluate the Circulation Element roadway plan on a regular basis using the City of Murrieta Traffic Model.

CIR-1.8 Identify and evaluate the major intersections requiring special design treatment to increase their vehicular capacity.



- CIR-1.9 Provide a coordinated traffic control system that moves traffic within and through the City in an efficient and orderly manner. Upgrade systems as technology evolves.
- CIR-1.10 Limit driveway and access on major arterial streets, where feasible, to maintain a desired quality of traffic flow.
- CIR-1.11 Support the implementation of complete streets through a multi-modal transportation network that balances the needs of pedestrians, bicyclists, transit riders, mobility-challenged persons, older people, children, and vehicles while providing sufficient mobility and abundant access options for existing and future users of the street system.
- CIR-1.12 Maintain an effective City truck route system to ensure that movement of truck traffic is accommodated by and confined to designated streets.
- CIR-1.13 Work with adjacent communities and regional agencies to identify appropriate systems for goods movement.
- CIR-1.14 Review current goods movement patterns and determine if possible restrictions on hours of truck traffic may reduce impacts to area streets.

Goal CIR-2 A comprehensive circulation system that promotes safety.

Policies

- CIR-2.1 Establish speed limits throughout the City that relate to the design and operating characteristics of roadways.
- CIR-2.2 Maintain an ongoing maintenance program to ensure the safety of the City’s roadway system.
- CIR-2.3 Provide a circulation network that accommodates the safe and efficient movement of all forms of non-motorized travel.
- CIR-2.4 Ensure roadway signage of adequate size to clearly convey street names or traffic control measures is installed and maintained.
- CIR-2.5 Include paved shoulders on all roads in non-urban areas that can be used by cyclists and pedestrians.
- CIR-2.6 Explore the use of traffic calming measures on streets with high incidences of speeding and/or history of collisions.



- CIR-2.7 Publish and promote safe pedestrian and bike routes through creating an accurate citywide map and posting pedestrian/cyclist-scale wayfinding signage.
 - CIR-2.8 Encourage driveway consolidation and the use of shared driveways in commercial areas.
 - CIR-2.9 Ensure new roadways and intersections provide adequate sight distances for safe vehicular movement.
 - CIR-2.10 Review and comment on school district Environmental Impact Reports (EIRs) to ensure proposed school circulation systems address traffic and pedestrian safety within and adjacent to the site.
 - CIR-2.11 Work with the school districts to incorporate a Safe Routes to Schools program and establish a task force for school siting (including school closures) and safe routes decisions such as public works, city, county, Caltrans, law enforcement, school staff, public health, community groups and others.
 - CIR-2.12 Consider the development and implementation of Pedestrian Safety Guidelines that also include streetscape standards that emphasize pedestrian and cyclist safety (lighting, trees, greenery, traffic calming measures, etc.).
 - CIR-2.13 Work with the Murrieta Valley Unified School District and other local school districts, neighborhood associations, HOAs, and Parent Teacher Associations (PTAs) to facilitate the creation of “walking school buses,” “bike trains”, carpools and crossing guards for Murrieta schools.
 - CIR-2.14 Ensure that efficient and safe access for emergency vehicles is provided to all development
- Goal CIR-3** Circulation systems that preserve the quality of residential neighborhoods.

Policies

- CIR-3.1 Enforce speed limits and other regulatory signs in those areas defined by the California Vehicle Code as residential neighborhoods.
- CIR-3.2 Review the design of all proposed new residential neighborhoods to ensure that “cut through” routes are minimized and pedestrian connections are maximized.
- CIR-3.3 Discourage the flow of truck traffic and through traffic in residential neighborhoods.



CIR-3.4 Consider the development and implementation of Traffic Calming Guidelines to address safety within residential neighborhoods.

CIR-3.5 Continue to utilize the Neighborhood Traffic Management Program to provide all residential, commercial, and industrial properties sufficient and safe access for every vehicle.

Goal CIR-4 Financing programs provide adequate funding for the City’s roadway system.

Policies

CIR-4.1 Identify and evaluate potential local revenue sources for financing roadway system development and improvement projects.

CIR-4.2 Pursue viable revenue sources to meet the roadway system funding needs from state, regional, and federal sources.

CIR-4.3 Pursue coordination of joint funding and development programs with adjacent cities and the County of Riverside for transportation related improvements in the Plan Area.

Goal CIR-5 A supported regional transportation system that serves existing and future travel between Murrieta and other population and employment centers within southwest Riverside County and the larger region, and that accommodates the regional travel needs of developing areas outside the City.

Policies

CIR-5.1 Coordinate with appropriate jurisdictions and agencies to encourage the timely improvement of roadway and transit facilities that address area-wide and regional travel needs, including the State Transportation Improvement Program (STIP), the Riverside County Integrated Project (RCIP), and the Community and Environmental Transportation Acceptability Process (CETAP).

CIR-5.2 Coordinate with adjacent jurisdictions on regional transportation planning efforts.

CIR-5.3 Coordinate with the Cities of Temecula, Wildomar, and Lake Elsinore to pursue funding for and preparation of a transportation plan for the Jefferson Avenue Corridor.

CIR-5.4 Actively pursue the construction of the French Valley Parkway connector system, south of the I-15/1-215 confluence in cooperation with Caltrans, the City of Temecula, Riverside County, and local developers.



- CIR-5.5 Actively pursue the construction of a new east-west corridor and interchange at Keller Road in cooperation with Caltrans, Riverside County, and local developers.
- CIR-5.6 Actively pursue the improvements to existing interchanges within the City and construction of new over-crossings, as identified in the Capital Improvements Program 2015, to achieve the adopted service level standards.
- CIR-5.7 Support the addition of capacity improvements, such as high occupancy vehicle lanes, general purpose lanes, or auxiliary lanes on I-15 and I-215.
- CIR-5.8 Participate in programs to mitigate regional traffic congestion.
- CIR-5.9 Coordinate with Western Riverside Council of Governments, Riverside County, and Riverside County Transportation Commission to identify, protect, and pursue opportunities for public transit along major transportation corridors, and future high speed rail service, which connect Murrieta to other population centers.
- CIR-5.10 Support the siting and development of a Metrolink Station(s) within Murrieta along the I-15 and/or I-215 corridors.
- CIR-5.11 Coordinate with California High Speed Rail Authority, Riverside Transit Authority, and City of Temecula on the siting and development of a California High Speed Rail Intermodal Transit Center.
- CIR-5.12 Continue to work with public transportation agencies to provide adequate levels of service to Murrieta citizens.
- CIR-5.13 Coordinate with adjacent jurisdictions regarding the planning and coordination of circulation improvements in the Sphere of Influence area.
- CIR-5.14 Encourage new large residential, commercial, or employment developments to locate on existing and planned transit routes.
- Goal CIR-6** Alternative travel modes and facilities are available to serve residents and employers/employees and reduce vehicle miles traveled.

Policies

- CIR-6.1 Encourage alternatives to single-occupancy vehicle transportation such as rail, public transit, paratransit, walking, cycling, and ridesharing.
- CIR-6.2 Support a variety of transit vehicle types and technologies to serve different transportation needs.



- CIR-6.3 Work with the Riverside Transit Agency, Murrieta Chamber of Commerce, and/or the City’s Economic Development Department to conduct a travel/commute survey with the intent of creating vanpools, carpools, and employment center shuttles to reduce single occupant vehicles.
- CIR-6.4 Seek opportunities for funding that goes to support alternative forms of transportation.
- CIR-6.5 Support the dedication and/or construction of appropriate facilities in support of a public transportation system.
- CIR-6.6 Identify opportunities to implement the Western Riverside County Non-Motorized Transportation Plan within key activity centers of the City through the development of non-motorized transportation corridors and facilities (i.e., neighborhood electric vehicle routes, bikeways, pedestrian paths, sidewalks/paths).
- CIR-6.7 Coordinate with the Riverside Transit Agency to provide fixed route transit service along transportation corridors connecting to employment and commercial areas, schools, health care facilities, and major recreation areas.
- CIR-6.8 Support the construction of bus turnouts with shelters adjacent to new developments where transit demand levels may be sufficient in the future to warrant such accommodations to maintain traffic flow and provide safe loading/unloading for bus passengers.
- CIR-6.9 Work with the Riverside Transit Agency to evaluate bus stops locations and amenities. Encourage the incorporation of transit amenities such as bus shelters and benches into existing and new bus stop locations.
- CIR-6.10 Provide for express transit service through implementation of park-and-ride facilities along regional transportation corridors.
- CIR-6.11 Encourage employer-based incentive programs for use of public transit and improve awareness of such programs.
- CIR-6.12 Increase public education about public transit options.
- CIR-6.13 Continue to require new development to submit a Trip Reduction Plan, if applicable, in compliance with the Transportation Demand Management Ordinance.



CIR-6.14 Encourage employers to provide employee incentives for utilizing alternatives to the automobile (i.e., carpools, vanpools, buses, flex time, telecommuting, bicycling, and walking, etc.).

Goal CIR-7 Residential areas and activity centers are accessible to all pedestrians, including persons with disabilities or having special accessibility needs.

Policies

CIR-7.1 Encourage future developments to provide an internal system of sidewalks/pathways linking schools, shopping centers, and other public facilities with residences.

CIR-7.2 Require pedestrian access from the interior of new residential areas to public transit stops.

CIR-7.3 Encourage safe pedestrian walkways and ensure compliance with the Americans with Disabilities Act (ADA) requirements within all developments.

CIR-7.4 Consider the development and implementation of Pedestrian Friendly Street Standards.

CIR-7.5 Provide pedestrian amenities such as benches, trees, landscaping, and shade trees to encourage people to walk to destinations.

CIR-7.6 Promote improved demand responsive transit services for elderly and disabled persons.

CIR-7.7 Ensure visibility and access for pedestrians and encourage the removal of barriers (walls, fences) to allow for safe and convenient movement.

CIR-7.8 Work with Riverside County Transportation Commission, local retirement homes, the Senior Center, and other community groups to expand affordable and reliable transportation options for older adults and disabled persons.

Goal CIR-8 Development, expansion, and maintenance of a network of bicycle, pedestrian, and multi-use trails that allows residents to travel between parks, schools, neighborhoods, and other major destinations without driving.

Policies

CIR-8.1 Create, update, and implement a master plan for non-motorized travel throughout the City, including multi-use trails, off-street paved bikeways, on-street bikeways, and related amenities.



- CIR-8.2 Promote bicycle and pedestrian trails along major home to work and other travel routes.
- CIR-8.3 Consider roadway design guidelines for new development and for capital improvement plans that enhance bicycle and pedestrian connectivity and safety.
- CIR-8.4 Consider that 6- to 8-lane arterial roads provide a 5- to 6-foot-wide tree buffer (parkway) between pedestrians and through traffic.
- CIR-8.5 Separate multi-use trails from roadways where feasible, or design multi-use trail crossing to occur at controlled intersections.
- CIR-8.6 Establish guidelines for new development projects to include multi-use trails that connect to schools, parks, Historic Downtown, and other neighborhoods in the community.
- CIR-8.7 Review and pursue opportunities to develop a trail head from the Murrieta Equestrian Park to the Santa Rosa Plateau and other adjacent areas.
- CIR-8.8 When different uses are developed adjacent to each other – such as new commercial adjacent to new residential – require them to provide high-quality pedestrian amenities and connections between each other to the greatest degree possible.
- CIR-8.9 Create cyclist and pedestrian connections through cul-de-sacs and across other barriers, connecting neighborhoods with each other and the citywide trail system. When feasible, consider purchasing easements across private land for priority pedestrian connections.
- CIR-8.10 Work with adjacent property owners to create an interconnected trail that extends along the public right-of-way, which will benefit business by increasing exposure and access, and benefit the community through encouraging fitness, improved access, and a connected community.
- CIR-8.11 Coordinate the location of multi-use trails to connect with regional trail systems, where feasible.
- CIR-8.12 Pursue funding or grant opportunities to plan, construct, and maintain pedestrian, bicycle, and multi-use trails.
- CIR-8.13 Maintain a map or maps of current bikeways and multi-use trails, and make the map(s) available to the public.



- CIR-8.14 Partner with schools, employers, and community groups to teach bicycle and pedestrian safety in schools and workplaces and to educate residents about the benefits of walking and bicycling.
- CIR-8.15 Consider changing the name of the “Traffic Commission” to the “Transportation Commission,” and revise its scope to explicitly address all forms of transportation including automobile, bicycle, pedestrian, public transportation, and ADA enhancements.

LAND USE ELEMENT

Goal LU-3 Stable, well-maintained residential neighborhoods in Murrieta.

Policies

LU-3.2 Protect residential areas from the effects of potentially incompatible uses. Where new commercial or industrial development is allowed adjacent to residentially zoned districts, establish and/or maintain standards for circulation, noise, setbacks, buffer areas, landscaping and architecture, which ensure compatibility between the uses.

Goal LU-23 A circulation system that provides adequate access for all property owners in the Los Alamos Hills area.

Policies

LU-23.1 Support the development of a circulation plan and road standards for the existing and proposed road system within the Los Alamos Hills area that reflects the land uses and development intensity within a Specific Plan.

LU-23.2 Explore the use of traffic calming measures, as appropriate.

AIR QUALITY ELEMENT

Goal AQ-5 Air quality is improved through an efficient circulation system, reduced traffic congestion, and reduced vehicle miles traveled.

Policies

AQ-5.1 Encourage employers to implement transportation demand management (TDM) measures, such as the following programs to reduce trips and vehicle miles traveled:



- Transit subsidies
- Bicycle facilities
- Alternative work schedules
- Ridesharing
- Telecommuting and work-at-home programs
- Employee education
- Preferential parking for carpools/vanpools

- AQ-5.2 Re-designate truck routes away from sensitive land uses including schools, hospitals, elder and childcare facilities, or residences, where feasible.
- AQ-5.3 Promote use of fuel-efficient and low-emissions vehicles, including Neighborhood Electric Vehicles.
- AQ-5.4 Encourage the use of lowest emission technology buses in public transit fleets.
- AQ-5.5 Provide a preference to contractors using reduced emission equipment for City construction projects as well as for City contracts for services (e.g., garbage collection).
- AQ-5.6 Manage the municipal vehicle fleet to achieve the highest possible number of fuel-efficient and low emissions vehicles commercially available.
- AQ-5.7 Reduce industrial truck idling by enforcing California’s five (5) minute maximum law, requiring warehouse and distribution facilities to provide adequate on site truck parking, and requiring refrigerated warehouses to provide generators for refrigerated trucks.

NOISE ELEMENT

Goal N-3 Noise from mobile noise sources is minimized.

Policies

N-3.4 Enforce the use of truck routes to limit unnecessary truck traffic in residential and commercial areas. Consider requiring traffic plans for construction projects and new commercial and industrial uses.

SAFETY ELEMENT

Goal SAF-11 Design of the physical environment promotes community safety and reduces opportunities for criminal activity.



Policies

SAF-11.1 Involve the Police Department in the development review process to address safety concerns, access issues, and potential traffic conflicts, and identify opportunities to apply CPTED principles.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are available.

Level of Significance After Mitigation:

Roadway Segments. Significant Unavoidable Impact for the roadway segments identified as LOS D, E, or F on *Exhibit 5.4-14*. Less Than Significant Impact for the roadway segments identified as LOS A, B, or C on *Exhibit 5.4-14*.

Intersections. Significant Unavoidable Impacts for Intersections 1, 3, 4, 9, 10, 18, 20, 22, 25, 28, 44, 52, 53, 54, 57, 59 (refer to *Table 5.4-12*). Less Than Significant Impact for all other studied intersections.

CONGESTION MANAGEMENT PROGRAM

■ **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN CONFLICTS WITH THE RIVERSIDE COUNTY CONGESTION MANAGEMENT PROGRAM.**

Level of Significance Before Mitigation: No Impact.

Impact Analysis: The CMP is directly linked to transportation issues, with requirements that all new developments mitigate their traffic impacts on the surrounding street system. The CMP includes issues such as LOS standards, coordination with other jurisdictions, TDM ordinances and application, monitoring conditions, and mitigation of impacts.

CMP facilities within the City of Murrieta are I-15, I-215, and SR-79. A CMP analysis was not required for the proposed General Plan 2035 as the City requirements for a traffic study exceed the CMP requirements and the proposed project met the City requirements. Furthermore, the CMP for Riverside County does not address specific intersections. Therefore, no impacts would occur in this regard.

Goals and Policies in the Proposed General Plan 2035: Refer to the goals and policies referenced above in this Section 5.4.



Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

Level of Significance After Mitigation: Not Applicable.

DESIGN FEATURES OR INCOMPATIBLE USES

■ IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN INADEQUATE DESIGN FEATURES OR INCOMPATIBLE USES.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed General Plan 2035 would result in the development of new residential and non-residential land uses. However, it is not anticipated that development of new uses would result in inadequate design features or incompatible uses. Through the City’s development review process, future developments would be evaluated to determine the appropriate land use permit for authorizing their use and the conditions for their establishment and operation. Additionally, future development projects would be evaluated on a case-by-case basis to ensure that adequate access and circulation to and within the development would be provided. Access to development sites would be required to comply with all City design standards and would be reviewed by the City and the Murrieta Fire Department to ensure that inadequate design features or incompatible uses do not occur. The City and the Murrieta Fire Department would review future development in order to ensure that they are designed to meet adopted standards and provide adequate emergency access. At a minimum, compliance with relevant Code standards would be required.

Therefore, implementation of the proposed General Plan 2035 would not substantially increase hazards due to design feature or incompatible uses. A less than significant impact would occur in this regard. The proposed General Plan 2035 includes goals and policies to ensure that new development, including infrastructure would not result in incompatible uses. Additionally, goals and policies would ensure that the street system is designed efficiently to reduce potential impacts to residential neighborhoods and that potential impacts associated with various transportation modes utilizing the same roadway system would be reduced to less than significant levels.

Goals and Policies in the Proposed General Plan 2035: Refer to the goals and policies referenced above in this Section 5.4.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.



Level of Significance After Mitigation: Not Applicable.

EMERGENCY ACCESS

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN INADEQUATE EMERGENCY ACCESS.**

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis: Future development projects would be required to comply with the City's development review process including review for compliance with the City's *Development Code*. New developments associated with implementation of the proposed General Plan 2035 would be required to comply with all applicable fire code and ordinance requirements for construction and access to the site. Individual projects would be reviewed by the Murrieta Fire Department to determine the specific fire requirements applicable to the specific development and to ensure compliance with these requirements. This would ensure that new developments would provide adequate emergency access to and from the site. Further, the City and the Murrieta Fire Department would review any modifications to existing roadways to ensure that adequate emergency access or emergency response would be maintained. Additionally, emergency response and evacuation procedures would be coordinated through the City in coordination with the police and fire departments, resulting in less than significant impacts.

Goals and Policies in the Proposed General Plan 2035: Refer to the goals and policies referenced above in this Section 5.4.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

Level of Significance After Mitigation: Not Applicable.

PEDESTRIAN AND TRANSIT FACILITIES

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD CONFLICT WITH THE PERFORMANCE OF EXISTING AND/OR PLANNED TRANSIT SYSTEMS SERVING THE AREA AND/OR CONFLICT WITH ADOPTED TRANSIT, BICYCLE, OR PEDESTRIAN POLICIES, PLANS, OR PROGRAMS.**

Level of Significance Before Mitigation: Less Than Significant Impact.



Impact Analysis: Public transit in the City of Murrieta is currently provided by RTA. The RTA currently offers five fixed bus routes in the City of Murrieta with a variety of fare options for passengers including base fares, day passes, 7-day passes, and 30-day passes; refer to *Exhibit 5.4-10*. In addition to fixed and commuter bus services, the City of Murrieta also offers a Dial-A-Ride (DAR) service. The existing circulation system includes pedestrian facilities such as sidewalks near businesses, schools, parks, and major retail facilities. However, City streets are generally not equipped with designated bicycle facilities.

The proposed General Plan 2035 establishes a Land Use Policy Map as well as supportive goals and policies to encourage increased development within key Focus Areas (areas of land use and policy change). Development associated with Implementation of the proposed General Plan 2035 would increase the City’s population, potentially increasing the demand for transit systems, as well as pedestrian facilities. The proposed General Plan 2035 encourages increased use of transit systems and increased pedestrian activity within the Focus Areas and establishes goals and policies to ensure that adequate facilities are provided to serve the needs of the community. A key focus of the proposed General Plan 2035 is to improve pedestrian amenities, walkability, and connectivity between uses, as well as to encourage alternative modes of transportation including a variety of transit options. The proposed General Plan 2035 would not conflict with the performance of transit systems within the area or with adopted plans or programs related to pedestrian and transit facilities. Impacts would be less than significant in this regard.

Goals and Policies in the Proposed General Plan 2035: Refer to the goals and policies referenced above in this Section 5.4.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

Level of Significance After Mitigation: Not Applicable.

5.4.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- **DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 AND CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE TRAFFIC AND CIRCULATION IMPACTS.**

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis: Cumulative traffic impacts are analyzed in terms of impacts within the City of Murrieta and impacts to the traffic system in neighboring communities. The Circulation



Element of the proposed General Plan 2035 considers the impacts of traffic traveling through and within the City of Murrieta. As discussed, traffic volumes used were developed through the use of a travel demand model, which is specific to the City of Murrieta, and consistent with the RivTAM, and SCAG travel demand model. The development of the Murrieta Model is based on the Year 2008 RivTAM in TransCAD platform. The Murrieta Model covers all of the six counties in the SCAG region. New zone structure with 925 zones was designed to detail the Murrieta area and to aggregate a set of zones outside of the area. The model roadway network within the City and the Sphere of Influence was expanded to include roadways classified as Collector and above, as shown in the City of Murrieta General Plan Circulation Element.

The structure of the Murrieta Model is consistent with the RivTAM model to ensure the compatibility between the two models. Building on RivTAM also minimizes the time and effort needed to maintain and update the Murrieta Model as new elements of the RivTAM model are put into the model job stream. Specifically, the model consists of traditional four step modeling process including trip generation, trip distribution, mode split, and traffic assignment. Two model scenarios were included in the Murrieta Model, namely the base year 2009 and the forecast year 2035. Given the updated zone structure, corresponding modifications regarding the input data tables and matrices in the four steps were conducted for both of the model scenarios. The validation for base year 2009 was followed to ensure the results match with the both RivTAM model and traffic counts. The validated model was then used to forecast future volumes for the different scenarios. Peak hour turning model volumes were developed for study intersections using NCHRP methodology.

Development associated with buildout of the proposed General Plan 2035 would involve an increase in residential development and non-residential development. Increased development would result in study intersections operating at a deficient LOS based on the City's performance criteria. As indicated above in [Table 5.4-13](#), 18 intersections are projected to operate at levels of service that do not meet the City's standards. After enhanced geometrics are applied to the intersections under the recommended scenario, 16 intersections are projected to still operate at levels of service that do not meet the City's standards, and thus have a significant impact. Further, roadway segments would also operate at a deficient LOS, since they do not meet the City of Murrieta Standards even with the implementation of the recommended intersection improvements previously described as Roadway Improvements in the first impact discussion under Proposed General Plan 2035 Traffic Operations section above. Therefore, buildout of the proposed General Plan 2035 would result in cumulatively considerable traffic and circulation impacts.

Goals and Policies in the Proposed General Plan 2035: Refer to the goals and policies referenced above in this Section 5.4.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are available.



Level of Significance After Mitigation:

Roadway Segments. Significant Unavoidable Impact for the roadway segments identified as LOS D, E, or F on Exhibit 5.4-14. Less Than Significant Impact for the roadway segments identified as LOS A, B, or C on Exhibit 5.4-14.

Intersections. Significant Unavoidable Impacts for Intersections 1, 3, 4, 9, 10, 18, 20, 22, 25, 28, 44, 52, 53, 54, 57, 59 (refer to Table 5.4-12). Less Than Significant Impact for all other studied intersections.

5.4.6 SIGNIFICANT UNAVOIDABLE IMPACTS

The proposed General Plan 2035 would result in a significant unavoidable impact for the following areas for both project and cumulative impacts:

Roadway Segments. Even with installation of the recommended improvements, implementation of the proposed General Plan 2035 would result in unacceptable levels of service on the roadway segments shown as LOS D in green, LOS E in yellow, and LOS F in red on Exhibit 5.4-14. Thus, impacts are concluded to be significant unavoidable impacts for the roadway segments shown as LOS D, LOS E, and LOS F on Exhibit 5.4-14.

Intersections. Even with implementation of the enhanced geometrics, the following 16 intersections are projected to operate at levels of service that do not meet the City's standards, and thus result in a significant unavoidable significant impact.

- Intersection 1: Menifee Rd / Scott Rd
- Intersection 3: Winchester Road – SR-79 / Scott Road
- Intersection 4: Antelope Road / Keller Road
- Intersection 9: Antelope Road / Golden City Drive – Baxter Road
- Intersection 10: Whitewood – Meadowlark / Golden City Dr – Baxter Road
- Intersection 18: California Oaks Road / Clinton Keith Road
- Intersection 20: I-215 NB Off-Ramp / Clinton Keith Road
- Intersection 22: Meadowlark – Whitewood Road / Clinton Keith Road
- Intersection 25: Winchester Road – SR-79 / Clinton Keith Road – Benton Road
- Intersection 28: Jefferson Avenue / Murrieta Hot Springs Road
- Intersection 44: Jefferson Avenue / Kalmia St
- Intersection 52: Winchester Road (SR-79) / Murrieta Hot Springs Road
- Intersection 53: Hancock Avenue / Los Alamos Road
- Intersection 54: I-215 SB Ramps / Los Alamos Road
- Intersection 57: Whitewood Road / Murrieta Hot Springs Road
- Intersection 59: Nutmeg St / Clinton Keith Road



All other traffic and circulation impacts associated with implementation of the proposed General Plan 2035 would be less than significant by adherence to and/or compliance with goals and policies in the proposed General Plan 2035.

If the City of Murrieta approves the proposed General Plan 2035, the City shall be required to cite their findings in accordance with *CEQA Guidelines* Section 15091 and prepare a Statement of Overriding Considerations in accordance with *CEQA Guidelines* Section 15093.

5.4.7 SOURCES CITED

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

City of Murrieta General Plan, prepared by EIP Associates, June 21, 1994.

City of Murrieta, *City of Murrieta Municipal Code*, adopted 1995.

Iteris, *Traffic Impact Analysis*, September 8, 2011.

Janet L. Harvey, Iteris, email correspondence, January 19, 2011.



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