



Appendix C Traffic Impact Analysis



City of Rancho Santa Margarita General Plan TRAFFIC IMPACT ANALYSIS

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TABLE OF CONTENTS

TABLE OF CONTENTS	III
LIST OF EXHIBITS	IV
LIST OF TABLES	IV
LIST OF ABBREVIATED TERMS.....	V
1 REGULATORY SETTING.....	7
1.1 California Assembly Bill 32 (2006) and Senate Bill 375 (2008)	7
1.2 AB 1358 California Complete Streets Act of 2008	7
1.3 Senate Bill 743.....	8
1.4 Regional Transportation Plan/Sustainable Communities Strategy.....	8
1.5 Orange County Congestion Management Program.....	9
1.6 Orange County Master Plan of Arterial Highways	9
1.7 OCTA Commuter Bikeways Strategic Plan	9
1.8 Orange County Sustainable Communities Strategy	9
2 EXISTING CONDITIONS	15
2.1 Roadway Network.....	15
2.2 Bike Network.....	23
2.3 Trail Network	24
2.4 Bus Service Network	24
2.5 Existing Roadway Segment Average Daily Traffic (ADT)	24
2.6 Roadway Segment Capacity Analysis.....	35
2.7 Existing Vehicle Miles Traveled.....	39
2.8 Parking	40
3 FUTURE TRAFFIC CONDITIONS	41
3.1 OCTAM Traffic Forecasts.....	41
3.2 Future Average Daily Traffic Volumes.....	41
3.3 Future Roadway Segment Capacity Analysis	41
3.4 Future Vehicle Miles Traveled	50
4 REFERENCES.....	51

LIST OF EXHIBITS

EXHIBIT 1-1: OCTA MASTER PLAN OF ARTERIAL HIGHWAYS (MPAH)	11
EXHIBIT 1-2: OCTA COMMUTER BIKEWAYS STRATEGIC PLAN (CBSP)	13
EXHIBIT 2-1: KEY DESTINATIONS	17
EXHIBIT 2-2: CITY OF RANCHO SANTA MARGARITA GENERAL PLAN ROADWAY NETWORK	19
EXHIBIT 2-3: CITY OF RANCHO SANTA MARGARITA TYPICAL ROADWAY CROSS-SECTIONS	21
EXHIBIT 2-4: CITY OF RANCHO SANTA MARGARITA GENERAL PLAN BICYCLE FACILITIES	25
EXHIBIT 2-5: CITY OF RANCHO SANTA MARGARITA GENERAL PLAN TRAIL NETWORK	27
EXHIBIT 2-6: CITY OF RANCHO SANTA MARGARITA OCTA BUS SERVICE	29
EXHIBIT 2-7: EXISTING (2016) AVERAGE DAILY TRAFFIC (ADT)	31
EXHIBIT 2-8: EXISTING (2016) TRAFFIC FLOW MAP	33
EXHIBIT 3-1: FUTURE AVERAGE DAILY TRAFFIC VOLUMES	45

LIST OF TABLES

TABLE 2-1: ROADWAY NETWORK CLASSIFICATION FEATURES	22
TABLE 2-2: ROADWAY SEGMENT VEHICLE CAPACITY THRESHOLDS	35
TABLE 2-3: EXISTING (2016) ROADWAY SEGMENT CAPACITY ANALYSIS	36
TABLE 2-4: EXISTING VEHICLE MILES TRAVELLED	40
TABLE 3-1: FUTURE AVERAGE DAILY TRAFFIC VOLUMES	42
TABLE 3-2: FUTURE ROADWAY SEGMENT CAPACITY ANALYSIS	47
TABLE 3-3: FUTURE VEHICLE MILES TRAVELLED (VMT)	50

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ATP	Active Transportation Plan
CAMUTCD	California Manual on Uniform Traffic Control Devices
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSF	Commuter Bikeways Strategic Plan
CDR	Center for Demographic Research
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CMP	Congestion Management Program
CVC	California Vehicle Code
GHG	Green House Gas
HOA	Homeowner's Association
LOS	Level of Service
MPAH	Master Plan of Arterial Highways
MPO	Metropolitan Planning Organizations
mph	Miles Per Hour
NAAQS	National Ambient Air Quality Standards
OCCOG	Orange County Council of Governments
OCSCS	Orange County Sustainable Community Strategy
OCTAM	Orange County Transportation Analysis Model
OPR	Governor's Office of Planning and Research
RTP	Regional Transportation Plan
SCS	Sustainable Communities Strategy
SCAG	Southern California Association of Governments
TCA	Transportation Corridor Agencies
TDM	Transportation Demand Management
VMT	Vehicle Miles Travelled

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1 REGULATORY SETTING

Much of the transportation system in the City of Rancho Santa Margarita is owned and controlled by the City, such as the local, collector, and arterial street system, and most of the traffic signals. As a planned community, the City includes several private homeowner's associations (HOA). These large and small HOA's maintain their own private facilities including a network of private roads.

Some of the facilities, however, are owned and controlled by other agencies, including the California Department of Transportation (Caltrans) or shared with other jurisdictions, such as the City of Mission Viejo. 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 several agencies including the City, the County of Orange, OCTA, and Caltrans through an agreement with the Transportation Corridor Agencies (TCA). This section provides a brief overview of local and regional transportation planning and programming, and how it affects the City of Rancho Santa Margarita.

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

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

1.2 AB 1358 CALIFORNIA COMPLETE STREETS ACT OF 2008

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

"...commencing January 1, 2011, that the legislative body of a city or county, upon any substantive revision of the circulation element of a general plan, modify the circulation element to plan for a balanced, multi-modal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and

users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan.”

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

1.3 SENATE BILL 743

Senate Bill 743 (SB 743) creates a process to change the way that transportation impacts are analyzed under the California Environmental Quality Act (CEQA). Specifically, SB 743 requires the Governor’s Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” Measurements of transportation impacts may include “vehicle miles traveled (VMT), vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.”

In the areas where SB 743 is implemented, delay-based metrics such as roadway capacity and LOS will no longer be the performance measures used for the determination of the transportation impacts of projects in studies conducted under the CEQA. Instead, new performance measures such as VMT or other similar measures will be used.

1.4 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

On April 7, 2016, the Regional Council of the Southern California Association of Governments (SCAG) adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The Plan charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably.

The RTP/SCS identifies several themes that resonate throughout the document including: integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increasing capacity through improved systems management; giving people more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the link among public health, environmental protection and economic opportunity; and building a plan based on the principle of social equity and environmental justice. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the National Ambient Air Quality Standards (NAAQS) as set forth by the Federal Clean Air Act. As such, the RTP/SCS contains a regional

commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2020–2040 timeframe and clear steps to move toward this objective.

1.5 ORANGE COUNTY CONGESTION MANAGEMENT PROGRAM

The current version of the Orange County Congestion Management Program (CMP) was prepared by OCTA in October 2017. The goals of Orange County’s CMP are to support regional mobility objectives by reducing traffic congestion; providing a mechanism to coordinate land use and development decisions that support the regional economy; and determining gas tax fund eligibility. All freeways and selected arterial roadways in the County are designated elements of the CMP system of highways and roadways.

1.6 ORANGE COUNTY MASTER PLAN OF ARTERIAL HIGHWAYS

The Orange County Master Plan of Arterial Highways (MPAH) provides a countywide transportation framework that is maintained by OCTA. The MPAH was established to ensure that the regional arterial highway network would be planned, developed, and preserved. As the administrator of the MPAH, OCTA is responsible for maintaining the integrity of the MPAH system through its coordination with cities and the County, and determinations of cities’ and County consistency with the MPAH.

Exhibit 1-1 presents the current 2017 Master Plan of Arterial Highways, MPAH network in Rancho Santa Margarita, which was derived from the MPAH map published July 14, 2017. The MPAH classifications shown on Exhibit 1-1 are a statement of policy intended to reserve adequate rights of way for future improvements. To aid in establishing consistency among plans, all jurisdictions are encouraged to use common land use assumptions and travel demand projections. OCTA facilitates the use of these common assumptions through administration of Orange County Transportation Analysis Model (OCTAM).

1.7 OCTA COMMUTER BIKEWAYS STRATEGIC PLAN

The 2009 Commuter Bikeways Strategic Plan (CBSP), developed by OCTA, encourages the enhancement of Orange County’s regional bikeways network in order to make bicycle commuting a more viable and attractive option. OCTA’s action plan includes improving the regional bikeway network (funding, encouraging, and supporting where possible), external coordination (maintaining the Plan, facilitating coordination), internal coordination, and addressing regional priorities. The plan is financially unconstrained, so it is the responsibility of each implementing agency to identify funding sources for the projects within their purview. Exhibit 1-2 presents the, 2009 OCTA Commuter Bikeways Strategic Plan.

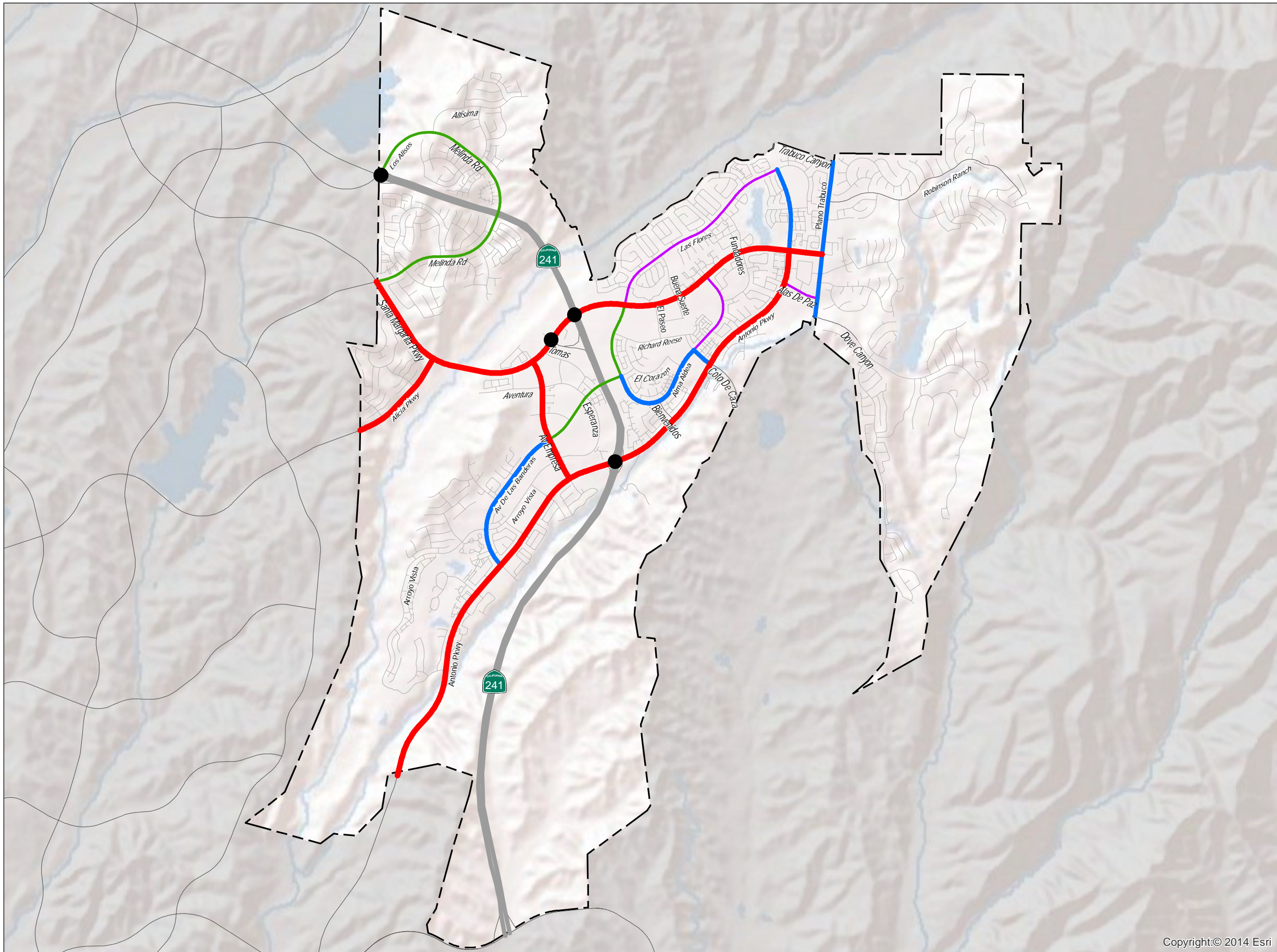
1.8 ORANGE COUNTY SUSTAINABLE COMMUNITIES STRATEGY

Although SCAG is responsible for developing the SCS for the SCAG Region, SB 375 also allows for a subregional council of governments and county transportation commission to work together to propose a subregional SCS. As one of these subregions, Orange County has prepared its own

subregional SCS (OCSCS). The OCSCS was prepared in 2016 by the Orange County Council of Governments (OCCOG) and OCTA, in collaboration with multiple Orange County stakeholders including city agencies, the County of Orange, County special districts, the Center for Demographic Research (CDR), Caltrans, and TCA.

The OCSCS begins with the setting of current population, housing, and employment in Orange County, and then describes projected long-term trends for these socio-economic variables. The resulting assessment is that most of Orange County's projected growth of population, housing, and employment will occur near existing and future job centers, which will positively impact transportation patterns and, therefore, be beneficial to GHG emission reductions.

Because of the interconnectedness between Orange County's population, housing, and employment and the transportation systems that support them, the OCSCS also delineates the foundational transportation systems that currently exist in Orange County. Transportation systems described include freeways, arterial streets and local roads, rail and bus transit, bikeways, and demand responsive services and transportation demand management (TDM).



Legend

- Freeway
- Major
- Primary
- Secondary
- Collector
- Existing Interchange

Classification

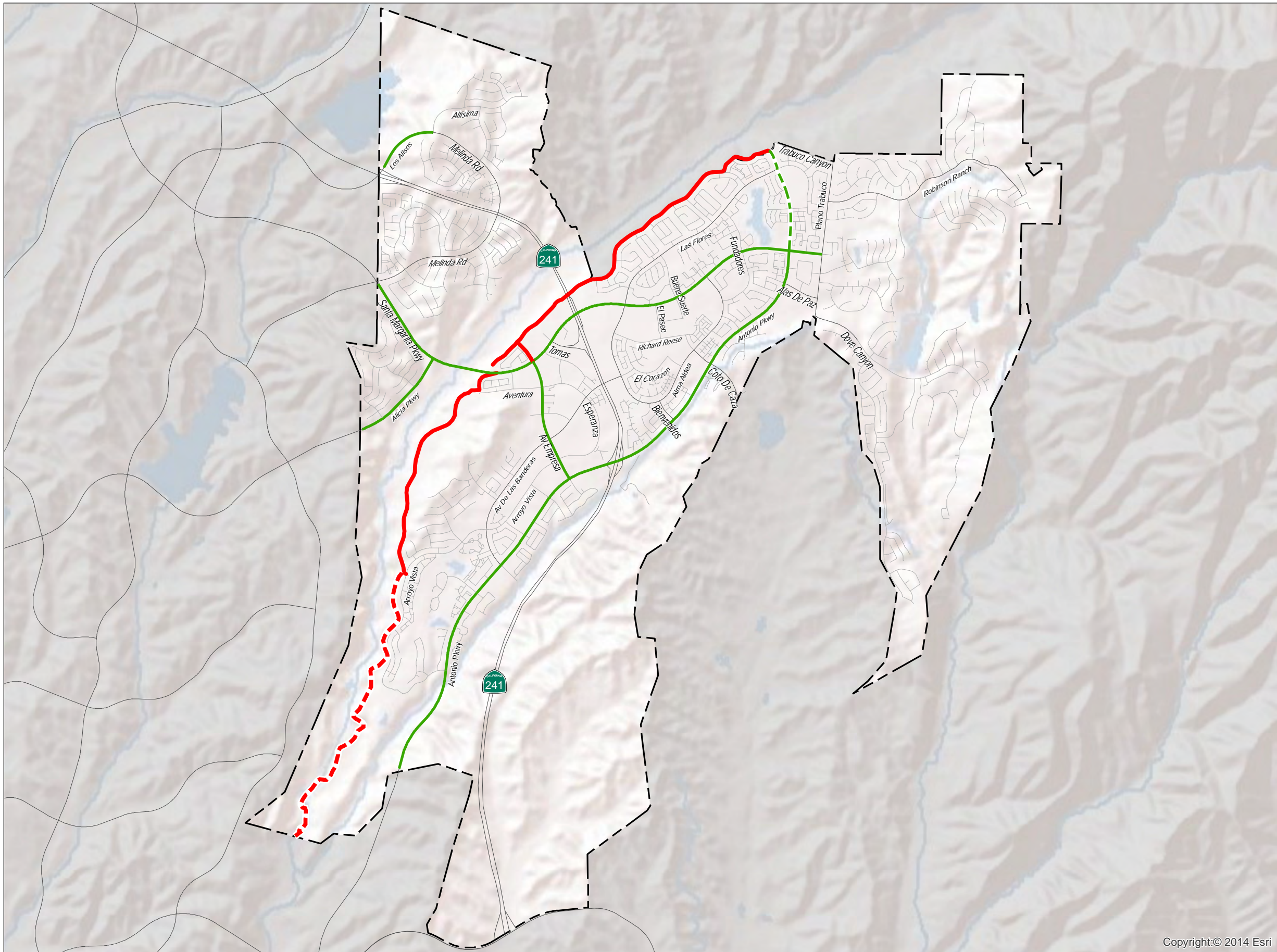
- Major
6 Lane Divided Roadway
Accommodates 30,000 to 45,000 ADT
- Primary
4 Lane Divided Roadway
Accommodates 20,000 to 30,000 ADT
- Secondary
4 Lane Undivided Roadway
Accommodates 10,000 to 20,000 ADT
- Collector
2 Lane Undivided Roadway
Accommodates 7,500 to 10,000 ADT

Source: Orange County Transportation Authority (OCTA) - Published 7/14/17



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Legend

- Existing Class I Paved (Bike Path)
- - - Proposed Class I Paved (Bike Path)
- Existing Class II Paved (Bike Lanes), Parking Restricted
- - - Proposed Class II Paved (Bike Lanes), Parking Restricted

Source: Orange County Transportation Authority (OCTA) - 2009 CBSP



0 0.5 1 Miles

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2 EXISTING CONDITIONS

This section provides a summary of the existing circulation system, the currently adopted Rancho Santa Margarita General Plan roadway network, and a review of existing daily roadway segment conditions, on roadways within the City of Rancho Santa Margarita. The City of Rancho Santa Margarita is largely built out, with opportunities for growth generally limited to infill development, re-use of existing developed areas, or a few remaining undeveloped areas. Key destinations within the City are shown on Exhibit 2-1. Commercial uses are located throughout the City, with a large concentration of commercial retail near the SR-241 interchange at Santa Margarita Parkway. The business park is located immediately southwest of the SR-241 (generally between Antonio Parkway and Santa Margarita Parkway). There are twelve grade schools (elementary and middle) and one private high school in the City. For recreational purposes, there are two golf courses, a regional park staging area (providing access to O'Neill Regional Park), and a library, in addition to community parks located throughout the City.

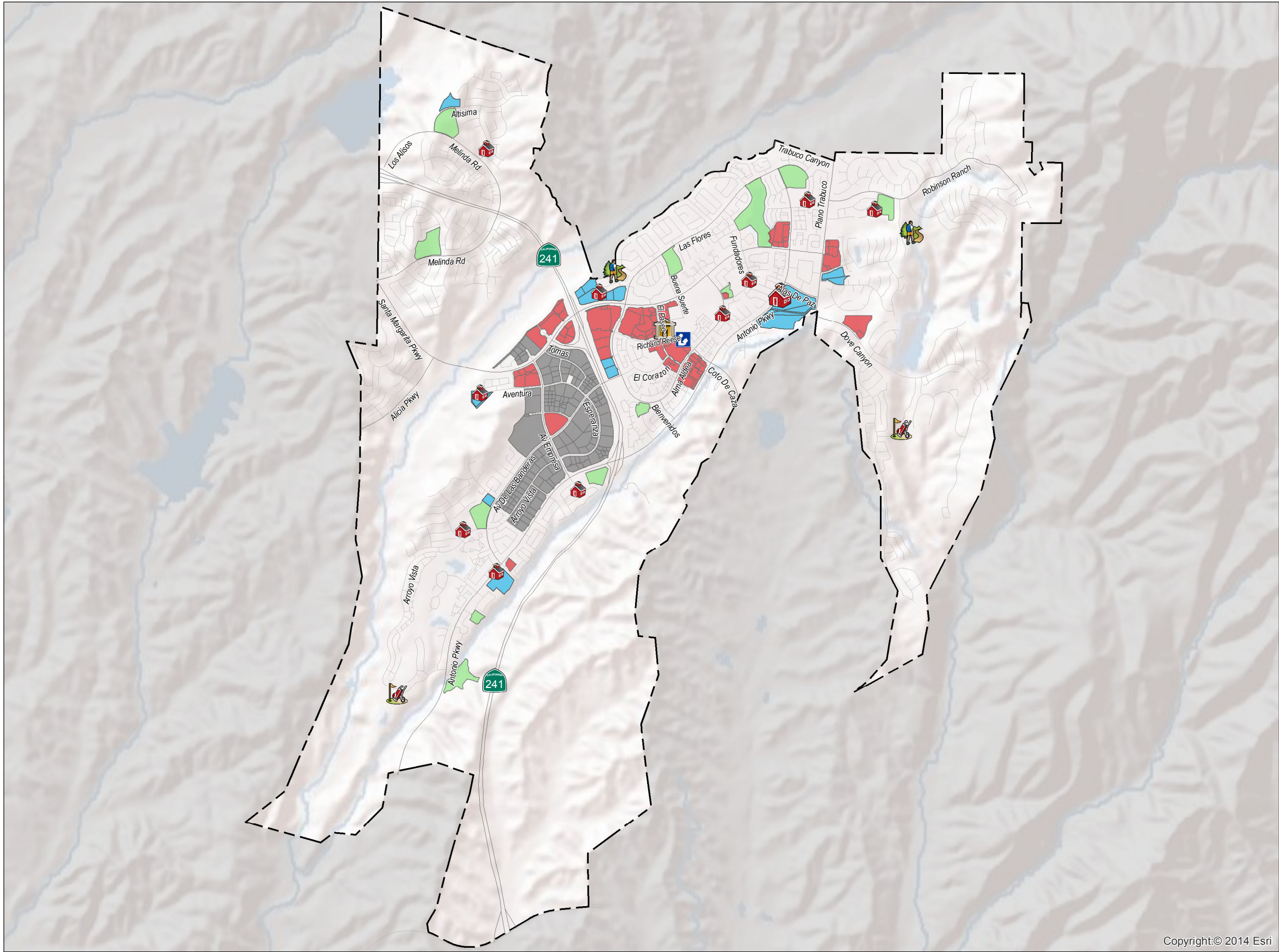
2.1 ROADWAY NETWORK

The currently adopted Rancho Santa Margarita General Plan functional roadway classifications are shown on Exhibit 2-2. The General Plan roadway network is mostly constructed, consistent with the City's largely built out land use pattern. In the City of Rancho Santa Margarita, roadways are characterized by their functional classification that defines the level of mobility and access. Classifications range from limited access toll roads (the largest) to Collector facilities (two lane roadways with a high degree of access from local streets and driveways). Table 2-1 provides a summary of the key functional features associated with each roadway network classification, including its purpose, access control, bike lanes, roadside parking and typical posted speed limits. Exhibit 2-3 shows the City of Rancho Santa Margarita Typical Roadway Cross-Sections.

2.1.1 TOLL ROAD

The Foothill Transportation Corridor State Route 241 (SR-241) provides the major regional access to the City, but also divides the City by limiting east-west local access to three interchange locations (Antonio Parkway, Santa Margarita Parkway, and Los Alisos Boulevard), and two additional over-crossings of the toll road at Melinda Road and Avenida De Las Banderas. SR-241 currently consists of two travel lanes in each direction south of Santa Margarita Parkway. North of the Santa Margarita Parkway interchange there are five total lanes (three northbound and two southbound). Further north (approaching Los Alisos Boulevard), the number of lanes in the northbound direction of travel increases to four lanes. As a toll road, SR-241 is intended to serve through traffic traveling relatively long-distances. The toll road does not provide access to adjacent land except at interchanges.











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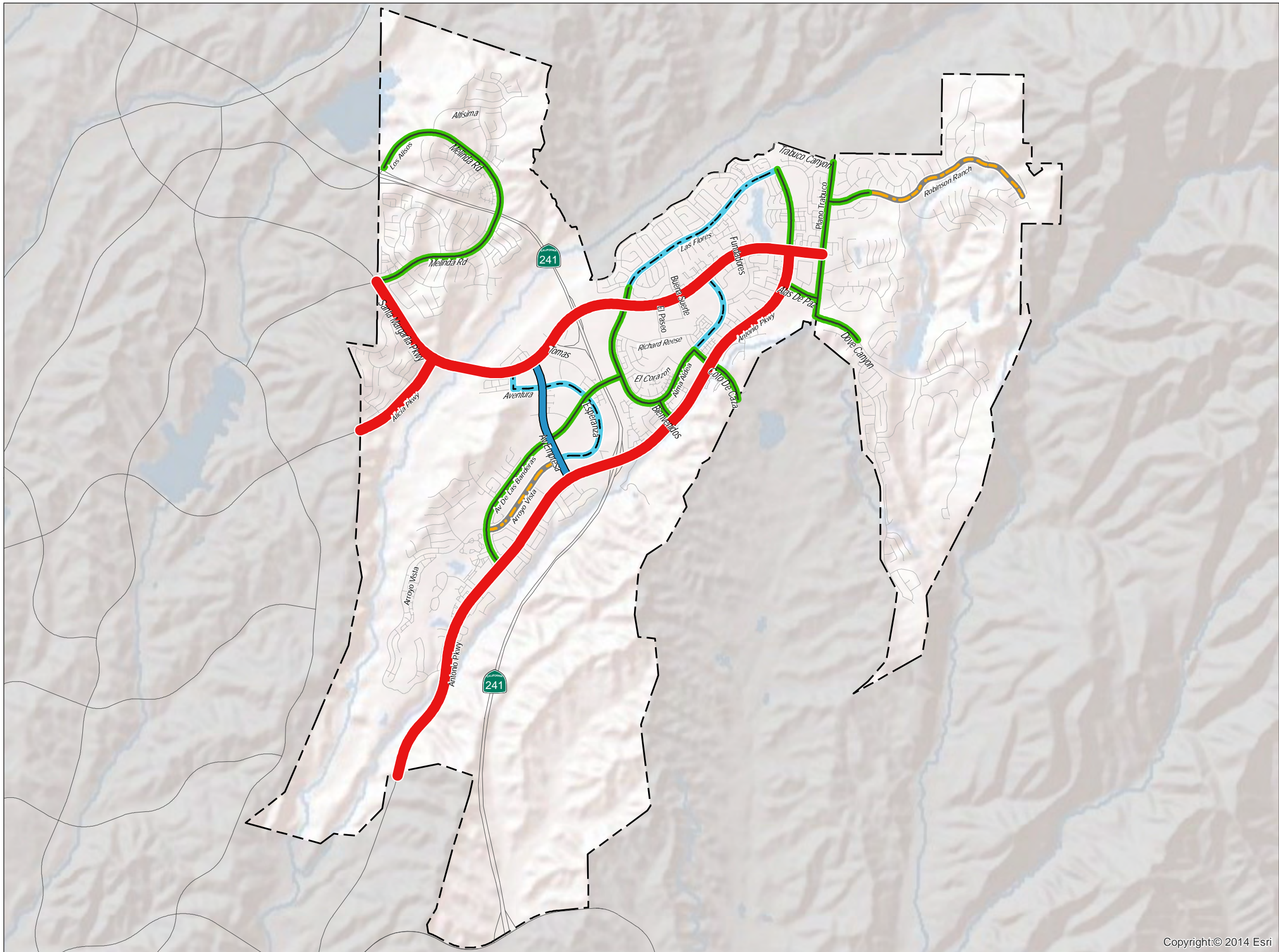
Legend

-  City Hall
-  Library
-  Regional Parks Staging Area
-  Golf Course Clubhouse
-  High School
-  Elementary and Middle School
-  Religious
-  Commercial Retail
-  Business Park
-  Park



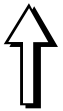
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Legend

- Major
- Primary (Augmented)
- Secondary
- Collector - Two Lanes Divided
- Collector - Two Lanes Undivided

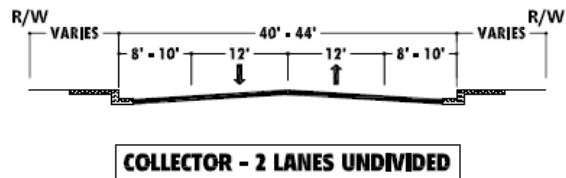
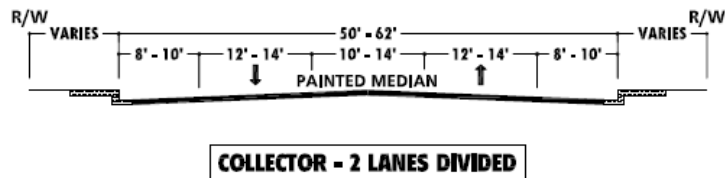
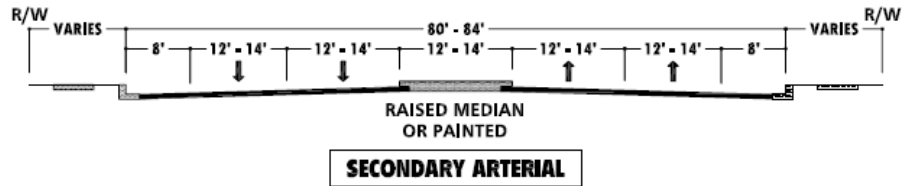
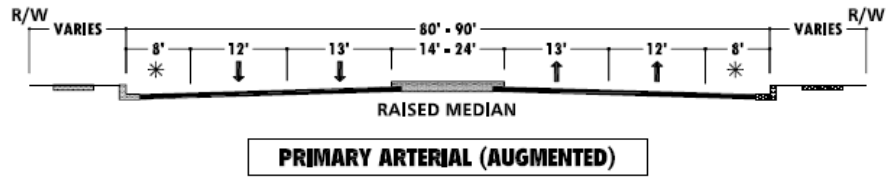
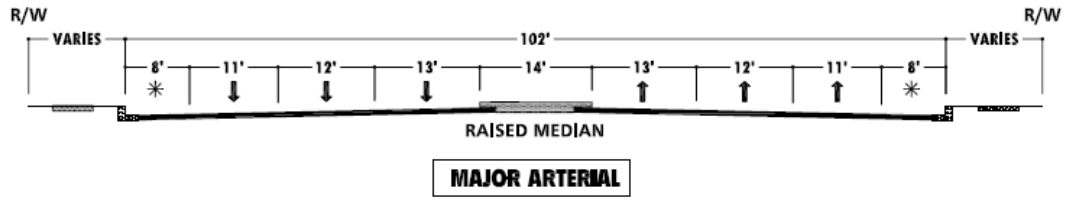


0 0.5 1 Miles

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EXHIBIT 2-3: CITY OF RANCHO SANTA MARGARITA TYPICAL ROADWAY CROSS-SECTIONS



* CLASS II ON-STREET BIKE LANES
(PARKING RESTRICTED)

NOT TO SCALE

TABLE 2-1: ROADWAY NETWORK CLASSIFICATION FEATURES

Roadway Classification	Purpose	Land Access	Bike Lanes	On-Street Parking	Posted Speed (mph)
Toll Road	Serves interregional and intraregional trips. Carries heavy volume at high speed.	Extremely limited	No	Emergency Only	60+
Major	Carries local and through traffic to and from destinations outside local community. Moderate to heavy volume; moderate to high speed.	Restricted	Class II - Marked on-street bike lanes	Restricted	45-55
Primary	Connects collectors to higher order roadways. Carries moderate volume at moderate to high speed.	Restricted if an alternative is available	Class II - Marked on-street bike lanes	Restricted	40-50
Secondary	Links neighborhoods with major activity centers, other neighborhoods, and arterials. Generally, not for through traffic. Moderate volume; low to moderate speed.	Generally allowed	Class III Unmarked bike lanes (shared lane)	Generally allowed	35-45
Collectors	Collects traffic from and distributes traffic to local streets within neighborhoods or business districts. Usually longer than local streets. Low traffic volumes and low to moderate speeds.	Allowed	Class III Unmarked bike lanes (shared lane)	Generally allowed	30-40

2.1.2 MAJOR ARTERIAL

The Major arterial is generally a 6-lane section with a curbed median, although an 8-lane version of this classification (designated as a Principal arterial by OCTA) can be accommodated if necessary (previously considered in at least one location in the City). A Major arterial is designed with emphasis for automobile, goods movement, and/or transit, and is designed to accommodate an upper limit of approximately 56,300 vehicle trips per day. A Major arterial may consist of three through lanes, two left-turn lanes and a dedicated right-turn lane. Major arterials may carry a large volume of regional through traffic not handled by the Toll Road system. In the City of Rancho Santa Margarita, the three Major arterial roadways include Santa Margarita Parkway, Antonio Parkway and Alicia Parkway. The Major arterial restricts on-street parking and provides pavement markings for Class II on-street bike lanes.

2.1.3 PRIMARY ARTERIAL (AUGMENTED)

A Primary arterial roadway is a 4-lane divided (raised median) roadway which may be designed with emphasis for automobile, goods movement, transit, and/or bicycle. Primary arterials function similarly to major arterials. The principal difference is capacity. A Primary arterial may

consist of two through lanes, one left-turn lane and a dedicated right-turn lane. An additional left-turn lane or optional right-turn lane may be allowed if warranted by traffic demand. The Primary restricts on-street parking and provides pavement markings for Class II on-street bike lanes. While the Primary arterial (Augmented) is designed to accommodate four through travel lanes, the pavement and right-of-way (width) may be able to accommodate up to six-through travel lanes.

2.1.4 SECONDARY ARTERIAL

A Secondary arterial is also a 4-lane roadway, although it may be divided or undivided. In the City of Rancho Santa Margarita, Secondary arterials generally include divided raised medians. A Secondary arterial serves as a collector, distributing traffic between local streets and major and primary arterials. Along Secondary arterials, shoulders may accommodate exclusive bike lanes or on-street parking. Sidewalks may be curb-adjacent or separated from the roadway by a landscaped parkway. A Secondary arterial may consist of two through lanes, one left-turn lane and a dedicated right-turn lane. An additional left-turn lane or optional right-turn lane may be allowed if warranted by traffic demand. Many of the Secondary arterials within the City of Rancho Santa Margarita effectively function as Primary arterials without the on-street parking restrictions.

2.1.5 COLLECTOR

Collectors move traffic from local streets to arterial roads. Unlike arterials, collector roads are designed to provide access to residential areas. Two versions of the Collector classification are shown on Exhibit 2-3. The “Collector – 2 Lanes Divided” may have a painted or raised median which can be utilized where left turn pockets are needed while also providing a shoulder for on-street parking or cyclists. Finally, the “Collector – 2 Lanes Undivided” is a conventional two-lane section with shoulders that can accommodate on-street parking and / or cyclists.

2.2 BIKE NETWORK

The Rancho Santa Margarita General Plan Bikeway Network shown on Exhibit 2-4 incorporates the Trabuco Creek bikeway, a regional Class I facility located along the eastern bluff of the Arroyo Trabuco with a separate trail bridge crossing over the SR-241 toll road. The remaining bikeway components in the proposed general plan bikeway network consist of Class II on-street bicycle lanes and Class III unmarked shared lanes. The Class III bike lanes are proposed to be identified via signage intended to raise the awareness of other road users that they should expect bicyclists along these routes. A review of the existing bikeway network suggests that many bike lane segments within the City do not include on-street parking restrictions and are therefore ineffective in terms of providing a dedicated area for cyclists. On-street parking currently inhibits bike lane usage and creates potential conflicts on segments of Los Alisos Boulevard, Melinda Road, Avenida de Las Flores, Alma Aldea, Alas De Paz, Plano Trabuco, Dove Canyon Drive, Avenida de Las Banderas, Avenida Empresa, and Arroyo Vista. Effective on-road bike lanes are currently in place (with parking restrictions) on Alicia Parkway, Santa Margarita Parkway, and Antonio Parkway.

2.3 TRAIL NETWORK

Located near O'Neill Regional Park, the City of Rancho Santa Margarita enjoys access to several regional multi-use off-road trails. Multi-use trails provide access for a combination of activities such as hiking, equestrian, and biking. This includes the six-mile long Arroyo Trabuco multi-use trail that extends south from O'Neil Regional Park near Trabuco Creek. The Tijeras Creek multi-use trail extends approximately four miles from Plano Trabuco east of Antonio Parkway to an intersection with the Arroyo Trabuco Trail.

In addition to the regional multi-use trails maintained by Orange County (OC) Parks, several other walking trails exist within the City. Many of these walking trails are maintained by the local homeowner's association for the benefit of the community. The Rancho Santa Margarita General Plan Trail Network facilities are shown on Exhibit 2-5.

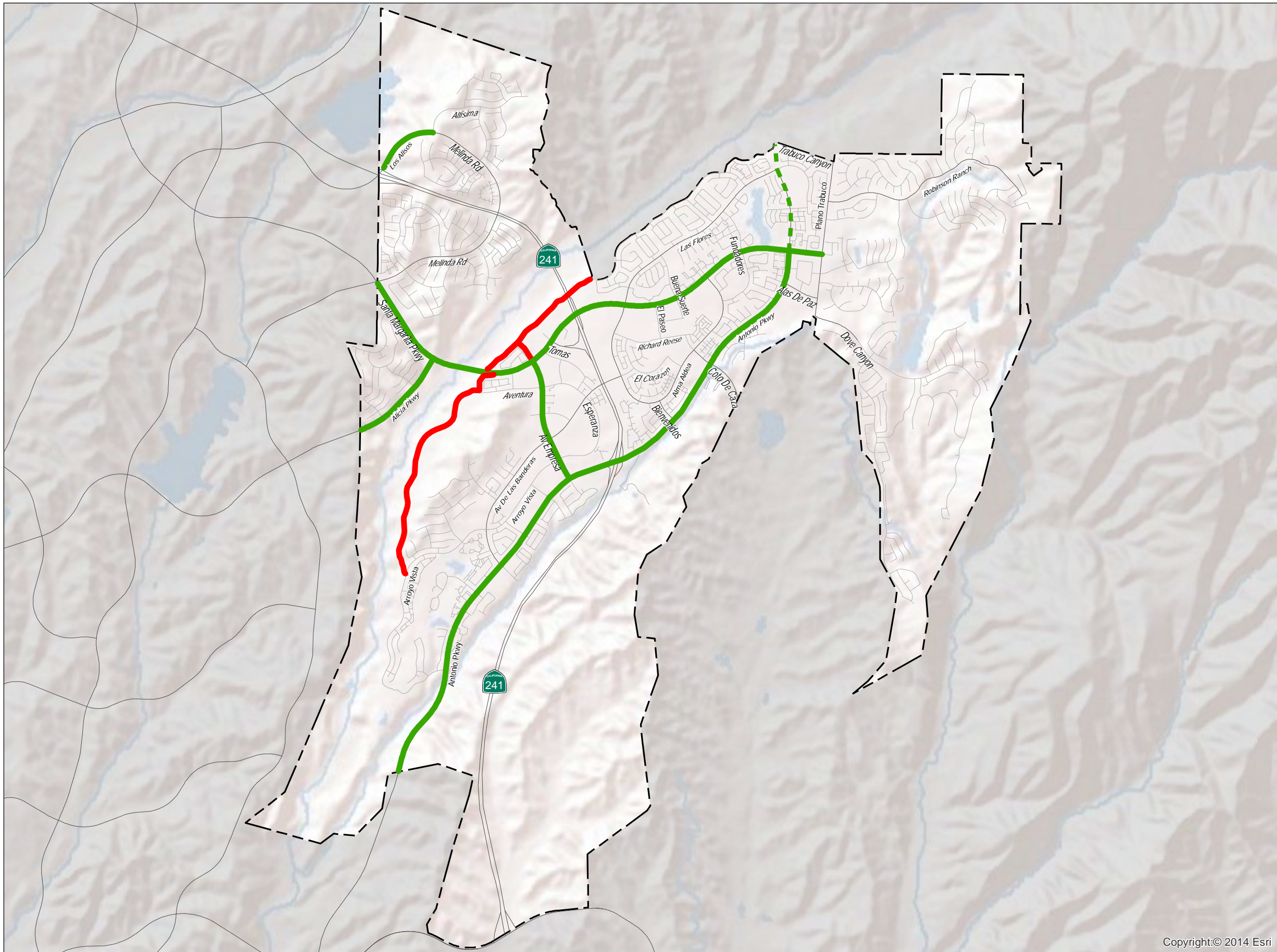
2.4 BUS SERVICE NETWORK

Orange County Transportation Authority (OCTA) provides limited bus service within the City of Rancho Santa Margarita and the surrounding area. Exhibit 2-6 illustrates the existing bus service routes. In October 2016, bus service on Antonio Parkway south of Alas de Paz was eliminated, with the remaining bus services focused on Santa Margarita Parkway. Route 87 provides transit service on Alicia Parkway, Santa Margarita Parkway and the residential areas near Avenida Empresa and Aventura. Route 82 provides transit service along the six-lane Major roads (Santa Margarita Parkway, Alicia Parkway, and Antonio Parkway), with stretches along Plano Trabuco and Alas de Paz. In response the reduction in bus service, the City prepared a Transit Feasibility Study in September 2017.

The Transit Feasibility Study was prepared to determine if there is sufficient demand to support a local circulator of regional transit service within available funding limits. The Transit Feasibility Study was funded through Project V, an OCTA-sponsored program that allows cities to study potential community-based local transit services that complement regional services and meet specific community needs. However, the Transit Feasibility Study found that the service plan options did not satisfy the minimum ridership thresholds necessary to pursue Project V capital funding. In addition, the analysis showed that any service plan option will likely require substantial subsidy from the City to offset annual losses due to low ridership estimates.

2.5 EXISTING ROADWAY SEGMENT AVERAGE DAILY TRAFFIC (ADT)

Existing (2016) Average Daily Traffic (ADT) volumes on arterial roadways throughout the study area are shown on Exhibit 2-7. The ADT volumes along the arterial roadways are based upon the 24-hour ADT counts collected during peak school conditions in the spring of 2016. Exhibit 2-8 presents a traffic flow map illustrating the existing traffic volumes based on the distribution of traffic on the roadway network. The highest traffic volumes tend to occur near the SR-241 and adjacent business park and commercial retail areas.



Legend

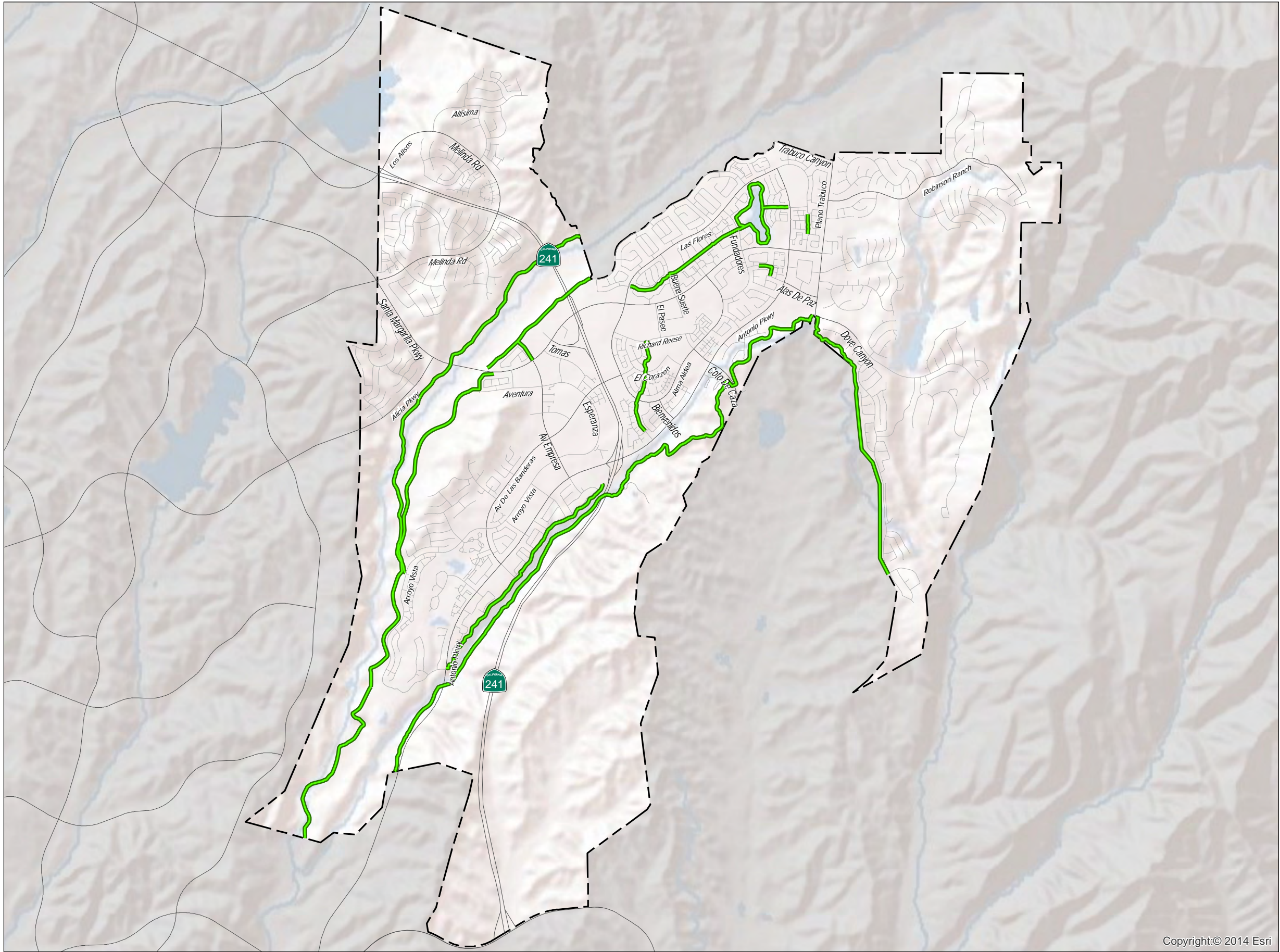
- Existing Class I Paved
(Bike Path)
- Existing Class II Paved
(Bike Lanes), Parking Restricted
- - - Proposed Class II Paved
(Bike Lanes), Parking Restricted



0 0.5 1 Miles

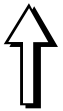
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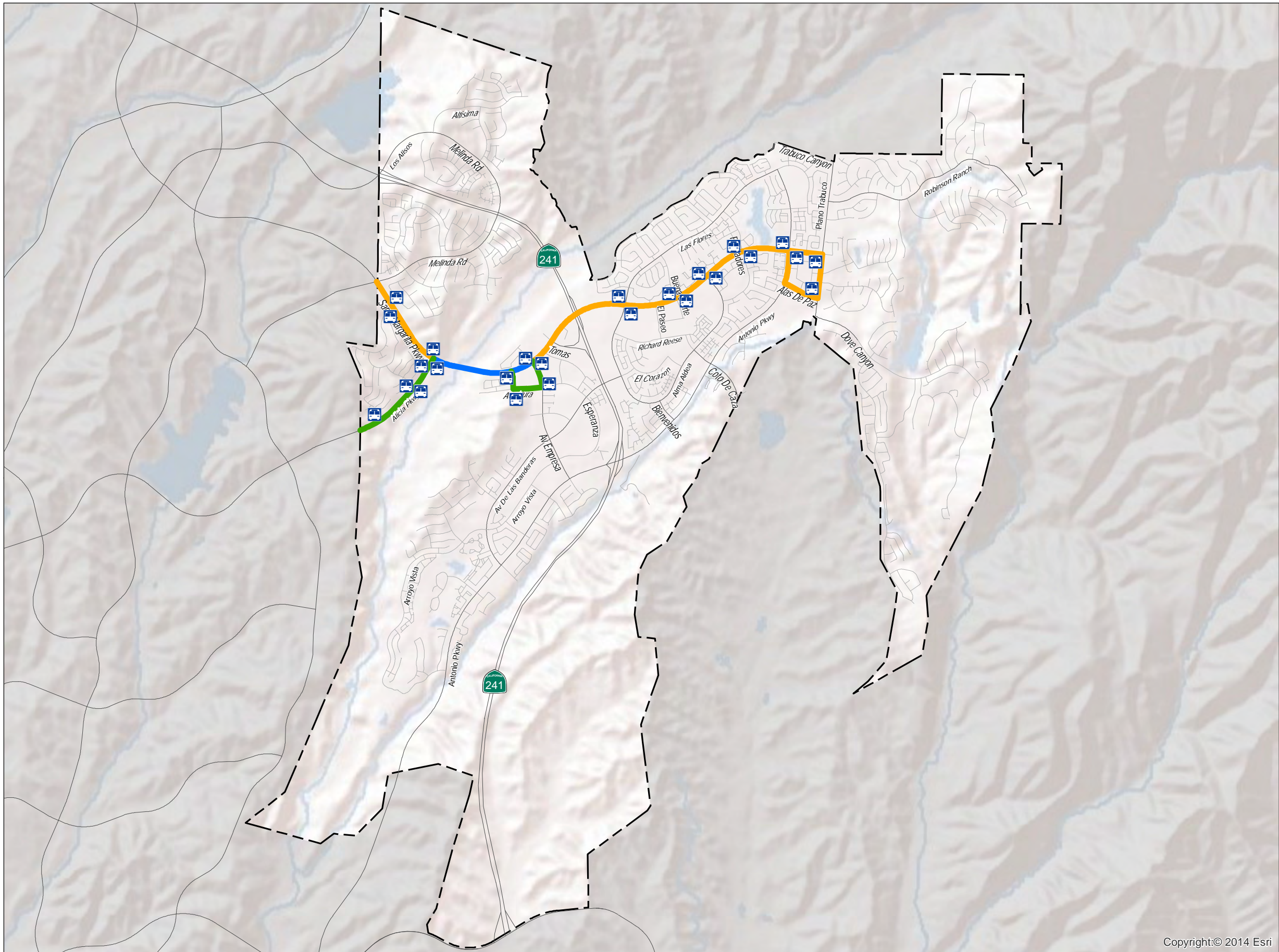
Trails







0 0.5 1 Miles

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Legend

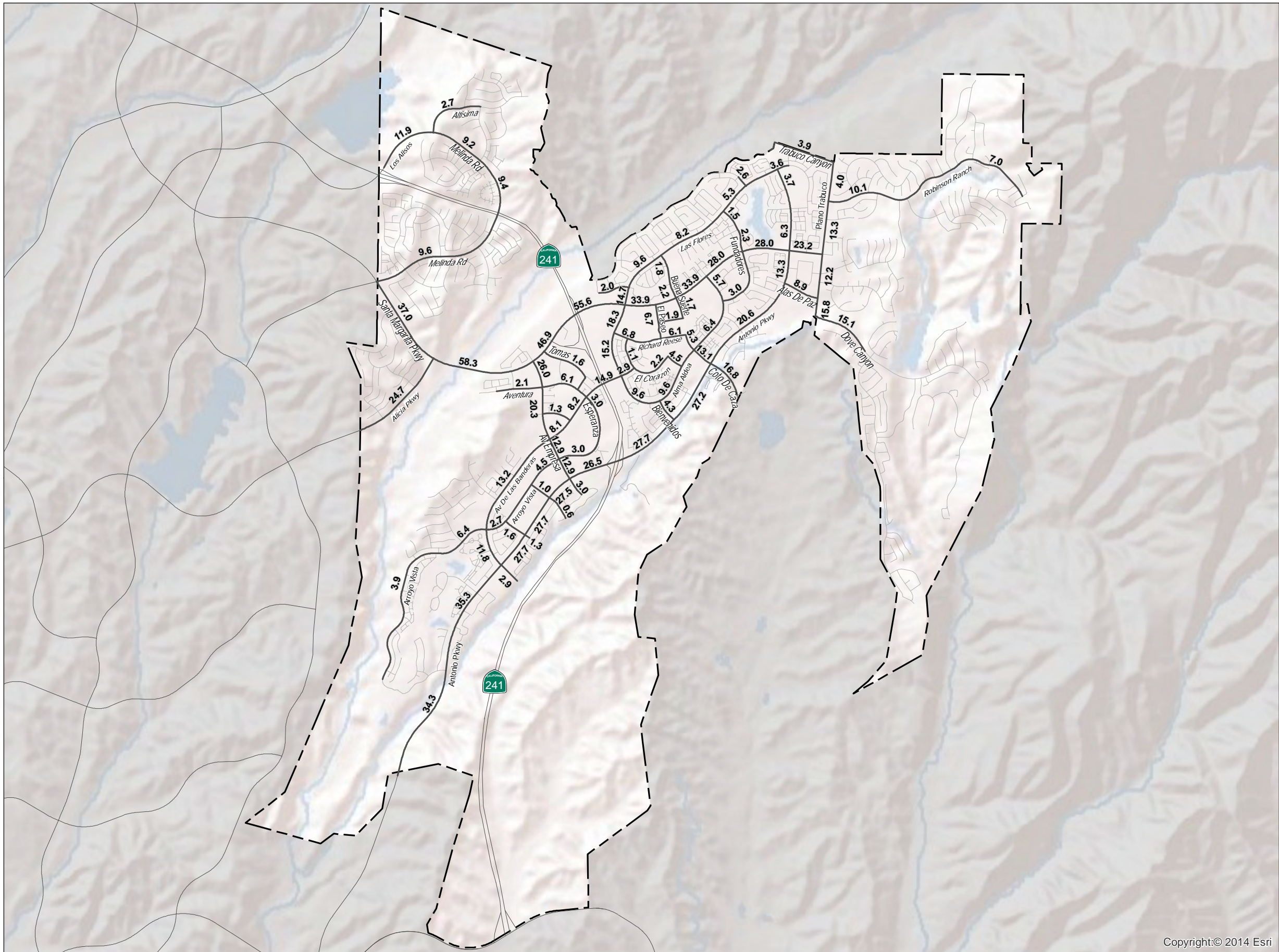
-  Transit Stop
-  Route 82
-  Route 87
-  Route 82 & 87

Source: Orange County Transportation Authority (OCTA) - Effective 2/11/18

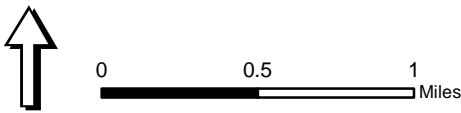


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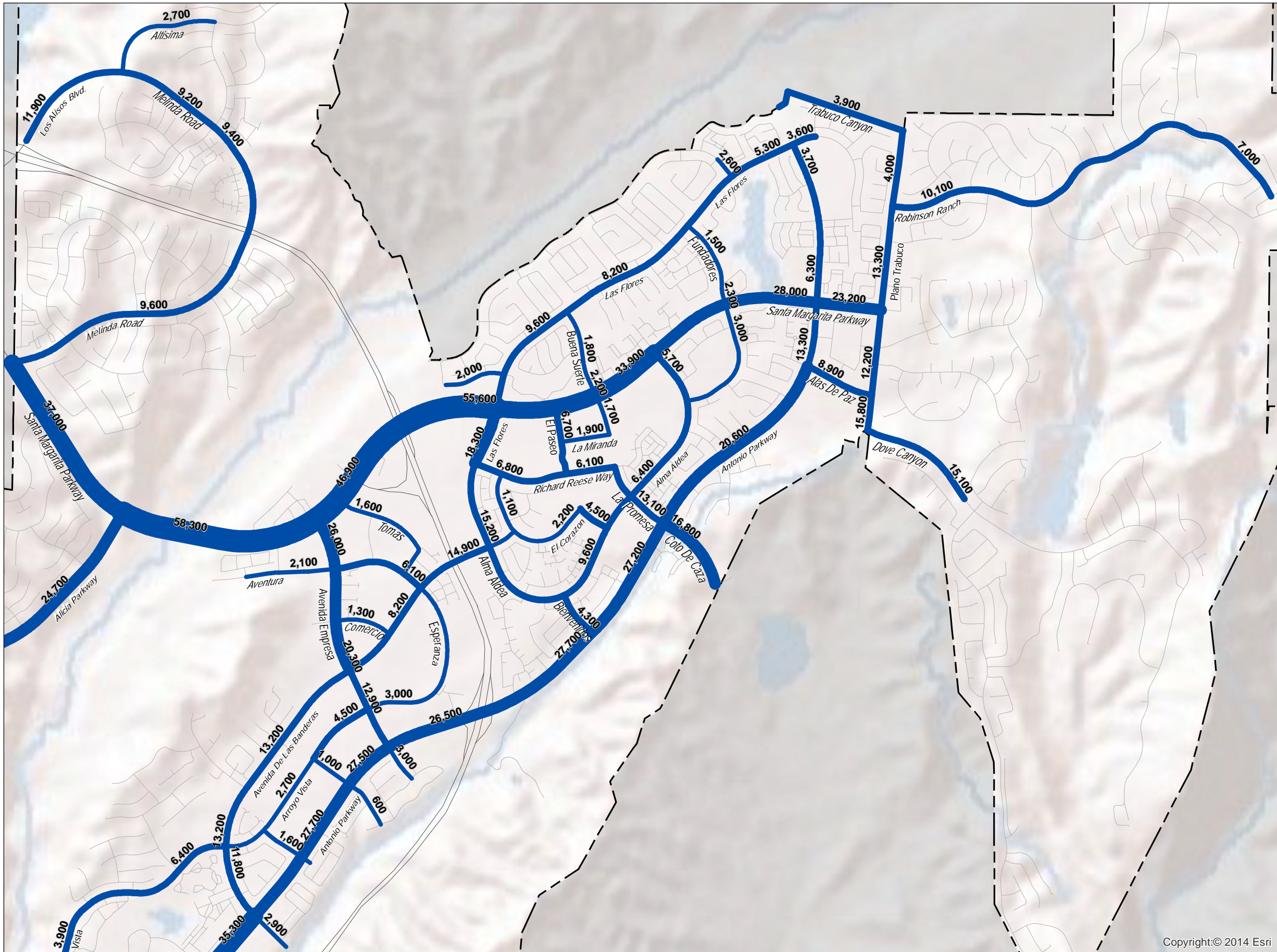


Legend
 10.0 Vehicles Per Day (1000s)

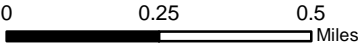
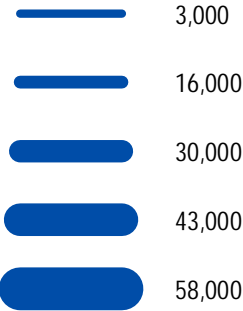


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2.6 ROADWAY SEGMENT CAPACITY ANALYSIS

To ensure that the General Plan Roadway Segment provides the capacity necessary to support the traffic demands, the following roadway segment analysis is provided. Roadway segment analysis is generally performed for planning purposes and is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic), pedestrians and bicycle traffic. Table 2-2 presents the roadway segment vehicle capacities that represent the theoretical maximum two-way average daily traffic volumes which any given roadway can accommodate within one day, given typical peak hour characteristics. The roadway segment capacities are consistent with the County of Orange roadway design standards (as identified in Appendix IV-1 of the Growth Management Plan of the Transportation Implementation Manual).

TABLE 2-2: ROADWAY SEGMENT VEHICLE CAPACITY THRESHOLDS

Roadway Classification	Description	Lanes	Daily Capacity (LOS "E")
Major Arterial	Six Lanes Divided	6D	56,300
Primary Arterial	Four Lanes Divided	4D	37,500
Secondary Arterial	Four Lanes Divided	4D	31,300
Collector (Two Lanes Divided)	Two Lanes Divided	2D	18,800
Collector (Two Lanes Undivided)	Two Lanes Undivided	2U	12,500

These roadway capacities are approximate figures only, and are used at the General Plan level. They are affected by such factors as intersections (numbers & configuration), degrees of access control, roadway grades, design geometrics (horizontal & vertical alignment).

Table 2-3 provides a summary of the existing (2016) conditions roadway segment capacity analysis based on the daily capacity thresholds identified in Table 2-2. The roadway segment analysis compares the ADT volume with the capacity to arrive at a volume-to-capacity (v/c) ratio. Based on the v/c ratio, each study area roadway segment is classified into one of four categories:

- Acceptable (v/c 0.00-0.79)
- Approaching Capacity (v/c 0.80-1.00)
- Potentially Exceeds Capacity (v/c 1.01-1.25)
- Exceeds Capacity (v/c > 1.26).

TABLE 2-3: EXISTING (2016) ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Existing (2016) ADT	Existing Lanes	Existing Capacity ¹	Existing V/C	Average Daily Vehicle Capacity Threshold ²
1	Alas De Paz	Antonio Parkway to Plano Trabuco Road	8,900	4D	31,300	0.28	Acceptable
2	Alicia Parkway	Santa Margarita Parkway to City Limits	24,700	6D	56,300	0.44	Acceptable
3	Alma Aldea	Avenida De Las Banderas to La Promesa	9,600	4D	31,300	0.31	Acceptable
4	Alma Aldea	La Promesa to Avenida De Las Fundadores	6,400	2D	18,800	0.34	Acceptable
5	Alma Aldea	Avenida De Las Fundadores to Santa Margarita Parkway	5,700	2D	18,800	0.30	Acceptable
6	Antonio Parkway	City Limits to Tijeras Creek	34,300	6D	56,300	0.61	Acceptable
7	Antonio Parkway	Tijeras Creek to Avenida De Las Banderas	35,300	6D	56,300	0.63	Acceptable
8	Antonio Parkway	Avenida De Las Banderas to Valeroso	27,700	6D	56,300	0.49	Acceptable
9	Antonio Parkway	Valeroso to Avenida Empresa	27,500	6D	56,300	0.49	Acceptable
10	Antonio Parkway	Avenida Empresa to SR-241 Southbound Ramps	26,500	6D	56,300	0.47	Acceptable
11	Antonio Parkway	SR-241 Northbound Ramps to Bienvenidos	27,700	6D	56,300	0.49	Acceptable
12	Antonio Parkway	Bienvenidos to La Promesa/Coto De Caza Drive	27,200	6D	56,300	0.48	Acceptable
13	Antonio Parkway	La Promesa/Coto De Caza Drive to Alas De Paz	20,600	6D	56,300	0.37	Acceptable
14	Antonio Parkway	Alas De Paz to Santa Margarita Parkway	13,300	6D	56,300	0.24	Acceptable
15	Antonio Parkway	Santa Margarita Parkway to Vereda Laguna	6,300	4D	31,300	0.20	Acceptable
16	Antonio Parkway	Verada Laguna to Avenida De Las Flores	3,700	4D	31,300	0.12	Acceptable
17	Avenida De Las Banderas	Antonio Parkway to Arroyo Vista	11,800	4D	31,300	0.38	Acceptable
18	Avenida De Las Banderas	Arroyo Vista to Avenida Empresa	13,200	4D	31,300	0.42	Acceptable
19	Avenida De Las Banderas	Avenida Empresa to Comercio	8,100	4D	31,300	0.26	Acceptable
20	Avenida De Las Banderas	Comercio to Aventura/Esperanza	8,200	4D	31,300	0.26	Acceptable
21	Avenida De Las Banderas	Aventura/Esperanza to Avenida De Las Flores/Alma Aldea	14,900	4D	31,300	0.48	Acceptable
22	Avenida De Las Flores	Avenida De Las Banderas to El Portal	15,200	4D	31,300	0.49	Acceptable
23	Avenida De Las Flores	El Portal to Santa Margarita Parkway	18,300	4D	31,300	0.58	Acceptable

TABLE 2-3 (CONTINUED): EXISTING (2016) ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Existing (2016) ADT	Existing Lanes	Existing Capacity ¹	Existing V/C	Average Daily Vehicle Capacity Threshold ²
24	Avenida De Las Flores	Santa Margarita Parkway Via Con Dios	14,700	4D	31,300	0.47	Acceptable
25	Avenida De Las Flores	Via Con Dios to Buena Suerte	9,600	2D	18,800	0.51	Acceptable
26	Avenida De Las Flores	Buena Suerte to Avenida De Las Fundadores	8,200	2D	18,800	0.44	Acceptable
27	Avenida De Las Flores	Avenida De Las Fundadores to Antonio Parkway	5,300	2D	18,800	0.28	Acceptable
28	Avenida Empresa	Santa Margarita Parkway to Aventura	26,000	4D	37,500	0.69	Acceptable
29	Avenida Empresa	Aventura to Avenida De Las Banderas	20,300	4D	37,500	0.54	Acceptable
30	Avenida Empresa	Avenida De Las Banderas to Antonio Parkway	12,900	4D	37,500	0.34	Acceptable
31	Bienvenidos	Antonio Parkway to Alma Aldea	4,300	4D	31,300	0.14	Acceptable
32	Coto De Caza Drive	Antonio Parkway to Entry Gate	16,800	4D	31,300	0.54	Acceptable
33	Dove Canyon Drive	Plano Trabuco Road to Entry Gate	15,100	4D	31,300	0.48	Acceptable
34	La Promesa	Antonio Parkway to Alma Aldea	13,100	4D	31,300	0.42	Acceptable
35	Los Alisos Boulevard	SR-241 Eastbound Ramps to Altisima	11,900	4D	31,300	0.38	Acceptable
36	Melinda Road	Altisima to Rancho Trabuco	9,200	4D	31,300	0.29	Acceptable
37	Melinda Road	Rancho Trabuco to SR-241 Overcrossing	9,400	4D	31,300	0.30	Acceptable
38	Melinda Road	SR-241 Overcrossing to Santa Margarita Parkway	9,600	4D	31,300	0.31	Acceptable
39	Plano Trabuco Road	Dove Canyon to Alas De Paz	15,800	4D	31,300	0.50	Acceptable
40	Plano Trabuco Road	Alas De Paz to Santa Margarita Parkway	12,200	4D	31,300	0.39	Acceptable
41	Plano Trabuco Road	Santa Margarita Parkway to Robinson Ranch	13,300	4D	31,300	0.42	Acceptable
42	Plano Trabuco Road	Robinson Ranch to Trabuco Canyon Road	4,000	2U	12,500	0.32	Acceptable
43	Robinson Ranch Road	Plano Trabuco Road to Lindsay Drive	10,100	4D	31,300	0.32	Acceptable
44	Robinson Ranch Road	East of Lindsay Drive	7,000	2U	12,500	0.56	Acceptable
45	Santa Margarita Parkway	Melinda Road to Alicia Parkway	37,000	6D	56,300	0.66	Acceptable
46	Santa Margarita Parkway	Alicia Parkway to Avenida Empresa	58,300	6D	56,300	1.04	Potentially Exceeds

TABLE 2-3 (CONTINUED): EXISTING (2016) ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Existing (2016) ADT	Existing Lanes	Existing Capacity ¹	Existing V/C	Average Daily Vehicle Capacity Threshold ²
47	Santa Margarita Parkway	Avenida Empresa to SR-241 EB Ramps	46,900	6D	56,300	0.83	Approaching
48	Santa Margarita Parkway	SR-241 WB Ramps to Avenida De Las Flores	55,600	6D	56,300	0.99	Approaching
49	Santa Margarita Parkway	Avenida De Las Flores to Alma Aldea	33,900	6D	56,300	0.60	Acceptable
50	Santa Margarita Parkway	Alma Aldea to Antonio Parkway	28,000	6D	56,300	0.50	Acceptable
51	Santa Margarita Parkway	Antonio Parkway to Plano Trabuco Road	23,200	6D	56,300	0.41	Acceptable

¹ Roadway Segment Vehicle Capacity Thresholds (See Table 2-1)

² The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range:

0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

As shown in Table 2-3, out of the 51 existing General Plan roadway segments within the City, the following three roadway segments approach or potentially exceed the average daily vehicle capacity thresholds:

- Santa Margarita Parkway between Alicia Parkway and Avenida Empresa (ID #46);
- Santa Margarita Parkway between Avenida Empresa and the SR-241 eastbound ramps (ID #47);
- Santa Margarita Parkway between the SR-241 WB ramps and Avenida de Las Flores (ID #48).

The remaining 48 roadway segments operate at acceptable v/c of less than 0.80.

2.7 EXISTING VEHICLE MILES TRAVELED

Vehicle Miles Traveled (VMT) is a key measure of effectiveness associated with various initiatives intended to reduce emissions, including Greenhouse Gas (GHG) emissions. The California Air Pollution Control Officers Association (CAPCOA) publishes a resource for local government to assess emission reductions from GHG mitigation measures. According to *Quantifying Greenhouse Gas Mitigation Measures* (August 2010), Land Use and Circulation Element policies can be a means of reducing VMT. The CAPCOA report recognizes that land use planning provides the best opportunity to influence GHG emissions through a reduction in overall VMT. This is accomplished by reducing the distance people travel in combination with a substantial increase in local job opportunities. In addition to the land use based VMT reductions, further reductions (while limited) are possible by providing alternative transportation options.

While the CAPCOA report is primarily focused on the quantification of project-level mitigation measures, the VMT estimates for the City have been calculated using the Orange County Transportation Analysis Model (OCTAM). This is possible since the traffic model calculates average trip lengths based on actual land use designations, characteristics, and interactions. The VMT extracted from the model considers land use patterns and trip generation, as well as the interaction of these trips within the City and between the City and surrounding areas. It is also important to recognize that each vehicle trip has two ends, commonly referred to as an origin and a destination. Therefore, the calculation must divide the initial VMT estimate in half to account for the contribution of both ends of the trip. For trips internal to the City, the VMT attributable to both ends of the trip is accounted for. Trips that involve one trip-end outside the City are allocated 50% to the City and 50% to the other end of the trip. All shopping, recreational, social, and work-related trips contribute to the VMT estimates. The VMT for the City includes the following:

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

Table 2-4 provides a summary of the VMT for existing conditions. As shown on Table 2-4, the City produces a total of approximately 1,016,813 VMT per day under existing conditions.

TABLE 2-4: EXISTING VEHICLE MILES TRAVELLED

Condition	Vehicle Miles Travelled (VMT)				
	AM Period	PM Period	Midday	Nighttime	Daily
Existing	288,293	332,077	218,329	178,114	1,016,813

Based on OCTAM model estimates for existing conditions.

2.8 PARKING

Since its initial development as a master-planned community, Rancho Santa Margarita has experienced an increase in demand for on-street parking. Over the past several years, this demand has reached the point whereby City staff and Police Services receive daily complaints and requests for service relating to illegally parked vehicles and an over-concentration of on-street parking in the City.

The increase in on-street parking demand is likely the result of several contributing factors that impact parking conditions. This includes an increase in household size, the number of vehicles per household, garages used for non-vehicle storage, and onsite parking management policies implemented by nearby multifamily developments. The increase in household size and vehicles generated per household is the result of a change in the community demographics over time. As cities mature, age groups migrate from younger families with grade school students to driving-age adults with vehicles requiring additional parking.

In addition to an aging population, the high cost of housing, improved economic conditions and limited local transit opportunities further intensify parking demands. However, it is important to recognize that on-street parking is a public resource that benefits all users in the City. Any program that restricts a public resource such as on-street parking for the exclusive use of one group must carefully balance needs to ensure they do not disproportionately apply restrictive standards to one group over another. This is consistent with the non-binding legal opinion released by the California Attorney General in April 2016, finding that local authorities may not distinguish between residents based on the type of dwelling in which they live when issuing long-term residential parking permits.

In effect, local authorities should not prioritize single-family parking over multi-family parking. It is also important to recognize that with limited on-street parking in certain areas, introducing a permit parking program may simply move the problem to the next street or neighborhood. Therefore, parking on single-family streets even near multi-family residential communities is considered a public resource for all users and is not reserved for the exclusive use of single-family households.

3 FUTURE TRAFFIC CONDITIONS

This section provides a summary of the estimated future vehicular traffic conditions for the City of Rancho Santa Margarita General Plan roadway network, based upon a refined version of the Orange County Transportation Analysis Model (OCTAM) forecasts.

3.1 OCTAM TRAFFIC FORECASTS

The Orange County Transportation Analysis Model version 3.4.1, which is maintained by OCTA, was used as the basis for estimating the future traffic conditions for the City. The OCTAM modeling area is consistent with the SCAG model, covering the entire SCAG region and using the same socioeconomic variables as the SCAG Regional Transportation Model. Updates to the model were made where necessary to accurately describe the anticipated development within the City of Rancho Santa Margarita for General Plan buildout conditions. While the future traffic analysis focuses on the traffic analysis zones located within the City of Rancho Santa Margarita the model includes all traffic analysis zones throughout the SCAG region and the County of Orange. Even though the City of Rancho Santa Margarita is nearly built out, additional future growth has been identified to ensure that the analysis reflects the potential for increased future traffic.

All future traffic volume forecasts have been developed from the traffic model using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between existing conditions and future year conditions. In addition, adjustments were made where necessary to ensure reasonable forecasts and growth.

3.2 FUTURE AVERAGE DAILY TRAFFIC VOLUMES

The refined future model forecast calculations for the Proposed Rancho Santa Margarita General Plan are shown on Table 3-1. The traffic model forecasts reflect the expected area growth on the General Plan Circulation Element roadway network. Exhibit 3-1 presents the future average daily traffic volume forecasts.

3.3 FUTURE ROADWAY SEGMENT CAPACITY ANALYSIS

Table 3-2 provides a summary of the Proposed Rancho Santa Margarita General Plan roadway segment capacity analysis based on the capacity thresholds previously identified on Table 2-1. As shown on Table 3-2, two roadway segments (Avenida Empresa from Santa Margarita Parkway to Aventura, and Santa Margarita Parkway from Avenida Empresa to SR-241 EB Ramps) area expected to approach the average daily vehicle capacity thresholds. Two additional roadway segments will potentially exceed the average daily capacity thresholds. It is expected that for future traffic conditions that Santa Margarita Parkway from Alicia Parkway to Avenida Empresa and Santa Margarita Parkway from the SR-241 Westbound Ramps to Avenida de Las Flores) will potentially exceed the average daily vehicle capacity thresholds.

TABLE 3-1: FUTURE AVERAGE DAILY TRAFFIC VOLUMES

ID	Street Name	Segment	Existing (2016) ADT	Final Growth ¹	Future (2040) ADT
1	Alas De Paz	Antonio Parkway to Plano Trabuco Road	8,900	0	8,900
2	Alicia Parkway	Santa Margarita Parkway to City Limits	24,700	700	25,400
3	Alma Aldea	Avenida De Las Banderas to La Promesa	9,600	3,500	13,100
4	Alma Aldea	La Promesa to Avenida De Las Fundadores	6,400	3,400	9,800
5	Alma Aldea	Avenida De Las Fundadores to Santa Margarita Parkway	5,700	300	6,000
6	Antonio Parkway	City Limits to Tijeras Creek	34,300	2,500	36,800
7	Antonio Parkway	Tijeras Creek to Avenida De Las Banderas	35,300	2,500	37,800
8	Antonio Parkway	Avenida De Las Banderas to Valeroso	27,700	2,500	30,200
9	Antonio Parkway	Valeroso to Avenida Empresa	27,500	2,800	30,300
10	Antonio Parkway	Avenida Empresa to SR-241 Southbound Ramps	26,500	2,500	29,000
11	Antonio Parkway	SR-241 Northbound Ramps to Bienvenidos	27,700	5,900	33,600
12	Antonio Parkway	Bienvenidos to La Promesa/Coto De Caza Drive	27,200	5,600	32,800
13	Antonio Parkway	La Promesa/Coto De Caza Drive to Alas De Paz	20,600	2,700	23,300
14	Antonio Parkway	Alas De Paz to Santa Margarita Parkway	13,300	200	13,500
15	Antonio Parkway	Santa Margarita Parkway to Vereda Laguna	6,300	0	6,300
16	Antonio Parkway	Verada Laguna to Avenida De Las Flores	3,700	0	3,700
17	Avenida De Las Banderas	Antonio Parkway to Arroyo Vista	11,800	600	12,400
18	Avenida De Las Banderas	Arroyo Vista to Avenida Empresa	13,200	200	13,400
19	Avenida De Las Banderas	Avenida Empresa to Comercio	8,100	3,900	12,000
20	Avenida De Las Banderas	Comercio to Aventura/Esperanza	8,200	3,900	12,100
21	Avenida De Las Banderas	Aventura/Esperanza to Avenida De Las Flores/Alma Aldea	14,900	4,400	19,300
22	Avenida De Las Flores	Avenida De Las Banderas to El Portal	15,200	0	15,200
23	Avenida De Las Flores	El Portal to Santa Margarita Parkway	18,300	0	18,300

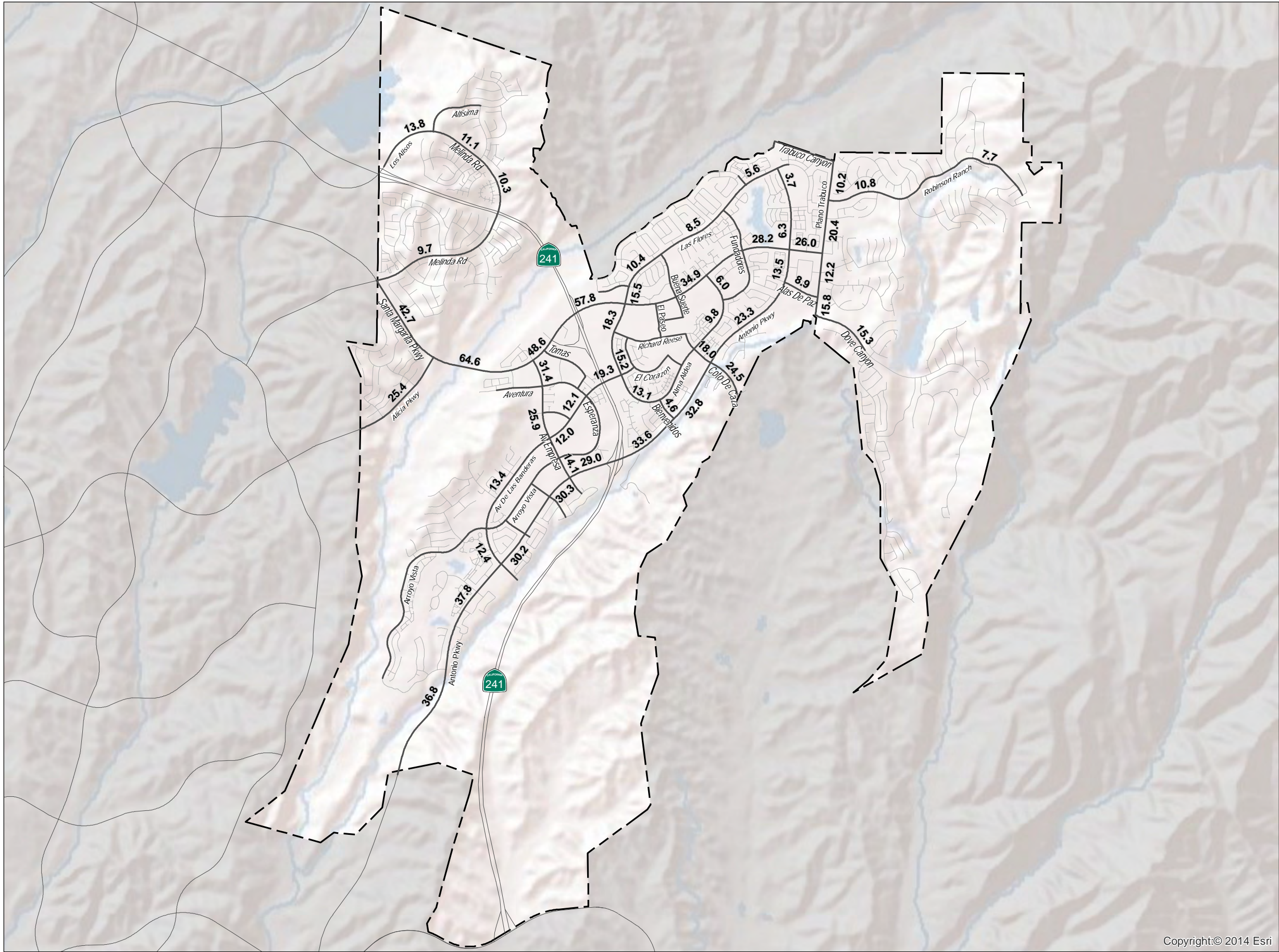
TABLE 3-1 (CONTINUED): FUTURE AVERAGE DAILY TRAFFIC VOLUMES

ID	Street Name	Segment	Existing (2016) ADT	Final Growth ¹	Future (2040) ADT
24	Avenida De Las Flores	Santa Margarita Parkway Via Con Dios	14,700	800	15,500
25	Avenida De Las Flores	Via Con Dios to Buena Suerte	9,600	800	10,400
26	Avenida De Las Flores	Buena Suerte to Avenida De Las Fundadores	8,200	300	8,500
27	Avenida De Las Flores	Avenida De Las Fundadores to Antonio Parkway	5,300	300	5,600
28	Avenida Empresa	Santa Margarita Parkway to Aventura	26,000	5,400	31,400
29	Avenida Empresa	Aventura to Avenida De Las Banderas	20,300	5,600	25,900
30	Avenida Empresa	Avenida De Las Banderas to Antonio Parkway	12,900	1,200	14,100
31	Bienvenidos	Antonio Parkway to Alma Aldea	4,300	300	4,600
32	Coto De Caza Drive	Antonio Parkway to Entry Gate	16,800	7,700	24,500
33	Dove Canyon Drive	Plano Trabuco Road to Entry Gate	15,100	200	15,300
34	La Promesa	Antonio Parkway to Alma Aldea	13,100	4,900	18,000
35	Los Alisos Boulevard	SR-241 Eastbound Ramps to Altisima	11,900	1,900	13,800
36	Melinda Road	Altisima to Rancho Trabuco	9,200	1,900	11,100
37	Melinda Road	Rancho Trabuco to SR-241 Overcrossing	9,400	900	10,300
38	Melinda Road	SR-241 Overcrossing to Santa Margarita Parkway	9,600	100	9,700
39	Plano Trabuco Road	Dove Canyon to Alas De Paz	15,800	0	15,800
40	Plano Trabuco Road	Alas De Paz to Santa Margarita Parkway	12,200	0	12,200
41	Plano Trabuco Road	Santa Margarita Parkway to Robinson Ranch	13,300	7,100	20,400
42	Plano Trabuco Road	Robinson Ranch to Trabuco Canyon Road	4,000	6,200	10,200
43	Robinson Ranch Road	Plano Trabuco Road to Lindsay Drive	10,100	700	10,800
44	Robinson Ranch Road	East of Lindsay Drive	7,000	700	7,700
45	Santa Margarita Parkway	Melinda Road to Alicia Parkway	37,000	5,700	42,700
46	Santa Margarita Parkway	Alicia Parkway to Avenida Empresa	58,300	6,300	64,600

TABLE 3-1 (CONTINUED): FUTURE AVERAGE DAILY TRAFFIC VOLUMES

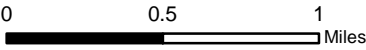
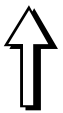
ID	Street Name	Segment	Existing (2016) ADT	Final Growth ¹	Future (2040) ADT
47	Santa Margarita Parkway	Avenida Empresa to SR-241 EB Ramps	46,900	1,700	48,600
48	Santa Margarita Parkway	SR-241 WB Ramps to Avenida De Las Flores	55,600	2,200	57,800
49	Santa Margarita Parkway	Avenida De Las Flores to Alma Aldea	33,900	1,000	34,900
50	Santa Margarita Parkway	Alma Aldea to Antonio Parkway	28,000	200	28,200
51	Santa Margarita Parkway	Antonio Parkway to Plano Trabuco Road	23,200	2,800	26,000

¹Final Growth represents the increase between the existing and future traffic volume forecasts from the OCTAM traffic model.



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10.0 Vehicles Per Day (1000s)



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TABLE 3-2: FUTURE ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Future ADT	Future Capacity ¹	Future V/C	Average Daily Vehicle Capacity Threshold ²
1	Alas De Paz	Antonio Parkway to Plano Trabuco Road	8,900	31,300	0.28	Acceptable
2	Alicia Parkway	Santa Margarita Parkway to City Limits	25,400	56,300	0.45	Acceptable
3	Alma Aldea	Avenida De Las Banderas to La Promesa	13,100	31,300	0.42	Acceptable
4	Alma Aldea	La Promesa to Avenida De Las Fundadores	9,800	18,800	0.52	Acceptable
5	Alma Aldea	Avenida De Las Fundadores to Santa Margarita Parkway	6,000	18,800	0.32	Acceptable
6	Antonio Parkway	City Limits to Tijeras Creek	36,800	56,300	0.65	Acceptable
7	Antonio Parkway	Tijeras Creek to Avenida De Las Banderas	37,800	56,300	0.67	Acceptable
8	Antonio Parkway	Avenida De Las Banderas to Valeroso	30,200	56,300	0.54	Acceptable
9	Antonio Parkway	Valeroso to Avenida Empresa	30,300	56,300	0.54	Acceptable
10	Antonio Parkway	Avenida Empresa to SR-241 Southbound Ramps	29,000	56,300	0.52	Acceptable
11	Antonio Parkway	SR-241 Northbound Ramps to Bienvenidos	33,600	56,300	0.60	Acceptable
12	Antonio Parkway	Bienvenidos to La Promesa/Coto De Caza Drive	32,800	56,300	0.58	Acceptable
13	Antonio Parkway	La Promesa/Coto De Caza Drive to Alas De Paz	23,300	56,300	0.41	Acceptable
14	Antonio Parkway	Alas De Paz to Santa Margarita Parkway	13,500	56,300	0.24	Acceptable
15	Antonio Parkway	Santa Margarita Parkway to Vereda Laguna	6,300	31,300	0.20	Acceptable
16	Antonio Parkway	Verada Laguna to Avenida De Las Flores	3,700	31,300	0.12	Acceptable
17	Avenida De Las Banderas	Antonio Parkway to Arroyo Vista	12,400	31,300	0.40	Acceptable
18	Avenida De Las Banderas	Arroyo Vista to Avenida Empresa	13,400	31,300	0.43	Acceptable
19	Avenida De Las Banderas	Avenida Empresa to Comercio	12,000	31,300	0.38	Acceptable
20	Avenida De Las Banderas	Comercio to Aventura/Esperanza	12,100	31,300	0.39	Acceptable
21	Avenida De Las Banderas	Aventura/Esperanza to Avenida De Las Flores/Alma Aldea	19,300	31,300	0.62	Acceptable
22	Avenida De Las Flores	Avenida De Las Banderas to El Portal	15,200	31,300	0.49	Acceptable
23	Avenida De Las Flores	El Portal to Santa Margarita Parkway	18,300	31,300	0.58	Acceptable

TABLE 3-2 (CONTINUED): FUTURE ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Future ADT	Future Capacity ¹	Future V/C	Average Daily Vehicle Capacity Threshold ²
24	Avenida De Las Flores	Santa Margarita Parkway Via Con Dios	15,500	31,300	0.50	Acceptable
25	Avenida De Las Flores	Via Con Dios to Buena Suerte	10,400	18,800	0.55	Acceptable
26	Avenida De Las Flores	Buena Suerte to Avenida De Las Fundadores	8,500	18,800	0.45	Acceptable
27	Avenida De Las Flores	Avenida De Las Fundadores to Antonio Parkway	5,600	18,800	0.30	Acceptable
28	Avenida Empresa	Santa Margarita Parkway to Aventura	31,400	37,500	0.84	Approaching
29	Avenida Empresa	Aventura to Avenida De Las Banderas	25,900	37,500	0.69	Acceptable
30	Avenida Empresa	Avenida De Las Banderas to Antonio Parkway	14,100	37,500	0.38	Acceptable
31	Bienvenidos	Antonio Parkway to Alma Aldea	4,600	31,300	0.15	Acceptable
32	Coto De Caza Drive	Antonio Parkway to Entry Gate	24,500	31,300	0.78	Acceptable
33	Dove Canyon Drive	Plano Trabuco Road to Entry Gate	15,300	31,300	0.49	Acceptable
34	La Promesa	Antonio Parkway to Alma Aldea	18,000	31,300	0.58	Acceptable
35	Los Alisos Boulevard	SR-241 Eastbound Ramps to Altisima	13,800	31,300	0.44	Acceptable
36	Melinda Road	Altisima to Rancho Trabuco	11,100	31,300	0.35	Acceptable
37	Melinda Road	Rancho Trabuco to SR-241 Overcrossing	10,300	31,300	0.33	Acceptable
38	Melinda Road	SR-241 Overcrossing to Santa Margarita Parkway	9,700	31,300	0.31	Acceptable
39	Plano Trabuco Road	Dove Canyon to Alas De Paz	15,800	31,300	0.50	Acceptable
40	Plano Trabuco Road	Alas De Paz to Santa Margarita Parkway	12,200	31,300	0.39	Acceptable
41	Plano Trabuco Road	Santa Margarita Parkway to Robinson Ranch	20,400	31,300	0.65	Acceptable
42	Plano Trabuco Road	Robinson Ranch to Trabuco Canyon Road	10,200	31,300	0.33	Acceptable
43	Robinson Ranch Road	Plano Trabuco Road to Lindsay Drive	10,800	31,300	0.35	Acceptable
44	Robinson Ranch Road	East of Lindsay Drive	7,700	12,500	0.62	Acceptable
45	Santa Margarita Parkway	Melinda Road to Alicia Parkway	42,700	56,300	0.76	Acceptable
46	Santa Margarita Parkway	Alicia Parkway to Avenida Empresa	64,600	56,300	1.15	Potentially Exceeds

TABLE 3-2 (CONTINUED): FUTURE ROADWAY SEGMENT CAPACITY ANALYSIS

ID	Street Name	Segment	Future ADT	Future Capacity ¹	Future V/C	Average Daily Vehicle Capacity Threshold ²
47	Santa Margarita Parkway	Avenida Empresa to SR-241 EB Ramps	48,600	56,300	0.86	Approaching
48	Santa Margarita Parkway	SR-241 WB Ramps to Avenida De Las Flores	57,800	56,300	1.03	Potentially Exceeds
49	Santa Margarita Parkway	Avenida De Las Flores to Alma Aldea	34,900	56,300	0.62	Acceptable
50	Santa Margarita Parkway	Alma Aldea to Antonio Parkway	28,200	56,300	0.50	Acceptable
51	Santa Margarita Parkway	Antonio Parkway to Plano Trabuco Road	26,000	56,300	0.46	Acceptable

¹ Roadway Segment Vehicle Capacity Thresholds (See Table 2-1)

² The Average Daily Vehicle Capacity Threshold is determined by the following V/C ratio range:

0.00 - 0.79 = "Acceptable", 0.80 - 1.00 = "Approaching Capacity", 1.01 - 1.25 = "Potentially Exceeds Capacity", 1.26+ = "Exceeds Capacity"

The roadway segment analysis for the long-range future buildout conditions of Rancho Santa Margarita General Plan indicates that the roadway network will provide adequate capacity to accommodate projected future traffic demands on all the study area roadway segments, with one segment approaching capacity and two segments potentially exceeding the theoretical daily capacity.

Recognizing that the roadway segment analysis is used as a planning tool to evaluate the adequacy of existing roadway segment capacities, a v/c ratio of greater than 1.01 to 1.25 suggests that additional review is needed. However, if adjacent intersections provide the lanes needed to achieve acceptable peak hour LOS, then segment capacity improvements between key intersections may not be needed. In addition, many of these intersections benefit from on-going traffic signal progression timing adjustments that maximize green time during peak traffic demands.

3.4 FUTURE VEHICLE MILES TRAVELED

Table 3-3 provides a summary of the VMT for future conditions. As shown on Table 3-3, the City is expected to produce a total future VMT of approximately 1,106,393 per day. This represents an increase of 89,580 VMT or 9% over the existing conditions.

TABLE 3-3: FUTURE VEHICLE MILES TRAVELLED (VMT)

Condition	Vehicle Miles Travelled (VMT)				
	AM Period	PM Period	Midday	Nighttime	Daily
Existing	288,293	332,077	218,329	178,114	1,016,813
Future	307,546	355,841	245,238	197,768	1,106,393
Growth	19,253	23,764	26,909	19,654	89,580
% Growth	7%	7%	12%	11%	9%

Based on OCTAM model forecasts.

4 REFERENCES

City of Rancho Santa Margarita, *Rancho Santa Margarita General Plan Circulation Element*, adopted February 9, 2014.

Orange County Transportation Authority, *2017 Orange County Congestion Management Program*, October 2015.

Orange County Transportation Authority, *2017 Master Plan of Arterial Highways*, July 14, 2017.

Orange County Transportation Authority & Orange County Council of Governments, *Orange County Sustainable Communities Strategy (SCS)*, June 14, 2011.

Orange County Transportation Authority, *2009 OCTA Commuter Bikeways Strategic Plan (FINAL)*, May 2009.

Southern California Association of Governments, *The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy "A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life"*, Adopted April 2016.

Transportation Management & Design, Inc., *City of Rancho Santa Margarita Transit Feasibility Study*, September 2017.

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