



City of Redlands  
**GENERAL PLAN 2035**

Adopted December 5, 2017



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# 1

## Introduction

We envision Redlands as a distinctive city characterized by its small-town feeling and cultural richness; whose citizens enjoy a livable, healthy, and sustainable community and a prosperous economy.

The City of Redlands, settled against the striking backdrop of the San Bernardino Mountains and lush canyonlands, is the gem of the Inland Empire. Residents are proud to call the city home, and with good reason. Redlands is unique in the region for the combination of its cultural diversity, historical features, citrus heritage, and beautiful landscapes. Redlanders' love of their community is easily apparent in the social and built fabrics that make up the city, and the care they take in preserving and strengthening these points of pride.

As Redlands continues to flourish, it will need to respond to a number of new and ongoing challenges, and make important decisions regarding growth, public facilities and services, natural resources, commerce, and the city's physical development. Looking to the future, the city will need to contend with the effects of regional growth on traffic, air quality, and the demand for housing and

jobs; water supply; open spaces; agricultural production; and biodiversity. Changing demographics will impact the types of opportunities, infrastructure, services, and programming the City will need to provide. In rising to meet these challenges, Redlands can build itself into a stronger, more prosperous, and higher quality community, set an example for other cities throughout the region, and cement its legacy as a unique and forward-thinking community where the best of the past, present, and future exist in harmony.

This General Plan is a dynamic document that sets forth conditions to guide development in the city for years to come. This Plan reflects the ambitious, altruistic, and environmentally conscious aims of Redlands residents to create a future city that is multi-faceted, vibrant and memorable—a place where the community's pride will be felt by the next generation, and generations to come.

# 1.1 PURPOSE AND SCOPE OF THE GENERAL PLAN

California Government Code Section 65300 requires each city and county in California to adopt a General Plan “for the physical development of the county or city, and any land outside its boundaries which...bears relation to its planning.” The Redlands General Plan can be considered the city’s development constitution, containing both a statement of the community’s vision of its long-term development as well as the policies to support that vision by guiding the physical growth of the city. The Plan contains policies to guide decision-making related to development, housing, transportation, environmental quality, public services, parks, and open spaces. The Redlands General Plan is a document adopted by the City Council that serves the following purposes:

- Establish a long-range vision that reflects the aspirations of the community and outlines steps to achieve this vision;

- Establish long-range development policies that will guide City departments, Planning Commission and City Council decision-making;
- Provide a basis for judging whether specific development proposals and public projects are in harmony with plan policies;
- Plan in a manner that meets future land needs based on the projected population and job growth;
- Allow City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve environmental resources, and minimize hazards; and
- Provide the basis for establishing and setting priorities for detailed plans and implementing programs, such as the Zoning Ordinance, subdivision regulations, specific and master plans, and the Capital Improvement Program.

Due to the general and long-range nature of the General Plan, there will be instances where more detailed studies will be necessary in order to implement the Plan’s policies.



Redlanders participate in a Steering Committee meeting.

## General Plan Requirements

California grants local authorities power over land use decisions. As a result, cities have considerable flexibility in preparing their general plans as long as State requirements are met. The California Government Code establishes both the content of general plans and rules for their adoption and subsequent amendment. Together, State law and judicial decisions establish three overall guidelines for general plans; they should be:

- **Comprehensive.** This requirement has two aspects. First, the general plan must be geographically comprehensive. That is, it must apply throughout the entire incorporated area and it should include other areas the City determines are relevant to its planning. Second, the general plan must address the full range of issues that affect the city’s physical development.
- **Internally Consistent.** This requirement means the general plan must fully integrate its separate parts and relate them to each other without conflict. “Horizontal” consistency applies as much to figures and diagrams as to the general plan text. It also applies to data and analysis as well as policies. All adopted portions of the general plan, whether required by State law or not, have equal

legal weight. None may supersede another, so the general plan must resolve conflicts among the provisions of each element.

- **Long-Range.** Because anticipated development will affect the city and the people who live or work there for years to come, State law requires every general plan to take a long-term perspective.

Additionally, State law requires all general plans to include seven mandatory elements: land use, circulation, conservation, open space, safety, noise, and housing. The City of Redlands General Plan update includes six of the seven elements required by California State law: land use, circulation, conservation, open space, safety, and noise. Because the seventh element, housing, is required by State law to be updated more frequently than the General Plan, it is published as a separate document. The Housing Element was most recently published in 2014 and will be next updated in 2022, consistent with the State-defined cycle. Table 1-1 shows required General Plan elements and their locations in the Redlands General Plan.

Moreover, it is necessary to ensure that implementation of the General Plan is vertically consistent. That is, all actions relating to zoning, subdivision approval, housing allocations, and capital improvements must be consistent with the General Plan.

**TABLE 1-1: CORRESPONDENCE BETWEEN REQUIRED ELEMENTS AND GENERAL PLAN ELEMENTS**

Required Element	Locations in General Plan
Land Use	Chapter 4: Livable City
Circulation	Chapter 5: Connected City
Conservation	Chapter 6: Vital Environment
Open Space	Chapter 6: Vital Environment
Safety	Chapter 7: Healthy Community, 7.4 Safety
Noise	Chapter 7: Healthy Community, 7.5 Noise
Housing	Contained in a separate document

## 1.2 THE PLANNING AREA

### Regional Location

Redlands is located at the base of the San Bernardino Mountains in San Bernardino County, 60 miles northeast of Los Angeles and 45 miles west of Palm Springs. Redlands is a mid-sized city with a population of 68,049 in 2016. Figure 1-1 shows the location of Redlands in a regional context. Redlands lies along the Interstate 10 (I-10) freeway corridor, which links the city with the cities of San Bernardino, Ontario, and Los Angeles to the west and Palm Springs to the east. Interstate 210 (I-210), or the Foothill Freeway, originates in Redlands, traverses the northwest part of the city, and heads west towards Pasadena.

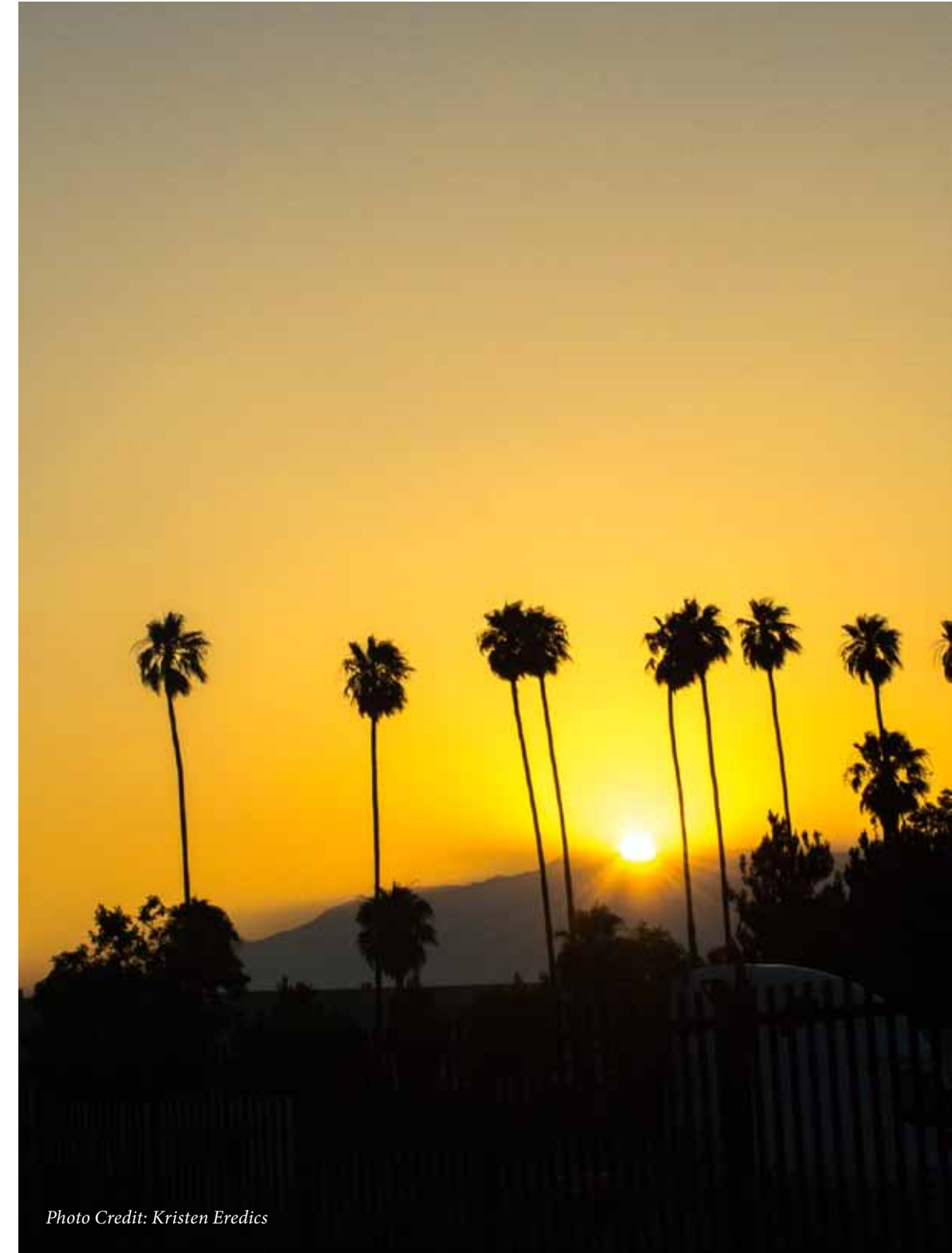
### Planning Area

California Govt. Code 65301(a) requires general plan planning areas to include all land within a city or county's limits, and territory outside its boundaries "which in its judgment bears relation to its planning." Redlands' Planning Area encompasses 46 square miles, including all land within the Redlands city limits, the area within the City's Sphere of Influence (SOI), and an unincorporated island known as the "Donut Hole" that is located in the northwestern portion of the city. The Sphere of Influence (SOI) is defined as the City's ultimate service area as established by the San Bernardino County Local Agency Formation Commission (LAFCO), and includes the unincorporated communities of Mentone

and Crafton. The Donut Hole, while surrounded on all sides by the City of Redlands, is not within the SOI. The City's authority to regulate development is limited to its corporate limits, but San Bernardino County General Plan policies commit the County to support annexation of land designated for urban development, and collaboration between the City and the County on land use planning is possible.

The Planning Area is bounded on the north by the Santa Ana Wash, the City of Highland, and the San Bernardino mountains; on the east by the Crafton Hills and the City of Yucaipa; on the south by the northern boundary of Riverside County; and on the west by the cities of Loma Linda and San Bernardino. The Planning Area and its topography are depicted in Figure 1-2.

The Planning Area was further subdivided into subareas based on qualities such as topography, historic neighborhoods, and development characteristics. Residents from these subareas provided their perspectives as part of the General Plan update. The subareas are shown in Figure 1-3.



*Photo Credit: Kristen Eredics*

*Redlands is nestled between several ranges of hills and mountains, including the San Bernardino Mountains.*

Figure 1-1: Regional Setting

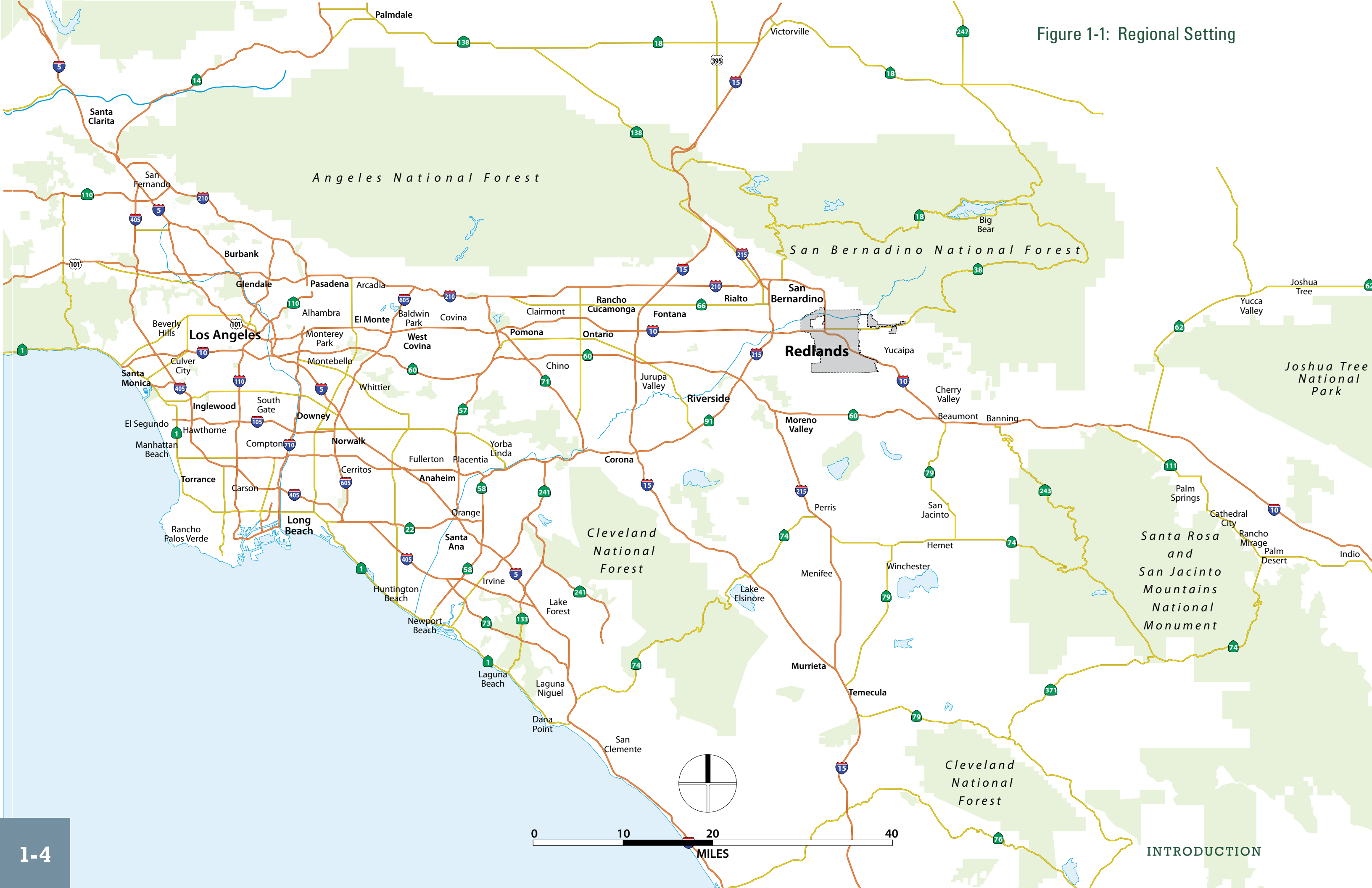
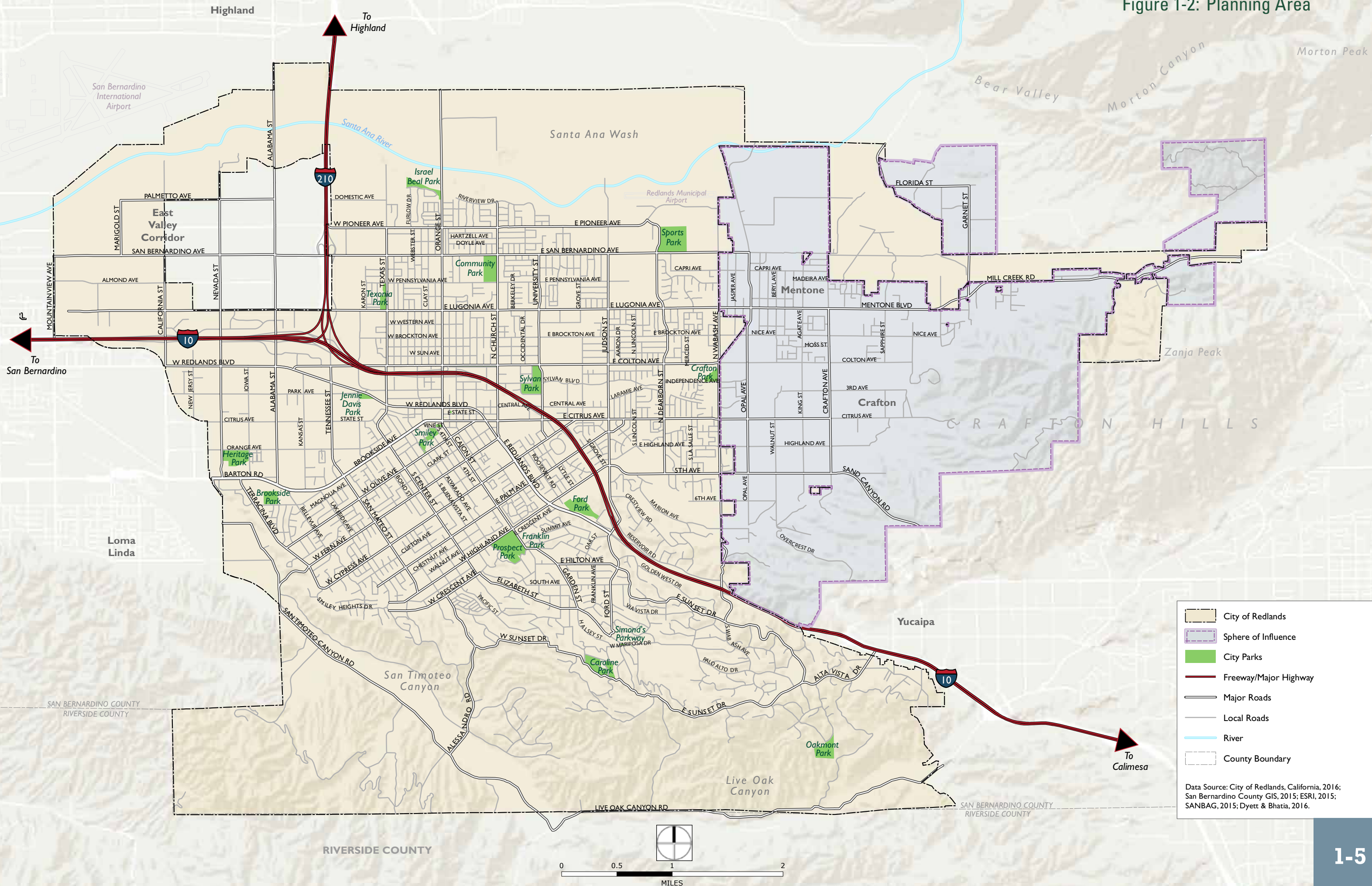


Figure 1-2: Planning Area

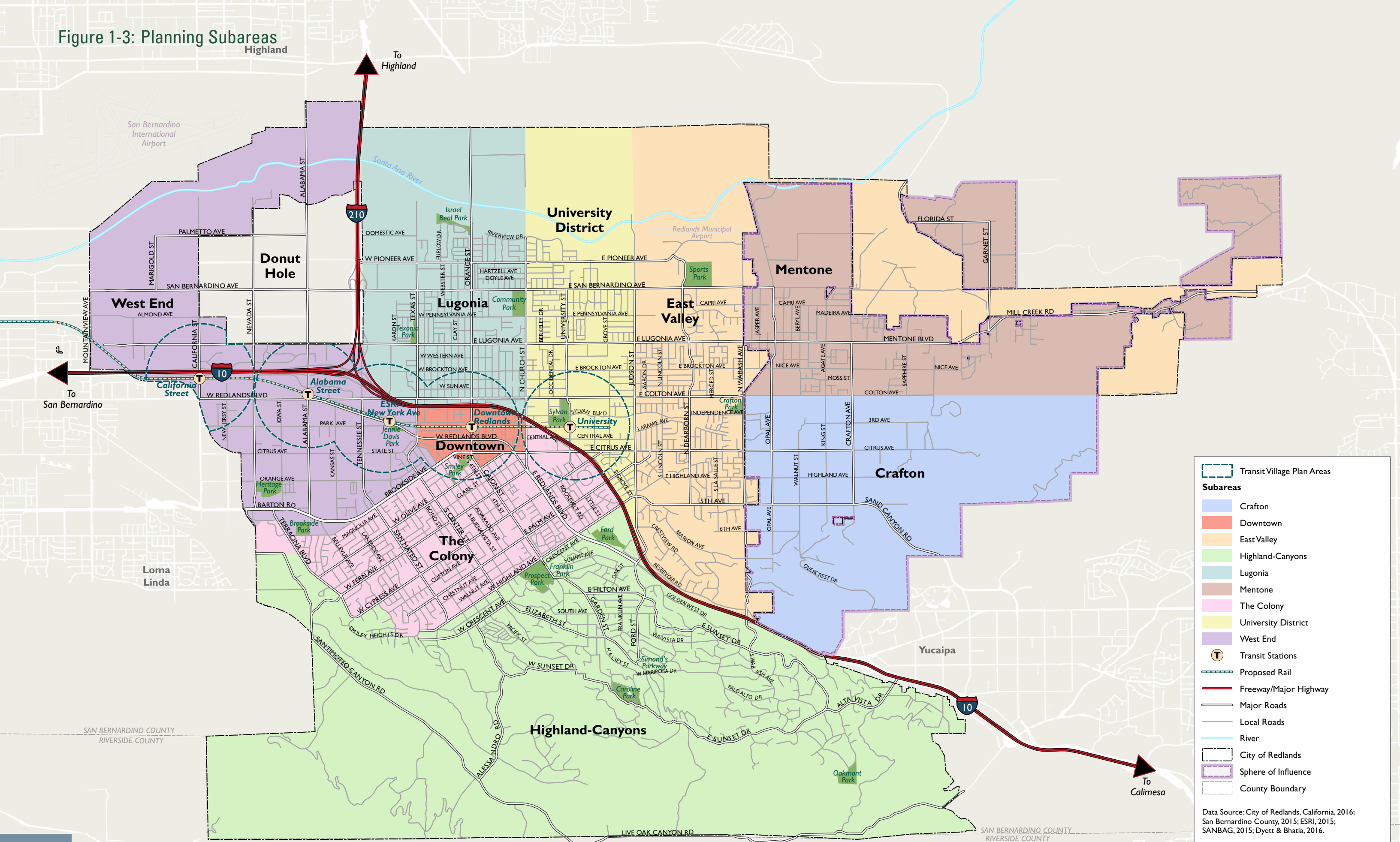


City of Redlands  
 Sphere of Influence  
 City Parks  
 Freeway/Major Highway  
 Major Roads  
 Local Roads  
 River  
 County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



Figure 1-3: Planning Subareas  
Highland



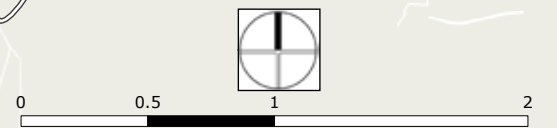
**Transit Village Plan Areas**

**Subareas**

- Crafton
- Downtown
- East Valley
- Highland-Canyons
- Lugonia
- Mentone
- The Colony
- University District
- West End

- T Transit Stations
- Proposed Rail
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- City of Redlands
- Sphere of Influence
- County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## 1.3 UPDATING THE GENERAL PLAN

The City of Redlands has accomplished a great deal since the adoption of its previous General Plan in 1995, and during that time, new opportunities, challenges, and approaches have emerged to necessitate an update. Additionally, the Inland Empire region has experienced tremendous growth and change since the 1995 plan was drafted, requiring an updated understanding of how the Redlands Planning Area fits into the regional context. This General Plan update is a comprehensive reexamination of Redlands' planning context and the community's vision in order to more accurately reflect the community's goals and priorities through the Plan's 2035 planning horizon.

Today, the City of Redlands is known for its unique and historic character, high quality of life, and enviable environment. Successful planning efforts have resulted in the development and preservation of highly desirable neighborhoods. Combined with its distinctive community character and small-town ambiance, Redlands is a great place to live, work, and play. This update to the General Plan will maintain these positive qualities moving forward by addressing the contemporary issues spanning all aspects of life in the city. Pages 1-8 and 1-9 explain the public process involved with creating this General Plan.



*The General Plan was greatly shaped by discussions that occurred at public workshops.*

# PLANNING PROCESS

The General Plan update process was a collaborative effort between the City and the community, and relied on the involvement of residents and business owners in order to establish a vision and blueprint for development through the General Plan horizon year of 2035. Community members were invited to participate in the planning process from the initial visioning stage through the development of Plan policies, the drafting and adoption of the General Plan, and the completion of the Environmental Impact Report (EIR). Community input activities are described below and were instrumental in the establishment of the community vision that underpins the policies of this General Plan.



16 Steering Committee Meetings



Online Survey



**Community Survey.** An online survey was conducted between July 31, 2015 and September 21, 2015 to enable community members to express their values and visions for the future, while also gauging support for various potential improvements to circulation, the Downtown area, and the city as a whole. The survey was administered using Metroquest (an online survey provider) and made available as a paper version at community workshops and at City Hall. Full Spanish translations of the survey were available online and in paper form. There was a total of 1,838 responses to the survey. All responses were coded into a database and analyzed, and a report on findings was made available to the public.

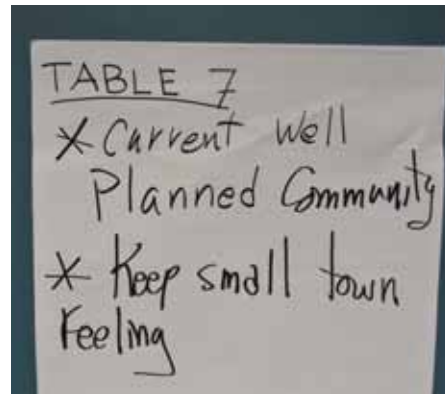


**General Plan Steering Committee.** The General Plan Steering Committee (GPSC) served in an advisory role to the Planning Commission and City Council on matters related to the General Plan update process. The GPSC was created to provide input on the project throughout the process and to bring together perspectives from different disciplines and neighborhoods within the Planning Area. The committee was made up of 34 community members serving on a voluntary basis. The GPSC met regularly throughout the course of the project to help define community input into a shared vision, brainstorm issues and ideas, and review the policy content of the General Plan to ensure that it met the needs and desires of the community. The public was welcomed to observe the meetings to learn more about the process.





**Stakeholder Meetings.** The City of Redlands conducted a series of stakeholder interviews to engage agencies and organizations with insight into the city's planning issues. These interviews were an opportunity for City staff to share information about the planning process and elicit information about programs being implemented by stakeholder groups; experiences stakeholders have had working with the City in the past; ideas for improvements to City regulations, policies, infrastructure, and services; and perspectives on key opportunities and constraints for the city over the next 20 years. Stakeholders represented interests such as the airport, arts and culture, the Chamber of Commerce, natural resources conservation, bicycling, agriculture and citrus, neighborhoods, the special needs community, citizen groups, landowners, and real estate professionals.



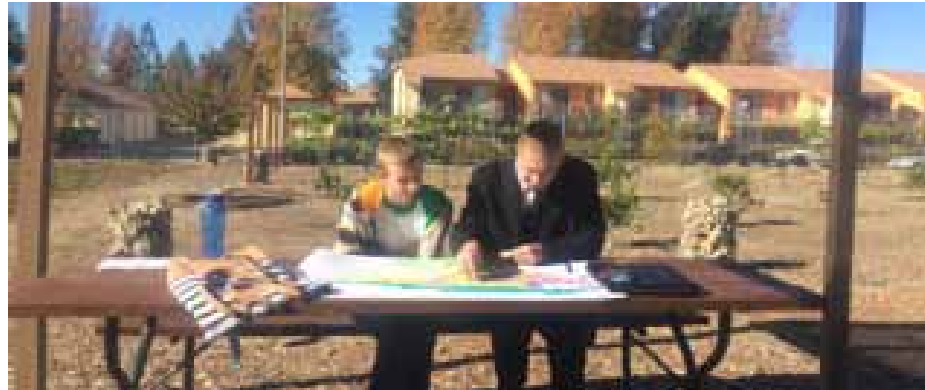
**City Council Workshops**



**Photo Contest**



**2 Community Workshops**



**Community Workshops.** Two visioning workshops were held in August 2015 with the objectives of fostering dialogue between community members on the future of Redlands; identifying common themes and visions for Redlands; and gathering ideas on key planning issues and ideas to consider during the General Plan update. The first workshop was attended by 52 people, and the second by 48.

**Redlands 2035 Website.** A project website was established to provide updates on the planning process, access to meeting materials and presentations, draft documents for public review, and additional background information about Redlands, urban planning, and the General Plan update.

**Photo Contest.** A photo contest open to all residents of Redlands, Crafton, and Mentone was held in the spring of 2016 to invite community members to share their experiences of the city through their own unique points of view. Photos were accepted in seven categories corresponding to the main themes of the General Plan, in both a youth division and an adult division. Winning photos and several other outstanding entries have been included throughout the General Plan.

**City Council Workshops.** Two City Council workshops were held in June 2016 to review land use changes and the principles, actions, and themes recommended by the Steering Committee.



**Project Website**

## 1.4 COMMUNITY VISION

*“We envision Redlands as a distinctive city characterized by its small-town feeling and cultural richness; whose citizens enjoy a livable, healthy, and sustainable community and a prosperous economy.”*

The above statement is an expression of the collective vision the Redlands community has for its city, and which serves as the foundation for the principles and actions set forth in this General Plan. Each of the General Plan’s seven main themes seeks to promote this vision by addressing a series of related topics the community has identified as essential to the city’s future development. Additionally, the vision is expanded into several values that reach across each of the General Plan’s seven main themes.

### Our Values

As part of the General Plan update visioning process, members of the community were asked to describe those qualities that make Redlands a great community and which should guide the General Plan for the future in order to bring the community vision to fruition. These qualities emerged as high level, values that can be applied across several topics in the General Plan. Each is described below in turn.

### Cultural Richness

Redlands is imbued with a cultural richness that comes from its historical background, its social diversity, and the contemporary art scene that is active here today. The city’s physical setting, iconic architecture, and citrus heritage have all contributed to the community’s development in ways that are still evident today in its historic districts, characteristic

structures and neighborhoods, and lush citrus groves. This serves as the backdrop for a community that is made up of a diverse spectrum of ethnicities, races, cultures, and religions that over the years has contributed to the city’s cultural tapestry through commerce, social events, places of worship, and the arts. The community’s long tradition of celebrating arts and culture remains strong through its festivals—such as the Redlands Bowl Summer Music Festival, which is firmly established as the oldest continuously running summer music festival in the United States where no admission is charged—and the eclectic public art that documents its history of agriculture, commerce, architecture, creativity, and civic pride. The General Plan builds upon this legacy and expands it for future generations.

### Strength

This value characterizes the city’s strong sense of community. It describes the civic atmosphere in which rarely a week goes by without an event that brings Redlands citizens together, and where numerous civic groups provide forums for social and community engagement. Parades, festivals, sporting events, and market nights all contribute to the community’s cohesion and pride, while organizations like the Kiwanis, Rotarians, Optimists, Soroptomists, Lions, Elks, and many others have left their mark of service on the physical and social form of the city.

### Unity

While the city is composed of many different neighborhoods, most Redlanders simply identify as members of the Redlands community as a whole. This sense of belonging to a larger community is what makes Redlands unique. Pride of place is exemplified by the many philanthropic contributions to the community including the A. K. Smiley Library, the Redlands Bowl, Heritage Park, Lincoln Memorial Shrine, and many others. There are some physical challenges to unity in the city: sections of

the community are divided by Interstate 10 (I-10) and Highway 210. However, there is a strong will on the part of residents to “knit” the disparate parts of the city together. Through consistent land use, streetscapes, and urban design, the General Plan seeks to bridge divides in the city.

### Sustainability

A sustainable city is one that ensures a livable environment for its residents over the long term through thoughtful stewardship of its resources. Components of Redlands’ sustainability include water and energy conservation, renewable energy sources, and waste reduction.

Water is the essence of life and has helped to make Redlands a “green” oasis in the golden California landscape. As a Tree City USA community, Redlands needs water to sustain the community’s urban forest, made up of parks and street trees. As Southern California often faces the challenges of prolonged droughts that strain water supplies, improving water conservation is becoming more and more important. Extending the non-potable water system and installing drought tolerant landscaping are just some of the policies that can improve water conservation.

Responsible energy use is a key component of sustainability, and includes conserving energy through reducing consumption, improving efficiency, and seeking renewable energy sources. Strategies include green building techniques for new construction and rehabilitation that help to eliminate wasted energy, and exploring the use of solar energy that takes advantage of the abundance of sunshine in Southern California.

Extending the life of area landfills is another key sustainability goal for Redlands. Through waste reduction and recycling activities, Redlanders can reduce the demand for landfill space, as well as the energy required to haul and manage waste.

Policies in the General Plan seek to ensure ample resources exist for many future generations of Redlanders.

### Health

A city can influence the health of its residents by implementing design and programs that encourage physical fitness, providing connections to nutritious food, and ensuring access to clean air, water, and a community free of excessive noise. Redlands provides opportunities to promote the health of its residents. The city’s park and trail system, its recreational areas, and community centers help promote active lifestyles for residents of diverse ages and abilities. Today, the Redlands community takes advantage of these features to organize events such as walks, runs, and bicycle races that provide opportunities to enjoy the outdoors and socialize with fellow citizens. Policies in the General Plan seek to preserve and enhance these and other aspects of healthy living by addressing the continued provision of parks and recreation facilities, ensuring high-quality drinking water, highlighting fresh produce from local farms, and reducing health impacts on new residential areas from excessive noise and pollution.

### Prosperity

The strength of the Redlands economy owes to the diversity of the community’s businesses, consisting of technology, logistics, education, health care, retail, and manufacturing, which makes the economy more resilient in the face of downturns. Unemployment is traditionally below neighboring cities in the Inland Empire as well as the national average. Still, too many citizens commute out of the city to find gainful employment, a trend the General Plan seeks to reverse by providing more job opportunities for residents. The City, working with the assistance of organizations like the Chamber of Commerce, can improve on the legacy of economic prosperity for future generations to come.

To ensure prosperity in the future, Redlands must be ready to capitalize on changes occurring in the economy with available land, structures and a skilled workforce to accommodate the businesses of the future. Working in partnership with the local schools, colleges, and the University of Redlands, the City can participate in building the workforce of tomorrow. The City must seek to attract high-skilled jobs that will enable more residents to find work closer to home, and it must build the knowledge infrastructure to enable the technology that drives innovation and growth. The City can also focus on the asset that is Redlands' vibrant Downtown, which provides retail, services, restaurants, entertainment, arts and civic spaces in the heart of the community, enhancing it by providing opportunities for people to live and work Downtown.

### Excellence

Excellence is a theme that highlights the quality of the city's planning and design, its governance, and its schools. Redlands is graced by a well-designed street system, well-planned neighborhoods, and exquisite architecture. The City insists on quality development and redevelopment as it grows and revitalizes. Appropriate land uses, design guidelines and standards, zoning ordinances, and sign codes assist in making Redlands a livable community that values the aesthetics that come from excellence in design.

Additionally, the City has chartered a path of fiscal responsibility while expanding services to its residents. It has embraced technology to improve efficiency in delivering those services. Its police

and fire departments have a stellar reputation in the community. Through supportive policies in the General Plan, this excellence in good government will continue in the future.

Redlands is also known for its excellence in education, which is a major draw for new residents. Local public and private schools are renowned for their great teachers, and the University of Redlands has established a reputation for excellence in higher education.

### Safety

New residents often cite safety as one of their primary reasons for moving to Redlands, and longtime residents say it is their reason for staying. The city's police and fire services are exemplary and enjoy tremendous support from the community. The community stands ready to respond to natural and man-made disasters, and has invested in its emergency preparedness. The city can use good environmental design to plan new developments with safety built in; creating visible, defensible spaces that are perceived as safe by residents and visitors alike. The General Plan policies reinforce Redlands as a safe community in which to live, work, and play.



# 1.5 GENERAL PLAN ORGANIZATION

The General Plan was designed to be easy for the reader to understand and use. Chapters may include the following six parts described below.

## Themes

The General Plan is organized around seven themes derived from the community vision and values. These seven themes provide the organizational framework for the General Plan, each serving as a chapter of the General Plan that collects a series of related topics.

## Goals

Goals are aspirational statements for each of the Plan's themes, and are presented on the introductory page for each theme.

## Figures, Tables, Charts, and Images

Figures, tables, charts, and images provide clarifying detail about topics covered in the General Plan.

### 1 Introduction

We envision Redlands as a distinctive city characterized by its small-town feeling and cultural richness, whose citizens enjoy a livable, healthy, and sustainable community and a prosperous economy.

The City of Redlands, united against the existing backdrop of the San Bernardino Mountains and San Gabriel Mountains in the east, the Los Angeles Basin to the west, and the San Gabriel Mountains to the north, is a city of diverse communities. Redlands is a city of diverse communities, including Chinese, Korean, Vietnamese, and other ethnic groups. Redlands is a city of diverse communities, including Chinese, Korean, Vietnamese, and other ethnic groups. Redlands is a city of diverse communities, including Chinese, Korean, Vietnamese, and other ethnic groups.

This General Plan is a dynamic document that will evolve over time. It reflects the city's history, culture, and urban design, as well as the distinctive identity of the city's neighborhoods, each with its own personality, assets, and challenges. Residents want to enhance the qualities that make their neighborhoods special—including landmarks, art, cultural events, gathering places, activity centers, as well as the size, scale, and architectural features of buildings—in order to preserve and strengthen their identities. Community members have also requested stronger linkages between neighborhoods to ensure that no part of the community feels isolated or neglected, and that the entire city is connected as a whole.

### 2.1 SMALL TOWN FEELING AND COMMUNITY COHESION

Redlands takes pride in their community and each of the distinct neighborhoods that define the city. Community members have highlighted the city's friendliness and active civic culture as prized qualities, and are interested in creating more opportunities to nurture a stronger and more cohesive community. Residents are interested in embracing diversity and social interaction, and ensuring that a physical and cultural environment with ample gathering places and community-wide events is in place to foster these qualities.

They value the city's overall identity, as expressed through its history, culture, and urban design, as well as the distinctive identity of the city's neighborhoods, each with its own personality, assets, and challenges. Residents want to enhance the qualities that make their neighborhoods special—including landmarks, art, cultural events, gathering places, activity centers, as well as the size, scale, and architectural features of buildings—in order to preserve and strengthen their identities. Community members have also requested stronger linkages between neighborhoods to ensure that no part of the community feels isolated or neglected, and that the entire city is connected as a whole.

#### POLICIES

**Principles**

- 2-P1** Embrace the unique identities of individual neighborhoods in Redlands and encourage the celebration and enhancement of characteristics that make each neighborhood distinct. (SPSC recommendation)
- 2-P2** Embrace diversity—physical, cultural, language, and social—and sensitively integrate the old and the new. (Staff recommendation)
- 2-P3** Promote planning practices that reduce the presence of physical barriers between neighborhoods (i.e. freeways) and foster greater connections between neighborhoods and uses. (Staff recommendation)
- 2-P4** Provide for the equitable distribution of services, resources and amenities in different parts of the city. (Staff recommendation)
- 2-P5** Partner with civic, neighborhood, cultural, and philanthropic organizations involved in physical improvements to the community. (Staff recommendation)
- 2-P6** Enhance cultural and generational diversity and social connections through more opportunities for volunteerism and civic engagement, public gathering places and public art, family-friendly activities, and events that connect residents to one another and keep them socially active in the community. (Staff recommendation)

**2-P7** Promote a physical and cultural environment, building upon a mature and varied landscape, that creates opportunities for meeting and gathering and encourages face-to-face interactions between people. (SPSC recommendation)

**Actions**

**Community Integration**

- 2-A.1** Provide for the equitable distribution of public facilities and amenities, such as parks and public facilities, throughout Redlands. (Staff recommendation)
- 2-A.2** Develop "destinations"—such as the regional commercial areas planned along the 210 freeway—that draw residents from the entire community. (Staff recommendation)
- 2-A.3** Promote cultural activities that span the north and south parts of Redlands and draw residents and visitors alike, such as parades, festivals, runs, bicycle races, walking tours, etc. (Staff recommendation)
- 2-A.4** Maintain continuity in streetscape design along major streets and avenues that traverse north and south—California, Nevada, Alabama, Tennessee, Orange, Church, University, Jackson, and Washburn. (Staff recommendation)
- 2-A.5** Develop new roadway connections, pedestrian paths, and bicycle routes that facilitate transportation in the north-south direction traversing the I-10 freeway. (Staff recommendation)

### Chart 3-5: Commercial and Industrial Development in Planning Area

Category	2013 Total Jobs*	Percent of Total	2040 Projected Total Jobs*	Percent of Total	Estimated Change in Jobs, 2013–2040*
Health & Education	6,599	33%	14,026	27%	5,027
Wholesale & Retail Trade	4,353	15%	7,780	15%	3,657
Leisure	2,819	10%	6,784	13%	3,965
Transportation & Utilities	900	4%	6,210	12%	5,220
Professional Services	6,076	19%	6,167	12%	1,689
Manufacturing	1,219	4%	3,148	6%	1,929
Construction	909	3%	3,105	6%	2,196
Other**	1,209	4%	2,217	4%	1,208
Financial Activities	1,228	5%	1,818	3%	590
Government	559	2%	1,188	2%	629
Information	200	1%	300	1%	100
Farm	125	0%	78	0%	-57
<b>TOTAL</b>	<b>22,248</b>	<b>100%</b>	<b>53,000</b>	<b>100%</b>	<b>26,752</b>

**TABLE 3-1: REDLANDS PROJECTED EMPLOYMENT GROWTH BY INDUSTRY SECTOR, 2013-2040\***

Notes:  
 1. Sorted by largest to smallest 2040 projected employment total.  
 2. 2013 Redlands Employment Data Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2012). To facilitate comparison to CA DOT's 2040 Industry Sector Projections, the 2013 NAICS Industry Sector Employment Totals for the city were sorted by best fit into new totals using CA DOT's Employment Forecast Industry Sector.  
 3. SCAG projects total employment for Redlands in 2040 but does not provide detailed employment sector projections. The California Department of Transportation (CA DOT) provides county-level projections to 2040 employment by industry sector. It estimates total employment in Redlands by industry in 2040; the percentages of CA DOT's 2040 county-level industry projections were applied by sector to SCAG's 2040 employment projections for Redlands. Arguments were made to the Department and Health & Education projections to account for Redlands' strong Health & Education sector and relatively weak Government sector, compared to San Bernardino County (for Redlands' 2040 sector projections, the county's Government share was reduced from 13 percent to 2 percent; then, 11 percent was added to Redlands' Health & Education sector total, increasing it from 8 percent to 27 percent).  
 4. The change in number of jobs in Redlands from 2013 through 2040 is the difference between the SCAG 2040 total Redlands employment projection, categorized by sector, and the 2013 total employment, categorized by sector, in the city by 2013 by the US Census.  
 5. Other includes Natural Resources and Mining and Other Services.  
 Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2012); SCAG 2016 Draft Regional Transportation Plan, California Department of Transportation, 2016 Open & Buena, 2015.

### MEASURE U POLICIES

#### Resource Preservation

4.41m Density within the Southeast Area Plan shall be as follows:

Slack	Acres/Shedding Unit
0-1%	10 acre
> 1% to 10%	25 acre
> 10%	50 to 5.0 acres

4.41a Guiding Policies: Remote Recreational Facilities

4.41b Consider outlying existing and proposed commercial recreation enterprises operating in accord with permits issued by San Bernardino County or the City of Redlands to be consistent with the General Plan.

4.41c Other Public Facilities

Additional public facilities identified on the CP (Figure 4-1) Proposed Redlands General Plan, include postal offices, landfills, for station and school locations, the Redlands Municipal Airport, the City pool, water and sewer facilities. These public facilities are anticipated to serve the additional population projected at buildout.

#### Open Space

4.49 Open Space describes all land and water areas, regardless of ownership, which are left open or undeveloped as an element in the planning and design process. The benefits of preserving some of the undeveloped land which remains include the preservation of a visually pleasing landscape, ecological/environmental protection, the enhancement of community values, and the ability to guide urban form by utilizing open spaces to buffer incompatible land uses and maintain future land use options. The need to preserve open space and its benefits becomes more critical as city population increases and urban development expands to reach projected buildout.

4.49a Public and Open Space

- Public/Institutional. The Public/Institutional land use category designates areas intended for public services, buildings, and related facilities, including schools and educational facilities, government facilities, the airport, public utilities, and other facilities of a public or quasi-public nature. Residential uses at a density of up to 15 units and agricultural uses are also permitted.
- Park/Golf Courses. This category includes both public and private facilities developed for outdoor active or passive recreation, trails within linear parks, and golf courses.
- Open Space. This classification provides for public and private lands that are mostly unimproved and free of residential, commercial, and/or industrial development. They include areas intended for the conservation of natural resources, such as construction aggregates, compatible outdoor recreational uses, such as passive parks and trails, scenic enjoyment, the protection of natural habitats, and the protection of public health and safety, such as areas subject to flooding, and steep or unstable slopes.

Within the Open Space designation, the following uses would be permitted: construction aggregate mining and concrete batch operations per the Upper Santa Ana Watershed Land Management and Habitat Conservation Plan (Wash Plan); public utilities and facilities such as water, wastewater, energy and telecommunications facilities; water management areas such as groundwater recharge areas; spending ponds, flood control structures, and roads and highways.

4.49b Steep Slopes

- Housing Conservation, The Housing Conservation designation functions as an overlay to the underlying General Plan land use category with special provisions allowing certain types of existing nonconforming land uses. The intent of the Housing Conservation overlay is to provide for the retention and maintenance of existing higher density residential development while restricting construction of new higher density development in key areas of historic value where density is predominant. Two areas have received this overlay designation, one low-density residential area north of the I-10 freeway and east of Orange Street and one medium-density residential area south of the downtown. (1995 General Plan)
- Transit Village Overlay Zone. The Transit Village Overlay Zone covers areas within a half-mile radius of the Redlands Passenger Rail project station, and identifies the planning area of the Transit Village Plan, which will detail transportation system enhancements, design guidelines and standards, and the character of development. (Staff recommendation)
- Mixed Use Core. The Mixed Use Core covers areas within a quarter-mile radius of the proposed Redlands Passenger Rail Project stations and designated areas within the Transit Village Overlay Zone with the potential for the highest development intensity and ability to support transit ridership. The Transit Village Plan would apply policies to Mixed Use Core areas intended to create vital, mixed-use environments in close proximity to the transit stations. (Staff recommendation)

## Topics

Each chapter of the General Plan is broken up into topics that provide background information and establish context for the policies that follow.

## Principles and Actions

Principles and actions are the core of the General Plan. For each topic under a theme, the General Plan establishes policies that consist of principles and actions that form the supporting policies for the goal. Principles are the fundamental tenets that support each theme's goal, and are statements of broad direction, philosophy, or standards to be achieved. Actions are statements that support the implementation of the principles.

## Measure U

Brown call-out boxes outline the policies of Measure U. The General Plan principles and actions work in tandem with Measure U's principles of managed development.

## Themes

Table 1-2 outlines the seven themes along with their relevant topic areas, with topics corresponding to State-required elements highlighted in red. The contents of each chapter of the General Plan are described below.

1. **Introduction.** This chapter provides an overview of the purpose of the General Plan. It provides contextual information about the General Plan’s geographical scope, process, relation to the community, organization, relation to other plans and policies, and administration.
2. **Distinctive City.** This chapter sets policies to preserve and enhance the city’s unique architectural, agricultural, historical, and cultural resources.
3. **Prosperous Economy.** This chapter sets forth principles and actions specific to major sectors of Redlands’ economy—including tourism, innovation, and retail—in order to ensure prosperity and opportunity for all Redlanders.
4. **Livable Community.** This chapter describes the existing land use pattern and growth management framework. Development and other factors impacting quality of life—including public facilities, public safety, and education—are guided so as to retain the community’s character.
5. **Connected City.** This chapter includes policies, programs, and standards to maintain efficient circulation for all modes of travel. It identifies future street and traffic improvements, and addresses walking, biking, transit, and parking to enable a multi-modal circulation system.
6. **Vital Environment.** Redlands is renowned for its natural beauty. This chapter sets forth policies regarding land conservation, open space, agriculture, and water supply in order to protect the Planning Area’s natural environment.
7. **Healthy Community.** This chapter shapes policy specific to health outcomes of Redlanders. Topics addressed include recreational activity, public health, safety, and air quality.
8. **Sustainable Community.** This final chapter outlines strategies to preserve Redlands’ natural resources for the benefit of future Redlanders. This chapter incorporates innovative strategies to minimize the environmental footprint associated with water, energy, and resource consumption.

**TABLE 1-2: GENERAL PLAN VISION STATEMENT, THEMES, AND TOPICS**

<b>Vision</b>								
<b>We envision Redlands as a distinctive city characterized by its “small town feeling” and cultural richness; whose citizens enjoy a livable, healthy, and sustainable community and a prosperous economy.</b>								
<b>Values</b>	<b>Cultural Richness</b>	<b>Strength</b>	<b>Unity</b>	<b>Sustainability</b>	<b>Health</b>	<b>Prosperity</b>	<b>Excellence</b>	<b>Safety</b>
<b>Themes</b>	<b>2. Distinctive City</b>	<b>3. Prosperous Economy</b>	<b>4. Livable Community</b>	<b>5. Connected City</b>	<b>6. Vital Environment</b>	<b>7. Healthy Community</b>	<b>8. Sustainable Community</b>	
<b>Topics</b>	2.1 Small Town Feeling and Community Cohesion	3.1 Diverse and Resilient Economy (Economic Development)	4.1 Growth Management 4.2 Principles of Managed Development	5.1 Layered, Multi-modal Network ( <b>Circulation</b> ) 5.2 Pedestrian, Bicycle, and Vehicular Movement 5.3 Transit 5.4 Transportation Demand Management (TDM) and Parking 5.5 Goods Movement	<b>6.1 Open Space for Conservation</b> 6.2 Biological Resources 6.3 Agriculture and Open Space for Resource Production 6.4 Water Quality	7.1 Active Lifestyle 7.2 Parks and Recreational Open Space 7.3 Public Health <b>7.4 Safety</b> - (Emergency management and preparedness for floods, fire, seismic, wind, and man-made disasters) <b>7.5 Noise</b> 7.6 Air Quality	8.1 Energy Efficiency and Conservation 8.2 Water Conservation 8.3 Waste Reduction and Recycling 8.4 Green Building and Landscapes 8.5 Greenhouse (GHG) Gas Reduction	
<b>Notes</b>	1. State Required Elements are in <b>Red Bold</b> .							

## 1.6 RELATED DOCUMENTS

### Existing Conditions Report

As part of the General Plan update process, the Existing Conditions Report was produced to provide background information and technical analysis to inform the planning process. The report describes Redlands' planning context and delves into the topics of land use and development; growth management; demographics and economics; community design; transportation and circulation; parks, recreation, and open space; historic resources; biological resources; hazards; public utilities and services; and noise.

### Environmental Impact Report

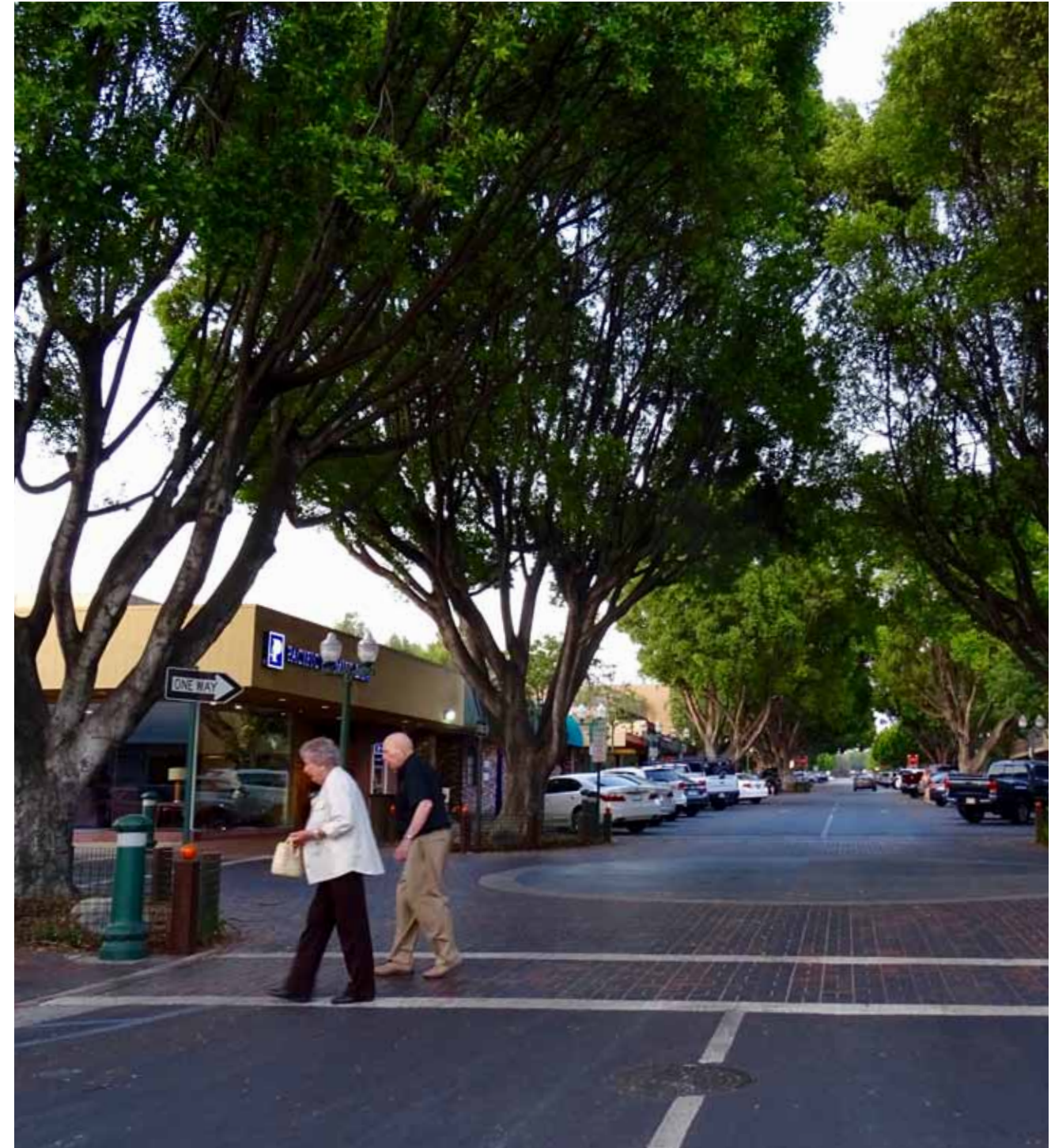
The General Plan is accompanied by an EIR prepared according to the California Environmental Quality Act (CEQA). The EIR is a detailed analysis of the potential environmental effects of the General Plan, and the EIR evaluates alternatives to the proposed project and presents ways to reduce or avoid environmental damage. The EIR ensures environmental opportunities and constraints are identified and incorporated into the planning process, and informs policies that can mitigate any adverse environmental effects of the Plan. This General Plan is "self-mitigating" in that it includes policies and programs designed to mitigate adverse impacts of growth.

### Other Plans and Implementation Programs

The City maintains specific, area, and master plans in order to implement policies over a specific geographic area (such as Downtown); a specific topic of importance to the community (such as bicycle infrastructure or economic development); or the provision of public facilities. State law requires that such plans, as well as the Zoning Ordinance and implementing programs such as the Capital Improvements Program, be consistent with the General Plan. Plans that played a significant role in the development of the General Plan are described below:

#### Downtown Specific Plan (Draft, 2011)

The Downtown Specific Plan was adopted in 1994 and revised through 2008. A comprehensive update took place in 2011 but has not yet been adopted. The plan's primary goal is to support the economic vitality of Downtown Redlands, and it seeks to facilitate the development of financial, technical, professional and research-development offices and services Downtown, supported by retail, restaurants, entertainment, and cultural activities. As updated in 2011, the Downtown Specific Plan covers a larger area, including residential and civic areas in south Downtown. The plan also has a new emphasis on mixed-use and transit-oriented development, including guidelines to ensure compatibility with historic buildings. The plan identifies districts and corridors, and provides direction for vehicle and pedestrian circulation, and pedestrian-oriented street design. Land use proposals from the updated Draft Downtown Specific Plan were considered as part of the General Plan update.



*The Downtown Specific Plan aims to increase pedestrian activity and improve the condition of crossings Downtown.*



*The General Plan is a comprehensive document that carefully considers the impacts of future development within the context of existing development.*

### **East Valley Corridor Specific Plan (1989)**

The East Valley Corridor Specific Plan (EVCSP), adopted in 1989 and revised in 2010, aims to strengthen the local economy, attract major businesses, and result in the orderly and aesthetic development of industrial, commercial, and residential areas in the EVCSP plan area. The EVCSP plan area is composed of 4,350 acres adjacent to I-10 and I-210, and includes portions of the City of Redlands and the City of Loma Linda, as well as unincorporated area under jurisdiction of San Bernardino County (the “Donut Hole”) surrounded by the City of Redlands. At the time the plan was adopted, the plan area consisted of largely undeveloped areas, with over half of the plan area in agricultural production.

The EVCSP provides a plan for future growth and development of the EVC and the communities and areas within the plan boundaries, and includes components such as planning, infrastructure construction and maintenance, marketing, and coordination, and sets development standards. The EVC was envisioned to feature the county’s largest regional shopping center east of Ontario and to create approximately 90,000 jobs at build-out by 2028, while reducing the potential demand for retail, office, and industrial space elsewhere in the Redlands Planning Area. In 2016, the EVCSP plan area is mostly developed, primarily with large-scale warehousing and distribution uses, as well as the Citrus Grove and Mountain View shopping centers.

### **Bicycle Master Plan (2015)**

The Bicycle Master Plan, prepared in January 2015, aims to improve air quality and public health by improving the bicycling environment in Redlands. Strategies to create a multi-modal, bicycle-friendly transportation network are proposed in this document, and these strategies are further elucidated in Chapter 5: Connected City.

### **Community Sustainability Plan (2011)**

The Redlands Community Sustainability Plan (RCSP) was published in 2011. It is intended as a conceptual framework for sustainability policy. Actions related to water conservation, green buildings, waste reduction, climate friendly purchasing, renewable energy, carbon emissions, and land use are outlined in the RCSP. Policies in the General Plan, particularly those in Chapter 8: Sustainable City reflect in the goals of the RCSP.

### **Economic Development Action Plan (2015)**

The 2014/2015 Economic Development Action Plan identifies strategies to attract businesses to Redlands, retain and expand existing businesses, develop a skilled workforce, and market Redlands to visitors. Many of the policies in Chapter 3: Prosperous Economy support the goals of the Economic Development Action Plan.

## 1.7 GENERAL PLAN ADMINISTRATION

### Implementation

The General Plan is implemented by the decisions of the Planning Commission and City Council and by the Zoning and Subdivision Ordinances, specific plans, redevelopment plans and the City's Capital-Improvement Program. The Zoning Ordinance includes detailed use classifications and standards. The zoning map must be consistent with the General Plan map, but it will not be identical to it. Specific plans also must be consistent with the General Plan.

### Amendments to the General Plan

The General Plan is a living document. As such, it should be updated periodically as site-specific circumstances change from the time of writing, to respond to new State or federal law, or to modify policies that may become obsolete or unrealistic over time.

Changes in policy as well as the development of unforeseen opportunities or needs will require amendment of the General Plan. Per California Government Code Section 65358, no mandatory element of this General Plan may be amended more frequently than four times during any calendar year. Within this limitation, amendments may be made at any time as determined by the Redlands City Council, and each amendment may include more than one change to the Plan.



*Photo Credit: Kristen Eredics*





Photo Credit: Bruce Herwig

# 2

## Distinctive City

Enhance Redlands as a distinctive community, unique in the Inland Empire, combining a “small town feeling” with historic architecture and a rich cultural heritage while welcoming innovation and adapting to the needs of future generations.

Redlands is a distinctive city in the increasingly homogenizing Inland Empire, and is unique from other communities in the region. It has a charming, walkable Downtown surrounded by historical and coveted neighborhoods; many exquisitely crafted buildings; gracious streets; prominent institutions; and a rich arts and culture scene. Examples of active farming and the city’s citrus heritage can be found throughout the community. These attributes are highly valued and endow the city with a distinctive character. The General Plan should conserve the city’s heritage, particularly through historic preservation of neighborhoods and buildings; protect the city’s citrus heritage; and promote excellence in design and architecture that is sensitive to the surrounding setting.

Redlanders also regard the high caliber of culture, enterprise, and academic institutions as core community attributes to be built upon as the city changes. The Redlands of the future should maintain its small-town feel while expanding the city’s unique offerings and adapting to the needs of future generations of residents, workers, and visitors.

Distinctive City covers an array of topics related to Redlands’ identity, heritage, and the experience of the city, establishing principles and actions to promote its small-town feeling, community cohesion, street trees and streetscapes, arts and culture, historic resources, citrus groves, and Downtown.



Photo Credit: Christos Hardt



Photo Credit: Ross Sibley



## 2.1 SMALL TOWN FEELING AND COMMUNITY COHESION

Redlanders take pride in their community and each of the distinct neighborhoods that define the city. Community members have highlighted the city’s friendliness and active civic cultures as prized qualities, and are interested in creating more opportunities to nurture a stronger and more cohesive community. Residents are interested in embracing diversity and social interaction, and ensuring that a physical and cultural environment with ample gathering places and community-wide events is in place to foster these qualities.

They value the city’s overall identity, as expressed through its history, culture, and urban design, as well as the distinctive identities of the city’s neighborhoods, each with its own personality, assets, and challenges. Residents want to embrace the qualities that make their neighborhoods special—including landmarks, art, cultural events, gathering places, activity centers, as well as the size, scale, and architectural features of buildings—in order to preserve and strengthen their identities. Community members have also requested stronger linkages between neighborhoods to ensure that no part of the community feels isolated or neglected, and that the entire city is connected as a whole.

As the city continues to grow in the future, emphasis will be placed on infill development within the city’s core areas. The planned Transit Villages will create new neighborhoods in the city and it is important that they develop with distinctive characteristics that are valued by Redlanders.

Redlands’ distinctive neighborhoods and tight-knit community contribute to the city’s small-town charm.

## POLICIES

### Principles

- 2-P.1** Embrace the unique identities of individual neighborhoods in Redlands and encourage the celebration and enhancement of characteristics that make each neighborhood distinct.
- 2-P.2** Embrace diversity—physical, cultural, language, and social—and sensitively integrate the old and the new.
- 2-P.3** Promote planning practices that mitigate the presence of physical barriers between communities (i.e. free-ways) and foster greater connections between neighborhoods and uses.
- 2-P.4** Provide for the equitable distribution of services, resources, and amenities in different parts of the city.
- 2-P.5** Partner with civic, neighborhood, cultural, and philanthropic organizations involved in physical improvements to the community.
- 2-P.6** Enhance cultural and generational diversity and social connections through more opportunities for volunteerism and civic engagement, public gathering places and public art, family-friendly activities, and events that connect residents to one another and keep them socially active in the community.
- 2-P.7** Promote a physical and cultural environment, building upon a mature and varied landscape, that creates opportunities for meeting and gathering and encourages face-to-face interactions between people.

### Actions

#### Community Integration

- 2-A.1** Provide for the equitable distribution of public facilities and amenities, such as parks and public facilities, throughout Redlands.
- 2-A.2** Develop “destinations” — such as the regional commercial areas planned along the I-210 freeway — that draw residents from the entire community.
- 2-A.3** Promote cultural activities that span the north and south parts of Redlands and draw residents and visitors alike, such as parades, festivals, runs, bicycle races, walking tours, etc.
- 2-A.4** Maintain continuity in streetscape design along major streets and avenues that traverse north and south – California, Nevada, Alabama, Tennessee, Orange, Church, University, Judson, and Wabash; and those that traverse east and west – Pioneer, San Bernardino, Lugonia, Redlands Boulevard, and Citrus.
- 2-A.5** Develop new roadway connections, pedestrian paths, and bicycle routes that facilitate transportation in the north-south direction traversing the I-10 freeway.
- 2-A.6** Improve and make more efficient traffic flow for all modes of transportation along corridors that link north-south thoroughfares through techniques such as signal timing, additional lanes, sidewalks, bike paths, and other improvements.

- 2-A.7** Establish north-south trail linkages—including the Mountain View Trail, California Street, the Heritage Trail, the Lugonia Trail, and Church Street—to major east-west trails including the Santa Ana River Trail, the Orange Blossom Trail, and the planned San Timoteo Canyon Trail.
- 2-A.8** Insist on high-quality development and revitalization in older neighborhoods, such as the Orange Street and Colton Avenue commercial corridors, that is sensitive to historic architecture, and provides a broad range of retail, restaurants, professional services, and offices that meet the community’s needs. Build a sense of community in these commercial areas.
- 2-A.9** Continue investment in the rehabilitation of older neighborhood housing throughout the community.

**Community Identity and Cohesion**

- 2-A.10** Permit densities, design, and uses that will help preserve the character and amenities of existing neighborhoods.
- 2-A.11** Work with community members in northern Redlands neighborhoods to update the North Redlands Vision Plan. Use the updated document as a reference for preserving, enhancing, and celebrating the special characteristics of the northern neighborhoods; and for developing strategies to meet the unique goals of the north Redlands community and to improve services and amenities in those neighborhoods.
- 2-A.12** Work with community members to identify distinct features, visions, and goals specific to the Mentone and Crafton areas to establish strategies for preserving and enhancing the unique identities of these neighborhoods.

- 2-A.13** Maintain continuity in land uses, including commercial and residential uses, across barriers such as I-10 and Highway 210. These barriers should not be seen as “walls” that define completely different neighborhoods or divide the city by land use.
- 2-A.14** Use development standards to ensure smooth transitions for neighborhoods that border one another so that neighborhoods maintain their unique qualities while being compatible with one another.
- 2-A.15** Promote the University of Redlands as a community asset that makes Redlands’ identity unique. Seek to better integrate the University with the rest of the City including Downtown and adjacent

neighborhoods through urban design, transportation linkages, and promotion of university events.

- 2-A.16** Use transit stations as focal points for interconnectivity; plan to equally serve travelers from north and south. Plan for each village around the transit stations to have a unique character that complements the adjacent neighborhoods.
- 2-A.17** Establish meeting areas in new neighborhoods, and ensure a safe and secure environment.
- 2-A.18** Promote a safe and secure environment near transit stations through design, adjacent land use considerations, public space programming, and coordination with public safety providers.

**2-A.19** Develop entryways and gateways that define Redlands’ major points of entry.

**Community Building and Engagement**

- 2-A.20** Continue to encourage Redlands’ long tradition of civic engagement and philanthropic contribution through public recognition and awards.
- 2-A.21** Continue promoting events that bring the community together and serve as citywide draws.
- 2-A.22** Engage the active volunteer base of the community in planning and community building efforts.



*Community-wide events, such as Market Night, offer ample opportunities for residents to socialize with fellow Redlanders.*

## 2.2 CULTURAL RESOURCES

### Historical Setting

#### Prehistory and Native Americans in the Historical Period

Between approximately 10,000 years ago and 5,000 years ago the local area was inhabited by highly mobile hunter-gatherer groups. Over the next 3,000 years, these groups became less mobile and established territories across the landscape. By the time Spanish Europeans arrived, the Redlands area was inhabited by the Cahuilla, Serrano, and Gabrielino/Tongva Indians. These groups established permanent settlements and resource procurement locations at or adjacent to reliable water sources, such as canyons, alluvial fans, rivers, and streams. The villages served as a core for activities such as hunting, fishing, gathering or scavenging food, quarrying, ceremonial activity, and local and regional trading.

Cahuilla territory encompassed an area extending from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and from the San Jacinto Valley to the San Bernardino Mountains. The Serrano settled an area in and around the San Bernardino Mountains. The Gabrielino/Tongva settled an area ranging from the foothills of the San Gabriel Mountains to the Pacific Ocean. As the Spanish missionaries moved inland to the San Bernardino Valley, local Native Americans were drawn into mission life, and experienced epidemics such as smallpox and a gradual degradation of traditional culture that greatly reduced their numbers. Surviving Serrano and Cahuilla members eventually

resettled in reservations, and persons of Gabrielino/Tongva descent are still present in Southern California (San Bernardino Associated Governments, 2014).

#### Spanish and Mexican Period

In 1769, the Spanish began establishing missions along the California coast to facilitate the colonization of the region, eventually expanding inland to the San Bernardino Valley by the early 1800s. During the Spanish period, Indian villages, the San Bernardino Rancho (named after the Italian saint), and the Asistencia were established by the San Gabriel Mission. Under direction from the missionaries, Serrano and Gabrielino workers developed the Mill Creek Zanja, the area's first stable water supply. The Zanja was a 12-mile long irrigation ditch connecting the fields surrounding the Guachama Mission Station to Mill Creek. Water from this ditch was used for domestic purposes, as well as for irrigation of the first crops planted in the San Bernardino Valley. The Zanja is said to be the only irrigation ditch constructed and maintained by native peoples for their own use in California during the Spanish and Mexican periods of rule. During the 19th century this water allowed ranching districts to develop in Crafton and in the Asistencia area. Today, the Zanja is used for local drainage and flood control.

When Mexico declared independence from Spain in 1821, the Mexican government began to grant private land to citizens. In 1842, the Lugo family received a land grant from the Mexican government to occupy the San Bernardino and Yucaipa valleys.

#### Redlands History

After the signing of the treaty of Guadalupe-Hidalgo in 1848, California became a territory of the United States, and was admitted to the Union in 1850. The following year, 500 Mormons moved into the area, purchasing the San Bernardino Rancho from the Lugos. Their settlement at San Bernardino lasted until

1857, when they were recalled to Utah and their land was divided and sold. The first settlement in Lugonia occurred in 1869, and the first store in the area opened in Lugonia in 1881.

The year 1881 marks the beginning of Redlands as a town. E.G. Judson and Frank E. Brown built a canal from Santa Ana Canyon to Reservoir Canyon located along the path of present-day I-10 from below Panorama Point to Ford Park to bring water to the area for growing citrus. They laid out a townsite parallel to the slope, and because the dry adobe soil was red, they named it Redlands. Three years later, Frank Brown built the Bear Valley Dam and reservoir, thereby assuring a water supply for residents of the new town. By 1885, two transcontinental railroads ran through the San Bernardino Valley, and the first spur to Redlands was built in 1887.

The development of the railroads heavily influenced the growth of Redlands, Crafton, and Lugonia. During this period, significant civic improvements, such as paved streets, sidewalks, water, sewer, and electricity systems, were created and established. In 1888, Redlands, Lugonia, the Brookside area, and a portion of Crafton voted to incorporate as Redlands. The incorporation joined the two distinctive street patterns that characterize Redlands today: the north-south Lugonia grid merges with the slope-oriented Redlands grid at the southern edge of the Valley.

#### Current Context

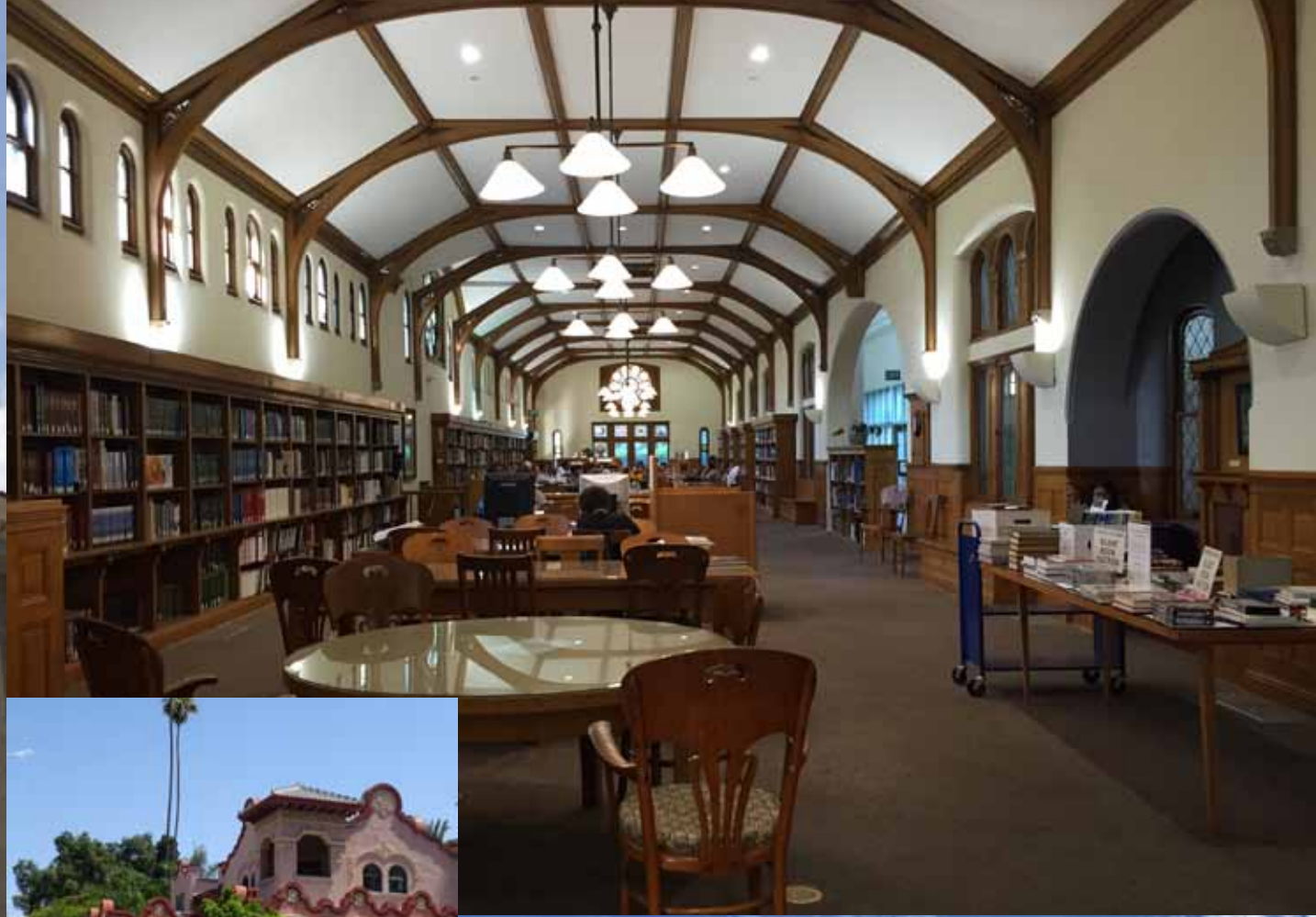
Redlands' early period of growth remains strongly visible in the community today, in the form of mature street trees, citrus groves, and exquisitely detailed historic buildings like the Post Office (on the National Register of Historic Places since 1985), the A.K. Smiley Library (on the National Register of Historic Places and designated as a California Historic Landmark), the Lincoln Shrine, old Redlands City Hall, and the First Congregational Church. Many of the buildings and homes of Redlands emulate Spanish Mission,

Bungalow, and Victorian architectural styles, which emphasize craftsmanship and the use of natural materials. Many Redlands residents feel strongly about preserving the community's rich agricultural heritage and architectural character.



Photo Credit: James Henderson

The magnificent Kimberly Crest mansion was constructed in 1897, soon after the first railroad station was established in Redlands.



*The City of Redlands boasts a rich historical background and is the home of a variety of historic resources valued by the community.*

# CULTURAL RESOURCE CONSERVATION



Photo Credit: Kristen Eredics

The iconic A.K. Smiley Library is one of the most well-known buildings in Redlands.

## Native American Consultation

The conservation of culturally significant sites and objects relies heavily on collaboration between the City and local Native American tribes. The State of California has adopted regulations that establish guidance and clear procedures for contacting and consulting with local tribes regarding proposed land use decisions for the purpose of protecting tribal cultural resources. Senate Bill 18 (SB 18) requires local governments to notify and consult with Native American tribes regarding tribal cultural places (otherwise known as sacred sites) prior to adopting or amending a General Plan or designating land as open space. Assembly Bill 52 (AB 52) requires that Native American tribes be offered the opportunity to consult on CEQA documents and take an active role in the CEQA process in order to protect tribal cultural resources (including sites, features, places, cultural landscapes, sacred places, or objects with cultural value to the tribes that is on or eligible for inclusion in the California Register of Historic Resources or a local historic register).

## Mills Act

The Mills Act is an economic incentive program in California for the restoration and preservation of qualified historic buildings by private property owners. Enacted in 1972, the Mills Act legislation grants participating cities and counties the authority to enter into contracts with owners of qualified historic properties who actively participate in the rehabilitation, restoration, preservation, and maintenance of their historic properties. Since the costs of doing so can be prohibitive, property tax relief can offset these costs. Participation by the City in the State of California's Mills Act Program was approved by the City Council on November 20, 2012.

## Certified Local Government Program

The Certified Local Government (CLG) Program is jointly administered by the National Parks Service and the State Historic Preservation Offices with the goal of creating a partnership between local, state, and federal governments for historic preservation. Through this program, a local government becomes an active partner in the Federal Historic Preservation Program and gains access to funding, technical assistance, and other resources to support the preservation of its community's historic character. CLGs are required to enforce State and local designation and protection of historic properties, maintain a system for the survey and inventory of local historic resources, facilitate public participation in local preservation, and follow the requirements of their state's CLG procedures. As of 2016, Redlands is a Certified Local Government.

## Historic Resources

Historic resources are deeply cherished by the community, and few Southern California communities can lay claim to the sense of place and history Redlands has managed to retain during a century of development. The General Plan presents actions and principles to harmonize historic preservation with the demands of continued growth and evolution.

## Historic Properties and Districts

### National Register

The National Register of Historic Places (NRHP) is the nation's official list of historic places. The register is overseen by the National Park Service, and requires that a resource eligible for listing on the register meet one of several criteria at the national, State, or local level and also retain sufficient physical integrity of those features necessary to convey historic significance. The NRHP includes a total of 11 historic resources in the Planning Area, including nine historic properties and two historic districts. Resources listed in the National Register are automatically listed in the California Register.

### California Historic Resources

The California Office of Historic Preservation (OHP) offers four different registration programs, including the California Historical Landmarks, California Points of Historical Interest, California Register of Historical Resources, and the NRHP. Each registration program is unique in the benefits offered and procedures required. If a resource meets the criteria for registration, it may be nominated by any individual, group, or local government to any program at any time. Resources do not need to be locally designated before being nominated to a State program nor do they need to be registered at the State level before being nominated to the National Register. The California Register includes buildings,

sites, structures, objects, and districts significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Resources on the California Register have met criteria for designation or have been included due to their presence on the NRHP, the State Historical Landmark program, or the California Points of Historical Interest program. Table 2-1 lists 22 resources included on the register.

### State Historical Landmark Program

California Historical Landmarks are buildings, structures, sites or places that have been determined to have statewide historical significance by meeting at least one of several criteria. The resource must be the first, last, only, or most significant of its type in the state or within a large geographic region; associated with an individual or group having a profound influence on California history; or be a prototype of, or outstanding example of, a period, style, architectural movement, or construction, or be one of the more notable works or best surviving work in a region of a pioneer, designer, or master builder. Two Landmarks are designated in the Planning Area—the A.K. Smiley Library and the San Bernardino Asistencia. Resources listed as California Historical Landmarks are automatically listed in the California Register.

### Point of Historical Interest

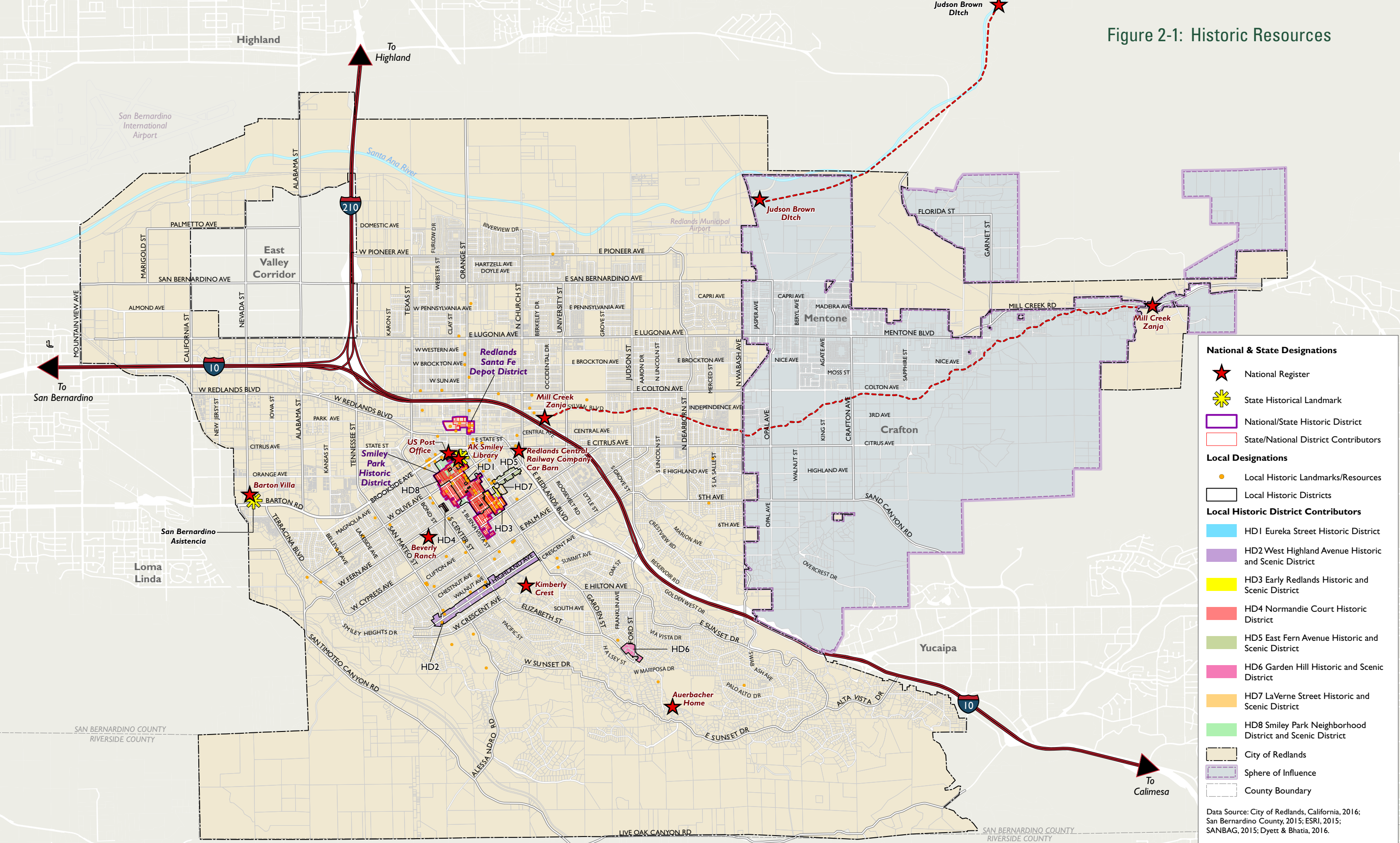
California Points of Historical Interest are sites, buildings, features, or events of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Criteria are the same as those for Historical Landmarks, but directed to local areas. There are 10 Points of Historical Interest listed in the Planning Area. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be

**TABLE 2-1: STATE AND FEDERALLY LISTED HISTORIC RESOURCES IN THE PLANNING AREA**

Name	National Register of Historic Places	California Historical Landmarks	California Points of Historical Interest
A.C. Burrage Mansion			X
A.K. Smiley Public Library	X	X	
Atchison, Topeka, and Santa Fe Railway-Redlands Station			X
Auerbacher Home	X		
Barton Villa	X		
Beverly Ranch	X		
Crafts House			X
Fisher House			X
Kimberly Crest	X		
Judson Brown Ditch	X		
Lugonia School Monument			X
Mill Creek Zanja	X		
Morey House / Morey-Cheney House			X
Nordoff Home			X
Partridge House, Paul F Allen House			X
Prospect Park			X
Redlands Central Railway Company Car Barn	X		
Redlands Santa Fe Depot District	X		
San Bernardino Asistencia		X	
Smiley Park Historic District	X		
U.S. Post Office-Redlands Main	X		
Wells House			X

Sources: National Register of Historic Places, 2015; California Office of Historic Preservation, 2015.

Figure 2-1: Historic Resources



**National & State Designations**

- ★ National Register
- ✦ State Historical Landmark
- ▭ National/State Historic District
- ▭ State/National District Contributors

**Local Designations**

- Local Historic Landmarks/Resources
- ▭ Local Historic Districts

**Local Historic District Contributors**

- ▭ HD1 Eureka Street Historic District
- ▭ HD2 West Highland Avenue Historic and Scenic District
- ▭ HD3 Early Redlands Historic and Scenic District
- ▭ HD4 Normandie Court Historic District
- ▭ HD5 East Fern Avenue Historic and Scenic District
- ▭ HD6 Garden Hill Historic and Scenic District
- ▭ HD7 LaVerne Street Historic and Scenic District
- ▭ HD8 Smiley Park Neighborhood District and Scenic District

**Other Designations**

- ▭ City of Redlands
- ▭ Sphere of Influence
- ▭ County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

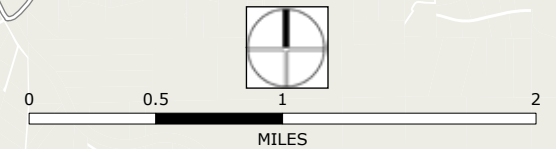
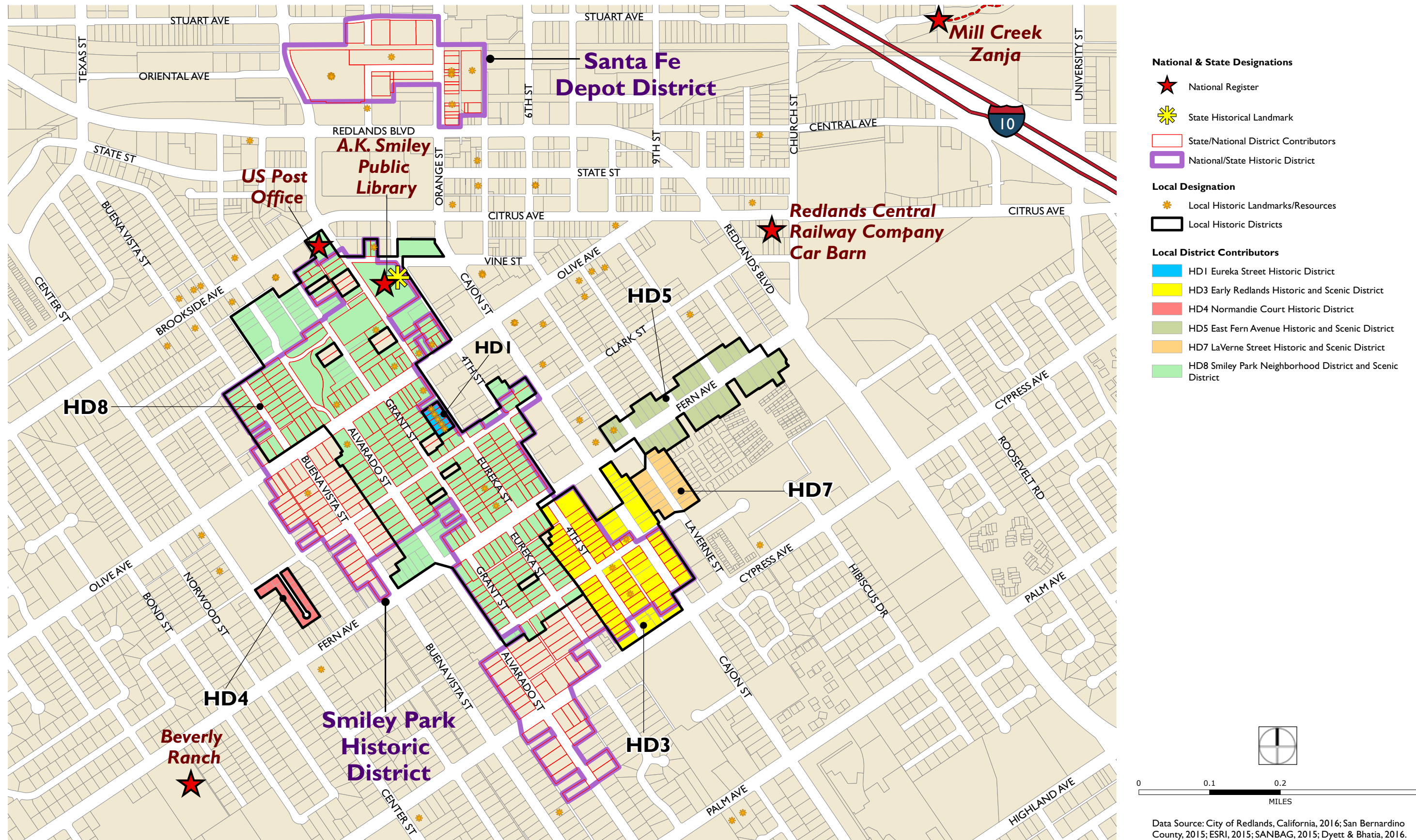




Figure 2-2: Historic Resources (Zoom)



Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

### City of Redlands Historical Resources

The City of Redlands has taken an active interest in preserving its historic resources. The Historic and Scenic Preservation Commission, established in 1986, advises the City Council regarding designation and protection of historic resources. Resources are designated through a nomination process in which a nominated resource is reviewed by the Historic and Scenic Preservation Commission and approved by the Redlands City Council.

City-designated historic resources are identified in the City of Redlands Development Services Department List of Historic Resources. These are generally clustered around the Downtown area and include eight historic and/or scenic districts and 747 properties, including 14 landmarks and 630 contributors to the historic districts. These resources include homes and civic and commercial structures of varying architectural styles, such as Victorian, Queen Anne, Colonial Revival, Craftsman, Bungalow, and Mission Style. Local, state, and national historic resources are mapped in Figure 2-1. Figure 2-2 zooms in on the area surrounding Downtown and the Colony, where the city's historic resources are more highly concentrated.

### Scenic Corridors

The City Council has designated a number of streets within the city as scenic highways, drives, and historic streets. Special development standards have been adopted by resolution for these streets (see Actions for a listing of the streets).

## Archaeological and Paleontological Resources

Archaeological and paleontological resources are protected under CEQA as cultural resources. Paleontological resources, including fossils, have also been found in the Redlands area, and there is potential for archaeological and paleontological finds to occur in remaining, unexcavated open space areas within and adjacent to the Planning Area. Therefore, it is important to establish strategies for the conservation of these resources.

Archaeologists, including those undertaking research at the San Bernardino County Museum, study archaeological artifacts to understand the Serrano and Gabrielino Indians who populated the Redlands area for thousands of years before the arrival of Europeans. Of particular interest to these researchers are waterways, especially the Zanja, which was constructed in the nineteenth century by the Serrano and Gabrielino people. Remnants of the lifeways of the Serrano and Gabrielino Indians indicate settlement and resource procurement locations at or adjacent to reliable water sources. Likely areas for finding artifacts include springs and streams such as San Timoteo Canyon Creek, Yucaipa Creek in Live Oak Canyon, tributaries and their canyons, and adjacent to larger water bodies, such as the bluffs, terraces, and hillsides above the Santa Ana River and Mill Creek.

Paleontological resources are the fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontologic resources have been identified in San Timoteo Canyon area.

## POLICIES

### Principles

- 2-P.8** Identify, maintain, protect, and enhance Redlands' cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.
- 2-P.9** Provide incentives to protect, preserve, and maintain the city's heritage.
- 2-P.10** Foster an understanding and appreciation of history and architecture.
- 2-P.11** Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the city's older neighborhoods.
- 2-P.12** Encourage retention of historic structures in their original use or re-conversion to their original use where feasible. Encourage sensitive, adaptive reuse where the original use is no longer feasible.
- 2-P.13** Encourage preservation of and public access to defined and established significant scenic vistas, viewpoints, and view corridors.

- 2-P.14** Coordinate preservation of historic resources with policies designed to preserve neighborhoods and support the affordability of housing in historical structures.
- 2-P.15** Balance the preservation of historic resources with the desire of property owners of historic structures to adopt energy efficient strategies.
- 2-P.16** Work with local paleontologists to identify significant non-renewable paleontological resources.
- 2-P.17** Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values.



Historic advertisements decorate the exterior walls of businesses in Downtown Redlands.

## Actions

### Historic and Scenic Conservation

- 2-A.23** Prepare a City of Redlands Historic Context Statement as part of the Certified Local Government Program.
- 2-A.24** Undertake and maintain a comprehensive citywide inventory and assessment of historic resources. Establish and keep current a list of potential historic resources, historic districts, citrus groves, palm rows, and historic scenic areas. The inventory must identify the values of the resources' contribution to the city's historic context. Set up a priority system for designation and proceed with designation.
- 2-A.25** Require any application that would alter or demolish an undesignated and un-surveyed resource over 50-years-old to be assessed on the merits of the structure, and to be approved by the Historic and Scenic Preservation Commission.
- 2-A.26** Provide development standards and guidelines to encourage conversion of historic structures to alternative uses without compromising the quality of the neighborhood if preservation of the original use is an economic hardship.
- 2-A.27** Establish guidelines and incentives for appropriate adaptive reuse of historic structures.
- 2-A.28** Develop strategies or guidelines to enhance the public realm and context-sensitive landscapes in the historic and scenic districts.
- 2-A.29** Retain existing easements and rights of way for use as viewpoints, turnouts, and scenic walkways where feasible.

- 2-A.30** Identify historic design features characteristic of the city and its individual neighborhoods that can be used to establish themes and design guidelines.
- 2-A.31** Develop ordinance language and procedures to allow designation of thematic resources. Thematic resources can include historical resources such as the street grid and streetscapes established by Judson and Brown, architectural resources such as the vernacular packinghouse style, or environmental resources such as the Zanja.
- 2-A.32** Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic resources.
- 2-A.33** Ensure that public funds for rehabilitation are not used to the detriment of private or public historic resources.
- 2-A.34** Uphold the designation of the following streets within the city as scenic highways, drives, and historic streets. Special development standards have been adopted by Resolution for these streets. The streets are:
- Brookside Avenue, from Lakeside Avenue to Eureka Street;
  - Olive Avenue, from Lakeside Avenue to Cajon Street;
  - Center Street, from Brookside Avenue to Crescent Avenue;
  - Highland Avenue, from Serpentine Drive to Cajon Street;
  - Sunset Drive, from Serpentine Drive to Edgemont Drive;
  - Cajon Street;
  - Mariposa Drive, between Halsey and Sunset Drive; and
  - Dwight Street, between Pepper Street and Mariposa Drive.

In addition, consider designating the following roads as scenic drives within the community as neighborhood connectors and recreational routes for drivers and bike riders.

- Riverview Drive along the Santa Ana River Wash;
  - Live Oak Canyon Road;
  - San Timoteo Canyon Road;
  - Sylvan Boulevard;
  - Nevada Street, from the Orange Blossom Trail to Barton Road;
  - Pioneer Avenue, from River Bend Drive to Judson Street; and
  - Rural roads in Crafton.
- 2-A.35** Establish standards for the evaluation of exterior lighting for new development and redevelopment to ensure that exterior lighting (except traffic lights, navigational lights, and other similar safety lighting) is minimized, restricted to low-intensity fixtures, shielded, and concealed to the maximum feasible extent, and that high-intensity perimeter lighting and lighting for sports and other private recreational facilities is limited to reduce light pollution visible from public viewing areas.

### Historic City Properties

- 2-A.36** Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.
- 2-A.37** Maintain and improve Redlands' streets, trees, streetlights, parkways, parks, stone curbs, ditches, walls, and citrus groves in a manner that enhances the city's beauty and historic fabric.
- 2-A.38** Use exemplary design quality and sensitivity to surrounding historic structures in new City construction, public works, entry ways, and City signs.



Cajon Street (above) is a quaint tree-lined scenic drive offering picturesque views of historic Redlands neighborhoods. Riverview Drive is a proposed scenic drive featuring breathtaking views of the Santa Ana River Wash and mountain scenery (below).

### Privately-Owned Historic Resources

- 2-A.39** Ensure that permanent changes to the exterior or setting of a designated historic resource be done in accordance with the Secretary of the Interior standards for historic properties.
- 2-A.40** Seek creative solutions to the problem of preservation and maintenance of large houses.
- 2-A.41** Encourage appropriate adaptive reuse of historic resources in order to prevent disuse, disrepair, and demolition, taking care to protect surrounding neighborhoods from disruptive intrusions.
- 2-A.42** Should demolition of a designated historic resource occur, endeavor to ensure that a building of equal or greater design quality and/or use of equal or greater benefit to the community be constructed. Require that a report documenting the history of the property and archival-quality drawings and/or photographic records be prepared to document the historic resource.
- 2-A.43** Institute an architectural salvage program to preserve architectural artifacts from buildings that are demolished.
- 2-A.44** Encourage the use of tax credits, donated easements, and other fiscal incentives for preservation.
- 2-A.45** Encourage energy conservation alterations that are compatible with preservation.
- 2-A.46** Encourage preservation, maintenance, enhancement, and reuse of existing buildings in revitalization areas; retention and renovation of existing residential structures; and, if retention on-site is not feasible, relocation of existing residential structures within the city.

**2-A.47** Encourage the highest maintenance of historic resources by:

- Providing information to homeowners as to how to maintain their historic property;
- Pursuing funding programs to assist people in doing needed repairs; and
- Proactively enforcing code compliance.

### Historic Considerations for New Development

**2-A.48** Establish design review guidelines for historic areas to ensure that new architecture will relate to and respect the historical and environmental context.

**2-A.49** Encourage compatibility of new land uses and new construction adjacent to historical buildings. Encourage construction that is physically and aesthetically complementary to the historic buildings in architectural features and relationship to adjoining structures.

**2-A.50** Encourage historical depictions commemorating historic sites or events in Redlands' history. Such depictions could be incorporated into new commercial or rehab development projects. Historical depictions may be monuments, plaques, archaeological viewing sites, exhibits, or illustrative art works, such as sculpture, mosaics, murals, tile-work, etc.

**2-A.51** Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.

### Citizen Participation and Cooperation with Preservation Groups

**2-A.52** Encourage public participation in the process for evaluating and preserving historic and scenic resources.



Photo Credit: Marcus Dashoff

The Redlands Bowl has delighted music lovers for nearly a century.

**2-A.53** Encourage citizens to participate in public hearings on designation, Certificates of Appropriateness, and Certificates of Hardship.

**2-A.54** Encourage citizens to become involved in historic preservation by training them in survey techniques and involving them in the ongoing surveys of historic resources.

**2-A.55** Cooperate with public and private organizations doing preservation work and serve as liaison for such groups.

### Education and Public Relations on Redlands Heritage

**2-A.56** Seek to educate the general public about Redlands' heritage and to educate owners of historic properties about how to rehabilitate and maintain their property.

**2-A.57** Where inappropriate alterations have been made, endeavor to explain how such alterations detract from the property, how they may be removed, and the economic and cultural benefits of proper restoration.



*The Lincoln Memorial Shrine, complete with fountains, benches, and inscriptions, is a notable historic museum.*

- 2-A.58** Encourage involvement of Redlands' schools, adult education classes, and the University of Redlands, as well as civic organizations and service clubs, in preservation programs and activities.
- 2-A.59** Continue to work with local newspapers to inform the community of the Historic and Scenic Preservation Commission and other preservation activities.
- 2-A.60** Print informational brochures and develop electronic media explaining the preservation process and preservation techniques to the public.
- 2-A.61** Issue awards and commendations as appropriate to owners of historic and scenic resources who have done particularly admirable rehabilitation and to others who have made special contributions to the preservation effort.
- 2-A.62** Make special efforts to reach out to the business community and to inform its members about Redlands' heritage and the opportunities it presents.
- 2-A.63** Promote Redlands' image, its cultural life, and its outstanding architectural, historic, and scenic resources to attract new business and tourism to the city.
- 2-A.64** Work with civic groups who wish to hold meetings to educate their members about preservation.
- 2-A.65** Support the development of organizations such as the Redlands Historical Museum, the Redlands Area Historical Society, the Redlands Conservancy, and other historical organizations to educate the public and visitors alike about Redlands' history.

### **Preservation of Older Neighborhoods**

- 2-A.66** Promote neighborhood preservation and stabilization.
- 2-A.67** Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.
- 2-A.68** Discourage changes in residential areas that would disturb the character or clearly have a destabilizing effect on the neighborhood.
- 2-A.69** Encourage shared parking or in-lieu parking in older neighborhoods.
- 2-A.70** Encourage preservation of historic public and private improvements, such as street curbs, street trees, specimen trees, street lights, hitching posts, masonry walls, and early paved sidewalks.

### **Archaeological and Paleontological Resources**

- 2-A.71** Using an annually updated Archaeological Resource Sensitivity Map, review proposed development projects to determine whether a site contains known prehistoric or historic cultural resources and/or to determine the potential for discovery of additional cultural resources.
- 2-A.72** Require that applicants for projects identified by the South Coastal Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeological resource mitigation plan and to monitor the project to ensure that mitigation measures are implemented.

- 2-A.73** Require that areas found during construction to contain significant historic or prehistoric archaeological artifacts be examined by a qualified consulting archaeologist (RPA certified) or historian for appropriate protection and preservation.
- 2-A.74** Proactively coordinate with the area's native tribes in the review and protection of any tribal cultural resources discovered at development sites.
- 2-A.75** Require, as a standard condition of approval, that project applicants provide an assessment as to whether grading for the proposed project would impact underlying soil units or geologic formations that have a moderate to high potential to yield fossiliferous materials, prior to issuance of a grading permit. If the potential for fossil discovery is moderate to high, require applicants to provide a paleontological monitor during rough grading of the project.
- 2-A.76** Establish a procedure for the management of paleontological materials found on-site during a development, including the following provisions:
  - If materials are found on-site during grading, require that work be halted until a qualified professional evaluates the find to determine if it represents a significant paleontological resource.
  - If the resource is determined to be significant, the paleontologist shall supervise removal of the material and determine the most appropriate archival storage of the material.
  - Appropriate materials shall be prepared, catalogued, and archived at the applicant's expense and shall be retained within San Bernardino County if feasible.



*Trees create a peaceful ambience in residential settings and provide shade to neighborhood streets and sidewalks.*

## 2.3 STREET TREES AND STREETSCAPES

Trees are among the most valuable resources in the community, and Redlands has been named a “Tree City” by the National Arbor Day Association. In 2012, city streets were lined with approximately 34,100 trees and there were an additional 4,150 trees in parks.

The Redlands urban forest, which includes trees in public and private spaces, provides environmental benefits, adds to property values, and contributes to an enhanced quality of life for all of Redlands’ residents. Trees can help reduce the “heat island” effect and conserve energy by reducing the need for air conditioning, while providing shade and comfort for pedestrians, enhancing neighborhood identity, improving air quality, and harboring wildlife in urban settings. Trees also represent a significant part of Redlands’ heritage. The General Plan seeks to ensure the longevity and health of the urban forest for both present and future generations.

## POLICIES

### Principles

- 2-P.18** Reinforce Redlands’ identity as a “Tree City” through cohesive streetscapes that enhance its sense of place and its heritage, and that promote pedestrian comfort.
- 2-P.19** Use trees to establish or reinforce city entrances/gateways that announce arrival and convey the spirit of the city.
- 2-P.20** Use street trees to differentiate arterials and to reduce the apparent width of wide streets.

### Actions

- 2-A.77** Prepare and maintain a citywide inventory and streetscape plan that includes the following components:
  - Streetscape strategies for major arterial streets that may include items such as tree species; median or parkway landscape treatment; and curbs and sidewalk location and materials; and
  - An updated official Street Tree List that is tied to streetscape strategies, which promotes use of native and water efficient trees, and trees that provide pedestrian shade and comfort.
- 2-A.78** Consider creating tree-lined medians on arterials, boulevards, and collectors where the width of the street is adequate to accommodate the anticipated traffic flows along with a landscaped median.
- 2-A.79** Avoid sound walls as a standard on arterial streets in residential areas.

- 2-A.80** Prepare a design manual for historic district streets that reflects the city’s heritage and promotes cohesive, pedestrian-scale streetscapes that include sidewalks, signage and wayfinding, and historical markers.
- 2-A.81** Educate property owners on their civic responsibility to maintain trees in parkways. Require property owners to maintain landscaping and trees on private property and in parkways through code enforcement and landscaping ordinances.



Photo Credit: Dianna Lawson



Redlands is famous for its citrus industry. The presence of the citrus industry is apparent via the city's groves and streetscape elements celebrating its citrus heritage.

## 2.4 CITRUS GROVES/ FARMS

Redlands is known for its historical citrus industry. Citrus farming was Redlands' original economic base and remains visible today in groves and plantings throughout the Planning Area, packing houses, street and development names, and public art and streetscape elements. In 1996, the Citrus Preservation Commission was established to make recommendations and advise the City Council regarding the acquisition, improvement, preservation and retention of citrus properties within the city. Residents greatly value Redlands' citrus heritage and wish to preserve existing citrus groves for the benefit of generations to come.

Despite the city's celebration of its citrus heritage, the amount of land in citrus production has decreased substantially over the years. Today, parcel data shows 1,985 acres of land under citrus cultivation, compared to 4,925 acres in 1991. Of these, 152 acres are owned by the City of Redlands (shown in Figure 2-3) as part of an enterprise operated by the Citrus Preservation Division, in the Quality of Life Department. While residents and visitors alike appreciate the aesthetic benefits of citrus groves, it is important to operate the groves as an agricultural business if they are to be sustained without placing an undue burden on the City's General Fund.

One of the biggest challenges faced by the Citrus Preservation Division is the threat from the Asian citrus psyllid, an invasive insect that is a potential transmitter of huanglongbing, a disease that can be devastating to citrus trees. The psyllid has been found in the Planning Area, though the disease has thus far been absent.

## POLICIES

### Principles

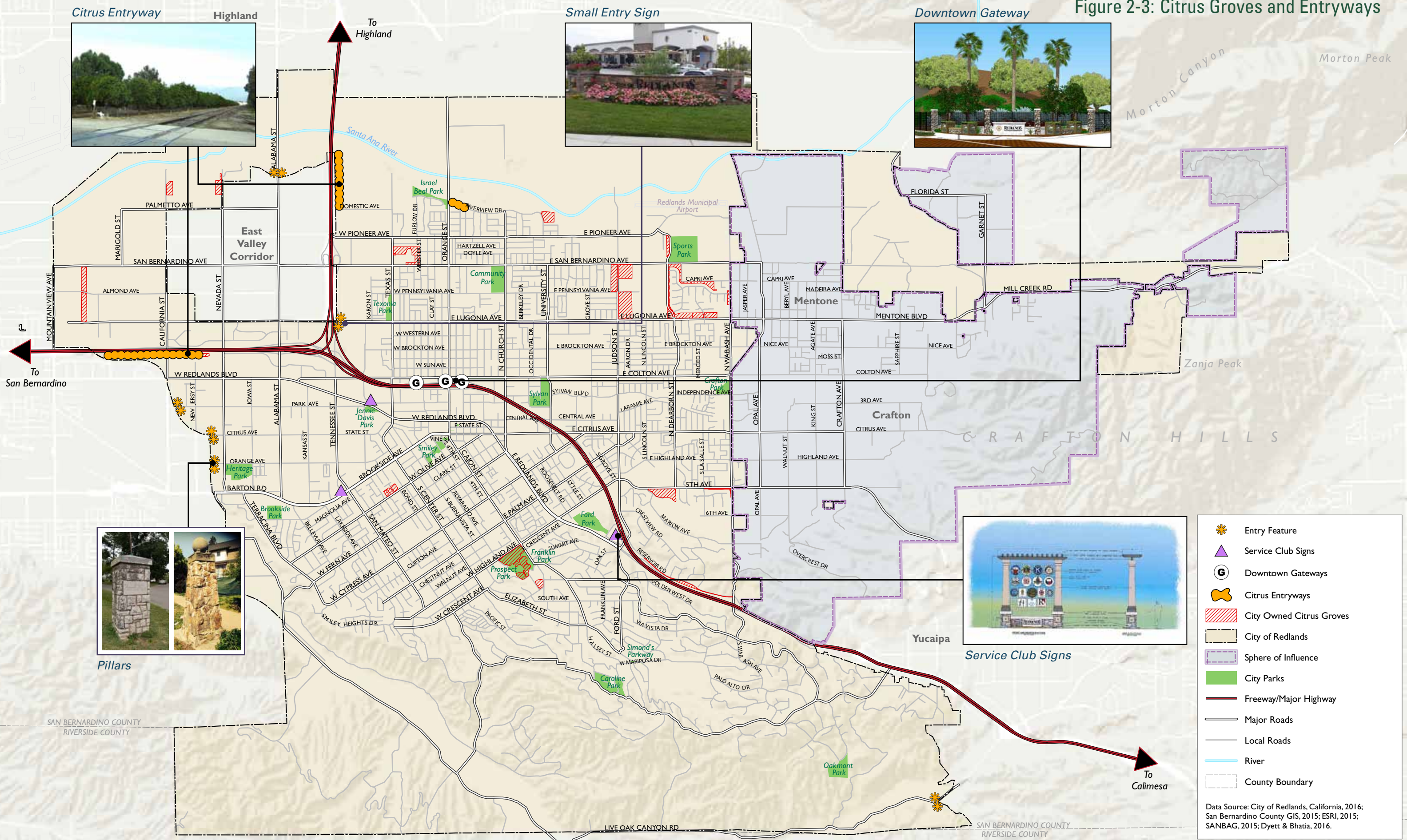
- 2-P.21** Encourage conservation and preservation of citrus groves and farms, especially those that have cultural or scenic significance. Encourage retention of existing privately-owned citrus groves of all sizes.
- 2-P.22** Expand the City inventory of citrus groves in strategic locations such as along the city's entryways and Highway 210, and in areas adjacent to existing groves.
- 2-P.23** Incorporate citrus trees, in groves of sufficient size and depth to be a viable grove, as part of streetscapes and scenic views, and encourage their conservation in historic neighborhoods.

### Actions

- 2-A.82** Continue using the Citrus Preservation Commission as the body to make recommendations and advise the City Council regarding the acquisition, improvement, preservation, operation, maintenance, and retention of citrus properties within the city.
- 2-A.83** Explore funding mechanisms to increase City acreage of citrus groves to an approximate target of 200 acres.
- 2-A.84** Where practical, establish new groves at the city's entrances/gateways to announce the city's citrus heritage.
- 2-A.85** Explore incentives and supportive programs that encourage the ongoing conservation of privately-owned citrus groves.

- 2-A.86** Take advantage of desirable environments, such as the Crafton subarea, that can provide citrus groves and agricultural land that otherwise would be subject to strong development pressures. Encourage or incentivize homeowners to maintain the groves.
- 2-A.87** Encourage planting new groves along street frontages where feasible. The minimum planted acreage should be one acre, preferably in a "grouped" or "squared" pattern.
- 2-A.88** Undertake efforts, including spraying and working with other agencies, as well as education to manage the spread of diseases such as *huanglongbing* carried by the Asian Citrus Psyllid. Assist growers in transitioning to other crops if necessary.
- 2-A.89** Continue working with packinghouses, local schools, and restaurants to encourage local consumption of citrus.

Figure 2-3: Citrus Groves and Entryways



- Entry Feature
- Service Club Signs
- Downtown Gateways
- Citrus Entryways
- City Owned Citrus Groves
- City of Redlands
- Sphere of Influence
- City Parks
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## 2.5 VIBRANT DOWNTOWN

*For policies related to Downtown economic development, see Section 3.5: Downtown.*

Beginning in the 1880s, Downtown Redlands consisted of businesses and industrial buildings along Orange and State streets. Today, these two streets serve as the area's main commercial thoroughfares. State Street serves as Redlands' "Main Street," and encourages pedestrian use through streetscaping including citrus-themed planters housing large ficus shade trees, brickwork on the sidewalks and crosswalks, decorative streetlamps, benches, and drinking fountains. State Street accommodates retail and mixed-use buildings that tend to front the street directly to create a tight and friendly street edge.

Residents agree that downtown Redlands is an exciting place, but they also acknowledge that it has potential to become even more exciting. They imagine Downtown Redlands as a place that is accessible via an array of means of transportation, that draws people as varied as children, visitors, workers, and residents, and that boasts an ideal mix of housing, retail, office, entertainment, and civic functions. The General Plan seeks to foster Downtown as an attractive, mixed-use, accessible destination that entices people from across the community. Detailed planning for Downtown would be directed by a Specific Plan, preparation of which is underway.

## POLICIES

### Principles

- 2-P.24** Promote Downtown as Redlands' vibrant center for residents, visitors, and workers, infused with thriving commerce and active streets.
- 2-P.25** Encourage a variety of uses and activities, such as a mix of commercial, office, restaurant, specialty retail, and residential uses, and civic, cultural, and entertainment activities to attract visitors and residents from across the community by creating a lively, interesting social environment.
- 2-P.26** Foster transit-oriented development that is consistent/compatible with and sensitive to the historical structures in the vicinity of the proposed railway station.
- 2-P.27** Conserve Downtown's character and historic assets while infusing it with new uses, buildings, and activities. New development should proportionately relate to and complement existing structures and the pedestrian environment.

### Actions

- 2-A.90** Complete and adopt a Downtown Specific Plan as the guide for Downtown development that will establish guidelines or standards for roadways, building forms, architecture, signage, streetscape, parking, and public realm amenities.
- 2-A.91** Provide opportunities for the expansion and development of small businesses that provide local services.
- 2-A.92** Provide public improvements for traffic and pedestrian circulation, flood control, utility services, and aesthetic amenities that will attract new private investment and economic development.
- 2-A.93** Preserve historic buildings and sites while permitting sensitive adaptive reuse.
- 2-A.94** Encourage mixed-use projects Downtown that integrate retail, restaurant, office, and residential uses. Permit urban housing at a density up to the High-Density Residential standard.
- 2-A.95** Enhance and extend the civic realm through vibrant streetscapes.
- 2-A.96** Promote redevelopment of the Redlands Mall with a vibrant mix of uses. Explore feasibility of re-extending the traditional street grid through the new development.
- 2-A.97** Seek an increased presence of both residents and activity in Downtown with new development—particularly residential as part of mixed-use development—as well as commercial, entertainment, and cultural uses that serve both residents and visitors.
- 2-A.98** Promote a variety of housing types to attract a spectrum of households to live Downtown.
- 2-A.99** Ensure that new development along Redlands Boulevard is pedestrian-oriented.
- 2-A.100** Encourage public art and community gatherings through a wide range of visual and physical forms—from banners on light posts, paving and artwork

on sidewalks, murals, light displays at night, music, and sculptures, to the design and shaping of public spaces and plazas—all of which set the stage for people to gather, play, and observe. Build on existing activities and events and incorporate facilities to support them.

- 2-A.101** Address parking demand by finding additional areas to provide parking for Downtown, and by developing creative parking management strategies, such as shared parking, maximum parking standards, "smart" metering, utilizing on-street parking for reuse of existing buildings, paid parking, etc. Monitor the impacts of new technology such as the autonomous vehicle and car hire /car share services on the total demand for parking.
- 2-A.102** Improve connections from Downtown to adjacent neighborhoods, including areas north of I-10, through streetscape enhancement and multi-modal improvements.



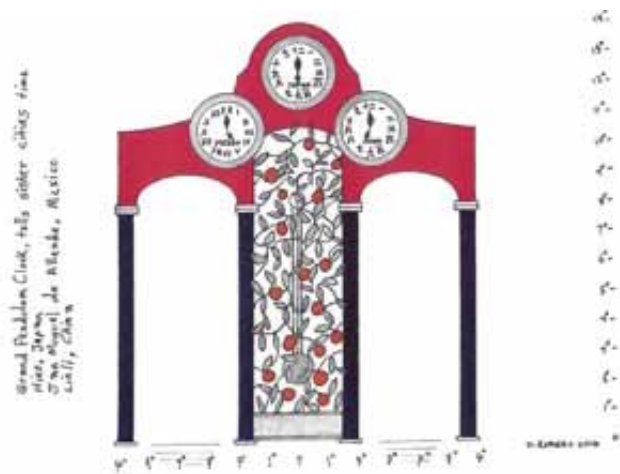
*Outdoor dining allows Redlanders to take in the sights of Downtown Redlands.*

## 2.6 ARTS AND CULTURE

With events and organizations such as the Redlands Bowl Summer Music Festival (“America’s oldest continuously running summer music festival at which no admission is charged!”), Festival of the Arts, Market Night, the Downtown Art Walk, Redlands Theatre Festival, Redlands Symphony, Music Changing Lives, and the Redlands Art Association, Redlands’ thriving arts and culture community is a crucial component to its identity.

Redlands has a Cultural Arts Commission that promotes public interest in the arts, recommends new art programs and funding for those programs, and recommends to the City Council policies to encourage, develop, and support the arts in Redlands. The Commission also advises the City Council in the administration of the City’s Art in Public Places program.

Redlanders would like to see art and culture become more vital in their community, primarily in order to serve as means of neighborhood beautification, economic development, and education. The General Plan seeks to promote arts organizations, arts-related programming in major festivals and events, and arts-related educational outreach.



As part of the Art in Public Places initiative, the Grand Pendulum Clock will display time in Redlands’ sister cities of Hino, Japan; San Miguel de Allende, Mexico; and Linli, China.

## POLICIES

### Principles

**2-P.28** Integrate the arts, public art, and art education as vital aspects of community life that strengthen communication and cohesion within the community with a wide range of facilities and public programs designed to engage the city’s diverse audiences as active participants and patrons.

**2-P.29** Foster an environment of active participation in and attendance at artistic and educational programs and activities by residents and visitors.

**2-P.30** Explore a range of public and private funding sources to support the visual and performing arts and cultural development goals and activities.

**2-P.31** Establish and strengthen Redlands’ identity as a destination for the visual and performing arts.

**2-P.32** Promote arts and culture as a means to stimulate economic development.

### Actions

**2-A.103** Explore opportunities and funding strategies for developing dedicated arts-oriented gathering places and venues—such as an Arts and Cultural Center—that ensure wide availability and accessibility to arts and arts education opportunities, and small, affordable spaces for local artists to produce, perform, and/or display their art. Where possible, provide interim spaces within other facilities for arts and arts education opportunities. Funding and support

can occur through public-private partnerships, non-profits, public and private grants, and endowments.

**2-A.104** Support the continued operation of existing arts and cultural venues, including local museums.

**2-A.105** Pursue public art initiatives. Allocate funding for the purchase, maintenance and conservation of public art collections and provide, when possible, for the siting, selection, installation, and maintenance of permanent and traveling works of art within or upon public facilities and land.

**2-A.106** Support the Art in Public Places Initiative, with the Cultural Arts Commission providing overall guidance and recommendations.

**2-A.107** Continue supporting a variety of arts and cultural events and programs, such as Downtown Art Walk, Festival of the Arts, Redlands Bowl events, and Music Changing Lives.

**2-A.108** Promote cooperative arrangements with other public or private agencies that facilitate the temporary or permanent display of works of art for display within or upon public or private facilities and land.

**2-A.109** Encourage and provide funding for the development of a broad range of high-quality arts and arts education and youth programs that are accessible to all, respond appropriately to the changing demographic needs of the community, and develop the skills of participants at all levels of creative expression.

**2-A.110** Promote active community participation in arts and arts education programming through such means as sustained and creative communication initiatives and volunteer opportunities.

**2-A.111** Promote cooperation with educational organizations (schools, community colleges, and the University of Redlands) and community groups in the programming of artistic and cultural events and opportunities.

**2-A.112** Encourage the sharing and exchange of artistic endeavors and venues between the City and local, regional, State, and federal government agencies.

**2-A.113** Support a strong and effective Cultural Arts Commission as a key element in decisions to encourage, develop, and support the arts in Redlands.

**2-A.114** Encourage and support art and cultural opportunities offered by non-profit organizations through strategies such as allocating funding, providing access to venues for events and activities, and exploring partnerships.

**2-A.115** Develop an Arts and Culture Master Plan with community input to provide strategies for the development of arts and cultural goals in Redlands and to foster economic growth based on arts and culture.



# 3

## Prosperous Economy

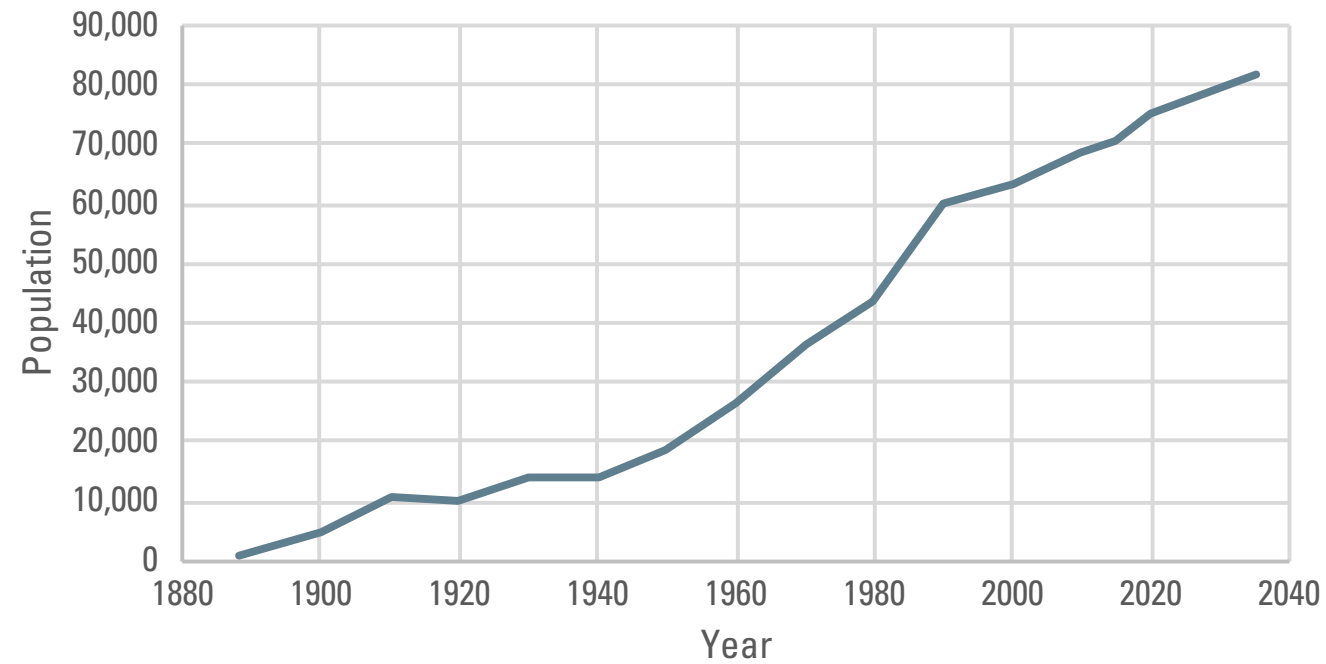
Support a prosperous economy with vibrant local businesses, a lively arts and culture scene, a climate of innovation, and a leading-edge business spirit.

Redlands' history is tied to its role as a center for commerce and agricultural services. The presence of several large employers and institutions has been an important driver in the local economy, and many residents see opportunities for—and the necessity of—new high tech, R&D, and environmentally sustainable businesses. These opportunities are spurred by the progressive business environment created by the presence of technology and healthcare companies, manufacturers, and the University of Redlands. Retail and commercial growth

in north Redlands, along West Redlands Boulevard, the Transit Villages, and in the Downtown core is also seen as integral to the City's fiscal health. The General Plan seeks to address the community's need for greater retail diversity; local and unique establishments; a diversified economic base; the retention of existing businesses; and an expanding role as a tourist destination.

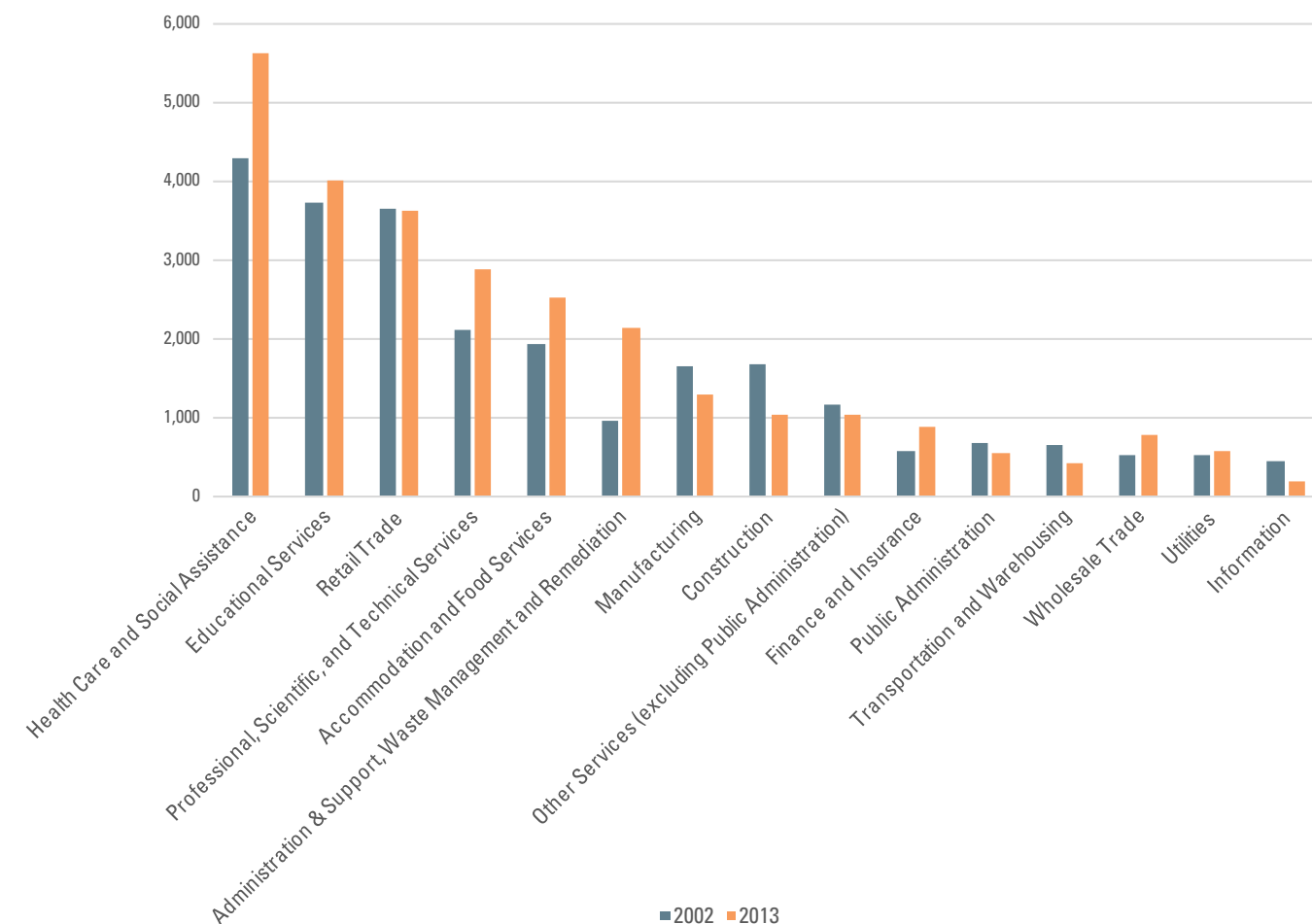


**Chart 3-1: Redlands Population, 1888-2035**



Sources: U.S. Census 1990, 2000, and 2010; ACS, 2013; California DOF, 2015; Dyett & Bhatia, 2016.

**Chart 3-2: Jobs in Planning Area for Top 15 Industry Sectors, 2002 and 2013**



Sources: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013).

## 3.1 DIVERSE AND RESILIENT ECONOMY

### Economic Development

#### Redlands Population and Labor Force

Redlands’ population surged in the mid-twentieth century, but has grown modestly since 1990. According to the California Department of Finance (DOF), as of January 1, 2015, the estimated population of Redlands was 68,049. The City of Redlands projects that Redlands’ population will grow to 79,013 by 2035, which translates to a 0.8 percent annual growth rate over the next 20 years. Chart 3-1 shows population projections for Redlands through 2035.

The largest percentage of Redlands residents are employed in the Health Care and Social Assistance field, followed by Educational Services, and Retail Trade (as seen in Chart 3-2). Redlands residents are increasingly employed in the scientific and technical fields, including Health Care and Social Assistance; and Professional, Scientific, and Technical Services.

The top two employers in Redlands, as seen in Chart 3-3, are ESRI and Redlands Community Hospital. General characteristics of Redlands’ economic sectors, including retail; industrial and manufacturing; education, office, healthcare and life sciences; and commercial and industrial development are described in the following pages.

#### Retail

Redlands is increasingly emerging as a retail center for the surrounding region. Key shopping areas include Orange Street, State Street, power centers like Walmart and Target, and home improvement stores like Home Depot and Lowes, as well as auto dealerships clustered along Redlands Boulevard or close to I-10. According to SCAG in 2013, per capita taxable retail sales in Redlands were about \$12,000, slightly above the countywide average of about \$10,000 (Chart 3-4). This does not include sales in the Donut Hole, which while not in the city, has added to Redlands’ general merchandise, restaurant, and apparel activity. Local tax revenues from the “Donut Hole” are split 90/10 between the City and the County, in return for the City providing services to the area.



The “Donut Hole” features a variety of retail establishments and an attractive shopping environment.

### Industrial and Manufacturing

Multiple warehouse and distribution projects have recently been completed or are planned or underway, many of which are located near the I-10 corridor. According to the City's Economic Development Action Plan, the vacancy rate for industrial and manufacturing space has declined significantly since the 2007-2009 economic recession, from nearly 25 percent in 2009 to about 11 percent in 2014. Demand for industrial space continues to be high, as a number of companies are looking for large, state-of-the-art facilities for warehouse, fulfillment, and distribution centers.

### Education, Office, Technology, Healthcare, and Life Sciences

The office and technology sectors are also active in the Redlands economy. The University of Redlands and ESRI, a leading company in Geographic Information Systems (GIS) technology, are two of the city's leading employers. The City's Economic Development Action Plan recommends building on ESRI's technology foundation in Redlands to attract other technology companies, start-ups, and entrepreneurs to expand this sector.

Healthcare and life sciences is another key sector in Redlands, due both to the presence of facilities within Redlands and to Redlands' proximity to the Loma Linda University Medical Center and the newly constructed Veteran's Administration Hospital. Medical providers are also present in the city, including Redlands Community Hospital, Beaver Medical Group, Kaiser Permanente, and several medical labs, diagnostics, and consulting companies. As Redlands' population ages, demand for healthcare services will continue to increase.

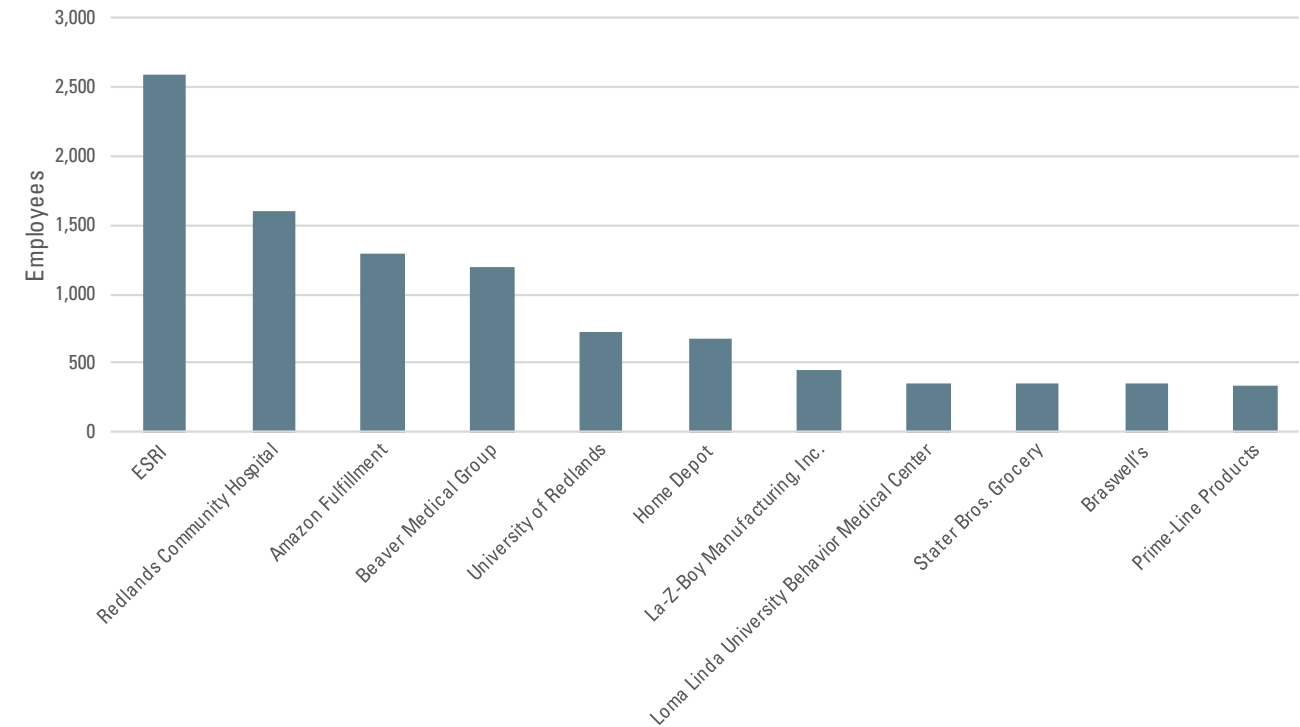
### Commercial and Industrial Development

The estimated square footage for various commercial and industrial uses in the Planning Area (including the City of Redlands as well as Mentone and Crafton) is shown in Chart 3-5. General industrial uses occupy well over half of the commercial and industrial development in Redlands (58 percent). General commercial, retail, and service uses occupy about 21 percent of the total commercial and industrial development, followed by offices and business park uses with about 17 percent. Auto-oriented commercial, mixed use, and heavy industrial uses together total about 4 percent of the commercial and industrial development in Redlands.

### Employment Growth

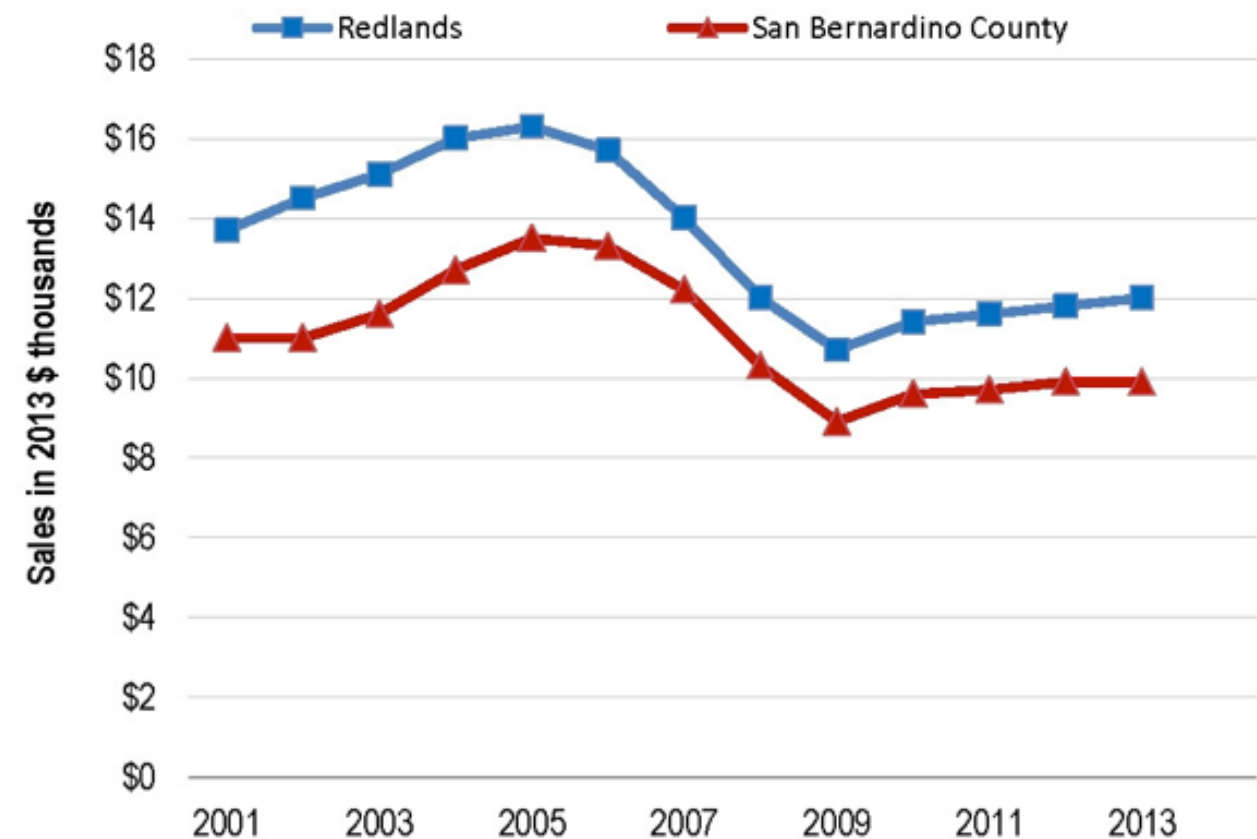
Coupled with the predicted population growth, SCAG projections indicate strong overall job growth in Redlands over the next 20 to 25 years, with projected employment potentially doubling. While SCAG does not project job growth by sector, applying the California Department of Transportation's (DOT's) projected sector growth to Redlands indicates growth in sectors Redlands is already strong in, such as health and education, and professional, scientific, and technical services. In order for the City to capitalize on the potentially strong employment market, it would need to maintain a positive climate for business growth and retention, and ensure land availability in appropriate locations. See Table 3-1 for a detailed analysis of projected employment growth.

Chart 3-3: Largest Employers in 2015



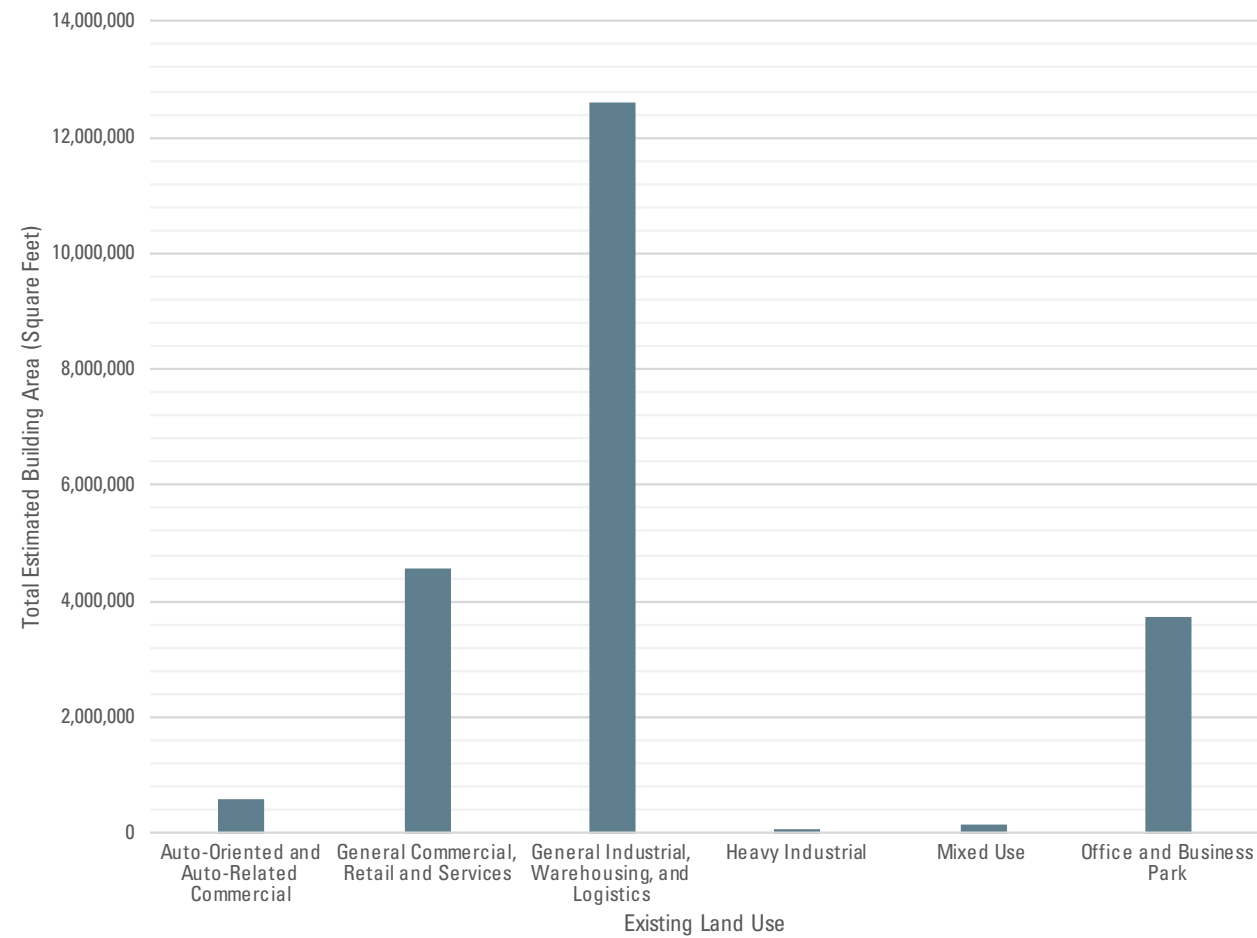
Source: City of Redlands Economic Development Division, 2015.

Chart 3-4: Retail Sales per Person, 2001-2013 (in 2013 \$ thousands)



Source: California Board of Equalization, as reported in the "2015 Profile of the City of Redlands" by the Southern California Council of Governments, 2001-2013.

Chart 3-5: Commercial and Industrial Development in Planning Area



Sources: City of Redlands, 2015; Dyett & Bhatia, 2015.



Vacant areas along Highway 210 are planned for regional commercial uses.

TABLE 3-1: REDLANDS PROJECTED EMPLOYMENT GROWTH BY INDUSTRY SECTOR, 2013-2040<sup>1</sup>

CA DOT Employment Forecast Industry Sectors	2013 Total Jobs <sup>2</sup>	Percent of total	2040 Projected Total Jobs <sup>3</sup>	Percent of total	Estimated Change in Jobs, 2013 – 2040 <sup>4</sup>
Health & Education	8,999	33%	14,626	27%	5,627
Wholesale & Retail Trade	4,103	15%	7,760	15%	3,657
Leisure	2,819	10%	6,784	13%	3,965
Transportation & Utilities	990	4%	6,210	12%	5,220
Professional Services	5,078	19%	6,167	12%	1,089
Manufacturing	1,219	4%	3,148	6%	1,929
Construction	909	3%	3,105	6%	2,196
Other <sup>5</sup>	1,009	4%	2,217	4%	1,208
Financial Activities	1,228	5%	1,818	3%	590
Government	559	2%	1,188	2%	629
Information	200	1%	300	1%	100
Farm	135	0%	78	0%	-57
<b>TOTAL</b>	<b>27,248</b>	<b>100%</b>	<b>53,400</b>	<b>100%</b>	<b>26,152</b>

Notes:

- Sorted by largest to smallest 2040 projected employment total.
- 2013 Redlands Employment Data Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013). To facilitate comparison to CA DOT's 2040 Industry Sector Projections, the 2013 NAICS Industry Sector Employment Totals for the city were sorted by best fit into new totals using CA DOT's Employment Forecast Industry Sectors.
- SCAG projects total employment for Redlands in 2040 but does not provide detailed employment sector projections. The California Department of Transportation (CA DOT) provides county-level projections for 2040 employment by industry sector. To estimate total employment in Redlands by industry in 2040, the percentages of CA DOT's 2040 county-level industry projections were applied by sector to SCAG's total 2040 employment projection for Redlands. Adjustments were made for the Government and Health & Education projections to account for Redlands' strong Health & Education sector and relatively weak Government sector, compared to San Bernardino County (For Redlands' 2040 sector projections, the county's Government share was reduced from 13 percent to 2 percent; then, 11 percent was added to Redlands' Health & Education sector total, increasing it from 16 percent to 27 percent).
- The change in number of jobs in Redlands from 2013 through 2040 is the difference between the SCAG 2040 total Redlands employment projection, categorized by sector, and the 2013 total employment, categorized by sector, in the city for 2013 by the US Census.
- Other includes Natural Resources and Mining and Other Services.

Sources: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013); SCAG 2016 Draft Regional Transportation Plan; California Department of Transportation, 2015; Dyett & Bhatia, 2015.

## POLICIES

### Principles

- 3-P.1** Promote a climate conducive to economic growth, innovation, and rejuvenation to enhance employment and investment opportunities without sacrificing environmental standards.
- 3-P.2** Seek varied, resilient, high-quality office and other commercial uses appropriate to Redlands to support the projected population.
- 3-P.3** Adhere to sound development standards to protect the investment of existing and future commercial and industrial areas.
- 3-P.4** Attract business and manufacturing by providing a wide range of urban amenities and services throughout the city.
- 3-P.5** Seek to improve the balance of jobs and housing so that more residents can find gainful employment within the city, especially in the job centers of the East Valley Corridor.

### Actions

- 3-A.1** Anticipate the demands for commercial and industrial growth and employ governmental mechanisms to maintain a choice of sites and buildings, including large parcels, as an attraction to major employers.
- 3-A.2** Attract businesses to Redlands that specialize in advanced manufacturing such as component assembly, automated production, 3D printing technology, and similar activities.
- 3-A.3** Assist in the expansion and retention of existing businesses and industries.

- 3-A.4** Encourage and attract businesses that support industry clusters for demand occupations in technology, healthcare, business services, education, and logistics.
- 3-A.5** Promote revitalization and rehabilitation of older commercial and industrial areas to make them more competitive, accessible, aesthetically appealing, and economically viable.
- 3-A.6** Continue to strengthen and coordinate the City's economic development information-gathering activities and share this information with local and regional partners as part of an enhanced effort to improve the competitive positions of both the city and the region.
- 3-A.7** Promote the Redlands Municipal Airport as a hub for jobs and innovation within the city.
- 3-A.8** Support design and development of a transportation system to service the business and industrial needs of the Planning Area in order to minimize congestion and circuitous travel.
- 3-A.9** Partner with local business associations in their efforts to retain and grow existing businesses and attract new ones.
- 3-A.10** Encourage mixed-use projects within the Transit Villages that will attract a wide array of uses including retail, restaurant, entertainment, office, residential, and cultural offerings.



ESRI (above left), Kaiser Permanente (above right), and Redlands Community Hospital employ Redlanders in technology and healthcare sectors.





Vacant land available for business use is located near Downtown Redlands.

## 3.2 LAND USE BALANCE

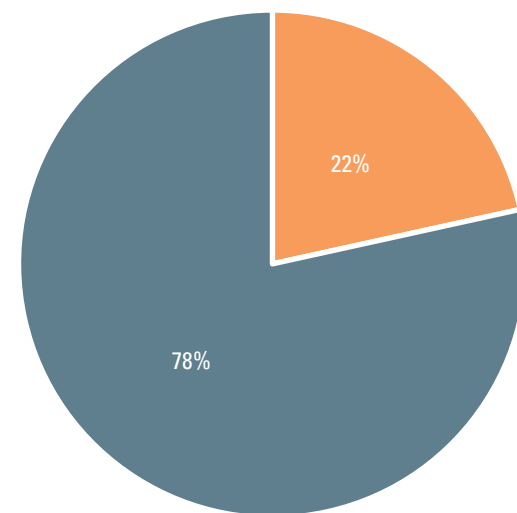
The jobs-to-employed residents' ratio illustrates the balance between jobs and housing in a community. A jobs to employed residents' ratio of 1.0 would indicate parity between jobs and housing, whereas a ratio greater than 1.0 indicates a net in-commute and less than 1.0 indicates a net out-commute. In 2013, the Planning Area had a slight jobs deficit, with a jobs to employed residents' ratio of 0.84. In 2035, this is projected to be 1.09 under the General Plan.

Though Redlands is home to large employment centers, such as ESRI, its hospitals, and the University of Redlands, residential is the largest land use, comprising 30 percent of the city's total acreage. Commercial, public/institutional, and industrial land uses combined encompass 10 percent of land. Centers of employment tend to be clustered in certain areas of the city. The western parts have by far the highest concentration of commercial activity, followed by Downtown Redlands and Lugonia. A small degree of neighborhood commercial activity exists in predominantly residential areas, such as the Colony Planning Subarea.

The challenge for the next 20 years will be to offer more job opportunities within the Planning Area, so residents do not have to commute elsewhere to find gainful employment. Retail and commercial growth in North Redlands, the Transit Villages, and Downtown is also seen as integral to the City's fiscal health. Considerations when adjusting land use to accommodate economic activity would include adequacy of available sites, proximity to existing establishments to promote the synergies that the City desires, and possibilities for adding foot traffic to transit areas and Downtown.

Chart 3-6: Inflow Primary Job Counts, 2013

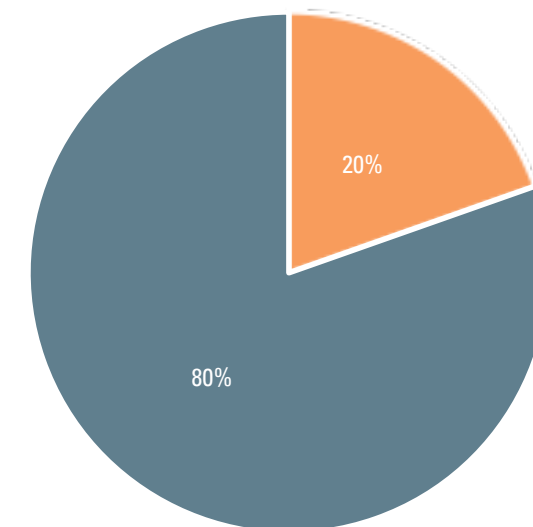
Employed in the Planning Area



- Employed and Living in Planning Area
- Employed in Planning Area but Living Outside

Chart 3-7: Outflow Primary Job Counts, 2013

Living in the Planning Area



- Living and Employed in Planning Area
- Living in Planning Area but Employed Outside

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013).



## POLICIES

### Principles

- 3-P.6** Maintain the appropriate land use balance that fosters and enhances economic development within the City of Redlands.
- 3-P.7** Encourage balance between economic development and all other aspects of community life that make Redlands a desirable place to live, work, and shop.

### Actions

- 3-A.11** Ensure that adequate and appropriate sites are available to attract and accommodate projected business growth, including the sectors such as health-care, education, professional, scientific, and technical services that are Redlands' strengths.
- 3-A.12** Encourage the location of commercial centers according to function and scale – regional, general, and neighborhood –so that centers of different scales complement one another and each is accessible to the primary market it is designed to serve.
- 3-A.13** Amend the East Valley Corridor Specific Plan to limit the development of large warehouse and distribution centers south of I-10 and east of I-210 within the East Valley Corridor.
- 3-A.14** Encourage commercial development, neighborhood retail, and professional offices and services of the appropriate

scale and business types along neighborhood commercial corridors, such as Orange Street and Colton Avenue.

- 3-A.15** Support and assist the long-term development of Redlands Municipal Airport and promote complementary land uses surrounding the airport, including incubator space for businesses that could benefit from proximity to the airport.
- 3-A.16** Continuously improve the community development process so that it facilitates the efficient and timely processing of development applications and projects.
- 3-A.17** Support neighborhood markets of appropriate size and scale and in the appropriate locations where there is support from neighborhood and community groups.

*In Redlands, office and residential development is carefully planned so as to minimize environmental impacts and sustain the city's natural beauty.*



Photo source: Miriam Cohn

## 3.3 INNOVATION, KNOWLEDGE INFRASTRUCTURE, AND WORKFORCE PREPAREDNESS

### Innovation

The confluence of the University of Redlands with major technological companies indicate that Redlands is a supportive place for innovative companies and entrepreneurs to develop and thrive. The City offers programs to support local business owners, including a business visitation program. These programs are just a start towards developing an innovative future; Redlands must continue implementing policies and programs to nurture innovation and entrepreneurship, including partnerships with local stakeholders, mentoring for entrepreneurs, and the creation of incubators.



The University of Redlands (above left) is a major boon to the local economy. ESRI (above right) also provides high technology jobs that contribute to economic diversity.

### Knowledge Infrastructure

Innovation begets innovation; incorporating the most up-to-date technology, such as high-speed internet and smart technology, into City systems and infrastructure will increase the City's ability to attract and retain visionary companies. Redlanders understand the importance of improving knowledge infrastructure, and would like to see the City promote the availability of knowledge infrastructure in order to attract businesses to Redlands.

### Workforce Preparedness

An educated, well-prepared workforce is essential to meet the needs of local companies and potential employers, especially given that projected employment growth in Redlands is in sectors such as software, services, and healthcare, that demand high levels of education. The availability of a trained, qualified workforce also plays a significant role in determining an employer's decision to locate in a city. Workforce development strategies include regional collaboration, industry needs assessment, and technology incubators.

## POLICIES

### Principle

- 3-P.8** Support activities that foster economic gardening (home-grown businesses) through entrepreneurship opportunities and partnerships that provide for business sector growth and expansion for demand industries (e.g., technology; healthcare).
- 3-P.9** Encourage public/private technology infrastructure projects that support business and municipal efficiency.
- 3-P.10** Through cooperation and support, encourage development of a labor force with skills to meet the needs of the area's current and future businesses and industries.
- 3-P.11** Support businesses, both existing and new, as they seek to provide and expand gainful, long-term employment opportunities that strengthen local workforce participation.

### Actions

- 3-A.18** Partner with public, private, and academic stakeholders to develop programs that connect entrepreneurs to resources. Encourage the development of essential infrastructure and provide entrepreneurs with needed information and assistance.
- 3-A.19** Support opportunities to enhance innovation through business incubators, expanded broadband and digital infrastructure, live-work spaces, mixed-use development, and policies that accommodate other industry innovations at the Redlands Municipal Airport, along Colton Avenue and Orange Street, Downtown, and in the Transit Villages.

- 3-A.20** Monitor the evolution of new businesses models of the future and ensure flexibility in the zoning regulations that can accommodate the appropriate business models for the community.
- 3-A.21** Pursue implementation of smart city development projects (e.g. wireless accessibility, smart parking, and other sensor-based technologies).
- 3-A.22** Capitalize on opportunities to prepare for future technology improvements and capabilities in infrastructure projects (e.g., installation of dark conduit or other techniques that may support future broadband installations during street and sidewalk rehabilitation projects).
- 3-A.23** Continually assess business workforce needs and requirements for developing a qualified workforce that meets the demands of businesses and industries concentrated within the city (e.g., technology, health care, manufacturing and logistics).
- 3-A.24** Work with educators (e.g., the University of Redlands; California State University, San Bernardino; community colleges; Redlands Unified School District) and other resource providers (e.g., County of San Bernardino Workforce Investment Board, State of California Employment Training Panel) to develop and implement applicable training programs and identify joint opportunities to spur growth of new and emerging job clusters and promote regional entrepreneurialism.
- 3-A.25** Support the development of business incubators, live-work lofts, and other flexible, multi-purpose, and open-office concept workspaces designed to assist entrepreneurs and start-up businesses.

## 3.4 TOURISM

Redlands' numerous assets—its sizable inventory of historical buildings, citrus groves, active Downtown, and arts and culture—make the city an enticing place for visitors. Partnerships with local businesses, community organizations, and regional entities can support Redlands as a tourist destination. Additionally, promotional materials can spread awareness and recognition of local assets.



*Hangar 24 is a popular destination for visitors to relax and have a drink.*

## POLICIES

### Principles

- 3-P.12** Promote Redlands as a destination where visitors can shop, dine, play, and stay, and help create opportunities for increased visitation, hotel stays, sales tax generation, and employment.
- 3-P.13** Promote Redlands as a tourist destination that appeals to a broad range of tourists engaged in cultural, artistic, historical, agricultural, ecological, and recreational tourism.
- 3-P.14** Collaborate and partner with local businesses, venues, and organizations to collectively market the community to potential visitors.
- 3-P.15** Support the arts and culture community as a means to both enrich the community and make Redlands a cultural and arts destination in the region.

### Actions

- 3-A.26** Lead efforts to develop and establish a funding source for a local tourism group composed of tourism-related businesses, venues, and organizations, and to work collaboratively on promoting tourism in Redlands. Permanently establish and fund a tourism development function within the municipal government to coordinate these efforts.
- 3-A.27** Actively participate in regional tourist councils and organizations.
- 3-A.28** Develop and produce local visitor guides highlighting community venues and events.

- 3-A.29** Work collaboratively with large employers and institutions that have large visitor and meeting needs on the potential to expand the city's visitor accommodation offerings.
- 3-A.30** Collaborate with local community and service groups to market venues and events such as "farm-to-table" and "historical tours" to local and regional audiences.
- 3-A.31** Promote citrus farming and Redlands' citrus heritage as a tourist experience.
- 3-A.32** Support commercial recreation businesses as uses that would revitalize older commercial areas and draw new visitors to the city.

*Splash Kingdom, the largest waterpark in the Inland Empire, attracts thousands of tourists to Redlands each year.*





## 3.5 DOWNTOWN

Downtown Redlands is recognized as one of the city's greatest strengths, both culturally and economically, and it attracts local residents and regional visitors year-round. Market Nights draw thousands Downtown and provide opportunities for local vendors and artists to display and sell their wares. Residents resoundingly support the growth of service-oriented uses Downtown, such as restaurants, dining, and retail.

The City recognizes that sustaining a healthy economy Downtown is imperative to achieving principles set forth in the Economic Development Action Plan (EDAP). The EDAP strives to ensure that the Downtown area continues to be a focal point for business and tourism in Redlands, and stipulates that this aim will be accomplished through increased efforts to enhance and expand tourism-related activities and capital improvements in the downtown core. The aims of EDAP are reflected in the principles and actions for Downtown economic development.

Residential living is one component of Downtown health. Downtown residents add vitality in the Downtown throughout the day and evening, and provide customers for Downtown businesses as well as patrons for transit. Ensuring Downtown is a walkable, safe environment will attract additional residents Downtown.

## POLICIES

### Principle

**3-P.16** Strengthen Downtown as a center of commerce and culture, with attractions for local residents, workers, and regional visitors year-round.

### Actions

**3-A.33** Support efforts to improve the economic and physical environment in the Downtown area by enhancing and expanding tourism-related activities and capital improvements, and generating external in-kind and monetary support for these efforts.

**3-A.34** Encourage and support unique specialty retail and restaurant uses in the Downtown core.

**3-A.35** Encourage and support the local ownership of Downtown buildings and businesses.

**3-A.36** Support revitalization of underutilized commercial space throughout Downtown, including the Redlands Mall, which could create new opportunities for businesses and residents, and provide a critical link to rail.

**3-A.37** Ensure adequate parking Downtown and efficiency in traffic flow to enable the continued revitalization of the commercial core.

**3-A.38** Improve the safety and sense of safety throughout Downtown and the adjoining commercial areas.

**3-A.39** Encourage and support the development of additional housing Downtown to increase the vitality and diversity of Downtown retail and services.

**3-A.40** Enhance and expand the public spaces Downtown (streetscapes, plazas, parks) to improve the pedestrian experience.

A scenic view of a residential neighborhood in Redlands, California, with snow-capped mountains in the background. The foreground shows a grassy hillside with scattered houses and trees. The middle ground features a dense cluster of houses on a hillside. The background consists of rolling green hills leading up to a range of large, rugged mountains covered in snow under a clear blue sky.

# 4

## Livable Community

Promote livability through managed, balanced and quality growth in keeping with the city's scale, services, and environment, and directing growth to infill areas.

Redlanders want development to contribute to their quality of life, enhance the public realm, and respect the environment. The community would like growth to be balanced and managed, and channeled into appropriate locations such as in central Redlands—accomplishing revitalization goals and reducing development pressure at the edges—while enhancing community character. Looking ahead, the City will capitalize on substantial infill opportunities around the proposed Redlands Passenger Rail stations to develop unique and identifiable new neighborhoods and districts that are walkable, crucibles of innovation, connected to their surroundings and to transit, and respectful of the city's overall scale and character.

New infill development, guided by design standards and guidelines, will be developed in harmony with the surrounding community, with quality architecture and landscaped parking, pedestrian connections, parks, and other amenities as appropriate. Consistent use of compatible streetscape design and street trees in new development will contribute to the overall aesthetic that makes Redlands unique. Commercial districts will be revitalized in a manner that is compatible with the scale and character of the adjacent neighborhoods.



*Growth management policies limit growth in areas with verdant natural landscapes.*

## 4.1 GROWTH MANAGEMENT

Beginning with Proposition R in 1978, growth management measures were originally adopted in response to rapid residential development. Residential development peaked during the 1980s, when 20 percent of the current housing stock was constructed in a single decade. Since that period, residential growth has slowed substantially. The Growth Management System is the City of Redlands' commitment to effectively manage growth and preserve the quality of life for current and future residents.

### Measure N

Measure N, a growth control ordinance that amended the previous growth management measure (Proposition R), was approved by the voters in 1987. The measure limits the development of residential dwelling units to 400 units per calendar year. Of the 400 units, 50 units are, by resolution, reserved for single-family homes, duplexes, triplexes and four-plexes on existing lots, with the remainder to be allocated according to a point system (adopted as Ordinance No. 2036), which emphasizes design amenities. The measure also restricts changing land designations or zoning to a higher density than Rural Estate (R-E) for those lands designated as urban reserve agricultural on June 1, 1987, and limits development on steep slopes.

### Measure U

Measure U, adopted by the voters in 1997, further articulated growth management policies. This General Plan Amendment reinforced and modified certain provisions of Measure N, adopted Principles of Managed Growth, and reduced the development density of San Timoteo and Live Oak Canyons

by creating a new land use category: Resource Preservation. Measure U limits the development potential of this part of Redlands characterized by steep slopes and natural resources.

Measure U amended the Redlands General Plan Land Use Element to “plan for” a housing mix of 75 percent single-family and 25 percent multi-family dwelling units at buildout. The City Council has adopted a clarification of this policy determining that “for-sale” condominiums (which are considered multi-family dwellings by the Census and the Department of Finance) will be considered single-family dwellings for purposes of this calculation. The measure has not proved to be hindrance for Redlands to achieve its regional housing fair share needs, and Redlands continues to have a certified Housing Element.

Measure U also includes traffic level of service standards; for policies pertaining to this, see Chapter 5: Connected City. Certain types of development are exempted from Measure U, including development on existing lots of record, remodeling of existing single-family homes, development related to rail stations, and development projects Downtown.

### Growth Boundaries

Growth management policies limit development outside of the city boundaries. Natural features such as the Santa Ana River, the Crafton Hills, and the canyons of San Timoteo and Live Oak, act as natural boundaries for growth. To reinforce urban-rural separation, this General Plan provides for an urban growth boundary separating Redlands from Crafton, with the boundary forming the edge of rural uses in Crafton where the minimum lot size is five acres.

The City provides services to areas of Crafton and Mentone that are within its Sphere of Influence, and also to the Donut Hole area that is outside of the SOI, for which the City has a tax share arrangement with the County that will expire in 2028.

## POLICIES

### Principles

- 4-P.1** Promote a balanced rate and distribution of development and uses pursuant to the standards identified in Measure U and compatible with the fabric of the existing community.
- 4-P.2** Provide for the expansion of housing and employment opportunities while ensuring that a high quality of life is maintained in Redlands.
- 4-P.3** Focus new development in infill areas in order to preserve open space, agriculture, and citrus groves, particularly around the edges of the city.
- 4-P.4** Maintain separation of urban and rural uses, including through establishment of growth boundaries as necessary.

### Actions

- 4-A.1** Promote the orderly development and growth of urban areas in infill areas and the city center while encouraging the ongoing cultivation of agricultural land and the preservation of rural living areas in the canyons, Crafton, and Mentone.
- 4-A.2** Establish an Urban Growth Boundary between Redlands and Crafton to maintain rural uses and promote agriculture in Crafton, delineating the edge of urban uses.
- 4-A.3** Ensure that infill development complements existing development in use, design, and scale, and that it supports the cohesion and integration of the city's development pattern.

- 4-A.4** Coordinate with San Bernardino County to ensure that land use designations and development standards in unincorporated portions of the Planning Area are consistent with those set forth in the Redlands General Plan.
- 4-A.5** Work towards the inclusion of the "Donut Hole" in northwest Redlands in the Redlands Sphere of Influence and annexation at the time current revenue sharing agreements end.
- 4-A.6** Provide for the extension of public services in a logical and functional manner to minimize impacts on service providers while focusing development in infill areas that can accommodate development in a timely manner.



Photo Credit: Dustin Brock



Photo Credit: Brad Willason

Residential growth in recent decades has concentrated in the periphery of the city, including the San Timoteo Canyon area, where development potentially poses a greater challenge to the natural environment.

## 4.2 PRINCIPLES OF MANAGED DEVELOPMENT

### Measure U General Plan Text (adopted by voters in 1997)

#### Population

As can be seen, population in the City of Redlands has grown over the last twenty-four (24) years. Based on Department of Finance data, the average annual growth rate between 1980-1994 was 3.8 and 2.4 percent respectively. Based on the existing population, projected number of dwelling units and persons per household, although it is impossible to predict the exact population of the City of Redlands under the provisions of this General Plan it is estimated that the City of Redlands could have a population of 101,644 at buildout. It is anticipated, however, that implementation of this growth management element and other provisions of the General Plan will reduce the likely number of residents at buildout to approximately 90,000.

#### Housing

According to the 1990 Census, the Planning Area (City and Sphere of Influence) had a total of 26,362 dwelling units. Between 1991 and 1994, the City of Redlands recorded an increase of 544 dwelling units, an increase of 2.0 percent, bringing the total to 26,906. It is projected that the total housing units for the City of Redlands at buildout of the General Plan could be as many as 36,414. It is anticipated, however, that implementation of this growth management element and other provisions of the General Plan will significantly reduce the likely number of dwelling units at buildout to approximately 32,000.

#### Population and Job Holding Capacity

The Planning Area at General Plan Buildout will accommodate approximately 90,000 residents and enough non-residential floor area for more than 100,000 jobs.

### A. ESTABLISHMENT OF NEW SECTION: 1A.0 PRINCIPLES OF MANAGED DEVELOPMENT

**1A.10 Principle One:** The cost of infrastructure required to mitigate the effects of new development shall be paid by that new development.

(a) **Development Fee Policy** - In accord with the provisions of California Government Code Sections 66000 et. seq., all development projects as defined therein shall be required to pay development fees to cover 100% of their pro rata share of the cost of any public infrastructure, facilities or services, including without limitation police and fire services, necessitated as a result of such development. The City Council shall set and determine development fees sufficient to cover 100% of the estimated cost of such public infrastructure, facilities and services based on appropriate cost-benefit analyses as required by the provisions of California law.

(b) **Socio-Economic Cost/Benefit Study and Findings Required** - Every development project proposal requiring a General Plan Amendment, Zoning Amendment, Subdivision Map, Specific Plan, Pre Annexation Agreement for Outside City Utility Connections for non-contiguous properties, or for projects involving structures larger than 5,000 square feet, Conditional Use Permit approval, shall submit a socio-economic analysis and cost/benefit study, which shall also be included in all environmental documents submitted to the extent permitted by law, identifying the source of funding for necessary public infrastructure and reflecting the effect of such development on the City, as part of the application process. The City Council shall publish notice of and hold at least one public hearing at which the public may appear and be heard to consider the socio-economic cost/benefit study. Approval of the development project shall only occur if the socio-economic study finds and determines to the satisfaction of the City Council that the development project 1) will not create unmitigated physical blight within the City or overburden public services, including

without limitation the sufficiency of police and fire protection, and 2) the benefit of the development project to the City outweighs any direct cost to the City that may result. The City Council may, however, approve a development project for which the socio-economic study fails to make the required findings or determinations if the City Council finds and determines upon a 4/5ths vote of its total authorized membership that the benefits to the City from the development project outweigh the negative socio-economic effects that may result.

(c) **Impacts of New Development on Public Schools Shall Be Mitigated** - A mandatory component of the socio-economic cost/benefit studies shall be an analysis of the effect of the proposed development on public schools facilities and resources, and shall include proposed measures to mitigate any identified adverse impacts on school facilities to the greatest extent permitted under California law.

**1A.20 Principle Two:** Development within the planning area and sphere of influence of the City of Redlands shall conform to development standards within the City.

(a) **Development Agreements** - All development agreements entered into by the City and developers pursuant to California Government Code Sections 65864 et. seq., - after the Effective Date of this initiative measure as defined in Section 3 hereof, shall conform to the policies contained in the Redlands General Plan.

(b) **Extension of Public Utilities Outside the City Limits** - No extension of City provided utility services to areas outside the City limits shall occur until such areas are properly annexed to the City, except that utility services may be extended to areas outside the City limits without prior annexation if all of the following conditions are met:

(1) The area to be served is not contiguous to the City of Redlands; and

(2) The City and the land owner have entered into a properly recorded and binding pre-annexation agreement establishing covenants running with the land that assure full compliance with all development standards of the City of Redlands, payment of all capital improvement and other development fees which would be applicable to the property if it were within the City limits at the time of extension of such services, and immediate processing of annexation to the City at the City's request; and;

(3) The land owner agrees as a condition of extension of utility facilities to serve the proposed development to pay the full cost of such extension of such utility facilities.

**1A.30 Principle Three:** Land use classifications set forth in the Redlands General Plan provide for an appropriate range of densities for residential development and intensity of commercial and industrial development in the City of Redlands.

(a) **Number of Land Use Classifications and Density Standards Shall Not Be Increased** -The density standards set forth in Paragraph 4.40, Residential Land Use Classifications, of Section 4.0, Land Use Element, of the Redlands General Plan shall not be increased, and no new residential land use classification shall be added, without a vote of the people.

(b) **Prohibition on Transfers of Density** - In order to assure that development occurs in a rational way, no transfer of residential development rights from lands other than those designated for single family residential shall be permitted, and then such transfers of single family residential density shall only be permitted to create or preserve agricultural, open space, school or park uses.

**1A.40 Principle Four:** Agricultural uses of land are important to the culture, economy and stability of the City of Redlands and shall be preserved to the greatest



extent possible consistent with the will of the people as expressed in Proposition R and Measure N, and consistent with the policies of the State of California set forth in Government Code Section 51220.

**1A.50 Principle Five:** Preservation of San Timoteo Canyon as a water conservation, recreational, equestrian and wildlife refuge resource for residents of the City of Redlands is essential to the health, safety, and general welfare of the community. Development in this area shall only occur in a manner that preserves the area in as natural a state as possible, whether such development is for residential, commercial or flood control purposes.

**1A.60 Principle Six:** Limitations on traffic levels of service and use of designated roadways, restrictions on permanent outdoor advertising signs and the proliferation of billboards, imposition of reasonable noise standards in residential areas and control of slope densities are essential to managing growth within the City by preventing undue urbanization and its attendant urban blight, the degradation of public services and the over-intensive development of land.

(a) **Levels of Traffic Service throughout the City Shall Be Maintained** - To assure the adequacy of various public services and to prevent degradation of the quality of life experienced by the citizens of Redlands, all new development projects shall assure by appropriate mitigation measures that, at a minimum, traffic levels of service are maintained at a minimum of LOS C throughout the City, except where the current level of service is lower than LOS C, or as provided in Section 5.20 of the Redlands General Plan where a more intense LOS is specifically permitted. In any location where the level of service is below LOS C at the time an application for a development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the level of traffic service is maintained at levels of service that are no worse than those existing at the time an application for development is filed, except as provided in Section 5.20b.

(b) **Collector and Local Street Standards Shall Be Maintained** - No development project shall be approved which will generate traffic volume on residential collector streets or local residential streets in excess of the standards set forth in the Redlands General Plan at Sections 5.32a and 5.32b. Roadways shall be designed and designated for use in accord with the standards set forth in GP Figure 5.3 of the Redlands General Plan.

(c) **Circulation Patterns Shall Protect Residential Neighborhoods from Increased Traffic Congestion** – Traffic circulation patterns shall be established and maintained within the City in a manner that protects the character of residential neighborhoods as set forth at Sections 5.30i, 5.30j and 5.30k of the Redlands General Plan. Major infrastructure improvements within the City designed to accommodate regional traffic needs shall be designed, constructed and financed in a manner which discourages increased traffic flows through residential neighborhoods, encourages traffic flows to existing freeway systems and makes prudent use of federal and local taxpayer dollars. The City Council shall coordinate with the San Bernardino Association of Governments (SANBAG), the Inland Valley Development Authority (IVDA) and the City of San Bernardino with regard to all Santa Ana river crossings, except the Orange Street crossing, to assure the development of California Street/Mountain View Avenue as a major arterial providing access to the San Bernardino International Airport.

(d) **Designated Scenic Highways within the City Shall Be Maintained** - Where improvement of any scenic or historic drive, highway or roadway is required, the City shall take all action authorized by California law to ensure that those roadways retain the characteristics which justify their designation as scenic or historic roadways, including without limitation, capacity restrictions.

(e) **Permanent Outdoor Commercial Signs Shall Be Limited in Size** - To accommodate the need for permanent outdoor commercial signs in a manner that provides the least intrusion on the community and the least risk of visual blight, no permanent outdoor commercial sign shall be approved that exceeds 120 square feet in size except by variance and/or conditional use permit approved by a four-fifths (4/5) vote of the entire authorized membership of the City Council. No reader boards or billboards shall be permitted.

(f) **Noise Standards in Residential Areas Shall Be Established to Protect Residential Use of that Land**– Among the most damaging aspects of high density residential development is a degradation of residential noise standards. Accordingly, noise standards must be stringent enough to assure residents reasonable quietude in their homes.

(g) **Slope Density Limitations Shall Be Maintained**- To preserve the hillside vistas and character of the City of Redlands, no development project shall be approved in the Hillside Overlay areas that is inconsistent with the slope density standards set forth in Section 4.42m of the Redlands General Plan.

## B. Exemptions

1. **Vested Projects.** This initiative measure shall not apply to or affect any property on which a vested right has been legally perfected and acquired prior to the Effective Date pursuant to state law.
2. **Special Categories of Development.** The provisions of this initiative measure shall not apply to the following:
  - A. New individual infill construction of single family homes on existing lots of record bounded by developed property as of March 1, 1997;
  - B. Rehabilitation, remodeling or additions to existing single family residential structures;

- C. Reconstruction or replacement of any uses to the same density, intensity and classification of use as existed on the Effective Date, including legal non-conforming uses;
- D. Development directly related to proposed Metrolink stations in the City of Redlands, including one at the University of Redlands;
- E. New development projects subject to the Downtown Specific Plan 45, upon a four-fifths (4/5ths) vote of the total authorized membership of the City Council; and
- F. Special, temporary or occasional uses of public streets including parades, local sporting and cultural events, graduation ceremonies, approved school activities and other occasional public gatherings.

3. **Exemptions from Traffic and Socio-Economic Study Requirements Only.** Development projects that directly further the primary institutional purposes of churches, hospitals, schools (including private schools and universities), and organizations such as the YMCA and YWCA, on sites held by such entities as of March 1, 1997, are exempt from the traffic level of service requirements and the requirement for a socio-economic study established by this initiative measure so long as such development projects are either 1) non-residential in character, or 2) provide only dormitory, staff housing or senior congregate care facilities for those exempt entities.

**TABLE 4-1: EXISTING LAND USES IN THE PLANNING AREA (2016)**

Land Use	Redlands			Sphere of Influence			Planning Area	
	Acres	Percent of Redlands	Percent of Planning Area	Acres	Percent of SOI	Percent of Planning Area	Acres	Percent of Planning Area
<b>Residential</b>	<b>7,132</b>	<b>30.8%</b>	<b>24.0%</b>	<b>1,881</b>	<b>28.8%</b>	<b>6.3%</b>	<b>9,013</b>	<b>30.3%</b>
Single-Family Residential	6,292	27.1%	21.2%	1,796	27.5%	6.0%	8,088	27.2%
Multi-Family Residential	627	2.7%	2.1%	54	0.8%	0.2%	681	2.3%
Mobile Home Park	212	0.9%	0.7%	32	0.5%	0.1%	244	0.8%
<b>Commercial</b>	<b>745</b>	<b>3.2%</b>	<b>2.5%</b>	<b>19</b>	<b>0.3%</b>	<b>0.1%</b>	<b>764</b>	<b>2.6%</b>
Auto-Oriented/Auto-Related Commercial	77	0.3%	0.3%	4	0.1%	0.0%	81	0.3%
General Commercial, Retail & Services	400	1.7%	1.3%	14	0.2%	0.0%	414	1.4%
Office/Business Park	259	1.1%	0.9%	0	0.0%	0.0%	259	0.9%
Mixed Use	9	0.0%	0.0%	2	0.0%	0.0%	11	0.0%
<b>Industrial</b>	<b>1,151</b>	<b>5.0%</b>	<b>3.9%</b>	<b>102</b>	<b>1.6%</b>	<b>0.3%</b>	<b>1,253</b>	<b>4.2%</b>
General Industrial	820	3.5%	2.8%	102	1.6%	0.3%	922	3.1%
Heavy Industrial	331	1.4%	1.1%	N/A	0.0%	0.0%	331	1.1%
<b>Public/Institutional</b>	<b>865</b>	<b>3.7%</b>	<b>2.9%</b>	<b>106</b>	<b>1.6%</b>	<b>0.4%</b>	<b>971</b>	<b>3.3%</b>
Hospital/Special Care Facilities	117	0.5%	0.4%	4	0.1%	0.0%	121	0.4%
Schools/Educational Facilities	505	2.2%	1.7%	71	1.1%	0.2%	577	1.9%
Public and Community Facilities	243	1.0%	0.8%	31	0.5%	0.1%	274	0.9%
<b>Parks, Open Space, and Recreation</b>	<b>3,719</b>	<b>16.0%</b>	<b>12.5%</b>	<b>419</b>	<b>6.4%</b>	<b>1.4%</b>	<b>4,138</b>	<b>13.9%</b>
Parks	271	1.2%	0.9%	1	0.0%	0.0%	272	0.9%
Open Space and Recreation	3,232	13.9%	10.9%	413	6.3%	1.4%	3,645	12.3%
Private Open Space	160	0.7%	0.5%	5	0.1%	0.0%	165	0.6%
Cemetery/Mortuary	57	0.2%	0.2%	N/A	0.0%	0.0%	57	0.2%
<b>Agriculture</b>	<b>911</b>	<b>3.9%</b>	<b>3.1%</b>	<b>1,269</b>	<b>19.4%</b>	<b>4.3%</b>	<b>2,180</b>	<b>7.3%</b>
<b>Vacant</b>	<b>4,700</b>	<b>20.3%</b>	<b>15.8%</b>	<b>2,208</b>	<b>33.9%</b>	<b>7.4%</b>	<b>6,909</b>	<b>23.3%</b>
<b>Other</b>	<b>1,073</b>	<b>4.6%</b>	<b>3.6%</b>	<b>101</b>	<b>1.6%</b>	<b>0.3%</b>	<b>1,174</b>	<b>4.0%</b>
Airport	170	0.7%	0.6%	N/A	0.0%	0.0%	170	0.6%
Utilities	751	3.2%	2.5%	95	1.5%	0.3%	846	2.8%
Parking Lot	16	0.1%	0.1%	1	0.0%	0.0%	17	0.1%
Water	136	0.6%	0.5%	5	0.1%	0.0%	141	0.5%
<b>SUBTOTAL</b>	<b>20,296</b>	<b>87.6%</b>	<b>68.3%</b>	<b>6,106</b>	<b>93.6%</b>	<b>20.6%</b>	<b>26,402</b>	<b>88.9%</b>
Railroad ROW/Streets/Private Roads	2,881	12.4%	9.7%	418	6.4%	1.4%	3,299	11.1%
<b>TOTAL</b>	<b>23,177</b>	<b>100.0%</b>	<b>78.0%</b>	<b>6,524</b>	<b>100.0%</b>	<b>22.0%</b>	<b>29,701</b>	<b>100.0%</b>

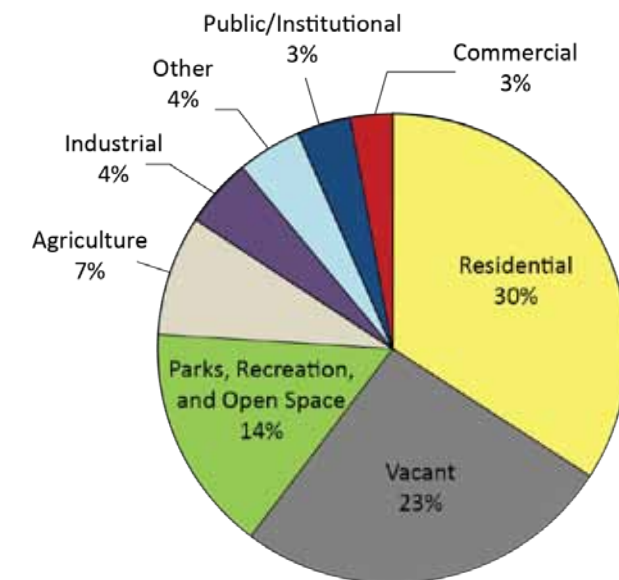
Sources: City of Redlands, 2015; Dyett & Bhatia, 2015.

## 4.3 LAND USE

### Existing Land Use Mix

The city's overall land use pattern consists of distinct clusters of land uses: a western area composed of largely industrial, commercial, and office uses; a large area in the center dominated by residential land uses and Downtown; areas between Downtown and the periphery where agricultural and residential uses are interspersed; and swaths of open space and vacant land along the Planning Area's northern, southern, and eastern boundaries. Concentrated areas of diverse land uses are found in Downtown and in the southern portion of the East Valley Corridor Specific Plan area. The leading land use in the Planning Area is residential, followed by vacant land; parks, open space, and recreation; and agriculture. Existing land uses as of 2016 are summarized in Table 4-1, and their distribution shown in Chart 4-1.

**Chart 4-1: Planning Area Land Use**



## Residential Development

Residential uses include single-family detached and attached, multi-family, mobile home housing types, and are the most common land uses in the Planning Area. Altogether, residential uses account for about 30 percent of the land in the Planning Area. The dominant residential land use is single-family residential, which encompasses about 27 percent of land in the Planning Area. Multi-family uses can be found in the northern and central parts of the Planning Area, primarily along Brookside Avenue in the West End; near Lugonia Avenue and Church Street; in the eastern portion of Lugonia; near the University of Redlands; and along Mentone Boulevard. Mobile home parks are generally located north of I-10, where larger parks are found near the University of Redlands, along Colton Avenue near the eastern city limits, and along Mentone Boulevard.

Redlanders want this mix of residential land use to remain similar. Residents indicate that the City should promote the development of additional single-family structures, as well as lofts/live-work spaces, startup homes for families, and housing for seniors and students. The provision of affordable housing is also important to most Redlanders.

## Office, Commercial, and Industrial Development

Commercial land uses include auto-related commercial, general commercial and retail, office and business parks, and mixed uses. Combined, commercial land uses cover about 3 percent of land in the Planning Area. The largest share of commercial land uses is composed of general commercial and retail uses, including markets, theaters, retail, and restaurants.

The majority of commercial uses are located in the western region of the Planning Area, along I-10 and Redlands Boulevard, and in Downtown

Redlands. Additional commercial corridors can be found along Orange Street north of I-10 and along Mentone Boulevard, with some smaller neighborhood shopping centers appearing in predominantly residential areas. Office uses and business parks are located mainly in the western region of the city along the I-10 corridor, with some uses located near Barton Road, Fern Avenue, and Reservoir Road. Auto-related commercial uses make up 10 percent of the Planning Area's commercial uses and are located mainly along Redlands Boulevard and the I-10 corridor.

Industrial uses cover 1,253 acres, or 4 percent of land in the Planning Area, and include heavy industrial uses such as rock, sand, and gravel production; and general industrial uses such as light industrial, manufacturing, warehouse, and storage. General Industrial uses are primarily located in the East Valley Corridor Specific Plan area and near the Redlands city limits, with some additional sites Downtown. Heavy industrial uses are in the north of the city near the Santa Ana River Wash.

Residents would like to see the development of additional commercial facilities, including shopping and dining. Of particular interest is the redevelopment of the Redlands Mall and adding additional retail destinations Downtown. Of concern to residents are traffic implications of additional shopping destinations, the effects these developments would have on the environment, and how these new facilities would complement community character.

## Parks and Recreation; Agriculture

Parks, open space, and recreation uses account for about 16 percent of land in Redlands, which is the third largest land use. This category includes public parks, open space and recreation, private open space, and the Hillside Memorial Park Cemetery. The large open spaces along the Santa Ana River Wash and in the San Timoteo and Live Oak Canyons make up a significant proportion of this combined total.

Agricultural uses in the Planning Area encompass row crops, horse ranching, citrus, poultry, dairy, and avocado production. Residents greatly value the open space and consider the ring of open space around the town—the Emerald Necklace—an asset distinguishing Redlands from other cities in the region. Redlanders are highly concerned about preserving open space and agricultural land. They are wary about the effects of population growth on the preservation of open spaces, particularly in the canyons and Crafton Hills area.

## Land Use Classifications

The General Plan Diagram, General Plan Figure 4-1, depicts 16 categories of land use: Rural Living; Very Low Density; Low Density; Low Medium Density; Medium Density; High Density; Office, Commercial; Commercial/Industrial; Light Industrial; Public/Institutional; Parks/Golf Courses; Agriculture; Open Space; Resource Preservation; and Hillside Conservation. The land use classifications are summarized in Table 4-2. The legend on the General Plan Land Use Map is an abbreviated version of the descriptions. The land use classifications are adopted as General Plan policy and are intentionally broad enough to avoid duplicating the City's zoning regulations. The General Plan Land Use Map, which is a graphic representation of City policies regarding growth and development, is to be utilized in conjunction with the policies contained in the General Plan as a guide to decision making. The Zoning Ordinance and the Zoning Map further delineate and prescribe specific uses of the land and associated development regulations. More than one zoning district may be consistent with a single General Plan land use category.

State law requires the General Plan to establish standards of population density and building intensity for each land use classification. For non-residential uses a maximum permitted ratio of gross floor area

to site area is specified. The Floor Area Ratio (FAR) is a broad measure of building bulk that controls both visual prominence and traffic generated. Residential density is expressed as housing units per gross acre. (Resultant net densities are higher than equivalent gross densities because street and sidewalk dedication is omitted from the calculation.)

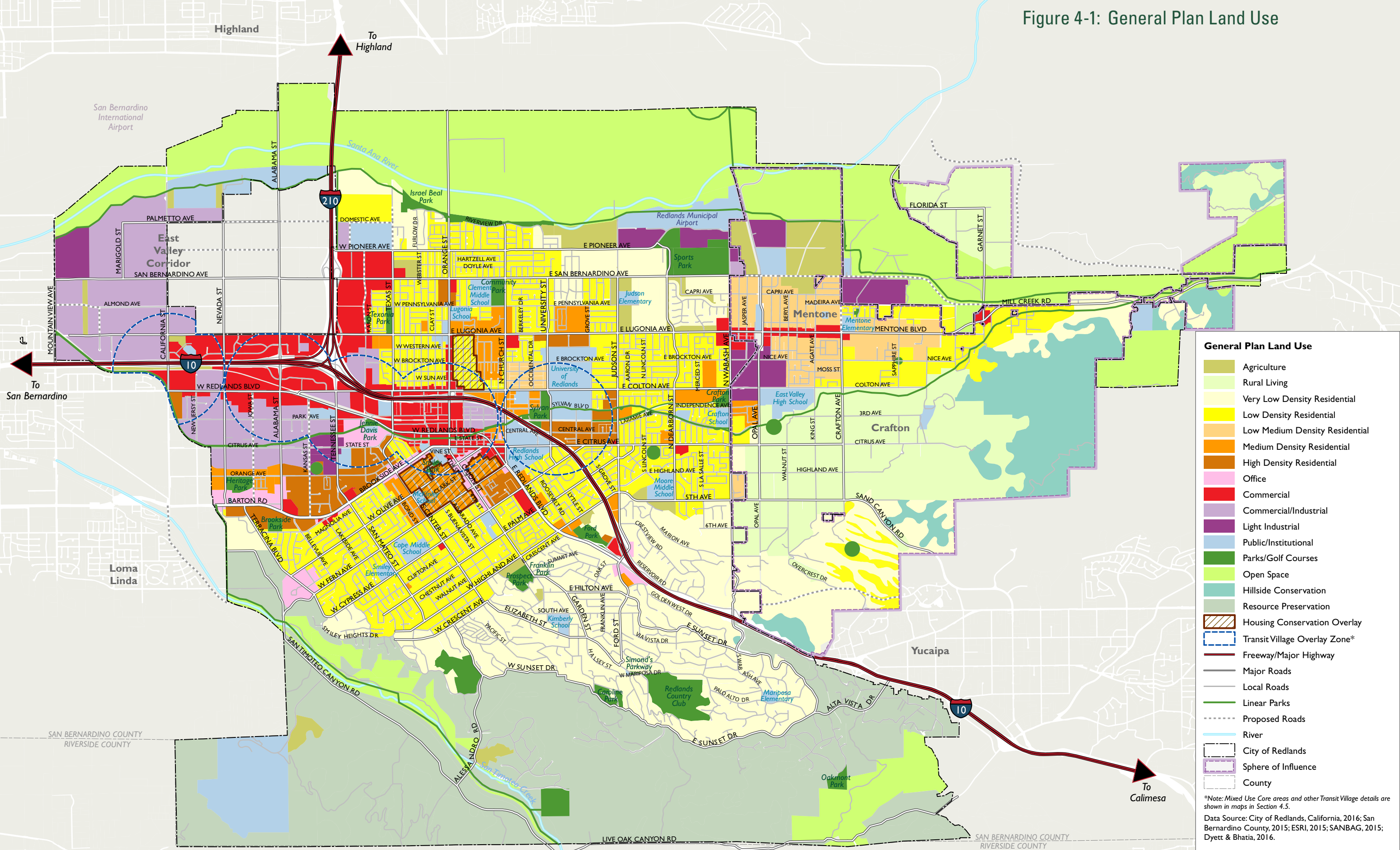
The density/intensity standards do not require the City to approve development projects at the top of the density or intensity range for each classification. Zoning regulations consistent with General Plan policies and/or site conditions may reduce development potential. Gross density standards and assumed averages for residential categories are listed below. Table 4-2 shows maximum FAR standards for non-residential uses.

Maximum residential densities are per gross acre of developable land, provided that at least one housing unit may be built on each existing legal parcel designated for residential use. Second units are permitted by local regulation. State-mandated density bonuses are in addition to densities otherwise permitted. Theoretical residential densities by land use category are illustrated in Figure 4-3.

## Residential

- **Rural Living.** Rural Living is a residential land use category that designates areas intended to be developed with detached single-family dwellings at densities of up to 1 dwelling unit (du) per 5 acres on slopes between 0 and 15 percent, and up to 1 dwelling unit (du) per 10 acres on slopes greater than 15 percent and less than 30 percent. The intent of this land use category is to preserve natural features of the designated area and/or encourage agricultural use of the majority of each designated parcel.

Figure 4-1: General Plan Land Use



Note: Parks, Open Space, and Agriculture in Resource Preservation area are part of the "Resource Preservation" designation.

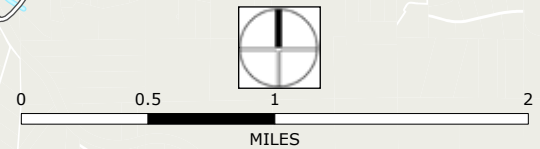
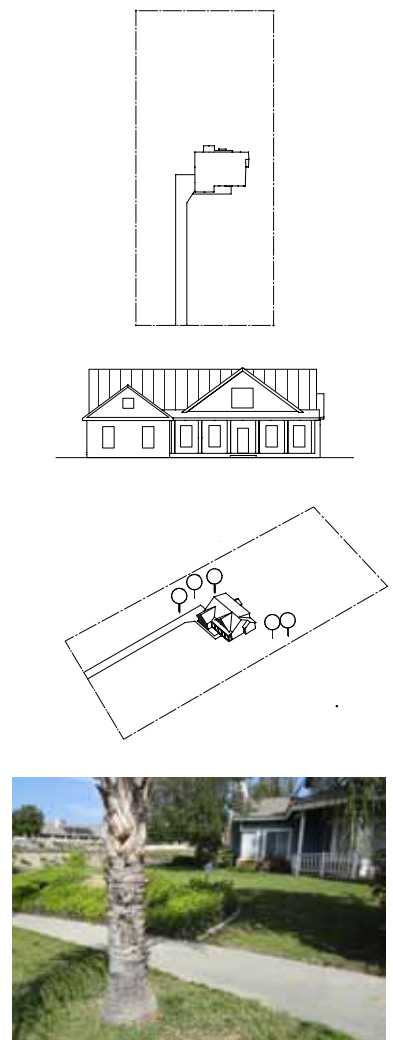


Figure 4-2: Residential Densities

Land Use Category:
Housing Type:
Density (as illustrated):
Typical Lot Size:
Number of Floors:
Typical Density Range:

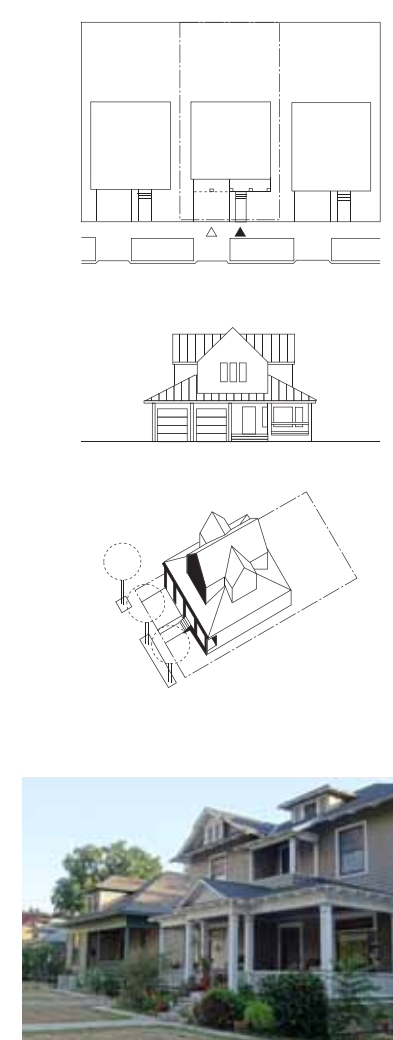
**VERY LOW 0 - 2.7**  
**RURAL 0 - 0.2**

Detached single-family home  
 .6 du/acre  
 70,000 sf  
 2  
 0-4 du/acre



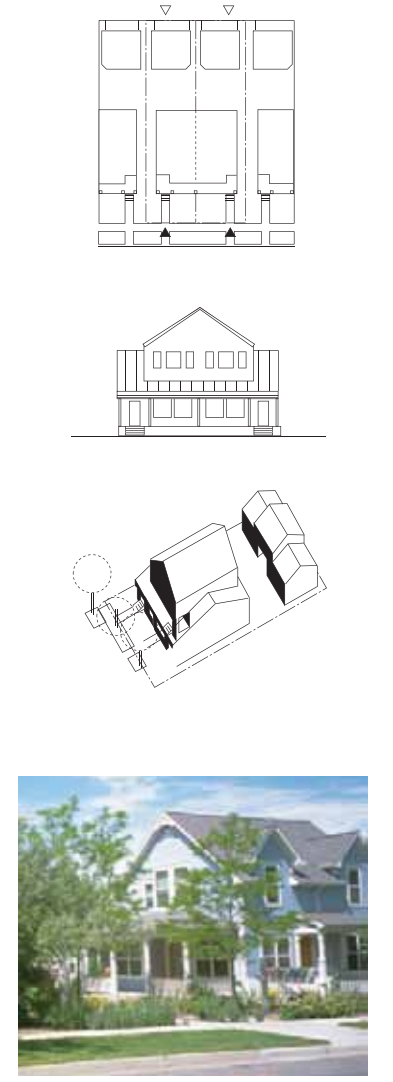
**LOW MEDIUM 6 - 8**  
**LOW 2.7 - 6**

Detached single-family home  
 6 du/acre  
 10,000 sf  
 2  
 4-8 du/acre



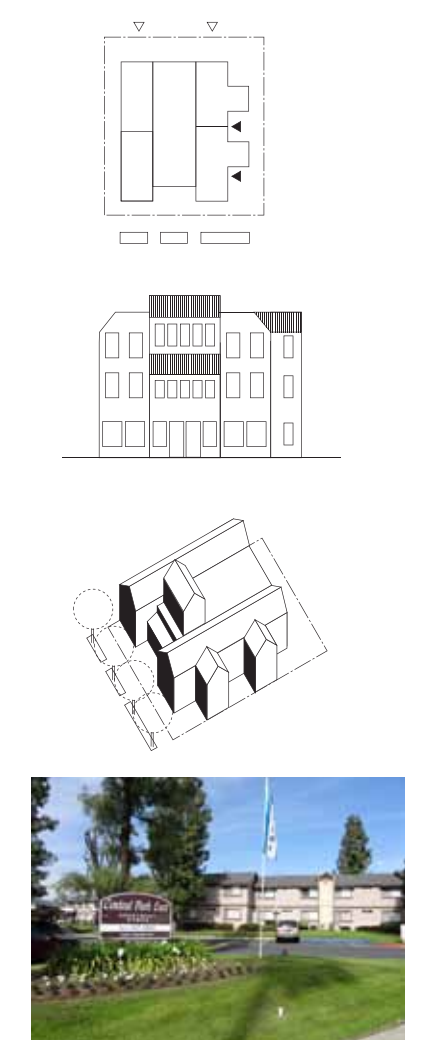
**MEDIUM 8 - 15**

Semi-detached, attached  
 16 du/acre  
 3,000 sf  
 2  
 10-14 du/acre



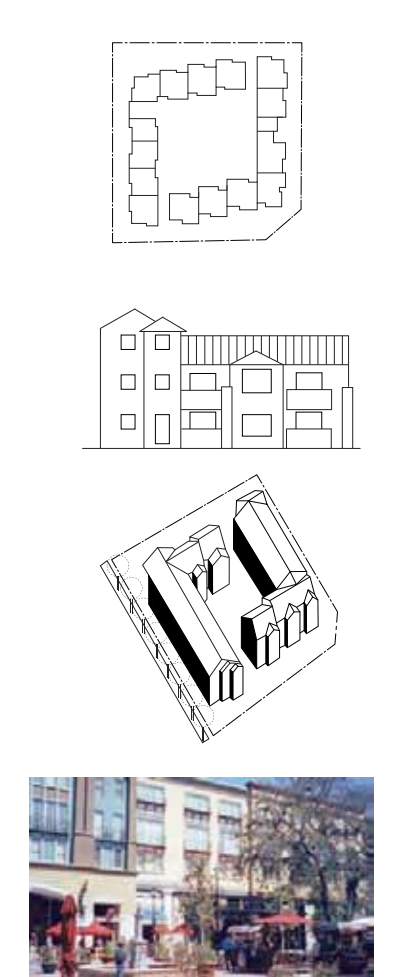
**HIGH 15 - 27**

Attached flats  
 40 du/acre  
 n/a  
 2-3 over podium  
 20-30 du/acre



**MIXED USE 15 - 27**

Semi-detached, attached flats; mixed-use  
 30 du/acre  
 n/a  
 2-3 over commercial  
 22+ du/acre



- **Very Low-Density Residential.** Very Low-Density Residential designates areas intended to be developed with detached single-family dwellings at densities up to 2.7 du/ac on slopes of up to 15 percent, and 0.4 du/ac (1 unit per 2.5 acres) on slopes greater than 15 percent and less than 30 percent. Residential development on smaller infill lots that are consistent with the prevailing development patterns may be approved. The intent of this land use category is to encourage limited, low-density residential development that preserves hillsides, limiting grading and vegetation removal, and allows beneficial agricultural use.
- **Low-Density Residential.** Low-Density Residential designates areas intended to be developed at densities of up to 6 du/ac. This category is not intended to be applied in areas where slopes exceed 15 percent. The intent of this land use category is to provide for areas of single-family residential developments. Consistent lots sizes include 7,200 square feet (6.0 units per gross acre) and 10,000 square feet (4.3 units per gross acre).
- **Low-Medium Density Residential.** Low Medium-Density Residential designates areas intended to be developed at up to 8 du/ac. The intent of this land use category is to provide for continuation of the land uses at densities compatible with existing development in the Mentone area and the vicinity of the University of Redlands.
- **Medium-Density Residential.** Medium-Density Residential designates areas intended to be developed at up to 15 du/ac. The intent of this land use category is to provide areas for the development of attached, detached, and/or mixed residential uses with a range of densities and housing types. Areas designated Medium Density are generally more suitable for development in the low- to mid-level of the permitted density range for this category. Housing types may include detached single-family dwellings with one or more dwellings

per lot, two-family dwellings (two attached dwellings), and multi-family dwellings (three or more attached dwellings).

- **High-Density Residential.** High-Density Residential designates areas intended to be developed at up to 27 du/ac. The intent of this land use category is to provide for the development of attached, detached, and/or mixed residential uses with a range of densities and housing types. Areas designated High Density are generally more suitable for development at the mid- to high-level of the density range for this category. No proposed development project with density levels in excess of 18 dwelling units to the acre or a structure in excess of two stories or greater than 35 feet in height shall be approved unless the following mandatory findings are made and the development project is approved by four-fifths (4/5) vote of the total authorized membership of the City Council:
  1. There are substantial and overriding economic or social benefits to the City and its residents and taxpayers from the proposed density or height increase.
  2. The proposed density or height increase will not cause adverse environmental impacts, either individually or cumulatively, directly or indirectly.
  3. The proposed density or height increase will not have a growth-inducing effect on other property.
  4. The resulting use will be compatible with uses on adjacent land.
  5. The proposed density or height increase will not require substantial expansion of public infrastructure, facilities or services.

## Residential Areas

- 4.40q Plan for a housing mix at buildout consisting of 75 percent single family dwelling units and 25 percent multi-family dwelling units.
- 4.40s No land undeveloped as of March 1, 1997 and designated in whole or in part as “Urban Reserve” or “Urban Reserve (Agricultural)” in the Redlands general plan in effect as of June 1, 1987, and/or any land parcel that was in active agricultural production on November 3, 1986 regardless of zoning, shall be re-designated or rezoned to permit residential density greater than the Estate Residential (R-E) classification, as the same existed on June 1, 1987, in the Redlands City Zoning Ordinance, unless the following mandatory findings are made and the re-designation or rezoning is approved by four-fifths (4/5) vote of the total authorized membership of the City Council. Land designated by the General Plan as Urban Reserve as of June 1, 1987, shall not exceed a density higher than permitted by the R-E zone designation unless otherwise approved by a 4/5 vote of the City Council.
  1. There are substantial and overriding economic or social benefits to the City and its residents and taxpayers from the proposed density increase.
  2. The proposed density increase will not cause adverse environmental impacts, either individually or cumulatively, directly or indirectly.
  3. The proposed density increase will not convert viable agricultural land to non-agricultural uses.

4. The proposed density increase will not have a growth-inducing effect on other property.
5. The resulting use will be compatible with uses on adjacent land.
6. The proposed density increase will not require substantial expansion of public infrastructure, facilities or services.

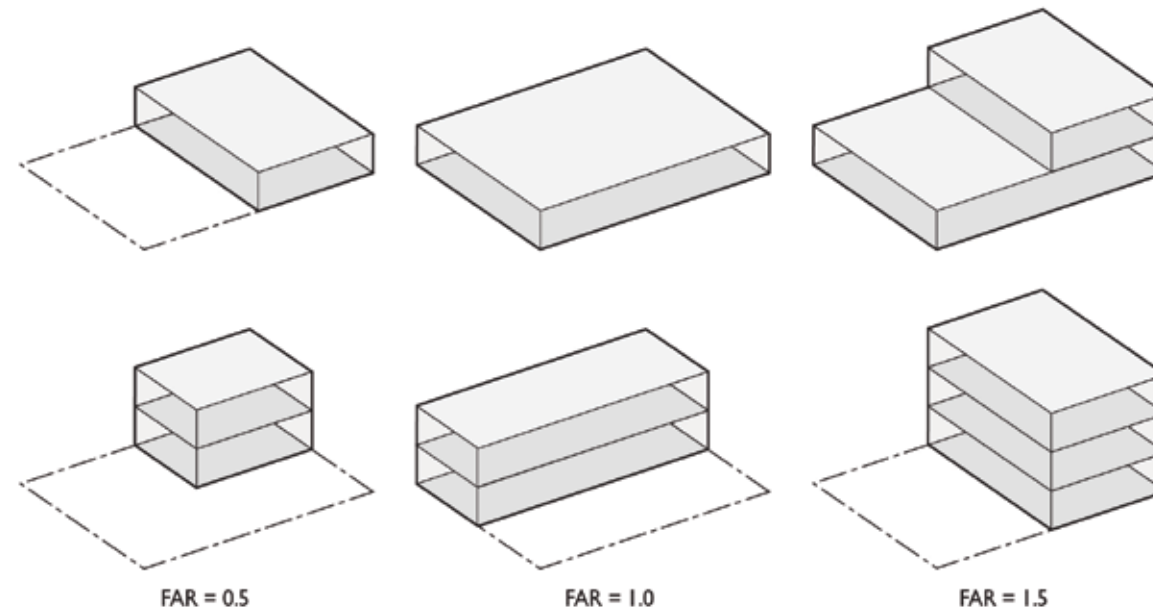
## Office, Commercial, and Industrial

- **Office.** The Office land use category designates areas for the development of a wide range of office types, including general office, medical, and other professional uses, as well as ancillary commercial uses. This land use category is intended to encourage the concentration and high visibility of office uses and professional activities for the convenience of the general public and to minimize conflicts and adverse impacts on other land uses. The Office land use category also permits residential uses consistent with the underlying zoning district.
- **Commercial.** The Commercial land use category designates areas for the development of a wide range of commercial uses, including neighborhood-serving stores and convenience centers, regional commercial centers, and commercial recreation. Sites with this designation may be developed with a stand-alone commercial use, two or more commercial uses, or mixed uses. The Commercial land use category may permit residential and mixed uses consistent with the underlying zoning district.
- **Commercial/Industrial.** The Commercial/Industrial land use category designates areas where certain types of commercial and light industrial uses may be compatibly located. It includes flex commercial space as well as business parks. The intent of this designation is to minimize regulation of uses where there is no compelling reason to segregate uses as long as development and performance standards are met. Development standards for Commercial/Industrial areas vary according to location. Uses permitted in this category include auto services, commercial retail and services, and manufacturing.

**TABLE 4-2: FLOOR AREA RATIOS**

	Commercial	Office	Industrial
General Plan except as specified below	.30	.40	.45
Downtown Redlands (standards)	2.00	2.00	---
East Valley Corridor Specific Plan Area (standards)	.25-.60	.60-.90	.80-1.20

Source: City of Redlands, 2015.



Floor Area Ratio (FAR) is the ratio of a building's total floor area to the size of its site.

- **Light Industrial.** The Light Industrial land use category designates areas intended for manufacturing, distribution, research and development (R&D) industries, and ancillary commercial uses. Heavy industries, such as aggregate mining and processing and concrete batch plants, are not included in this category and are only permitted in areas designated by the Santa Ana Wash Plan.



Commercial uses in Redlands range in scale from regional shopping centers to small neighborhood shops.

### Agriculture and Hillside

- **Agriculture.** Areas designated for crops, orchards, groves, grazing, horse boarding, apiaries, agricultural education facilities, and the roadside sale of agricultural products grown on site. Single family residences are permitted at densities dependent on the underlying zoning. Permanent agricultural easements are encouraged in these areas.
- **Hillside Conservation.** Hillside Conservation designates areas of 30 percent slope or greater. It allows for residential development at densities of up to 1 dwelling unit per 20 acres on slopes between 30 and 40 percent, and one dwelling unit per 40 acres on slopes greater than 40 percent, dependent upon site-specific slope and soil conditions.
- **Resource Preservation.** The Resource Preservation designation limits uses in areas which possess a unique character and fragile ecology which are prime resources for water conservation, wildlife preservation, open space recreation and agriculture. Preservation of such lands is essential to the health, safety and welfare of the community. Limited permitted uses include remote commercial recreational facilities, such as equestrian facilities, as envisioned in Section 4.64; postal offices, public safety facilities, educational facilities and public utilities as envisioned in Section 4.94; and open space uses described in Section 4.95. Residential uses are permitted but density shall be limited to that allowed by Section 4.42m to protect the character and ecology of such lands.

**TABLE 4-3: SUMMARY OF LAND USE DESIGNATIONS**

Land Use Designation	Acres		
	Redlands	SOI	Planning Area <sup>1</sup>
<b>Residential</b>	<b>6,343</b>	<b>4,042</b>	<b>10,386</b>
Rural Living	9	2,115	2,125
Very Low-Density Residential	2,694	861	3,555
Low-Density Residential	2,643	574	3,216
Low-Medium Density Residential	63	469	532
Medium-Density Residential	520	23	544
High Density Residential	414	—	414
<b>Office, Commercial, and Industrial</b>	<b>2,626</b>	<b>147</b>	<b>2,773</b>
Office	206	—	206
Commercial	866	55	921
Commercial/Industrial	1,249	—	1,249
Light Industrial	305	92	397
<b>Agriculture and Hillside</b>	<b>5,122</b>	<b>1,322</b>	<b>6,446</b>
Agriculture	308	220	529
Hillside Conservation	23	1,102	1,126
Resource Preservation	4,791	—	4,791
<b>Public and Open Space</b>	<b>6,382</b>	<b>640</b>	<b>7,023</b>
Public/Institutional	1,271	130	1,401
Parks/Golf Courses <sup>2</sup>	600	—	600
Open Space	4,511	510	5,022
<b>TOTAL<sup>1</sup></b>	<b>20,473</b>	<b>6,154</b>	<b>26,627</b>
<b>Overlays</b>			
Housing Conservation	212	—	212
Transit Village Overlay Zone	2,216	—	2,216
Mixed Use Core	222	—	222

Notes:

1. Totals may not sum exactly due to rounding.
2. Additional park/golf course areas totaling 18 acres in Redlands and 29 acres in the SOI have been conceptually identified overlaying other land uses and are not counted in the above table.

Source: City of Redlands, 2016.



# MEASURE U POLICIES

## Resource Preservation

4.42m Density within the Southeast Area Plan shall be as follows:

Slope	Acres/Dwelling Unit
0-15%	1.0 acre
> 15 to 30%	2.5 acre
> 30%	10.0 to 5.0 acres

### Guiding Policies: Remote Recreational Facilities

4.64a Consider outlying existing and proposed commercial recreation enterprises operating in accord with permits issued by San Bernardino County or the City of Redlands to be consistent with the General Plan.

### Implementing Policies: Remote Recreational Facilities

4.64b Prepare zoning ordinance text changes to allow for remote commercial recreational facilities.

4.94 Other Public Facilities

Additional public facilities identified on the GP Figure 4.1, Proposed Redlands General Plan, include postal offices, landfills, fire station and school locations, the Redlands Municipal Airport, the City yard, water and sewer facilities. These public facilities are anticipated to serve the additional population projected at buildout.

4.95 Open Space

Open Space describes all land and water areas, regardless of ownership, which are left open or undeveloped as an element in the planning and design process. The benefits of preserving some of the undeveloped land which remains include: the preservation of a visually pleasant landscape, ecological/environmental protection, the enhancement of community values, and the ability to guide urban form by utilizing open spaces to buffer incompatible land uses and maintain future land use options. The need to preserve open space and its benefits becomes more critical as city population increases and urban development expands to reach projected buildout.

## Public and Open Space

- **Public/Institutional.** The Public/Institutional land use category designates areas intended for public services, buildings, and related facilities, including schools and educational facilities, government facilities, the airport, public utilities, and other facilities of a public or quasi-public nature. Residential uses at a density of up to 15 du/ac and agricultural uses are also permitted.
- **Parks/Golf Courses.** This category includes both public and private facilities developed for outdoor active or passive recreation, trails within linear parks, and golf courses.
- **Open Space.** This classification provides for public and private lands that are mostly unimproved and free of residential, commercial, and/or industrial development. They include areas intended for the conservation of natural resources, such as construction aggregates; compatible outdoor recreational uses, such as passive parks and trails; scenic enjoyment; the protection of natural habitats; and the protection of public health and safety, such as areas subject to flooding, and steep or unstable slopes.

Within the Open Space designation, the following uses would be permitted: construction aggregate mining and concrete batch operations per the Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan); public utilities and facilities such as water, wastewater, energy, and telecommunications facilities; water management areas such as groundwater recharge areas; spreading ponds; flood control structures; educational facilities; caretaker facilities; and roads and highways.

## Overlays

- **Housing Conservation.** The Housing Conservation designation functions as an overlay to the underlying General Plan land use category with special provisions allowing certain types of existing nonconforming land uses. The intent of the Housing Conservation overlay is to provide for the retention and maintenance of existing higher density residential development while restricting construction of new higher density development in key areas of historic value where lower densities predominate. Two areas have received this overlay designation, one low-density residential area north of the I-10 freeway and east of Orange Street and one medium-density residential area south of the downtown.
- **Transit Village Overlay Zone.** The Transit Village Overlay Zone covers areas within a half-mile radius of the Redlands Passenger Rail project stations, and identifies the planning area of the Transit Village Plan, which will detail transportation system enhancements, design guidelines and standards, and the character of development.
- **Mixed Use Core.** The Mixed Use Core covers areas within a quarter-mile radius of the proposed Redlands Passenger Rail Project stations and designates areas within the Transit Village Overlay Zone with the potential for the highest development intensity and ability to support transit ridership. The Transit Village Plan would apply policies to Mixed Use Core areas intended to create vital, mixed-use environments in close proximity to the transit stations.

## Buildout

### Potential Buildout

Much of the city has already been developed, with many of the remaining developable vacant sites concentrated in the East Valley Corridor and Transit Village areas or located on infill lots throughout the city. Thus, the majority of future development in Redlands is expected to occur on infill sites as expansion of sites with existing structures, or as redevelopment of sites that have come to the end of their useful life.

Buildout refers to the development likely to take place under the General Plan through the horizon year of 2035. As buildout is dependent on a number of factors outside of the City's control, including long-term economic and demographic trends, buildout estimates describe potentialities rather than definitive figures. Additionally, the designation of a site for a specific land use in the General Plan does not guarantee that the site will be developed or redeveloped with that use during the planning period, as future development will rely primarily on each property owner's initiative.

### Residential Buildout

Table 4-3 describes potential residential development resulting from the application of land uses shown on the General Plan Land Use Map (Figure 4-1). This calculation takes into consideration existing housing units as of March 2016; pipeline projects (projects that are under construction, have been entitled, or are in the planning stage); projected new housing units, derived by analyzing the maximum number of potential units that can be built under Euclidean planning against historical density growth patterns; and projected new housing units in the Transit Village areas.

**TABLE 4-4: RESIDENTIAL BUILDOUT (2035)**

	Housing Units								
	City			Sphere of Influence			Planning Area		
	SFR <sup>1</sup>	MFR <sup>2</sup>	Total	SFR	MFR	Total	SFR	MFR	Total
Existing <sup>3</sup>	19,877	6,872	26,749	2,981	449	3,430	22,858	7,321	30,179
Pipeline <sup>4</sup>	552	381	933	205	0	205	757	381	1,138
Future Housing Outside of Transit Villages <sup>5</sup>	1,900	374	2,274	1,822	0	1,822	3,722	374	4,096
Future Transit Villages Housing <sup>6</sup>	224	924	1,148	0	0	0	224	924	1,148
<b>TOTAL FUTURE DEVELOPMENT</b>	<b>2,676</b>	<b>1,679</b>	<b>4,355</b>	<b>2,027</b>	<b>0</b>	<b>2,027</b>	<b>4,703</b>	<b>1,679</b>	<b>6,382</b>
<b>TOTAL AT BUILDOUT (YEAR 2035)</b>	<b>22,553</b>	<b>8,551</b>	<b>31,105</b>	<b>5,008</b>	<b>449</b>	<b>5,457</b>	<b>27,561</b>	<b>9,000</b>	<b>36,561</b>
Existing Population (2016) <sup>7</sup>			68,049			9,220			77,269
Population from Future Development <sup>8,9</sup>			10,964			5,391			16,355
Buildout Population <sup>7</sup>			79,013			14,611			93,624

**Notes:**

1. SFR = Single-Family Residential
2. MFR = Multi-Family Residential
3. Data for existing residential housing units was derived from the City's GIS database as of March 2016.
4. Pipeline housing units include projects that are under construction, have been entitled, or are in the planning stage.
5. Future buildout outside of the Transit Villages was estimated for the 20-year horizon of the General Plan. These figures were derived by analyzing the maximum number of potential units that can be built under Euclidean planning against historical density growth patterns.
6. Housing estimates in the Transit Village areas were calculated separately from the rest of the Planning Area owing to their priority in the planning process. It should be noted that certain factors limit the amount of residential development within the Transit Villages. The most significant of these is the 500-foot AQMD buffer applied along the I-10 freeway. The process of calculating Transit Village buildout was similar to the process for future buildout outside of the Transit Villages.
7. Existing population is an estimate assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence.
8. Future population was calculated assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence.
9. A vacancy rate of 5% is assumed.

Sources: City of Redlands, 2016; Dyett & Bhatia, 2016.



The residential buildout calculates the number of projected single-family and multi-family housing units.

**TABLE 4-5: NON-RESIDENTIAL BUILDOUT (2035)**

	Redlands		Sphere of Influence		Planning Area Total	
	Developed SF	Jobs	Developed SF	Jobs	Developed SF	Jobs
<b>Existing (2016)<sup>1</sup></b>	<b>29,247,658</b>	<b>27,248<sup>2</sup></b>	<b>1,620,046</b>	<b>1,276<sup>3</sup></b>	<b>30,867,705</b>	<b>28,524</b>
Office	2,799,852	-	529	-	2,800,381	-
Commercial	4,337,576	-	92,595	-	4,430,172	-
Commercial/Industrial	14,056,689	-	-	-	14,056,689	-
Light Industrial	2,046,098	-	897,984	-	2,944,082	-
Public/Institutional	6,007,443	-	628,938	-	6,636,381	-
<b>Pipeline<sup>4</sup></b>	<b>741,798</b>	<b>960</b>	<b>-</b>	<b>-</b>	<b>741,798</b>	<b>960</b>
<b>Future Development<sup>5</sup></b>	<b>7,495,905</b>	<b>14,561</b>	<b>599,149</b>	<b>968</b>	<b>8,095,054</b>	<b>15,529</b>
Office	300,704	1,203	-	-	300,704	1,203
Commercial	2,889,357	7,459	246,022	615	3,135,379	8,074
Commercial/Industrial	2,943,653	4,232	-	-	2,943,653	4,232
Light Industrial	1,246,376	1,246	353,127	353	1,599,503	1,600
Public/Institutional	115,815	421	-	-	115,815	421
<b>SUBTOTAL</b>	<b>37,485,361</b>	<b>42,769</b>	<b>2,219,195</b>	<b>2,244</b>	<b>39,704,556</b>	<b>45,013</b>
Future Non-Land Use Based Jobs <sup>6</sup>	-	-	-	-	-	5,320
Future Agricultural Jobs <sup>7</sup>	-	-	-	-	-	-52
<b>TOTAL DEVELOPMENT AT BUILDOUT (2035)</b>	<b>37,485,361</b>	<b>42,769</b>	<b>2,219,195</b>	<b>2,244</b>	<b>39,704,556</b>	<b>50,281</b>

Notes:

- Existing square footage does not include square footage estimated to be redeveloped over the planning horizon.
- Existing jobs taken from the U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment, Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013).
- Existing jobs in SOI includes only those quantified for the Mentone CDP, which includes Mentone and much (not all) of Crafton.
- Pipeline development includes projects that are under construction, have been entitled, or are in the planning stage as of March 2016.
- Future development includes redevelopment of existing non-residential square footage over the planning horizon.
- Future non-land use based jobs was taken from Table 5.3-6 of the Existing Conditions Report (Estimated change in Transportation and Utilities Jobs, Construction Jobs 2013-2040), adjusted to 2035.
- Future Agricultural Jobs was taken from Table 5.3-6 of ECR (Estimated change in Farm Jobs 2013-2040), adjusted to 2035.

Sources: City of Redlands, 2016; Dyett & Bhatia, 2017.

An estimated 4,400 housing units are expected to be completed in Redlands in the next 20 years, including pipeline development, bringing the total number of housing units in the city to approximately 31,000. This new development is projected to accommodate an increase in population of 11,000, for a total buildout population of 79,000 at an average annual growth rate of 1 percent. In the Planning Area, an estimated 6,400 housing units are expected to be built in the next 20 years, for a total at buildout of 36,600 units. This is projected to accompany an increase in population of 16,400 for a total Planning Area population of about 93,600 at buildout.

**Non-Residential Buildout**

Table 4-5 describes potential non-residential development in the Planning Area through buildout in terms of square feet and potential jobs. This projection was conducted by calculating the square footage of non-residential construction that could be built on vacant or underutilized land. The number of jobs predicted is associated with these square footage estimates.

In total, about 8,743,600 square feet of non-residential space is expected to be built in the Planning Area through 2035, including pipeline development, for an increase of about 29 percent. The majority of new non-residential development is expected to take place in the City of Redlands, where approximately 8,150,400 square feet and 15,700 jobs from new development are estimated to be added, for a total of 29,044,200 square feet and 43,000 employees. Most of the square footage of new space outside of the Mixed Use Core is expected to be commercial/industrial, which could be used to accommodate the growth of the technological and healthcare industries. In the Planning Area as a whole, about 22,000 new jobs are predicted at buildout, raising the total number of jobs from 28,500 in 2013 to approximately 50,500 in 2035.

# POLICIES

## Principles

### General

- 4-P.5** Maintain a land use pattern of various uses designed and arranged to protect and enhance Redlands' unique character.
- 4-P.6** Provide for a balance among a variety of different land uses and their distribution among the city's neighborhoods.
- 4-P.7** Promote a diversity of compatible land uses throughout the city, providing opportunities for the development of a range of businesses, services, residential types, and public facilities to meet the needs of the community.
- 4-P.8** Provide for buffers and transitions between low- and high-intensity land uses.
- 4-P.9** Locate medium- and high-density development near regional access routes, transit stations, employment centers, shopping areas, and public services.
- 4-P.10** Ensure that the scale and character of new development is appropriate for surrounding terrain and the character of existing development.
- 4-P.11** Review and comment on new development in adjacent jurisdictions during the environmental review process in order to identify and avoid potential land use conflicts with development in Redlands.

**4-P.12** In areas planned to accommodate new growth, such as Downtown and the Transit Villages, use area plans, design standards and guidelines, and other tools to ensure cohesive transition in scale to existing neighborhoods.

**4-P.13** Encourage mixed-use development (two or more uses within the same building or in close proximity on the same site) in Downtown, the Transit Villages, and along Redlands Boulevard to promote vibrancy.

**4-P.14** Encourage mixed-use projects Downtown that integrate retail, restaurant, office, and residential uses. Permit urban housing at a density up to the High Density Residential standard.

### Residential

**4-P.15** Preserve existing residential neighborhoods, particularly older neighborhoods.

**4-P.16** Promote a variety of housing types to serve the diverse needs of the community.

**4-P.17** Limit negative impacts to residential neighborhoods from incompatible uses.

### Office, Commercial, and Industrial

**4-P.18** Provide lands to accommodate a wide range of office uses to meet the needs of small- and medium-sized businesses and larger corporations in sectors such as professional services, medical services, and technology in appropriate locations convenient to transportation corridors.

**4-P.19** Provide lands to accommodate a wide range of light industrial uses including research and development, manufacturing, agricultural processing, and logistics near transportation corridors in areas where low- to moderate-intensity operations would be sufficiently buffered.

**4-P.20** Provide for the concentration of office, industrial, and commercial uses in appropriate locations near transportation corridors to encourage the development of employment centers and reduce the potential for land use conflicts with sensitive uses.

**4-P.21** Provide for the development of regional commercial destinations near highways and major transportation corridors.

**4-P.22** Provide lands to accommodate neighborhood-scaled commercial centers in residential areas to serve the everyday needs of nearby residents.

### Agriculture, Open Space, and Hillside

**4-P.23** Preserve agricultural land in the Planning Area and protect it from premature development.

**4-P.24** Preserve open space land in order to protect the visual character of the city, provide for public outdoor recreation, conserve natural resources, support groundwater recharge, and manage production of resources. Limit development in areas that possess a unique character and fragile ecology.

**4-P.25** Limit development on steep hillsides to preserve the stability and integrity of the slopes and to ensure public safety.

## Actions

### Residential

**4-A.7** Promote a range of residential densities to encourage a mix of housing types in varying price ranges and rental rates.

**4-A.8** Promote the development of a greater variety of housing types, including single-family homes on small lots, accessory dwelling units, townhomes, lofts, live-work spaces, and senior and student housing to meet the needs of future demographics and changing family sizes.

**4-A.9** Encourage the incorporation of residential units in Downtown mixed-use projects consistent with the Redlands Downtown Specific Plan.

**4-A.10** Promote availability of senior and independent assisted living facilities to meet the needs of the community's aging population, distributed equitably throughout the community.

**4-A.11** Ensure that opportunities exist for the development of housing types that are affordable to all segments of the Redlands community and are distributed equitably throughout the community.

**4-A.12** Support new residential development in Downtown, the Transit Villages, and other focused infill sites accessible to transit and in central parts of the community.

- 4-A.13** Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.
- 4-A.14** Discourage changes in residential areas that would disturb the character of or clearly have a destabilizing effect on the neighborhood.
- 4-A.15** Promote the preservation, maintenance, and improvement of property through code enforcement to mitigate or eliminate deterioration and blight conditions, and to help encourage new development and reinvestment.

**Office, Commercial, and Industrial**

- 4-A.16** Improve vehicular accessibility, traffic flow, and parking availability as well as pedestrian access and amenities within office, commercial, and industrial areas.
- 4-A.17** Rely on strong landscape treatments, setbacks, sign controls, and, where feasible, underground utilities and street improvements to prevent visual chaos where businesses are competing for attention.
- 4-A.18** Focus the development of office space in transit-accessible locations.
- 4-A.19** Site new regional shopping centers near major transportation routes and ensure that they provide multi-modal access.
- 4-A.20** Establish new neighborhood commercial centers to serve the needs of community members in areas planned to accommodate new growth, such as Downtown and the Transit Village areas.
- 4-A.21** Revitalize neighborhood shopping centers in neighborhoods where existing centers have reached the end of their economic life.

- 4-A.22** Ensure that neighborhood shopping centers are designed in a manner compatible with adjacent residential areas.
- 4-A.23** Ensure that neighborhood shopping centers conform to regulations limiting the size, location, and general character of signage and facades so as not to disrupt the residential or historical character of the neighborhood.
- 4-A.24** Preserve and encourage neighborhood stores that enable shoppers to walk or bike for everyday needs, provide access to healthy foods, and promote a sense of community, such as Olive Market.
- 4-A.25** Limit the proliferation of liquor stores, massage parlors, tattoo businesses, smoke shops, and automotive repair businesses in neighborhood shopping centers, and encourage “family-friendly” businesses.
- 4-A.26** Maintain a range of standards for business parks in Commercial/Industrial areas outside the East Valley Corridor to provide for economically viable commercial/industrial opportunities.
- 4-A.27** Provide space for expansion of existing industries and protect them from encroachment by inharmonious uses, but encourage most new industries to locate in the East Valley Corridor where impacts on residential areas will be minimized.
- 4-A.28** Reserve space adjacent to the Redlands Municipal Airport to allow for maximum development of airport-related industry, developed in accordance with the Airport Land Use Compatibility Plan.

- 4-A.29** Maintain standards for industrial development and operation that prohibit creation of noise, odor, or other harmful emissions beyond the boundaries of the site.
- 4-A.30** Encourage private development of well-designed industrial park subdivisions that meet high standards of improvement.
- 4-A.31** Designate areas for the development of research and development, high tech, and professional businesses in the Planning Area.
- 4-A.32** Discourage larger-scale warehouses and big box architecture that would negatively impact aesthetics such as long, blank walls. Break up the massing of larger structures through setbacks and indentation of facades, appropriate fenestration of windows and doors, and a variety of architectural treatments.
- 4-A.33** Prohibit larger-scale industrial warehouses, distribution, and logistics centers greater than 150,000 square feet, south of the I-10 freeway and east of I-210

**Agriculture, Open Space, and Hillside**

*For policies related to agricultural preservation, see Chapter 2: Distinctive City.*

- 4-A.34** Preserve agricultural land and protect agricultural operations and soils by identifying and designating these lands as Agriculture.
- 4-A.35** Preserve connections between agricultural lands with other agricultural lands and supporting uses.
- 4-A.36** Consider adoption of a Right-to-Farm Ordinance to support continued agricultural operations by limiting the

circumstances under which properly conducted agricultural operations on agricultural land may be considered a nuisance.

- 4-A.37** Ensure adequate buffers and transitions between agricultural land and non-agricultural development in order to reduce the potential for land use conflicts.
- 4-A.38** Encourage the continued operation of existing agricultural operations through the use of agricultural easements and Williamson Act contracts.
- 4-A.39** Encourage the use of soil and water conservation techniques in agricultural operations.
- 4-A.40** Permit commercial functions related to agricultural uses to encourage the sustainability of farming in Redlands and the Planning Area. Such functions can include: roadside stands, packing and processing operations, agri-tourism events, and bed-and-breakfast inns. Amend the Zoning Ordinance to permit such uses.
- 4-A.41** Seek to acquire land to be dedicated as open space and preserve it from development.
- 4-A.42** Encourage the preservation of Hillside Conservation lands as open space, but allow residential development at the permitted densities where development would not detract from the protection and overall perception of the hillsides or negatively impact public safety or welfare.

## 4.4 FOCUS AREAS

### University of Redlands

The University of Redlands is a leading employer in Redlands, and has long served as catalyst for educational and economic development in Redlands. The University “district” is centered around the University of Redlands, and aside from the University, is primarily a residential neighborhood. This focus area has a diverse mix of housing types, including multi-family homes near the university, single-family subdivisions, and mobile homes. The University serves nearly 4,500 students on its 160-acre campus. The campus is maintained with citrus trees, palm trees, lush landscaping, and buildings emulating the historic architecture of the city. Sylvan Boulevard runs through campus along the Zanja Creek, and plans for both the Orange Blossom Trail and the Mill Creek Zanja Trail have proposed alignments along this road. Residential development in the area reflects the traditional subdivision style with large residential blocks with ample connections between neighborhood roads and arterial streets. Vacant land can be found in this subarea to the west and south of the University, and north along San Bernardino Avenue.

## POLICIES

### Principles

**4-P.26** Support the University of Redlands in the development of its campus and the surrounding area in a manner that enriches both the University and Redlands communities.

### Actions

**4-A.43** Support development of the campus in ways that both strengthen its ties to the community and enhance its status as a major activity center for the neighborhood.

**4-A.44** Work with the University to create needed hotel/conference facilities in Redlands.

**4-A.45** Support activities that enrich the cultural life of both the city and the University.



*Photo Credit: Bruce Herwiga*

## East Valley Corridor

The East Valley Corridor (EVC) is the easternmost portion of San Bernardino Valley. The East Valley Corridor Specific Plan (EVCSP), adopted in 1989 and revised in 2010, aims to strengthen the local economy, attract major businesses, and result in the orderly and aesthetic development of industrial, commercial, and residential areas. The EVCSP plan area comprises 4,350 acres adjacent to the I-10 and I-210 freeways, which includes portions of the City of Redlands and the City of Loma Linda, as well as unincorporated area under jurisdiction of San Bernardino County (the Donut Hole) surrounded by the City of Redlands. At the time that the plan was adopted, the plan area consisted of largely undeveloped areas, with over half of the plan area in agricultural production.

The EVCSP provides a plan for future growth and development of the EVC and the communities and areas within the plan boundaries, includes components such as planning, financing, infrastructure construction and maintenance, marketing and coordination, and sets development standards. The EVC was envisioned to feature the county's largest regional shopping center east of Ontario and to create approximately 90,000 jobs at build-out by 2028, while reducing the potential demand for retail, office, and industrial space elsewhere in the Planning Area. Today, the EVCSP area is mostly developed, with large-scale warehousing and distribution uses, as well as the Citrus Plaza and Mountain Grove shopping centers.



*The East Valley Corridor is experiencing rapid commercial and industrial growth.*

## POLICIES

### Principles

**4-P.27** Promote high-quality development in the East Valley Corridor by using the East Valley Corridor Specific Plan (EVCSP) to provide opportunities for a range of office, commercial, industrial, and residential uses, and associated services and amenities.

### Actions

**4-A.46** Maintain, implement, and update (as necessary) the EVCSP in order to promote and facilitate high-quality commercial and industrial development in the EVCSP planning area while being responsive to physical and environmental constraints and opportunities.

**4-A.47** Promote high quality development in the East Valley Corridor by protecting and enhancing existing amenities in the area, creating an identifiable community character, and adopting development standards and guidelines to ensure aesthetically pleasing design and maximum land use compatibility.

**4-A.48** Facilitate the development of a wide range of commercial uses to serve the region, local industry, and residential neighborhoods and facilitate employment of local residents.

**4-A.49** Ensure that opportunities are available for the development of parks and open space areas to meet the community's recreational needs in a meaningful way.

**4-A.50** Ensure that opportunities are available for community-oriented services.

**4-A.51** Promote the development of land uses that reduce the number and length of vehicle trips in the East Valley Corridor.

**4-A.52** Improve access and movement of all modes of transportation in the East Valley Corridor and enhance linkages to transit.

**4-A.53** Maintain development standards to implement the goals and policies of the EVCSP.

**4-A.54** Create a visually aesthetic appearance for the East Valley Corridor from the freeways as well as from the Planning Area.

**4-A.55** Enhance the beauty of the East Valley Corridor and the overall quality of life for users and residents of the area.

**4-A.56** Create buffers and appropriate transitions between the East Valley Corridor industrial and commercial areas and adjacent residential neighborhoods.

## MEASURE U POLICIES

### East Valley Corridor

**4.62b** Provide sufficient roadway and intersection capacities to maintain a minimum Level of Service (LOS) C except as provided in policy 5.20b. In areas where the current level of service is below the LOS C standard, provide sufficient roadway and intersection capacities to maintain, at a minimum the LOS existing as of the time an application for development is filed and to assure that the level of service is not degraded to reduced LOS as provided in Section 5.20b.

## Southern Hills and Canyons

The Southern Hills and Canyons area is defined by the San Timoteo and Live Oak Canyons, which offer steep terrain and distinctive views, open space, and agricultural uses on the canyon floors. A portion of Live Oak Canyon is outside the Sphere of Influence of Redlands (and outside of San Bernardino County, since the County Line is approximately coterminous with the existing alignment of Live Oak Canyon Road). San Timoteo Canyon is similar to Live Oak Canyon, but larger and more complex in its topography, and contains a graded water channel throughout its length, as well as mainline rail facilities.

Development in this area is limited, and consists primarily of large single-family homes on larger lots with landscaped front yards. The canyon walls are rugged and in many places covered with vegetation. Streets are arranged in a curvilinear fashion following the canyons' topography. Sunset Drive connects most of the residential neighborhoods in the area, and generally forms the boundary between developed areas and the undeveloped, agricultural, and open space lands in the south of the city. Open areas in the Southern Hills and Canyons include the Hillside Memorial Park, San Timoteo Canyon Sanctuary, Oakmont Park, Caroline Park, Prospect Park, Ford Park, and the Redlands Country Club.

## POLICIES

### Principles

- 4-P.28** Preserve, maintain, and, where possible, enhance the perception of the signature features of canyon areas and hillsides.
- 4-P.29** Maintain density and grading standards designed to preserve the natural appearance of hillsides and ridges.
- 4-P.30** Require that new development adheres to safety standards to protect against property damage, injury, or loss of life from fire or geological hazards.
- 4-P.31** Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.

### Actions

- 4-A.57** Preserve and enhance San Timoteo Canyon's historic character as a transportation corridor within a fertile valley bordered by a major watercourse.
- 4-A.58** Encourage the use of Planned Residential Developments (PRD's) and specific plans in San Timoteo and Live Oak Canyon areas to preserve open space.
- 4-A.59** Permit the transfer of densities within a specific parcel of property and clustering of residential development to areas under 15 percent slope through the use of PRDs, conservation easements, and specific plans.

- 4-A.60** Permit the voluntary transfer of development rights from Resource Preservation areas to designated Transit Village areas.
- 4-A.61** Develop a linear parkway/recreational corridor centered along San Timoteo Creek and extending throughout the canyon.
- 4-A.62** Advocate that future development of Live Oak Canyon and San Timoteo Canyon within both San Bernardino and Riverside counties be consistent with the historic roles and characters of the canyons.
- 4-A.63** Design buildings to accommodate topography and minimize grading.
- 4-A.64** On slopes 15 percent or greater, stepped footings, multiple floor levels, and limited usable outdoor area may be essential to maintaining natural appearing hillsides.
- 4-A.65** Require proposed development within the Live Oak Canyon and San Timoteo Canyon areas that abuts an area of significant natural vegetation to be separated from the vegetation by a fuel modification zone with a minimum cross-section of 100 feet and an all-weather access roadway and water supply system having fire flow capacity. The Fire Department may modify this requirement based on site-specific considerations and the use of alternative fire protection measures.
- 4-A.66** Preserve natural vegetation and wildlife areas to create wildlife corridors extending throughout the Live Oak Canyon and San Timoteo Canyon areas.

Work with Caltrans and SANBAG to extend wildlife corridors north of I-10 to provide linkages to open space in those locations.

- 4-A.67** Establish recreation staging and parking areas in San Timoteo and Live Oak Canyons to provide access to City- and County-owned open space in the area.



Trails meander through the lush landscape of Live Oak Canyon.



## Southeast Area

The Southeast Area is bounded by Sunset Drive on the north, Alessandro Drive on the west, Live Oak Canyon Road on the south, and South Lane on the east, as shown in Figure 4-3. The planning sectors for the Southeast Area are depicted in Figure 4-4. Portions of this area overlap with the Southern Hills and Canyons focus area. A previous stand-alone area plan for the area was folded into the General Plan into the 1990s, and the plan itself rescinded. The area is mostly vacant, except for some homes on large lots, citrus trees, and open spaces, including City-owned Oakmont Park and the Herngt “Aki” Nature Preserve.

The Southeast Area is generally an escarpment falling away from the northern ridgeline defined by Sunset Drive (located along the Sunset Ridge). The Southeast Area generally falls away to the south and west towards San Timoteo Canyon and Live Oak Canyon. The area is made up of a complex series of ridges and canyons. A series of major ridges define approximately nine major drainage basins. These ridges, their associated basins, the two boundary canyons, San Timoteo and Live Oak, and the flora and fauna thereon constitute the majority of the signature characteristic features of the Southeast Area.

Historic access to the Southeast Area has occurred off the major surrounding roadways (San Timoteo Canyon Road, Alessandro Road, Live Oak Canyon Road), or down the ridges from Sunset Drive. This pattern is varied in some places where saddles or gentle ridges permitted easy passage up (and in some cases over) the ridge lines.

The General Plan proposes to retain the character of the area, including its signature features, and ensure that the natural terrain and environmental conditions are respected. Based on on-site observations and an examination of the topography of the Southeast Area, five ridge formations are designated as signature ridges. Policies are also outlined by sectors shown on Figure 4-4.

## POLICIES

### Principles

- 4-P.32** Preserve, maintain, and, where possible, enhance the perception of the signature features of the area.
- 4-P.33** Preserve and enhance the canyon walls immediately below the signature ridges, and the vegetation thereon where appropriate. Canyon walls associated with the signature ridges wherein a predominance of the slopes are in excess of 50 percent shall be preserved intact.
- 4-P.34** Preserve and enhance both signature ridges and major ridges within canyons. Significant modification of these ridges shall occur only where offsetting need is demonstrated. Development on ridgelines is allowed as long as it stays within the parameters of this policy. Offsetting need is defined as a demonstration that the grade of a specific parcel requires modification of an existing ridge line to produce sufficient space to site a building pad and the result would not eliminate the continuity of the ridge line through grading or construction of structures.
- 4-P.35** Allow ridges not identified as major ridges within a canyon to be modified to facilitate development within the canyon so long as their collective perception as canyon wall buttresses remains intact.
- 4-P.36** Preserve and enhance the San Timoteo Creek watercourse as the backbone of a linear parkway/activity corridor extending throughout the canyon.

- 4-P.37** Preserve and enhance the historic character of Live Oak Canyon and San Timoteo Canyon as narrow fertile valleys astride a gorged watercourse lined with significant trees. This character is important to the area and should be preserved by not only ensuring it does not disappear but by enhancing it so it can continue to be readily perceived among the development which occurs in the canyons.

### Actions

- 4-A.68** Allow the narrow side canyon bottoms within the lower portions of the major canyons and particularly those around the edges of the major bottoms to be modified to accommodate proposed development consistent with the development criteria in this section of the Livable Community chapter.
- 4-A.69** Ensure that the steep ridge and canyon system between Planning Sectors 1 & 2 is maintained intact and enhanced as appropriate.
- 4-A.70** Conduct a study of Live Oak Canyon Road to establish a unified improvement plan to ensure that it will function as a scenic highway and provide a suitable “front door” for the adjacent canyon communities.
- 4-A.71** Work to ensure that if San Timoteo Canyon Road is realigned and upgraded it shall:
  - Maintain and expand its alignment near the existing rail line;
  - Be routed to provide ready access to the I-10 Freeway via California Street; and
  - Include a Class I trail along one side of the shoulder.
- 4-A.72** Give special attention to the sliver of land located between the San Timoteo Canyon watercourse and the rail line to ensure the linear parkway/activity corridor character of this area is maintained.
- 4-A.73** Ensure that density within the Southeast Area Plan shall be as follows:
 

<u>Slope</u>	<u>Acres/ Dwelling Unit</u>
0-15%	1.0 acre
> 15 to 30%	2.5 acre
> 30%	10.0 to 5.0 acres (1995 General Plan)
- 4-A.74** Design flood control and drainage facilities within the Southeast Area in such a manner as to preserve the perception of natural watercourses.
- 4-A.75** Determine whether the City’s historic agricultural uses are to be preserved and, if so, designate specific sites for preservation.
- 4-A.76** Preserve and enhance the perceived character of the vegetation and wildlife within the Southeast Area as appropriate.
- 4-A.77** Ensure that access into the Planning Sectors is provided in accordance with the following requirements:
  - Primary access into each of the Planning Sectors shall follow the primary historic route pattern for that sector.
  - For Planning Sectors 1, 3, 4, 5, 6, 7, 8, and 9 this shall be up-canyon from Alessandro, San Timoteo Canyon



and Live Oak Canyon, as applicable. For Planning Sector 2, this shall be down-ridge from Sunset Drive.

- If secondary access is required for safety reasons, such secondary access shall be limited to other identifiable historic routes accessing each individual sector and shall not be inconsistent with the perceived historic pattern.

**4-A.78** Route internal access within the area, including roads, trails, and paths so as to preserve and enhance the perception of the historic access patterns by generally conforming to the natural contours.

**4-A.79** Design and construct all utilities and public facilities in the Southeast Area to preserve and enhance the perceived natural and historic character of this area.

**4-A.80** Preserve the perception of the signature characteristics in each Planning Sector within the Southeast Area. The planning for each Planning Sector shall include special consideration of the individual character of that Sector and shall include criteria to preserve and enhance the characteristics identified. Each Planning Sector shall be planned so as to result in an identifiable neighborhood within the community at large.

**4-A.81** Adopt and implement the Perimeter Fuel Modification/Access Area (PERFUMAA) concept shown in Figure 4-6 within each of the Planning Sectors identified in the Southeast Area Plan. The Fire Chief may grant modifications from this concept if effective alternatives are provided.

**4-A.82** Ensure that fire safety measures required by the City are in place and operational before developments within the Southeast Area Plan are occupied.

**4-A.83** Take a strong position to advocate that the future development of Live Oak Canyon, both within San Bernardino County and Riverside County, be consistent with the historic character and role of this canyon.

## MEASURE U POLICIES

### Southern Area Hills and Canyon

4.41i That portion of San Timoteo Creek, as defined by its floodway easements or flood control fee title, lying within the corporate boundary of the City is hereby declared to be Resource Preservation land and shall be preserved for the purposes of promoting wildlife preservation, open space recreation and water conservation. No fencing or other barriers shall be permitted in this Resource Preservation area that impede or limit access to the free crossing or use of the area by wildlife or its use for open space recreational purposes.

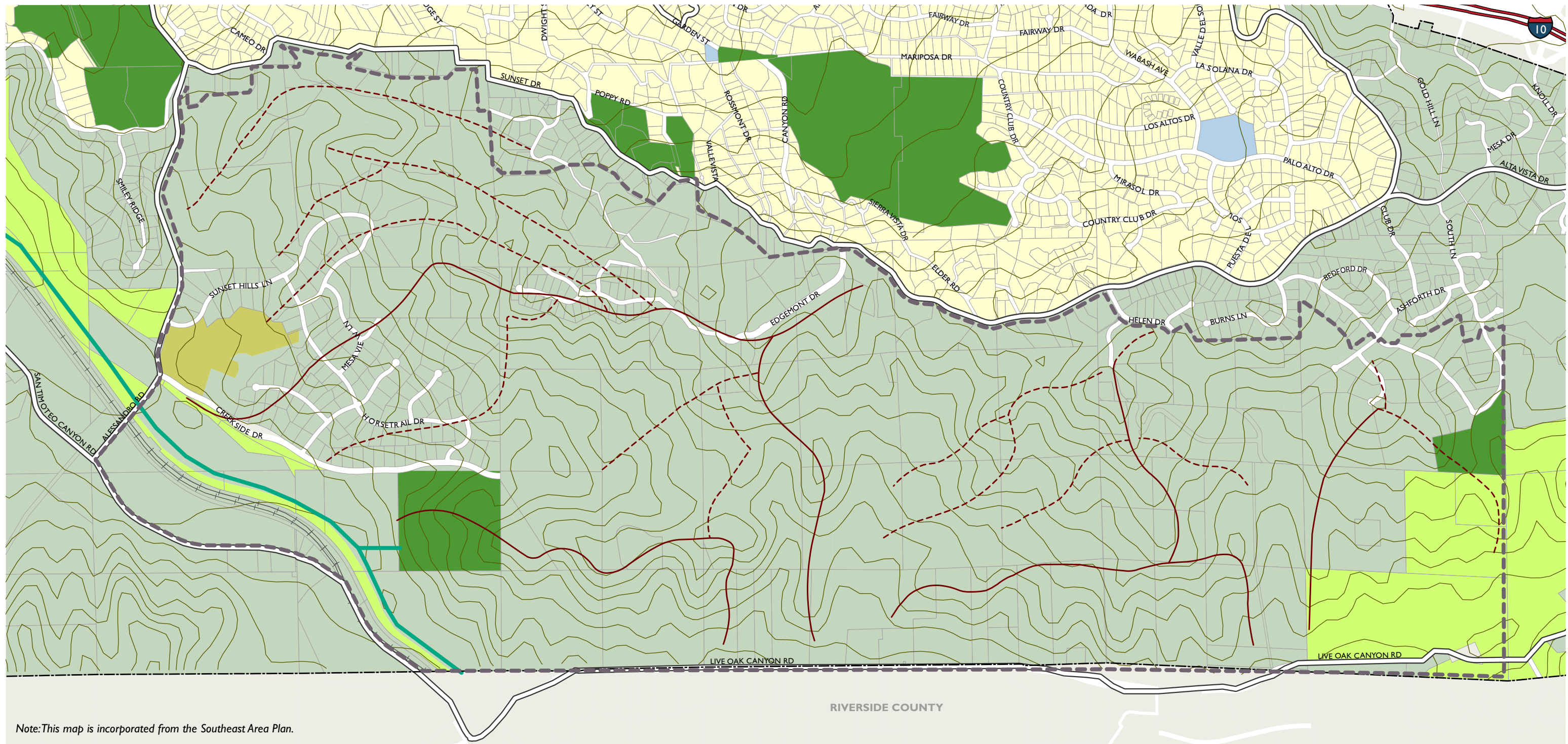
4.41j All parcels of land encompassed within the area identified on GP Figure 4-5 are subject to the residential density limitations set forth in Section 4.42m and are hereby designated as Resource Preservation as defined in Section 4.96.

### Southeast Area

4.42m Density within the Southeast Area Plan shall be as follows:

Slope	Acres/Dwelling Unit
0-15%	1.0 acre
> 15 to 30%	2.5 acres
> 30%	10.0 to 5.0 acres

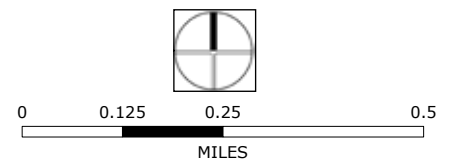
Figure 4-3: Southeast Area



Note: This map is incorporated from the Southeast Area Plan.

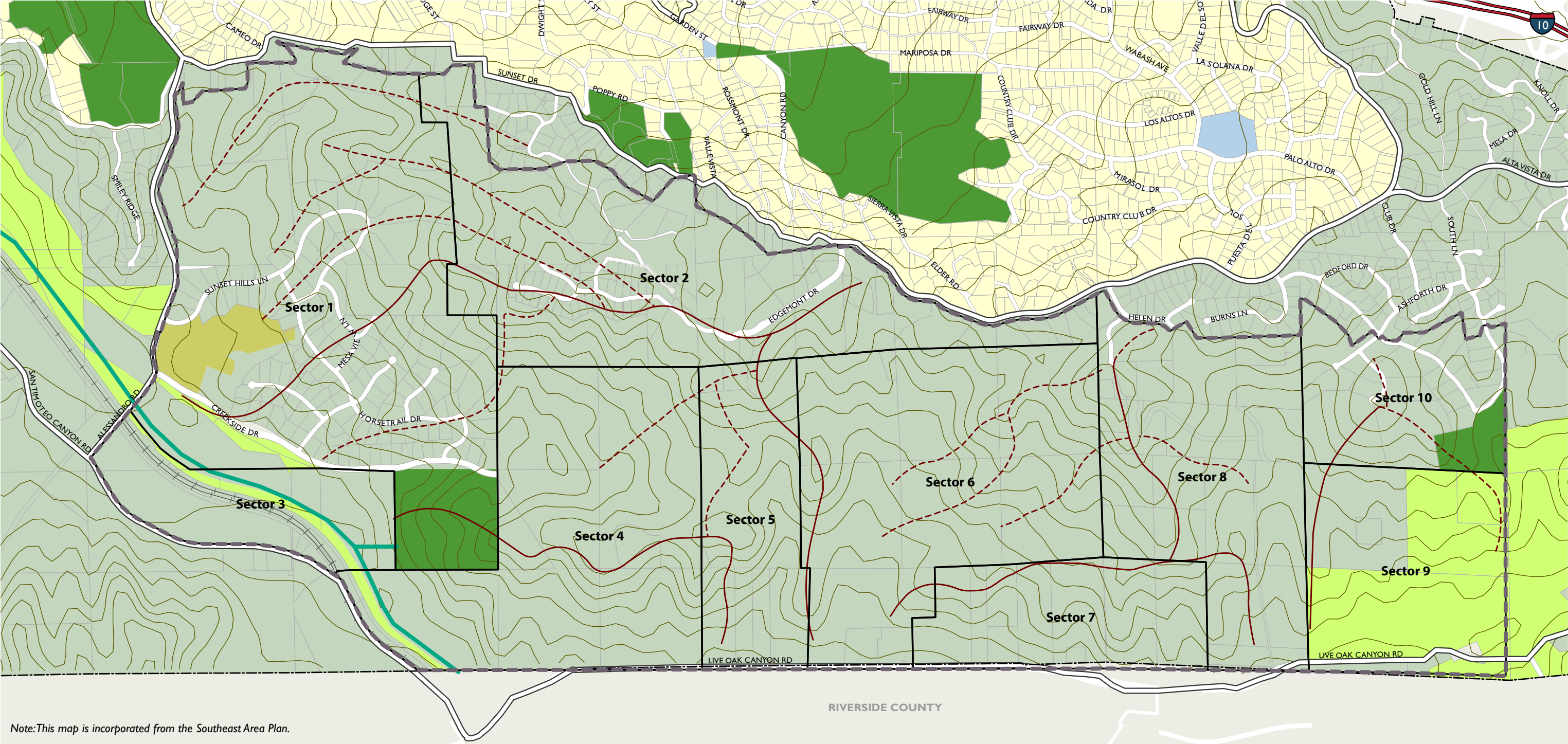
**General Plan Land Use**

- |                              |                  |                         |
|------------------------------|------------------|-------------------------|
| Agriculture                  | Freeway          | Major Ridges            |
| Very Low Density Residential | Major Roads      | Signature Ridges        |
| Public/Institutional         | Linear Parks     | Contour Lines (40 Feet) |
| Parks/Golf Courses           | Rail Corridor    | Southeast Area Plan     |
| Open Space                   | City of Redlands |                         |
| Resource Preservation        |                  |                         |



Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

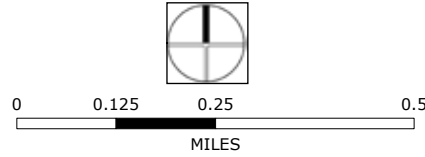
Figure 4-4: Southeast Area Signature Ridges and Planning Sectors



Note: This map is incorporated from the Southeast Area Plan.

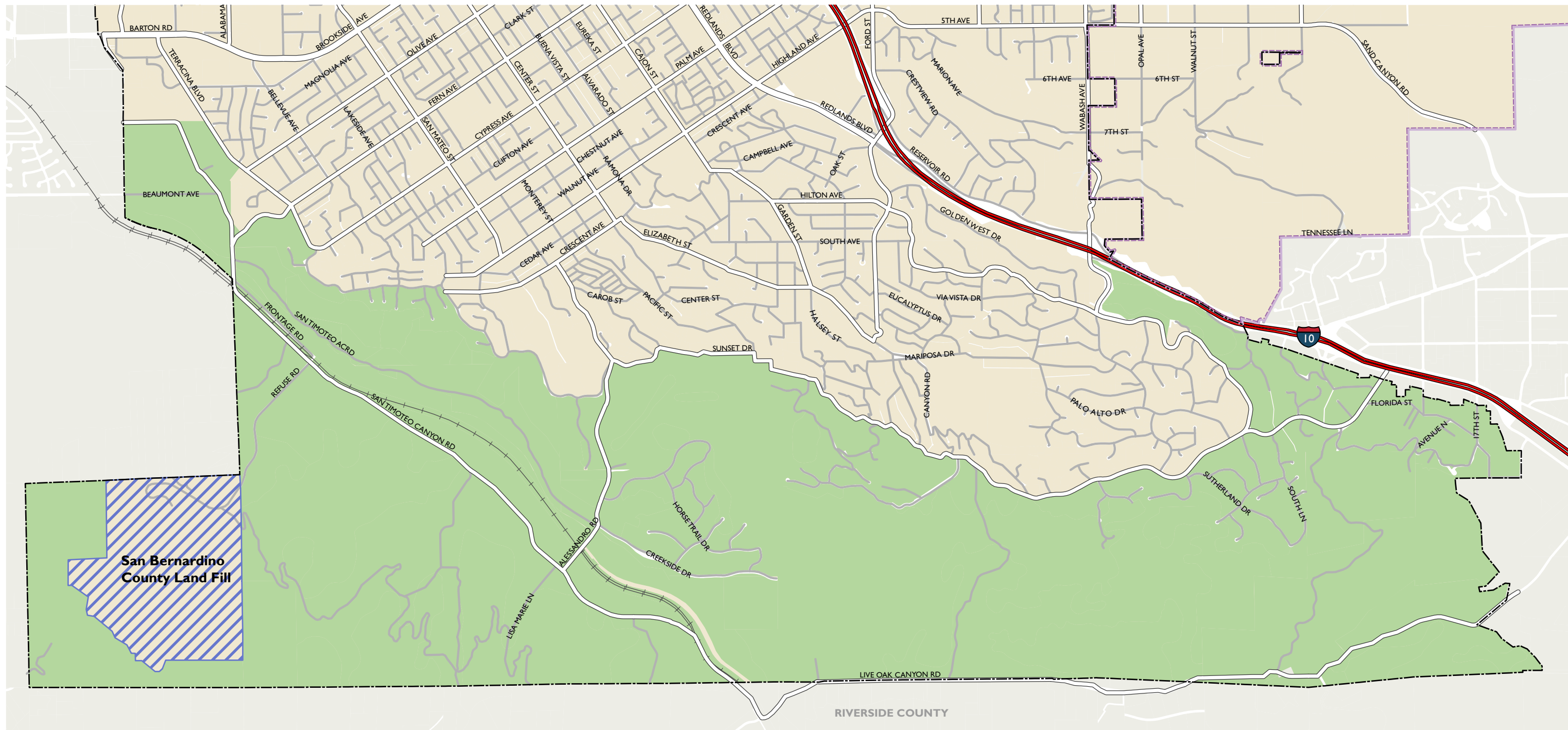
**General Plan Land Use**

- Agriculture
- Very Low Density Residential
- Public/Institutional
- Parks/Golf Courses
- Open Space
- Resource Preservation
- Freeway
- Major Roads
- Linear Parks
- Rail Corridor
- Major Ridges
- Signature Ridges
- Contour Lines (40 Feet)
- Southeast Area Plan
- Sector Boundaries
- City of Redlands



Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

Figure 4-5: Resource Preservation

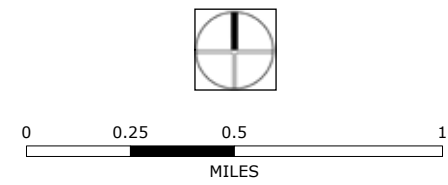


- Resource Preservation
- Freeway
- Major Roads
- Rail Corridor
- City of Redlands
- Sphere of Influence

Beginning at the intersection of Nevada Street and San Timoteo Canyon Road (Point A); thence easterly along San Timoteo Canyon Road and San Timoteo Canyon Road extended to Terracina Boulevard (Point B); thence southeasterly on Terracina Boulevard to the northwesterly line of Lot 17 of Terracina Bluff Lots as per map recorded in M.B. 9/38 records of San Bernardino County (Point C); thence southwesterly along said northwesterly line of Lot 17 to the southwest corner of said Lot 17; thence southeasterly along the southwesterly line of said Lot 17, 34 feet more or less to the City of Redlands City Limit Line as shown on Parcel Map 4223 as per map

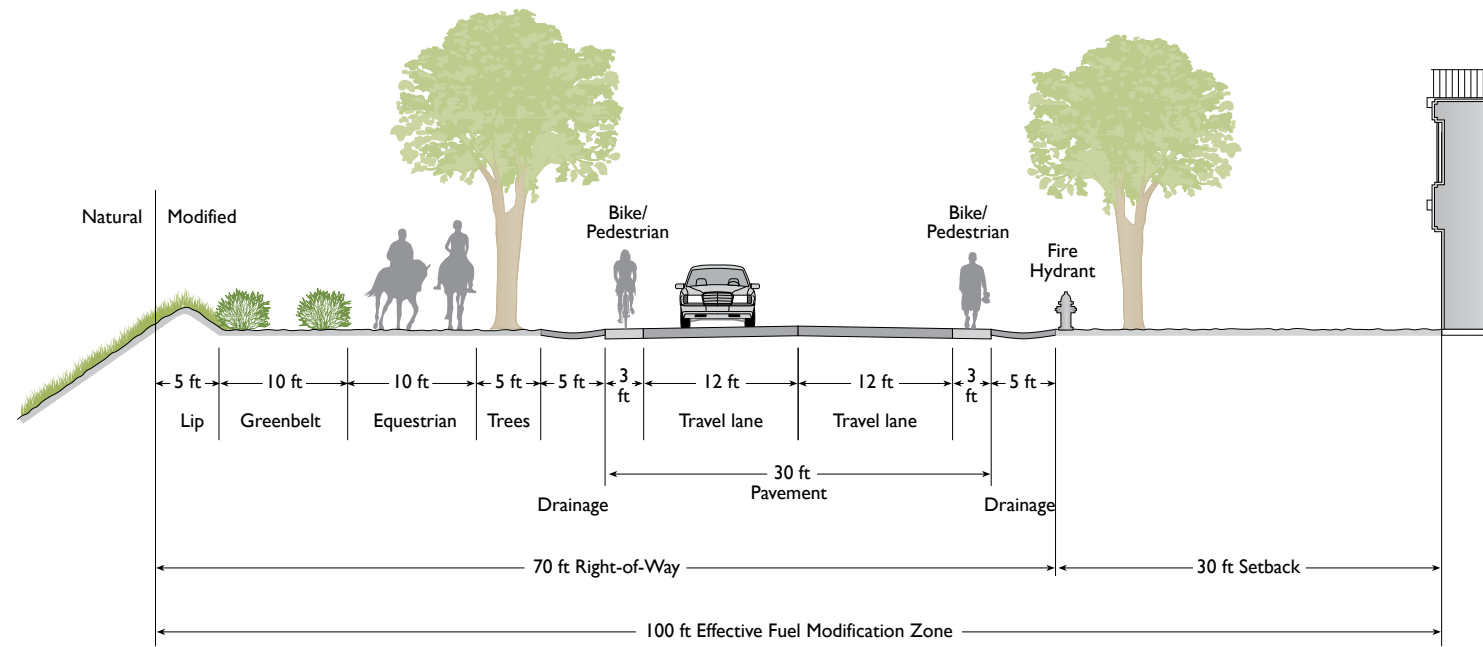
recorded in P.M.B. 40/98,99 records of said County; thence southerly along said City Limits Line as shown on said Parcel Map 4223 to the San Timoteo Canyon Road; thence southeasterly along San Timoteo Canyon Road to the southwesterly line of Parcel 2 of Parcel Map 7782 as per map recorded in P.M.B. 78/50,51 records of said County; thence southeasterly along said southwesterly line of Parcel 2 to Fern Avenue (Brookside Road); thence northwesterly along Fern Avenue to Terracina Boulevard (Point D); thence southeasterly along Terracina Boulevard continuing along Cypress Avenue to Smiley Heights Drive; thence southerly and then easterly on Smiley Heights Drive to

Serpentine Drive; thence southeasterly along Serpentine drive to Sunset Drive; thence southerly, then easterly, then northerly, then westerly, respectively, on Sunset Drive to the intersection of Sunset Drive and Wabash Avenue (Point E); thence northerly along Wabash Avenue to the Redlands City Limit; thence southeasterly then southerly along the City Limit of Redlands to the southeast corner of Redlands' corporate limits (Point F); thence westerly along the southern City Limit of Redlands to the southwest corner of Redlands' corporate limits (Point G); thence northerly along the western City Limit of Redlands to the point of beginning; not including the San Bernardino County Land Fill site.

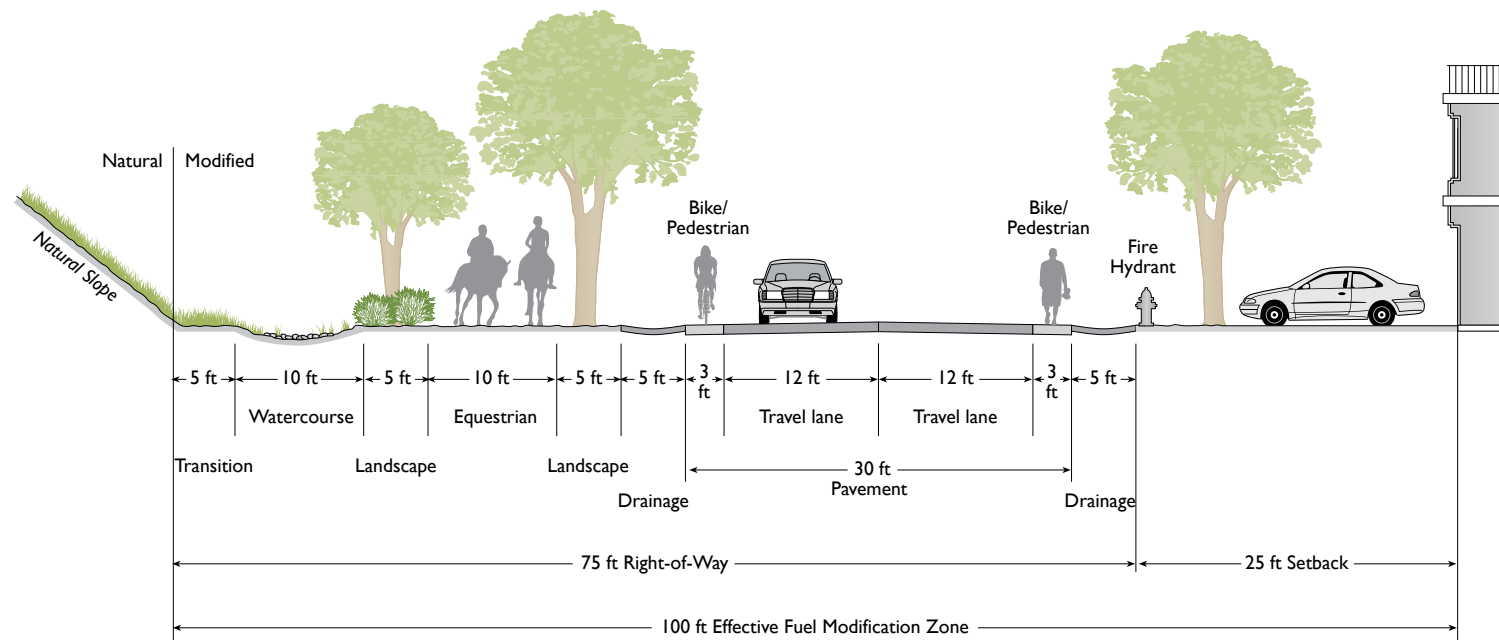


Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

Figure 4-6: Perimeter Fuel Modification / Access Area



**Ridgetop PERFUMAA**



**Canyon Bottom Perimeter PERFUMAA**

Notes:

1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).



*Crafton is more rural in character than the other focus areas owing to its importance in the local citrus industry.*

## Crafton

Crafton is characterized by citrus groves and farms, and large-lot single-family residences. It is defined by its natural spaces, including undeveloped areas along Sand Canyon and the Crafton Hills. Near the border with Mentone, more intense development such as Redlands East Valley High School and a multi-family development have taken place.

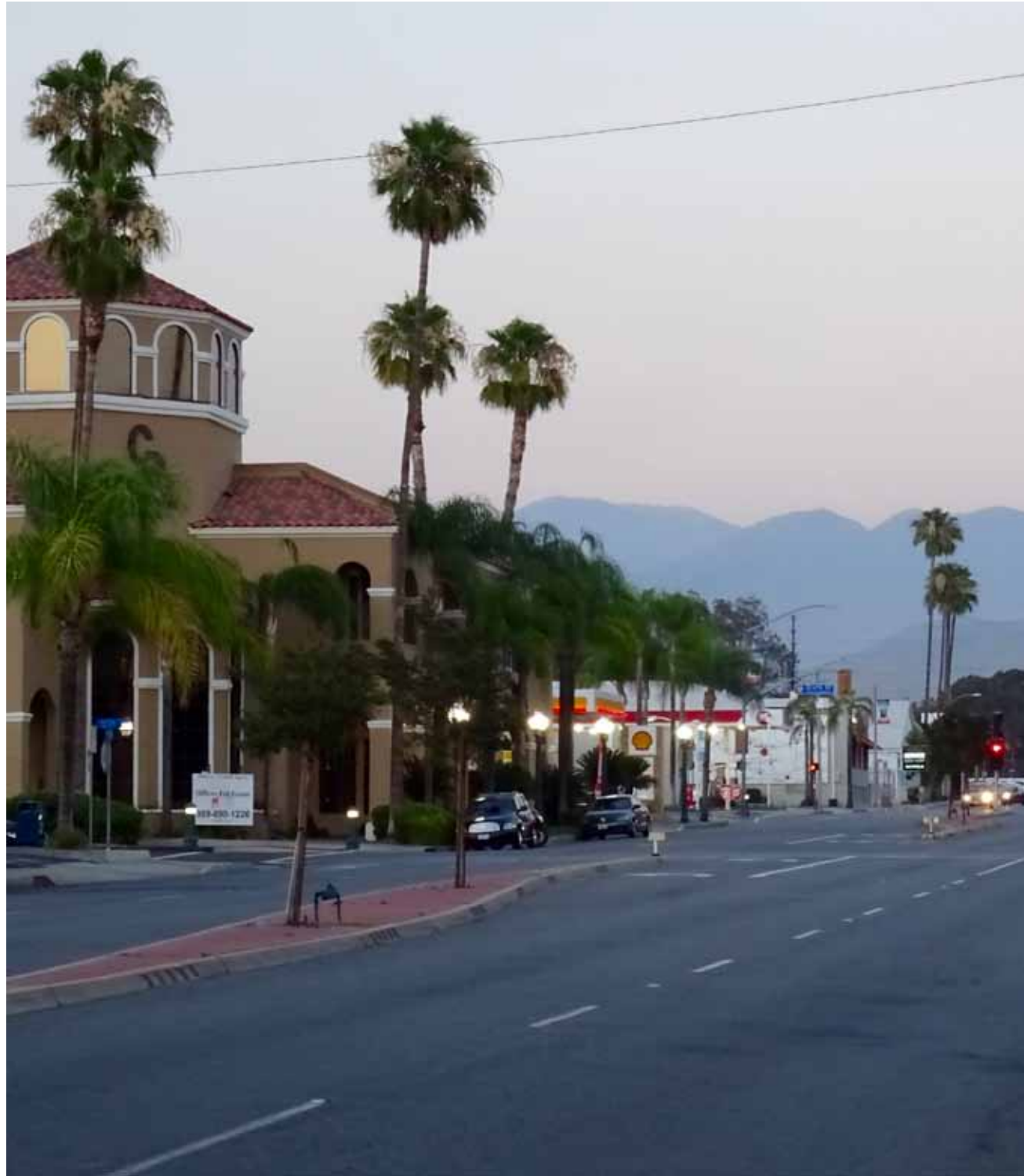
## POLICIES

### Principles

- 4-P.38** Seek to preserve the agricultural character of Crafton.

### Actions

- 4-A.84** Work with San Bernardino County to prevent urban development of cultivatable lands in Crafton and Mentone.
- 4-A.85** Establish an urban/rural boundary to preserve Rural Living in the Crafton Planning Area. The boundary shall run northward along Wabash Avenue from 7th Street to 5th Avenue, turn east on 5th Avenue to a midpoint between Wabash Avenue and Opal Avenue, and head north to Sylvan Boulevard, turning east to Opal Avenue and running north on Opal Avenue to Colton Avenue; Colton Avenue forming the northern most boundary until its terminus at Crafton Hills.
- 4-A.86** Work with San Bernardino County and the State to reduce biological risks to groves and crops from diseases such as Huanglongbing.



*Redlands Boulevard features distinctive architecture and pleasant streetscapes.*

## Redlands Boulevard

Redlands Boulevard is a major thoroughfare through the city, traversing the commercial areas of the East Valley Corridor, the office campus of ESRI, Downtown, and parts of the Colony and Highland. Redlands Boulevard crosses east-west through the Downtown area, north of State Street, curving southward at Ninth Street. It is a car-oriented thoroughfare along which sit low, one- to two-story mid- and late-century commercial buildings. The street is wide, and several car dealerships line the portion west of Eureka Street.

In many ways, Redlands Boulevard is the city's main street. The General Plan seeks to upgrade the appearance and function of this road as a true boulevard and encourage a greater mix of uses along its frontage.

## POLICIES

### Principles

**4-P.39** Promote infill and mixed-use development along Redlands Boulevard to create a cohesive commercial corridor connecting the Transit Villages and providing a retail and service destination for community members.

### Actions

**4-A.87** Promote clusters of mixed-use development along Redlands Boulevard near the Mixed Use Cores of the proposed Transit Villages, providing opportunities for commercial, office, and residential development consistent with the needs and characteristics specific to each Transit Village.

**4-A.88** Promote infill development along Redlands Boulevard where it is classified as a Boulevard to create a continuous corridor of mixed-use and commercial activity.

**4-A.89** Complete and enhance the sidewalk system along both East and West Redlands Boulevard. Make pedestrian enhancements to facilitate the safe crossing of the street.

**4-A.90** Extend and enhance the center median of Redlands Boulevard with landscaping, public art, and lighting to improve the aesthetics and enhance its function as a major east-west boulevard.



## Colton Avenue and Orange Street Commercial Corridor

Orange Street is a north-south arterial that blends adaptive reuse of historic structures with contemporary developments. South of I-10, the Orange Street commercial corridor is charming, engaging, and walkable, although the roadway itself is wide and perceptually forms the western edge of Downtown. Historically, the Downtown grid extended westward, but was lost when several blocks were combined to make way for Redlands Mall. This area features primarily commercial use, including retail and dining, and serves as a hub for commercial activity. Murals and City signage celebrate the Redlands' citrus heritage and imbue the district with pride and culture. The Redlands Depot and the station for the future Redlands Passenger Rail are also located along Orange Street.

Immediately north of I-10 is the intersection of Orange Street and Colton Avenue. Downtown Redlands, in popular consciousness, ends where Orange Street passes under I-10. This is both because the freeway is a visual barrier that separates the Orange Street and Colton Avenue intersection from the rest of the Orange Street commercial corridor, and because the design of streets and commercial facilities look remarkably different from the rest of Orange Street. The area north of I-10 lacks the landscaping, engaging facades, development intensity, and mix of uses that make Downtown Redlands a dynamic place to live, work, and shop. Colton Street contains a mix of commercial and residential uses in its western extent, giving way to a tree lined arterial with mostly residential uses a few blocks east of Orange Street. There are opportunities along these older commercial corridors for revitalization, with room for a mix of diverse commercial uses, including medical and professional services and retail.

## POLICIES

### Principles

**4-P.40** Encourage the revitalization of the commercial corridors on Colton Avenue at Orange Street by providing opportunities for a variety of commercial uses and providing guidelines for site design to create a more welcoming visual environment.

### Actions

**4-A.91** Develop an area plan for the Colton Avenue and Orange Street corridors that will improve the public spaces, enhance the quality of architecture and landscape architecture, attract a mix of family-friendly retail and professional businesses to serve the neighborhoods, and improve the overall attractiveness of the areas.

**4-A.92** Support the continued presence and new development of small businesses serving the community along the commercial corridors of Colton Avenue and Orange Street.

**4-A.93** Seek to improve the mix of office, professional, and service related businesses along Colton Avenue and Orange Street that will serve the neighborhood.

**4-A.94** Work with existing business owners to promote the improvement and maintenance of facades of commercial uses.

**4-A.95** Promote infill development to create a continuous corridor of mixed-use and commercial activity.

**4-A.96** Encourage site designs that create an active street frontage and screen parking from the Colton Avenue and Orange Street frontages.

**4-A.97** Encourage the development of bicycle, pedestrian, and transit access that reduces the need for on-site parking. Improve the pedestrian experience within these corridors through street trees and landscaping.



On Colton Avenue, commercial frontage is primarily auto-oriented and set far back from the street.



*The proposed Transit Villages seek to harness the convenience of local transit to spur mixed-use development.*

## 4.5 TRANSIT VILLAGES

Los Angeles' Metrolink commuter rail service links Redlands residents to the region from its nearest station in San Bernardino. Work is underway to connect Redlands with rail to Metrolink in the form of the Redlands Passenger Rail project. The nine-mile route will use the former Atchison, Topeka and Santa Fe Railway line. While mostly single track, two miles of double track will be constructed in the middle to allow vehicles to pass each other. There will initially be three stations in Redlands—New York Street near ESRI, Downtown Redlands, and the University of Redlands—with stations at Alabama and California streets in later phases.

The General Plan articulates a vision for transit-oriented development and strategies for future development patterns around the proposed Redlands Passenger Rail stations. These are intended as a foundation for realizing the goal of a connected, accessible, and active community by creating pedestrian- and transit-oriented villages that reflect each station area's existing assets and unique characteristics. Components of the strategy serve to improve connectivity between the proposed Transit Villages and the city's existing neighborhoods; provide new jobs, housing, and entertainment opportunities in compact, walkable environments; support multiple modes of transit, car travel, walking, and bicycling; and provide new development and infill opportunities as alternatives to building at the edges of the city.



## Transit Village Area Strategy

### Background

Transit Villages are areas surrounding a transit station in which the neighborhood is planned, designed, and integrated so that residents, workers, shoppers, and others find it convenient and attractive to patronize transit and other choices in transportation. Transit Villages have the following characteristics:

- Densities and intensities that promote working and living environments proximate to transit;
- Pedestrian and bicycle access to the station, with safe and comfortable pathways; and
- A transportation system that encourages and facilitates intermodal service and access.

The development of Transit Villages results in public benefits such as relief of traffic congestion, improved air quality, revitalization of neighborhoods, live/travel options for community members who rely on transit, additional job opportunities, and development of attractive neighborhoods.

The State of California’s Transit Village Development Planning Act of 1994 (Government Code Section 65460-65460.11) allows for cities to prepare Transit Village plans for designated Transit Village districts. Such districts would cover areas of up to a half-mile radius surrounding a given transit station. This Transit Village Areas Strategy of the General Plan will be supplemented with a Transit Village Plan that would provide more specific policies, land uses, development and design standards for the proposed Transit Villages and build upon the principles in the General Plan.



Early Redlands developed with centers of civic and economic activity located near transit opportunities.



The historic streets accommodated pedestrians as well as a variety of different transportation modes.



Redevelopment of the Claremont Packing House into walkable retail near the Claremont, CA Metrolink Station.



Examples of higher density housing types near the Claremont, CA Metrolink Station



The City of Redlands has a history of transit-oriented development. Early Redlands developed around railroad and stagecoach lines in the late 1800s, and Downtown Redlands, near the Santa Fe and Southern Pacific depots, grew to accommodate a variety of different transportation modes, including the train, a local trolley system, carriages, horses, cars, pedestrians, and bicyclists.

It had a mix of uses including retail, eateries, professional services, and residential. Shop keepers often lived above their stores. Hotels provided accommodations to visitors. Downtown was a compact, walkable, and mixed-use neighborhood in which it was easy to move around.

### Transit Villages Concept

The Transit Village Areas Strategy consists of the following:

- A Transit Village Overlay Zone (TVOZ) of mixed uses, which includes an area of focused streetscape and public realm improvements.
- Base land uses consistent with the land use classifications described in Section 3.1 of the General Plan, designed to foster higher intensities and compact development patterns.
- A Mixed Use Core where a mix of uses and higher densities and intensities would be encouraged through policies and standards in the Transit Village Plan.

These components are described below. Figure 4-7 illustrates the Transit Village concept, and Figure 4-8 shows proposed land uses within the Transit Village areas.

### Transit Village Overlay Zone

The TVOZ is proposed for areas within a half-mile radius (10-minute walking distance) of each proposed rail station, and includes sites with the greatest potential to support transit ridership and benefit from proximity to the transit system. The TVOZ will feature enhancements to vehicular, pedestrian, and bicycle access, and strong connections to the station throughout. It would also be covered by design guidelines and standards established in the Transit Village Plan that would address issues such as architectural treatments for development, building massing and spacing, public realm improvements, transit amenities, street trees and landscaping, parking lots, public art, and transitions between the core and surrounding neighborhoods. Mixed-use development may also take place in the TVOZ, and is not limited to the Mixed Use Core areas.

Some major streets within the TVOZ that serve high traffic flows are designated for strengthened connections between major destinations and the Mixed Use Cores, and for design improvements for all modes of transportation. These are shown as Multi-modal Streets in Figure 4-7.

New residential units are encouraged to be located at least 500 feet away from the pavement edge of the I-10 and I-210 freeways, and at greater distances if needed to address roadway noise and air quality concerns. A 500-foot buffer along the freeways is shown in Figure 4-7 and Figure 4-8.

TABLE 4-3: LAND USES WITHIN THE TVOZ

Land Use	Description
<b>Low Medium Density Residential (modified)</b>	Applies to the use of land primarily for single family detached residences, but can also include townhouse developments that are clustered to provide open space. Allows for residential development of 0 to 8 gross units per acre.
<b>Medium Density Residential (modified)</b>	Applies to the use of land for duplexes, townhomes, low-rise apartment buildings, and other less intense multi-family residential development types. Allows for densities of 9 to 15 gross units per acre.
<b>High Density Residential (modified)</b>	Allows for multi-family residential development at densities of 16 to 27 gross units per acre.
<b>Commercial</b>	Provides land for retail stores, hotels, motels, automobile sales and services, offices, and entertainment facilities. It also permits residential, mixed-use development.
<b>Commercial/Industrial</b>	Allows compatible commercial and light industrial land uses, including auto services, commercial retail and services, and manufacturing. Includes flex commercial space and business parks.
<b>Office</b>	Facilitates development of business and professional offices.
<b>Public/Institutional</b>	Consists of education, cultural, and community facilities such as public schools, the University of Redlands, and the civic center. While these areas provide for education, cultural, and community facilities, residential uses at a density of up to 15 dwelling units per gross acre and agricultural uses are also allowed.
<b>Park</b>	Includes both public and private facilities of park-like character.
<b>Agriculture</b>	Designates areas suitable for agricultural production of crops, including citrus.

### Mixed Use Core

Mixed Use Core covers areas within a quarter-mile radius (a 5-minute walking distance) of proposed passenger rail stations. A Mixed Use Core indicates areas in the Transit Villages with the potential for the highest development intensity and ability to support transit ridership. These areas would have policies and standards detailed in the Transit Village Plan intended to create vital, mixed-use environments in close proximity to the proposed transit stations. Mixed Use Cores are proposed for four of the Transit Villages: California Street, Alabama Street, New York Street, and the University of Redlands. A Mixed Use Core is not proposed for the Downtown station, as that station area would be covered by the Downtown Specific Plan (DTSP) upon adoption of that Specific Plan. It is important to note that while the Mixed Use Cores indicate areas where high-density/intensity mixed-use development would be encouraged, such development may take place in the TVOZ outside of the cores as well, where appropriate.

Within the Mixed Use Core areas, some streets, as shown in Figure 4-7, are designated as boulevards. These are corridors that are connected to the stations, where high levels of pedestrian activity and flow would be anticipated. Therefore, pedestrian activity and comfort are emphasized, and ground-level active uses would be required in buildings along the corridors.

### Multi-Modal Connections

The proposed Transit Villages are centered at passenger rail stations, but are intended to accommodate and improve travel for all modes of transportation. The Transit Villages would act as hubs, allowing for convenient transitions between different modes. Some travelers may go to a station to take the train, but others may go simply to switch to a different mode transportation that better gets them to their destination. The mix of modes in the Transit Villages would include:

- **Pedestrians**, including those using walkers or wheelchairs
- **Bicycles**, including personal bicycles and bikeshare
- **Vehicles**, including personal vehicles, carshare, carpools, ride-hailing, and taxis
- **Transit**, including buses and courtesy vans
- **Trains**

Facilities and improvements to accommodate these modes include wider sidewalks, ramps, bicycle paths and markings, bicycle racks and lockers, parking lots and garages, turnouts, bus shelters, and signage.

## POLICIES

### Principles

- 4-P.41** Foster a connected, accessible, and active community by creating attractively designed pedestrian- and transit-oriented villages with a mix of uses in a compact area.
- 4-P.42** Provide for new jobs, housing, and entertainment opportunities in compact, walkable environments.
- 4-P.43** Ensure that each Transit Village has a unique character and identity that reflects its existing assets and unique characteristics, and provides appropriate services at that location.
- 4-P.44** Provide choices for travel options, including walking, biking, vehicular, and transit.
- 4-P.45** Accommodate all appropriate modes of transportation in Transit Villages, and promote seamless transitions between modes.
- 4-P.46** Improve connectivity between Transit Villages and existing neighborhoods.
- 4-P.47** Provide for appropriate transitions between Transit Villages and surrounding neighborhoods.
- 4-P.48** Provide development and infill opportunities as alternatives to building at the edges of the city.
- 4-P.49** Allow residential and mixed-use projects in the Mixed Use Core at densities up to the High Density Residential standard.
- 4-P.50** Allow for density bonuses in the Transit Village Overlay Zone contingent on the provision of public benefits. Density bonuses shall be a minimum of 25 percent within a quarter-mile of each transit station, and 10 percent in areas located between a quarter-mile and a half-mile radius of each transit station. Public benefits may include but are not limited to amenities such as a public park, plaza, or playground; enhanced streetscaping; public art; or participation in a voluntary transfer of development rights program.
- 4-P.51** Complete a Transit Village Plan that will define: village character, design guidelines for architecture and site development, permitted and conditional uses, building setbacks and heights, yards, interfaces with the public streets and sidewalks, security measures, and transitions to existing neighborhoods.
- 4-P.52** Encourage stops of larger trains (Metrolink) in stations that can adequately accommodate their size and have greater availability of and access to parking.



Transit-oriented residential, San Diego, CA



Transit-oriented development, San Jose, CA



Orange Street, Redlands, CA



Mixed uses, San Mateo, CA



Streetscaping, Alameda, CA



Pedestrian environment, Oakland, CA

Figure 4-7: Transit Village Concept

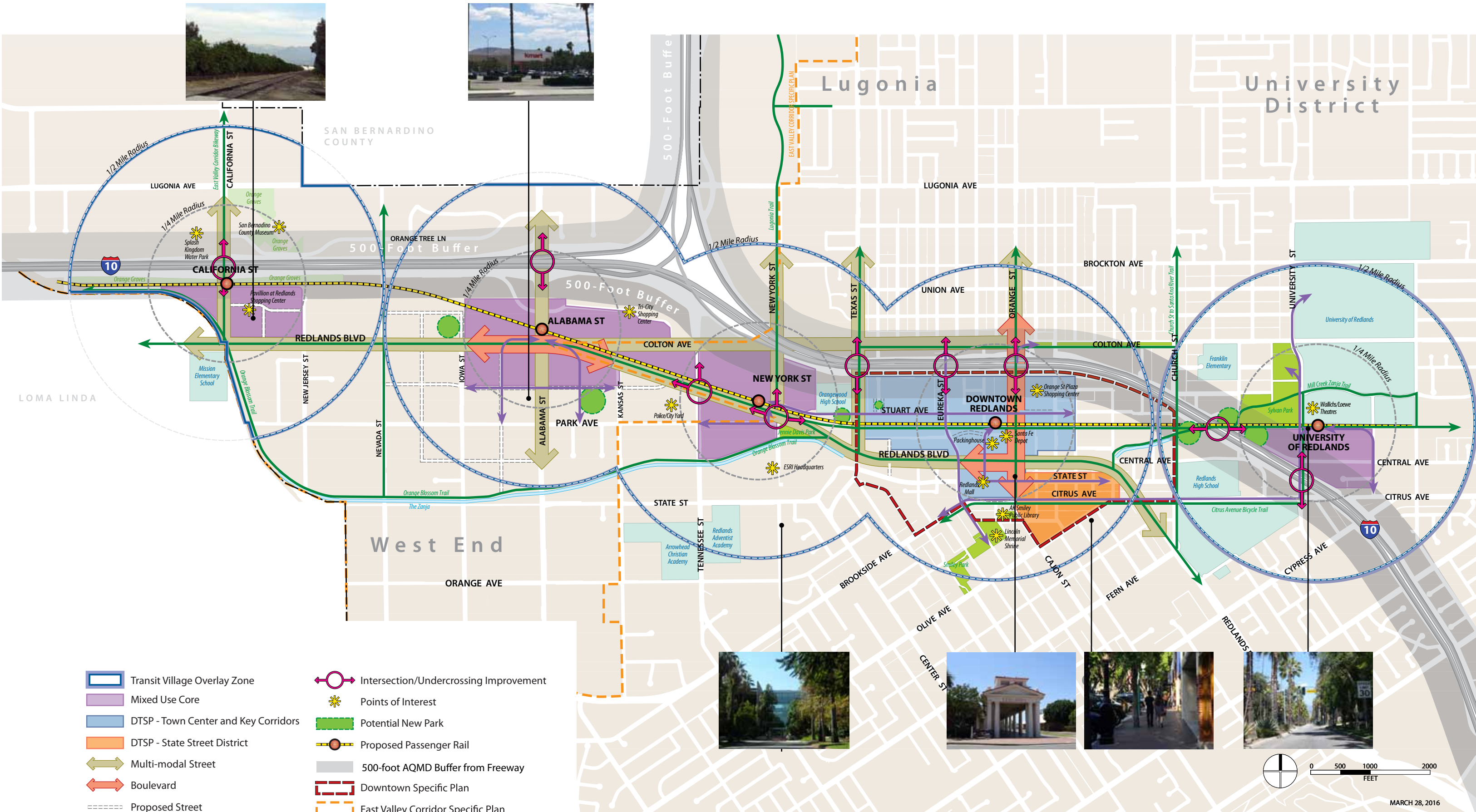
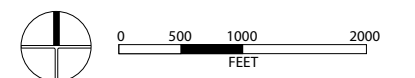
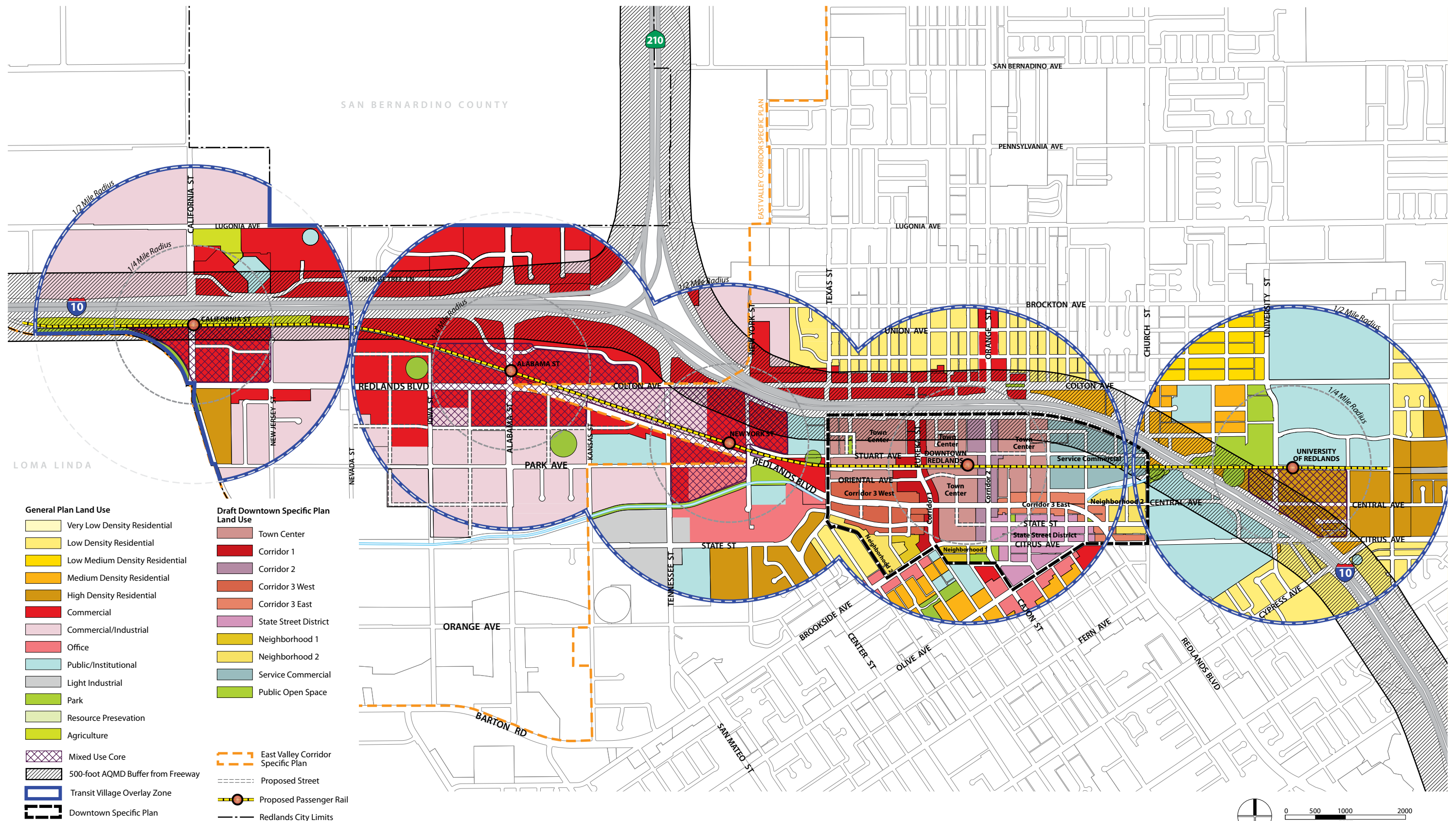


Figure 4-8: Transit Village Land Use



April 7, 2016

# California Street Transit Village

**A retail destination that builds on existing uses and creates a distinctive gateway between cities**

The California Street Transit Village would be located near California Street and Redlands Boulevard, at the city's western border with Loma Linda. Existing (2016) land uses within a half-mile of the (still to be finalized) station location include commercial, office, and industrial uses at low intensities; multi-family residential; some vacant land; and some land under citrus cultivation.

The strategy for the proposed Transit Village seeks to reinforce the existing strong cluster of commercial uses, while promoting opportunities for reinvestment and infill development. The Transit Village would introduce mixed uses into the East Valley Corridor to serve workers in the warehouse area, the medical facilities such as the VA Center and Kaiser medical facility, as well as visitors to destinations such as the San Bernardino County Museum and Splash Kingdom.

Circulation improvements focus on enhancing major streets, including California Street and Redlands Boulevard, for all modes of travel. Freeway undercrossings at California Street will be enhanced to ensure pedestrian safety and comfort. Bicycle route improvements would include the completion of the East Valley Corridor Bikeway and the Orange Blossom Trail.

From an overall identity perspective, this Transit Village would serve as a western gateway to the city of Redlands, as well as Loma Linda. Thus, the strategy would seek to create a sense of arrival. The strategy would preserve the presence of citrus groves in the Transit Village to highlight the city's citrus heritage for travelers.

## Actions

- 4-A.98** Create greater opportunity to intensify and consolidate land uses on adjacent parcels and connect existing assets through infill development.
- 4-A.99** Promote mixed uses to serve a range of users, including local workers and visitors to nearby tourist destinations.
- 4-A.100** Provide streetscape improvements along the major corridors of California Street and Redlands Boulevard to enhance comfort and safety for all modes of travel.
- 4-A.101** Implement bicycle route improvements that provide intra-city and regional connections, connecting to Loma Linda, the City of San Bernardino, and north to the Santa Ana River Trail.
- 4-A.102** Create a "sense of arrival" at the city's western gateway through aesthetic improvements such as landscaping, citrus groves, and signage.
- 4-A.103** Preserve citrus groves for visual effect and to distinguish the station area from others.
- 4-A.104** Improve the I-10 undercrossing at California Street to increase comfort and safety for all modes of travel and enhance north-south circulation.



San Bernadino County Museum will remain as one of the visitor destinations in the California Street Transit Village.

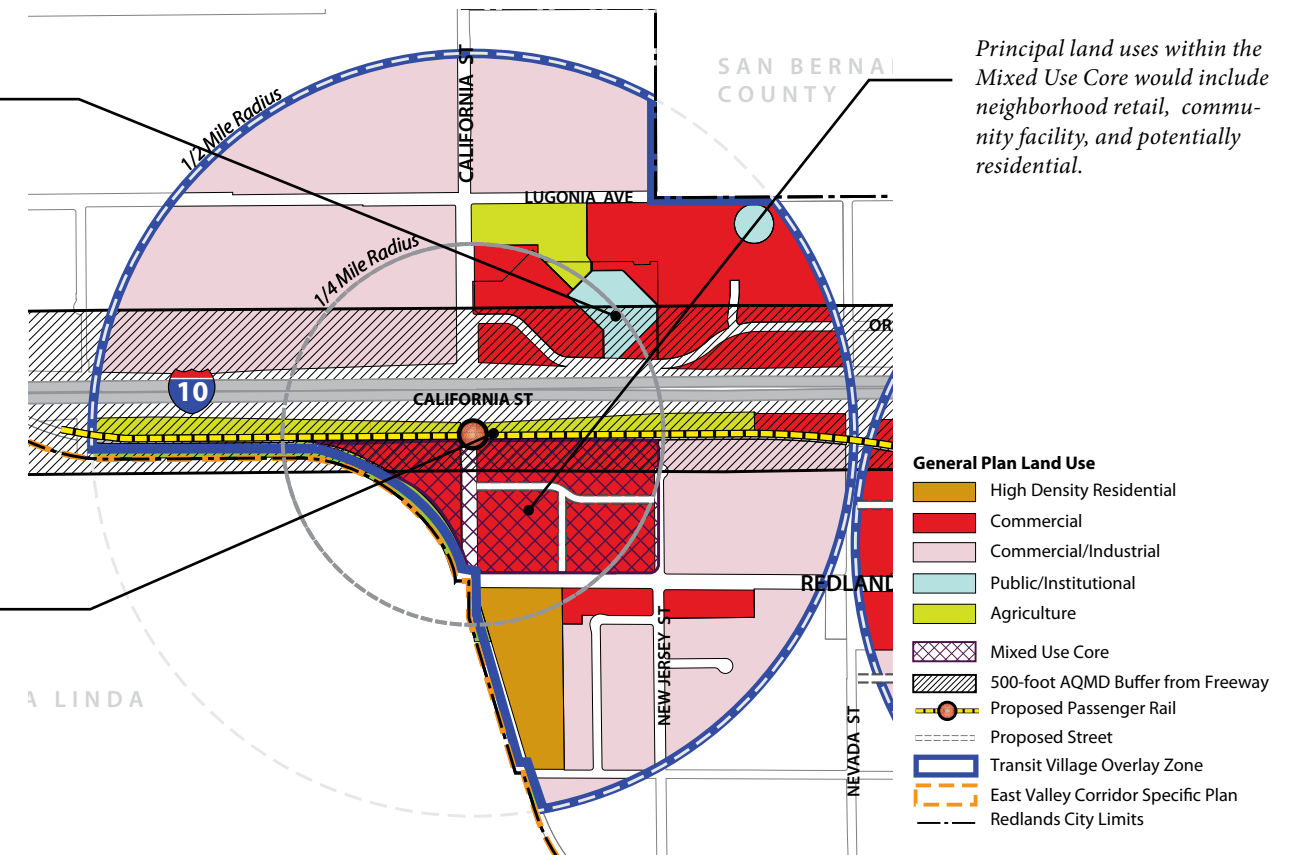


Existing orange groves will be preserved to highlight Redlands' citrus heritage.

An undercrossing improvement at California Street will enhance connectivity between the station to local destinations.



Commercial uses within the Mixed Use Core would provide internal circulation prioritizing walking patrons.



Principal land uses within the Mixed Use Core would include neighborhood retail, community facility, and potentially residential.



The East Valley Corridor Bikeway and the Orange Blossom Trail would enhance bicycle connectivity in the Transit Village.

# Alabama Street Transit Village

**A complete neighborhood with a mix of uses and ample parkland**

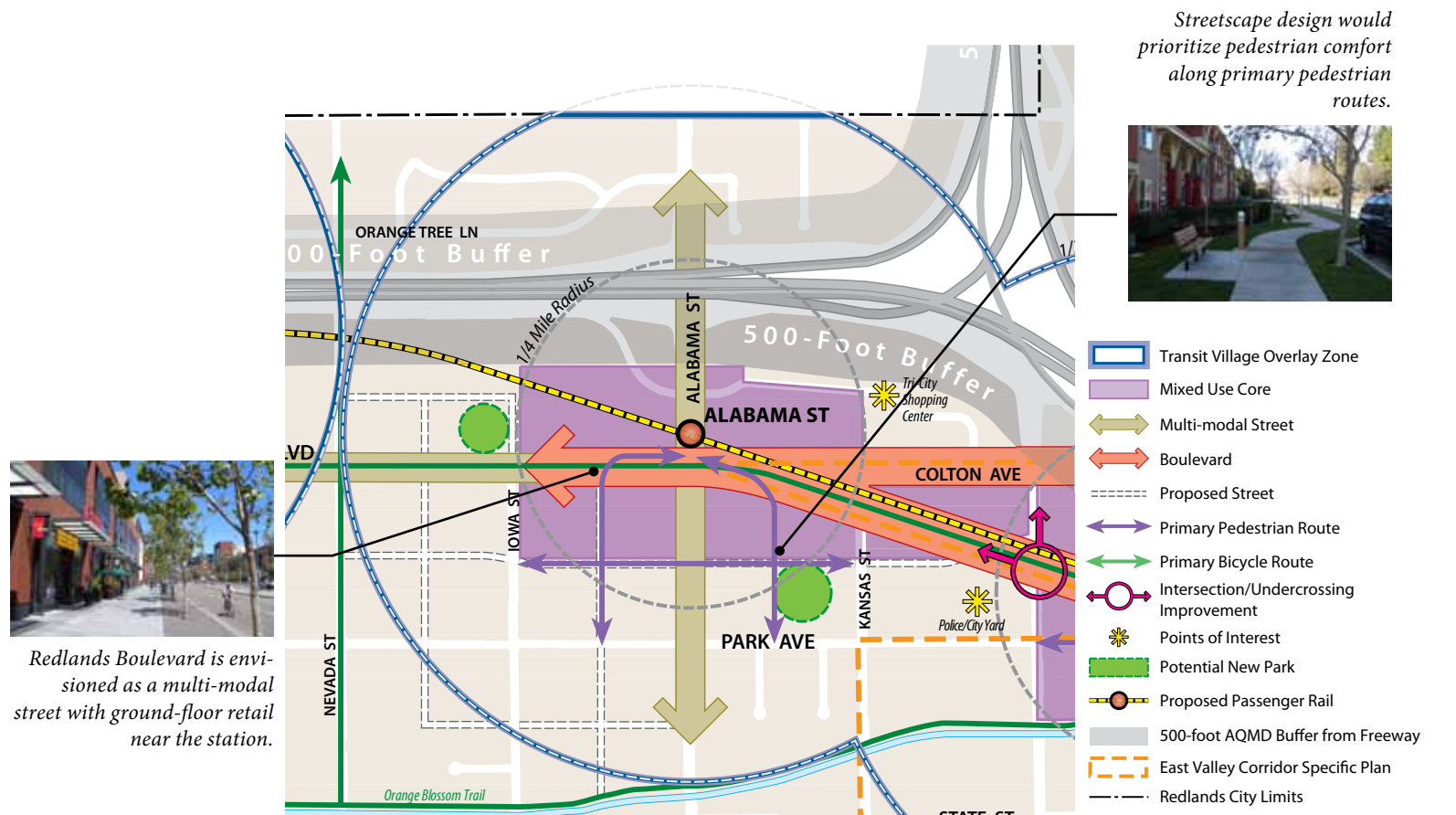
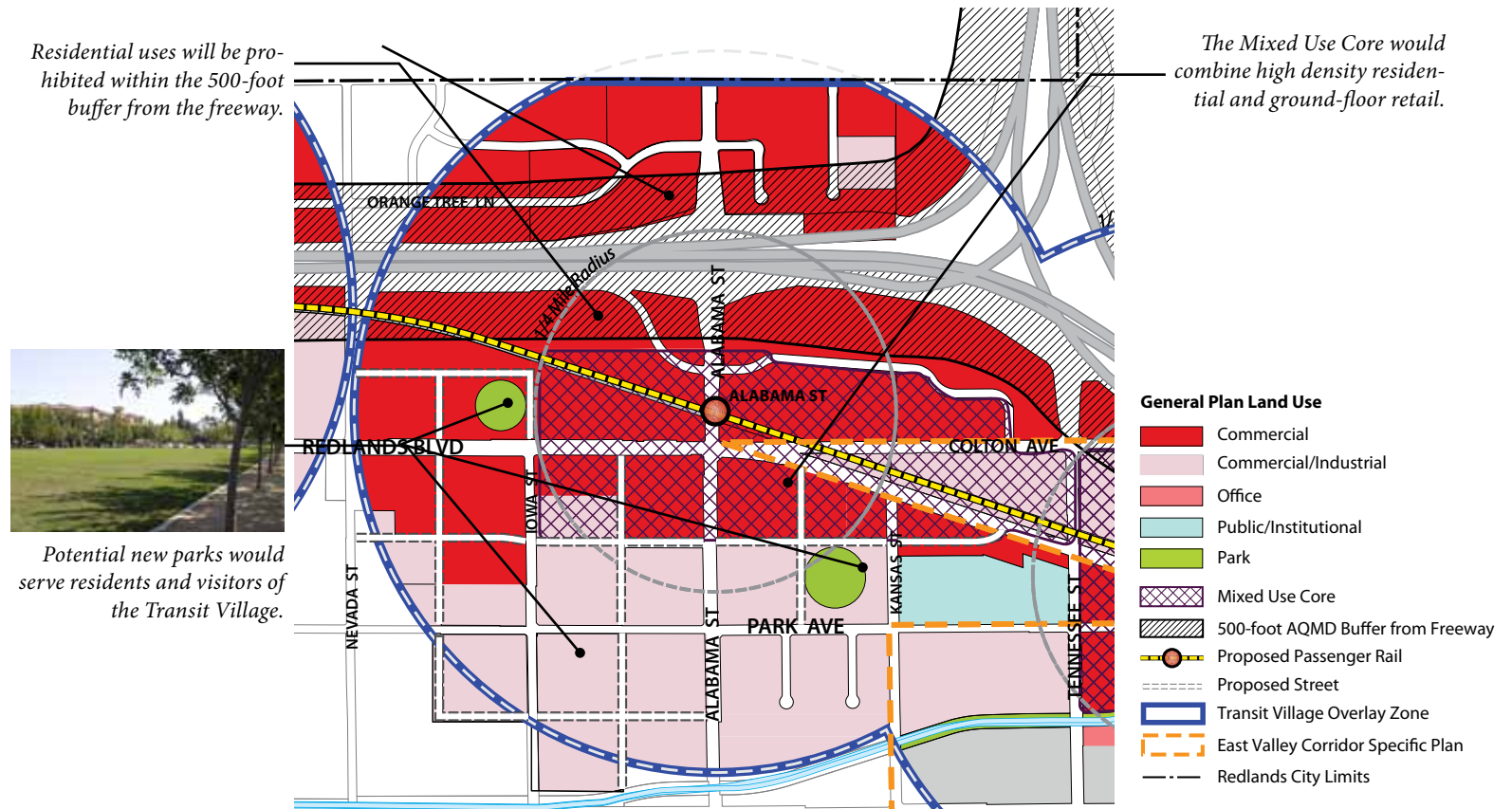
The Alabama Street Transit Village would be located near Alabama Street and Redlands Boulevard. Existing (2016) land uses within a half-mile of the (still to be finalized) station location are primarily commercial, with some industrial and office uses and several vacant properties. Development in the area is primarily currently auto-centric.

The strategy for the proposed Transit Village would establish a complete neighborhood, including a Mixed Use Core with a higher-density mix of residential and commercial uses; and commercial and office uses with the potential for residential mixed use in the TVOZ outside of the core. The Transit Village would serve as a gateway to regional shopping to the north, and create both a gateway and transition area between the station and light industrial uses to the south. Residential uses would be discouraged within 500 feet of interstate I-10. New parks would be sited in the area to serve the needs of new residents and employees within walking distance of the transit station. Additionally, there would be the potential to reuse commercial sites as office centers.

Within the Transit Village, primary pedestrian routes along new streets would allow people to safely and comfortably walk between the station, neighborhood parks, and residences. Boulevards would be established along Redlands Boulevard and Colton Avenue, where improvements would focus on the pedestrian experience and ground-floor active uses would be required along the street frontage. Primary bicycle routes would include the Orange Blossom Trail, which provides strong east-west connections to the other Transit Villages, as well as to other bicycle routes providing access to neighborhoods north and south of the rail line.

## Actions

- 4-A.105** Create an active and compact transit-oriented core with a mix of residential and commercial/office uses. Allow for the reuse of commercial sites as office centers.
- 4-A.106** Add new streets to create a finer-grained (shorter blocks), pedestrian-scaled road network, connecting residential areas to parks and the Mixed Use Core.
- 4-A.107** Provide streetscape improvements along the major corridors of Alabama Street and Redlands Boulevard to enhance comfort and safety for all modes of travel and strengthen north-south connections between major destinations and east-west routes.
- 4-A.108** Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.109** Ensure that adequate parkland is available to serve new residents and employees in the area.
- 4-A.110** Implement bicycle route improvements that provide strong east-west connections to other Transit Villages and the city's wider bicycle network. Routes would include the Orange Blossom Trail and potentially a trail along Redlands Boulevard in this location.
- 4-A.111** Plan for the Alabama Street station to be the eastern terminus for the larger Metrolink trains where space is available to accommodate the larger trains and there is greater availability of land for parking.





## New York Street Transit Village

**An employment hub with easy access to Downtown and surrounding neighborhoods**

The New York Street Transit Village would be located near New York Street and Redlands Boulevard. The area surrounding the proposed station location is currently (2016) characterized mainly by office and auto-oriented commercial uses, including the ESRI campus. Other nearby points of interest and buildings include Jennie Davis Park, Orangewood High School, and the Redlands Police Department.

The strategy for the New York Street Transit Village would build on the presence of existing employment activity in the area, particularly ESRI, to create a hub where the expansion of available office space and commercial uses provides a concentration of opportunities for jobs and innovation such as new businesses and start-ups. The Transit Village would also serve as a gateway to Downtown.

The Mixed Use Core would be higher-intensity mixed uses—with office, retail, and services, as well as housing, including live/work lofts. Outside of the core, lower-density office uses and residential would provide a transition to the edge of the Transit Village.

The Transit Village would feature a variety of connections and streetscape improvements to facilitate movement between the station, core, and surrounding neighborhoods. New York Street would be extended northwards to provide a connection to commercial areas in Lugonia. Streetscape improvements along the major corridors of Colton Avenue, Redlands Boulevard, and New York Street would enhance travel for all modes. Boulevards would be established along Redlands Boulevard and Colton Avenue, where improvements would focus on the pedestrian experience and ground-floor active uses would be required along the street frontage. Primary pedestrian routes would allow for walkable connections to and from Downtown and the proposed residential neighborhood at Alabama Street. Primary bicycle routes would include the Orange Blossom Trail, which provides east-west connections to the other Transit Villages, and routes along New York Street and Texas Street to provide access to neighborhoods north of I-10.

### Actions

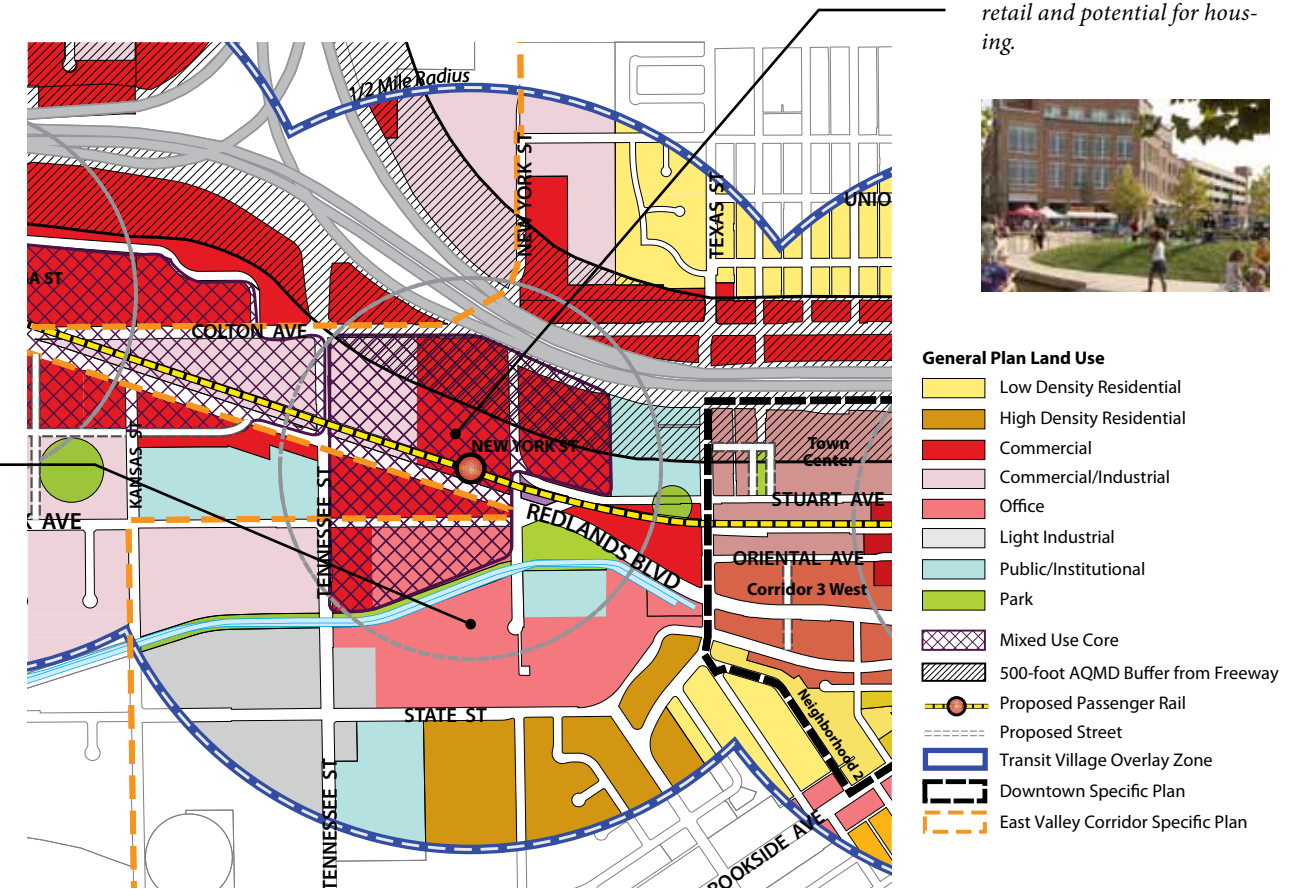
- 4-A.112** Create an active and compact transit-oriented core with office uses that provide opportunities for jobs and innovation, as well as commercial and residential uses to serve the needs of the area's workers.
- 4-A.113** Provide streetscape improvements along the major corridors of Colton Avenue, Texas Street, and Redlands Boulevard to enhance comfort and safety for all modes of travel and increase accessibility to and from surrounding areas.
- 4-A.114** Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.115** Provide pedestrian routes between offices, neighborhoods, and Downtown.
- 4-A.116** Implement bicycle route improvements that provide strong east-west connections to other Transit Villages as well as north-south connections to improve access to existing neighborhoods to the north. Routes would include the Orange Blossom Trail, the Lugonia Trail on New York Street, and a route along Texas Street.
- 4-A.117** Implement intersection improvements, including pedestrian improvements, at the I-10 undercrossings at New York and Texas Street to increase comfort and safety for all modes of travel.
- 4-A.118** Ensure safe railway crossings at Tennessee Street, Texas Street, and New York Street for bicyclists and pedestrians.
- 4-A.119** Maintain single-family residential neighborhoods designated as low- and low medium-density residential in the General Plan within the TVOZ. Transition higher density housing when adjacent to these neighborhoods.



The Transit Village will expand on existing employment activity.



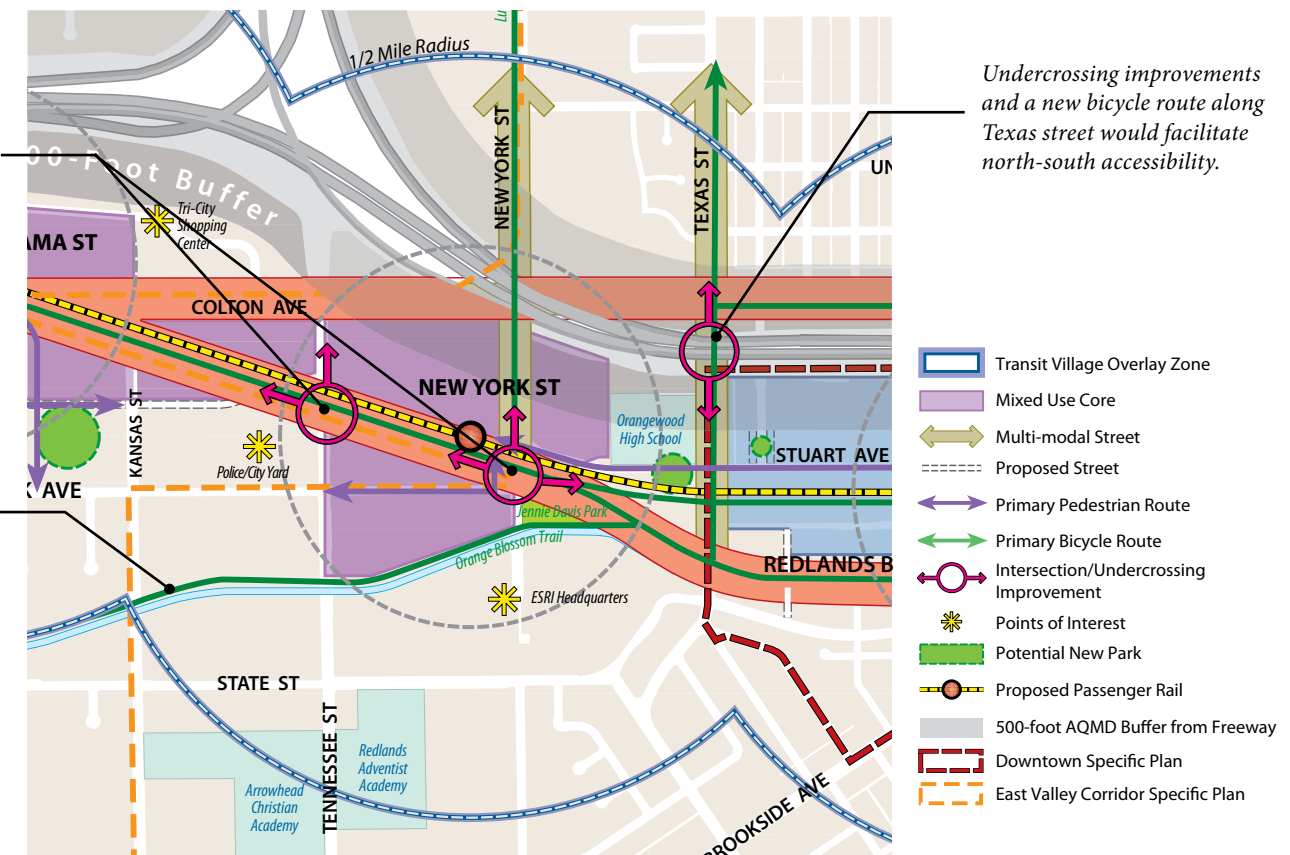
The Orange Blossom Trail would be one of the two major bicycle routes connecting the Transit Villages.



The Mixed Use Core would be primarily office, with some retail and potential for housing.



Railway crossings will be improved to ensure safe connections within the Transit Village.



Undercrossing improvements and a new bicycle route along Texas street would facilitate north-south accessibility.

## Downtown Redlands Transit Village

### ***A vital town center with abundant amenities***

The Downtown Redlands Transit Village would center around the historic Santa Fe Depot on Orange Street. The Transit Village would include the planning area for the Draft Downtown Specific Plan (DTSP). Currently (2016), the area around the station contains commercial and office uses throughout the center, residential and industrial uses along the edges, and public uses in the south at the Civic Center. The State Street district and Orange Street commercial corridors, Smiley Park, Redlands Mall, and a commercial corridor along Colton Avenue are all within a half mile of the proposed station.

The Strategy for the Downtown Transit Village follows the vision of the DTSP, which would create a cohesive town center with abundant amenities and pedestrian-oriented streets. The DTSP seeks to encourage a mix of uses to promote economic vitality, create a pedestrian-oriented environment, maintain a distinctive character based on the city’s historical elements, and enhance the civic realm through vibrant streetscapes. Near the station, the DTSP designates a combination of Town Center and key corridor zones

– areas that would generally accommodate mixed-use development at higher densities and intensities. The DTSP also identifies the State Street District as the pedestrian-oriented “heart” of Redlands. Refer to the DTSP for more in-depth information.

Uses in the Transit Village would include specialty retail, services, dining, entertainment, arts, and residential. The Transit Village would celebrate the historical aspects of the area, including the city’s citrus heritage, encouraging the redevelopment of the citrus packing house as a destination for visitors. The Transit Village would serve the cultural needs of both residents and visitors, increasing the accessibility of destinations such as the A.K. Smiley Library, Lincoln Memorial Shrine, the Redlands Bowl, and arts venues such as theaters and galleries.

Circulation improvements would enhance connections between Downtown and the neighborhood of Lugonia north of I-10 – particularly to the commercial area along Colton and Orange Streets. Additionally, a small mixed-use area is proposed at Colton Avenue and Orange Street to create an activity center and continuity across the freeway.



*Photo Credit: Arteco Partners*

*The Mutual Orange Distributor (MOD) Packinghouse will be renovated into a dining destination.*

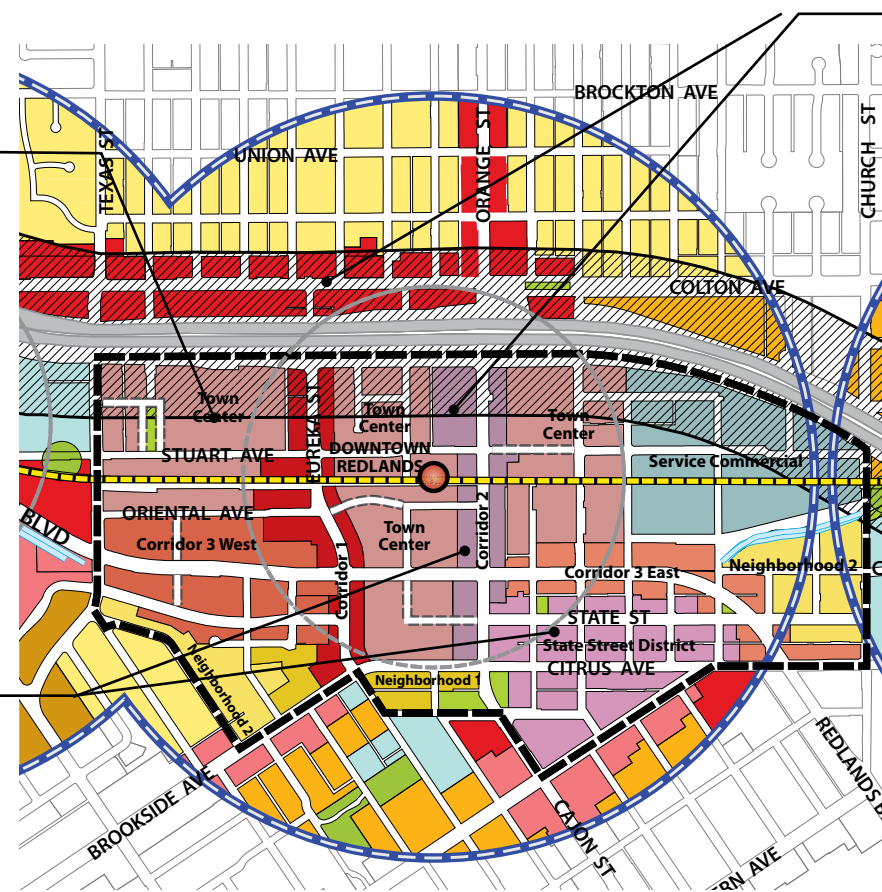
### **Actions**

- 4-A.120** Complete and implement an update of the Downtown Specific Plan to create a cohesive town center with amenities and pedestrian-oriented streets.
- 4-A.121** Encourage a centrally-located mix of uses to promote activity and economic vitality.
- 4-A.122** Maintain a distinctive character that builds on Downtown’s many historic features and its citrus heritage
- 4-A.123** Promote the reuse of citrus packing houses, historic warehouses, and other historic commercial buildings to create a destination for residents and tourists.
- 4-A.124** Ensure accessibility within the Transit Village to arts and cultural venues and programming.
- 4-A.125** Provide streetscape improvements along the major corridors of Colton Avenue, Texas Street, and Redlands Boulevard to enhance comfort and safety for all modes of travel and increase accessibility to and from surrounding areas.
- 4-A.126** Establish boulevards along Orange Street, Colton Avenue, and Redlands Boulevard with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.127** Strengthen pedestrian and bicycle circulation routes within Downtown and to and from adjacent neighborhoods.
- 4-A.128** Implement bicycle route improvements that provide strong east-west and north-south connections. Routes would include the Orange Blossom Trail, the Mission Creek Zanja Trail, and routes on Colton Avenue, Orange Street, and Citrus Avenue.
- 4-A.129** Improve the I-10 undercrossing at Eureka Street, Orange Street, and 6th Street to increase comfort and safety for all modes of travel and enhance north-south circulation.
- 4-A.130** Maintain single-family residential neighborhoods designated as low- and low medium-density residential in the General Plan within the TVOZ. Transition higher density housing when adjacent to these neighborhoods.

The Town Center, augmenting the central core area of Downtown, will feature commercial and mixed-use buildings with continuous facades.



A simple "main street" configuration can be seen in the Corridor 2 and State Street zones.



South of I-10, land uses would follow the DTSP. North of I-10, principal land uses include Mixed Use and commercial.

**Draft Downtown Specific Plan Land Use**

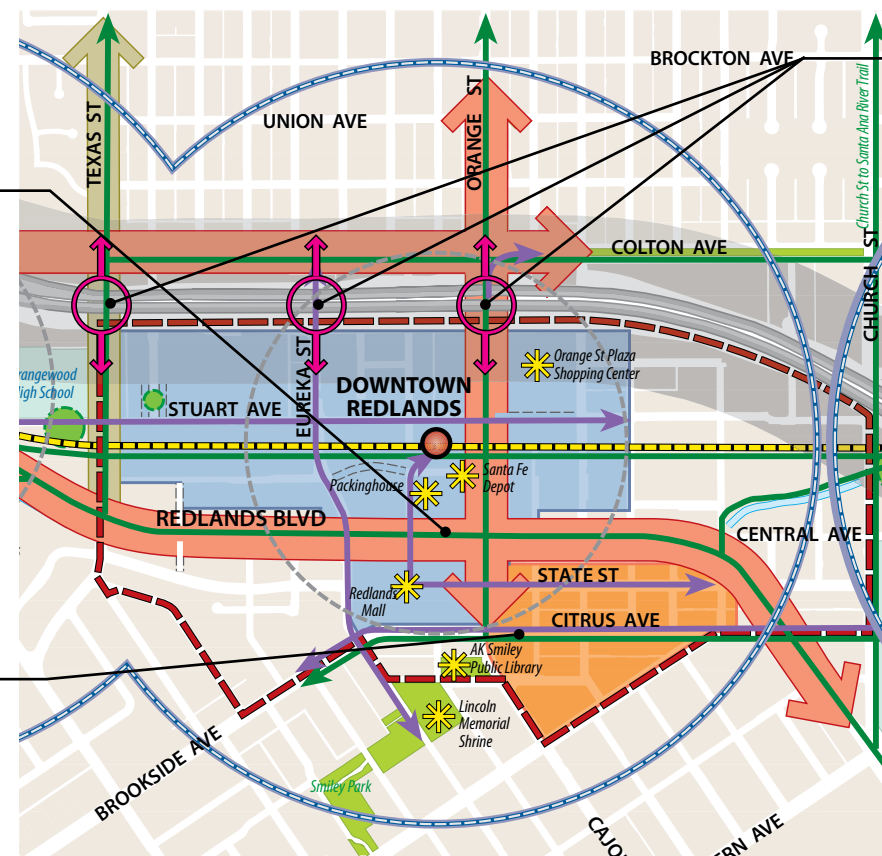
- Town Center
  - Corridor 1
  - Corridor 2
  - Corridor 3 West
  - Corridor 3 East
  - State Street District
  - Neighborhood 1
  - Neighborhood 2
  - Service Commercial
  - Public Open Space
- General Plan Land Use**
- Low Density Residential
  - Medium Density Residential
  - Commercial
- Other Symbols:**
- 500-foot AQMD Buffer from Freeway
  - Proposed Passenger Rail
  - Proposed Street
  - Transit Village Overlay Zone
  - Downtown Specific Plan



Redlands Boulevard would remain a key roadway through Downtown with calmed vehicular traffic.



The DTSP seeks to leverage the existing historic character of State Street.



Undercrossing enhancements along I-10 will strengthen the connection between the Lugonia neighborhood and Downtown.

- Transit Village Overlay Zone
- Mixed Use Core
- Multi-modal Street
- Proposed Street
- Primary Pedestrian Route
- Primary Bicycle Route
- Intersection/Undercrossing Improvement
- Points of Interest
- Potential New Park
- Proposed Passenger Rail
- 500-foot AQMD Buffer from Freeway
- Downtown Specific Plan
- East Valley Corridor Specific Plan



Redlands displays its citrus heritage along Orange Street, the heart of the Downtown Transit Village.

# University of Redlands Transit Village

**A primarily residential neighborhood related to the University, with retail, restaurants, and cafes**

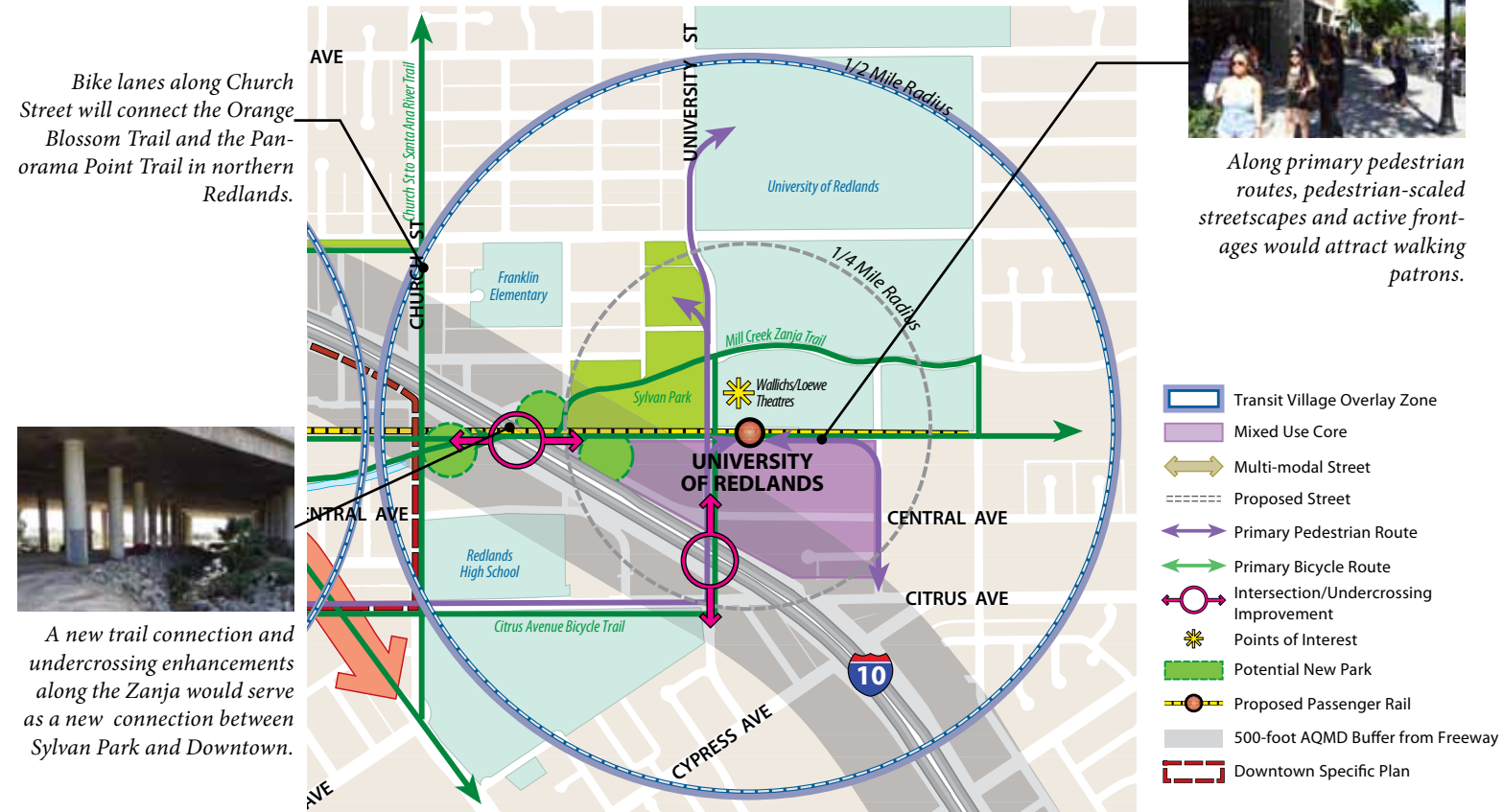
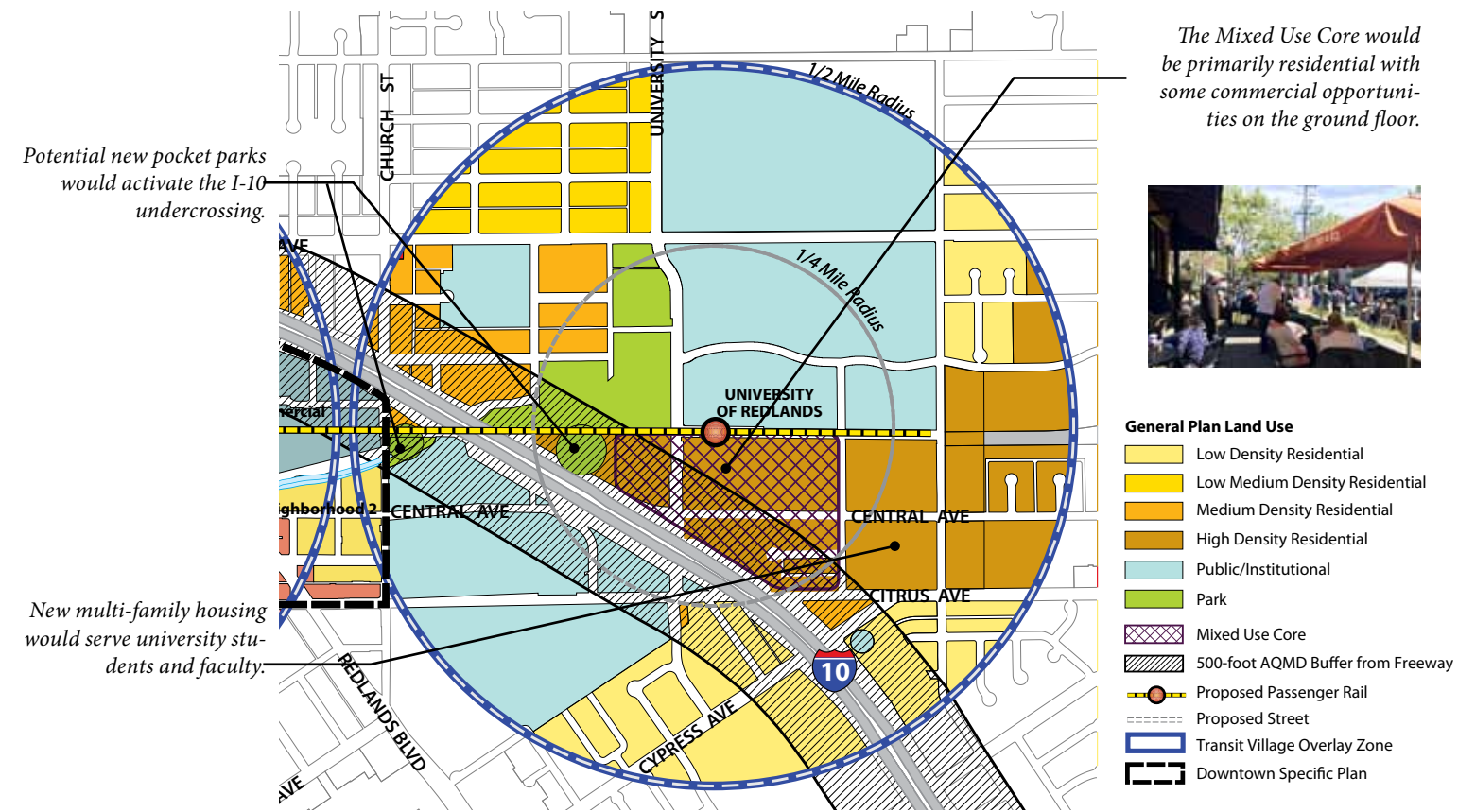
The University of Redlands Transit Village would be located near Park Avenue and University Street. Currently, the area is dominated by the University of Redlands and residential uses, with single-family homes in the north and multi-family homes in the south. Sylvan Park, Redlands High School, and Franklin Elementary area also located in this area, within half a mile of the transit station.

The strategy envisions this Transit Village as a primarily residential neighborhood related to the University, with retail, restaurants, and cafes to serve residents, students, and university staff. The core of the Transit Village would be a mixed-use area focusing on providing multi-family housing opportunities as well as the potential for ground-floor commercial and professional service uses. Additionally, the Mixed Use Core and TVOZ would offer potential for the expansion of university activities.

Other improvements would include parks and trails, such as those proposed as part of the Mill Creek Zanja Trail plan. Pedestrian and bicycle circulation would be improved to allow safe and convenient movement between homes, the University, the nearby high school, parks, and Downtown. Primary pedestrian routes would follow University Street, Citrus Avenue, and Cook Street. Primary bicycle routes would include the Mill Creek Zanja Trail, the Orange Blossom Trail, and routes along University Street and Citrus Avenue. Undercrossing enhancements at I-10 along the Mill Creek Zanja and University Street would improve the safety and comfort of pedestrians and cyclists.

## Actions

- 4-A.131** Provide more multi-family housing for university students, staff, and other members of the community in the Mixed Use Core and adjacent residential areas.
- 4-A.132** Create opportunities for ground-floor commercial uses, such as restaurants and cafes, retail, and professional services to serve university students, staff, and neighborhood residents in the Mixed Use Core.
- 4-A.133** Promote pedestrian circulation between the station, homes, schools, and parks, with primary routes along multi-purpose trails (the Orange Blossom and Mill Creek Zanja trails), Citrus Avenue, and University Street.
- 4-A.134** Implement bicycle route improvements that enhance circulation between the station, homes, schools, and parks and provide connections to Downtown. Routes would include the Orange Blossom Trail, the Mill Creek Zanja Trail, and routes on Citrus Avenue, University Street, and Colton Avenue.
- 4-A.135** Improve the I-10 undercrossing at Sylvan Boulevard to allow safe trail connections along the Mill Creek Zanja
- 4-A.136** Improve the I-10 undercrossings at University Street and Citrus Avenue to allow safe and comfortable access for vehicles, pedestrians, and cyclists.
- 4-A.137** Establish a boulevard along University Street from I-10 to Colton Avenue.
- 4-A.138** Maintain single-family residential neighborhoods designated as low- and low medium-density residential in the General Plan within the TVOZ. Transition higher density housing when adjacent to these neighborhoods.



## 4.6 REDLANDS AIRPORT

The Redlands Municipal Airport is located in the northern region of the city, north of San Bernardino Avenue and west of Opal Avenue. It is located roughly two miles from Downtown Redlands. It is a general aviation airport owned and operated by the City of Redlands, and covers approximately 170 acres. In 2007, the City of Redlands developed the Redlands Municipal Airport Master Plan in order to preserve investment in the airport, reflect community needs, attract airport tenants and users, preserve the environment, strengthen the economy, and ensure safety. For more information about airport hazards and compatibility, see Chapter 7.4.

### POLICIES

#### Principles

- 4-P.53** Retain and enhance Redlands Municipal Airport as a distinctive asset of the community.
- 4-P.54** Develop Redlands Municipal Airport to meet the general aviation needs of the Planning Area based on capabilities of the existing runway.
- 4-P.55** Maintain compatibility of development with airport operations in the area surrounding the airport.

#### Actions

- 4-A.139** Utilize the Redlands Municipal Airport Master Plan in planning for the growth and expansion of the airport and facilities.
- 4-A.140** Periodically update the Airport Land Use Compatibility Plan.
- 4-A.141** Regulate land uses within safety and noise compatibility zones in accordance with the Airport Land Use Compatibility Plan.
- 4-A.142** Review the Comprehensive Airport Land Use Plan (CALUP) prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.
- 4-A.143** Require use of aircraft noise abatement procedures for departures of aircraft.

- 4-A.144** Limit land use within the projected CNEL 60 dB contour to agriculture, open space, golf course, and light industry.
- 4-A.145** Require dedication of an aviation easement as a condition of development approval for projects within one mile of the 65 dB CNEL contour.

*Continuation of this policy alerts buyers to the proximity of the airport and protects the City from possible attempts to limit airport use.*

- 4-A.146** Invest in upgrading the physical appearance of Redlands Municipal Airport so that it is attractive to business and recreational travelers.
- 4-A.147** Improve pedestrian and roadway access to facilitate safe access to and from the airport.



Photo Credit: Dustin Brock

## 4.7 PUBLIC FACILITIES

For policies related to parks and recreation, see *Healthy Community*.

### Water Supply and Treatment

#### Local Water Supply

The Redlands Planning Area domestic water sources consist of both surface (about 50 percent of total supply) and groundwater (about 50 percent of total supply). The City is entitled to surface water from both Mill Creek and the Santa Ana River. Mill Creek water is treated at the Henry Tate Water Treatment Plant, located northeast of the city. Water then flows by gravity from the Tate Treatment Plant to the City's distribution system. Santa Ana River water is treated at the Horace Hinckley Surface Water Treatment Plant, located northeast of the City.

#### Imported Water

Imported State Water Project (SWP) water is available to the Planning Area. The San Bernardino Valley Municipal Water District (SBVMWD) has an entitlement of about 102,600 acre feet a year of SWP water. The City of Redlands may purchase SWP water, which is conveyed eastward to the Planning Area via the 17-mile Foothill Pipeline. SWP water is treated at the City's Hinckley Plant or infrequently the Tate Treatment Plant.

#### Groundwater

The City of Redlands uses 18 wells that pump directly into the system or into reservoirs. All of these wells are adequately separated from sewerage facilities and are free from serious flooding hazard. Although

the City's domestic water wells constitute about 50 percent of the water supply, some of the wells require treatment. Because of contamination, the City has wells that are not used for domestic purposes and are instead used for irrigation. It is anticipated that the contaminant levels will not decrease for many years due to the slow movement of water through the basin. However, non-treated nitrate-contaminated water not suitable for human consumption can be used for irrigation (non-potable system). The source of this contamination is typically due to agricultural nitrates, and would require costly treatment if the wells were to be used for domestic purposes.

#### Water Infrastructure

Redlands operates two surface water treatment plants and uses 15 wells, 37 booster pumps, 18 reservoirs, and 400 miles of transmission and distribution lines to provide water to its customers. Of this infrastructure, one booster station is used for non-potable water. The capacity of the City's 18 reservoirs is a total of 54.45 million gallons. Additionally, there are 30 miles of existing non-potable water pipeline and one non-potable reservoir planned for construction. Redlands owns other facilities that are currently not in use due to age, contamination, or other factors.

#### Recycled Water

Currently, the City produces recycled water capable of being used for irrigation and industrial uses. The City's wastewater treatment plant (WWTP) has the capability of treating to a tertiary level of 7.2 million gallons of wastewater each day, which is greater than the average flow of approximately 5.6 million gallons per day. Currently, the City supplies recycled water to the Southern California Edison Company (SCE) that is used for cooling water at its Mountain View Power Plant (MVP), to the City landfill for the purpose of dust control, and to businesses in the northwest portion of the City service area for irrigation purposes.

**TABLE 4-1: CURRENT WATER USAGE (2015)**

Land Use	Percentage of Total Water Accounts	Number of Accounts	Total Potable Usage (afy)	Total Reclaimed Usage (afy)	Total Usage (afy)
Single-Family Residential	47%	11,362	11,653	0	11,653
Multi-Family Residential	12%	2,774	2,853	0	2,853
Commercial/Industrial	8%	2,002	2,055	0	2,055
Institutional/Governmental	5%	1,279	1,308	0	1,308
Agricultural	1%	169	182	0	182
Other	1%	1,383	340	0	340
Irrigation (Potable)	7%	1,568	1,614	0	1,614
Institutional/Governmental (Non Potable)	0%	96	0	94	94
Irrigation (Non Potable - well only)	5%	1,158	0	1,191	1,191
Irrigation (Non Potable - recycled from WWTS)	7%	1,640	0	1,692	1,692
Mountain View Power Station	7%	1	0	1,756	1,756
<b>TOTAL</b>	<b>100%</b>	<b>23,432</b>	<b>20,005</b>	<b>4,733</b>	<b>24,738</b>

Source: City of Redlands MUED, 2016.

**TABLE 4-4: HISTORIC AND PROJECTED USAGE (POTABLE WATER)**

Year	Average Total Usage
2005	28,615
2010	26,107
2014	27,172
2015	20,005
2020 (projected)	27,986
2025 (projected)	28,762
2030 (projected)	29,538

Source: City of Redlands MUED, 2016.

## Wastewater

Most wastewater generated by sewered development within the Planning Area is treated at the City's wastewater treatment plant (WWTP) on the south side of the Santa Ana River wash at Nevada Street. Average flow is about 5.6 mgd. Secondary treatment capacity is about 9.5 mgd, which will allow for anticipated growth of the City over the next 20 years.

## Solid Waste

*For policies on Waste Reduction and Recycling, see Chapter 8: Sustainable City.*

Waste collection services are provided by the City of Redlands for areas within city limits. The City's Quality of Life Department provides residential waste collection, green waste collection for yard waste, and curbside recycling. Hazardous and electronic waste is managed by the Redlands Fire Department, which operates a household hazardous and electronic waste disposal site on a weekly basis. Solid waste from Redlands is primarily disposed of at the California Street Landfill operated by the Quality of Life Department and the San Timoteo Sanitary Landfill operated by the County, both within the city limits. With continued recycling efforts, there is enough capacity at the landfill to accommodate growth for the next 20 years and beyond.



*The Crafton Hills Reservoir stores treated water for future use.*

## POLICIES

### Principles

- 4-P.56** Ensure that public facilities and services are provided in a timely manner to adequately serve new and existing development.
- 4-P.57** Provide for the equitable distribution of public facilities and amenities, such as sidewalks, street lighting, and parks throughout Redlands.
- 4-P.58** Coordinate with the Redlands Unified School District to ensure that facilities and services are provided at a high quality and consistent with the population's needs.

### Actions

- 4-A.148** Coordinate future development with the City's Capital Improvement Program to ensure adequate funding and planning for needed public services and facilities.
- 4-A.149** Encourage the development of programs that enable concurrent provision of necessary public services and facilities prior to the approval of development projects that would require those services.
- 4-A.150** Encourage the undergrounding of utilities for all new development.
- 4-A.151** Ensure that all utilities and public facilities are designed and constructed to preserve and enhance the perceived

natural and historic character of the area, particularly on hillsides and in the canyon areas.

- 4-A.152** Continue to closely monitor the projected life of the City's landfill. Ensure advance planning for its replacement or for alternative disposal methods before the landfill's end of life.

## 4.8 PUBLIC SAFETY

### Police

Public safety services in Redlands are provided by the Redlands Police Department. The main police station is located at 1270 West Park Avenue, with four other divisions located citywide. In 2015, the Department had an average response time of 6.5 minutes for police services and a service ratio of 1.1 officers per 1,000 residents. Although there are no industry standards for response time to emergency calls, according to the Redlands Police Department, a response time of 4.5 minutes is desirable in a city of this size. Police Stations are shown in Figure 4-9.

The Police Department operates an approximately 12,000-square foot animal shelter at 504 Kansas Street that was constructed in 1978. The existing Animal Control facility consists of 33 regular dog kennels, two dog play yards, three adoption meet-and-greet areas, one dog agility center, 75 small animal (e.g. cat) cages, and one cat adoption and play area. A new addition to the facility is an Isolation and Care room that consists of 12 small animal cages. Animal Control is responsible for reducing the incidence of rabies and other animal-borne diseases, reducing the number of animal bites, and minimizing the number of unwanted and lost pets. Toward that end, animal services staff enforce a number of State and local laws concerning the care and treatment of animals.



The Redlands Police Department has five divisions citywide.

### Fire

The City of Redlands is served by the Redlands Fire Department, and unincorporated portions of the Planning Area are served by the San Bernardino County Fire Department and CAL FIRE. Adjacent National Forest lands are served by the U.S. Forest Service. The City of Redlands has four stations, and most of Redlands can be reached by the Fire Department within a four-minute response time. The majority of Redlands is well-served by the four Redlands Fire Stations, while the outer edges of the Planning Area may receive faster response times from surrounding jurisdictions. See Chapter 7 for further information about fire hazards.

### Residents and Safety

Maintaining public safety is not only the responsibility of the Redlands Police and Fire departments, but a community-wide effort. Recently, the Police and Fire departments have implemented advanced initiatives to encourage residents to become involved with public safety programming. Neighborhood Watch programs, for instance, allow residents to take ownership over personal safety. Instilling a sense of neighborhood pride can deter crime and make Redlands a safer place to live.

There is need for a new Safety Hall to replace the existing facilities housing Police and Fire administrative services. The current facilities are outdated, limited in available space, and no longer adequate for modern public safety services. The City has begun the search for a new site for a modern Safety Hall to serve both the Police and Fire departments.

## POLICIES

### Principles

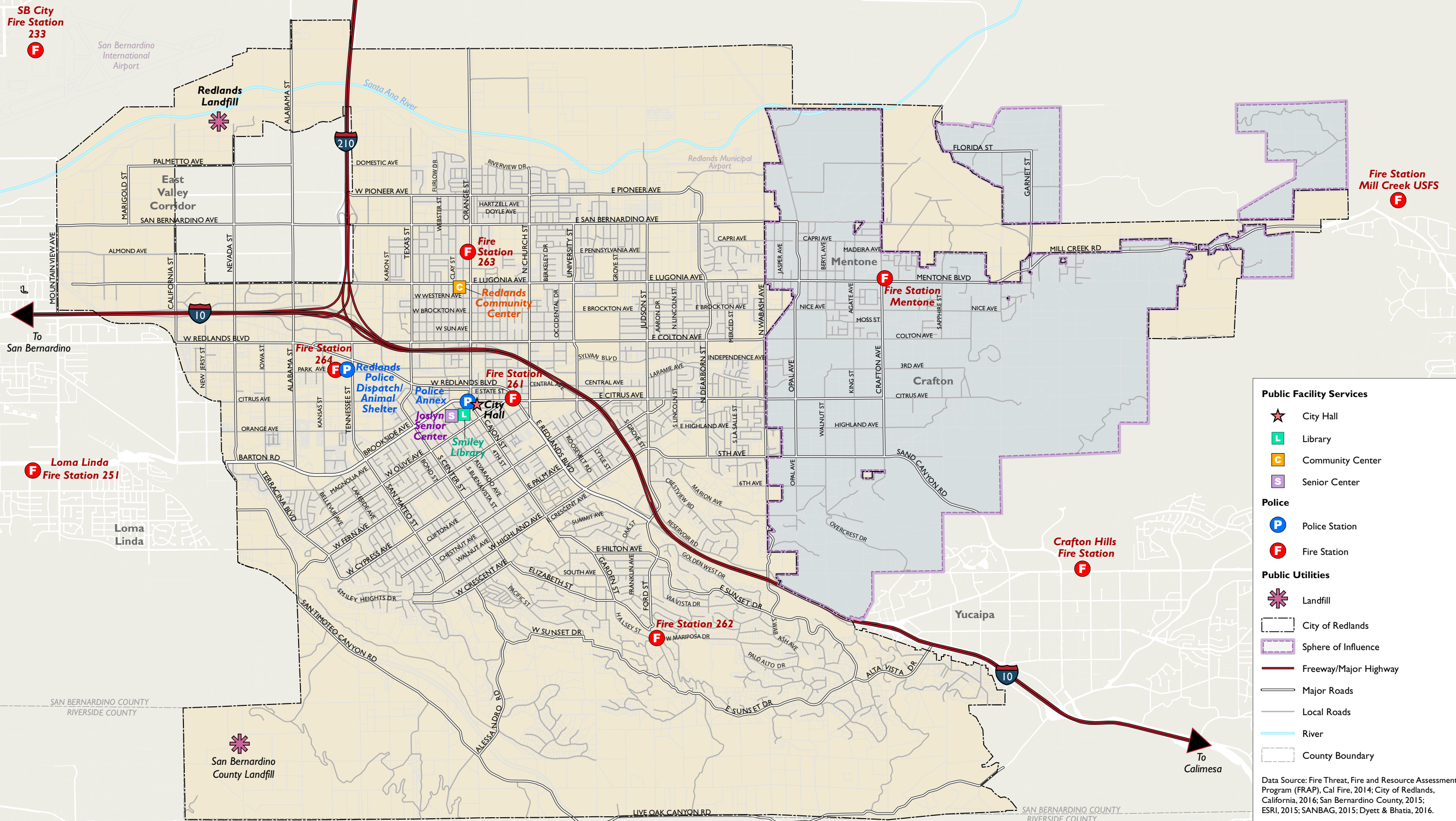
- 4-P.59** Ensure a safe community.
- 4-P.60** Locate police and fire resources where they can best serve the community.
- 4-P.61** Support community partnership and community based policing strategies to enhance the relationship between the Redlands Police Department and neighborhoods throughout the city.

### Actions

- 4-A.153** Ensure that the Police and Fire departments have modern facilities and equipment needed to perform their duties.
- 4-A.154** Support and expand neighborhood watch organizations and citizen volunteer patrols to assist the police in deterring crime.
- 4-A.155** Continue to enact mutual aid agreements with neighboring police and fire jurisdictions as well as state agencies.
- 4-A.156** Encourage the use of police substations throughout the city to increase the police presence in the neighborhoods.
- 4-A.157** Include the Police and Fire departments in the review of new developments to provide feedback on building and site design safety.



Figure 4-9: Public Facilities



**Public Facility Services**

- ★ City Hall
- L Library
- C Community Center
- S Senior Center

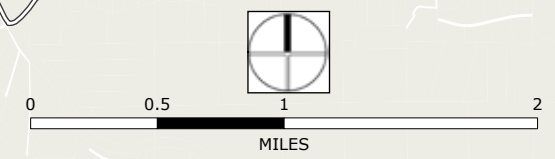
**Police**

- P Police Station
- F Fire Station

**Public Utilities**

- ✳ Landfill
- City of Redlands
- Sphere of Influence
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: Fire Threat, Fire and Resource Assessment Program (FRAP), Cal Fire, 2014; City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## 4.9 EDUCATION

The Redlands Unified School District (RUSD) serves Redlands and the surrounding communities of Mentone and Crafton in the Planning Area, as well as Loma Linda and the eastern portion of Highland. The district has received some of the highest awards granted by the State of California for excellence in education. It features a total enrollment of nearly 21,000 students. There are nine elementary, four middle, and five public high schools in the City of Redlands. The school district has long been challenged by population growth, and a new high school, Citrus Valley High School, was completed as recently as 2008 to accommodate this growth.

As of 2013, about 38 percent of Redlands residents aged 25 and older held a bachelor's degree or higher (compared to 19 percent countywide), and 17 percent held graduate or professional degrees. 90 percent of residents are high school graduates.

As buildout of the General Plan occurs, the RUSD will need to continually assess whether additional school facilities are needed. Should a new school facility be required, the City and RUSD will need to ensure the facility undergoes environmental review, and responds to current student needs and future demographic trends.

**TABLE 4-5: EDUCATIONAL ATTAINMENT IN REDLANDS AND SAN BERNARDINO COUNTY, 2013**

Education Received	Redlands		San Bernardino County
	People <sup>2</sup>	Percent	Percent
Less than 9th Grade	1,985	4.4%	10.0%
9th-12th Grade, no diploma	2,447	5.5%	11.7%
High School Graduate	8,231	18.5%	26.1%
Some College, No Degree	11,123	25.0%	25.3%
Associate's Degree	3,693	8.3%	8.1%
Bachelor's Degree	9,388	21.1%	12.2%
Graduate/Professional Degree <sup>1</sup>	7,608	17.1%	6.5%
Total, Age 25 and Older	44,492	100.0%	100.0%
High School Graduate or Higher	40,087	90.1%	78.2%
Bachelor's Degree or Higher	16,996	38.2%	18.7%

**Notes:**

1. The 2000 Census did not report Graduate/Professional degrees separately; only "Bachelor's Degree or Higher" was reported.
2. The total sum of the "People" columns (per year) does not equate to the "Total, Age 25 And Older" row because there is a 0.1% difference in the total of percentages.

Sources: City of Redlands, 2015; Dyett & Bhatia, 2015.



## POLICIES

### Principles

**4-P.62** Locate and design schools as contributors to neighborhood identity and pride.

### Actions

**4-A.158** Maintain a continuous exchange of information between the City, the University of Redlands, the Redlands Unified School District, and community colleges on school needs and candidate sites.

**4-A.159** Continue to assist Redlands Unified School District on enrollment projections.

**4-A.160** Encourage joint use of school facilities for neighborhood recreation.

**4-A.161** Plan for adjoining school/park sites where both facilities are needed to serve the same area and space is available.



# 5

## Connected City

Promote an efficient and integrated circulation system by enhancing the vehicular, biking, walking, and transit networks.

Community members desire a diversified transportation system that ensures efficiency, mobility, and safety for all modes. Completion of the city's trail network to promote bicycle and pedestrian travel, and design or retrofitting of streets to accommodate different modes of transportation for pedestrians, motorists, cyclists, and transit riders were among the highest transportation priorities for residents in the online survey conducted for the General Plan update. The General Plan seeks to provide choices in mobility that include vehicular, biking, walking, mobility devices (wheelchairs, scooters, etc.), other forms of active transportation, and transit. Connectivity within the city's networks will be improved as well as connectivity to regional networks.

Vehicular travel will be improved with safer and connected roadways, intelligently managed traffic, timed signals, a transportation demand program, and

adequate parking. Bicycle travel will be enhanced through a connected network of bicycle routes either as part of the roadway or as buffered and dedicated bike lanes, and places for bike storage. The pedestrian environment will be improved through an expanded and connected network of sidewalks, complete with streetscaping and adequate lighting, and an expanded network of trails throughout the city. Transit will be enhanced through improved bus service and a new rail service. All of these modes will be connected in a layered transportation network that links employment hubs, neighborhoods, schools, parks, the University of Redlands, and Downtown.

More broadly, connections to the region will be improved as access to metropolitan areas, regional and international airports, and interstate highway and rail networks are enhanced.

## 5.1 LAYERED, MULTI-MODAL NETWORK

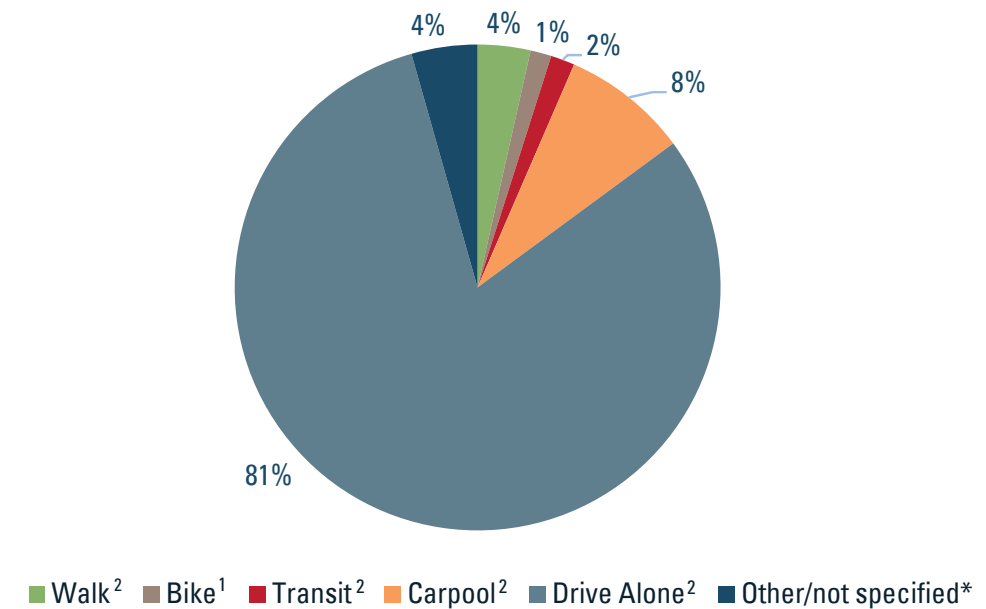
The roadway network in Redlands consists of freeways, boulevards, arterials, collectors, and local roads. These classifications are shown in Figure 5-4 and described in greater detail in Section 5.2. The overall street pattern in the city—street grid with small blocks in Downtown and central neighborhoods, with arterial streets placed half mile apart extending through the city—was largely established more than 100 years ago. Over the past 20 years, the transportation emphasis has been on improving travel by the automobile. As evidenced in Chart 5-1, automobiles remain the dominant form of transportation in Redlands.

As the city continues to experience residential, employment, and commercial growth, a connected, multi-modal street network will be essential to ensure efficient commutes for work and goods movement, safe active transportation, and easy access to retail and entertainment. The General Plan proposes a “layered network” approach, where traffic demands of Redlands and system-wide needs of different modes can be used as inputs as streets are redesigned and configured to better meet the needs of bicyclists, pedestrians, and transit, and enable Redlanders to efficiently and safely navigate through the city. Considering system-wide needs means assessing whether the system as a whole is able to meet the needs of travelers. For example, if a street is located in close proximity to a dedicated bicycle lane, that street may not necessarily need additional dedicated bicycle infrastructure.

The layered network approach designates modal emphasis by street to create a comprehensive street network. The layered network approach recognizes the need to accommodate all forms of traffic, but with the understanding that certain streets will emphasize certain forms of transportation. Layered networks balance vehicular transportation with “active transportation,” which is human-powered transportation that includes walking, cycling, using a wheelchair, in-line skating, or skateboarding.

The layered network approach recognizes that not all modes can be accommodated acceptably on all streets within this city, but bicycle and pedestrian movement can be emphasized on specific streets. This will also help the City comply with the California Complete Streets Act passed in 2008. Complete Streets are streets designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. The California Complete Streets Act requires circulation elements to include a complete streets approach that balances the needs of all users of the street.

Chart 5-1: Mode Share



\*Note: This chart summarizes journey to work trips and excludes work from home.

Sources: 1. 2008-2012 American Community Survey 5-year estimates; City of Redlands Bicycle Master Plan, 2015.  
2. 2009-2013 American Community Survey 5-year estimates.



Photo Credit: Miriam Cohn

# POLICIES

## Principles

- 5-P.1** Maintain a cohesive circulation system through a “layered network” approach promoting complete streets and mobility for all modes while emphasizing specific transportation modes for specific corridors and geographic areas.  
  
*With its diverse development patterns, history, and terrain, Redlands needs a multi-modal network to meet its future transportation needs. The layered network approach is a synergistic and cohesive system that considers various transportation modes and the entire network as a whole. Such an approach means each street will accommodate travel modes differently, with specified routes being more appropriate for different modes.*
- 5-P.2** Use the layered network approach to identify, schedule, and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvement plans.
- 5-P.3** Review the layered network with neighboring jurisdictions and seek agreement on actions needing coordination.
- 5-P.4** Support transportation infrastructure improvements such as safer street crossings and attractive streetscapes to encourage bicyclists, walkers, and users of mobility devices.

- 5-P.5** Manage the city’s transportation system to minimize traffic congestion, improve flow, and improve air quality.
- 5-P.6** Support public health by promoting active living and supporting safe walking and biking throughout the city.
- 5-P.7** Minimize emergency vehicle response time and improve emergency access.
- 5-P.8** Ensure the safety of the transportation network by preventing excessive speeding of vehicular traffic and promoting safe sharing of the network by all transportation modes.
- 5-P.9** Design a layered transportation network for individuals of all ages and abilities.
- 5-P.10** Require developers to construct or pay their fair share toward improvements for all travel modes consistent with the layered network.
- 5-P.11** Implement standards for pavement design and roadway and intersection striping so streets are accessible by all users and all modes, and safety is improved.
- 5-P.12** Develop and implement a comprehensive wayfinding program serving all modes of transportation.
- 5-P.13** Ensure streets are designed to accommodate bicyclists per the Bicycle Master Plan.



*Thoroughfares in Redlands should be designed to facilitate the safe travel of automobiles, bicycles, and pedestrians alike.*

- 5-P.14** Design streets to accommodate various modes according to roadway classification and reduce conflicts and safety risks between modes per Figure 5-4.  
  
*Example: automobiles are prioritized along major freeways and arterials, transit and walking are prioritized near rail stations and Downtown, and a variety of modes are evaluated and considered for appropriateness in neighborhoods based on land uses, right-of-way availability, and network connectivity.*
- 5-P.15** Incorporate green infrastructure into the design of new roadways and retrofit existing roadways where appropriate.
- 5-P.16** Strengthen active transportation circulation routes within Downtown and the Transit Villages, and to/ from adjacent neighborhoods.

## Actions

- 5-A.1** Maintain and update design standards for each functional roadway classification per Figure 5-4. These standards are for a typical midblock application. Additional turn lanes may be needed at some intersection approaches. Different standards may govern in specific plan areas and variations are permitted given site conditions and right-of-way availability.
- 5-A.2** Integrate complete streets and a layered networks approach into all City streets, traffic standards, plans, and details.
- 5-A.3** Ensure new street design and potential retrofit opportunities for existing streets minimize traffic volumes and/or speed as appropriate within residential neighborhoods without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices. This could be accomplished through:
- Management and implementation of complete street strategies, including retrofitting existing streets to foster biking and walking as appropriate;
  - Short block lengths, reduced street widths, and/or traffic calming measures; and
  - Providing pedestrians and bicyclists with options where motorized transportation is prohibited.
- 5-A.4** Consider innovative design solutions to improve mobility, efficiency, connectivity, and safety through the use of traffic calming devices, roundabouts, curb extensions at intersections, separated bicycle infrastructure, high visibility pedestrian treatments and infrastructure, and signal coordination.
- 5-A.5** As part of street redesigns, plan for the needs of different modes – such as shade for pedestrians, lighting at pedestrian scale, mode-appropriate signage, transit amenities, etc.
- 5-A.6** Add bike and pedestrian facilities on roads with excess capacity where such facilities do not exist, using supporting transportation plans as guidance. Excess capacity includes street right-of-ways or pavement widths beyond the standards, or excess capacity in roadways based on actual vehicular travel versus design capacity.
- 5-A.7** Add new streets to create a finer-grained, pedestrian-scaled road network where the roadway network is characterized by particularly long blocks, connecting residential areas to parks and Transit Village cores. Ensure the street systems in Transit Villages support development of connected and accessible communities.
- 5-A.8** Manage travel speeds in Downtown, at Transit Villages, and near schools, parks, and the University to enhance safety.
- 5-A.9** Adopt a “vision zero” approach to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.
- 5-A.10** Ensure safe railway crossings along the passenger and freight rail corridors.
- 5-A.11** Use public outreach to encourage alternative modes of travel and inform the community about the benefits of participation in new programs, approaches, and strategies.
- 5-A.12** Engage the community and neighborhoods in street design and redesign. Consult with the Traffic and Parking Commission on major street design projects.
- 5-A.13** Establish a funding system that will foster completion of the network before the projects that require them are occupied. Seek funding from grants and other external sources to meet this goal.
- 5-A.14** Close the gaps in the sidewalk network where streets are built out but sidewalks are not complete.
- 5-A.15** Maintain access for emergency vehicles and services by providing two means of ingress/egress into new communities, limitations on the length of cul-de-sacs, proper roadway widths and road grades, adequate turning radius, and other requirements per the California Fire Code.
- 5-A.16** Prepare an Active Transportation Plan that provides a method of prioritizing City streets to best accommodate all road users including cars, bikes, pedestrians, transit, and logistics.
- 5-A.17** Locate public parking facilities to serve the downtown around the periphery so as not to draw additional vehicles into the core areas. Ensure that easily identifiable pedestrian connections exist between public parking areas and the downtown core.



# MEASURE U POLICIES

## GUIDING POLICIES:

### Standards for Traffic Service

- 5.20a Maintain LOS C or better as the standard at all intersections presently at LOS C or better.
- 5.20b Within the area identified in GP Figure 5-1, including that unincorporated County area identified on GP Figure 5-1 as the “donut hole”, maintain LOS C or better; however, accept a reduced LOS on a case by case basis upon approval by a four-fifths (4/5ths) vote of the total authorized membership of the City Council.
- 5.20c Where the current level of service at a location within the City of Redlands is below the Level of Service (LOS) C standard, no development project shall be approved that cannot be mitigated so that it does not reduce the existing level of service at that location except as provided in Section 5.20b.
- 5.20f If monitoring of conditions at intersections within the East Valley Corridor Specific Plan area and intersections affected by EVC development indicates that peak hour LOS will drop below the standards set by Policies 5.20a, 5.20b, 5.20c revise the EVC Specific Plan. Revisions necessary may include additional roadway improvements, mandated higher TDM (Travel Demand Management, See Section 5.40) reductions in single-occupant vehicle trip share, reduction of intensity of development, or changes in use of undeveloped sites.

*Projected buildout for the EVC is 2028 vs. 2010 for the rest of the Planning Area. Travel habits may change significantly during this period, but project reviews for compliance with the General Plan must not assume changes that may be beyond the ability of the City to implement.*

## IMPLEMENTING POLICIES: Circulation

### Network & Classification

- 5.30g Establish the alignment of San Timoteo Canyon Road in the vicinity of Barton Road at the common boundary between Redlands and Loma Linda so that San Timoteo Canyon Road connects to California Street at Barton Road.
- 5.30i Establish and maintain traffic circulation patterns that protect the character of residential neighborhoods.
- 5.30j Design major infrastructure improvements to accommodate regional traffic needs in a manner which discourages traffic flows through residential neighborhoods, encourages traffic flow to existing freeway systems and assures prudent use of federal and local taxpayer dollars.
- 5.30k In order to assure that the circulation policies established by the Redlands General Plan as set forth in Table 5-2 are implemented, including without limitation establishment of California Street as a major arterial, the City Council shall coordinate with SANBAG, the IVDA, and the City of San Bernardino with regard to all Santa Ana River crossings, except the Orange Street crossing, to assure the development of California Street/Mountain View Avenue as a major arterial providing access to the San Bernardino International Airport.

## GUIDING POLICIES:

### Collector & Local Streets

- 5.32a Design residential collector streets and implement traffic control measure to keep traffic on collectors at 3,000 vehicles per day or less, where possible.
- 5.32b Design local residential streets and implements traffic control measure to keep traffic below 500 vehicles per day.



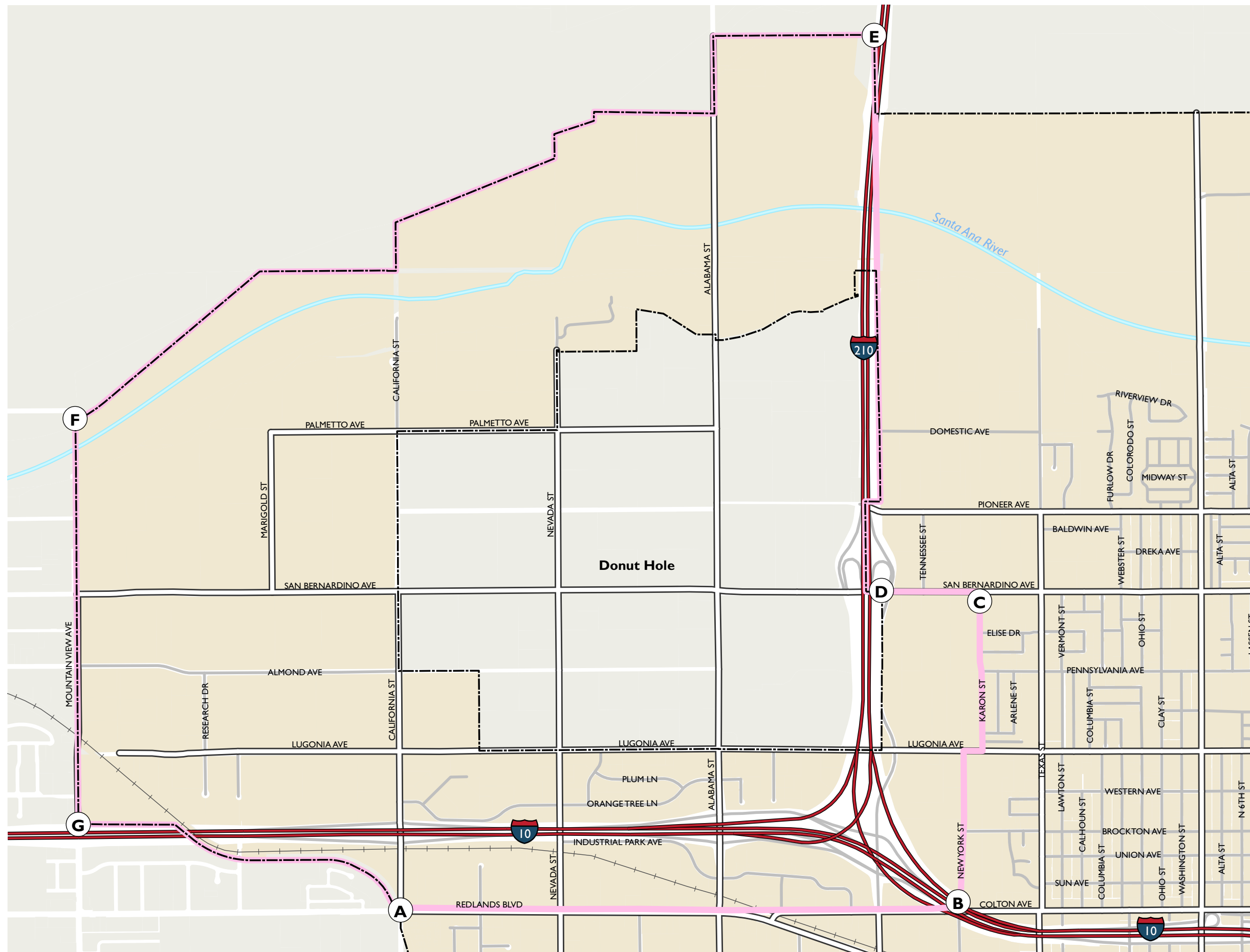
**TABLE 5-1: ARTERIAL SYSTEM VOLUMES AND LEVELS OF SERVICE**

Location	Existing (1994)			Buildout (1995 Projected)			Location	Existing (1994)			Buildout (1995 Projected)		
	Lanes	ADT	LOS	Lanes	ADT	LOS		Lanes	ADT	LOS	Lanes	ADT	LOS
<b>Palmetto</b>							<b>Nevada</b>						
California - Alabama	2	<1,000	A	4	19,000	A	S. Bernardino – Lugonia	2	<1,000	A	4	18-22,000	B-C
<b>San Bernardino Ave.</b>							Lugonia – Redlands						
Mtn View – Alabama	2	4,000	A	6	28-33,000	A-B	Redlands - Barton	2	1,000	A	4	11-18,000	A-B
Alabama – Orange	2	8,000	A	6	40-51,000	C-E	<b>Alabama Street/Palm</b>						
Orange – Church	2	11,000	C	4	25,000	D	North of S. Bernardino	4	11,000	A	6	20-38,000	A-C
Church – Wabash	2	3,000	A	4	15-24,000	A-C	S. Bernardino – I-10 Fwy	4	10-15,000	A	6	45-58,000	D-F
Wabash – Mill Creek	2	2,000	A	4	11-12,000	A	I-10 Fwy – Redlands	4	27,000	C	6	47,000	D
<b>Lugonia Ave./Mentone Blvd.</b>							Redlands – Barton						
Mtn View – Alabama	2	3,000	A	4	22-30,000	B-D	<b>Tennessee/San Mateo</b>						
Alabama – Orange	2	7,000	A	4	32-36,000	E	Lugonia – Brookside	4	14,000	A	4	13-29,000	A-E
Orange – Wabash	4	12,000	A	4	13-22,000	A-C	Brookside – Highland	4	9,000	A	4	11-20,000	A-B
Wabash – Garnet	4	8,000	A	4	10-19,000	A-B	<b>Texas/Center</b>						
<b>Redlands Blvd.</b>							Pioneer – Colton						
California – Alabama	4	20,000	A	6	34-39,000	B-C	Colton – Brookside	4	11,000	A	4	14-18,000	A
Alabama – Colton	4	21,000	A	6	53,000	E	Brookside – Highland	2	-	-	2	10-13,000	C-E
Colton – Texas	4	14-19,000	A	6	33,000	B	<b>Eureka Street</b>						
Texas – Citrus	4	13-27,000	A	4	28-30,000	C-D	Pearl – Citrus	2	4,000	A	4	10,000	A
Citrus – Highland	4	8-16,000	A	4	28-32,000	C-D	<b>Orange St./Cajon/Garden</b>						
Highland – I-10 Fwy	4	8,000	A	4	22,000	B	North of Pioneer	2	4,000	A	4	22,000	A
<b>Colton Ave.</b>							Pioneer – Lugonia						
Redlands – Sixth	2	-	-	4	17-23,000	A-C	Lugonia – I-10 Fwy	4	17,000	B	4	25-27,000	D
Sixth – University	2	10,000	B	2	10-12,000	B-D	I-10 Fwy – Citrus	4	22,000	C	4	21,000	B
University – Dearborn	2	8,000	A	2	9-11,000	B-C	Citrus – Highland	2	12,000	C	2	9-14,000	B-E
Dearborn – Crafton	2	2-6,000	A	2	5-9,000	A	Highland – Elizabeth	2	-	-	2	9,000	B
<b>Barton/Brookside/Citrus</b>							<b>Judson St./Ford St.</b>						
California – Terracina	4	16,000	A	6	25-33,000	A-B	Pioneer – Colton	2	2,000	A	2	5-8,000	A
Terracina – Orange	4	14,000	A	4	18-27,000	A-C	Colton – I-10 Fwy	2	5,000	A	2	7-10,000	A-B
Orange – Judson	4	13,000	A	4	16-24,000	A-C	<b>Wabash Ave.</b>						
Judson – Wabash	4	16,000	A	4	8-14,000	A	Pioneer - Lugonia	2	2,000	A	2	3-7,000	A
Wabash – Crafton	2	4,000	A	2	4-10,000	A-B	Lugonia – Citrus	2	6,000	A	2	7-9,000	A-B
<b>Cypress Ave.</b>							Citrus – I-10 Fwy						
Terracina - Citrus	4	6-9,000	A	4	8-12,000	A	<b>Crafton</b>						
California St.							San Bernardino – 5th	2	4-6,000	A	2	3-9,000	A
Palmetto – Lugonia	2	<1,000	A	6	31-40,000	A-C	<b>Sand Canyon</b>						
Lugonia – Redlands	2	4,000	A	6	33-58,000	B-F	East of Crafton	4	7,000	A	4	12,000	A
Redlands – Barton	2	7,000	A	6	22-23,000	A	<b>San Timoteo Canyon Road</b>						
							Brookside – Alessandro	2	3,000	A	2	11-18,000	B-C
							Alessandro – Live Oaks	2	-	-	2	20,000	C

Notes: ADT = Average daily traffic volume; ranges indicate lowest and highest volumes in the segment; LOS = Peak hour Level of Service; ranges indicate highest and lowest LOS in the segment. Projected volumes assume buildout at General Plan density and intensity and continuation of present travel habits, and thus represent a “worst case” scenario. Where projected LOS is inconsistent with Policies 5.20a, b, or c, Policy 5.20f is designed to provide mitigation.

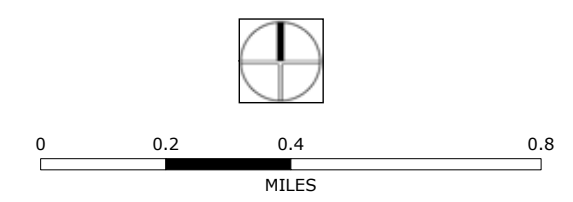


Figure 5-1: Donut Hole



- Freeway
- Major Roads
- Local Roads
- Rail Corridor
- River
- City of Redlands

Beginning at the intersection of the City of Redlands' western City Limit and Redlands Boulevard (Point A); thence easterly along the northern right-of-way limit of Redlands Boulevard to the intersection of New York Street (Point B); thence northerly along New York Street and New York Street extended to the intersection of Lugonia Avenue; thence easterly on Lugonia Avenue to the intersection of Karon Street; thence northerly on Karon Street and Karon Street extended to the San Bernardino Avenue (Point C); thence westerly along the southern right-of-way limit of San Bernardino Avenue to the first City Limit line of the City of Redlands encountered in a westerly direction (Point D); thence westerly and then northerly along the City Limit of Redlands to the point at which the City Limit line turns westerly around the unincorporated San Bernardino County area commonly known as the "donut hole"; thence northerly along State Route 30 to the City Limit of Redlands (Point E); thence southwesterly along the City Limit of Redlands to Mountain View Avenue (Point F); thence southerly along the City Limit of Redlands to the southern terminus of the western City Limit of Redlands on Mountain View Avenue (Point G); and thence southeasterly along the City Limit of Redlands to the point of beginning.



Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

## 5.2 PEDESTRIAN, BICYCLE, AND VEHICULAR MOVEMENT

Nearly 6 percent of Redlands residents bike or walk to work, and another 1.6 percent use transit; the mode split for walking is nearly double and biking is three times higher than that of the county-wide average, likely reflecting the presence of the University, as well as a gridded street network. The transit mode share is slightly less than the county average and the share of carpool trips is low, which could at least partly be attributable to shorter trips made by residents.

Nearly 50 percent of Redlands’ residents work less than 10 miles from home and the vast majority of residents travel west for employment. By comparison, only 35 percent of residents in San Bernardino County as a whole travel less than 10 miles for work. Given the relatively short commute distances to and from Redlands, the City is uniquely positioned to take advantage of active transportation and transit as a viable mode of transportation. The City of Redlands is proactively improving the active transportation network by providing more bicycle lanes, bicycle lockers, replacing and installing new sidewalk

facilities, and improving the existing transit network with the addition of a passenger rail line. General Plan policies seek to further these efforts by organizing land uses and proposing new streets and bicycle paths to capitalize on passenger rail extension, and connect rail with other modes and destinations in the city.

### Pedestrian Movement

The pedestrian network in Redlands is extensive. Citywide, sidewalks are generally provided on both sides of the street. Additionally, multi-purpose trails that serve both pedestrians and cyclists, such as the Orange Blossom Trail, are proposed or under construction throughout the city. Multi-Use Trails are defined as trails that can accommodate pedestrians, those using mobility devices (wheelchairs and scooters), as well as bicyclists. In some more rural areas of the city such as San Timoteo and Live Oak Canyon these trails are also available for equestrian riders. These assets, coupled with the city’s small-town feel and the surrounding scenery, make the city a pleasant place to walk. Adding additional paths and street trees to provide shade, safety measures, and additional public amenities can improve the city’s pedestrian network, encouraging even more walking activity and bolstering public health outcomes. Figure 5-2 shows existing and proposed trails and multi-use paths. For information on the city’s recreational trail network, see Chapter 7. Class I bikeways are proposed throughout the city and could also be used for pedestrian travel.

## POLICIES

### Principles

- 5-P.17** Provide a safe, direct, and healthful pedestrian environment through means such as providing separate pedestrian-ways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible.
- 5-P.18** Encourage creative walking paths pursuant to City planning codes, local, State, and federal laws.
- 5-P.19** Enhance street lighting for pedestrians where current lighting is inadequate.

### Actions

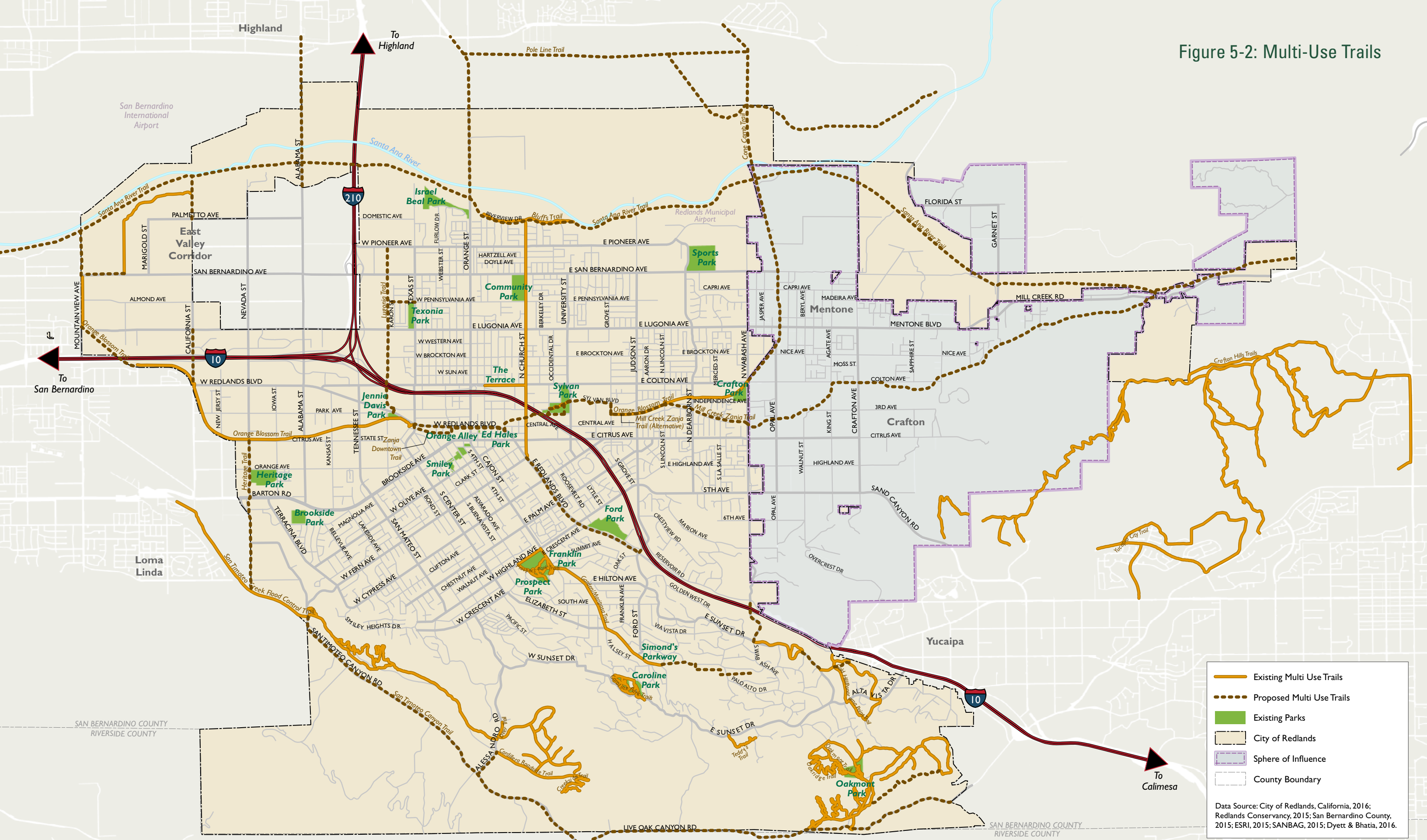
*For a map of trails and multi-use paths, see Figure 5-4. For policies on street design – including tree canopy and street lighting – see Chapter 2: Distinctive City.*

- 5-A.18** Continue implementing the Safe Routes to School program, and develop a “Safe Routes to Transit” program, focusing on pedestrian and bicycle safety improvements near local schools and transit stations.
- 5-A.19** Create appropriate enhancements to pedestrian crossings at key locations across minor arterials, boulevards, and collectors with a target of providing pedestrian crossings no further than 600 feet apart in appropriate areas and in accordance with State standards.
- 5-A.20** Provide pedestrian routes between offices, neighborhoods, Downtown, and Transit Villages. Plan for direct connections from the interiors of residential tracts to neighboring parks, schools, retail, and other services using sidewalks, trails, and paseos.
- 5-A.21** Strengthen trail connections to Downtown (such as Orange Blossom Trail, Lugonia Trail, Citrus Avenue, and Church Street).
- 5-A.22** Include amenities such as shade trees, transit shelters and other transit amenities, benches, trash and recycling receptacles, bollards, public art, and directional signage that can enhance the pedestrian experience.
- 5-A.23** Coordinate with San Bernardino County and the Santa Ana River Conservancy on implementing the objectives of the Santa Ana River Trail Parkway and Open Space Plan.

*The pedestrian network is made up of multi-use trails and sidewalks that can be expanded with additional paths and amenities to encourage walking.*

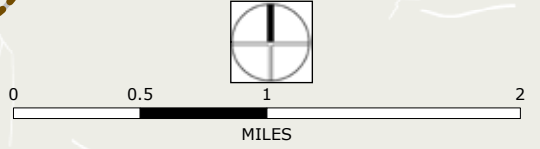


Figure 5-2: Multi-Use Trails



- Existing Multi Use Trails
- - - Proposed Multi Use Trails
- Existing Parks
- City of Redlands
- Sphere of Influence
- County Boundary

Data Source: City of Redlands, California, 2016; Redlands Conservancy, 2015; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## Bicycle Movement

Bicycles are an increasingly popular mode of transportation in Redlands. With a large population of students and workers in the technology, education, and health care sectors, largely flat terrain, and over 36 miles of bicycle paths (Classes I, II, and III), Redlands is a cyclist's paradise. The General Plan encourages bicycle use through the expansion of the existing bicycle network, connecting the Redlands network with neighboring networks, incentivizing bicycle use via sharing programs and creation of support facilities, and adding protected bike lanes to ensure safety.

Figure 5-3 shows existing and proposed bicycle facilities. These may include Class I and Class II bikeways or other support facilities to promote safer and more convenient bicycle travel. For more detailed bicycle movement policies, improvements, and priorities, see the Redlands Bicycle Master Plan, which is published and maintained separate from the General Plan.

### Bikeway Classification and Key Improvements

#### Class I Bikeways (Bike Paths)

Class I Bikeways are completely separate facilities designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings. Proposed Class I bikeway improvements include completion of the Orange Blossom Trail through the University of Redlands and Downtown, which will connect the city from Crafton in the east to Loma Linda in the west; the Mission Zanja Trail; a north-south connector along New York Street; and the Santa Ana River Trail, which would follow along the Santa Ana River wash and connect to the regional trail system.

#### Class II Bikeways (Bike Lanes)

Class II Bikeways are striped lanes designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at

designated locations. Currently, Redlands has Class II bikeways on Barton Road, Church Street, Olive Avenue, and 5th Avenue. Citrus Avenue and Brookside Avenue have green painted Class II bikeways. The green paint increases the visibility of the bicyclists and the bike lanes.

#### Class III Bikeways (Bike Routes)

Class III Bikeways are routes designated by signs or pavement markings such as sharrows for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway. Currently, segments of Church Street, Colton Avenue, Citrus Avenue, Cajon Street, and Crescent Avenue are Class III bikeways. The Bicycle Master Plan would increase the amount of Class III bikeways within the city and provide appropriate signage and striping.

#### Class IV Bikeways (Cycletracks)

Class IV bikeways are protected bike lanes, which provide a right-of-way designated exclusively for bicycle travel within a roadway, protected from vehicular traffic with devices such as curbs, flexible posts, inflexible physical barriers, or on-street parking. California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways.

#### Bicycle Boulevards

Bicycle boulevards are low-volume and low-speed streets that prioritize bicycles. Bicycle travel on these boulevards is optimized through traffic calming devices such as speed humps and high visibility crosswalks. There are no bicycle boulevards in Redlands. However, the Bicycle Master Plan "recommends that the City consider streets and treatments for Bicycle Boulevards."



Redlands accommodates bicyclists via Class I (bottom left), Class II (top) and Class III (bottom right) bicycle lanes.

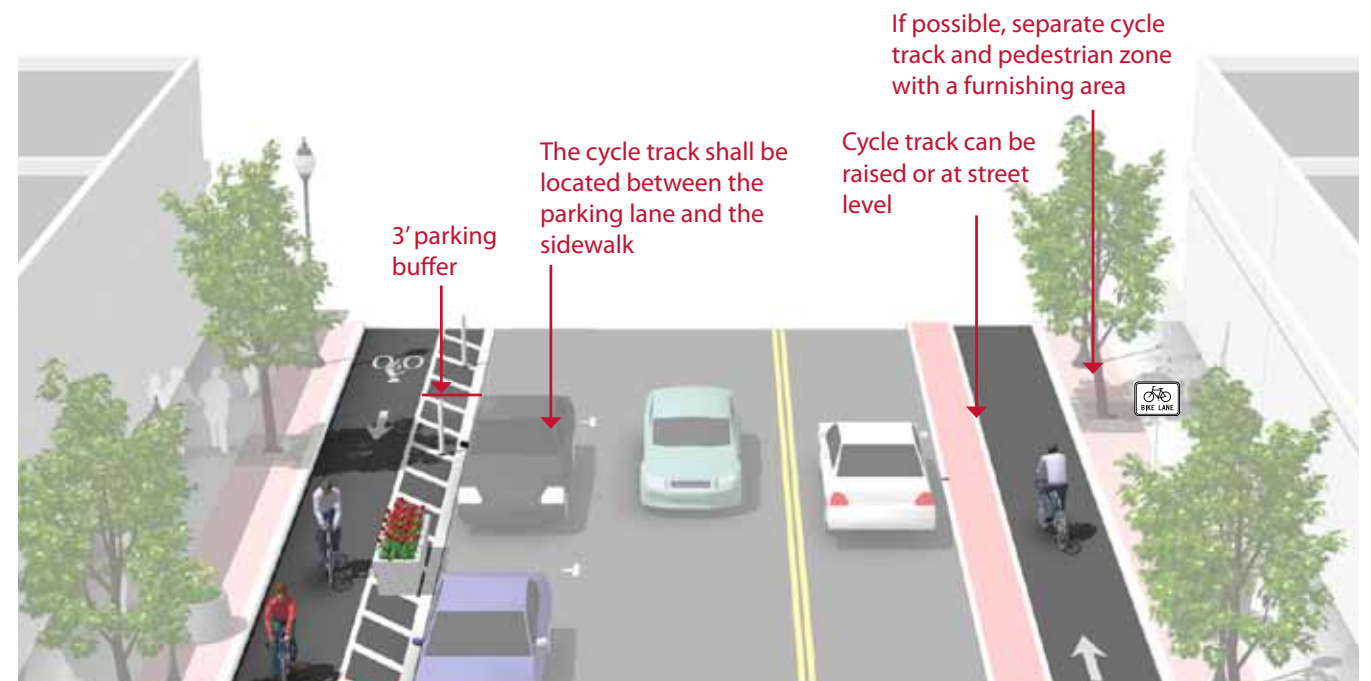
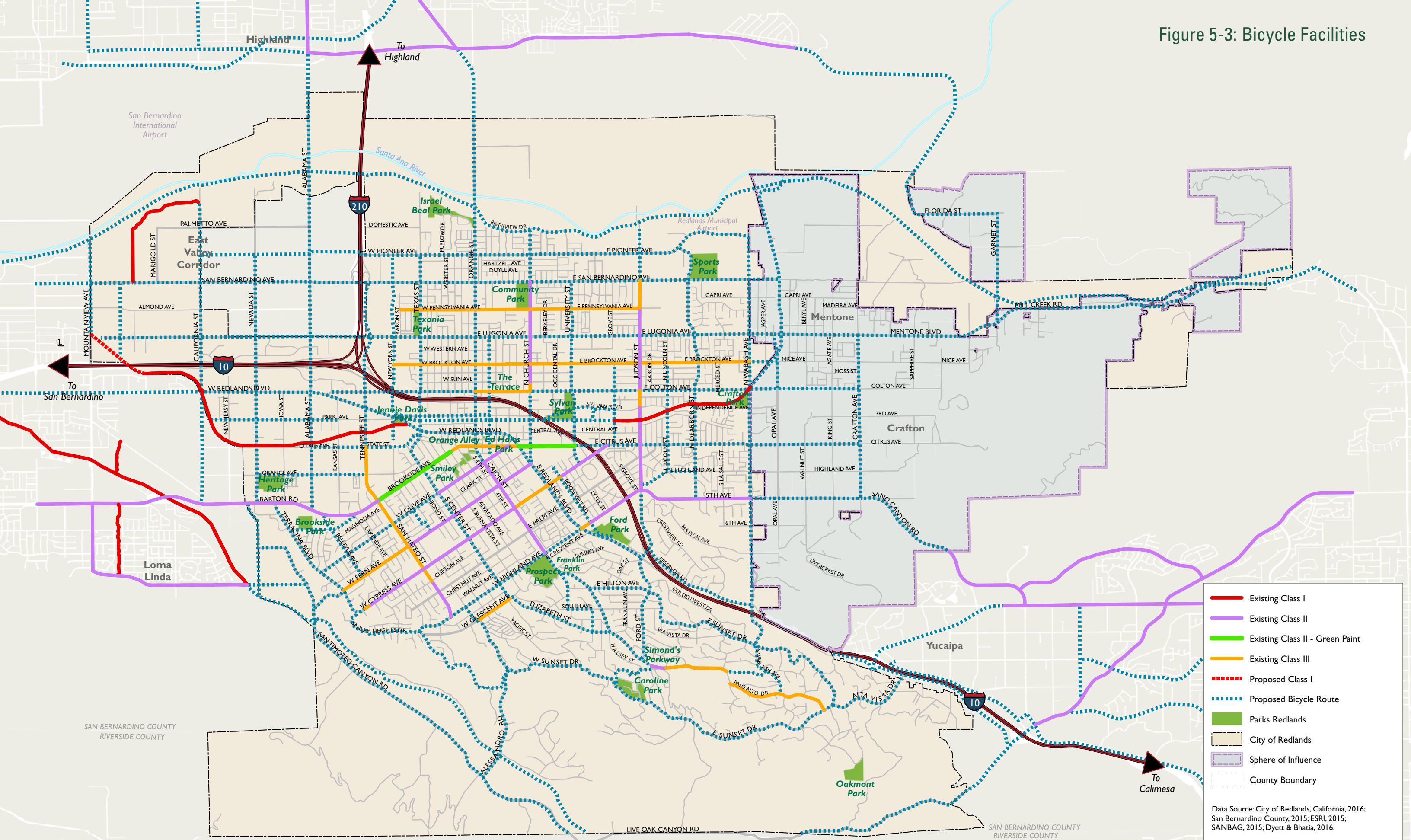


Illustration from the "Bicycle Facility Design Guidelines for the City of Redlands Bicycle Master Plan" shows potential configurations for Class IV bikeways in the city.

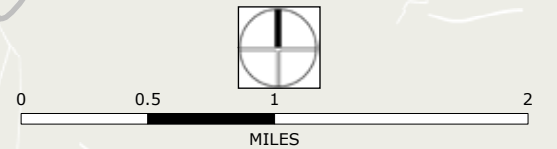
Source: Bicycle Facility Design Guidelines for the City of Redlands Bicycle Master Plan, 2015.

Figure 5-3: Bicycle Facilities



	Existing Class I
	Existing Class II
	Existing Class II - Green Paint
	Existing Class III
	Proposed Class I
	Proposed Bicycle Route
	Parks Redlands
	City of Redlands
	Sphere of Influence
	County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



# POLICIES

## Principles

- 5-P.20** Establish and maintain a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commuter and recreational trips.
- 5-P.21** Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.

## Actions

*For bikeway designations, see Figure 5-3. For more detailed bicycle movement policies, improvements, and priorities, see the Redlands Bicycle Master Plan, which is published and maintained separate from the General Plan.*

- 5-A.24** Use the City’s Bicycle Master Plan as the primary resource for planning and implementing bikeway improvements.  
  
*The Bicycle Master Plan, adopted in 2015, proposes an extensive network with over 100 additional miles of bicycle facilities. The plan should be updated as needed to reflect the updated General Plan, including proposals for new streets and connections in the Transit Villages.*
- 5-A.25** Implement bicycle and trail improvements that provide strong east-west connections between Transit Villages and in the city’s wider bicycle network. Routes would include the Orange Blossom Trail, the Mission Creek Zanja Trail,

routes on Colton Avenue and Citrus Avenue, Santa Ana River Trail, and the San Timoteo Canyon Trail.

- 5-A.26** Implement bicycle and trail improvements that provide strong north-south connections, especially with major east-west trails, including routes on Mountain View Avenue, California Street, Nevada Street, Alabama Street, Texas Street, New York Street, Orange Street, Church Street, Dearborn Street, and Wabash Avenue.
- 5-A.27** Implement safety improvements in mid-block areas that allow for bicycles to safely cross heavily traveled roads. Improvements can include stop signs for cyclists, warning beacons, and illuminated signs initiated by pedestrians and cyclists.
- 5-A.28** Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.
- 5-A.29** Incorporate end-of-trip facilities into Transportation Demand Management (TDM) plans at employment sites and public facilities, depending upon distance from bikeways. Provide well-located, secure bike storage facilities at employment sites, shopping and recreational areas, and schools in order to facilitate bike use. Encourage major employers to provide shower and changing facilities or assist in funding bicycle transit centers in nearby locations.

- 5-A.30** Implement bicycle route improvements that provide inter-city and regional connections, connecting to trail systems in Loma Linda, Highland, Yucaipa, San Bernardino, and the Santa Ana River Trail.
- 5-A.31** Work with neighboring jurisdictions, the University of Redlands, and major employers to implement bike sharing programs.
- 5-A.32** Work with neighboring cities and the County to seek grants for bike routes and facilities that span jurisdictions.





## Vehicular Movement and Standards for Traffic Service

With 89 percent of commute trips made by driving alone or by carpool, the automobile is by far the dominant mode of transportation in Redlands. Generally, traffic conditions in Redlands are good in comparison to communities nearer the center of the Southern California metropolis. Residents can travel across town in about 10 minutes, and there are relatively few locations with high levels of congestion and traffic delays. As Southern California grows, traffic congestion will worsen, particularly on the freeways. Providing multi-modal options for mobility will assist in alleviating vehicular traffic congestion.

### Roadway Classification System

The circulation network is composed of five classifications:

- **Freeways.** Freeways are high speed, high capacity limited access facilities serving intercity and regional travel. In Redlands, both I-10 and I-210 are freeways.
- **Arterials.** Arterials provide circulation between major activity centers and residential areas, and also provide access to freeways. They are further subdivided into two categories: major and minor arterials.
  - *Major arterials* usually carry the highest volumes and/or longest trips and are moderately high speed routes, typically four to six lanes wide. For high capacity they should have medians between opposite directional travel lanes and additional lanes at intersections. Service to abutting properties may be provided but should be subordinate to through-travel needs. Redlands Boulevard, Brookside Avenue, and Alabama Street are

examples of major arterials that must permit access to abutting property. Access points should be consolidated where possible.

- *Minor arterials* typically interconnect with and augment the major arterial system, and serve trips of moderate length. Minor arterials may permit access to abutting properties, although traffic capacity needs are equally important. Minor arterials are typically no more than four lanes wide and, to minimize roadway width and right-of-way, may be undivided (no median). Lower volume minor arterials may be two lanes wide, although left-turn lanes at intersections and/or a continuous two-way left turn lane should be provided to improve traffic flow. Orange Street and Colton Avenue are examples of minor arterials.
- **Boulevards.** Boulevards are streets designed to foster a memorable image, with a great deal of visibility, a landscaped median, shade trees, and wide sidewalks. Central parts of Redlands Boulevard, Orange Street, Colton Avenue, and University Street are designated as boulevards.
- **Collectors.** Collectors have the important function of collecting traffic from residential and commercial areas and channeling it to arterials. They are typically fronted by residences, commercial or public activities. Collectors are usually two-lane streets, and maximum acceptable volumes are dictated by resident concerns about intrusion rather than traffic capacity considerations. Examples are Pioneer Avenue, Dearborn Street, and Alessandro Road. Additional collectors should be provided as necessary in future development areas.
- **Local Streets.** Local streets have the sole function of providing access to adjoining land uses.

Figure 5-4 shows roadway designations. Figure 5-5 shows illustrative street sections to guide the design of roadways of different classifications in Redlands,

describing potential dimensions and placement of traffic lanes, bicycle facilities, parking lanes, and sidewalks.

### Traffic Operations and Level of Service

For the General Plan, roadway segments were analyzed based on the level-of-service (LOS) metric to determine their existing operation. LOS ranges from LOS A, which refers to very low vehicle delay occurring with favorable progression, to LOS F, referring to congested conditions due to over saturation and poor progression. LOS E represents at-capacity operations where demand typically equals capacity during peak periods. Table 5-1 provides LOS definitions.

While there are several segments of the two freeways in Redlands (I-10 and I-210) that operate at levels ranging from LOS D to F, a vast majority of major arterial roadway segments in Redlands operate at LOS C or better, and of the remaining, all except one operate at LOS D. A majority of minor arterials also operate at LOS C, and only one segment operates at LOS D.

General Plan land uses and circulation networks were used to project future traffic conditions. Volume/capacity (V/C) ratios were calculated, and LOS rating prepared based on ranges given in Table 5-3. Table 5-4 shows existing and projected LOS conditions. Although the traffic projections are for total daily traffic, the LOS estimates are for peak hours (typically a.m. and p.m. commute hours) since these dictate the need for roadway improvements. During other hours of the day higher levels of service would occur.

**TABLE 5-2: LEVEL OF SERVICE DEFINITIONS**

		Volume to Capacity Ratio	
		Freeway Segments	Street Segments
Level of Service A	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical roadway conditions.	0 to 0.3	0 to 0.6
Level of Service B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.	0.3 to 0.5	0.6 to 0.7
Level of Service C	Conditions of stable flow; speeds and maneuverability more closely restricted; occasional backups behind left-turning vehicles at intersections.	0.5 to 0.7	0.7 to 0.8
Level of Service D	Conditions approach unstable flow; tolerable speeds can be maintained but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low; at intersections, some motorists, especially those making left turns, may wait through one or more signal changes.	0.7 to 0.8	0.8 to 0.9
Level of Service E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.	0.9 to 1.0	0.9 to 1.0
Level of Service F	Forced flow conditions; stoppages for long periods; low operating speeds.	>1.0	>1.0

**TABLE 5-3: ROADWAY/HIGHWAY SEGMENT LEVEL OF SERVICE AND CAPACITY VALUES**

	LOS C	LOS D	LOS E
<b>Freeway</b>			
4-Lane	64,500	72,500	80,600
6-Lane	96,700	108,800	120,900
7-Lane	112,800	126,900	141,000
8-Lane	128,900	145,000	161,100
10-Lane	161,200	181,300	201,400
12-Lane	193,400	217,500	241,700
<b>Major Arterial, Boulevard, Minor Arterial</b>			
2-Lane	13,200	14,900	16,500
3-Lane	19,800	22,300	24,800
4-Lane	26,500	29,800	33,100
6-Lane	39,800	44,700	49,700
<b>Collector, Rural Arterial, Local Road</b>			
2-Lane	12,900	14,500	16,100

Source: Highway Capacity Manual, Transportation Research Board, 6th Edition, 2016.





**TABLE 5-4: EXISTING AND PROJECTED LOS CONDITIONS**

Location	Existing (2016)			Buildout (2035 Projected)		
	Lanes	ADT	LOS	Lanes	ADT	LOS
<b>5th St.</b>						
Dearborn St. and Silvertree Ln.	2	8,603	C or Better	2	8,800	C or Better
<b>Alabama St.</b>						
Palmetto Ave. and Pioneer Ave.	2	16,930	F	4	19,500	C or Better
Park Ave. and Citrus Ave.	4	16,340	C or Better	4	16,400	C or Better
Orange St. and Barton Rd.	4	12,274	C or Better	4	12,900	C or Better
<b>Alessandro Rd.</b>						
Creeside Dr. and San Timoteo Canyon Rd.	2	4,659	C or Better	2	5,200	C or Better
<b>Barton Rd.</b>						
Nevada St. and Terracina Blvd.	4	25,130	C or Better	4	28,900	C or Better
<b>Beaumont Ave.</b>						
East of Nevada St.	2	2,566	C or Better	2	2,900	C or Better
<b>Cajon St.</b>						
Vine St. and Olive St.	2	10,110	C or Better	2	10,500	C or Better
<b>California St.</b>						
North of San Bernardino Ave.	4	5,928	C or Better	4	6,000	C or Better
<b>Center St.</b>						
Brookside Ave. and Glenwood Dr.	2	7,545	C or Better	2	7,800	C or Better
<b>Church St.</b>						
Pennsylvania Ave. and Lugonia Ave.	2	6,964	C or Better	2	7,000	C or Better
Stuart Ave. and Central Ave.	2	7,222	C or Better	2	7,300	C or Better
<b>Citrus Ave.</b>						
6 <sup>th</sup> St. and Olive St.	2	9,262	C or Better	2	9,500	C or Better
Dearborn St. and La Salle St.	2	6,785	C or Better	2	6,800	C or Better
<b>Colton Ave.</b>						
Dearborn St. and Kensington Dr.	2	5,960	C or Better	2	6,300	C or Better
<b>Crafton Ave.</b>						
Mentone Ave. and Nice Ave.	2	6,284	C or Better	2	6,800	C or Better
<b>Cypress St.</b>						
Center St. and Buena Vista St.	4	7,305	C or Better	4	7,500	C or Better
Roosevelt Rd. and Lytle St.	2	9,068	C or Better	2	9,100	C or Better
<b>Eureka St.</b>						
North of Redlands St.	4	14,844	C or Better	4	15,400	C or Better
<b>Fern Ave.</b>						
Myrtle St. and Redlands St.	2	5,162	C or Better	2	5,200	C or Better
<b>Ford St.</b>						
Palm Ave. and Highland Ave.	2	5,147	C or Better	2	5,900	C or Better
<b>Highland Ave.</b>						
York St. and Redlands St.	3	7,776	C or Better	3	11,800	C or Better
<b>Judson St.</b>						
Pennsylvania Ave. and Lugonia Ave.	2	3,541	C or Better	2	3,900	C or Better

Location	Existing (2016)			Buildout (2035 Projected)		
	Lanes	ADT	LOS	Lanes	ADT	LOS
<b>Lugonia Ave.</b>						
West of California St.	4	4,920	C or Better	4	8,300	C or Better
Dearborn St. and Revelation Wy.	4	22,016	C or Better	4	23,400	C or Better
Herald St. and Church St.	3	18,202	C or Better	4	20,800	C or Better
Citrus Ave. and SR-210	4	17,804	C or Better	4	22,400	C or Better
<b>Mentone Ave.</b>						
Crafton Ave. and Plumwood St.	2	11,855	C or Better	4	14,400	C or Better
<b>Nevada St.</b>						
Almond Ave. and Lugonia Ave.	2	4,799	C or Better	2	4,800	C or Better
<b>Orange St.</b>						
North of Pioneer Ave.	2	14,276	D	4	18,800	C or Better
Stuart Ave. and Oriental Ave.	4	18,560	C or Better	4	22,200	C or Better
<b>Palm Ave.</b>						
Hibiscus Dr. and Redlands St.	2	4,409	C or Better	2	4,500	C or Better
<b>Pioneer Ave.</b>						
Texas St. and Webster St.	2	6,438	C or Better	2	10,300	C or Better
Brookstone St. and Church St.	2	4,897	C or Better	2	8,800	C or Better
<b>Redlands Blvd.</b>						
Bryn Mawr Ave. and California St.	4	15,174	C or Better	4	16,800	C or Better
Iowa St. and Alabama St.	4	21,138	C or Better	4	22,400	C or Better
Cypress St. and Palm Ave.	4	12,834	C or Better	4	15,900	C or Better
<b>San Bernardino Ave.</b>						
Mountain View Ave. and Marigold Ave.	6	15,732	C or Better	6	18,000	C or Better
Cheryl St. and Judson St.	2	7,371	C or Better	2	9,600	C or Better
<b>San Mateo St.</b>						
Brookside Ave. and Olive St.	4	9,734	C or Better	4	10,100	C or Better
<b>San Timoteo Canyon Rd.</b>						
South of Barton Rd.	2	7,696	C or Better	2	7,700	C or Better
West of Alessandro Rd.	2	8,854	C or Better	2	10,100	C or Better
<b>Sand Canyon Rd.</b>						
East of Crafton Ave.	2	11,149	C or Better	2	11,900	C or Better
<b>Tennessee St.</b>						
I-10 and Colton Ave.	4	22,322	C or Better	4	25,200	C or Better
State St. and Orange St.	4	12,725	C or Better	4	12,800	C or Better
<b>Terracina Blvd.</b>						
Barton Rd. and Brookside Ave.	2	11,936	C or Better	2	12,700	C or Better
<b>Texas St.</b>						
Pennsylvania Ave. and Lugonia Ave.	2	5,246	C or Better	2	5,500	C or Better
<b>University St.</b>						
Pennsylvania Ave. and Lugonia Ave.	2	2,875	C or Better	2	2,900	C or Better
<b>Wabash Ave.</b>						
Highland Ave. and 5th St.	2	4,383	C or Better	2	5,000	C or Better



Boulevards in Redlands (from top) include portions of Colton Avenue, Redlands Boulevard, and Orange Street.

## POLICIES

### Principles

- 5-P.22** Reduce vehicular congestion to portions of the layered network in the city’s neighborhoods and neighborhood retail areas to the greatest extent feasible.
- 5-P.23** Strive to maximize the efficiency of the existing vehicular infrastructure and manage the major boulevards and avenues so they provide shorter travel times than parallel minor avenues or neighborhood streets, consistent with the layered network.
- 5-P.24** Discourage the use of City streets as alternatives to congested regional highways.
- 5-P.25** Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.

### Actions

#### Vehicular Movement and Standards for Traffic Service

*For a map of Roadway designations, see Figure 5-4.*

- 5-A.33** Monitor traffic service levels and strive to implement roadway improvements prior to deterioration in levels of service below the stated standard.
- 5-A.34** Prioritize completion of full road sections in areas where the full road section is not built out, and is unlikely to be completed through the normal development/redevelopment requirements.
- 5-A.35** Utilize transportation demand management strategies, non-automotive enhancements (bicycle, pedestrian, transit, train, trails, and connectivity), and traffic signal management techniques as part of a long-term transportation solution and traffic mitigation strategy.
- 5-A.36** Allow for flexibility and creativity in the roadway standards, where appropriate, to preserve historic features, specimen trees and significant landscaping, accommodate turn lanes, parking, wider sidewalks, bike paths, turnouts for buses, public art, and landscaped medians.
- 5-A.37** Encourage the use of car share and car hire services within Redlands to provide vehicular transportation alternatives.
- 5-A.38** Plan for future innovations in vehicular transportation such as self-driving vehicles.

- 5-A.39** Allow the City Engineer to adjust road standards where needed, based on actual conditions on the ground, such as right-of-way availability, traffic volumes, and adjoining land uses.
- 5-A.40** Plan for areas where alternative fueling stations can be located throughout the city, such as electric charging stations, CNG, hydrogen, and flex fuels.
- 5-A.41** Work with San Bernardino County, the City of San Bernardino, the City of Loma Linda, and Caltrans, where appropriate, to implement the intersection and roadway improvements as shown in Table 5-5 and Figure 5-4.

**Freeways**

- 5-A.42** Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.
- 5-A.43** Support improvements to I-10 and I-210 that improve capacity and flow.

**Boulevards and Arterials**

- 5-A.44** Establish new boulevards Downtown and in the Transit Villages that include planted center medians, accommodations for transit, wider sidewalks, and amenities for pedestrians.
- 5-A.45** Provide adequate capacity on boulevards and arterials to meet LOS standards, and to avoid traffic diversion to local streets or freeways.
- 5-A.46** Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials or boulevards.
- 5-A.47** Maximize the carrying capacity of arterials and boulevards by controlling the number of driveways and intersections, limiting residential access where appli-

cable, and requiring sufficient on-site parking to meet the needs of proposed projects.

*Additional guidelines for arterial and boulevard access include providing smooth ingress/egress to fronting development. This entails designing parking areas so that traffic does not stack up on the arterial roadway, combining driveways to serve small parcels, and maintaining adequate distance between driveways and intersections to permit efficient traffic merges. Implementation of these guidelines is especially important along Alabama Street, San Bernardino Avenue, and Redlands Boulevard.*

**Collector and Local Streets**

- 5-A.48** Discourage through-traffic on local streets.
- 5-A.49** Avoid adding traffic to collector and local streets carrying volumes above capacity, and consider traffic control

measures where volumes exceed the standard and perceived nuisance is severe.

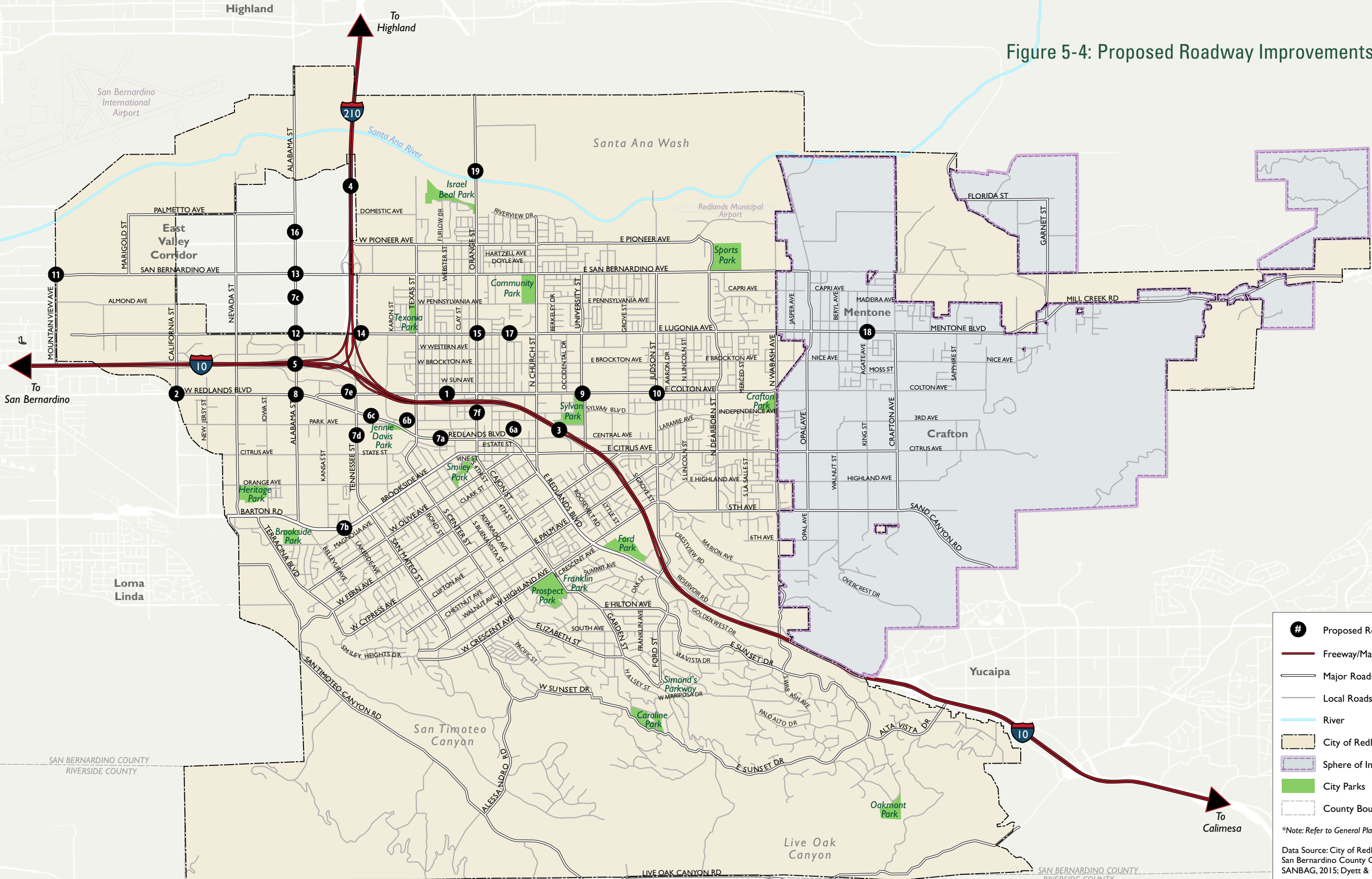
- 5-A.50** Plan an integrated network of collector and local streets serving new neighborhoods. Design cul-de-sacs so they have pedestrian/bike connections at the terminus.
- 5-A.51** Provide for a network of collectors in the northwest areas to minimize traffic levels on San Bernardino Avenue, Lugonia Avenue, and Orange and Texas streets.
- 5-A.52** Adopt design standards for hillside and rural streets.
- 5-A.53** Allow the City Engineer to require additional right-of-way and pavement width for local and collector roads in the Commercial, Commercial/Industrial, Light Industrial, and Public/Institutional land use designations based on existing street sections, traffic volumes, and truck traffic.

- 5-A.54** Ensure that local roadways within the Southeast Area Plan are designed for relatively low speeds, follow the natural contours, and avoid rather than cut through the inherent obstacles of nature. It is recognized that this may require that adjacent land uses be low intensity to ensure that this slow-speed, low-volume system is not overloaded.
- 5-A.55** Permit flexibility in establishing local road standard in the Resource Preservation, Rural Living, and Hillside Conservation areas for local roads where a more rural character is desired. This may include alternative curb treatments in lieu of concrete curb and gutter, the establishment of trails versus sidewalks, and a reduced pavement width, when such conditions are consistent with neighboring development.
- 5-A.56** Alessandro Road shall be improved, with specific attention paid to the Sunset Drive intersection and the San Timoteo Creek bridge crossing.



*Local neighborhood streets are quieter and smaller in scale than major arterials.*

Figure 5-4: Proposed Roadway Improvements



- # Proposed Roadway Improvement\*
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- City of Redlands
- Sphere of Influence
- City Parks
- County Boundary

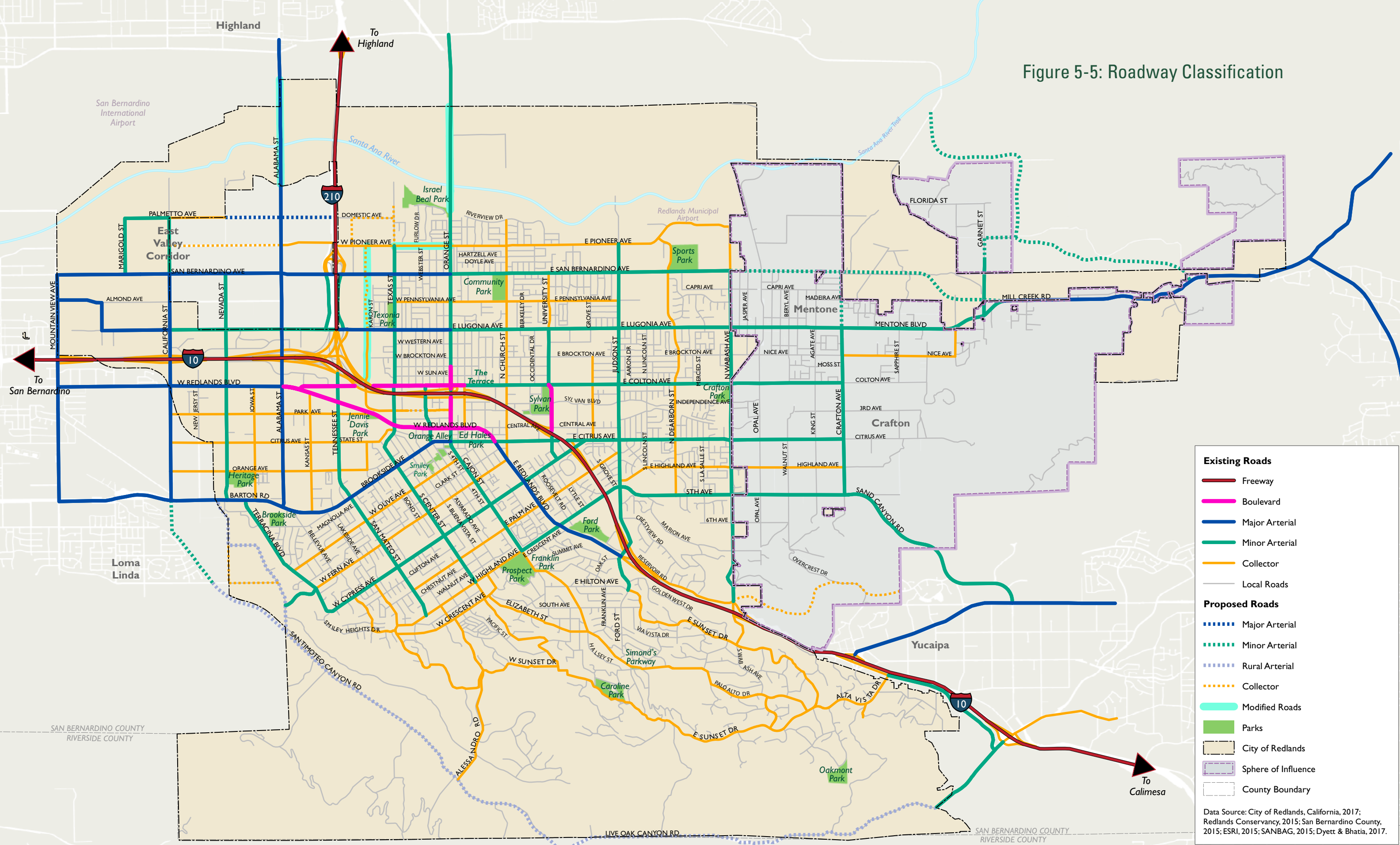
\*Note: Refer to General Plan Table 5-5.  
 Data Source: City of Redlands, California, 2016;  
 San Bernardino County GIS, 2015; ESRI, 2015;  
 SANBAG, 2015; Dyett & Bhatia, 2016.

**TABLE 5-5: PROPOSED ROADWAY IMPROVEMENTS**

This table shows planned circulation improvements. The numbers in the first column correspond with numbers shown on Figure 5-4 on the facing page. Given that the horizon of the General Plan is 2035, implementation of many improvements may occur over an extended time period and may be phased given factors such as intensity of adjoining land uses. These planned improvements are based on traffic information and forecasting assumptions and methodology current as of 2017. No General Plan amendment is needed if improvements in circulation technology, availability of additional and more current information at the time an improvement is needed or designed, or other factors enable acceptable LOS to be attained with an alternative set of improvements.

Number	Segment	Improvement	Jurisdiction
<b>Adaptive Traffic Control System</b>			
7 (a-f)	Redlands Boulevard (a); Barton Road/Brookside Avenue/Citrus Avenue (b); Alabama Street (c); Tennessee Street (d); Colton Avenue (e); Orange Street/Cajon Street (f)	Implementation of an adaptive traffic control system citywide	City of Redlands
<b>Intersections</b>			
1	Intersection of Eureka Street and Colton Avenue	Installation of a traffic signal	City of Redlands
2	Intersection of California Street and Redlands Boulevard	Realignment of California Street at Redlands Boulevard to a typical 4-legged intersection	City of Loma Linda
8	Intersection of Alabama Street and Redlands Boulevard	Dedicated southbound right-turn lane	City of Redlands
9	Intersection of University Street and Colton Avenue	Installation of a traffic signal	City of Redlands
10	Intersection of Judson Street and Colton Avenue	Installation of a traffic signal	City of Redlands
11	Intersection of Mountain View Avenue and San Bernardino Avenue	Reconfigure the eastbound approach to provide two through lanes and a dedicated right-turn lane. Provide a second westbound left-turn lane on the westbound approach and a second southbound receiving lane. Right-of-way acquisition may be required for the second southbound receiving lane.	City of Redlands & City of San Bernardino
12	Intersection of Alabama Street and Lugonia Avenue	Provide a dedicated northbound right-turn lane and a second westbound left-turn lane. These improvements can be accommodated within the existing right-of-way.	City of Redlands & San Bernardino County
13	Intersection of Alabama Street and San Bernardino Avenue	Reconfigure the eastbound approach to include three through lanes and a dedicated right-turn lane, and reconfigure the westbound approach to include dual left-turn lanes. Optimize signal timing and splits. Right-of-way acquisition may be required.	San Bernardino County
14	Intersection of Tennessee Street and Lugonia Avenue	Reconfigure northbound approach to provide two through lanes and two dedicated right-turn lanes. Reconfigure the southbound approach to provide a dedicated left-turn lane, a shared through/left lane and a shared through/right lane. Optimize signal timing and splits. Right-of-way acquisition may be required. Implementation of these mitigation measures would improve PM peak hour operations to LOS C and reduce the impact to less than significant.	Caltrans
15	Intersection of Orange Street and Lugonia Avenue	Install a dedicated right-turn lane on the eastbound approach, install dual left-turn lanes on the southbound approach, and install an additional through lane on the northbound and southbound approaches. Optimize signal timing and splits. Right-of-way acquisition may be required. Implementation of these mitigation measures would improve AM and PM peak hour operations to LOS C and reduce the impact to less than significant.	Caltrans
<b>Roadways</b>			
3	I-10 from I-10/I-15 interchange to California Street; I-10 from California Street to Ford Street	Implementation of two express lanes in each direction from I-10/I-15 interchange to California Street; Implementation of one express lane in each direction from California Street to Ford Street for a total of 10 to 12 lanes; Auxiliary lanes, undercrossings, overcrossings, ramp reconstruction, and lane transitions where needed. This improvement is listed in the SCAG RTP/SCS as FTIP ID 20159903 and is expected to be completed by 2024.	Caltrans
4	I-210 from Highland Avenue to San Bernardino Avenue; I-210 between Base Line and 5th Streets; and I-210 at 5th Street eastbound on-ramp; I-210 at Highland Avenue eastbound off-ramp extending to Sterling Avenue	Add one mixed-flow lane in each direction from Highland Avenue to San Bernardino Avenue; Auxiliary lanes between Base Line and 5th Streets and an acceleration lane at 5th Street eastbound on-ramp and deceleration lane at Highland Avenue E/B off-ramp extending to Sterling Avenue This improvement is listed in the SCAG RTP/SCS as FTIP ID 20111625 and is expected to be completed by 2021.	Caltrans
5	I-10/Alabama Street Interchange	Widening overcrossing to two to three lanes in each direction and ramp reconfiguration. This improvement is listed in the SCAG RTP/SCS as FTIP ID 20159907 and is expected to be completed by 2024.	Caltrans
6a, 6b, 6c	9th Street (a); West Stuart Avenue (b); Wyatt's Auto Body Private Crossing (c)	Full crossing road closure with the implementation of Redlands Rail	City of Redlands
16	Alabama Street from Pioneer Avenue to Palmetto Avenue	Widen the roadway from one lane in each direction to two lanes in each direction	San Bernardino County
17	Lugonia Avenue from Tribune Avenue to Church Street	Widen this roadway from one westbound lane and two eastbound lanes to two lanes in each direction	Caltrans
18	Mentone Boulevard from Wabash Avenue to Mentone City Limits	Widen this roadway from two lanes in each direction to four lanes in each direction	Caltrans
19	Orange Street from Pioneer Avenue to City Limits	Widening of Orange Street to four lanes	City of Redlands

Figure 5-5: Roadway Classification



**Existing Roads**

- Freeway
- Boulevard
- Major Arterial
- Minor Arterial
- Collector
- Local Roads

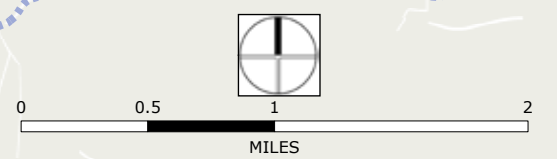
**Proposed Roads**

- - - Major Arterial
- - - Minor Arterial
- - - Rural Arterial
- - - Collector
- Modified Roads

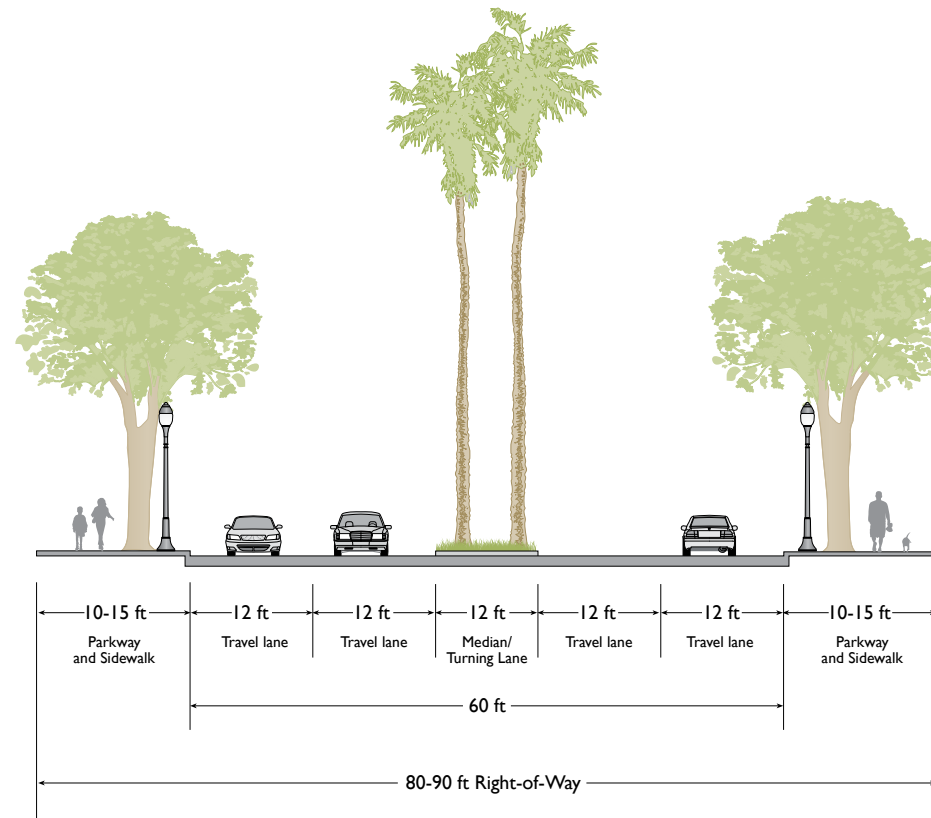
**Other Features**

- Parks
- City of Redlands
- Sphere of Influence
- County Boundary

Data Source: City of Redlands, California, 2017; Redlands Conservancy, 2015; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2017.

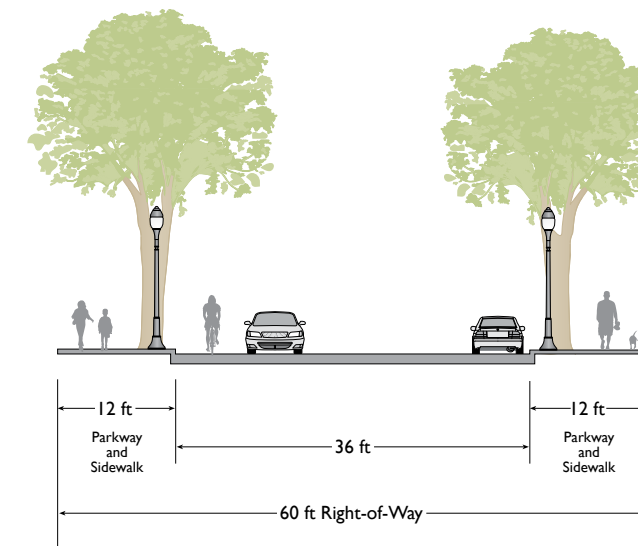


**BOULEVARDS**

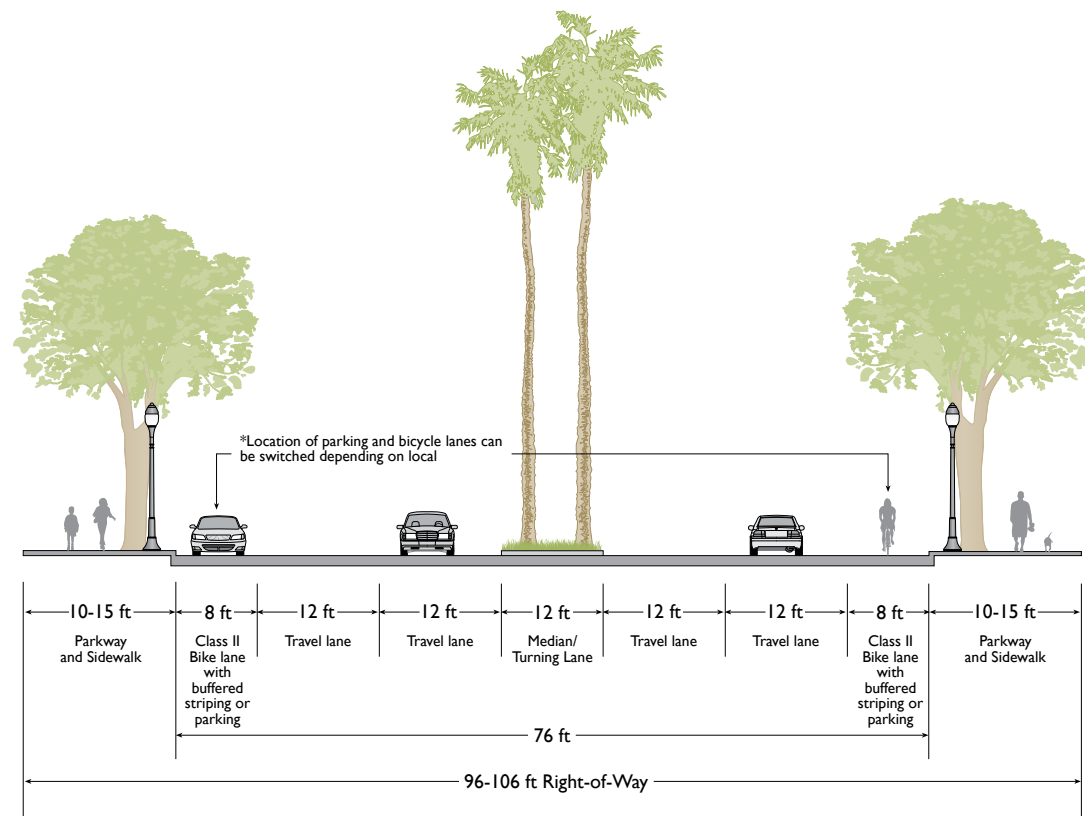


**a. Boulevard (Standard)**

**LOCAL STREET**



**c. Local Street (Standard)**



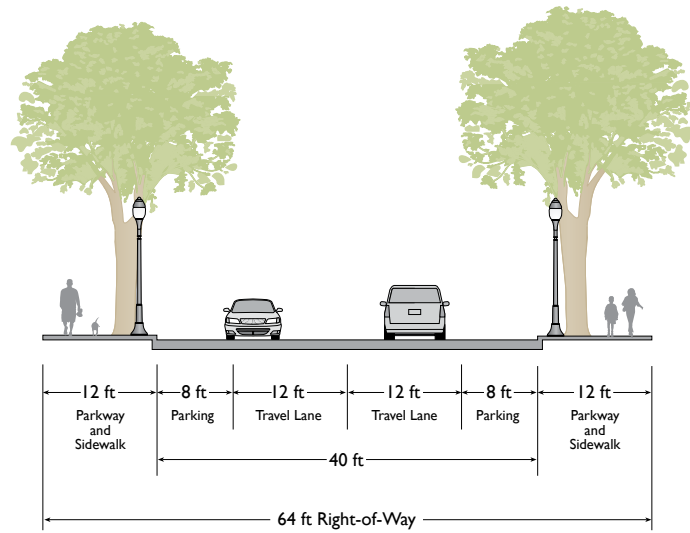
**b. Boulevard (Complete Streets)**

**Notes:**

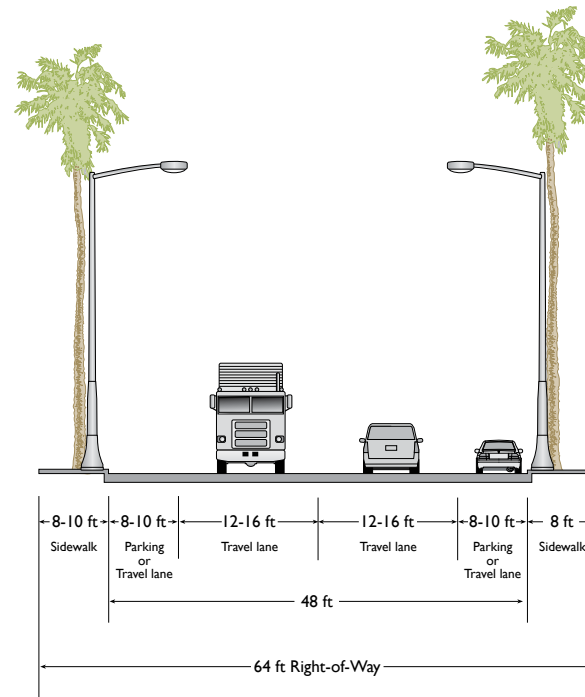
1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).

Figure 5-6: Illustrative Street Sections (Cont.)

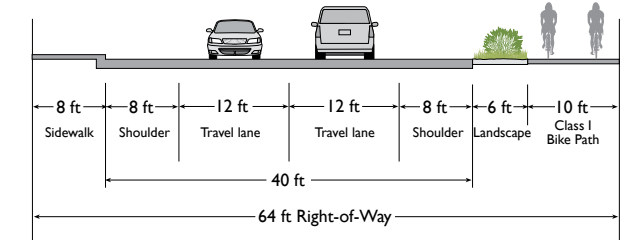
**COLLECTORS**



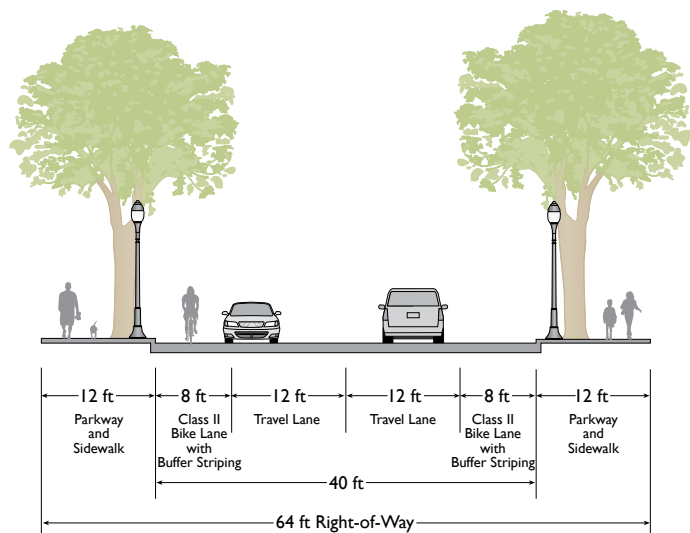
**d. Collector – Residential (Standard)**



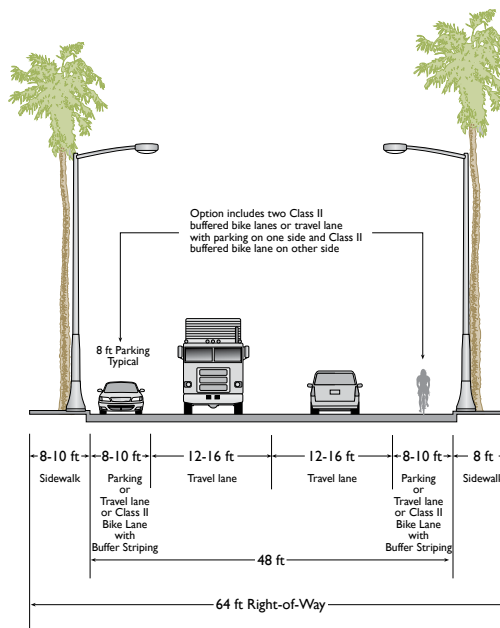
**f. Collector – Industrial (Standard)**



**h. Alternative Collector**



**e. Collector – Residential (Complete Streets)**



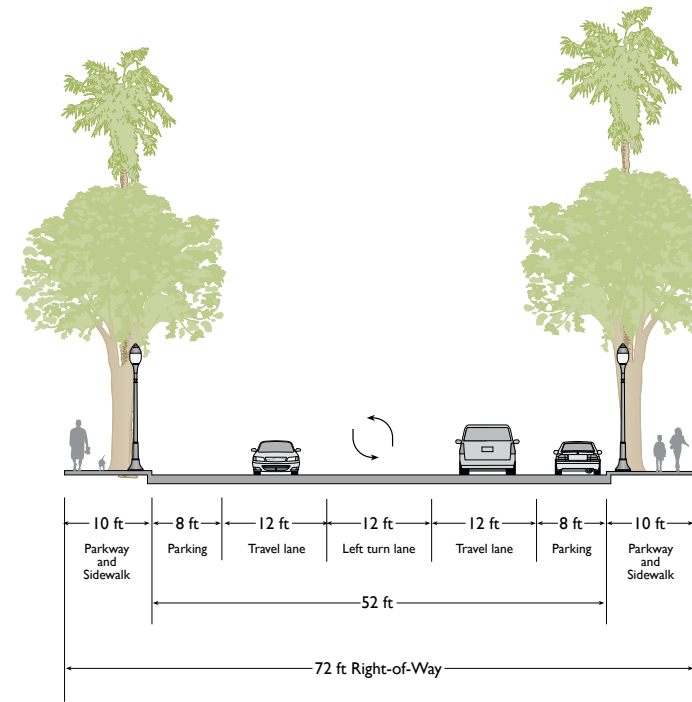
**g. Collector – Industrial (Complete Streets)**

**Notes:**

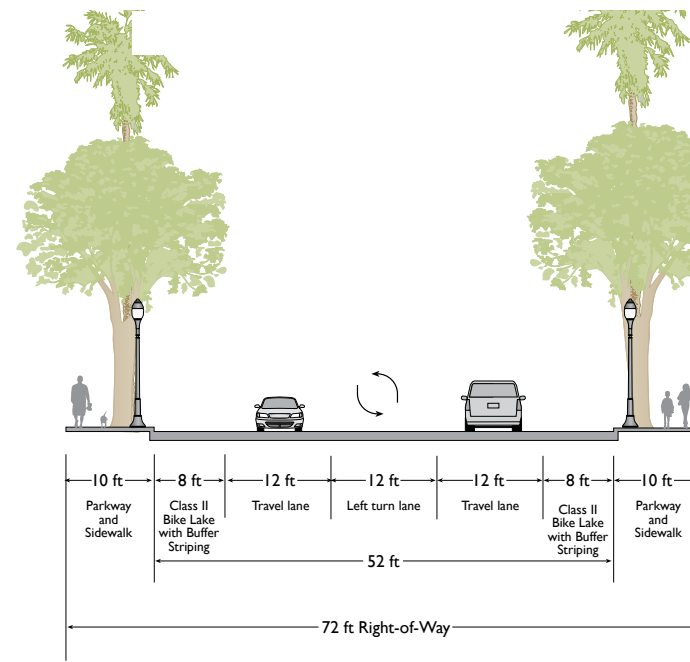
1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).



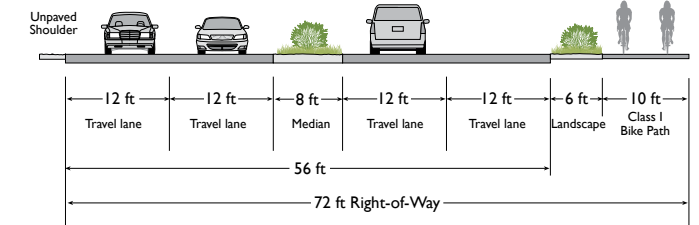
**MINOR AND RURAL ARTERIALS**



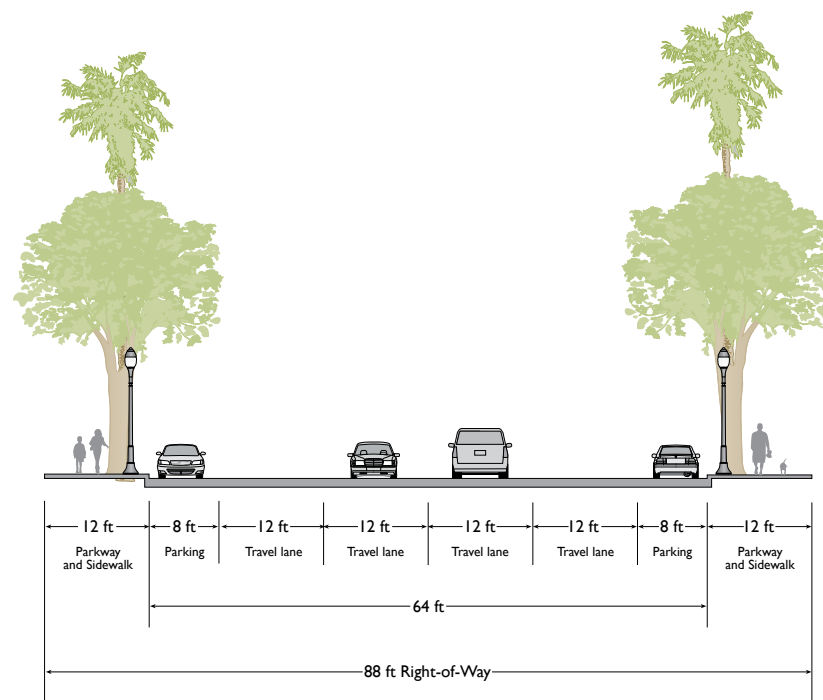
**i. Minor Arterial – 2 Lanes Plus Left Turn Lane (Standard)**



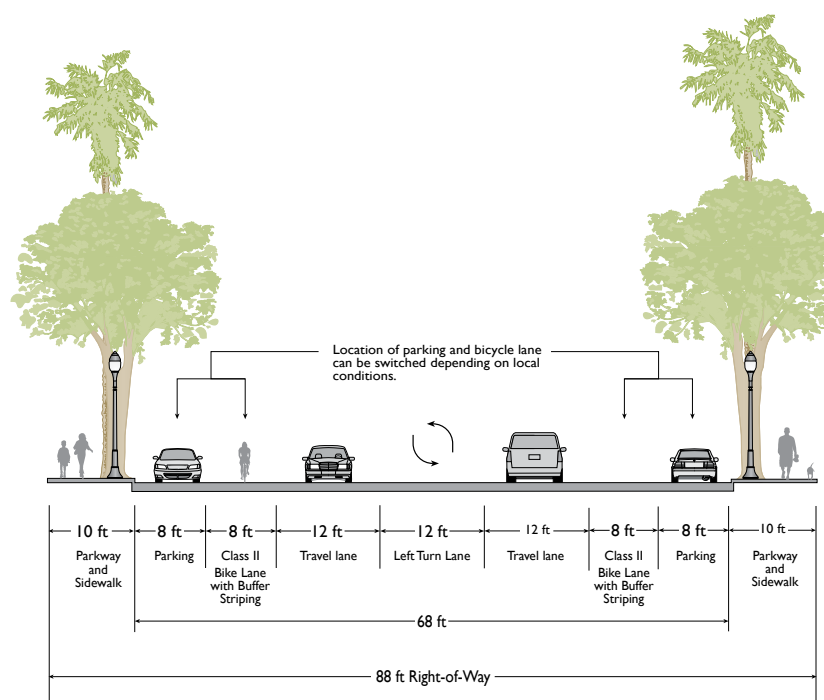
**k. Minor Arterial – 2 Lanes Plus Left Turn Lane (Complete Streets)**



**m. Rural Arterial**



**j. Minor Arterial – 4 Lanes Undivided (Standard)**

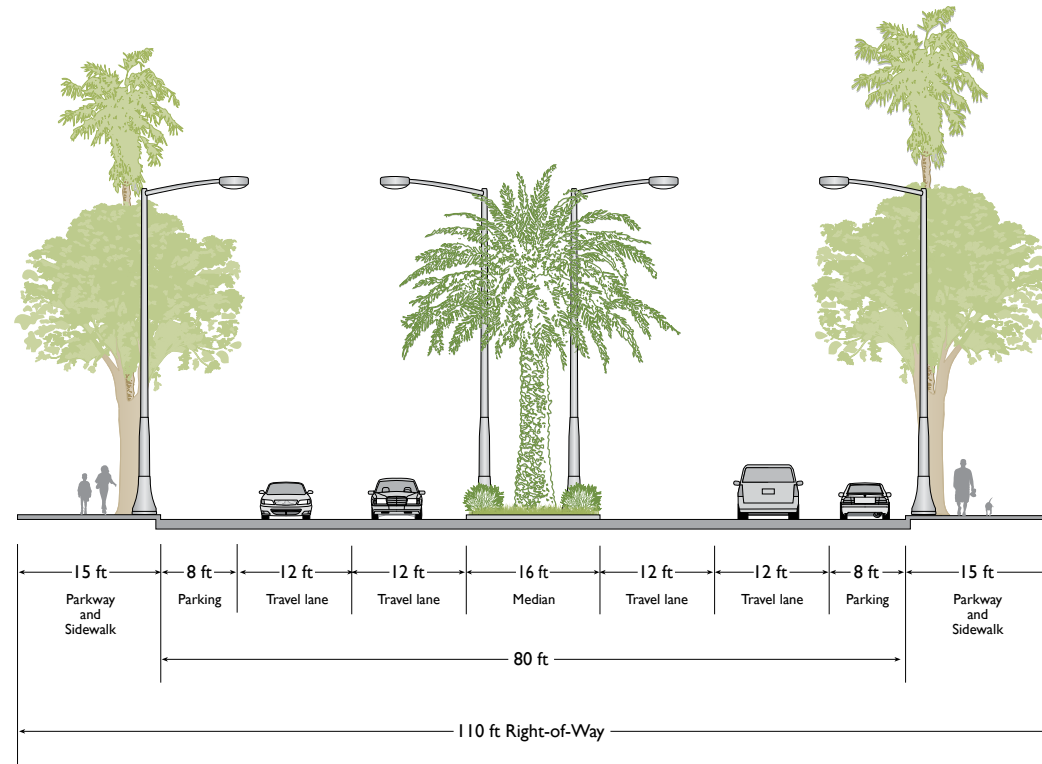


**l. Minor Arterial – 2 Lanes Plus Left Turn Lane, Bicycle Lanes, and Parking (Complete Streets)**

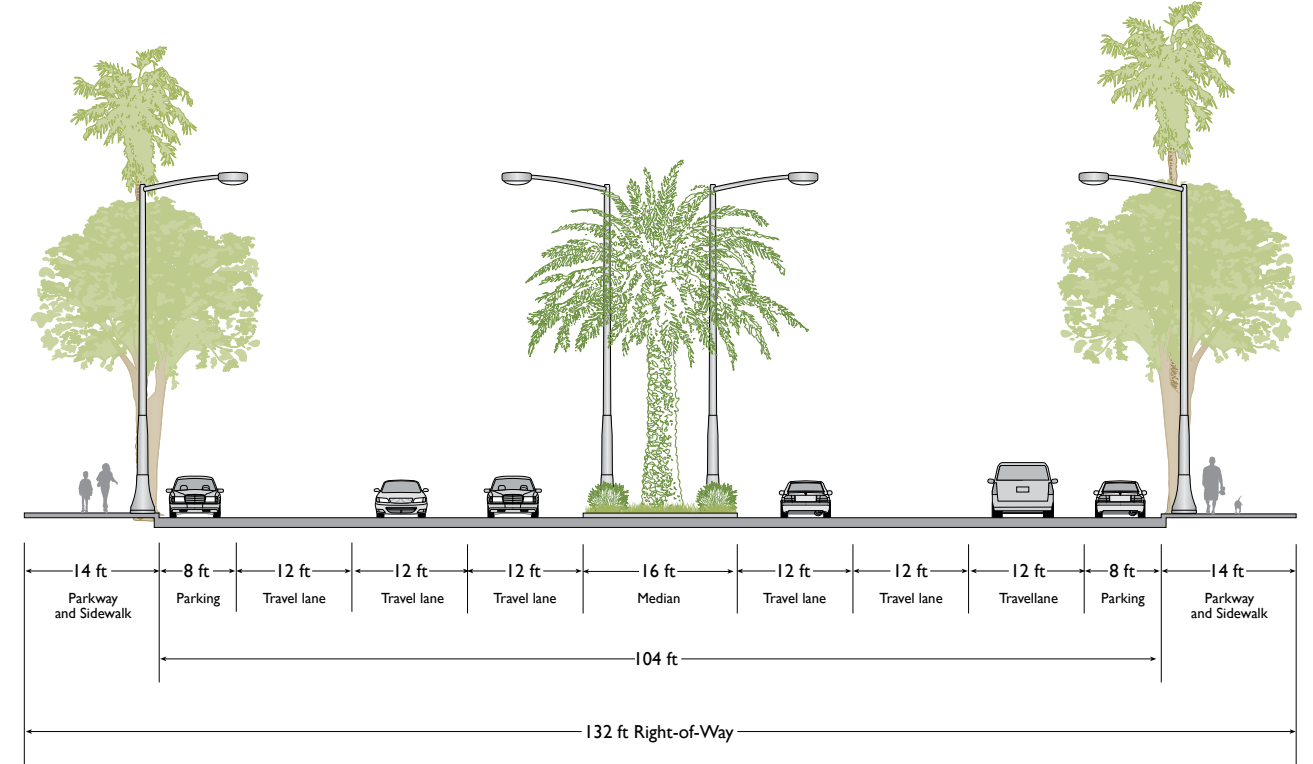
**Notes:**

1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).

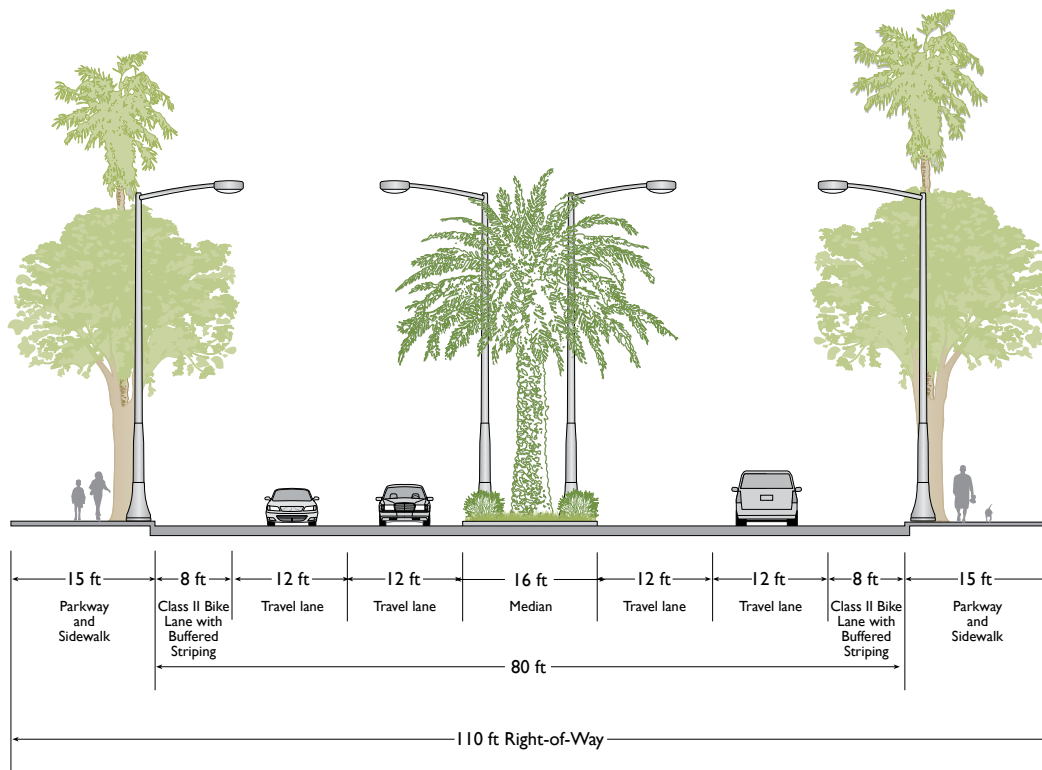
**MAJOR ARTERIALS**



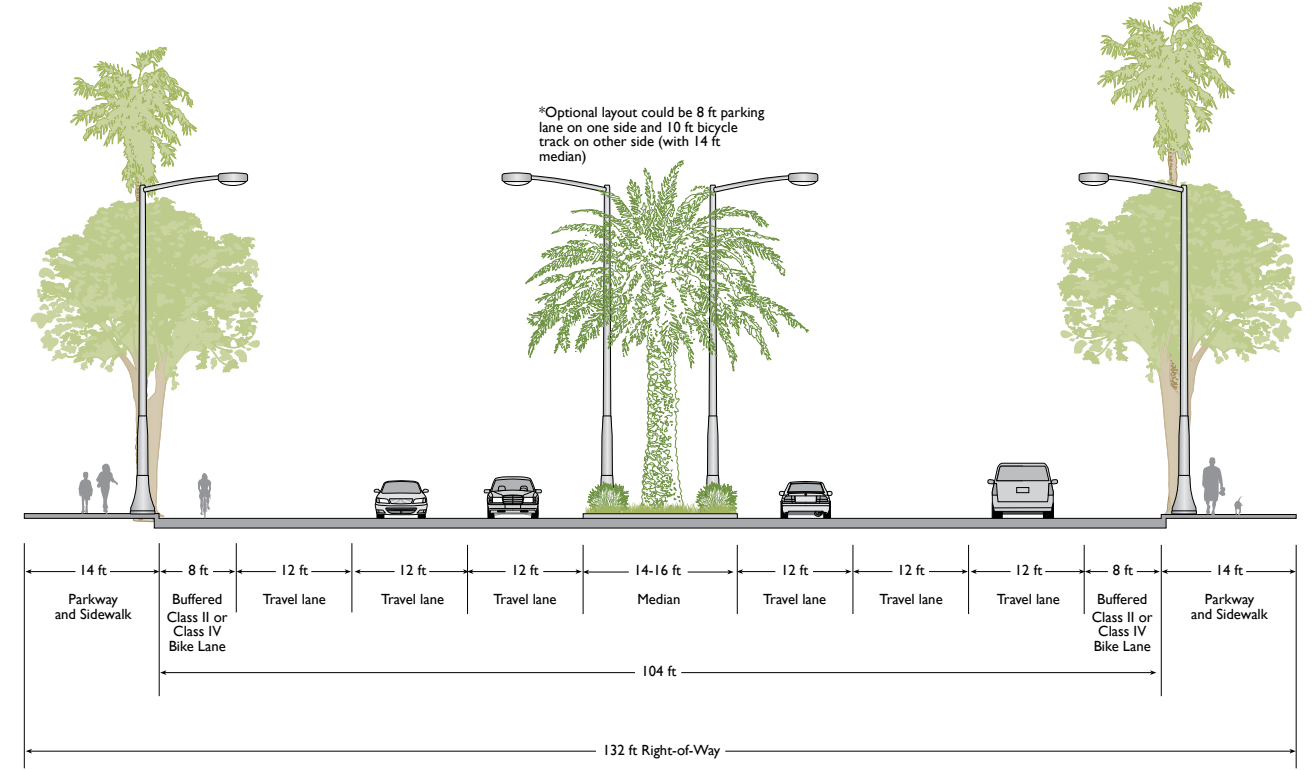
**n. Major Arterial – 4 Lanes Divided (Standard)**



**p. Major Arterial – 6 Lanes Divided (Standard)**



**o. Major Arterial – 4 Lanes Divided (Complete Streets)**



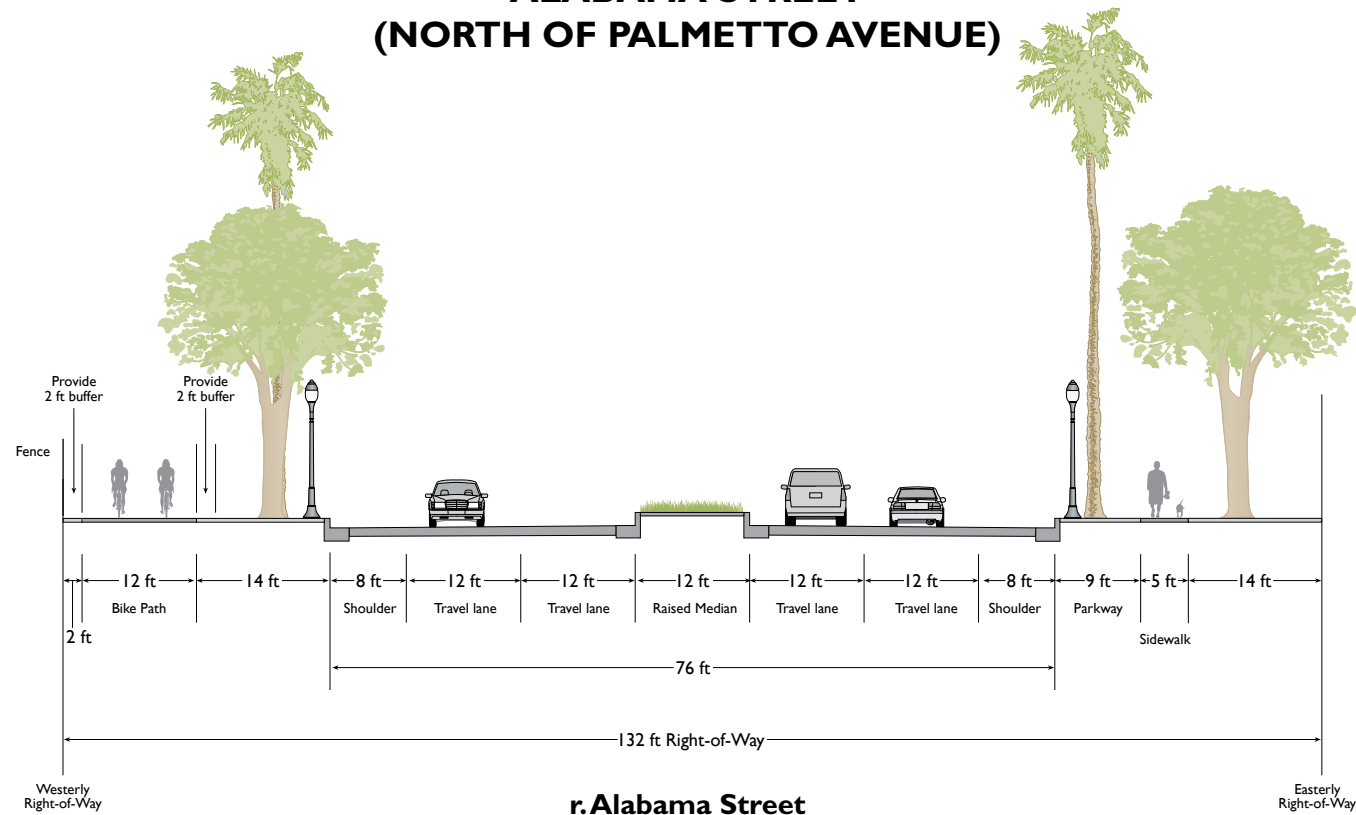
**q. Major Arterial – 6 Lanes Divided (Complete Streets)**

**Notes:**

1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).

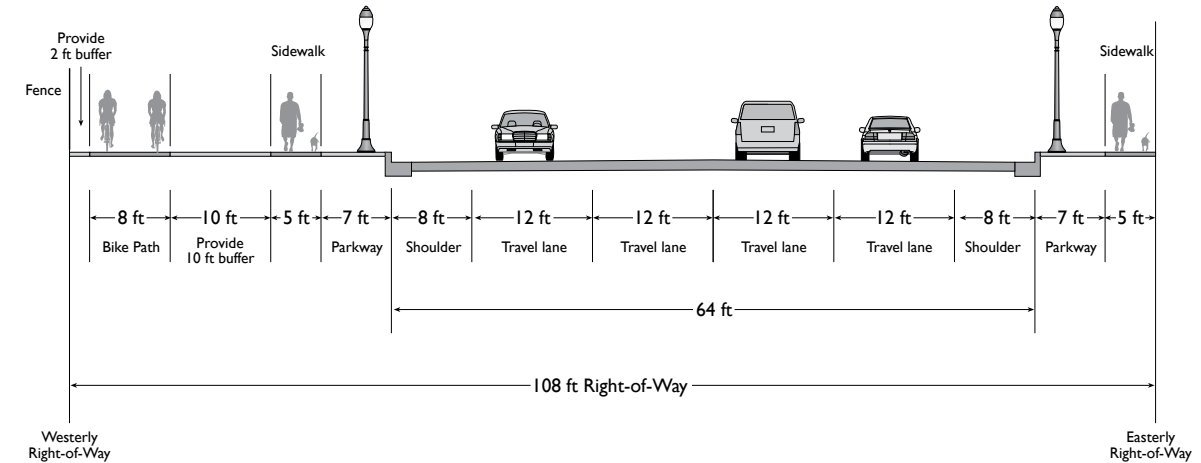
Figure 5-6: Illustrative Street Sections (Cont.)

**ALABAMA STREET  
(NORTH OF PALMETTO AVENUE)**

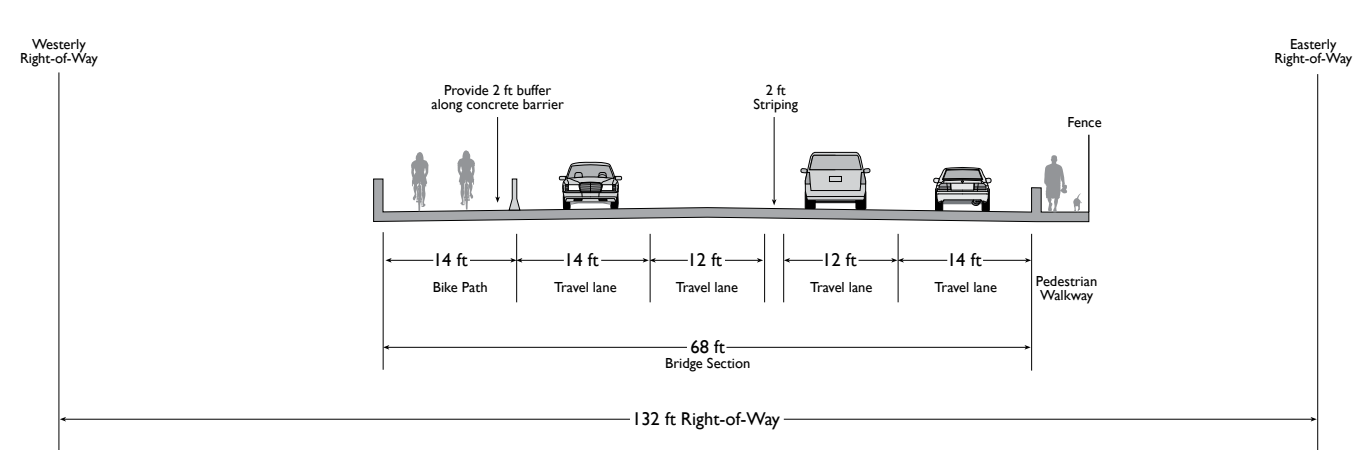


**r. Alabama Street**  
Typical Street Section Looking North

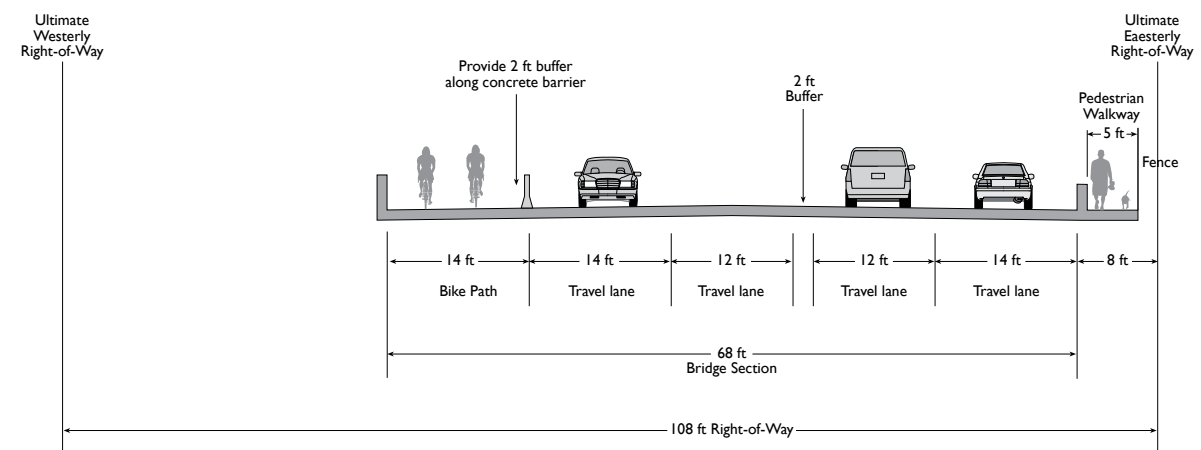
**ORANGE STREET  
(NORTH OF BLUFFS TRAIL)**



**t. Orange Street**  
Typical Street Section Looking North



**s. Alabama Street – Bridge**  
Typical Bridge Section Looking North



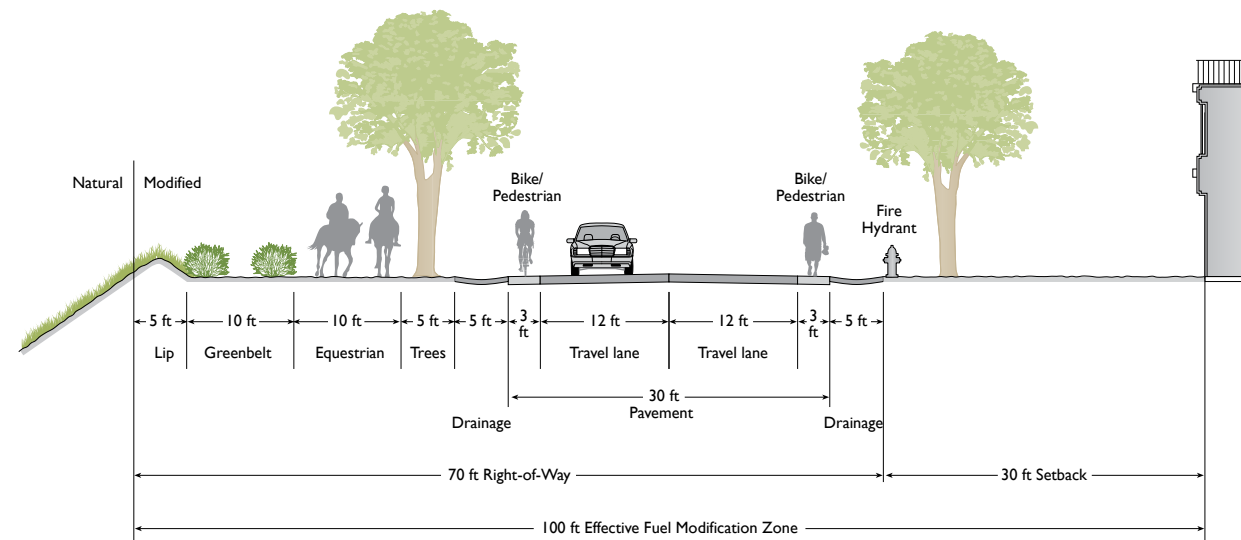
**u. Orange Street – Bridge**  
Typical Bridge Section Looking North

Notes:

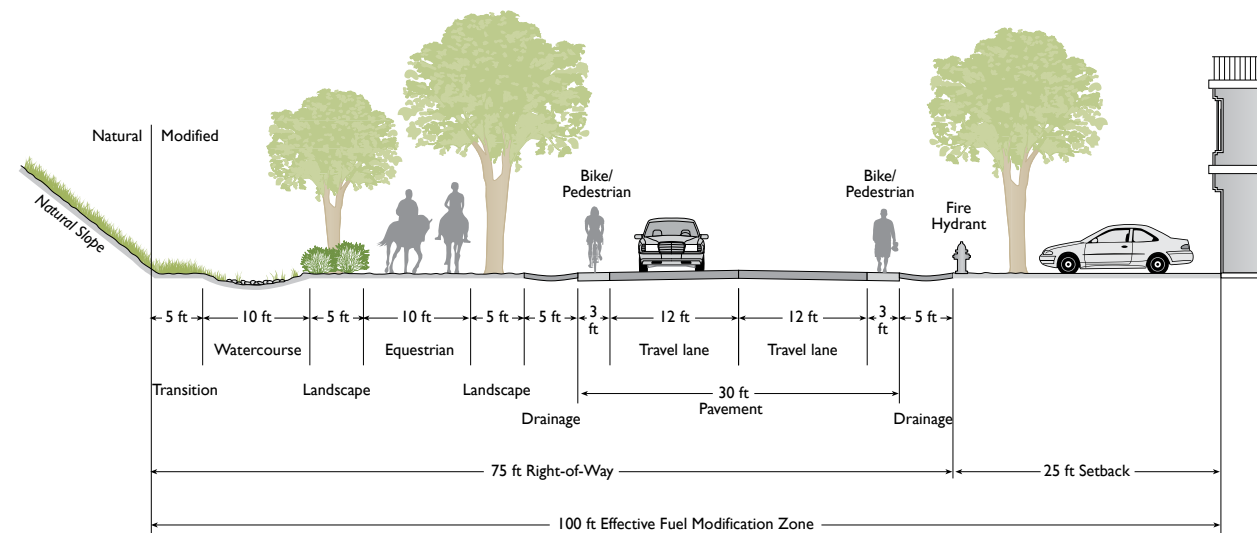
1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).

Figure 5-6: Illustrative Street Sections (Cont.)

**PERIMETER FUEL MODIFICATION / ACCESS AREA  
(PERFUMAA)**

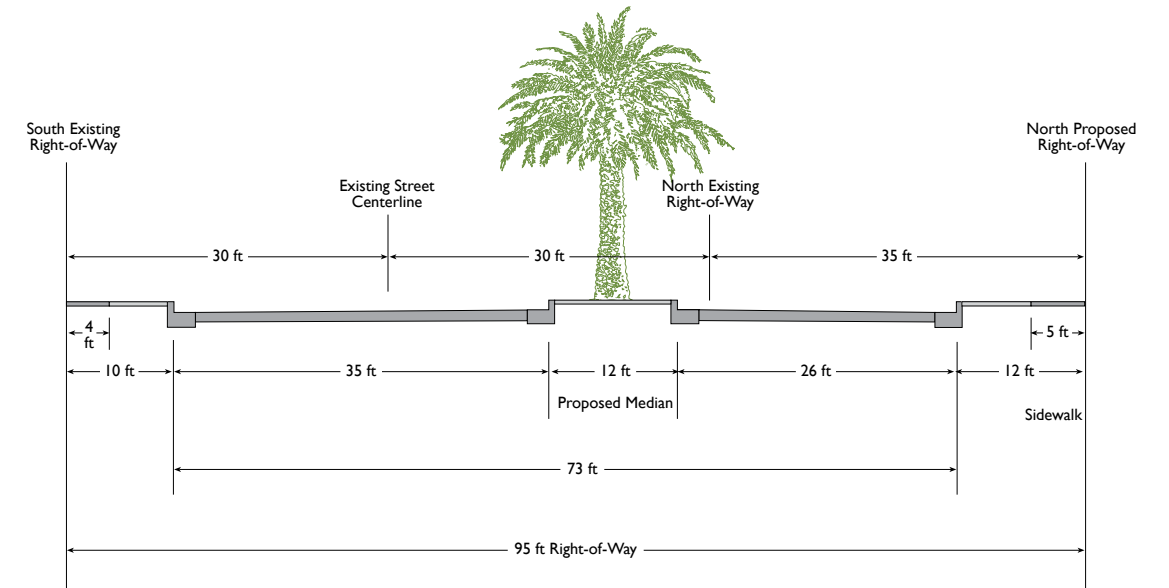


**v. Ridgetop PERFUMAA**



**w. Canyon Bottom Perimeter PERFUMAA**

**PIONEER AVENUE  
PROPOSED STREET SECTION EAST OF TEXAS STREET**



**x. Pioneer Avenue**

**Notes:**

1. Street sections are illustrative. Minor variations and deviations from dimensions are permitted, and would not require a General Plan Amendment.
2. Bicycle facilities are based on dimensions included in the Bicycle Facility Design Guidelines for the Bicycle Master Plan (2015).

## 5.3 TRANSIT

Redlands is accessible to neighboring communities via public transit. The city is served by Omnitrans bus routes connecting Redlands to San Bernardino, Loma Linda, Mentone, Fontana, Highland, Yucaipa, and Colton. Omnitrans also provides Redlands with ADA accessible buses.

### Passenger Rail

An inactive rail line runs through the center of Redlands. San Bernardino Associated Governments (SANBAG) is currently implementing the Redlands Passenger Rail project, which will extend rail transit to the city. This project is scheduled to be completed and in operation by 2020, providing commuter passenger service to San Bernardino, where it will connect with Metrolink, providing rail access to the greater Los Angeles region. SANBAG estimates that between 720 and 820 daily riders will use the Redlands route in 2018 and between 1,120 and 1,340 in 2038. The five proposed future stations within the city are shown in Figure 4.7; for more detail on planning around the stations, see Chapter 4.



Omnitrans offers bus service to many destinations in Redlands, including Redlands Boulevard.

## POLICIES

### Principles

- 5-P.26** Improve public transit as a viable form of transportation in Redlands.
- 5-P.27** Support passenger rail as an alternative mode of regional transit.

### Actions

- 5-A.57** Work with Omnitrans to accommodate and adjust transfer centers and bus service as necessary to support future rail service.
- 5-A.58** Work with Omnitrans to expand bus service to additional areas of the city and improve north-south connections.
- 5-A.59** Work with Omnitrans to plan for bus shelters, boarding areas, transfer centers, bus pads in the right-of-way, and bus turnouts.
- 5-A.60** Incorporate real-time information systems so that passengers will know when their bus or train is expected to arrive.
- 5-A.61** Support investments in passenger rail by providing effective on-site circulation and multi-modal connections to transit stations.
- 5-A.62** Develop station area plans to determine the appropriate modes of transportation to be accommodated at each passenger rail station, the inter connections between those modes, and the facilities to be provided to support each mode.
- 5-A.63** Upon completion of the passenger rail project, work with major employers, the University of Redlands, and major event

organizers (such as Redlands Bowl) on a shuttle system to link transit and major destinations.

- 5-A.64** Continue to collaborate with regional transit partners to achieve seamless transfers between systems, including scheduling, ticketing, and shared fare systems.

*Collaborative technologies include online applications and changeable message signs at major transit stops.*

- 5-A.65** Develop strategies to maximize off-peak use of transit.
- 5-A.66** Coordinate with other agencies and private entities to investigate methods of improving service and enhancing safety along the passenger rail corridor.
- 5-A.67** Encourage convenient and safe pedestrian linkages to and from transit service to provide better first-mile and last-mile connectivity.
- 5-A.68** Provide for direct pedestrian paths and access from new developments to the nearest public transportation stop.
- 5-A.69** Plan for passenger pick up / drop off location for ride sharing services and autonomous vehicles in the future to minimize impacts to traffic flow and ensure passenger safety.



The Redlands Rail Depot once welcomed rail passengers to the city. Though the Depot today is not part of the Redlands Passenger Rail project, it remains an icon of Redlands.

## 5.4 TRANSPORTATION DEMAND MANAGEMENT (TDM) AND PARKING

Transportation Demand Management consist of programs and policies to reduce the demand for the single occupant automobile trip. As part of the Congestion Management Program (CMP) developed by SANBAG, each local jurisdiction is responsible for adopting and implementing a trip reduction and travel demand ordinance. Common techniques include carpool programs, flexible work hours, shuttle services to nearby transit stations, employee transit subsidies (e.g. employers will subsidize bus or rail tickets), or installation of bicycle facilities (lockers, racks, lanes, showers at employment areas, etc.). In addition to implementing TDM policies, officials must reconsider parking policies in Redlands in order to adequately meet vehicular demand and minimize congestion.



Downtown Redlands attracts a substantial number of drivers. TDM Policies may alleviate the stress of finding a parking spot.

### POLICIES

#### Principles

- 5-P.28** Adopt and implement a Transportation Demand Management Program.
- 5-P.29** Ensure a balanced parking supply that adequately serves the community while employing strategies to reduce both the number of parking spaces needed, the area occupied by parking, and the number of vehicular trips needed within predominantly pedestrian oriented areas.

#### Actions

- 5-A.70** Locate Downtown public parking to encourage a park once approach. Provide pedestrian directional signage to direct persons from peripheral parking to downtown destinations.
- 5-A.71** Evaluate and include the following appropriate elements in a Transportation Demand Management (TDM) Program:
- Telecommuting from home
  - Telecommuting from a satellite work Center
  - Compressed work week
  - Flex time
  - Ridesharing
  - Ridesharing subsidy and tax credits
  - Ridesharing parking cost subsidy
  - Ridematching and carpooling
  - Guaranteed ride home
  - Car hire services
  - Commuter stores

- Car share programs
- Bike share programs
- On-site facilities for commuters
- Remote park-and-ride lots with amenities
- Preferential parking for ride sharers
- Transit pass programs
- Other new and innovate alternatives that may arise in the future

**5-A.72** Work with employers to implement TDM programs to reduce peak period trip generation.

**5-A.73** Provide adequate parking availability Downtown for residents, commuters, visitors, and shoppers throughout the day.

**5-A.74** Design parking to meet applicable urban design goals from area plans and minimize negative impacts on pedestrians, bicyclists, and transit users.

**5-A.75** Consider techniques to reduce the amount of area in the Transit Villages occupied by parking, especially for developments located within easy walking distance of the Passenger Rail stations.

*Techniques may include reduced parking requirements, unbundled parking, and others as appropriate.*

**5-A.76** Consider establishing reduced parking requirements for residential uses within a 10-minute walk of the University of Redlands campus.

**5-A.77** Encourage developers to meet their minimum parking requirements via shared parking between uses, payment of in-lieu fees, joint parking districts, or off-site parking within a reasonable walking time of 10 minutes or less.

**5-A.78** Develop flexible on-site vehicle parking requirements. Such requirements would include implementation of innovative parking techniques, implementing effective TDM programs to reduce parking demand, and consideration of other means to efficiently manage parking supply and demand.

**5-A.79** Keep abreast of alternative and innovative transportation management methods as they become feasible. Adopt the ones that are appropriate for Redlands.

**5-A.80** Design parking structures in a manner so that they can be adaptively reused if they become obsolete for parking needs in the future.



Parking lots should feature landscaping and design elements.

## 5.5 GOODS MOVEMENT

Goods movement is an important component of the city's circulation system, serving industrial, commercial, and retail uses. A street system that accommodates trucks is essential to ensure the safe and efficient movement of goods between business centers and freeways. Policies in this section support the movement of goods and also seek to reduce the impacts of truck operations on city streets and adjacent land uses. Figure 5-6 shows truck routes in the City of Redlands.



*Goods movement can be prioritized along specific routes that are designed to support heavy vehicle use and minimize potential safety and noise impacts.*



## POLICIES

### Principles

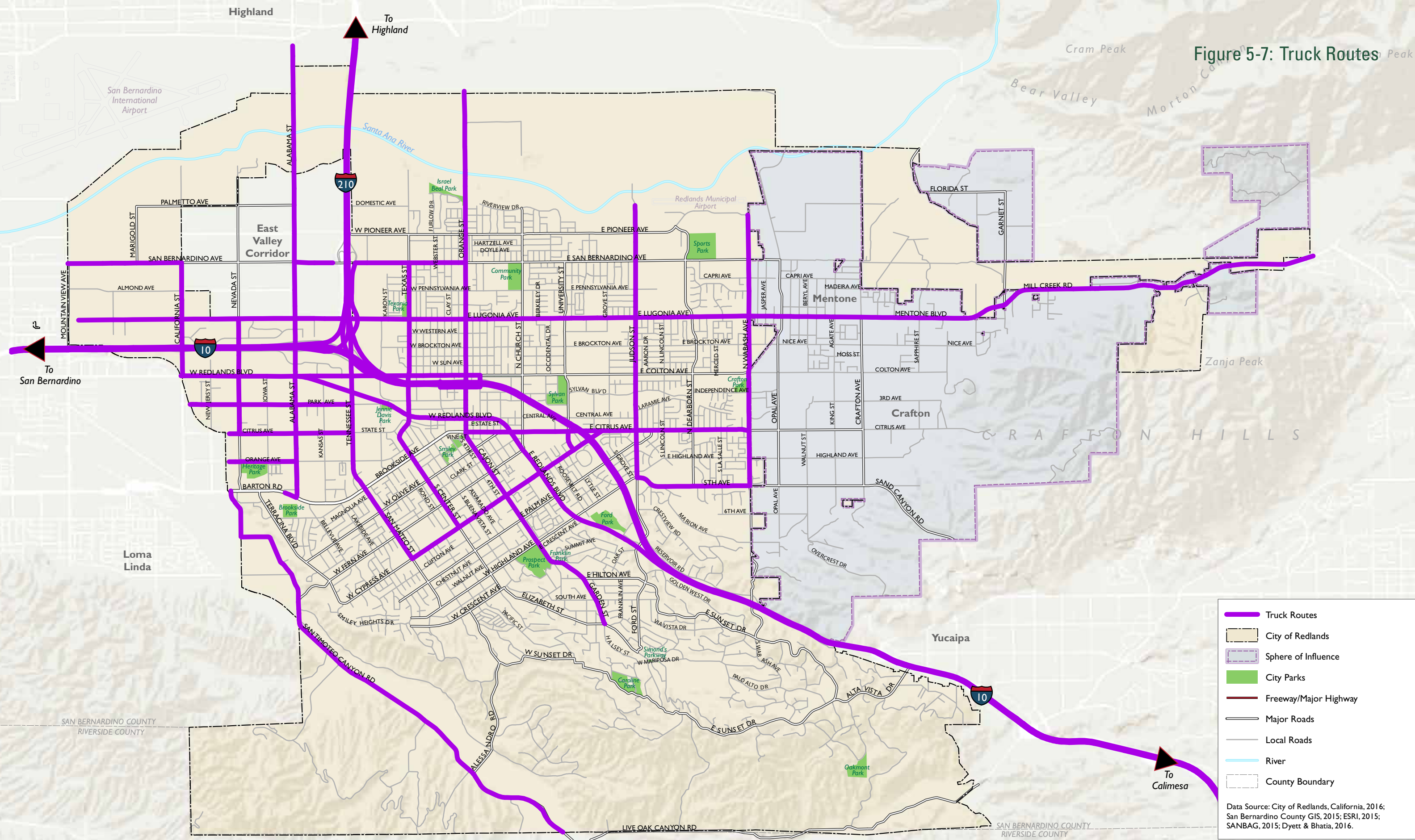
- 5-P.30** Prioritize goods movement along specific routes in the city, consistent with the layered network, to foster efficient freight logistics.
- 5-P.31** Update and implement a truck route map to ensure it serves shipping needs in the city while considering potential conflicts with preferred modes and other sensitive land uses in the city, consistent with the layered network.
- 5-P.32** Work to improve the efficiency and safety of rail freight through the city.

### Actions

- 5-A.81** Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.
- 5-A.82** Maintain a truck route map and provide signage to direct truck traffic to designated routes. Design designated truck routes such that the pavement, roadway width, and curb return radii support anticipated heavy vehicle use.
- 5-A.83** Create easily understood truck route maps, potentially through on-line applications, to be distributed by the goods movement industry.
- 5-A.84** Conduct education programs for the goods movement industry on designated truck routes through the city.
- 5-A.85** Discourage truck traffic from parking, idling, or traveling through local streets in residential neighborhoods.

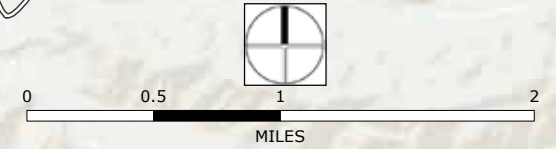
- 5-A.86** Seek to improve rail crossings in the San Timoteo Canyon area, exploring the potential for grade separation of all crossings in the canyon area.

Figure 5-7: Truck Routes



- Truck Routes
- City of Redlands
- Sphere of Influence
- City Parks
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.







# 6

## Vital Environment

Promote an open space plan that conserves the natural canyons and the hillsides to the south, the Santa Ana River and wash to the north, and the Crafton Hills and agricultural lands to the east; enables continued agriculture and citrus production; and completes the “Emerald Necklace” of open space, conserved lands, and trails around the city.

Redlands’ open spaces—the hillsides and canyons, aqueducts, farms, and the citrus groves—are highly valued. The General Plan seeks to preserve these open spaces, including those at the city’s edges, where agricultural uses and many citrus groves are located, and realize the community’s long-sought desire for a linked system of open spaces and trails around the community, forming an Emerald Necklace that provides a greenbelt for the city and is integrated with a regional open space system.

The Emerald Necklace is defined as those land uses that provide a green belt around the city and includes San Timoteo and Live Oak canyons, the Crafton Hills, agricultural lands in Crafton and San Timoteo Canyon, and the Santa Ana River and Wash. These open spaces, agricultural lands, natural habitats, conservation areas, flood plains, waterways, aqueducts, and passive and active parks make up the land uses of the Emerald Necklace, as well as the system of parks, trails, streams, farms, and citrus groves that link the Emerald Necklace to the interior of the city.



## 6.1 OPEN SPACE FOR CONSERVATION

Open space in the Planning Area includes any parcel or area of land or water which is devoted to an open space use as defined in the General Plan, or designated on a local, regional, or State open space plan as one of the categories of open space defined in State planning law. Open space lands may currently be in public or private ownership. The Planning Area's open space system is shown in Figure 6-1.

### Open Space Areas

There are a number of open space areas in the Planning Area that provide opportunities for recreation. In many cases, recreational use coincides with resource areas.

- **San Timoteo Canyon.** The City owns 254 acres of open space in San Timoteo Canyon, paralleling San Timoteo Canyon Road between Fern Avenue and Alessandro Road. The area is a nature preserve named the San Timoteo Canyon Nature Sanctuary that is home to riparian, grassland, and hillside chaparral habitats, as well as man-made trails, observation points, eucalyptus groves, an amphitheater, and wetland areas. The sanctuary is open during daylight hours to hikers, bicyclists, and equestrian visitors.
- **Live Oak Canyon.** The City owns 338 acres of land in the Live Oak Canyon area adjacent to Oakmont Park, which it acquired between 2012 and 2015. Over 245 acres in this area have been set aside for conservation. The open space's trail system, which currently includes the Oakridge and Oakmont trails, is open to hiking, bicycling, and equestrian use, as well as other forms of passive recreation.

- **Santa Ana Wash.** The 4,000 acres of the Santa Ana River Wash makes up the largest open space area in the city. Forming the city's northern boundary, the Wash contains the Santa Ana River's floodway and accompanying flood zones. While much of the area is in a natural state, portions of the Wash are used for aggregate mining or as spreading ponds to recharge the aquifer. The Wash area is owned by a combination of federal, State, regional, and municipal governments, as well as by utilities and private interests.
- **Crafton Hills Open Space.** This area adjacent to Yucaipa Regional Park is part of the San Bernardino County open space network, and comprises land in the Crafton Hills generally above an elevation of 2,400 feet in the eastern portion of the Planning Area. This is an important open space resource in the urbanizing Redlands/Yucaipa area, and has significant value as a relatively undisturbed habitat area, a scenic resource, and a potential area for recreational open space use, as there is a recreational trail system there. The City also owns 193 acres of open space in the Crafton Hills above the Henry Tate Water Treatment Plant.

### Emerald Necklace

The Emerald Necklace concept is a series of green open space and park areas surrounding the city, joined together with a special scenic road and trails system. The City has gradually acquired open space land to fulfill the concept, and in 2014 the Redlands Conservancy inaugurated the Emerald Necklace Trail and Scenic Route, a 45-mile circuit around the city, shown on Figure 7-2. The route is accessible by motorists and bicyclists and links a number of Redlands' parks, trails, and open space areas, including San Timoteo Canyon, Live Oak Canyon, the Crafton groves, the Sports Park, the Santa Ana River Wash, the Santa Ana River Trail, the bluffs and Israel Beal Park, the East Valley Corridor Multi-Purpose Trail, and Heritage Park.

*Redlands' picturesque surroundings provide ample opportunities for hiking, photography, picnics, and other recreational activities.*

# POLICIES

## Principles

- 6-P.1** Develop a balanced and integrated open space system that reflects a variety of considerations, including resource conservation, production of agriculture, recreation, aesthetics, and community identity.
- 6-P.2** Designate and develop the Emerald Necklace around the city, consisting of open spaces and conserved lands, that showcase and link unique resources both within and surrounding the Planning Area and serve as a distinct boundary for urban development within Redlands.
- 6-P.3** Seek to link the various elements of the Emerald Necklace through a system of open spaces, waterways, parks, and trails.
- 6-P.4** Preserve and enhance open space and agricultural land to define the Montone and Crafton areas as distinct from Redlands.
- 6-P.5** Encourage the preservation of natural habitat areas as open space.
- 6-P.6** Promote access to and views of conservation areas in a manner consistent with good land resource stewardship.

## Actions

- 6-A.1** Preserve as open space those areas that contain unique habitats, natural resources, and visual amenities such

as citrus groves, hillsides, canyons, and waterways. These areas provide natural contrast with the urban cityscape.

- 6-A.2** Identify gaps in the Emerald Necklace and work with San Bernardino County and neighboring cities, conservation organizations, and willing landowners to prioritize land acquisition or other resource preservation strategies in those areas.
- 6-A.3** Identify portions of the Emerald Necklace that are not in public ownership and work with conservation organizations and landowners to ensure that the land is dedicated or otherwise conserved.
- 6-A.4** Develop standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open space, and rights-of-way.

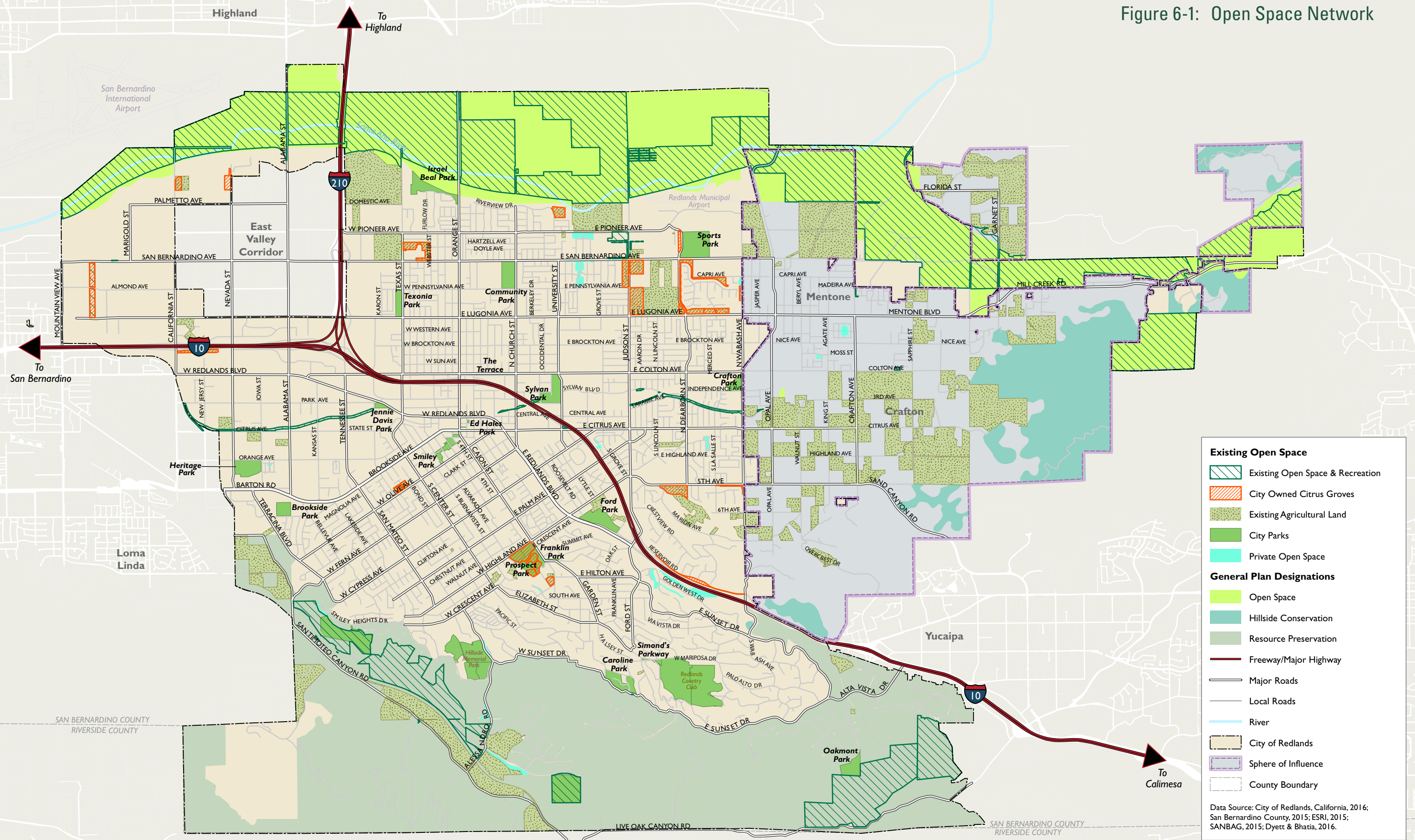
- 6-A.5** Develop a long term plan for the maintenance of open space areas held by the City which may include non-profits, public-private partnerships, and volunteer organizations.
- 6-A.6** Designate and map open space, recreation areas, and trails contained in the Emerald Necklace.
- 6-A.7** Work with San Bernardino County, neighboring cities, conservation organizations, and landowners to maintain and enhance the trails, roadways, and lands within the Emerald Necklace, and to ensure that sensitive resources in these areas are not disturbed or degraded.
- 6-A.8** Provide sufficient resources for the maintenance of trails and conservation areas through both volunteer and City mechanisms.

- 6-A.9** Develop and implement a wayfinding program along the Emerald Necklace to identify sites of interest and provide directions along trails and roadways. Ensure that any signs are consistently designed and visually compatible with the surroundings.
- 6-A.10** Maintain and enhance Redlands' network of urban forest and street trees.



Photo Credit: Jo Lessard

Figure 6-1: Open Space Network



**Existing Open Space**

- Existing Open Space & Recreation
- City Owned Citrus Groves
- Existing Agricultural Land
- City Parks
- Private Open Space

**General Plan Designations**

- Open Space
- Hillside Conservation
- Resource Preservation

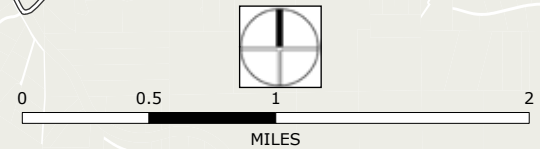
**Infrastructure**

- Freeway/Major Highway
- Major Roads
- Local Roads
- River

**Administrative**

- City of Redlands
- Sphere of Influence
- County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## 6.2 BIOLOGICAL RESOURCES

### Natural Vegetation

Although most of the Planning Area is developed or is in agricultural use, natural vegetation is present at the northern edge of the city along the Santa Ana Wash, as well in the eastern and southern portions in the hills and the canyons. Vegetation types are shown in Figure 6-2.

### Annual Grassland

Annual grassland is the predominant land cover in portions of the Planning Area not already developed or in agricultural use. Dominant species in annual grasslands include cheat grass (*Bromus tectorum*), soft chess (*Bromus hordeaceus*), common ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and fiddleneck (*Amsinckia menziesii*). This vegetation community provides habitat for a variety of generally non-sensitive plant and wildlife species and covers approximately 4,082 acres of the Planning Area.

### Chaparral

Chaparral is a relatively dense and tall shrubland of hillsides. It occurs interspersed with upland Riversidean sage scrub and grassland in the eastern and southern portions of the Planning Area. Shrub species typical of chaparral in these areas include bush mallow (*Malacothamnus fremontii*), hoary-leaf ceanothus (*Ceanothus crassifolius*), spiny redberry (*Rhamnus crocea*), chamise (*Adenostoma fasciculatum*), toyon (*Heteromeles arbutifolia*), and scrub oak (*Quercus* spp.). Chaparral comprises

approximately 2,050 acres in the Planning Area. This vegetation community provides habitat for a variety of generally non-sensitive plant and wildlife species.

### Oak Woodland

Small areas of oak woodland occur in the eastern and southern portions of the Planning Area, where it consists of coast live oak (*Quercus agrifolia*) trees with an understory of annual grasses and forbs. Oak woodland is considered to be a sensitive vegetation community. Approximately 94 acres are present in the Planning Area.

### Riparian Forest, Woodland, and Scrub

Watercourses in the Planning Area support communities of trees and shrubs adapted to streamside environments. These communities are typically dominated by mule fat (*Baccharis salicifolia*) or one or more species of willows (*Salix* sp.) or a by combination of these and other riparian trees and shrubs, such as Fremont cottonwood (*Populus fremontii*), coast live oak, canyon live oak (*Quercus chrysolepis*), western sycamore (*Platanus racemosa*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Smaller species such as tree tobacco (*Nicotiana glauca*), speedwell (*Veronica* sp.), knotweed (*Polygonum* sp.), cocklebur (*Xanthium strumarium*), scalebroom (*Lepidospartum squamatum*), and nettle-leaved goosefoot (*Chenopodium murale*) are frequently present in openings. These riparian communities are particularly prevalent along San Timoteo Creek, Yucaipa Creek, and the Santa Ana River. There are approximately 147 acres of sensitive woody riparian communities in the Planning Area.

### Riversidean Alluvial Fan Sage Scrub

Riversidean Alluvial Fan Sage Scrub is the dominant natural community in rocky and gravelly soils along the Santa Ana River Wash and Mill Creek north of Redlands. Dominant shrub species in this community

include scalebroom, California juniper (*Juniperus californica*), chaparral yucca (*Hesperoyucca whipplei*), California buckwheat (*Eriogonum fasciculatum*), and large shrubs typical of chaparral. Understory vegetation is often sparse and consists primarily of native forbs and non-native grasses. This vegetation community provides habitat for several rare species and is itself considered sensitive. This community covers approximately 3,109 acres in the Planning Area.

### Upland Riversidean Sage Scrub

Upland Riversidean sage scrub is a relatively open shrubland dominated by low, drought-tolerant species such as California buckwheat, brittlebush (*Encelia farinosa*), and California sagebrush (*Artemisia californica*). Other species in this community include black sage (*Salvia mellifera*), blue elderberry, and California aster (*Lessingia filaginifolia*). This community is highly interspersed with annual grasslands and includes sparse patches of chaparral. It is located predominately in the southern and eastern hills of the Planning Area and consists of approximately 1,672 acres. Upland Riversidean sage scrub is considered to be a sensitive plant community when occupied by the California gnatcatcher (*Polioptila californica*).



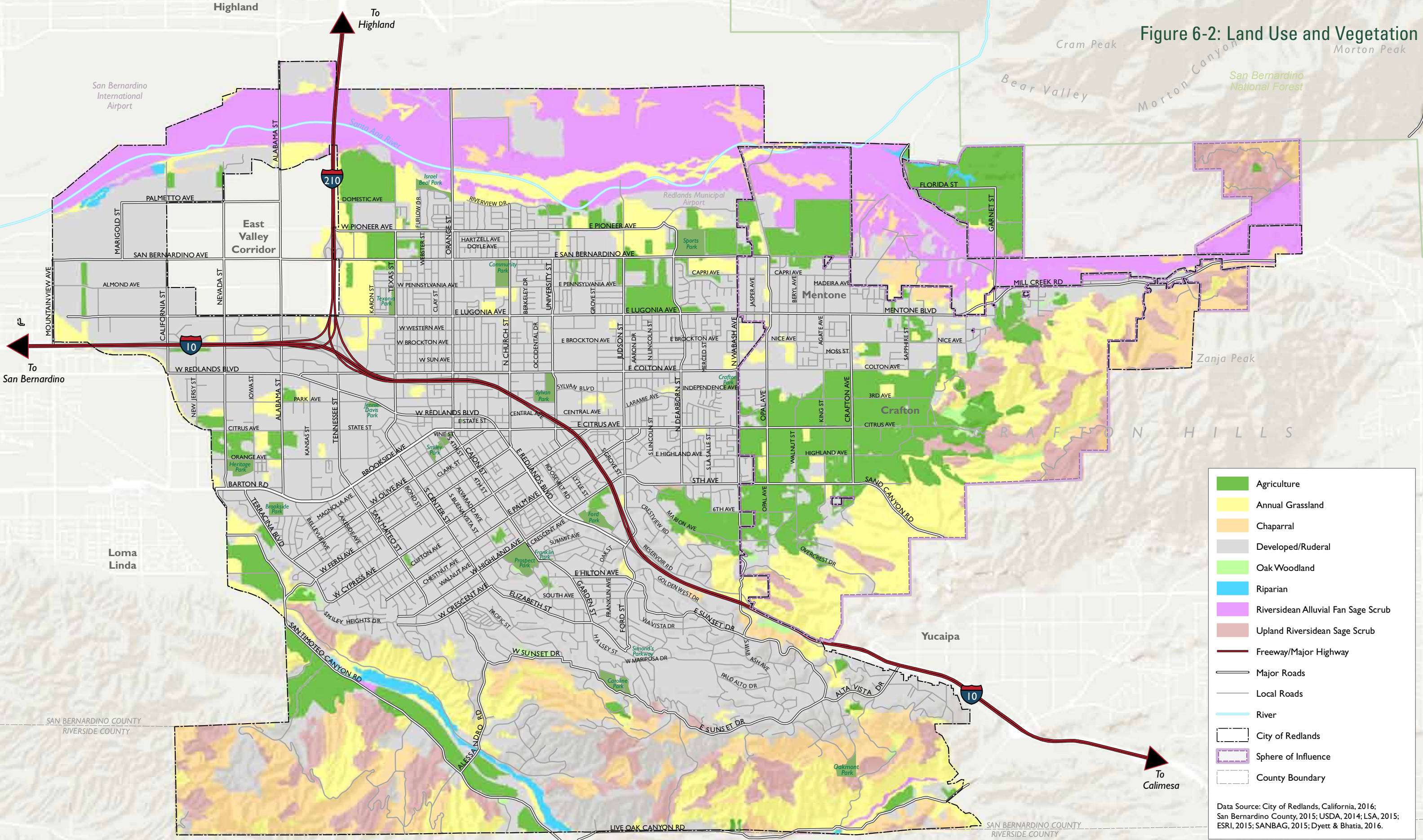
Photo Credits: Joe Castino

Redlands' natural forest habitats are home to a myriad of birds.



Photo Credit: Serena Plum

Figure 6-2: Land Use and Vegetation



- Agriculture
  - Annual Grassland
  - Chaparral
  - Developed/Ruderal
  - Oak Woodland
  - Riparian
  - Riversidean Alluvial Fan Sage Scrub
  - Upland Riversidean Sage Scrub
  - Freeway/Major Highway
  - Major Roads
  - Local Roads
  - River
  - City of Redlands
  - Sphere of Influence
  - County Boundary
- Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; USDA, 2014; LSA, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

## Biological Resources

### Critical Habitat

The U.S. Fish and Wildlife Service (USFWS) identifies a critical habitat as a specific geographical area that is essential to the conservation of a threatened or endangered species and that may require special management considerations or protection. Critical habitat for three federally listed endangered species including the Santa Ana sucker, San Bernardino kangaroo rat, and the southwestern willow flycatcher have been designated within the Planning Area.

### Special-Status Natural Communities

Although they are not legally protected in the same way as are individual threatened and endangered species, certain natural communities are also considered to be of special status due to their limited occurrence or vulnerability. Within the Planning Area, these include oak woodland, Riversidean alluvial fan sage scrub, and riparian forest, woodland, and scrub communities. These habitats are of particular importance as habitat for the southwestern willow flycatcher, least Bell's vireo (*Vireo bellii pusillus*), Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), San Bernardino kangaroo rat, and California gnatcatcher.

### Wildlife Movement Corridors

Wildlife movement includes seasonal migration along corridors, as well as daily movements for foraging. The Santa Ana River, Mill Creek, and San Timoteo Creek and hills are particularly important movement corridors located along waterways. The Crafton Hills provide for movement between the Santa Ana River-Mill Creek-San Bernardino Mountains habitats to the north and the Live Oak-San Timoteo canyons-Badlands area to the south.

## Special-Status Species

Special status species are those that are listed as rare, threatened, or endangered and afforded varying degrees of protection through the applicable requirements of the Federal Endangered Species Act (FESA), the California Native Plant Protection Act, and the California Endangered Species Act (CESA). These, as well as other sensitive species, require consideration in reviews of development projects under the California Environmental Quality Act (CEQA) and review of public works projects that have federal involvement of funding under the National Environmental Policy Act (NEPA).

Nineteen species that are State or federally listed as rare, threatened, or endangered species were identified as potentially present within the Planning Area. Eight of these species are either known to be present within the Planning Area or have a moderate to high probability of occurring due to the presence of suitable habitat.

- Nevin's barberry (*Berberis nevinii*). Known from hills southwest of San Timoteo Creek. May also occur in hills in other areas or along the Santa Ana River or Mill Creek.
- Slender-horned spineflower (*Dodecahema leptoceras*). Known from areas of Riversidean alluvial fan sage scrub along the Santa Ana River. May also occur along Mill Creek.
- Santa Ana River woolly star (*Eriastrum densifolium*). Known from areas of Riversidean alluvial fan sage scrub along the Santa Ana River. May also occur along Mill Creek.
- Southwestern willow flycatcher (*Empidonax trailii*). May nest in riparian forest in San Timoteo Creek and along other major watercourses.

- California gnatcatcher (*Polioptila californica*). Known from along the Santa Ana River and may also be present in Riversidean alluvial fan sage scrub and upland Riversidean sage scrub in other areas.
- Least Bell's vireo (*Vireo bellii*). Known from riparian habitat along San Timoteo Creek and may also occur in other riparian areas.
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*). Known from areas of scrub and grassland along the Santa Ana River and Mill Creek. May also occur in San Timoteo Canyon.
- Stephens' kangaroo rat (*Dipodomys stephensi*). Potentially suitable habitat occurs in grassland in the southern and eastern portions of the Planning Area.

Another species, Arroyo toad (*Bufo californicus*), has a low probability of occurring along San Timoteo Creek or perhaps other drainages in the Planning Area.

Ten other species that are listed as rare, threatened, or endangered and reported from the general vicinity of Redlands are not expected to occur in the Planning Area. These include marsh sandwort (*Arenaria paludicola*), salt marsh bird's beak (*Chloropyron maritimum* spp. *maritimum*), Gambel's watercress (*Nasturtium gambelli*), Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*), Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), Santa Ana sucker, Sierra Madre yellow-legged frog (*Rana muscosa*), Swainson's hawk (*Buteo swainsoni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and lesser long-noted bat (*Leptonycteris yerbabuena*). Even though Santa Ana sucker is not expected to occur in the Planning Area, a portion of the Planning Area along the Santa Ana River is designated as critical habitat for this species because it provides water and sediment transport important to downstream populations.

An additional 46 non-listed sensitive species were identified as potentially present in the Planning Area. Of these, the following 28 species have a moderate to high potential for occurrence due to presence of suitable habitat. Although these species are not listed as threatened or endangered, they are of limited distribution and ongoing development in the region is further reducing their ranges and numbers.

Table 6-1 summarizes the listing status, habitat requirements, and probabilities of occurrence of these species.

**TABLE 6-1: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PLANNING AREA OR VICINITY**

Species	Status	Habitat and Distribution	Activity Period	Probability of Occurrence in the Planning Area
<b>Plants</b>				
<i>Berberis nevini</i> <b>Nevin's barberry</b>	US: FE CA: SE/1B	Gravelly wash margins in alluvial scrub or coarse soils and rocky slopes in chaparral at 275 to 825 meters (900 to 2,700 feet) elevation. Known occurrences at higher elevations are planted (not natural). Known only from Los Angeles, San Bernardino, Riverside, and San Diego Counties, California.	Blooms March through June (evergreen shrub, survey year-round)	Present. Known from hills southwest of San Timoteo Creek. May also occur in hills in other areas or along the Santa Ana River or Mill Creek.
<i>Chorizanthe parryi</i> var. <i>parryi</i> <b>Parry's spineflower</b>	US: – CA: 1B	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 40 to 1,705 meters (100 to 5,600 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	Blooms April through June (annual herb)	Present. Known from the northern and eastern portions of the Planning Area.
<i>Dodecahema leptoceras</i> <b>Slender-horned spineflower</b>	US: FE CA: SE/1B	Sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent over bank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions. Occurs at 200 to 760 meters (600 to 2,500 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.	Blooms April through June (annual herb)	Present. Known from areas of Riversidean alluvial fan sage scrub along the Santa Ana River. May also occur along Mill Creek.
<i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i> <b>Santa Ana River woollystar</b>	US: FE CA: SE/1B	Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 90 to 625 meters (300 to 2,100 feet) elevation in San Bernardino and Riverside Counties.	Blooms May through September	Present. Known from areas of Riversidean alluvial fan sage scrub along the Santa Ana River. May also occur along Mill Creek.
<i>Chorizanthe xanti</i> var. <i>leucotheca</i> <b>White-bracted spineflower</b>	US: – CA: 1B	Sandy to gravelly places in Mojave desert scrub, pinyon and juniper woodland, or coastal scrub at 300 to 1,200 meters (980 to 3,900 feet) elevation. Reported from Los Angeles, Riverside, and San Bernardino Counties.	Blooms April through June (annual herb)	High. Known from along Mill Creek just outside the Planning Area.
<i>Centromadia pungens</i> ssp. <i>Laevis</i> <b>Smooth tarplant</b>	US: – CA: 1B	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Blooms April through November (annual herb)	Moderate. May occur in areas of alkaline soil.
<i>Imperata brevifolia</i> <b>California satintail</b>	US: - CA: 2B	Desert seeps, springs, moist canyons, canals, alkaline sinks, and similar wet areas below 500 meters (1,600 feet) elevation. Widespread in California and the western U. S. Also occurs in Mexico.	Blooms September through May (perennial grass)	Moderate. Known from the vicinity. May occur in San Timoteo Canyon or other moist sites.
<i>Monardella macrantha</i> ssp. <i>Hallii</i> <b>Hall's monardella</b>	US: – CA: 1B	Dry slopes and ridges in openings in chaparral, woodland, and forest at 695 to 2,195 meters (2,280 to 7,200 feet) elevation. Known only from Los Angeles, San Diego, Orange, Riverside, and San Bernardino Counties, California.	Blooms June through August (sometimes to October) (perennial herb)	Moderate. Known from just outside the Planning Area along Mill Creek. May also occur in hilly areas.
<i>Horkelia cuneata</i> ssp. <i>Puberula</i> <b>Mesa horkelia</b>	US: – CA: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	Blooms February through July (sometimes to September) (perennial herb)	Low. Planning Area is outside known range of species. Little or no suitable habitat.
<i>Sidalcea neomexicana</i> <b>Salt Spring checkerbloom</b>	US: – CA: 2B	Alkaline springs and brackish marshes below 1,530 meters (5,000 feet) elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico.	Blooms March through June (perennial herb)	Low. Only historical records (over 100 years old) from Redlands or vicinity.
<i>Sphenopholis obtusata</i> <b>Prairie wedge grass</b>	US: – CA: 2B	Wet meadows, stream banks, and ponds at 300 to 2,000 meters (1,000 to 6,600 feet) elevation. Widely distributed. In Southern California, known only from San Bernardino, Riverside (Santa Ana River), and perhaps San Diego Counties.	Blooms April through July (perennial herb)	Low. Historical records from vicinity, but none from the Planning Area.
<i>Streptanthus campestris</i> <b>Southern jewel-flower</b>	US: – CA: 1B	Open rocky areas in chaparral, lower montane coniferous forest and pinyon-juniper woodland at 600 to 2,400 meters (2,000 to 7,800 feet) elevation. In California, known from Riverside, San Bernardino, and San Diego Counties.	Blooms May through July (perennial herb)	Low. This is primarily a mountain species, but there is a historical record (1955) from Mill Creek Canyon a few miles east of Redlands.



**TABLE 6-1: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PLANNING AREA OR VICINITY**

Species	Status	Habitat and Distribution	Activity Period	Probability of Occurrence in the Planning Area
<i>Symphotrichum defoliatum</i> <b>San Bernardino aster</b>	US: – CA: 1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County.	Blooms July through November(perennial herb)	Low. There are historical records from the general vicinity, but none from the Planning Area.
<b>Fish</b>				
<i>Rhinichthys osculus ssp. 3</i> <b>Santa Ana speckled dace</b>	US: – CA: SSC	Found in the headwaters of the Santa Ana and San Gabriel River drainages. Found in riffles in small streams and shore areas with abundant gravel and rock.	Year-round	Present. Known from Mill Creek and the Santa Ana River.
<i>Gila orcuttii</i> <b>Arroyo chub</b>	US: – CA: SSC	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	Year-round	Low. Habitat in the Planning Area is unlikely to be suitable due to lack of perennial water in Santa Ana River and Mill Creek.
<b>Amphibians</b>				
<i>Spea hammondi</i> <b>Western spadefoot</b>	US: – CA: SSC	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	October through April (following onset of winter rains)	High. May occur in large road ruts and other temporarily ponded areas in undeveloped portions of the Planning Area.
<i>Anaxyrus (Bufo) californicus</i> <b>Arroyo toad</b>	US: FECA: SSC	Washes and arroyos with open water; sand or gravel beds; for breeding, pools with sparse overstory vegetation. Coastal and a few desert streams from Santa Barbara County to Baja California.	March through July	Low. Not reported from the Planning Area. Potential habitat along major watercourses (Santa Ana River, Mill Creek, San Timoteo Creek) is only marginally suitable, at best.
<b>Reptiles</b>				
<i>Aspidoscelis hyperythra</i> <b>Orangethroat whiptail</b>	US: – CA: SSC	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 915 meters (3,000 feet) elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties in southwest San Bernardino County, and in Baja California.	March through July with reduced activity August through October	Present. Occurs along the Santa Ana River, in the Crafton Hills, and around San Timoteo Canyon. May occur along washes and in scrub in other portions of the Planning Area as well.
<i>Anniella pulchra</i> <b>California legless lizard</b>	US: – CA: SSC	Inhabits sandy or loose loamy soils with high moisture content under sparse vegetation from central California to northern Baja California.	Nearly year round, at least in southern areas	High. Suitable habitat is present in undeveloped sites with loose soil.
<i>Crotalus ruber</i> <b>Red diamond rattlesnake</b>	US: – CA: SSC	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	Mid-spring through mid-fall	High. Suitable habitat occurs in hills and rocky areas along the major watercourses.
<i>Phrynosoma blainvillii (coronatum)</i> <b>Coast horned lizard</b>	US: – CA: SSC	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, and patches of loose soil for burial. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	April through July with reduced activity August through October	High. Suitable habitat is present along the Santa Ana River and in sandy areas in other portions of the Planning Area.
<i>Thamnophis hammondi</i> <b>Two-striped garter snake</b>	US: – CA: SSC	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. From Monterey County to northwest Baja California.	Diurnal Year-round	Moderate. May occur along San Timoteo Creek and in other areas of permanent or near permanent water.
<b>Birds</b>				
<i>Icteria virens (nesting)</i> <b>Yellow-breasted chat</b>	US: – CA: SSC (breeding)	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	April through September	Present. Known from riparian habitat along San Timoteo Creek. Suitable habitat exists in other areas of riparian forests and scrub.
<i>Lanius ludovicianus (nesting)</i> <b>Loggerhead shrike</b>	US: – CA: SSC (breeding)	Prefers open habitats with scattered small trees and with fences, utility lines, or other perches. Inhabits open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Found in open country in much of North America.	Year-round	Present. Known from San Timoteo canyon, and likely also occurs in other open habitats.

**TABLE 6-1: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PLANNING AREA OR VICINITY**

Species	Status	Habitat and Distribution	Activity Period	Probability of Occurrence in the Planning Area
<i>Polioptila californica</i> <b>California gnatcatcher</b>	US: FTCA: SSC	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California.	Year-round	Present. Known from along the Santa Ana River and may also be present in Riversidean alluvial fan sage scrub and upland Riversidean sage scrub in other areas.
<i>Setophagia petechia(nesting)</i> <b>Yellow warbler</b>	US: – CA: SSC (breeding)	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration. Occurs from western Mexico to northern South America in winter. Migrants are widespread and common.	Summer, winter, or Year-round, depending on locale	Present. Known from riparian habitat along San Timoteo Creek. Suitable habitat also occurs in other areas of riparian woodland, forest, and scrub.
<i>Vireo bellii pusillus</i> <b>Least Bell's vireo</b>	US: FECA: SE	Riparian forests and willow thickets. The most critical structural component of Least Bell's Vireo habitat in California is a dense shrub layer 2 to 10 feet (0.6–3.0 meter) above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	Present. Known from riparian habitat along San Timoteo Creek and may also occur in other riparian areas.
<i>Athene cunicularia (burrow sites)</i> <b>Burrowing owl</b>	US: – CA: SSC (breeding)	Open country with low or sparse vegetation in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports.	Year-round	High. Potentially suitable habitat is present in open areas associated with agriculture and in grassland throughout the Planning Area.
<i>Elanus leucurus (nesting)</i> <b>White-tailed kite</b>	US: – CA: CFP	Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America.	Year-round	High. Suitable habitat occurs along major watercourses with adjacent grassland or scrub.
<i>Aquila chrysaetos(nesting &amp; wintering)</i> <b>Golden eagle</b>	US: – CA: CFP	Generally open country of the Temperate Zone worldwide. Nesting primarily in rugged mountainous country. Uncommon resident in Southern California.	Year-round diurnal	Moderate. May forage over the Santa Ana River and other large open areas. No nesting habitat is present.
<i>Asio otus (nesting)</i> <b>Long-eared owl</b>	US: – CA: SSC (breeding)	Scarce and local in forests and woodlands throughout much of the Northern Hemisphere. Rare resident in coastal southern California. Nests and roosts in dense willow-riparian woodland and oak woodland, but forages over wider areas. Breeds from valley foothill hardwood up to ponderosa pine habitat.	Nocturnal Year-round	Moderate. Potentially suitable habitat exists for this species in riparian woodlands and adjacent areas.
<i>Empidonax traillii extimus</i> <b>Southwestern willow flycatcher</b>	US: FECA: SE	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and possibly extreme northwestern Mexico. Winters in Central and South America. Below 6,000 feet elevation.	May through September	Moderate. May nest in riparian forest in San Timoteo Creek and along other major watercourses.
<i>Agelaius tricolor (nesting colony)</i> <b>Tricolored blackbird</b>	US: – CA: SSC (breeding)	Open country. Forages in grassland and cropland habitats. Nests in large groups near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Occurs in western Oregon, California, and northwestern Baja California.	Year-round	Low. Habitat may be marginally suitable for this species at marshy sites in agricultural areas or along watercourses.
<b>Mammals</b>				
<i>Chaetodipus fallax fallax</i> <i>Northwestern</i> <b>San Diego pocket mouse</b>	US: – CA: SSC	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Year-round	Present. Known from areas of scrub and grassland in the northern and eastern portions of the Planning Area.
<i>Dipodomys merriami parvus</i> <b>San Bernardino kangaroo rat</b>	US: FECA: SSC	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern portion of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon.	Nocturnal, active year-round	Present. Known from areas of scrub and grassland along the Santa Ana River and Mill Creek. May also occur in San Timoteo Canyon.
<i>Neotoma lepida intermedia</i> <b>San Diego desert woodrat</b>	US: –CA: SSC	Found in desert scrub and coastal sage scrub habitat, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Year-round, mainly nocturnal, occasionally crepuscular and diurnal	Present. Known from areas of scrub along the Santa Ana River. Suitable habitat also exists in other areas of scrub and chaparral.

**TABLE 6-1: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PLANNING AREA OR VICINITY**

Species	Status	Habitat and Distribution	Activity Period	Probability of Occurrence in the Planning Area
<i>Perognathus longimembris brevinasus</i> <b>Los Angeles pocket mouse</b>	US: – CA: SSC	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties.	Nocturnal. Active late spring to early fall.	Present. Known from along the Santa Ana River. May also occur in other areas of scrub.
<i>Eumops perotis californicus</i> <b>Western mastiff bat</b>	US: – CA: SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	Year-round; nocturnal	High. Suitable foraging habitat exists in coastal sage scrub and grassland communities within the Planning Area. May roost in high buildings.
<i>Lasiurus xanthinus</i> <b>Western yellow bat</b>	US: – CA: SSC	Found mostly in desert and desert riparian areas of the southwest US, but also expanding its range with the increased usage of native and non-native ornamental palms in landscaping. Individuals typically roost amid dead fronds of palms in desert oases, but have also been documented roosting in cottonwood trees. Forage over many habitats.	Year-round; nocturnal	High. Palm trees suitable for roosting are scattered throughout Planning Area. Cottonwoods in San Timoteo Canyon and other areas may also provide suitable roosting habitat.
<i>Lepus californicus bennettii</i> <b>San Diego black-tailed jackrabbit</b>	US: – CA: SSC	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	Year-round, diurnal and crepuscular activity	High. Suitable habitat occurs in scrub and grassland communities in the northern, eastern, and southern portions of the Planning Area.
<i>Antrozous pallidus</i> <b>Pallid bat</b>	US: – CA: SSC	Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, rocky outcrops, tree hollows or crevices, mines and occasionally buildings, culverts, and bridges. Night roosts may be more open sites, such as porches and open buildings. Grasslands, shrublands, woodlands, and forest in western North America.	Year-round; nocturnal	Moderate. Potentially suitable roosting habitat exists in rocky outcrops, buildings, and bridges. Potentially suitable foraging habitat exists in grasslands, rocky slopes, woodland, and riparian forest communities.
<i>Dipodomys stephensi</i> <b>Stephens' kangaroo rat</b>	US: FECA: ST	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50% and soils suitable for burrowing (neither sandy nor too hard). Not found in soils that are highly rocky or sandy, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 915 meters (3,000 feet) elevation. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.	Year-round, nocturnal	Moderate. Potentially suitable habitat occurs in grassland in the southern and eastern portions of the Planning Area.
<i>Onychomys torridus ramona</i> <b>Southern grasshopper mouse</b>	US: – CA: SSC	Believed to inhabit sandy or gravelly valley floor habitats with friable soils in open and semi-open scrub, including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, preferring low to moderate shrub cover. Known from arid portions of southwestern California and northwestern Baja California.	Nocturnal, active year-round	Moderate. Potential habitat occurs in areas of scrub and chaparral.
<i>Taxidea taxus</i> <b>American badger</b>	US: – CA: SSC	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Year-round	Moderate. Potentially suitable habitat exists along the Santa Ana River and Mill Creek and in hilly portions of the Planning Area.
<i>Nyctinomops femorosaccus</i> <b>Pocketed free-tailed bat</b>	US: – CA: SSC	Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves. Rare in California, where it is found in Riverside, San Diego, Imperial and possibly Los Angeles Counties. More common in Mexico.	Year-round; nocturnal	Low. Marginally suitable habitat may occur in hilly areas in the eastern and southern portions of the Planning Area.

**US: Federal Classifications**

- FE: Listed as Endangered
- FT: Listed as Threatened
- CA: State Classifications
- SE: State-listed as Endangered
- ST: State-listed as Threatened
- SR: State-listed as Rare
- CFP: California Full Protected. Refers to animals protected from take under Fish and Game Code sections 3511, 4700, 5050, and 5515.
- SA: Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
- 1A: California Rare Plant Rank 1A – presumed extinct in California
- 1B: California Rare Plant Rank 1B – rare, threatened or endangered in California and elsewhere.
- 2B: California Rare Plant Rank 2 – rare, threatened or endangered in California, but more common elsewhere.

Source: LSA Associates, 2015.

## POLICIES

### Principles

- 6-P.7** Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities.
- 6-P.8** Minimize disruption of wildlife and valued habitat throughout the Planning Area and emphasize that open space is for more than just human use, but also serves as habitat for biological resources.
- 6-P.9** Preserve, protect, and enhance wildlife corridors, including natural watercourses, connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo and Live Oak Canyons, the Badlands, and other open space areas.
- 6-P.10** Landscape public areas using native vegetation where practical.

### Actions

- 6-A.11** Require a biological assessment of any proposed project site within the Planning Area where species that are State

or federally listed as rare, threatened, or endangered are identified as potentially present.

- 6-A.12** Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis that will determine the appropriate size and configuration of a buffer zone.
- 6-A.13** Utilize conservation easements and preserves as means to conserve natural habitats.
- 6-A.14** Construct freeway and arterial street undercrossings or overpasses where necessary to establish and preserve identified wildlife corridors.
- 6-A.15** Enhance the Mill Creek Zanja and Morey Arroyo and tributary drainages as riparian corridors, where feasible, to provide habitat as well as recreational and aesthetic value consistent with an overall master plan for habitat preservation.
- 6-A.16** Work with the Crafton Hills Open Space Conservancy to preserve, enhance, and maintain the Crafton Hills as an ecosystem.

- 6-A.17** Coordinate open space and habitat preservation in the Crafton Hills with the City of Yucaipa.
- 6-A.18** Coordinate open space and habitat preservation in San Timoteo and Live Oak canyons with Riverside County.
- 6-A.19** Continue participation in regional planning efforts to protect habitat and environmentally sensitive species, including efforts by the City of Yucaipa on habitat preservation along Yucaipa Creek and in Live Oak Canyon throughout its length.
- 6-A.20** Work with State and County agencies in developing recovery and restoration plans after natural or manmade disasters to restore natural landscapes, habitats, and functioning ecosystems. As part of the recovery and restoration plans, include evaluation processes and implementation actions. Where appropriate, incorporate the use of native species.
- 6-A.21** Ensure that future activities in the Santa Ana River Wash are consistent with the habitat conservation policies of the Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).



Open space on the periphery of Redlands, including the Santa Ana River Wash, are valuable natural environs for humans and animals alike, and contribute to the unique scenic character of Redlands.

## 6.3 AGRICULTURE AND OPEN SPACE FOR RESOURCE PRODUCTION

Open space for agriculture and for construction aggregate mining corresponds to the open space for managed production of resources under State law.

### Agriculture

Citrus farming was Redlands' original economic base. While most agricultural lands in Redlands have been lost due to urban development pressures, citrus farming remains an integral part of the city's identity. Agricultural land makes up 948 acres (4 percent) of land in the city; 1,269 acres (19 percent) of land in the Sphere of Influence, and 2,217 acres (7 percent) of land in the entire Planning Area, as shown on Figure 6-3. Agricultural areas are generally limited to the periphery of the Planning Area, mainly to the north along Santa Ana Wash, east in Mentone and Crafton, and south in San Timoteo Canyon. Agricultural production is devoted largely to citrus groves. Other forms of agriculture include other orchard crops, row crops, livestock, dairies, and Christmas tree farms. The city contains 1,137 acres of land classified by the California Farmland Mapping and Monitoring Program as Prime, of Statewide or Local Importance, or Unique, with another 1,866 acres in the Redlands Sphere of Influence.

### Agricultural Preservation

Much of the city's agricultural land is located in areas designated as Agricultural Preserve, a set of boundaries originally established in 1970 within which landowners may enter 10-year Williamson Act contracts to maintain open use in exchange for taxation based on agricultural use rather than market value. Williamson Act contracts renew automatically each year unless the owner of public entity (City or County) serves notice of nonrenewal, allowing the land to become available for development 10 years hence. As of 2017, there are 622 acres of farmland contracted under the Williamson Act in the Planning Area.

### Citrus Production

Citrus groves in the Planning Area outside of city limits include those in Mentone near the Redlands Airport, interspersed among development in the Mentone area, at the end of Mentone Boulevard, and throughout the Crafton area. Much of Crafton is devoted to citrus groves or other agricultural uses. San Bernardino County identifies the Crafton Hills Groves as a major open space area. The County notes that the area is of value primarily as an agricultural district, although it also has scenic value as an example of the once widespread citrus operations in the San Bernardino Valley.

The City of Redlands has a Citrus Preservation division in its Quality of Life Department, and operates citrus groves as an enterprise. The City owns 16 citrus groves throughout the city totaling 152 acres. The city's citrus heritage is discussed in Chapter 2. The groves are shown on Figure 6-3.

### Agricultural Designations

The General Plan Land Use Diagram (Figure 4-1) includes several designations to permit and to promote continued agriculture use. These designations include Agriculture on land within the city, and the Resource Preservation designation that

applies to land south of Sunset Drive, which permits continued agricultural use in San Timoteo Canyon. The Agriculture designation along Santa Ana Wash contains several citrus groves in Mentone. The Rural Living designation covers much of Crafton, which contains a large portion of orange groves in the Planning Area; this designation requires a minimum lot size of five acres (with larger lots on slopes greater than 15 percent). Figure 6-3 shows these designations together with existing agriculture uses.

### Construction Aggregates

The Santa Ana Wash adjoining Redlands contains high quality construction aggregates that have been mined since the 1920s. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the Surface Mining and Reclamation Act of 1975 (SMARA) which requires all cities and counties to incorporate in their General Plans the mapped designations approved by the State Mining and Geology Board (SMGB).

Redlands is required by SMARA to adopt policies recognizing the importance of the identified mineral resources, clarifying the intent that this information is to be used when making land use decisions in areas designated to be of statewide or regional significance, and emphasizing the conservation and development of identified mineral deposits. Figure 6-4 shows mineral land classifications and designated aggregate resource sectors as identified by the California Geological Survey (CGS). The mineral land classifications show areas inventoried by CGS in terms of mineral resource potential. The aggregate resource sectors show areas designated by SMGB as lands containing mineral resources of regional or statewide economic significance that are needed to meet the demands of the future. In some cases, previously designated areas have been terminated due to the development of land uses incompatible with mining; these are also shown on Figure 6-4. Classifications and designations may be updated by CGS and SMGB over time.

Mining in the Santa Ana Wash is being done on both sides of the boundary between the cities of Redlands and Highland. New areas are currently being proposed for mining along the northern Planning Area boundary by Sunwest Materials and Robertsons Ready Mix. While approximately 90 percent of the land is owned by public agencies (Bureau of Land Management, San Bernardino County, City of Redlands, and San Bernardino Valley Water Conservation District), the land is leased to allow mining and (haul) roads.

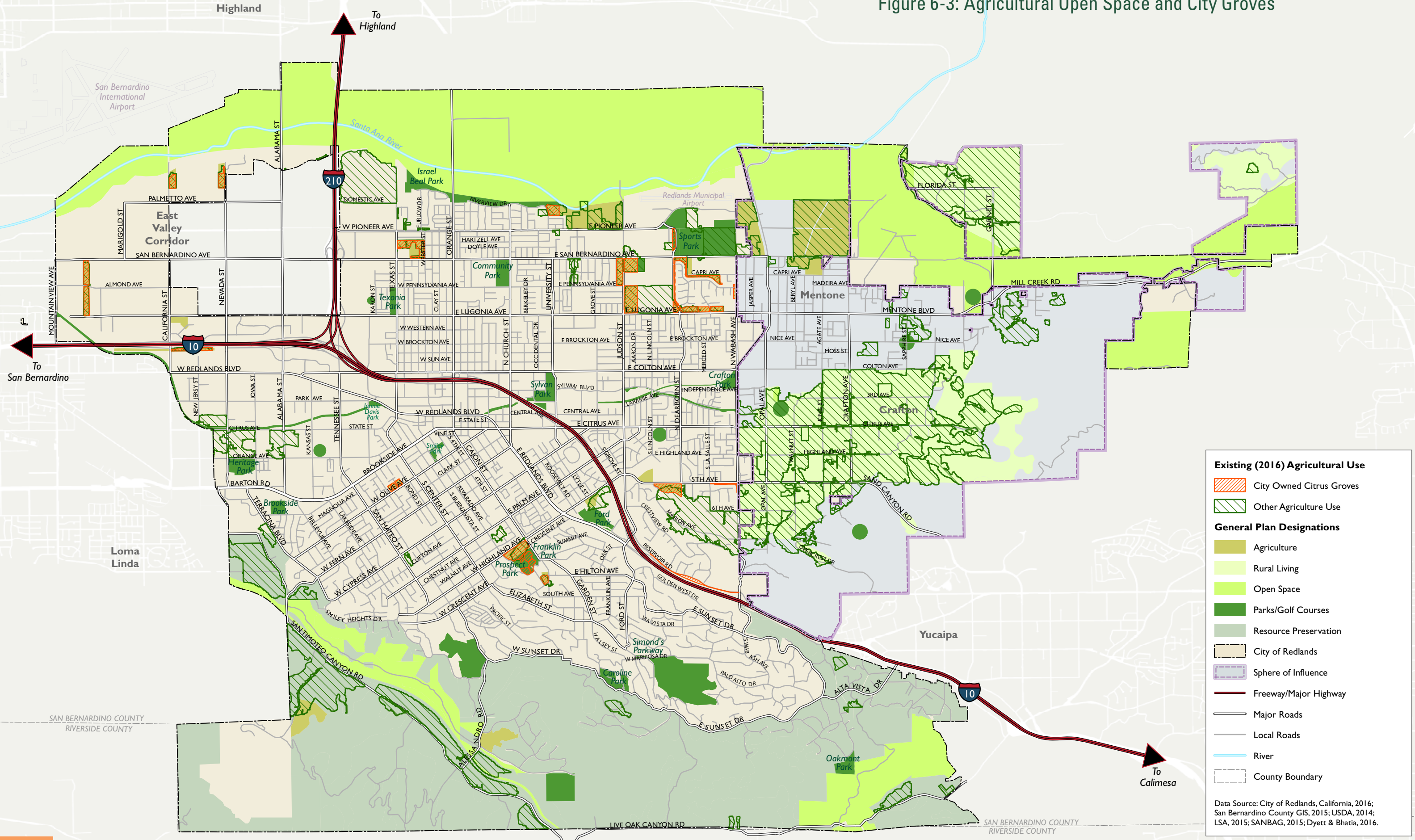
In 1990 Redlands annexed the Sunwest Materials (formerly C.L. Pharris Sand and Gravel Company's Orange Street Aggregates) processing plant built two years earlier under permits issued by San Bernardino County. The annexed area also included the Old Webster Quarry which is being mined by Robertson Ready Mix under permits issued by the County of San Bernardino. Based on information presented in 1987, the California Division of Mines and Geology estimates 50-year aggregate needs in the San Bernardino Production-Consumption Region at 476 million tons; 10.45 billion tons are potentially available as resources within the Santa Ana Wash area.

The Wash area is covered by the Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan), which provides for the coordination and accommodation of existing and anticipated future activities in the wash area. The Wash Plan proposes land use designations for the entire Wash area in Redlands, including land for habitat conservation, aggregate mining, flood control, and water conservation.



Historical citrus advertisements underscore the importance of the citrus industry to Redlands' identity.

Figure 6-3: Agricultural Open Space and City Groves



Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; USDA, 2014; LSA, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

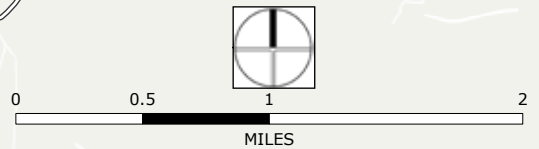
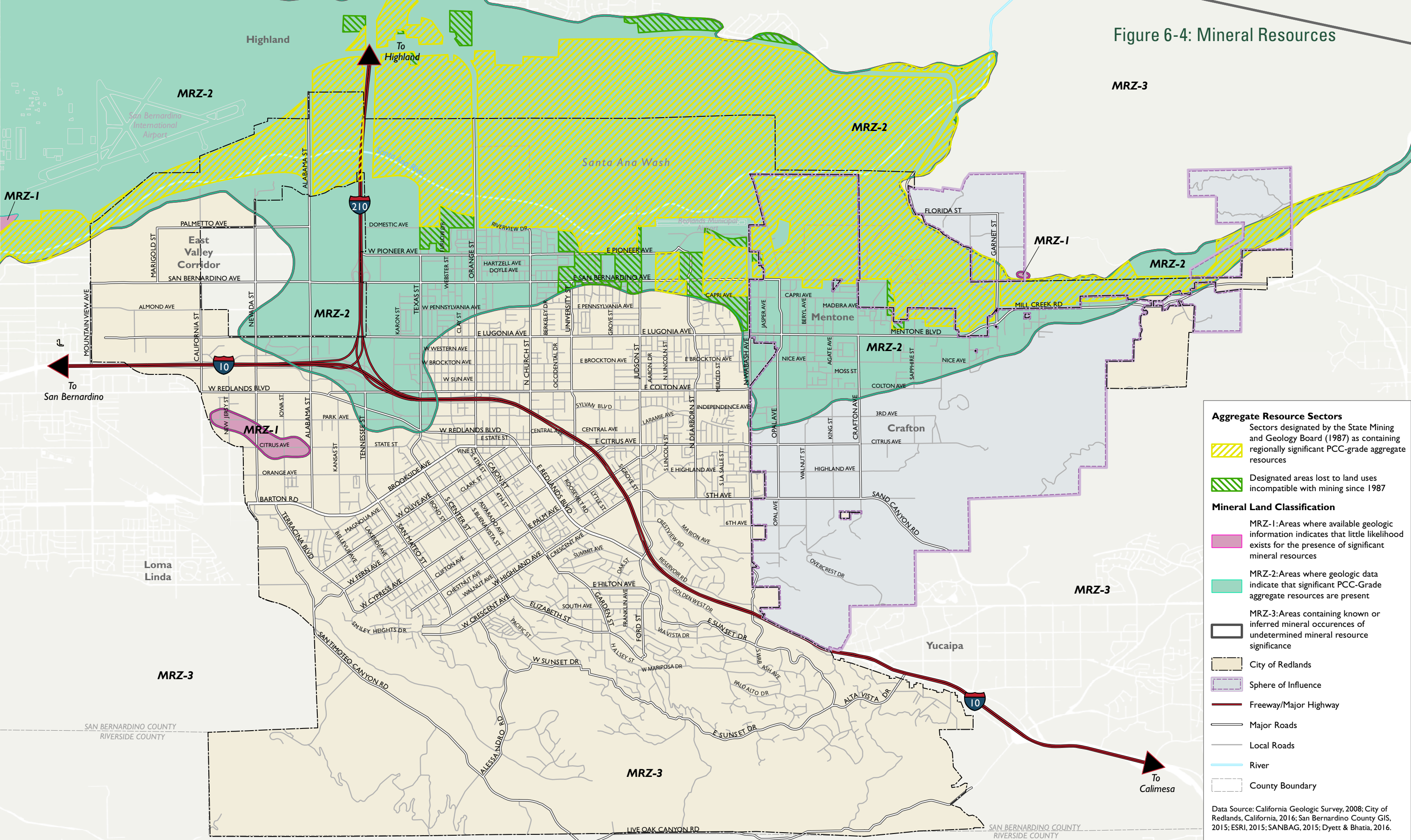


Figure 6-4: Mineral Resources



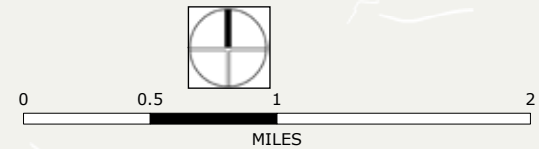
**Aggregate Resource Sectors**  
 Sectors designated by the State Mining and Geology Board (1987) as containing regionally significant PCC-grade aggregate resources

**Mineral Land Classification**

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources
- MRZ-2: Areas where geologic data indicate that significant PCC-Grade aggregate resources are present
- MRZ-3: Areas containing known or inferred mineral occurrences of undetermined mineral resource significance

City of Redlands  
 Sphere of Influence  
 Freeway/Major Highway  
 Major Roads  
 Local Roads  
 River  
 County Boundary

Data Source: California Geologic Survey, 2008; City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



# POLICIES

## Principles

### Agriculture

- 6-P.11** Retain the maximum feasible amount of agricultural land for its contributions to the local economy, lifestyle, air quality, habitat value and sense of Redlands' heritage.
- 6-P.12** Support the viability of agriculture through efforts to promote locally-grown produce and livestock as part of Redlands lifestyle and economy.
- 6-P.13** Preserve the identity of Crafton and San Timoteo /Live Oak canyons as farming neighborhoods.
- 6-P.14** Provide for the continued operation of existing livestock/dairy farms in areas of the San Timoteo and Live Oak canyons and Crafton designated as Resource Preservation, Rural Living, and Very Low Density Residential on the General Plan Land Use map.



- 6-P.15** Support appropriate commercial activities (i.e horse stables, agri-tourism) in rural areas.

### Construction Aggregates

- 6-P.16** Ensure that future mining activity in the Santa Ana River Wash area is consistent with the Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).
- 6-P.17** Ensure that adequate aggregate reserves for local and regional needs are available in accordance with the Wash Plan.
- 6-P.18** Reserve designated Mineral Resource Zone (MRZ) areas outside the Santa Ana River Wash for agricultural or open space uses.

## Actions

### Agriculture

- 6-A.22** Employ zoning for agricultural and rural living areas to maintain citrus and other croplands in production where designated on the General Plan Land Use map.
- 6-A.23** Permit transfer of development rights (TDR) between agreeable owners to preserve agricultural land and citrus groves. Develop an agricultural land mitigation program to conserve agricultural land through agricultural conservation easements at a ratio of 1:1 or greater.

*The City may also take advantage of funding opportunities in order to establish such a program.*

- 6-A.24** Utilize local land trusts to make the most efficient use of funds available for agricultural preservation.
- 6-A.25** Utilize State and non-profit funds for agricultural conservation easements with willing participants.
- 6-A.26** Ensure that new development adjacent to an agricultural use is compatible with the continuation of the use by requiring appropriate design criteria, such as site layout, landscaping, and buffer areas.
- 6-A.27** Promote "agri-tourism", farm-to-table promotions, roadside stands, and farmers markets to enhance the economic viability of farming in Redlands.

- 6-A.28** Permit and encourage community gardens in City parks and open spaces, and in the open space areas of new developments.
- 6-A.29** Encourage retention or establishment of horse stables and riding academies in the Highland-Canyons planning subarea to meet the needs of the Planning Area's equestrians.

### Construction Aggregates

- 6-A.30** Designate mineral resource (mining) areas as identified in the Wash Plan.
- 6-A.31** Apply zoning regulations in designated Regionally Significant Construction Aggregate Resource Areas allowing aggregate extraction as a conditional use and prohibiting land uses incompatible with mining operations.
- 6-A.32** Deny approval of surface mining permits at locations where unmitigated adverse impacts would be significantly greater than at alternative locations within the San Bernardino Production-Consumption Region.
- 6-A.33** Make issuance of a surface mining permit conditional upon approval of a reclamation plan and financial assurances for reclamation in accord with Public Resource Code Section 2770.



## 6.4 WATER QUALITY

### Regulatory Context

#### Clean Water Act

The 1972 Clean Water Act (CWA) is the primary federal law regulating water quality in the United States. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. At the federal level, the CWA is administered by the EPA. In California, the CWA is administered and enforced by the State Water Resources Council board (SWRCB) and nine regional water quality control boards.

#### National Pollutant Discharge Elimination System Program

The federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (Section 402). The NPDES permit program is the primary federal program that regulates point source and nonpoint-source discharges to waters of the United States. The City's NPDES program has been in effect since 2004 and consists of business and construction inspections, program compliance reporting, record keeping, educational outreach, studies and reports, and storm water monitoring activities.

#### Water Conservation Act of 2009

California legislation enacted in 2009 as SB 7 of the 7th Special Legislative Session (SB X7-7) instituted a new set of urban water conservation requirements known as "20 Percent By 2020." These requirements stipulate that urban water agencies reduce per-capita water use within their service areas by 20 percent relative to their use over the previous 10 to 15 years.

#### Upper Santa Ana River Watershed Integrated Regional Water Management (IRWM) Plan

The most current IRWM was developed in 2015, and serves as an update to the previous IRWM developed in 2007. The City was involved in developing and updating the IRWM. Goals of the IRWM include improving water supply reliability, balancing flood management and increasing stormwater recharge, improving water quality, and improving habitat and open space.

#### San Bernardino Valley Regional Urban Water Management Plan (RUWMP)

The 2015 RUWMP is a document that provides a summary of anticipated supplies and demands through 2040. The City of Redlands is one of 10 water providers included in the RUWMP.

#### City of Redlands Water Efficient Landscape Requirements

Chapter 15.54 of the Redlands Municipal Code establishes the City's Water Efficient Landscape Requirements to promote the benefits provided by landscapes while recognizing the need to use water as efficiently as possible. The chapter requires applicable landscaping projects to submit a landscape documentation package that contains project information, hydrozone information table, water budget calculations, soil management report, and landscape, irrigation, and grading design plans. The chapter establishes requirements for irrigation scheduling, maintenance, and audits to ensure efficient use of water. The requirements also include provisions for non-potable water irrigation systems, and encourage stormwater best management practices to increase on-site retention and infiltration.

### Stormwater

The City of Redlands' stormwater drainage system serves an area of approximately 37 square miles. Stormwater runoff flows by gravity into the Mission Channel, Morrey Arroyo Creek, and San Timoteo Canyon, and discharges to the Santa Ana River. Drainage throughout the city is generally from east to west to one of two main existing major stormwater drainage facilities.

Of concern to Redlanders is the quality of water that flows through the city. As rain falls onto the city streets and runs off, it carries with it pollutants such as pet waste, gasoline, oil, and heavy metals. Pesticides, herbicides, and fertilizers are washed from lawns and other green spaces. Sediments are eroded by wind and water from construction sites and vegetated landscape areas.

The City's stormwater management program is regulated by the NPDES stormwater permit, commonly known as MS4 permit, issued by the Regional Water Quality Control Board, Santa Ana Region. City ordinances require use of Best Management Practices (BMPs) for the control of pollutants that could potentially enter the storm drain system.



Bottom: Water is purified at a water treatment plant. Top: Filtration ponds are an example of Redlands' Best Management Practices for stormwater control.

## POLICIES

### Principles

- 6-P.19** Promote the protection of waterways in Redlands from pollution and degradation as a result of urban activities.
- 6-P.20** Pursue creative, innovative, and environmentally sound methods to capture and use stormwater and urban runoff for beneficial purposes.

- 6-P.21** Work with regional organizations to manage groundwater resources of the Bunker Hill Basin.

### Actions

- 6-A.34** Update City development standards to improve the capture of runoff and stormwater management through innovative green and blue infrastructure solutions such as the use of permeable

surfaces, vegetation areas, swales, BMPs, and other methods to recharge the groundwater basin.

- 6-A.35** Promote the use of Low Impact Development strategies, BMPs, pervious paving materials, and on-site infiltration for treating and reducing stormwater runoff before it reaches the municipal stormwater system.

- 6-A.36** Require measures during construction and post construction to limit land disturbance activities such as clearing and grading and cut-and-fill; avoid steep slopes, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.

- 6-A.37** Protect and, where feasible, enhance or restore the city's waterways, including zanjas and ditches, preventing erosion along the banks, removing litter and debris, and promoting riparian vegetation and buffers.

- 6-A.38** Encourage development that reflects an integrated approach to building design, civil engineering, and landscape architecture that maximizes rainwater harvesting and stormwater retention for landscape irrigation.

- 6-A.39** Require that new development provides landscaping and re-vegetation of graded or disturbed areas with drought-tolerant native or non-invasive plants.

- 6-A.40** Maximize the amount of pervious surfaces in public spaces to permit the percolation of urban runoff.

- 6-A.41** Provide a comprehensive public outreach program to educate residents and local businesses about the importance of stormwater pollution prevention.

- 6-A.42** Ensure that public areas, including streets and recreational areas, are routinely cleaned of litter, debris, and contaminant residue. Coordinate with and support efforts by other organizations or volunteer groups to promote cleanups of parks and public open spaces. Require the City, property owners, or homeowners' associations, as applicable, to sweep permitted parking lots and public and private streets frequently to remove debris and contaminated residue.

- 6-A.43** Ensure that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate. Dry weather runoff from new development must not exceed the pre-development baseline flow rate to receiving waterbodies.

- 6-A.44** Continue partnerships with other local agencies to implement the Area-Wide Urban Storm Water Runoff Management Program and the Integrated Regional Watershed Management Plan.



*Pesticides and other chemicals are present in agricultural irrigation runoff.*



# 7

## Healthy Community

**Foster a healthy community in a safe environment that promotes active lifestyles, wellness, and access to recreation and locally sourced foods.**

Redlands community members support a wide variety of healthy community initiatives, including farmers' markets and access to fresh and local vegetables and fruits, increased access to parks and open spaces, and improved pedestrian facilities.

The community will support healthy living by celebrating its agricultural heritage through educational programs and seasonal festivals that bring income to area farmers while connecting local grocers and restaurants with growers to increase availability of local produce around town.

The city's network of parks and recreation facilities should meet the community's active lifestyle needs by promoting access and connectivity to trails, as well as the strategic addition of more parks and active

play areas. New and enhanced walking and biking paths, designed in collaboration with the community, will provide convenient connections to destinations. The Emerald Necklace will include trails to meet the needs of joggers, cyclists, and equestrian riders as well as users of all ages and abilities seeking to enjoy the city's open spaces. Access, park service levels, and facilities meeting the needs of the community's diverse population will be considered in long-range planning, especially in areas targeted for infill and new development.

The City will proactively plan for its response to natural and man-made disasters, enlisting volunteers to work with emergency management professionals to make the community more resilient.



## 7.1 ACTIVE LIFESTYLE

The term “active lifestyle” refers to the incorporation of activities such as walking, biking, and play into one’s daily routine. Redlands’ development pattern—a grid of streets and small blocks, with many residential areas surrounding Downtown—and the flat topography in much of the city makes it a community conducive to active lifestyles. The General Plan seeks to foster walkability and active lifestyles in the Transit Villages, which are expected to be the principal areas of new growth in the community, and improve active transportation throughout the city. Residents respond positively to improving opportunities for activity, including creating new recreational activities, providing trail linkages, and creating parks and plazas. Education, events, and programs that capitalize on the city’s walkable urban assets will further support active lifestyles.

## POLICIES

### Principles

- 7-P.1** Promote active lifestyles and community health by furthering access to trails, parks, public open space, and other recreational opportunities.
- 7-P.2** Promote programs and community events to support active living.
- 7-P.3** Encourage businesses to support employee wellness programs that facilitate healthy living.



## 7.2 PARKS AND RECREATIONAL OPEN SPACE

This section contains policies for parks, golf courses, recreation facilities, and areas of outstanding scenic and cultural value, that correspond to the “open space for outdoor recreation” category in State planning law. These includes trails and other linkages between major recreation and open space preservation areas.

The parks, trails, and open space system has long been a prominent focus of Redlands’ planning efforts. While the park system is wide-reaching and generally well-distributed throughout the city, this system must be continually maintained and expanded to respond to population growth and adapt to the needs of an increasingly diverse and aging population. Existing parks encompass about 424 acres in the city, summarized in Table 7-1. Figure 7-1 shows existing and planned parks and recreational facilities, with proposed parks indicated with a symbol showing their generalized locations. At some locations, more than one site in the vicinity of the symbol may be appropriate and could be approved without amending the General Plan.

### Parkland Classification

There are several different kinds of parks in Redlands, including community parks, neighborhood parks, and pocket parks. The types of parks are as follows:

- **Community parks.** These parks are generally large in size—typically at least 15 acres—and include a variety of activities for a variety of ages. The six developed community parks range in size from 18 to 36 acres. Three additional proposed community parks would range from 20 to 27 acres.
- **Neighborhood parks.** Neighborhood parks are designed primarily to meet the needs of elementary school-aged children living within one mile. They typically contain picnic and play areas. The eight existing parks range from three to 18 acres. Several new neighborhood parks are designated throughout the Planning Area.
- **Pocket parks.** These are small parks nestled in the midst of densely developed areas.
- **Other parks.** Terrace Park is a linear park featuring a tree-lined walkway. The San Timoteo Nature Sanctuary is a Redlands Conservancy-run reserve for natural species in the San Timoteo Canyon. Sunset Hills Park is intended for passive recreation, trails, and equestrian uses.

TABLE 7-1: EXISTING PARKS (2016, CITY OF REDLANDS)

Park	Acreage	Park	Acreage
<b>Pocket Parks</b>		<b>Community Parks</b>	
Ed Hales Park	0.2	Community Park	18.2
Franklin Park	0.7	Ford Park	20.4
Orange Street Alley	0.1	Heritage Park	18.4
Simonds Parkway	0.8	Prospect Park	31.6
<b>Neighborhood Parks</b>		Redlands Sports Park	36.2
Brookside Park	9.5	Sylvan Park	18.4
Caroline Park	18.2	<b>Other Parks</b>	
Crafton Park	6.8	Sunset Hills Park	40.0
Israel Beal Park	8.1	Terrace Park	2.4
Jennie Davis Park	2.8	San Timoteo Nature Sanctuary	160.0
Oakmont Park	14.6	<b>TOTAL PARKLAND</b>	
Smiley Park	8.3	<b>424.2</b>	
Texonia Park	8.5	<i>Sources: City of Redlands, 2014; City of Redlands, 2015; Dyett &amp; Bhatia, 2015.</i>	



**TABLE 7-2: PARKLAND PROVISION STANDARD (2015)**

	<b>Acres</b>
Parkland <sup>1</sup>	253.5
School Recreational Area <sup>2</sup>	71.5
San Timoteo Nature Sanctuary <sup>3</sup>	80.0
Total Applicable to Park Standard	405
Population (2015) <sup>4</sup>	68,049
Park acres/1,000 residents	6.0

**Notes:**

1. Does not include San Timoteo Nature Sanctuary, undeveloped parks, school grounds, citrus groves (including 10.7 acres of groves at Prospect Park), or spaces that were part of other facilities (such as the Community Center and the Texas Armory).
2. Equals 50 percent of 2015 calculation of total school recreational area.
3. Equals 50 percent of land in the sanctuary; the entire sanctuary land is owned by the City.
4. Population estimate from the California Department of Finance, January 2015.

Sources: City of Redlands, 2016; Dyett & Bhatia, 2016.

**TABLE 7-3: PROJECTED PARK NEEDS FOR THE PLANNING AREA (2035)**

<b>Redlands</b>	
2035 Population	79,013
2015 Population	68,049
New Residents in 2035	10,964
New Resident Parkland Needs (acres)	55
<b>Planning Area</b>	
2035 Population	93,624
2015 Population <sup>1</sup>	77,269
New Residents in 2035	16,355
New Resident Parkland Needs (acres)	82

Sources: City of Redlands, 2016; Dyett & Bhatia, 2016.

**Parkland Standard and Proposed Parks**

**Parkland Standard**

The General Plan establishes a parkland/recreational space standard of 5 acres per 1,000 residents, consistent with State law (Quimby Act). The current (as of 2016) parkland exceeds this standard (Table 7-2).

In 2035, the City of Redlands is estimated to have approximately 10,964 new residents for a total projected population of 79,013. Based on the parkland standard of 5 acres per 1,000 residents, 55 acres of new parkland would be required to meet the needs of new residents (Table 7-3). For the Planning Area including the Sphere of Influence, an estimated 82 acres would be required to meet the needs of new residents.

**Proposed Parks**

Proposed parks are intended to meet the needs of new and existing residents in areas where additional development is anticipated, as well as in areas that are currently underserved by recreational facilities. New parkland will be necessary to serve residents and employees of newly created neighborhoods and employment centers throughout the Planning Area, including those in the proposed Transit Village Areas. Parkland proposed for the Planning Area totals approximately 315 acres, including 118 acres of undeveloped parkland. Proposed parks are shown in their approximate locations in Figure 7-1, and descriptions are provided in Table 7-4.



Texonia Park features a playground for neighborhood children.

**TABLE 7-4: UNDEVELOPED AND PROPOSED PARKS**

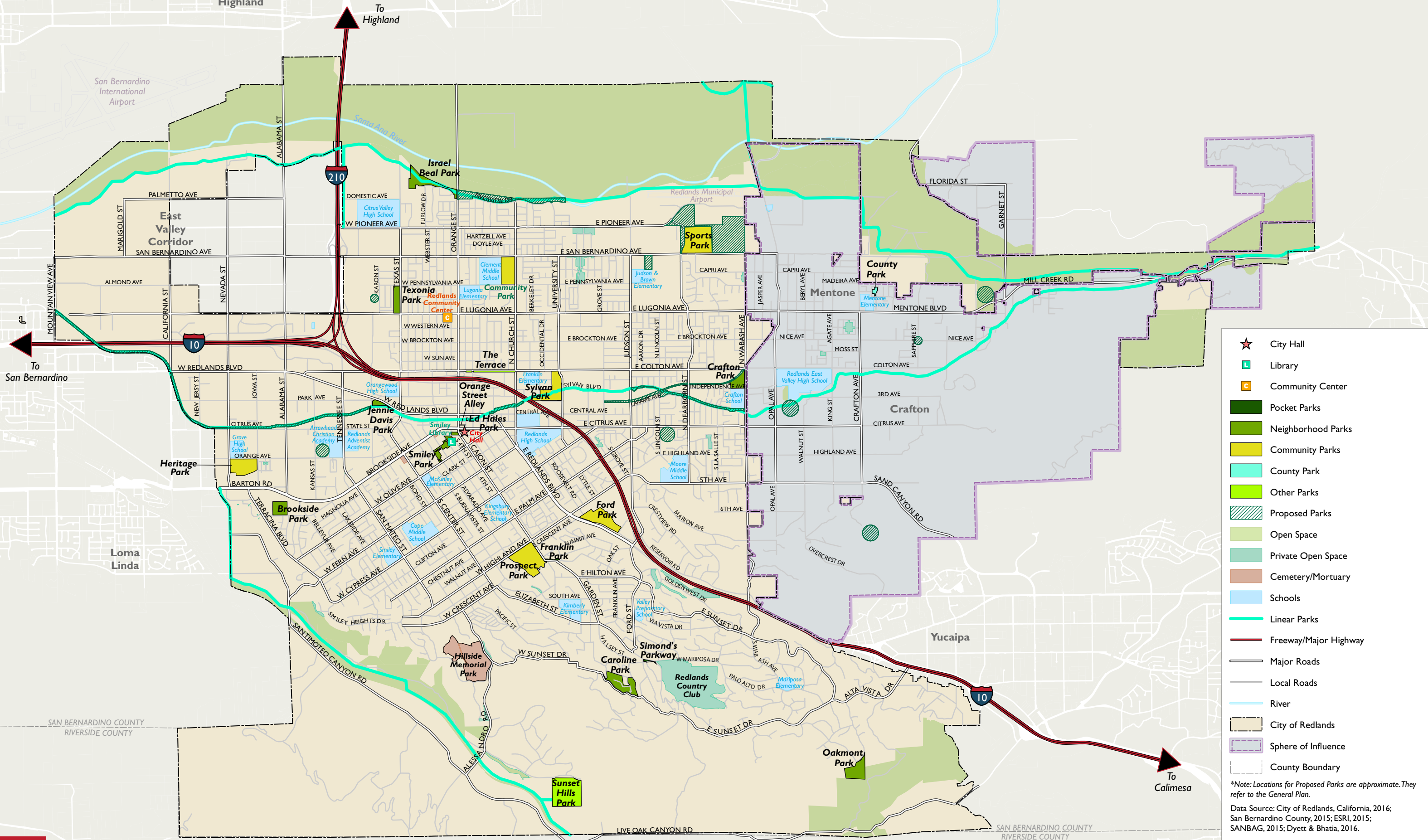
Park Name	Acres	Notes
<b>Undeveloped</b>		
Centennial	30.0	Located along the bluffs adjacent to Riverview Drive, this land was acquired for recreational uses including trails and parkland as well as for flood control. The Santa Ana River Trail is planned to go through this park.
Lincoln/Laramie	0.8	Pocket park located near the intersection of Lincoln Street and Laramie Avenue. Adjacent to the Orange Blossom Trail and the planned Mission/Zanja Trail.
Amethyst/Hwy 38 (Scout House)	27.1	Acquired for use as a community park serving the Mentone Area. This park lies adjacent to the future extension of San Bernardino Avenue.
Redlands Sports Park Completion	60.0	A community park on the corner of Dearborn Street and San Bernardino Avenue. A portion of the park (36.2 acres) has been developed for active recreation, with 60 acres as yet unbuilt. Future improvements will include additional athletic fields.
<b>TOTAL UNDEVELOPED PARKLAND</b>	<b>117.9</b>	
<b>Proposed (Redlands)</b>		
West Redlands	5.0	Proposed neighborhood park near the intersection of Kansas Street and Orange Avenue
New York Street	0.5	Proposed pocket park near the intersection of New York Street and Lugonia Avenue. Potentially developed as a linear park with a Class I bicycle and multi-purpose trail along New York Street.
Israel Beal Park Expansion	20.0	Continued expansion of Israel Beal Park along the bluffs as land is developed on its western border. Additional acreage will include active and passive recreation area as well as trails including the future location of the Santa Ana River Trail.
Lincoln Street	5.0	Proposed neighborhood park at the intersection of Citrus Avenue and Lincoln Street. This park could incorporate elements of the historic citrus grove.
Mission/Zanja Park	10.4	Proposed as a linear park that would follow the Mission Zanja. To be developed as a natural trail with neighborhood and pocket parks along its length.
San Timoteo Landfill	75.0	Proposed as a regional park on the County landfill site
Transit Villages <sup>1</sup>	20.0	Proposed as approximately 20 acres of community and neighborhood parks to serve residents and employees in the Transit Village Overlay Zone
<b>TOTAL PROPOSED PARKLAND (REDLANDS)</b>	<b>140.9</b>	
<b>Proposed (Sphere of Influence)</b>		
Opal Detention Basin	20.0	Proposed as a community park adjacent to the future Opal Detention Basin (part of proposed storm water management improvements). Adjacent to East Valley High School and the extension of Mission/Zanja Park into the Sphere of Influence.
Garnet Street	20.0	Proposed as a community park serving the Mentone Planning Area
Nice Avenue	1.0	Proposed as a neighborhood park near the intersection of Nice Avenue and Sapphire Avenue
Sand Canyon	15.0	Proposed as a 15-acre park to serve new residential development near Sand Canyon. Should this development not occur, the park would no longer be necessary.
<b>TOTAL PROPOSED PARKLAND (SPHERE OF INFLUENCE)</b>	<b>56.0</b>	
<b>TOTAL PROPOSED PARKLAND</b>	<b>196.9</b>	
<b>TOTAL UNDEVELOPED AND PROPOSED PARKLAND</b>	<b>314.8</b>	

*Note:*

*1. Specific locations for these parks have not yet been proposed. See section 4.4 for conceptual illustrations of potential parkland in the Transit Village areas.*

*Source: City of Redlands, 2016.*

Figure 7-1: Existing and Planned Parks  
Highland



- ★ City Hall
  - L Library
  - C Community Center
  - Pocket Parks
  - Neighborhood Parks
  - Community Parks
  - County Park
  - Other Parks
  - ▨ Proposed Parks
  - Open Space
  - Private Open Space
  - Cemetery/Mortuary
  - Schools
  - Linear Parks
  - Freeway/Major Highway
  - Major Roads
  - Local Roads
  - River
  - City of Redlands
  - ▭ Sphere of Influence
  - ▭ County Boundary
- \*Note: Locations for Proposed Parks are approximate. They refer to the General Plan.
- Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

Note: Parks and Open Space in Resource Preservation area are part of the "Resource Preservation" designation.



## Recreation Facilities

Recreational facilities in Redlands include the Redlands Community Center, the Community Senior Center, the Joslyn Senior Center, neighborhood community gardens, and the Carriage House. Large open spaces, including the San Timoteo Canyon, Live Oak Canyon, and the Crafton Hills also provide recreational space. The City of Redlands currently has joint use agreements with the Redlands Unified School District and the Grove School allowing public access to school recreational facilities. The agreement with the school district allows the City and the District to use facilities, parks, sports fields and classrooms as needed for community activities, such as the community gardens, adult and youth sports, and after school programs.

## Trails

### Redlands Trails

The City of Redlands provides public trails for walking, jogging, bicycling, and equestrian use. Some trails are located within City parks and open space, while others act as linkages between the parks or to other regional trails. Several of the City's trails have been named "Heritage Trails" by the Redlands Conservancy, and are maintained by the Redlands Conservancy through a memorandum of understanding. Redlands' public trails are summarized in Table 7-5. The Planning Area's existing and proposed recreational trail network is shown in Figure 7-2.

The General Plan provides for a system of trails serving recreational and emergency access needs to accommodate walking, hiking, jogging, equestrian, and bicycle use. A number of these are shown as planned in the 2015 City of Redlands Bicycle Master Plan, including many regional connections.

### Trails Under Implementation

- **Orange Blossom Trail.** The Orange Blossom Trail Master Plan was completed in 2008 and the trail is currently (2016) under construction, with sections completed between Bryn Mawr Avenue and Texas Street and between Grove Street and Wabash Avenue. When complete, it will be a 7.5-mile trail that runs east to west across the city, passing through Downtown.
- **Mill Creek Zanja Trail.** The Zanja Trail and Greenway Park Project is currently in the conceptual stage. The general alignment of the trail follows the historic Mill Creek Zanja as it runs east to west across the city. The proposed 2.2-mile alignment runs from Wabash Avenue along Sylvan Boulevard, and ends at Redlands Boulevard and 9th Street. The Mill Creek Zanja Trail will intersect the Orange Blossom Trail and join it for some stretches, and will connect the University of Redlands with Downtown, parks, schools, and other destinations. The trail project also includes park improvements, pocket park development, interpretive signage, and flood control facilities. Ultimately, the trail is planned to connect to the trail system in Crafton Hills.



The Mill Creek Zanja Trail, shown in a conceptual rendering, is poised to become a vibrant public thoroughfare.

- **Mountain View Avenue Trail.** This multi-use trail will run along Mountain View Avenue from the Orange Blossom Trail to the Santa Ana River Trail. The Mountain View Avenue Trail has been built from San Bernardino Avenue to the Orange Blossom Trail, but is not yet complete through the Edison property.

### Proposed Trails

Proposed trails include the Sand Canyon Trail along Sand Canyon Road; a series of trails that would connect the Deer Trail to the parks and trail systems surrounding Sunset Drive in the canyon lands as well as Redlands Boulevard; the East Valley Corridor Bikeway along California Street; and trails that connect Redlands to Highland across the Santa Ana River wash at Alabama Street, Orange Street, and Florida Street.

Proposed trail alignments would also connect or extend segments of the East Valley Corridor Multi-Purpose Trail, the San Timoteo Creek Flood Control Trail, and the Gold Hill/Panorama Point Trail. The Garden/Panorama Point Trail, a segment that would connect the Garden/Mariposa Trail to Panorama Point, has also been proposed.

TABLE 7-5: REDLANDS TRAILS

Trail Name	Length (mi)
Bluffs Trail (H) <sup>1</sup>	0.89
Caroline Park Trails (H)	1.41
Church Street to Panorama Point	2.90
Cordillera Roadside Trail	1.74
Creekside Trail (H)	0.71
Deer Trail	0.14
East Valley Corridor Multi-Purpose Trail (H)	2.02
Garden/Mariposa Trail (H)	1.61
Gold Hill/Panorama Point Trail (H)	2.51
Oakmont Trail (H)	1.81
Oakridge Trail (H)	1.42
Old Carriage Road (H)	2.83
Orange Blossom Trail <sup>2</sup> (H)	2.83
Prospect Park Trail (H)	1.29
San Timoteo Creek Flood Control Trail	2.52
Sylvan Park Trail (H)	0.20
Teddy's Trail (H)	0.38
The Terrace (linear park)	0.37
<b>TOTAL</b>	<b>27.58</b>

#### Notes:

1. (H) identifies Heritage Trails that are maintained by the Redlands Conservancy.
2. The Orange Blossom Trail is proposed to be a 7.5-mile bike and pedestrian trail; currently 2.83 miles are constructed.

Source: City of Redlands, 2016.

## Regional Trails

- **Crafton Trails.** A recreational trail system exists in the Crafton Hills, on land held by the Crafton Hills Open Space Conservancy. These include the College Trail, which leads from the Crafton Hills College campus, and trails connecting the Yucaipa Regional Park to Zanja Peak.
- **Yucaipa Trails.** The City of Yucaipa's trail system includes walking trails and bike lanes along Sand Canyon and Oak Glen roads. The proposed Sand Canyon Trail and Live Oak Canyon Trail in Redlands would link to these trails. Additionally, the proposed Yucaipa Boulevard Trail would link the Redlands Gold Hill/Panorama Point Trail to sidewalks and bike lanes along Yucaipa Boulevard. There are also the Yucaipa City hiking trails at the foot of the Crafton Hills.
- **Loma Linda Trails.** The Barton, Beaumont, and Mountain View trails in Loma Linda connect to the Redlands bicycle network. The San Timoteo Creek Trail in Loma Linda would connect to the proposed San Timoteo Creek Trail in Redlands.
- **Highland Trails.** Trails along 5th Street and Greenspot Road traverse the City of Highland and follow along the northern banks of the Santa Ana River Wash. Proposed trails in Redlands would cross the wash and connect to these trails at Alabama Street, Orange Street, and Florida Street.

## Proposed Trails

### Connecting Trails

- **Lugonia Trail.** This trail will provide a north-south connection between the Santa Ana River Trail at the bluffs overlooking the wash and the Orange Blossom Trail at Redlands Boulevard. It will also provide connections to the New York Street Transit Village, Citrus Valley High School, and the commercial areas in the Lugonia Planning Subarea. It will run along the east side of New York

Street as it extends northward to Pioneer Avenue. This trail is planned to be a multi-use trail for pedestrians and bicyclists.

- **Heritage Trail.** This trail will provide a north-south connection between the Orange Blossom Trail and the Planned San Timoteo Trail. It will run along San Timoteo Road and Nevada Street, providing a link to Heritage Park. This trail is planned for pedestrians and bicyclists north of Barton Road, and for pedestrians, bicyclists, and equestrians south of Barton Road.

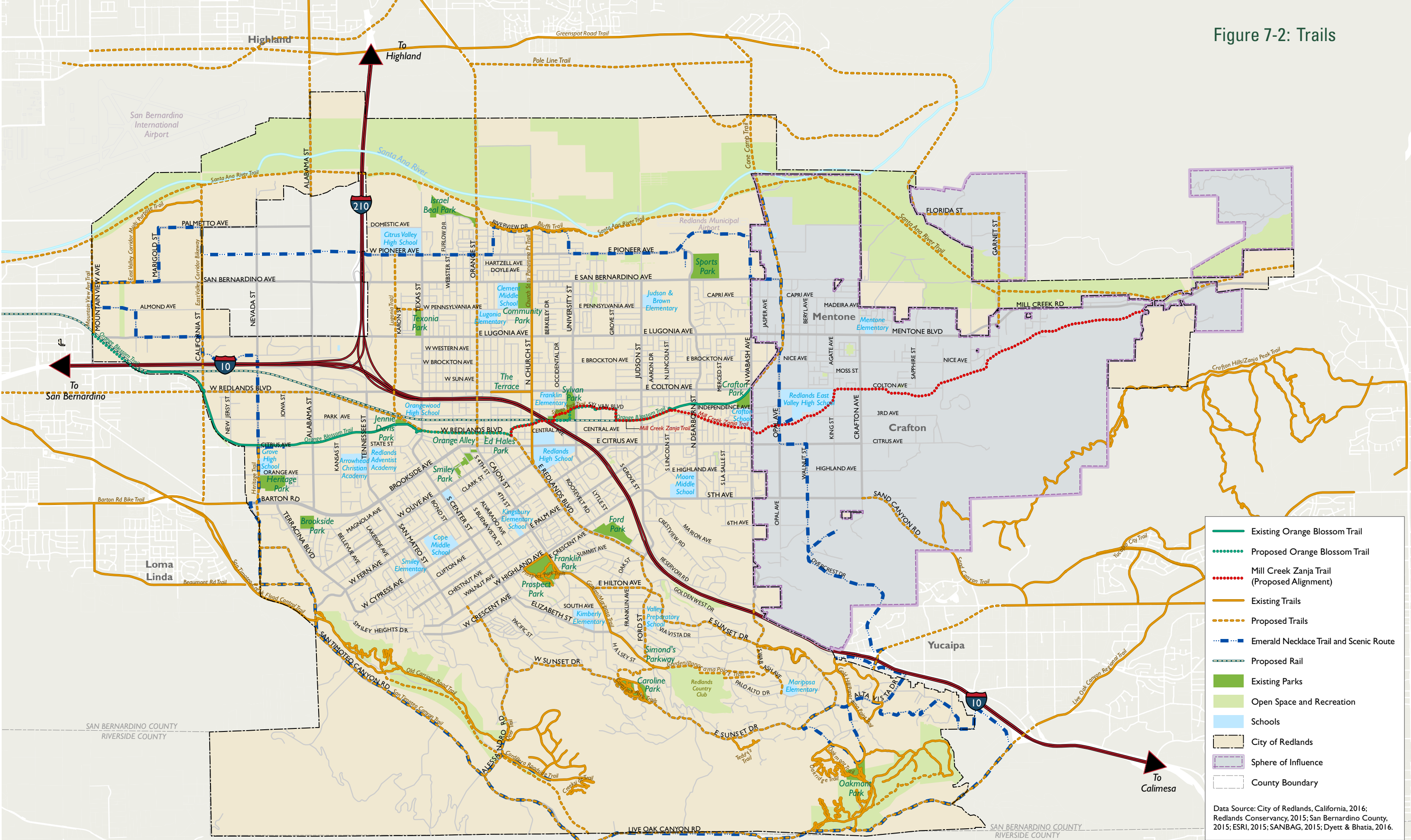
### Regional Trails

- **Santa Ana River Trail.** The Santa Ana River Trail is a regional trail complex that covers 110 miles from the San Bernardino County National Forest to the Pacific Ocean at Huntington Beach. Large portions of the trail have been completed in Orange and Riverside counties. In San Bernardino County, the trail has been developed, operated, and maintained primarily by the San Bernardino County Regional Parks Department. A non-paved segment of the trail extends from the Greenspot area into the San Bernardino National Forest where it connects with the Pacific Crest Trail. Within San Bernardino County, the Santa Ana River Trails extends to Waterman Avenue in San Bernardino. Plans are currently (2016) underway to construct the next segment from Waterman to California Street, then eventually through Redlands and Mentone to the San Bernardino National Forest.
- **San Timoteo Creek Trail.** This proposed trail generally follows the route of San Timoteo Creek, linking Live Oak Canyon with the Santa Ana River via a route which travels through a largely undeveloped area south of Redlands and Loma Linda. This trail is proposed to support multiple uses, including hiking, horseback riding, and bicycling. It has also been proposed in the San Bernardino County General Plan.
- **Live Oak Canyon Trail.** This proposed trail follows the route of Wilson Creek from Yucaipa Regional Park to the San Timoteo Creek Trail, passing through undeveloped/rural areas. It has also been proposed in the San Bernardino County General Plan.
- **City Creek Trail.** This trail follows City Creek from its terminus at the Santa Ana River northward into the national forest. Hiking, horseback riding and bicycling along this trail are enhanced by its proximity to the national forest and its trails. This conceptual trail was proposed in the San Bernardino County General Plan.
- **Crafton Hills Trail.** This trail circles the proposed Crafton Hills open space area, providing connections to the Live Oak Canyon Trail and the Mill Creek Trail. The trail would accommodate multiple uses, including hiking, horseback riding, and mountain bicycling. This conceptual trail was proposed in the San Bernardino County General Plan.
- **Mill Creek Trail.** This trail follows the route of Mill Creek, linking the Santa Ana River Trail near Angelus Oaks with the Santa Ana River Trail near Mentone and Highland. Multiple uses include hiking, horseback riding, and mountain biking. This trail passes through undeveloped/rural areas, and may require installation of comfort stations, rest/water stops, and similar amenities. This conceptual trail was proposed in the San Bernardino County General Plan.
- **San Timoteo Canyon and Live Oak Canyon Road Trails.** Class I natural trails are planned for San Timoteo and Live Oak Canyon roads once they are built out to their full rural road sections.

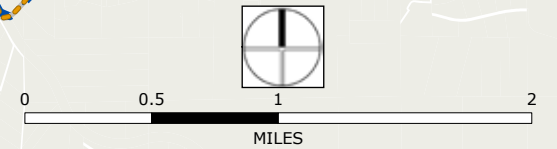


*The San Timoteo Canyon is a scenic destination for local hikers.*

Figure 7-2: Trails



- Existing Orange Blossom Trail
  - - - Proposed Orange Blossom Trail
  - - - Mill Creek Zanja Trail (Proposed Alignment)
  - Existing Trails
  - - - Proposed Trails
  - - - Emerald Necklace Trail and Scenic Route
  - - - Proposed Rail
  - Existing Parks
  - Open Space and Recreation
  - Schools
  - City of Redlands
  - Sphere of Influence
  - County Boundary
- Data Source: City of Redlands, California, 2016; Redlands Conservancy, 2015; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



# POLICIES

## Principles

- 7-P.4** Create and maintain a high-quality, diversified park system that enhances Redlands’ unique attributes.
- 7-P.5** Provide parkland for a comprehensive range of active recreational needs, including sports fields and facilities, playgrounds, and open spaces for passive recreation per a Parks and Recreation Master Plan.
- 7-P.6** Enhance the presence of recreational opportunities in the city and increase park use by selecting new, highly accessible locations for parks.
- 7-P.7** Continue cooperative efforts with the Redlands Unified School District through joint use agreements for park and recreational facilities. Locate new neighborhood parks in conjunction with elementary or middle schools wherever feasible.
- 7-P.8** Minimize substitution of private recreation facilities for developer fee payment or park dedication to ensure that a public park system will be permanently available to the entire community.
- 7-P.9** Review park standards periodically to determine whether needs are being satisfied and how long-term costs will be met.
- 7-P.10** Equitably share the cost of parkland creation and maintenance between existing and new residents, businesses, and property owners.

- 7-P.11** Maximize the availability of recreational facilities and activities throughout the city.
- 7-P.12** Create and maintain a system of trails serving both recreational and emergency access needs.
- 7-P.13** Complete the Emerald Necklace system of scenic routes and trails, including the Orange Blossom Trail, Zanja Trail, Santa Ana River Trail, San Timoteo Trail, and other trails linking parks, regional trails, and open space areas.
- 7-P.14** Ensure that the trails in the Emerald Necklace meet the needs of joggers, cyclists, and equestrian riders, as well as users of all ages and abilities seeking to enjoy the city’s open spaces.
- 7-P.15** Work with landowners to develop, acquire, and maintain the trail system.

## Actions

### Parks

- 7-A.1** Develop and maintain a Parks and Recreation Master Plan.
- 7-A.2** Conduct an assessment of park and recreational assets, identify community needs and preferences (for both active and passive recreation), identify underserved locations, monitor park usage, and develop a plan for new park locations, programs, and funding.

- 7-A.3** Provide 5 acres of park area for each 1,000 Planning Area residents, and additional parkland for specialized, and low-use park acreage.
- 7-A.4** Provide all residential areas with a neighborhood/community park (of 8 or more acres where available) where suitable land is available at acceptable cost.
- 7-A.5** Provide parkland in areas where population increase is expected (such as Transit Villages), partner with the school district to improve access to recreational facilities for nearby residents in parkland-deficient neighborhoods, and eventually site parkland within convenient distance of youth in the schools.
- 7-A.6** Utilize under-used sites in commercial/industrial areas, such as SCE right-of-way, easements, and orange groves, to provide recreational areas for employees working in those areas.
- 7-A.7** Consider access, park service levels, and facilities meeting the needs of the community’s diverse population in long-range park planning, especially in areas targeted for infill and new development.
- 7-A.8** Calculate park fees to enable purchase of acreage and provision of off-site improvements for 5 acres of parkland per 1,000 residents added.
- 7-A.9** Periodically review the parkland dedication formula to stay current with demographic information and market values.
- 7-A.10** Routinely review the adequacy of available funds for park improvements, including impact fees.

- 7-A.11** Continue annual review of five-year plan recommendations by the Parks and Recreation Commission for needs and available funding mechanisms.
- 7-A.12** Use available techniques, such as working with non-profit land trusts, to minimize acquisition costs.
- 7-A.13** Identify the needs of special user groups, such as the disabled and elderly, low-income individuals, and underserved and at-risk youth, and address these in park and recreation facility development.
- 7-A.14** Seek any available State and federal grant assistance in implementing the parks and open space proposals of the General Plan.
- 7-A.15** Investigate methods for improving access to private parks.
- 7-A.16** Continue the dedication of land along the Santa Ana bluff for a continuous linear park to be used as picnic and scenic area, and trail.
- 7-A.17** Encourage the development through acquisition and/or dedication of a linear park along the Zanja and the railroad right-of-way.

### Recreation

- 7-A.18** Strive to ensure that all areas of the community have an equal distribution of recreational facilities to maximize access and activities.
- 7-A.19** Seek partnerships with schools and private entities to provide more recreational opportunities for citizens.

- 7-A.20** Evaluate and consider expanding after-school recreation programs.
- 7-A.21** Require that the recreational needs of children and adults, including seniors and dependent adults, be addressed in development plans.
- 7-A.22** Consider retrofitting older parks with opportunities for additional parking and access.

**Trails**

- 7-A.23** Use the Multi-Use Trails Map (Figure 7-2) for designation and general location of local and regional trails within the Planning Area.
- 7-A.24** Coordinate trail planning with bike route planning in preparation for updates to the Redlands Bicycle Master Plan.
- 7-A.25** Establish agreement with public agencies and private entities for development and maintenance of trails in rights-of-way and utility corridors.
- 7-A.26** Partner with non-profit organizations such as the Redlands Conservancy and Crafton Hills Conservancy to assist in developing and managing the trails system and providing community outreach and education.
- 7-A.27** Seek grants and alternative funding mechanisms for trail development and maintenance.
- 7-A.28** Refer park projects to the Parks and Recreation Commission for review and recommendations of trails.
- 7-A.29** Review new development proposals for compliance with the Trails Plan and provide for right-of-way dedication and improvement/development of trails.

- 7-A.30** Install recreational amenities such as rest areas, benches, water facilities, and hitching posts to be incorporated into trails.
- 7-A.31** Locate trail rights-of-way with concern for safety, privacy, convenience, preservation of natural vegetation and topography, and impact on neighboring properties, and work with landowners on development proposals to incorporate and provide for a continuous multi-use trail system.
- 7-A.32** Expand street landscape standards to include trail landscape standards.
- 7-A.33** Design and install wayfinding signs for trails and scenic routes.
- 7-A.34** Coordinate trail planning with other regional plans to ensure connectivity and access to the regional trail system.



*Prospect Park features walking paths, orange groves, and views of Kimberly Crest.*

## 7.3 PUBLIC HEALTH

At first glance, it may be difficult to intuit commonalities between the fields of city planning and public health. Public health practitioners, for instance, predominantly focus on disease treatment, education, and individual behavior as determinants of health outcomes. City planners, on the other hand, draft policies impacting housing, transportation, public spaces, and the built environment. These two fields, however, do have a significant commonality; they share an emphasis on improving the well-being of individuals by creating conditions in which people can live their best, healthiest lives.

Research has, in fact, linked the design of cities and environmental characteristics with physical activity levels, diet, crime, and other components of health. The topic of public health is more salient today than ever. Nationwide, the number of patients suffering from heart disease, diabetes, and asthma is rising. Childhood obesity rates are higher than ever before. There is an urgent need for long-range planning to prioritize public health, and the Redlands General Plan seeks to address some of these issues.

The policies of the Redlands General Plan concerning education, transportation, access to services, nutrition, and the physical environment can have an enormous impact on an individual's health decisions. For instance, planning for a safe, connected system of bicycle thoroughfares can increase the likelihood of a Redlander utilizing her bicycle as a means of transportation, thus improving her cardiovascular health. Planning additional park space near public schools can bolster a child's physical activity and may instill in him the importance of lifelong exercise. Planning neighborhood health centers can improve the likelihood of a person acquiring the care she

requires. In addressing public health issues, the General Plan is an example of how Redlands puts its residents, and their health, first.

### Healthy Transportation and Physical Activity

Small changes to policy can go a long way towards improving public health. Providing residents with more options to walk or bike, for instance, can change daily transportation habits. In the 2011 Community Sustainability Plan, the City introduced efforts to minimize vehicle usage, including improving public transportation service, promoting ridesharing programs, and installing bike racks and bike lanes. The City of Redlands prioritizes active transportation modes not only to lessen pollution outputs, but to also encourage Redlanders to incorporate physical exercise into their daily routines.

The General Plan outlines policies to create walkable “complete neighborhoods” with an array of amenities to serve everyday needs; a more complete system of pedestrian and bicycle paths, and street redesign to foster personal mobility and physical activity, which may improve health outcomes for many. The General Plan also sets forth a series of conditions to encourage use of this infrastructure, including the incorporation of safety elements such as signage and lighting, health education, and exercise classes and programming.



Photo Credit: Beaver Medical Group

*Improving access to health centers and programs promoting healthy activity can improve the health of Redlanders of all ages.*

# POLICIES

## Principles

- 7-P.16** Ensure that all Redlands residents have access to a variety of transportation and physical activity options that enhance health and that work for diverse lifestyles, incomes, and abilities.
- 7-P.17** Achieve more walkable, livable neighborhoods by expanding the multi-modal transportation system and creating a safe, pedestrian-oriented environment.

## Actions

- 7-A.35** Implement street design features that facilitate walking and biking in both new and established areas. Require a minimum standard of these features for all new developments.
- 7-A.36** Discourage street closures; encourage creating new connections.
- 7-A.37** Prioritize completing incomplete sidewalks within a half-mile radius of existing commercial development.
- 7-A.38** Revise development standards to require pedestrian connections into and inside commercial projects.
- 7-A.39** Install appropriate facilities along streets and at roadway intersections to improve and insure pedestrian safety.
- 7-A.40** Improve signs directing residents and visitors to public parks and recreational facilities from all parts of the community. Integrate parks signage with bikeway and pedestrian-oriented signage systems throughout Redlands.

- 7-A.41** Improve the conditions for youth walking and bicycling in the areas surrounding schools by working with the school district on the Safe Routes to School program. Assess and prioritize identified Safe Routes to School infrastructure improvements in annual transportation improvements budgets.
- 7-A.42** Work with interested community members and organizations to plan and develop a course of exercise circuits that take advantage of existing parks, trails, and other pedestrian infrastructure. The course should be clearly marked, and contain simple stations and diagrams for self-guided training.
- 7-A.43** Encourage businesses or non-profit organizations to offer indoor recreational facilities and programs compatible with existing commercial, office, and industrial structures and zones, such as batting cages, rock climbing walls, basketball/indoor soccer facilities, and studios offering martial arts, aerobics, and yoga classes.
- 7-A.44** Support the use of clean fuel and “climate friendly” vehicles in order to reduce energy use, energy costs, and greenhouse gas emissions by residents, businesses, and City government activities.
- 7-A.45** Promote educational programs aimed at reducing obesity rates of residents.
- 7-A.46** Encourage the provision of bike lockers, bike-sharing, and other methods of supporting active transportation that can contribute to healthy lifestyles.





*Farmers markets provide mutual benefit to local farmers and residents alike. Each farmers market transaction supports the local sustainable food economy and healthy food consumption.*

## Sustainable Food Systems

The concept of a sustainable food system crosses over many issues. For example, in the U.S., obesity and diet-related chronic disease rates are escalating, and according to a 2014 study conducted by the California Department of Public Health, about 33.2 percent of adults in San Bernardino County in 2011-2012 were overweight. Public health is threatened by rising antibiotic resistance; chemicals and pathogens contaminate food, air, soil, and water; and the depletion of natural resources such as fresh water and prime farmland. These threats have human, social, and economic costs that are growing, cumulative, and unequally distributed, and many of these relate to the food system – what we eat and how it is produced and distributed.

Increasing access to healthy, locally grown food will educate residents about healthy food production, improve nutritional decision-making, and provide a local market for local produce that creates synergies and promotes sustainable food systems. Nine hundred acres in Redlands are actively utilized for agricultural purposes and many of the crops produced are sold locally. Redlands currently operates three community gardens, including the Smiley Garden, the Clement Garden, and the Lugonia Garden. These gardens represent just a small step towards integrating sustainable food systems into the lifestyles of Redlanders. The General Plan seeks to guide efforts related to the means in which sustainable food is produced (from small home gardens to large farms), sold (grocery stores and farmer markets), and integrated in City programs (schools, zoning, and others). The community's agricultural heritage will be celebrated through educational programs and seasonal festivals that bring income to area farmers and the 200+ small farms in the city. The community will organize and initiate farmers' markets in major accessible locations, and local leaders will help to partner grocers and restaurants with growers to increase availability of local produce around town.



# POLICIES

## Principles

- 7-P.18** Promote locally grown foods.
- 7-P.19** Support the creation of community gardens throughout the community.
- 7-P.20** Create a healthy, balanced, functional, and equitable food system by:
  - Reducing barriers and increasing access to locally-grown fruits and vegetables; and
  - Increasing community-wide knowledge of healthy local food choices.

## Actions

- 7-A.47** Promote locally-grown foods through the following initiatives:
  - Establish organic and local farming economic development zones in San Timoteo Canyon, Crafton, and other suitable locations;
  - Investigate State and local financing programs to assist with expanding the local farming programs;
  - Expand the community garden program subject to funding and land availability; and
  - Eliminate barriers to and establish incentives for increased local food production.
- 7-A.48** Support farmers’ markets throughout the city.
- 7-A.49** Use zoning to establish incentives for locating grocery stores with healthy food in neighborhood centers and to increase community-wide access to healthy food.

**7-A.50** Seek ways to partner with Redlands-based community supported agriculture (CSA) programs as an alternative source of fresh and healthy fruits and vegetables for Redlands’ residents— particularly those with limited mobility or limited income and those farthest from existing grocery stores.

**7-A.51** Support home gardening and small-scale urban farming efforts by considering the adoption of a home gardening and urban agriculture ordinance or by otherwise ensuring that zoning allows for home gardens and small-scale urban farming.

**7-A.52** Provide residents with opportunities to learn gardening basics and how to cook easy, healthy meals with fresh produce (e.g., online and library resources and workshops).

**7-A.53** Work with residents and other community organizations to plan and implement a Redlands Community Gardens program that would provide a source of fresh produce and offer learning opportunities for young and old alike. The intent is that access is free, and where there are costs, there would also be relief for low-income residents to the extent feasible. More specifically, the City will:

- Identify sites and support a Community Gardens program by securing insurance and providing water;
- Identify other suitable locations for future gardens (e.g., on school sites, on vacant lots or portions of other City-owned property);
- Include Redlands residents in the design and operation of the gardens;

- Enable gardeners to sell their produce through a local farmers’ market;
- Work with food banks and local organizations such as Helping Hands Pantry, to manage the donation of surplus produce to families in need; and
- Periodically evaluate the program and make adjustments as appropriate.

**7-A.54** Help schools make the healthy food connection by working cooperatively with the school district to:

- Establish high nutrition standards for school breakfast and lunch menus;
- Work to incorporate culturally-sensitive options (vegetarian, kosher, halal) into available meal plans;
- Remove unhealthy food and drinks from vending machines on school property;
- Establish appropriate sites and programs for school gardens to be used in curricula, after-school activities, and as a source of fresh produce for school meal plans; and
- Coordinate a “Farm to School” program that connects local farms to Redlands schools and supplies the balance of fresh produce beyond what is available from the school gardens and the school district’s lunch program.

**7-A.55** Develop and implement a healthy food purchasing and vending policy for City facilities and operations that commits to selecting healthy, well-balanced meals and snacks for City-sponsored activities, meetings, and facilities.

**7-A.56** Adopt zoning controls to limit the number of fast food outlets and drive-through restaurants near schools, the University of Redlands, and in Transit Villages.

**7-A.57** Support the raising of domestic farm animals, poultry, and bee-keeping in appropriate areas of the city.

**7-A.58** Develop incentives for new farmer training. Explore land leasing programs for new farmers.

**7-A.59** Support agri-tourism within Redlands by eliminating barriers for farms to provide events such as weddings, cooking classes, “dinner on the farm,” and other events.



## Equity and Access to a Broad Range of Services

An equitable distribution of health-oriented community facilities and services, including recreation centers, medical facilities, and youth centers will help to ensure the well-being of Redlanders. Though Redlands is home to numerous care facilities, including Redlands Community Hospital, Beaver Medical Group, and Loma Linda University Behavior Medical Center, health care facilities are not easily accessible to all members of the community. In particular, the northern end of Redlands and the eastern portion of the city near Mentone lack neighborhood healthcare and outpatient facilities. Improving access to healthcare via the construction of new facilities and improvements in transportation to existing facilities may encourage healthy lifestyles and recreational activity throughout the community.



Neighborhood health centers make quality healthcare more accessible to residents.

## POLICIES

### Principles

- 7-P.21** Promote health equity, including equal access to health facilities, clinics, goods, services, and economic and educational opportunities, helping to ensure well-being for residents of all ages, abilities, and incomes.
- 7-P.22** Create complete neighborhoods with access to a range of day-to-day goods and services within walking distance of residences, including medical facilities, community services, youth programs, and employment opportunities, to increase the sense of social cohesion among residents.

### Actions

- 7-A.60** Collaborate with San Bernardino County Public Health Department and other agencies to monitor health data related to Redlands outcomes, risk factors, and at-risk and vulnerable populations and individuals, and use these data to inform residents of new County and City programs serving the Redlands community.
- 7-A.61** Work with Redlands Community Hospital and other healthcare providers to locate new urgent care centers and outpatient facilities in underserved neighborhoods, where appropriate.
- 7-A.62** Use economic development efforts to recruit medical services to Redlands, including dentists, pediatricians, family physicians, and clinics that provide drug and alcohol treatment and counseling.

**7-A.63** Assist with conversion of liquor stores to other retail that better meets community needs. Give priority to the conversion of those within a quarter-mile of schools and parks. Forms of support could include:

- Facilitating physical improvements (e.g., new freezers or coolers for perishables; new signs to change store names from “Liquor” to “Market”);
- Assisting with business plan development to help owners find the right product fit for the community; and
- Hosting a semi-annual “check-in” open house for storeowners to trouble-shoot challenges associated with building maintenance, new products, and interactions with community members.

**7-A.64** Work with interested organizations and residents to create a youth job development partnership, connecting local businesses with teens for after-school and summer work, volunteer positions, and other skills development opportunities.

**7-A.65** Evaluate and make changes to the project review and permitting process to encourage and facilitate incorporation of universal life cycle design principles (design that promotes the ability to remain in one’s house as one ages) in new residential development, allowing community members to stay in their homes and neighborhoods longer, thereby increasing community cohesion.

**7-A.66** Expand access to health facilities through public transportation.

**7-A.67** Consider zoning classifications changes to encourage more medical/professional service uses along Colton Avenue and Orange Street and other older commercial corridors.

## Crime Prevention and Safety Perception

Promoting community and pedestrian-oriented design and community partnerships to foster a populace invested in the community may deter crime and instill a sense of safety and pride in Redlands. The Redlands Police Department responds swiftly to crime incidents, but they alone cannot prevent crime from occurring. A limited number of residents participate in neighborhood watch programs, but improving the sense of ownership in one's neighborhood across Redlands will increase the number of "eyes on the street," and prevent crime before it happens. Similarly, incorporating crime-preventative measures into building, landscape, and public facility design can make great strides in improving the feeling of safety and community cohesion.



## POLICIES

### Principles

**7-P.23** Use planning and environmental design tools to deter crime, increase respect for neighbors and property, and improve the public perception of safety throughout the community.

**7-P.24** Encourage a sense of ownership, community pride and civic respect as a means of improving the safety and image of the city.

### Actions

**7-A.68** Incorporate Crime Prevention through Environmental Design principles and best practices into the Zoning Ordinance and project review procedures for new development and major renovations. Guidelines and checklists should include concepts such as:

- Natural Surveillance, e.g. orient buildings and windows to provide maximum surveillance of exterior areas, and locate entryways such that they are visible to adjacent neighbors or passersby;
- Natural Access Control, e.g. use landscaping such as low hedges and flowerbeds to identify points of entry and movement on property, and use signage and symbolic barriers to direct vehicular and pedestrian traffic;
- Natural Territorial Reinforcement, e.g. use thorny or thick plant materials in perimeter landscape areas to discourage cutting through parking areas and rear yards,

trampling vegetation, approaching ground floor windows, or climbing fences and walls;

- Maintenance, e.g. make it easier to maintain property by recommending graffiti-resistant surface materials, vandal-proof lighting, and landscaping selected for durability and easy maintenance; and
- Shared Facilities, e.g. promote activity in public areas throughout the day by coordinating shared uses of facilities (parking lots, parks, sports fields). Enforce property maintenance and environmental design regulations for businesses, especially "corner stores," including regulations for alcohol and tobacco advertisements. Assist storeowners in identifying low-cost solutions to maintenance issues and provide financial assistance to qualifying businesses. Continue to enforce provisions in the Municipal Code to manage alcoholic beverage sales locations and hold storeowners accountable for litter, graffiti, assault, prostitution, or other public nuisance connected to their stores.

**7-A.69** Ensure that Redlands has minimum illumination standards for streetlights and, if necessary, update the standards to reflect best practices for safety lighting.

**7-A.70** Continue community policing and relationship-building programs, including educational and mentoring initiatives with schools and the community center.

**7-A.71** Continue to involve residents in neighborhood improvement efforts, including those concerning safety, neighborhood character, planning, and revitalization.

**7-A.72** Enhance the aesthetics and quality of the housing stock and remove blight by implementing policies and programs identified in the Housing Element.

**7-A.73** Improve the sense of safety within Downtown, including the Redlands Mall area.



The Mill Creek Zanja flows west from Sylvan Park.

## 7.4 SAFETY

Environmental, seismic, and topographic conditions, and the patterns of urban development in Redlands can potentially pose risks to human health and property. This section identifies natural and manmade hazards that exist within Redlands, and seeks to mitigate their potential impacts through preventative and response measures.

### Hydrological Hazards

#### Drainage

The city generally drains from east to west to one of the two main existing major flood control facilities: The Santa Ana River and the San Timoteo Channel. The 2014 City of Redlands Drainage Master Plan divides the Planning Area into five watersheds or drainage areas, described below:

- **Zanja Watershed.** The Zanja is the largest watershed tributary to the Downtown area, consisting of 6,000 acres. This watershed includes the Crafton Hills area, which is composed mainly of flat agricultural lands lying mostly outside of city limits. Plans for flood control projects in this watershed include construction of the Opal Basin, and a storm drain that would intercept flows and allow them to bypass the Downtown area. The Drainage Master Plan also recommends increasing the drainage capacity of Redlands Boulevard.
- **Reservoir Canyon Watershed.** The second largest watershed area tributary to Downtown Redlands, this area includes the Oriental Storm Drain tributary. The area is hilly, with relatively steep slopes, with very little open space for potential detention/retention alternatives. Studies have been completed for this area to identify potential flood control mitigation efforts, but solutions are costly.

This area is one of the main contributors to the historical flooding of the Downtown area. Even with plans to construct Opal Basin and a diversion storm drain along the Zanja, flows from this area would still be expected to cause extensive flooding Downtown.

- **Downtown Watershed.** The Downtown watershed consists of the local drainage systems in the Downtown area, tributary to the Mission Creek channel at Alabama Street. Bounded by the I-10 freeway to the north and Zanja and Reservoir Canyon to the east, and approximately Orange/Pine Avenue to the south, this area primarily consists of dense residential and commercial development.
- **North City Watershed.** The North City Watershed lies north of the I-10 Freeway, and south of the Santa Ana River. The watershed is not a tributary to the Downtown area. This watershed is relatively flat, and is composed of residential, agricultural, and industrial land uses. The construction of Seven Oaks Dam has mitigated the flooding potential for the northern portion of this area, adjacent to the Santa Ana River.
- **South City Watershed.** The South City Watershed consists of the drainage area south of downtown, tributary to Mission Creek. This area consists of hillside, residential, and open space. Existing storm drains and drainage courses in this area do not necessarily follow the alignments of the existing roads, but rather meander through the open space as “open channels.”

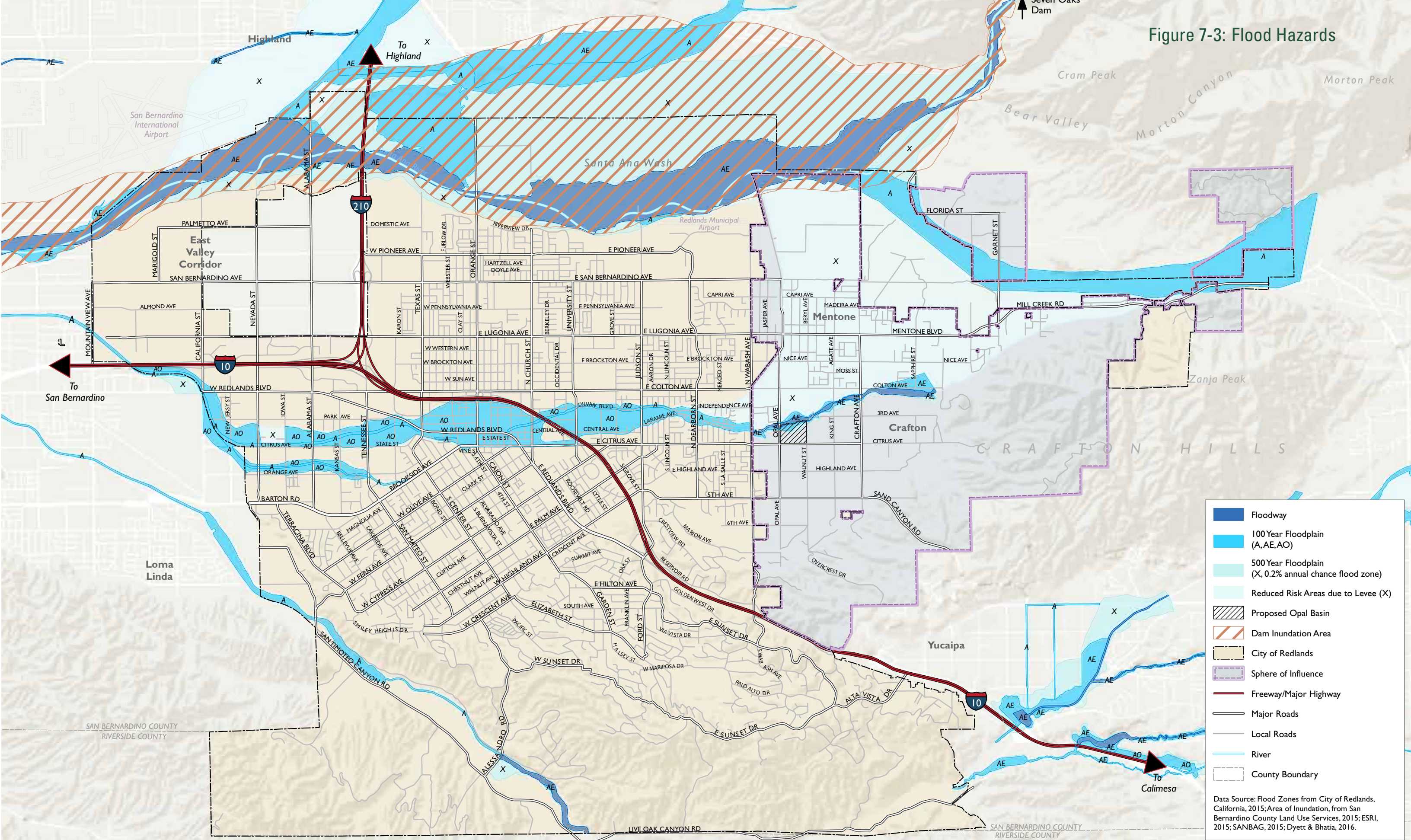
#### Flooding

Flooding has historically been a concern in the Planning Area, where moderate to heavy storms can overwhelm the area’s drainages and intermittent waterways. The city’s flood control system consists of ultimate and interim channels, storm drains, levees, basins, and dams managed by the San Bernardino County Flood Control District.

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRM) describing flood hazard zones for the Planning Area. As shown in Figure 7-3, areas prone to flooding can be found in the north, south, and central portions of the Planning Area. Areas with a 1-percent annual chance of flooding are generally mapped along the Santa Ana River wash, along San Timoteo Canyon, and along the Zanja watercourse from Loma Linda through Downtown and Crafton. Areas with shallow flooding (AO zones) are mapped along the Zanja and pass through Downtown.

New development in flood prone-areas should follow appropriate design standards with the understanding that a flood event is likely to occur. Development throughout the watershed may also be encouraged to help reduce the flooding impact of a storm event by enhancing the city’s green infrastructure system to complement its grey infrastructure. Land use actions to minimize flooding include preserving open space; protecting natural floodplain functions; regulating development in the floodplain as well as the watershed as a whole; addressing flood-prone properties through acquisition, relocation, or protection; and improving maintenance of the drainage system.

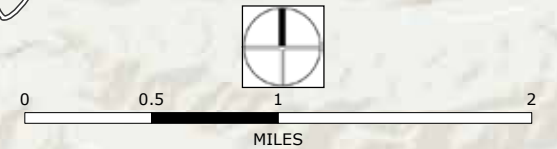
Figure 7-3: Flood Hazards



**Legend**

- Floodway
- 100 Year Floodplain (A, AE, AO)
- 500 Year Floodplain (X, 0.2% annual chance flood zone)
- Reduced Risk Areas due to Levee (X)
- Proposed Opal Basin
- Dam Inundation Area
- City of Redlands
- Sphere of Influence
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: Flood Zones from City of Redlands, California, 2015; Area of Inundation, from San Bernardino County Land Use Services, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



## Dam Inundation

Dam failure can result from causes such as earthquakes, erosion, improper siting, rapidly rising floodwaters, or structural/design flaws, and can result in severe flooding in downstream areas. Dams upstream from the Planning Area include the Seven Oaks Dam and the Bear Valley Dam. The Seven Oaks Dam, a flood control project that is part of the Santa Ana River Mainstem Project, is the closest dam upstream of the Planning Area. The Bear Valley Dam is located five miles north of the Planning Area. The flood inundation hazard area defined in the San Bernardino Land Use Plan Hazard Overlays covers areas downstream of the Bear Valley Dam and the Seven Oaks Dam. In the case of dam failure, flood waters are projected to flow as far as the bluffs south of the Santa Ana River Wash (Figure 7-3).

## POLICIES

### Principles

- 7-P.25** Protect lives and property and ensure that structures proposed for sites located on flood plains subject to the 100-year flood are provided adequate protection from floods.
- 7-P.26** Preserve as open space those areas that cannot be mitigated for flood hazard.
- 7-P.27** Support a multi-use concept of flood plains, flood-related facilities, and waterways, including, where appropriate, the following uses:
- Flood control;
  - Groundwater recharge;
  - Mineral extraction;
  - Open space;
  - Nature study;
  - Habitat preservation;
  - Pedestrian, equestrian, and bicycle circulation; and
  - Outdoor sports and recreation.

### Actions

- 7-A.74** Continue participation in the National Flood Insurance Program (NFIP) and the Community Rating System to ensure that the City is incentivized to reduce the risk of damage from flooding and improve flood preparedness.
- 7-A.75** Consider the impacts to health and safety from potential flooding on future development in flood-prone areas, including Downtown Redlands. Ensure that new development follows appropriate design standards.
- 7-A.76** Reduce the flooding impact of a storm event by enhancing the city's green infrastructure system to complement its grey infrastructure throughout the watershed.
- 7-A.77** Seek funding to implement the improvements detailed in the Drainage Master Plan.
- 7-A.78** Use the Drainage Master Plan to implement improvements to the drainage system in order to address flooding impacts. Where feasible, use "green initiatives" identified in the Master Plan to install site infiltration basins and bio-retention facilities in places where they may be most effective.
- 7-A.79** In the event of failure of the Seven Oaks or Bear Valley dams, implement emergency measures consistent with the City's Local Hazard Mitigation Plan and Emergency Operations Plan.
- 7-A.80** Coordinate with the U.S. Army Corps of Engineers and San Bernardino County throughout the construction, mitigation, and operation of the various compo-

nents/projects that make up the "Santa Ana River Mainstem Project" that will directly affect the Planning Area. These projects include the following: The Seven Oaks Dam, the improvement to the Mill Creek levees (completed), and the planned improvements along the three reaches of the San Timoteo Creek Project.

- 7-A.81** Work with FEMA to ensure that the City's flood plain information is up-to-date with the latest available hydrologic and hydraulic engineering data.
- 7-A.82** Investigate and plan for increased flooding hazards due to climate change. Develop strategies to adapt to changing flood hazard conditions, including those related to monitoring, emergency preparedness, vegetation management, and development policies, and ensure that the City's hazard information is up to date regarding climate trends.

## Fire Hazards

### Fire Hazard Setting

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California. CAL FIRE ranks fire threat according to the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include little or no fire threat, moderate, high, very high, and extreme fire threat. Redlands has a range of fire hazards from little to no threat to extreme threat.

In the Planning Area, the highest fire risk areas are in San Timoteo and Live Oak Canyons where the threat from wildfire is the highest. Crafton Hills is another higher risk area, situated in the northeast area of the city and in the Redlands Sphere of Influence. Prolonged droughts coupled with high winds and dry vegetation during the summer time creates the highest fire risk in these areas. Left uncontrolled, these fires have the potential to damage or destroy structures, roadways, and utility systems, and disrupt the economy.

### Urban Fire

On the south side of the city, the urban forest has a high fire severity threat for vegetation fires. This area consists mostly of single-family homes that have been forced to reduce watering days on their property due to drought. The dry nature of the vegetation adds to the fire danger during the dry summer months. The Downtown area consists of mostly traditional store-front structures that are served by public water and ample hydrants; however, as new development continues to occur, water resources may become taxed during droughts. The West End contains many newer warehouse, logistics, and distribution centers as well as apartment complexes where the risk is lower.

Urban fire risk in Redlands is greatest in older structures and in neighborhoods built before modern building codes for fire safety and building systems

were in place. Other factors affecting urban fire risk and relative likelihood of loss of life or property include building age, height and use, storage of flammable material, building construction materials, availability of sprinkler systems, and proximity to a fire station and hydrants. Each year, Redlands averages 264 fires, including 64 vegetation fires, 53 structure fires, 47 vehicle fires, and 100 miscellaneous fires. Most urban fires can be extinguished within a few hours.

Redlands' fire service responsibilities extend beyond fire suppression to include a range of paramedic, technical rescue, hazardous materials, and lifeline services. Approximately 75 percent of Redlands Fire Department calls (more than 8,000 calls annually) are for medical services. The Redlands Fire Department also responds to about 650 traffic collisions each year. While the plurality of emergencies are medical emergency related, staff hours spent on non-medical emergency responses make up the majority of hours spent on all emergencies.

The Redlands Fire Department has automatic mutual aid agreements with all surrounding fire agencies. The City's agreements with Loma Linda Stations 251 and 252 (to the west) and San Bernardino County Fire (Mentone Station 9 to the east, City of San Bernardino Station 228 and 231 to the north west) are facilitated by a consolidated dispatch center operated by CONFIRE. CONFIRE is a multi-agency organization that functions as the result of a 25-year Joint Powers Agreement for the collective provision of fire, rescue, and emergency medical dispatch services.

The Redlands Fire Department also has a mutual aid agreement with Riverside County to the south, the City of Highland to the north, and the City of Yucaipa to the east. Response times are typically longer as these agencies are dispatched by different centers, and a delay of 2 to 5 minutes can be expected on incidents in which they are not independently made aware of

the emergency. This delay is caused when the initial dispatching agency has to manually telephone the other agencies and ask for the necessary units.

### Wildland Fire

Wildland fire is a much larger concern in Redlands. This is particularly true in San Timoteo Canyon and Live Oak Canyon. Vegetation in these areas includes annual grasses and a variety of brush with low fuel moisture that are highly susceptible to and capable of carrying fire. Accompanied by drought conditions, extreme topography, and high winds, these fires can be devastating. Most of the city's large wildfires have occurred in these areas. In the last 20 years, there were

30 fire perimeters captured. These fires damaged 14 structures, 75 properties (parcels), and a total of 452 acres.



*The dry conditions and topography of the canyon areas pose a significant risk for wildfire hazards.*

Redlands has Local Responsibility Areas (LRAs) consisting mostly of the developed areas in the south part of the city, which encompass roughly 35 percent of the Redlands Fire Department’s coverage area. Portions of the Planning Area are also designated as State Responsibility Areas (SRAs), areas where the State of California is financially responsible for the prevention and suppression of wildfires. As shown in Figure 7-4, these areas are limited to the Crafton Hills outside of Redlands city limits. Some small areas of the Santa Ana River Wash are designated as Federal Responsibility Areas (FRAs).

The canyon area is designated as Resource Preservation in the land use map, which permits only very low residential densities of a maximum of one dwelling unit per acre, graduating to one dwelling unit per 10 acres depending on slope and other site conditions. In addition, the City has continually purchased land within the canyons and kept it in preserve as open space. These include areas north of Live Oak and San Timoteo Canyon Roads that are designated as high, very high, and extreme fire level threat. As open space, the area cannot be used for residential development; however, there are pocket developments that are exacerbating the wildland-urban interface (WUI) fire problem. There are no critical public facilities such as police, fire, or school facilities in the canyons; however, there is a railway that serves as one of the primary transportation arteries between Los Angeles and the rest of the country. A portion of Redlands Community Hospital lies adjacent to a high fire threat area.

Per the California Building Code, all new structures are required to install sprinklers and retain ample on-site storage of water to serve the system. The City also requires adequately sized on-site reservoirs to provide fire flow requirements.

The Crafton Hills area, which is within the Sphere of Influence, but not Redlands city limits, is another high fire threat area. While land use authority resides with the County of San Bernardino, the Redlands designated land uses are very low density designations. These include Rural Living, which carries a minimum five-acre lot size for slopes of 0 to 15 percent; and Hillside Conservation, which carries a maximum of one dwelling unit per 40 acres for slopes greater than 40 percent. A small portion of Crafton Hills that falls within the city limits was re-designated as Open Space and cannot be used for any type of residential, commercial, or industrial development.

### Insurance

The Insurance Service Office (ISO) is a leading source of information about property casualty insurance risk for local government. ISO helps establish fire insurance premiums for residential and commercial properties based in part on a city’s fire protection rating. ISO rankings are based on four criteria: a community’s emergency communications, fire department equipment and operations, and water supply. The ISO rates each community’s fire suppression system on a 10-point scale, with one (1) being the highest ranking that can be achieved. Redlands had maintained a Class 2/9 ISO rating from 2005 to 2013. The most recent evaluation dropped to a Class 3/9 ISO rating.

### Fire Stations

Redlands has four fire stations that provide service to the city. The equipment and staffing is listed in Table 7-6 below. The locations of the stations are depicted in Figure 7-4.

In addition, Table 7-7 lists neighboring stations that are located nearby and are able to provide fire service per mutual aid agreements.

**TABLE 7-6: FIRE SERVICES**

Station and Location	Equipment	Daily Staffing
Fire Station 261 525 E. Citrus Ave.	(1) Medic Engine Type 1, (1) Medic Truck, (1)Utility Vehicle, (1) Reserve Truck, (1) Type 3 (OES), (1)Res Engine Type 1, (1) BC (per day), (1) Res BC	7 personnel
Fire Station 262 1690 Garden Street	(1) Medic Engine Type 1 (1) Brush Engine Type 3	3 personnel
Fire Station 263 10 W. Pennsylvania Ave.	(1)Medic Engine Type 1, (1) Water Tender and (1) Incident Support Vehicle, (1)Res Type 1	3 personnel
Fire Station 264 1270 W. Park Ave.	(1)Medic Engine Type 1 (1) Medic Squad, (1)Brush Engine Type 3 and (1) Reserve Medic Squad	5 personnel

Source: Redlands Fire Department, 2016.

**TABLE 7-7: NEIGHBORING FIRE SERVICES**

Station and Location	Equipment	Daily Staffing
Crafton Fire Station No. 2 32664 Yucaipa Blvd.	1 Front Line Type I Fire Engine 1 Reserve Type I Fire Engine 1 Type II Fire Engine	3 personnel
Mentone Medic Engine 9 1300 Crafton Avenue Mentone, CA 92359	Type I and III, Utility Vehicle	3 personnel
Loma Linda 251 11325 Loma Linda Drive Loma Linda, CA 92354	Medic Truck Brush Engine Incident Support Vehicle ARV – off road vehicle	3 personnel
Loma Linda 252 10520 Ohio Street Loma Linda, CA 92354	Medic Engine Water Tender	3 personnel
San Bernardino Fire Station 233 – SBIA Norton Training 165 S. Leland Norton Way, Bldg. 680 San Bernardino, CA 92408	-0-	Not staffed, as needed basis only
San Bernardino Fire Station 228 3398 E. Highland Avenue San Bernardino, CA 92346	Type I and III Medic Engine - ALS	3 personnel
San Bernardino Fire Station 231 450 E. Vanderbilt Drive San Bernardino, CA 923408	Medic Engine - ALS	3 personnel

Source: Redlands Fire Department, 2016.



The Redlands Fire Department recognizes two response time standards:

- NFPA 1710, which calls for the first arriving unit to arrive within 4 minutes 90 percent of the time; and
- A more lenient standard recommended by the Citygate Associates High-Level Fire Department Review of 2008, which calls for the first unit arriving within seven minutes 90 percent of the time.

The Redlands Fire Department 90 percent Fractal is 9 minutes, which is over twice the NFPA and 2 minutes beyond the Citygate guidelines. In order to meet minimum response times, more fire stations and staff will be required.

### Water Supply

The Redlands Fire Department requires a minimum flow of water for fire protection in accordance with the adopted amended California Fire Code and the ISO standards. Redlands adheres to fire infrastructure and flow requirements in accordance with the California Fire Code (2013), National Fire Protection Association standards, and local standards. Redlands

Fire Development Guidelines show the City’s fire flow standards for new development projects, as described in Table 7-8.

Redlands’ water system (water lines, tanks, pump stations, etc.) is sized to handle the needs of the city. For more than 90 years, the City of Redlands has been in charge of providing high-quality drinking water to the Redlands and Mentone areas. For more information on the water system, see Chapter 4.

Water supplies can be interrupted or curtailed due to drought, fire, earthquake, or power failure. In case of emergency, MUED maintains backup generators for critical infrastructure to avoid supply interruptions. MUED can maintain or supplement water supplies through interties with adjacent water companies or standby production wells. Critical facilities are compliant with State seismic safety standards.

### Fire Access Standards

Clear emergency vehicle access to buildings is important. Such access is regulated by the adopted and amended California Fire Code and Redlands land development engineering standards. Under the current Fire Code, all portions of a building shall

be within 150 feet of a serviceable fire access road. Redlands has adopted the California Fire Code (CFC) with amendments to address local fire hazard concerns. Specific requirements for fire access include:

- **Roadway Design.** Access roads and public and private streets shall not exceed a 12 percent grade, shall be capable of supporting 75,000 pounds, and shall be built with all-weather driving capabilities.
- **Subdivision Access.** Subdivisions must have two points of vehicular ingress and egress from streets, one of which may be used for emergency purposes only.
- **Road Widths.** Roads shall be at least 24 feet wide citywide and allow for two-way traffic; emergency vehicle access only is required to have a 20-foot minimum width.
- **Bridge Design.** Per the California Fire Code, access bridges meet nationally recognized design standards, including a capability of supporting 75,000 pounds.
- **Project Perimeter.** Projects must provide adequate vehicular access for firefighting vehicles to the perimeter of a project that is adjacent to a fuel modified area or fire hazard area.

Some areas of the community have obstacles for fire suppression in regards to access. Measure U, passed by Redlands residents in 1997, established principles of managed development, which have resulted in some streets being recirculated, thus increasing the response time for suppression. Alternative measures to maneuver within the community, such as traffic signal preemption through Opticom, would greatly benefit the ability of the Fire Department to arrive on scene in a safe and more timely manner.

### Vegetation Management

A fire protection plan (FPP), approved by the fire code official, is required for all new development within the WUI area. FPPs are required to include mitigation measures consistent with the unique problems resulting from the location, topography, geology, flammable vegetation, and climate of the proposed site. FPPs must address water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, and vegetation management, and must be consistent with the requirements of California Building Code Chapter 7A, the International Wildland-Urban Interface Code, and the Redlands Municipal Code.

### Building and Signage Standards and Regulations

Redlands has adopted the latest edition of the California Fire Code, with all appendices, and amended it to address local concerns. The Fire Marshal reviews plans for structures and buildings citywide, including fire-prone areas. Checklists are used to address fire code requirements, including but not limited to: street and building signage, water supply, water infrastructure, sprinkler requirements, building requirements (sprinklers, smoke detectors, roofing, etc.), access roads, and vegetation management, among others.

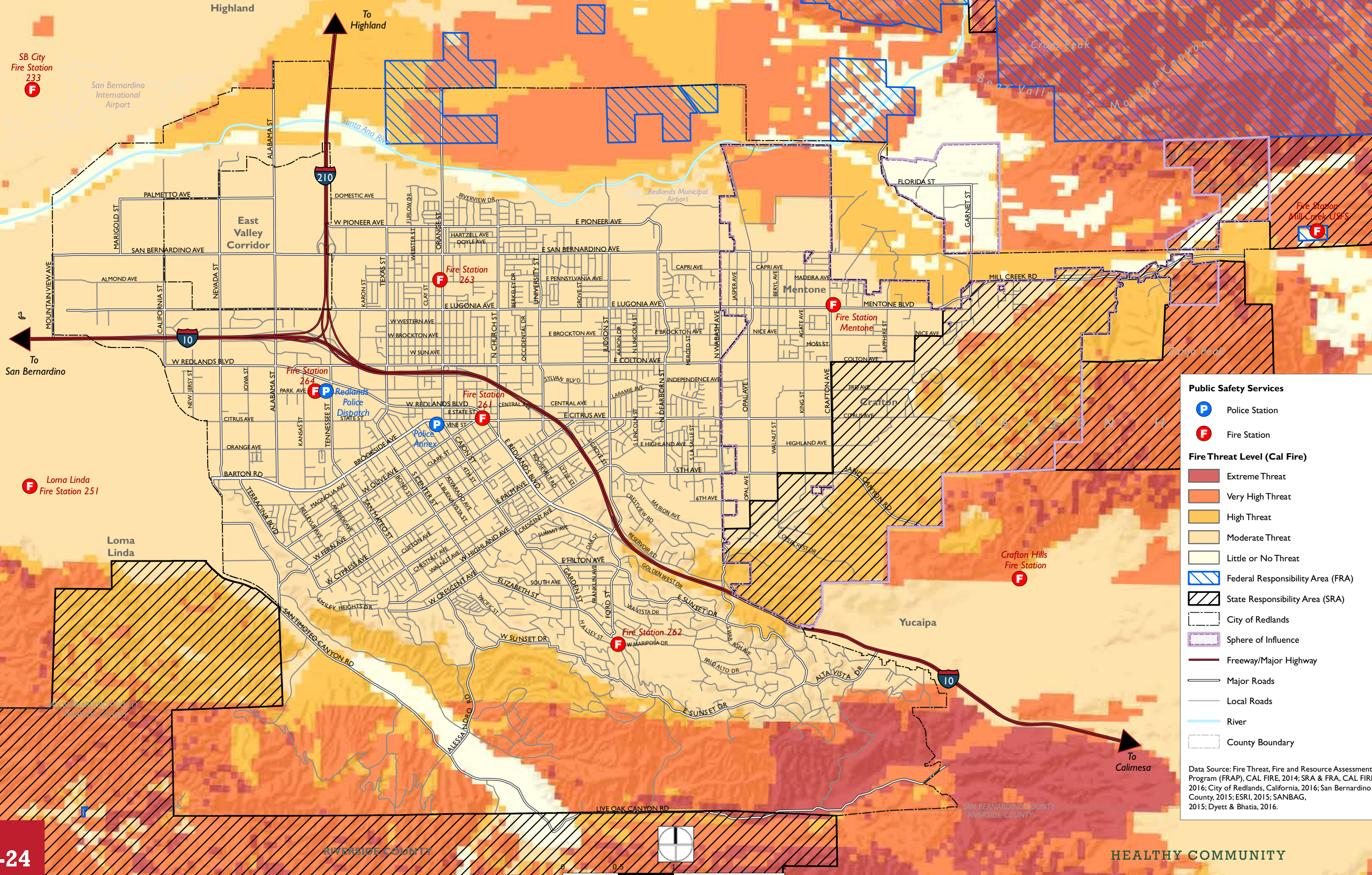
The City enforces uniform building address and street sign letters as found in section 505.1 of the California Fire Code, which establishes requirements for the design and display of approved address numbers, building numbers, or approved building identification on new and existing buildings to ensure legibility and visibility from the street or road fronting the property.

**TABLE 7-8: FIRE FLOW STANDARDS FOR NEW DEVELOPMENT**

Type of Development	Flow (gpm)	Duration (hours)	Fire Hydrants
Detached Single Family Residential	1,500	2	2
Attached Multifamily Residential	3,000	2	3
Light Commercial/Industrial (incl. schools)	3,000	3	3
Heavy Commercial/Industrial	5,000	4	4

Source: CFC 2013 - Appendix B (table B105.1).

Figure 7-4: Fire Hazards



**Public Safety Services**

- Police Station
- Fire Station

**Fire Threat Level (Cal Fire)**

- Extreme Threat
- Very High Threat
- High Threat
- Moderate Threat
- Little or No Threat

**Responsibility Areas**

- Federal Responsibility Area (FRA)
- State Responsibility Area (SRA)
- City of Redlands
- Sphere of Influence

**Infrastructure**

- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: Fire Threat, Fire and Resource Assessment Program (FRAP), CAL FIRE, 2014; SRA & FRA, CAL FIRE, 2016; City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

## POLICIES

### Principles

**7-P.28** Work to prevent wildland and urban fire, and protect lives, property, and watersheds from fire dangers.

### Actions

**7-A.83** Adhere to the requirements for high fire hazard areas designated by the Redlands Fire Department on the official Roof Classification Zone Map, and as specified in the document on file at the Redlands Fire Department describing High Fire Hazard Area Fire Safety Modification Zones.

**7-A.84** Maintain and update the high fire hazard areas map consistent with changes in designation by CAL FIRE.

**7-A.85** Update as needed the City’s High Fire Severity Areas to ensure that the Fire Department is protecting the community from wildland-urban fires as future development takes place.

**7-A.86** Continue to provide weed abatement services in High Fire Severity Areas in order to curb potential fire hazards.

**7-A.87** Provide appropriate staffing, equipment, and facilities to maintain an Insurance Service Office (ISO) Rating of 3 or better.

**7-A.88** Monitor fire-flow capability throughout the Planning Area, and improve water availability and redundancy if any locations have flows considered inadequate for fire protection. Continue to work with various water purveyors to maintain adequate water supply and require on-site water storage for areas where municipal water service is not available.

**7-A.89** Require adherence to applicable build-ings codes and standards in accordance with Fire Hazard Overlay Districts, California Fire Code, and the California Building Code.

**7-A.90** Ensure that all new development located in a Very High Fire Hazard Severity Zone or a State Responsibility Area (SRA) is served by adequate infrastructure, including safe access for emergency response vehicles, visible street signs, and water supplies for fire suppression.

**7-A.91** Ensure, where feasible, that essential public facilities are located outside of high fire risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emer-gency command centers, and emer-gency communications facilities. If locating such facilities outside of high fire risk areas is not feasible, identify construction methods and other mitiga-tion measures to minimize risks.

**7-A.92** Continue to inspect and enforce areas within High Fire Severity Areas for fuel modification and fire safe landscaping. Work with property owners to maintain defensible space and provide public awareness of wildland-urban interface hazards.

*The Fire Department can provide exam-ples of appropriate vegetation manage-ment through activities such as updating and maintaining the City’s fire safe land-scape garden.*

**7-A.93** Require that new development mini-mizes risks to life and property from fire hazard through:

- Assessing site-specific characteristics such as topography, slope, vegetation type, wind patterns etc.;
- Siting and designing development to avoid hazardous locations;
- Incorporating fuel modification and brush clearance techniques in accordance with applicable fire safety requirements and carried out in a manner which reduces impacts to environmentally sensitive habitat to the maximum feasible extent;
- Using appropriate building materials and design features to ensure the minimum amount of required fuel modification; and
- Using fire-retardant, native plant species in landscaping.

**7-A.94** Avoid, where feasible, approving new development in areas subject to high wildfire risk. If avoidance is not feasible, condition such new development on implementation of measures to reduce risks associated with that development.

**7-A.95** Coordinate with the Redlands Fire Department and other fire prevention agencies to review all applications for new development. The Fire Depart-ment’s review should ensure compli-ance with fire safety regulations and assess potential impacts to existing fire protection services and the need for additional and expanded services.

**7-A.96** Ensure that all-weather access is pro-vided for all new development, with adequate clearance for emergency vehicles, designed in accordance with

the California Fire Code, and ensure that all roads, streets, and major public buildings are identified in a manner that is clearly visible to fire protection and other emergency vehicles.

**7-A.97** Monitor methane gas production at active and inactive landfills and take preventive action if gas production cre-ates a significant fire hazard.

**7-A.98** Devise alternative fire protection stan-dards suitable for Rural Living areas not exposed to high wildland fire hazards.

**7-A.99** Consult the San Bernardino County Fire Safety Overlay Ordinance for possible appropriate implementation measures for development in the foothills area.

**7-A.100** Require that all projects proposed in areas that are at risk from wildfire adhere to requirements under Redlands Fire Department Prevention Standard “Fire Safety Modification Zones 1 and 2.”

**7-A.101** Work cooperatively with the San Ber-nardino County Fire Department, CAL FIRE, and fire protection agencies of neighboring jurisdictions to ensure that all portions of the Planning Area are served and accessible within an effective response time and to address regional wildfire threats.

**7-A.102** Educate the public about fire prevention. Work with State and other agencies to educate property owners on fire risks and measures to reduce those risks.

**7-A.103** Work with State, County and local agen-cies as well as nongovernmental organi-zations to plan for post-fire recovery in a manner that reduces further losses or damages from future fires.



- 7-A.104** Monitor the status of critical infrastructure after major fire incidents to minimize further damage to the land, community, and residents.
- 7-A.105** Continue to encourage inter-departmental cooperation within the City to identify critical facilities and structures that may be at risk of fire and to develop strategies to eliminate or minimize fire hazards.
- 7-A.106** Expand on the Department's Community Risk Reduction measures by re-evaluating the risk analysis for the City.

## Seismic and Geologic Hazards

### Seismicity

The Planning Area is bound to the northeast by the San Andreas fault zone and to the southwest by the San Jacinto fault zone. It is traversed by the Crafton Hills fault zone through southern Redlands, Crafton, and Mentone. Portions of these fault zones are designated Alquist-Priolo fault zones, as shown in Figure 7-5. Though the majority of the Alquist-Priolo designated zones are outside of the Planning area, some of these faults extend into the southwest and northeast portions of the Planning Area. In addition, the Reservoir Canyon fault of the Crafton Hills fault zone, which crosses the unincorporated portion of the Planning Area and part of southeast Redlands, is within a San Bernardino County-designated fault zone.

Given the Planning Area's location in a seismically active region, potential for seismic hazard is high. These hazards may be addressed through adherence with existing building codes and state and local regulations, though exposure to seismic risks cannot be completely eliminated.

### Groundshaking and Surface Rupture

Groundshaking during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. Likewise, the composition of underlying soils can intensify groundshaking. Groundshaking is more pronounced in areas of unconsolidated alluvium, which tend to transfer relatively greater intensities of motion to the surface during a seismic event. As much of the Planning Area is situated on alluvial deposits, there is potential for severe groundshaking impacts.

Surface rupture results from the displacement of the ground surface along a fault or a portion of a fault. Areas at risk from surface rupture are those overlying

active faults. Structures built above an active fault are at risk of being torn apart or losing integrity in case of a surface rupture. Faults are shown in Figure 7-5.

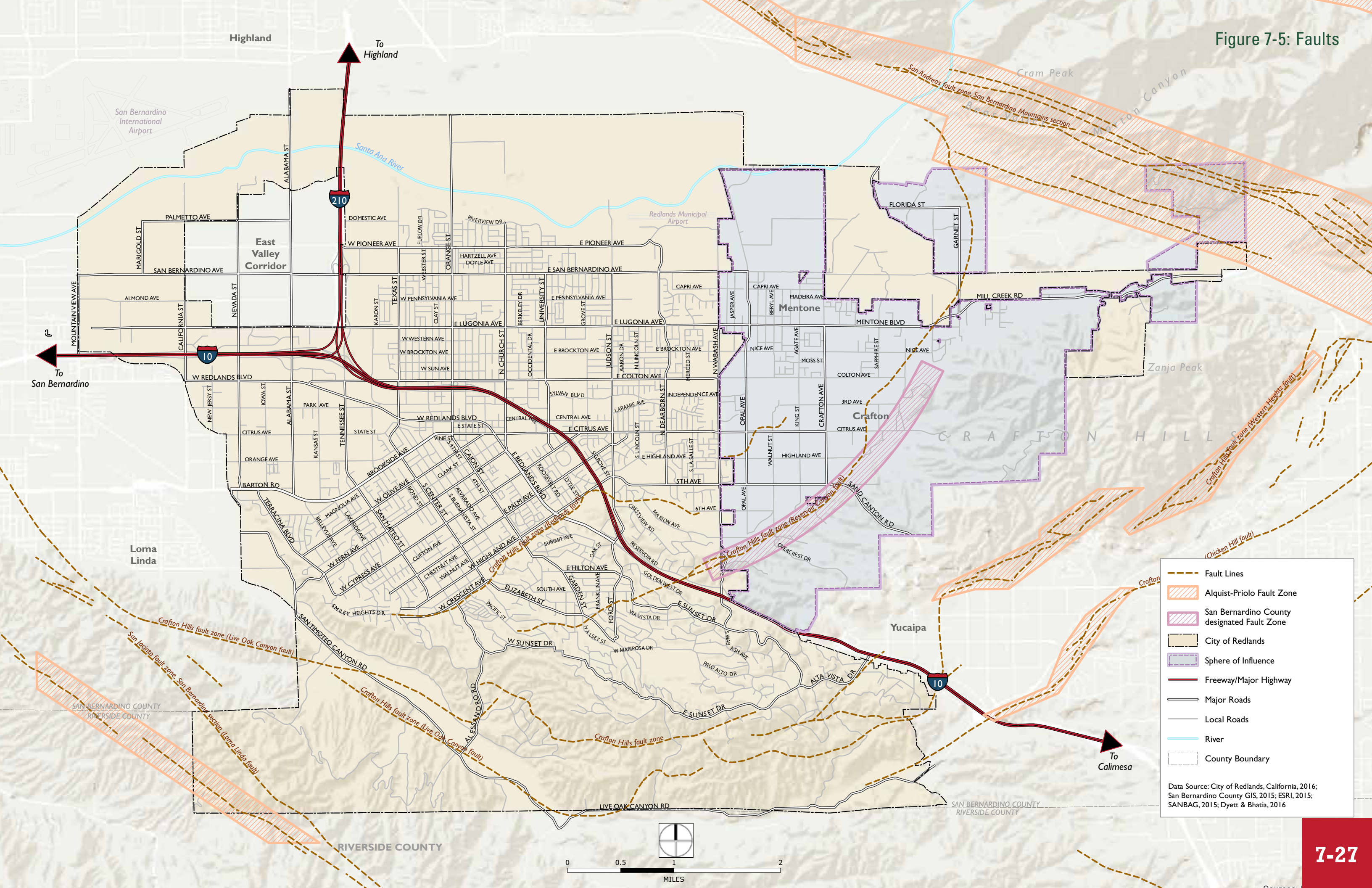
### Liquefaction

Liquefaction occurs when vibrations or water pressure within the soil causes the particles to lose contact with one another and behave like a liquid. Younger soils or recent deposits, such as alluvium, are more prone to being unconsolidated than older materials; thus, they are more prone to liquefaction, as are wet soils. Areas located along waterways tend to have the highest susceptibility to liquefaction as a result of their recent alluvial deposits and high groundwater levels. Liquefaction hazards are shown in Figure 7-6. As shown, the only portions of the Planning Area mapped with liquefaction susceptibility are along the Santa Ana River wash and in Mentone. However, because a majority of the Planning Area, including downtown sections, is situated upon alluvial fan deposits, there may be potential for impacts related to liquefaction as the result of severe seismic shaking.

### Landslides and Erosion

The majority of soils located in the Planning Area are well-drained, and surface erosion and slides are not common conditions. However, segments of San Timoteo Canyon, Live Oak Canyon, and the southwestern edge of the Crafton Hills are exceptions, as they contain weakly consolidated Saugus soils. On slopes greater than 30 percent, these soils are subject to rapid runoff and present moderate to high erosion hazards. Slope collapse or landslides resulting directly from earthquakes can occur in areas of moderate or even low susceptibility in a strong earthquake. Slides are more likely to occur during the wet season and in areas of high groundwater and saturated soils. Data from USGS indicates some land having medium to high susceptibility for landslides in the Planning Area, as shown in Figure 7-6.

Figure 7-5: Faults

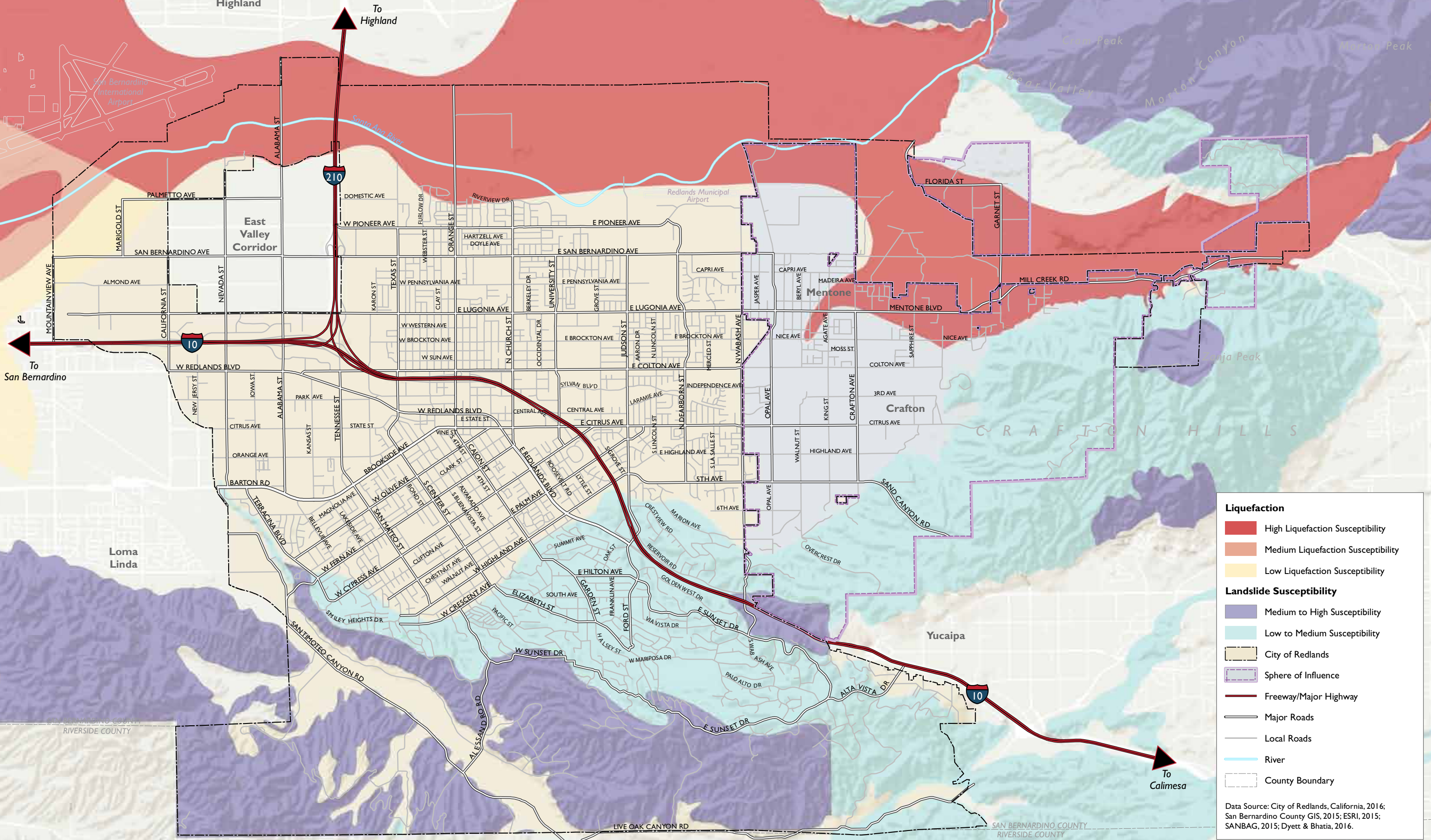


	Fault Lines
	Alquist-Priolo Fault Zone
	San Bernardino County designated Fault Zone
	City of Redlands
	Sphere of Influence
	Freeway/Major Highway
	Major Roads
	Local Roads
	River
	County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016



Figure 7-6: Liquefaction



**Liquefaction**

- High Liquefaction Susceptibility
- Medium Liquefaction Susceptibility
- Low Liquefaction Susceptibility

**Landslide Susceptibility**

- Medium to High Susceptibility
- Low to Medium Susceptibility

**Other Symbols**

- City of Redlands
- Sphere of Influence
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

# POLICIES

## Principles

- 7-P.29** Investigate and mitigate geologic and seismic hazards or locate development away from such hazards, in order to preserve life and protect property.
- 7-P.30** Support implementation of San Bernardino County General Plan policies relating to geologic and seismic hazards in unincorporated areas and consult with the San Bernardino County Geologist where conflicting information exists or where no published information is available.

## Actions

- 7-A.107** Continue to restrict development within Alquist-Priolo Earthquake Fault Zones and along other active and potentially active faults that have not yet received Alquist-Priolo classification.
- 7-A.108** Refer to the latest fault maps. Consult with the Division of Mines and Geology if there are issues or questions concerning fault alignment. Evaluate and, if necessary, perform site-specific investigation for development proposed on or near Alquist-Priolo Earthquake Fault Zones as well as within 500 feet of other active/potentially active faults.
- 7-A.109** Require areas identified as having significant liquefaction potential (including secondary seismic hazards such as differential compaction, lateral spreading, settlement, rock fall, and landslide) to undergo geotechnical study prior to development and to mitigate the potential hazard to a level of insignificance or,

if mitigation is not possible, to preserve these areas as open space or agriculture.

- 7-A.110** Use the building inspection program to inventory and evaluate earthquake hazards in existing buildings, especially buildings with unreinforced masonry (URM), using the most current seismic design standards and hazard reduction measures, and continue the program for the systematic upgrading of seismically unsafe buildings. Continue to explore measures to induce building owners to upgrade and retrofit structures to render them seismically safe.
- 7-A.111** Undertake review of critical facilities that may be vulnerable to major earthquakes, and develop programs to upgrade them.
- 7-A.112** Develop a City-based public awareness/earthquake preparedness program to educate the public about seismic hazards and what to do in the event of an earthquake.
- 7-A.113** Continue to regulate development on slopes greater than 15 percent (15-foot rise in 100 feet run) to minimize soil erosion, landslides, water runoff, flood hazards, loss of habitat, and wildfire hazards. For land exceeding 30 percent slope, limit density to one housing unit per 10 acres or more, or one housing unit per parcel existing on the date of adoption of the General Plan if under 10 acres. Transferring densities from steeper areas to flatter portions of the site is desirable and preferred.

- 7-A.114** For new construction and exterior building expansions including multi-story additions or lateral expansions as deemed appropriate by the City Building Department, require the preparation of a geotechnical/soils/geologic report by a registered civil geotechnical/soils engineer and a certified engineering geologist. This report shall address erodible or expansive and collapsible soils, existing or potential landslides, areas with unsuitable percolation characteristics, large-scale subsidence, non-rippable bedrock areas, ground motion parameters, active/potentially active faulting, liquefaction, and any other geotechnical concepts as appropriate, and make recommendations for mitigating any potential adverse impacts.

- 7-A.115** Require soil erosion mitigation during construction.

- 7-A.116** Adopt revisions of the California Building Code that incorporate the most current seismic design standards and hazard reduction measures recommended by the Applied Technology Council (ATC), the Structural Engineers Association of California (SEAOC), the Earthquake Engineering Research Institute (EERI), the Seismic Safety Commission, and the Southern California Earthquake Center.

- 7-A.117** Use the Local Hazard Mitigation Plan and Emergency Operations Plan to address issues related to seismic hazards, including hazardous materials incidents, hazardous buildings, critical facilities (i.e., schools, hospitals), emergency response preparedness and recovery with consideration to evacu-

ation routes, peak load water supply requirements, and minimum road-width/clearance around structures.

- 7-A.118** Require geotechnical studies for development in areas where sewers are not available to ensure that the surrounding soil can support alternative wastewater disposal systems.

## Other Hazards

### Hazardous Materials

San Bernardino County Fire serves as the Certified Unified Public Agency (CUPA) for the Redlands Fire Department, and is responsible for inspecting facilities that handle hazardous materials, generate or treat hazardous waste, and/or operate an underground storage tank. The Redlands Fire Department responds to situations where local traffic accidents lead to a spillage of hazardous materials. Additional governmental agencies help protect Redlands from hazardous waste and materials. The County CUPA program covers seven areas:

- Aboveground Petroleum Storage Act (APSA) Program
- Area Plans for Hazardous Materials Emergencies
- California Accidental Release Prevention (CalARP) Program
- Hazardous Materials Release Response Plans and Inventories
- Hazardous Material Management Plan (HMMP)
- Hazardous Waste Generator Program
- Onsite Waste Treatment Program
- Underground Storage Tank Program

While Redlands does not have large hazardous waste generators or facilities typical for cities, other facilities present key fire hazards. Southern California Gas Company operates a natural gas fired electric generation plant on Mountain View Avenue and a high pressure gas transmission and distribution pipeline that extends along I-10.

High pressure gas lines run along Mountain View Avenue on the western edge of the Planning Area and turn southeast at Mission Road. At California Street the lines veer north, continuing east and south along Orange Avenue to Tennessee Street, State Street,

Eureka Street, Redlands Boulevard, Reservoir Road, Wabash Avenue, Panorama Drive, and entering Yucaipa along Hampton Road and Dunlap Boulevard. Another high pressure gas line stretches along Sand Canyon Road and Crafton Avenue. Smaller gas lines are distributed throughout most of the Planning Area. A high pressure petroleum line extends through Redlands in San Timoteo Canyon within the Santa Fe Pacific Railroad right-of-way. It carries multiple types of petroleum products, including oil, gasoline, and jet fuels.

### Wind Hazards

Redlands is subject to the Santa Ana winds, which can reach up to 100 miles per hour. These winds, which typically occur several times per year between September and December, have been known to topple power lines, trees, and street lights. These winds can also spread uncontrolled wildfire and hinder firefighters from reaching fires. Given the potentiality of wind hazard, residents should heed caution during major wind storms. Additionally, the City should circumvent hazard by educating the public about wind hazard preparedness and by thoroughly undertaking precautionary measures to minimize harmful impacts.

### Electromagnetic Fields

The dangers of electromagnetic fields are not well known or understood. Some researchers claim to have found a link between cancer and the electromagnetic fields, but there is no conclusive evidence supporting this claim. As a precautionary measure, the General Plan recommends protecting Redlands citizens from electromagnetic fields.

## POLICIES

### Principles

- 7-P.31** Protect residents from the potential dangers of broken or damaged fuel lines.
- 7-P.32** Protect residents from the potential dangers of hazardous cargos.
- 7-P.33** Protect people and property from the adverse impacts of high winds.
- 7-P.34** Use education and practical ways of reducing exposure to electromagnetic fields (EMFs) near transmission lines and other sources.

### Actions

- 7-A.119** Develop an emergency response plan that adequately addresses the impacts of a broken natural gas or petroleum line in the city, as well as the transportation of hazardous cargo. Coordination is needed between the Police and Fire Departments, Southern California Gas Company and Santa Fe Pacific Pipelines, and the City's emergency response team.
- 7-A.120** Provide sufficient information to schools, housing, and care facilities for fuel lines that exist or that are to be constructed in the Planning Area.
- 7-A.121** Monitor issues related to damage from windstorms and undertake precautionary measures as needed, such as tree trimming.
- 7-A.122** Setback new schools, housing, and care facilities a minimum of 100 feet from high voltage power lines or substations.

- 7-A.123** Regulate development on sites with known contamination of soil and groundwater to ensure that construction workers, future occupants, the public, and the environment are adequately protected from hazards associated with contamination. Work with State and local agencies to encourage cleanup of such sites.
- 7-A.124** Prohibit the development of projects that would reasonably be anticipated to emit hazardous air emissions or handle extremely hazardous substances within a quarter mile of a school.





## Airport/Aviation Safety

Risks associated with airport operations include those to people and property located in the vicinity of the airport and those to the safety of persons aboard an aircraft. Safety impacts are mitigated through land use policies that specify the types of land uses near the airport, thus limiting the number of people exposed to the risk of an accident and protecting airspace from land uses that can create hazards to flight.

The City has adopted an Airport Land Use Compatibility Plan (ALUCP), which contains policies that address land use safety with respect both to people and property on the ground and to occupants of aircraft, protection of airspace, and general concerns related to aircraft overflights, as well as to airport-related noise. Policies generally apply to the Airport Influence Area, which encompasses all lands on which the uses could be negatively affected by present or future aircraft uses at the airport and lands on which the uses could negatively affect the airport. Compatibility concerns also extend to other lands on which certain land use characteristics could adversely affect the safety of flight. The City's preparation and adoption of this document was in response to State legislation that permitted the County of San Bernardino and its incorporated cities to dissolve the County Airport Land Use Commission and delegate to each airport owner within the County the responsibility for preparing an airport land use compatibility plan.

Any uses designated within Airport Compatibility Zones should not violate the ALUCP's restrictions on density and structure height, and should allow for required amounts of open space. Coordination with the ALUCP will help to reduce the exposure of people and property to hazards from any flight accidents, as well as reduce the risk of an accident for aircraft in flight over the city. Figure 7-7 maps airport hazard areas in Redlands.

## POLICIES

### Principles

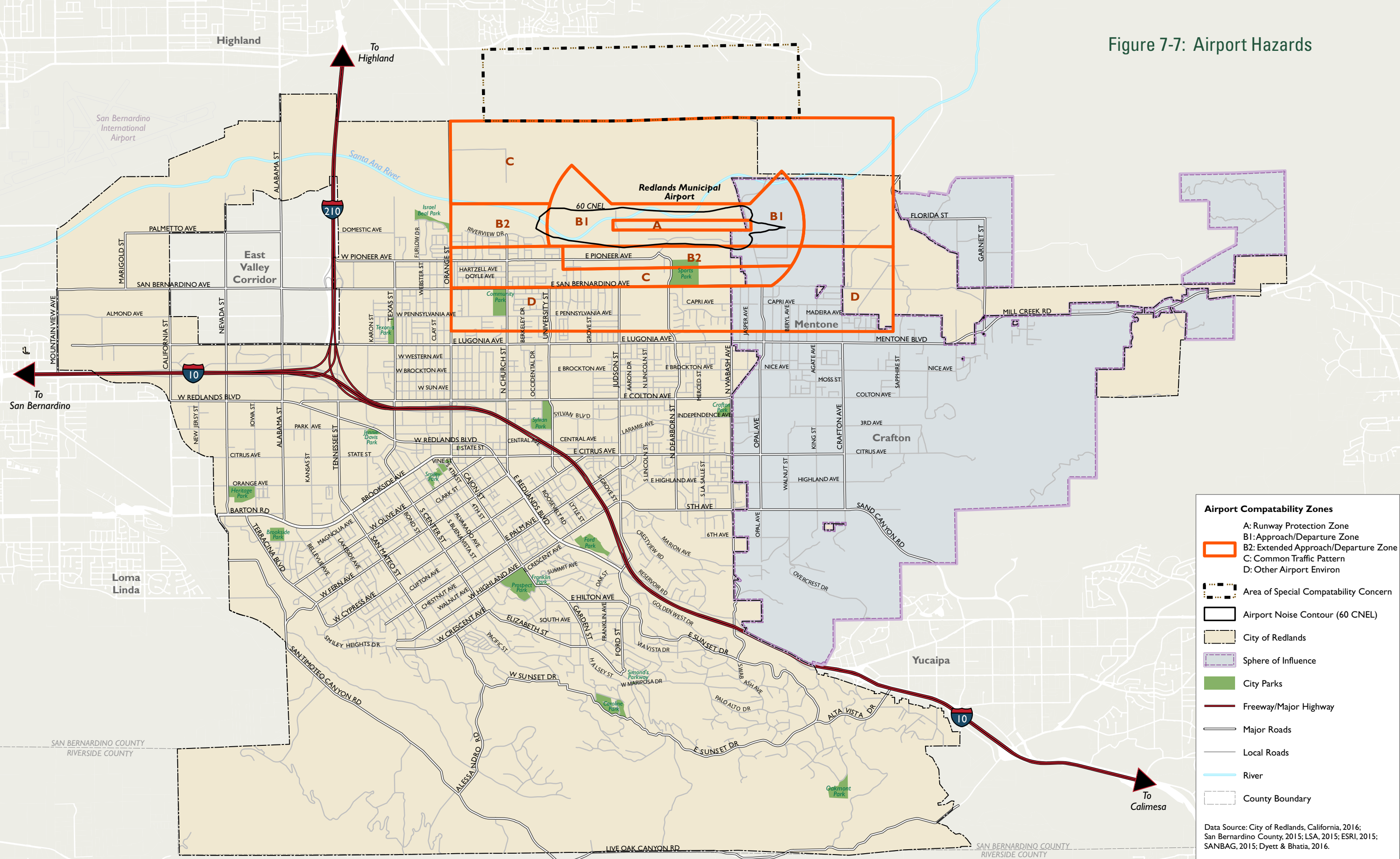
- 7-P.35** Implement the policies and standards of the Redlands Municipal Airport Land Use Compatibility Plan (ALUCP).
- 7-P.36** Limit hazards to and from flight operations due to land uses within the San Bernardino International Airport influence area.

### Actions

- 7-A.125** Review all projects within the Compatibility Zone Boundaries established by the ALUCP for conformity to the criteria set forth in the Primary Compatibility Criteria Matrix of the ALUCP.
- 7-A.126** Review all projects within the Compatibility Zones established by the San Bernardino International airport for conformity to the criteria set forth in the California Airport Land Use Planning Handbook. Coordinate with the airport on any future revisions to its compatibility standards.



Figure 7-7: Airport Hazards



**Airport Compatibility Zones**

- A: Runway Protection Zone
- B1: Approach/Departure Zone
- B2: Extended Approach/Departure Zone
- C: Common Traffic Pattern
- D: Other Airport Environ

Area of Special Compatibility Concern  
 Airport Noise Contour (60 CNEL)  
 City of Redlands  
 Sphere of Influence  
 City Parks  
 Freeway/Major Highway  
 Major Roads  
 Local Roads  
 River  
 County Boundary

Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; LSA, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

## Emergency Management

Due to the prevalence of unpredictable and unavoidable hazards in and near the Planning Area, the City must plan to address the safety of residents in times of disaster. This may involve ensuring that all parts of the city are accessible for both evacuation and emergency access, including areas of new development. This may particularly affect any new development in sloped areas and the canyons, where access points may be sparse.

The purpose of emergency preparedness is to protect the health, safety and welfare of the general public during and after natural, man-made (technological), or attack-related emergencies. To handle such events effectively requires the coordination of a number of public and private agencies as well as the public safety agencies such as the Police, Fire, Quality of Life, Emergency Management, and Municipal Utilities & Engineering departments. The City of Redlands recognizes the importance of emergency preparedness through the design and implementation of the Redlands Emergency Operations, Continuity of Operations, and Hazard Mitigation plans. These plans are based on the functions and principles of the Standard Emergency Management System (SEMS), which follows the FIRESCOPE Incident Command System (ICS) identifying how the City fits into the overall SEMS structure.

The California Emergency Services Act requires the City to manage and coordinate the overall emergency and recovery activities within its jurisdictional boundaries. Under SEMS, the City is responsible at two levels, the field response and local government levels. At the field response level, the City and all other agencies use ICS to aid in a standardized emergency response. At the local government level, a designated Emergency Operations Center (EOC) is used as the central location for gathering and disseminating information and coordinating all jurisdictional emergency operations within the area. During disasters, the City of Redlands is required

to coordinate emergency operations with the San Bernardino County Operational Area and, in some instances, other local governments. Local agencies are a part of a broader Emergency Management Systems, overseen by the State of California's Southern Region Emergency Operations Center.

The State of California Multi-Hazard Mitigation Plan, also known as the State Hazard Mitigation Plan (SHMP), was approved by FEMA in 2013. The SHMP outlines present and planned activities to address natural hazards. The adoption of the SHMP qualifies the State of California for federal funds in the event of a disaster. Locally, the City of Redlands adopted a Hazard Mitigation Plan (HMP) in 2015. The purpose of the HMP is to demonstrate the plan for reducing and/or eliminating risk in the city. The HMP assesses risks associated with flooding, earthquake, wildfire, hazardous material, and drought hazards, and identifies mitigation goals, objectives, and projects to reduce the risk.

### Evacuation Routes

The 2007 San Bernardino County General Plan designates potential evacuation routes in the event of wildland fires and other natural disasters, and to ensure adequate access of emergency vehicles to all communities. Within the San Bernardino Valley, designated evacuation routes include Interstates 10, 15, 210, and 215; State Highways 30, 60, 66, 71, and 83; and numerous major and secondary highways. This list is not intended to be comprehensive, and specific evacuation routes would be designated during a specific emergency, since earthquakes, floods, fires, or other disasters may make certain routes impassable. Caltrans has also identified a number of "Potential Evacuation Routes" in the San Bernardino Valley. These roads have the least number of bridges, and may be among the safest roads to travel in the event of a major earthquake. In the East Valley, those roads which connect with the Planning Area include:

- Hospitality Lane from Tippecanoe Avenue to Waterman Avenue
- Coulston Street from Mountain View Avenue to Tippecanoe Avenue
- Lugonia Avenue from Orange Street to Mountain View Avenue
- Redlands Boulevard from Orange Street to Waterman Avenue

Routes leading away from the Planning Area and crossing through the City of San Bernardino rely on parts of Barton Road, Waterman Avenue, Mill Street, E Street, Kendall Drive, La Cadena Drive, Mt. Vernon Avenue, Highland Avenue, and Cajon Boulevard. Additionally, throughout the Planning Area, a system of recreational use trails may be used for emergency evacuation routes.

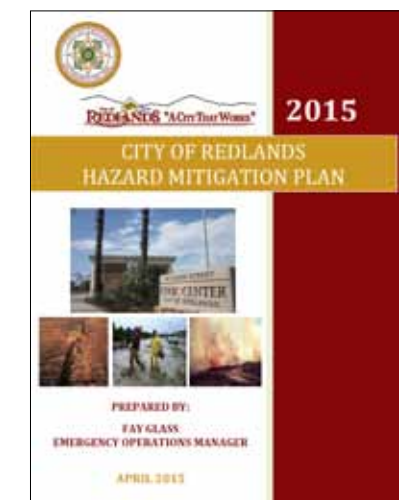
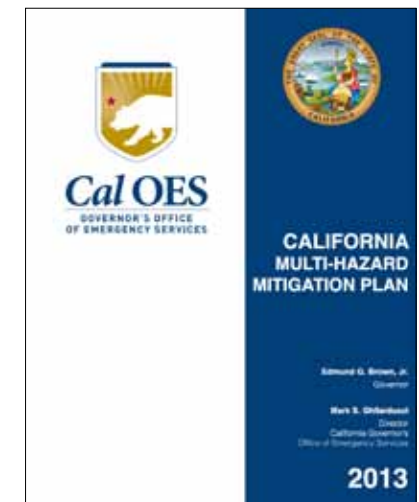
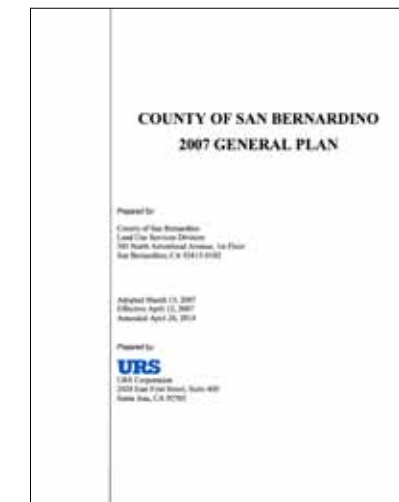
### Disaster Response Volunteers

The City of Redlands also relies on local disaster volunteer programs, including the following:

- **Community Emergency Response Team (CERT).** The City provides emergency preparedness information and disaster training for use by individuals in their own neighborhoods in times of an emergency, as well as continuing training for Affiliated CERT volunteers to assist the City before, during, and after a disaster or emergency.
- **Redlands Emergency Communications Groups (ACS).** These groups are responsible for redundant emergency communications and provides supplemental communication assistance to City agencies in the event of a disaster, emergency, or other designated event.
- **Disaster Council.** The City of Redlands Disaster Council is empowered to develop and recommend emergency and mutual aid plans and agreements for adoption by the City Council. The council consists of existing groups from various sectors of the community, including elected officials,

emergency management, first responders, volunteer services, major industry, commercial, healthcare, and education.

- **Voluntary Organizations Active in Disaster (VOAD).** The City has a strong relationship with San Bernardino County VOAD and the local San Bernardino County East End Community Organizations Active in Disaster (COAD), enabling members of the organizations to share information and coordinate the deployment of resources to improve outcomes for people affected before, during, and after a disaster.



*The City of Redlands derives emergency management procedures from previous plans, including the County of San Bernardino General Plan (2007), the California Multi-Hazard Mitigation Plan (2013), and the City of Redlands Hazard Mitigation Plan (2015).*

## POLICIES

### Principles

- 7-P.37** Use the City of Redlands Local Hazard Mitigation Plan and Emergency Operations Plan as the guides for disaster planning in the Redlands Planning Area.
- 7-P.38** Aim for City-level self-sufficiency in emergency response.

### Actions

- 7-A.127** Use the City of Redlands Local Hazard Mitigation Plan as the guide for identifying hazard risks and vulnerabilities, identifying and prioritizing mitigation actions, encouraging the development of local mitigation, and providing technical support for these efforts.
- 7-A.128** Continue to update and revise the Local Hazard Mitigation Plan and Emergency Operations Plan as needed to reflect changes in the Planning Area and in emergency management techniques, including specific local hazards that may not be included in the plan.
- 7-A.129** Maintain and update the City's Emergency Plan, as required by State law.
- 7-A.130** Maintain ongoing emergency response coordination with surrounding jurisdictions.
- 7-A.131** Require all City staff to be adequately trained to respond to emergency situations and conduct regular emergency preparedness drills with local organizations including the City's Fire, Police, Quality of Life, Emergency Management, and Municipal & Utilities Engineering departments.

- 7-A.132** Establish community programs to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, flood, or other major disaster.
- 7-A.133** Develop a public awareness program on the nature and extent of natural hazards in the Planning Area, and ways of minimizing disasters.
- 7-A.134** Investigate and plan for changes in hazard conditions due to climate change. Develop strategies to address changing risks to life and property from flood, drought, fire and other potential hazards, including those related to monitoring, emergency preparedness, development policies, conservation, and community resilience, and ensure that the City's hazard information is up to date regarding climate trends.

## 7.5 NOISE

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. Future residential development and recreational land uses will need to meet the City's land use compatibility matrix and noise standards. Of particular attention to the City are noise levels near loud transportation corridors, including roadways, the airport, railways.

### Noise Measurement

- **Level.** The decibel (dB) system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 A-weighted decibels (dBA) (very quiet) to 100 dBA (very loud).
- **Frequency.** Frequency is the composition or spectrum of the sound. Frequency is a measure of the pressure fluctuations per second.
- **Variation.** Variation is the sound level over time. Predominant rating scales for human communities in the State of California (State) are the Leq and the Community Noise Equivalent Level (CNEL) or the day-night average level (Ldn) based on A-weighted decibels. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly Leq for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). Ldn is similar to the CNEL scale but without the adjustment for events occurring during the

evening hours. CNEL and Ldn are within 1 dBA of each other and are normally interchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

### Noise Impacts

Noise impacts can be described in three categories. The first includes audible impacts, which refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise level of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

### Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA will potentially result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and

generally more concentrated in urban areas than in outlying, less-developed areas. Table 7-9 shows common sound levels and their noise sources.

## Noise Sources

### Traffic Noise

Automobiles, buses, and trucks produce transportation noise in Redlands. Major transportation noise sources in Redlands include traffic on Interstate 10 (I-10), Interstate 210 (I-210), California Street, Alabama Street, Tennessee Street, Center Street, Cajon Street, 6th Street, Orange Street, Church Street, Ford Street, Lugonia Avenue, Colton Avenue, Citrus Avenue, Highland Avenue, 5th Avenue, San Bernardino Avenue, Judson Avenue, Wabash Avenue, and Redlands Boulevard. Figure 7-8 shows noise level existing contours along roadways and along I-10. Figure 7-9 shows future noise contours projected for 2035.

### Rail Noise

The noise impacts associated with rail activities depend on a number of factors, including the type of train, the length of train, the use of a horn, the physical track conditions, the geometry and intervening structures between the rail line and its receptor, the number of trains operating, and the speed of the train.

Currently, two rail lines pass through portions of the city. The first is located along the Redlands Boulevard corridor and runs in an east-west direction generally following I-10, and runs through Downtown Redlands. This rail line is currently inactive, but the Redlands Passenger Rail Corridor project is now cleared for final design and construction along the right-of-way. The second rail line, which is currently active, is operated by Union Pacific. This rail line passes through the southwest and southern portion of the city, generally running parallel to San Timoteo Canyon Road. Based on the crossing inventory

completed on January 1, 2011, at the Alessandro Road intersection, typical operations included approximately 17 daytime trains and 20 nighttime trains ranging in speed from 45 to 65 mph.

### Aircraft Noise

The Redlands Municipal Airport is a source of noise, primarily from takeoffs and landings. There are on average 120 inbound and outbound flights from this airport. Aircraft includes single and multi-engine airplanes, jet airplanes, helicopters, gliders, and ultralight aircrafts. Noise from the aircraft generates a relatively minor contribution to the overall noise environment. Existing aircraft noise contours are illustrated in Figure 7-8.

### Stationary Noise Sources

Commercial-industrial and light-industrial land uses in the city have the potential to generate high noise levels and impact surrounding land uses with their equipment operation. Noise sources from these land uses include: air conditioning or refrigeration units, power tools, lawn equipment, generators, and other powered mechanical equipment.

**TABLE 7-9: COMMON SOUND LEVELS AND THEIR NOISE SOURCES**

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations <sup>1</sup>
Near jet engine	140	Deafening	128 times as loud
Civil defense siren	130	Threshold of pain	64 times as loud
Hard rock band	120	Threshold of feeling	32 times as loud
Accelerating motorcycle a few feet away	110	Very Loud	16 times as loud
Pile driver; noisy urban street/heavy city traffic	100	Very Loud	8 times as loud
Ambulance siren; food blender	95	Very Loud	—
Garbage disposal	90	Very Loud	4 times as loud
Freight cars; living room music	85	Loud	—
Pneumatic drill; vacuum cleaner	80	Loud	2 times as loud
Busy restaurant	75	Moderately loud	—
Near freeway auto traffic	70	Moderately loud	Reference level
Average office	60	Quiet	½ as loud
Suburban street	55	Quiet	—
Light traffic; soft radio music in apartment	50	Quiet	¼ as loud
Large transformer	45	Quiet	—
Average residence without stereo playing	40	Faint	⅙ as loud
Soft whisper	30	Faint	—
Rustling leaves	20	Very faint	—
Human breathing	10	Very faint	Threshold of hearing
—	0	Very faint	—

Notes:  
1. Subjective evaluations based on reference level of near freeway auto traffic.

Source: LSA Associates, 2015.

## POLICIES

### Principles

- 7-P.39** Support measures to reduce noise emissions by motor vehicles, aircraft, and trains.
- 7-P.40** Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant degradation of the future acoustic environment.
- 7-P.41** Ensure that new development is compatible with the noise environment by continuing to use potential noise exposure as a criterion in land use planning.
- 7-P.42** Guide the location and design of transportation facilities, industrial uses, and other potential noise generators to minimize the effects of noise on adjacent land uses.
- 7-P.43** Ensure long-term compatibility between the Redlands Municipal Airport and surrounding land uses.

### Actions

#### Land Use and Noise Compatibility

- 7-A.135** Use the noise and land use compatibility matrix (Table 7-10) and Future Noise Contours map (Figure 7-9) as criteria to determine the acceptability of a given land use, including the improvement/construction of streets, railroads, freeways, and highways. Do not permit new noise-sensitive uses—including schools, hospitals, places of worship, and homes—where noise levels are “normally unacceptable” or higher, if alternative locations are available for the uses in the city.
- 7-A.136** Require a noise analysis be conducted for all development proposals located where projected noise exposure would be other than “clearly” or “normally compatible” as specified in Table 7-10.
- 7-A.137** For all projects that have noise exposure levels that exceed the standards in Table 7-10, require site planning and architecture to incorporate noise-attenuating features. With mitigation, development should meet the allowable outdoor and indoor noise exposure standards in Table 7-11. When a building’s openings to the exterior are required to be closed to meet the interior noise standard, mechanical ventilation shall be provided.
- 7-A.138** Continue to maintain performance standards in the Municipal code to ensure that noise generated by proposed projects is compatible with surrounding land uses.

#### Railroad Noise

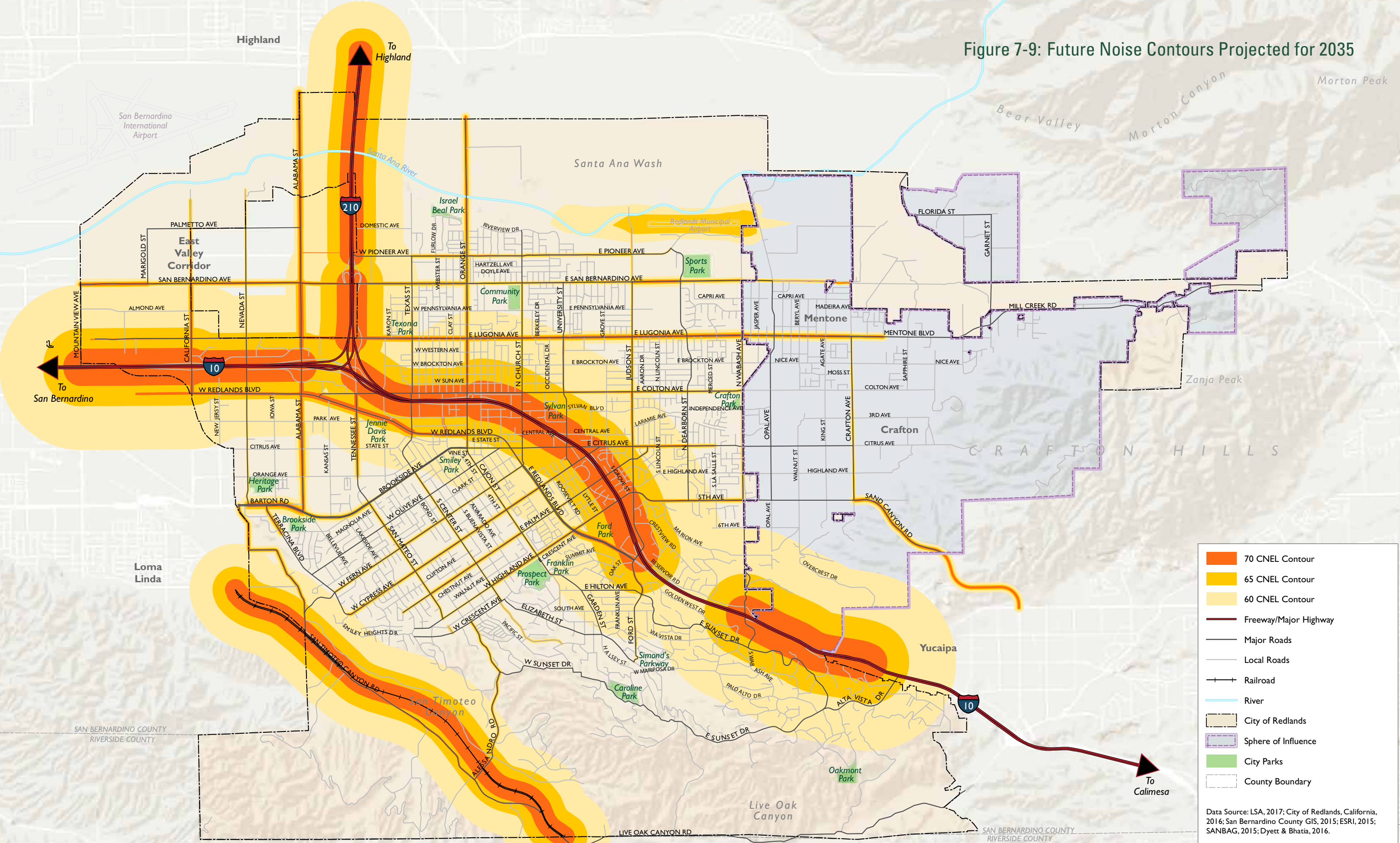
- 7-A.139** Work with SANBAG and other agencies to ensure that the Redlands Rail project incorporates mitigation to minimize potential impacts to the surrounding noise-sensitive uses once the final design is complete.
- 7-A.140** Coordinate with other agencies and private entities to implement a railroad quiet zone and other methods of reducing railroad noise impacts on surrounding uses along the Redlands Rail project and Southern Pacific Railroad.
- 7-A.141** Require all future developments within the city that fall within the required noise screening distances, as specified in the Federal Transit Authority (FTA) Noise and Vibration Manual, of the Union Pacific railroad in San Timoteo Canyon to conduct a detailed noise analysis.

#### Airport Noise

- 7-A.142** For projects within the Redlands Municipal Airport Influence Area, utilize the noise standards contained in the Redlands Municipal Airport ALUCP, as well as the noise standards contained in this element.
- 7-A.143** Periodically update the noise contours at the Redlands Municipal Airport or upon a major change in airport flight patterns.

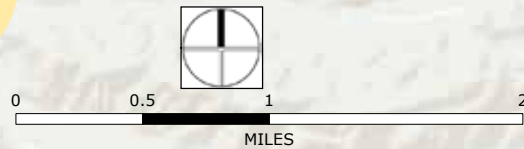


Figure 7-9: Future Noise Contours Projected for 2035



- 70 CNEL Contour
- 65 CNEL Contour
- 60 CNEL Contour
- Freeway/Major Highway
- Major Roads
- Local Roads
- Railroad
- River
- City of Redlands
- Sphere of Influence
- City Parks
- County Boundary

Data Source: LSA, 2017; City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.





# MEASURE U POLICIES

## IMPLEMENTING POLICIES: Noise

**Introduction:** In addition to the provisions of the following sections 9.0e through 9.0z, it is the policy of the City of Redlands that no land use adjacent to existing residential land shall generate noise in excess of the residential CNEL levels specified in Table 9.1 [Table 7-10] and Table 9.2 [Table 7-11] of this Noise Element unless appropriate mitigation measures are imposed to reduce the noise level on adjacent residential property to the standards set forth in Tables 9.1 [Table 7-10] and 9.2 [Table 7-11].

**9.0e** Use the criteria specified in GP Table 9.1 [Table 7-10] to assess the compatibility of proposed land uses with the projected noise environment, and apply the noise standards in GP Table 9.2 [Table 7-11], which prescribe interior and exterior noise standards in relation to specific land uses. Do not approve projects that would not comply with the standards in GP Table 9.2 [Table 7-1].

*These tables are the primary tools which allow the City to ensure noise-integrated planning for compatibility between land uses and outdoor noise.*

**9.0f** Require a noise impact evaluation based on noise measurements at the site for all projects in Noise Referral Zones (B, C, or D) as shown on GP Table 9.1 [Table 7-10] and on GP Figure 9.1 [Figure 7-9] or as determined from tables in the Appendix, as part of the project review process. Should measurements indicate that unacceptable noise levels will be created or experienced, require mitigation measures based on a detailed technical study prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California with a minimum of three years experience in acoustics).

**9.0g** Consider establishing a periodic noise monitoring program to identify progress in achieving noise abatement objectives and to perform necessary updating of the Noise Element and community noise standards.

*The California Department of Health Services recommended that noise elements be updated every five years.*

**9.0h** Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.

**9.0i** Require construction of barriers to mitigate sound emissions where necessary or where feasible, and encourage use of walls and berms to protect residential or other noise sensitive land uses that are adjacent to major roads, commercial, or industrial areas.

**9.0j** Require the inclusion of noise mitigation measures in the design of new roadway projects.

**9.0k** Ensure the effective enforcement of City, State and federal noise levels by all appropriate City departments.

**9.0l** Adopt and enforce a new Community Noise Ordinance to mitigate noise conflicts between adjacent land uses, to ensure that City residents are not exposed to excessive noise levels from existing and new stationary noise sources, and to educate the public regarding noise issues.

*A Community Noise Ordinance establishes noise limits, typical of a quiet residential area, that can not be exceeded at the property line of the noise-creating use. The types of noise to be controlled include sources such as amplified sound, street sales, animals, construction and demolition, vibration, powered model vehicles, emergency signaling devices, power tools, air conditioning, and vehicles on private property.*

**9.0m** Designate one agency or department in the City to act as the noise control coordinator, to ensure the continued operation of the City's noise enforcement efforts, and to establish and maintain coordination among the City agencies involved in noise abatement.

**9.0n** Ensure the effective enforcement of City, State, and federal noise levels by all appropriate City departments, and provide quick response to complaints and rapid abatement of noise nuisances within the scope of the City's police power.

**9.0o** Establish noise guidelines for City purchasing policy to take advantage of federal regulations and labeling requirements.

**9.0p** Coordinate with the California Occupational Safety and Health Administration (Cal OSHA) to provide information on and enforcement of occupational noise requirements within the City.

**9.0q** Provide for continued evaluation of truck movements in the City to provide effective separation from residential or other noise sensitive land uses.

**9.0r** Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and Redlands Police Department.

**9.0s** Require mitigation to ensure that indoor noise levels for residential living spaces not exceed 45 dB LDN/ CNEL due to the combined effect of all exterior noise sources.

*The Uniform Building Code (specifically, the California Administrative Code, Title 24, Part 6, Division T25, Chapter 1, Subchapter 1, Article 4, Sections T25 28) requires that "Interior community noise levels (CNEL/ LDN) with windows closed, attributable to exterior sources shall not exceed an annual CNEL or LDN of 45 dB in any habitable room." The code requires that this standard be applied to all new hotels, motels, apartment houses and dwellings other than detached single family dwellings.*

*Policy 9-s sets the maximum acceptable interior noise level at 45 CNEL. The Noise Referral Zones (65 CNEL) delineate areas within which tests to ensure compliance are to be required for new structures.*

**9.0t** Require proposed commercial projects near existing residential land use to demonstrate compliance with the Community Noise Ordinance prior to approval of the project.

**9.0u** Require all new residential projects or replacement dwellings to be constructed near existing sources of non transportation noise (including but not limited to commercial facilities or public parks with sports activities) to demonstrate via an acoustical study conducted by a Registered Engineer that the indoor noise levels will be consistent with the limits contained in the Community Noise Ordinance.

**9.0v** Consider the following impacts as possibly "significant":

- An increase in exposure of four or more dB if the resulting noise level would exceed that described as clearly compatible for the affected land use, as established in GP Table 9.1 [Table 7-10] and GP Table 9.2 [Table 7-11];
- Any increase of six dB or more, due to the potential for adverse community response.

**9.0w** Limit hours for all construction or demolition work where site-related noise is audible beyond the site boundary.

**9.0x** Work with Caltrans to establish sound walls along freeways where appropriate.

**9.0y** Minimize impacts of loud trucks by requiring that maximum noise levels due to single events be controlled to 50 dB in bedrooms and 55 dB in other habitable spaces.

**9.0z** Coordinate with the San Bernardino International Airport Authority to minimize potential noise impacts to the City of Redlands which may result from overflights as specific airport operations and flight patterns are established.



I-10 and I-210 move through Redlands and are significant sources of noise.

**TABLE 7-10: NOISE/LAND USE COMPATIBILITY MATRIX AND INTERPRETATION (MEASURE U TABLE 9.1)**

Land Use Categories		Community Noise Equivalent Level (CNEL)							
Categories	Uses	<	60	65	70	75	80	85	>
RESIDENTIAL	Single Family, Duplex Multiple Family	A	C	C	C	D	D	D	
RESIDENTIAL	Mobile Homes	A	C	C	C	D	D	D	
COMMERCIAL Regional, District	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D	
COMMERCIAL Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theater	A	A	A	A	B	B	C	
COMMERCIAL INDUSTRIAL INSTITUTIONAL	Office Building, Research & Dev., Professional Offices, City Office Building	A	A	A	B	B	C	D	
COMMERCIAL Recreation INSTITUTIONAL Civic Center	Amphitheater, Concert Hall, Auditorium, Meeting Hall	B	B	C	C	D	D	D	
COMMERCIAL Recreation	Childrens Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	A	B	B	B	
COMMERCIAL General, Special INDUSTRIAL, INSTITUTIONAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B	
INSTITUTIONAL General	Hospital, Church, Library, Schools Classroom	A	A	B	C	C	D	D	
OPEN SPACE	Parks	A	A	A	B	C	D	D	
OPEN SPACE	Golf Course, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C	
AGRICULTURE	Agriculture	A	A	A	A	A	A	A	
Zone A CLEARLY COMPATIBLE	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.								
ZONE B NORMALLY COMPATIBLE	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.								
ZONE C NORMALLY INCOMPATIBLE	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.								
ZONE D CLEARLY INCOMPATIBLE	New construction or development should generally not be undertaken.								

Source: Mestre Greve Associates; Guidelines for the Preparation and Content of the Noise Element of the General Plan, prepared by the California Department of Health Services in coordination with The Governor's Office of Planning and Research. Adapted to the City of Redlands' standards.

**TABLE 7-11: INTERIOR AND EXTERIOR NOISE STANDARDS  
(MEASURE U TABLE 9.2)**

Land Use Categories  Uses	Community Noise Equivalent Level (CNEL) Energy Average CNEL	
	Interior <sup>1</sup>	Exterior <sup>2</sup>
<b>RESIDENTIAL</b>		
Single Family, Duplex, Multiple Family	45 <sup>3</sup>	60
Mobile Home	---	60 <sup>4</sup>
<b>COMMERCIAL, INDUSTRIAL, INSTITUTIONAL</b>		
Hotel, Motel, Transient Lodging	45	65 <sup>5</sup>
Commercial Retail, Bank Restaurant	55	---
Office Building, Research & Development, Professional Offices, City Office Building	50	---
Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	---
Gymnasium (Multipurpose)	50	---
Sports Club	55	---
Manufacturing, Warehousing, Wholesale, Utilities	60	---
Movie Theaters	45	---
<b>INSTITUTIONAL</b>		
Hospital, Schools classrooms	45	60
<b>OPEN SPACE</b>		
Parks	---	60

Notes:

\* CNEL (Community Noise Equivalent Level) - The average equivalent A-weighted sound level during a 24 hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 pm to 10 pm and ten decibels to sound levels at night after 10 pm and before 7 am.

1. Indoor environment excluding bathrooms, toilets, closets, corridors.
2. Outdoor environment limited to private yard of single family as measured at the property line; multifamily private patio or balcony which is served by a means of exit from inside; mobile home park; hospital patio; park picnic area; school playground; hotel and recreational area.
3. Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
4. Exterior noise level should be such that interior level will not exceed 45 CNEL.
5. Except those areas affected by aircraft noise.

See also Policy 9.0s

Source: Mestres Greve Associates.



*Smiley Park is a quiet, peaceful place for residents and University students to take a break.*

## 7.6 AIR QUALITY

While air quality is largely a regional issue, the land use, circulation, and growth decisions made by local communities, such as Redlands, affect regional air quality. Redlands' air quality is overseen by the South Coast Air Quality Management District. This district includes Orange County, most of Los Angeles County, and the western portions of San Bernardino and Riverside counties. The South Coast Air Quality Management District has the unfortunate distinction of being one of only two areas in the country with extreme nonattainment levels for the federal ozone standard. As of 2012, mobile sources, including cars, trucks, boats, and planes contributed to 80 percent of emissions in the district. Additionally, the South Coast also experiences high levels of fine particulate matter.

No recent studies of air quality specific to Redlands have been conducted. A study of this nature would be useful to understand the exact source of emissions and where efforts should be directed to minimize harmful effects to air quality. Based on the overall air quality trends of the South Coast area, one may predict that the largest source of emissions impacting air quality in Redlands come from mobile sources. The major presence of industrial activity likely also adversely impacts air quality.

## POLICIES

### Principles

- 7-P.44** Protect air quality within the city and support efforts for enhanced regional air quality.
- 7-P.45** Aim for a diverse and efficiently-operated ground transportation system that generates the minimum amount of pollutants feasible.
- 7-P.46** Increase average vehicle ridership during peak commute hours as a way of reducing vehicle miles traveled and peak period auto travel.
- 7-P.47** Cooperate in efforts to expand bus, rail, and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.
- 7-P.48** Involve environmental groups, the business community, and the general public in the formulation and implementation of programs that enhance air quality in the city and the region.
- 7-P.49** Protect sensitive receptors from exposure to hazardous concentrations of air pollutants.

### Actions

- 7-A.144** To the extent practicable and feasible, maintain a system of air quality alerts (such as through the City website, internet, e-mail to City employees, and other tools) based on South Coast Air Quality Management District forecasts. Consider providing incentives to City employees to use alternative transportation modes during alert days.

- 7-A.145** Provide, whenever possible, incentives for carpooling, flex time, shortened work weeks, telecommuting, and other means of reducing vehicular miles traveled.
- 7-A.146** Promote expansion of all forms of mass transit to the urbanized portions of San Bernardino, Orange, Los Angeles, and Riverside counties. Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.
- 7-A.147** Cooperate with the ongoing efforts of the U.S. Environmental Protection Agency, the South Coast Air Quality Management District, and the State of California Air Resources Board in improving air quality in the regional air basin.
- 7-A.148** Develop requirements for retrofitting existing residential buildings within the 500-foot AQMD buffer along the freeway to abate air pollution, and limitations on new residential developments within the buffer.
- 7-A.149** Ensure that construction and grading projects minimize short-term impacts to air quality.
  - a. Require grading projects to provide a stormwater pollution prevention plan (SWPPP) in compliance with City requirements, which include standards for best management practices (BMPs) that control pollutants from dust generated by construction activities and those related to vehicle and equipment cleaning, fueling, and maintenance;
  - b. Require grading projects to undertake measures to minimize mono-nitrogen oxides (NOx) emissions from vehicle and equipment operations; and
  - c. Monitor all construction to ensure that proper steps are implemented.
- 7-A.150** Establish and implement a Transportation Demand Management (TDM) Program.
- 7-A.151** Convert the City fleet to zero emissions vehicles where financially feasible and provide associated infrastructure for such vehicles.
- 7-A.152** Enforce regulations to prevent trucks from excessive idling in residential areas.
- 7-A.153** Require applicants for sensitive land uses (e.g. residences, schools, daycare centers, playgrounds, and medical facilities) to site development and/or incorporate design features (e.g. pollution prevention, pollution reduction, barriers, landscaping, ventilation systems, or other measures) to minimize the potential impacts of air pollution on sensitive receptors.
- 7-A.154** Require applicants for sensitive land uses within a Proposition 65 warning contour to conduct a health risk assessment and mitigate any health impacts to a less than significant level.

A photograph of a residential roof with solar panels. In the foreground, several rows of blue solar panels are visible, mounted on a metal frame. In the background, a worker wearing a white hard hat, a white shirt, blue pants, and a yellow safety harness is standing on the roof. The worker is looking towards a circular vent or skylight. To the left, there is a white structure, possibly a utility box or a small shed, with a window. The roof is made of asphalt shingles. The overall scene is brightly lit, suggesting a sunny day.

# 8

## Sustainable Community

Serve as an environmental steward; ensure that residents enjoy clean air and water; make efficient use of energy, water, and land resources; and grow in a manner in which increased population does not negatively impact resources.

Residents would like Redlands to become more sustainable, and for the City to serve as a steward of its environmental resources. The community would like to see the City promote greater energy and water efficiency in new construction; expand programs for enhanced energy efficiency to existing homes and businesses; promote measures that reduce carbon emissions originating

in the city; emphasize water conservation measures; and reduce waste to extend the life of the landfill. Redlanders would like the City to demonstrate environmental leadership by installing solar panels on City facilities, continuing to reduce the carbon emissions from its vehicle fleet, extending the non-potable water system, and approving a "greywater" ordinance.

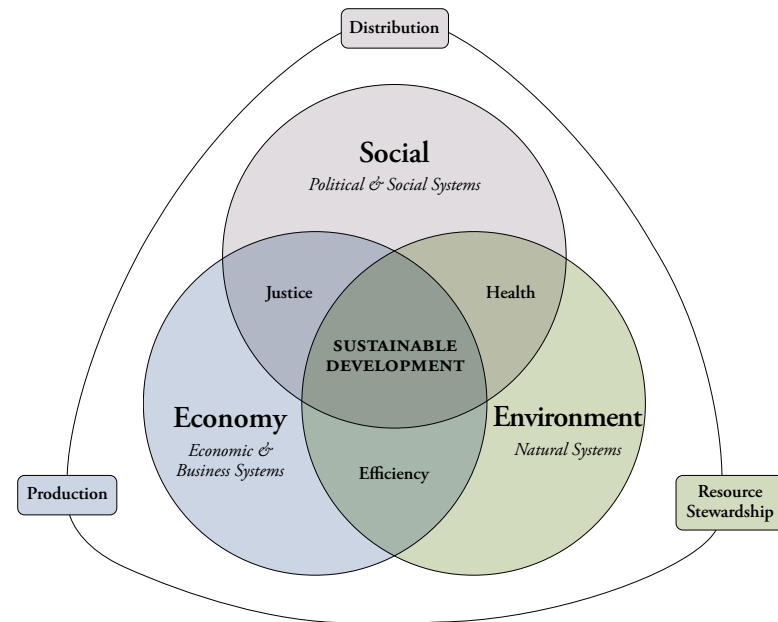


*Harnessing solar power is an effective way for residents and businesses to reduce energy consumption.*

## 8.1 ENERGY EFFICIENCY AND CONSERVATION

The City of Redlands has historically been a leader in alternative energy technologies. In 1893, the first application of three-phase electrical power in the United States was implemented at the Mill Creek No. 1 hydroelectric plant. Since then, Redlands has sought means to adopt renewable energy sources, including solar power, for public and private uses. The General Plan outlines an integrated strategy of land use and transportation development, and close integration between planning for development, and energy and resource conservation in order to ensure the positive social, environmental, and economic conditions fundamental to long-term sustainability (Chart 8-1). Additional measures to promote energy efficiency are outlined in the City’s Climate Action Plan.

**Chart 8-1: Sustainable Development**



*Sustainable development requires environmental, economic, and social consideration in equal measure.*

## POLICIES

### Principles

- 8-P.1** Promote energy efficiency and conservation technologies and practices that reduce the use and dependency of nonrenewable resources of energy by both City government and the community.
- 8-P.2** Promote energy awareness community-wide by educating the community regarding energy audits and incentive programs (tax credits, rebates, exchanges, etc.) available for energy conservation.
- 8-P.3** Proactively review and update City plans, resolutions, and ordinances to promote greater energy efficiency in both existing and new construction in regard to site planning, architecture, and landscape design.

### Actions

- 8-A.1** Work with Southern California Edison Company (SCE) and Southern California Gas Company (SCG) to educate the public about the need to conserve energy resources and the higher energy efficiency of new appliances and building materials.
- 8-A.2** Support San Bernardino County and San Bernardino Associated Governments (SANBAG) in implementation of their energy-related policies.
- 8-A.3** Leverage and help drive community participation in utility company programs and financial incentives within the City (e.g., one stop information clearing-house, incentives, on bill financing, etc.).

- 8-A.4** Continue pursuit of sustainable energy sources—such as hydroelectricity; geothermal, solar, and wind power; and biomethane—to meet the community’s needs.
- 8-A.5** Accelerate the adoption of solar power and/or other alternative energy usage in Redlands through actions such as:
  - Establishing incremental growth goals for solar power/alternative energy systems in Redlands;
  - Developing guidelines, recommendations, and examples for cost-effective solar and/or other alternative energy-based installation; and
  - Installing solar/alternative energy technology on available City spaces.
- 8-A.6** Complete a cost-benefit analysis for new City energy conservation or renewable energy projects that reviews the costs and benefits of a project over its life cycle to ensure the highest and best use of available funds.
- 8-A.7** Seek alternatives to reduce non-renewable energy consumption attributable to transportation within the Planning Area. Seek funding and other assistance from the South Coast Air Quality Management District (AQMD) for installation of electric vehicle charging stations at appropriate locations throughout the city.
- 8-A.8** Implement and enforce California Code of Regulations Title 24 building standards (parts 6 and 11) to improve energy efficiency in new or substantially remodeled construction. Consider implementing incentives for builders that exceed the standards included in Title 24 and recognize their achievements over the minimum standards.

**8-A.9** Encourage the use of construction, roofing materials, and paving surfaces with solar reflectance and thermal emittance values per the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects.

**8-A.10** Integrate trees and shade into the built environment to mitigate issues such as stormwater runoff and the urban heat island effect.

**8-A.11** Further City efforts to be a model of energy conservation stewardship by:

- Continuing participation in SCE/SCG's Community Partnership program;
- Moving City electric load off-peak where practical;
- Partnering directly with large consumers of energy and encouraging and promoting their energy efficiency activities;
- Establishing energy efficiency and conservation baselines; and
- Reporting routinely on the progress of goals.

**8-A.12** Explore participating in new high-efficiency technology programs such as LED lighting for City facilities, safety lighting in parks and other public spaces, and LED street lighting conversion for all City-owned street lights.

**8-A.13** Identify and obtain funding sources to implement energy conservation and efficiency programs and other emerging energy strategies suitable to conditions within the city.

**8-A.14** Seek funding programs to assist low and moderate-income households in energy conservation.

**8-A.15** Encourage City employees to submit energy efficiency and conservation recommendations for City operations and follow up on the recommendations.

**8-A.16** Complete a comprehensive review of City codes and standards for applicability for energy and water efficiency/conservation measures and make changes to modify them accordingly.

**8-A.17** Set goals consistent with the State's Long-Term Energy Efficiency Strategic Plan. Design and implement programs and incentives to meet these goals in both private and public sector construction:

- All new residential construction in California will be zero net energy by 2020.
- All new commercial construction in California will be zero net energy by 2030.
- The heating, ventilation, and air conditioning (HVAC) industry will be improved to ensure optimal equipment performance; and all eligible low-income homes will be energy efficient by 2020.

**8-A.18** Allocate savings realized from energy efficiency improvements at City facilities to implement additional energy efficiency improvements at City facilities.

**8-A.19** Explore adoption of a model dark sky ordinance for appropriate areas of the city i.e. the rural areas of the canyons and Crafton.

**8-A.20** Support energy resiliency through a diversified system of energy sources including zero and near-zero emission technologies.

**8-A.21** Support the development of distributed energy resources (DER), such as combined heat and power (CHP) from micro-turbines, fuel cells, etc., to assist in local energy security.



*Given the environmental pressures facing Southern California, it is increasingly important for energy providers, such as the Southern California Edison Company, to educate customers about energy conservation.*



*Drought conditions diminish the supply of surface water. Efficient water utilization can preserve Redlands' water supply and reduce the necessity for importing potable water.*

**TABLE 8-1: HISTORIC AND PROJECTED USAGE (POTABLE WATER)**

Year	Average Total Usage (acre feet per year)
2005	28,615
2010	26,107
2014	27,172
2015	20,005
2020 (projected)	26,296
2025 (projected)	27,026
2030 (projected)	27,756
2035 (projected)	28,483

Source: City of Redlands MUED, 2016.

## 8.2 WATER CONSERVATION

Water in the Planning Area is provided by the City of Redlands and the Western Heights Water Company. The city's water system is maintained by the Municipal Utilities and Engineering Department (MUED) and covers most of the city, a small area in Loma Linda, the County's East Valley Corridor area, Mentone, and most of Crafton. The Western Heights Water Company serves a small portion of the southeastern part of the City in the Highlands-Canyon area and portions of Crafton.

### Water Sources

#### Local Supply

The Redlands Planning Area domestic water sources consist of both surface (about 50 percent of total supply) and groundwater (about 50 percent of total supply). The City is entitled to surface water from both Mill Creek and the Santa Ana River. Mill Creek water is available on the basis of rights owned directly by the City, and by virtue of the City's direct and indirect stock ownership in the Crafton Water Company, which has established rights on the remainder of Mill Creek flows.

#### Imported Water

Imported State Water Project (SWP) water is available to the Planning Area. The San Bernardino Valley Municipal Water District (SBVMWD) has an entitlement of about 102,600 acre feet a year of SWP water, which is transported from the Feather River in Northern California, along the California Aqueduct, and to the Aqueduct's East Branch, where it is conveyed eastward to the Planning Area via the 17-mile Foothill Pipeline.

The City of Redlands, like other cities in SBVMWD's service area, may purchase SWP water. The City has no entitlement to a set amount of water, but may request it in competition with other cities served by SBVMWD. Typically, the City receives approximately four percent of the water it delivers to its customers from SBVMWD.

#### Groundwater

The City of Redlands owns 18 wells that pump directly into the system or into reservoirs. All of these wells are adequately separated from sewerage facilities. All wells are free from serious flooding hazard. Although the City's domestic water wells constitute about 50 percent of the water supply, some of the wells require treatment. Because of contamination (typically due to agricultural nitrates), the City has wells that are not used for domestic purposes and are instead used for irrigation.

### Water Conservation

Water conservation—the reduction of water loss, use or waste via behavioral or technological changes—can ensure high-quality water supply for years to come. Redlands has recently seen a substantial drop in overall and per capita water use as compared to historical levels a result of ongoing conservation measures. (see Table 8-1). Reusing treated wastewater for purposes such as irrigation, industry, and toilet flushing can further conserve the water supply. Though Redlands' water supply has typically originated in nearby mountains and basins, regional water pressures and climate change may limit supply, thereby forcing Redlanders to import increasing amounts of water.



## POLICIES

### Principles

- 8-P.4** Promote residential and commercial water conservation using multiple strategies.
- 8-P.5** Conserve the highest quality of water reasonably available for domestic use.
- 8-P.6** Minimize dependence on imported water through efficient use of local surface sources, using wise ground-water management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.

### Actions

- 8-A.22** Engage with the Santa Ana Watershed Project Authority (SAWPA) in preparation and periodic updating of the Integrated Regional Water Management (IRWM) Plan for surface and ground-water resources. Update the City of Redlands' Water Master Plan, within the structure and guidelines of the IRWM Plan, including an assessment of Redlands' position relative to regional demand and availability of water resources through buildout.

- 8-A.23** Work with the SAWPA, Bear Valley Mutual Water Company, San Bernardino Valley Municipal Water District, and Western Heights Water Company to educate the public and implement water conservation measures. Update the Redlands' Water Conservation Plan, Ordinance No. 2151, to reflect current best practices for water conservation.

- 8-A.24** Participate in regional efforts to clean up the Bunker Hill Groundwater Basin and maintain high water quality going forward so that it can be used to its full potential.

- 8-A.25** Encourage water conservation through the following strategies:

- Establish water and wastewater rates that encourage conservation and provide for system maintenance.
- Update the landscape irrigation ordinance to continue reducing the use of potable water for landscape irrigation to CALGreen requirements. All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.
- Establish incentives for use of water efficient fixtures and fittings.

- Expand the current landscaping ordinance for parking lots (Section 18.168.210 of the Municipal Code) to encourage the use of drought tolerant species.
- Promote the use of permeable surfaces for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb stormwater, reduce polluted urban runoff, recharge groundwater, and reduce flooding.
- Incorporate water holding areas such as creek beds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality, and decrease flooding into the urban landscape.

- 8-A.26** Implement the following programs to increase the use of reclaimed and other non-potable water and decrease the use of potable water for irrigation:

- Conduct rainfall runoff capture and other system research and pilot studies;
- Develop guidebooks for irrigation Best Management Practices (BMPs) and other systems;
- Update ordinances to allow for the use of reclaimed water for landscape irrigation;

- Update ordinances to allow for use of various greywater sources for use as subsurface landscape irrigation per California Plumbing Code; and
- Require inclusion of dual plumbing that allows greywater from showers, sinks, and washers to be reused for landscape irrigation in the infrastructure of new development where appropriate.

- 8-A.27** Seek funding sources to implement renewable energy sources determined to be feasible for water and wastewater operations.

- 8-A.28** Permit greywater use for irrigation, and adopt ordinance or other measures allowing for expanded use of graywater as permitted by the California Plumbing Code.

- 8-A.29** Reduce consumption of carbon-based fuels for conveyance and treatment of water and wastewater.

*Drought-tolerant landscaping, such as the vegetation in front of Redlands Fire Station No. 1, requires less water than and has the same curb appeal as water-intensive landscaping.*



## 8.3 WASTE REDUCTION AND RECYCLING

Waste collection services are provided by the City of Redlands for areas within city limits. Waste collection for the Mentone and Crafton areas is carried out by private haulers contracted with San Bernardino County.

Solid waste from Redlands is primarily disposed of at the California Street Landfill (encompassing 115 acres) and the San Timoteo Sanitary Landfill (encompassing 366 acres) operated by the County, both within the city limits. These have more than adequate capacity to meet the city's needs for the foreseeable future.

Diverting waste from landfills by promoting reduction, reuse, recycling, and composting of materials can substantially reduce greenhouse gas emissions. Recycling and waste prevention programs reduce energy and transportation needed to manufacture and ship resource-intensive products and packing. Composting food and yard waste reduces the amount of methane produced in landfills. Moreover, the combination of waste management and diversion strategies can extend the life of existing landfills. Redlands offers public recycling drop-off, commercial recycling, composting programs, and curbside green waste programs.

## POLICIES

### Principles

**8-P.7** Reduce the generation of solid waste, including household hazardous waste, and recycle those materials that are used, to slow the filling of local and regional landfills.

### Actions

**8-A.30** Meet the State's policy goal that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020; and reduce landfill disposal of household hazardous waste as much as feasibly possible.

**8-A.31** Develop programs to divert food waste and other biodegradable waste to composting facilities rather than disposing of them in the landfill.

**8-A.32** Mitigate impacts associated with the expansion of existing landfills or development of new landfills to include effects on streets and highways, drain-

age systems, groundwater, air quality, natural resources, aesthetics, and property maintenance.

**8-A.33** Improve commercial recycling diversion rates (including those for multi-unit housing) through education, including electronic and mailing campaigns, and partnerships with large employers, organizations, and institutions such as University of Redlands.

**8-A.34** Work with private industry to encourage the reduction and reuse of construction and demolition materials through deconstruction and other methods.

**8-A.35** Invest in new infrastructure and technology and partnerships that contribute to increased waste diversion and capture/reuse of methane gas emissions from the landfill.

**8-A.36** Work with public and private entities to generate creative new opportunities that use solid waste as a resource.

**8-A.37** Promote design in new development that incorporates space for recycling containers and other waste diversion facilities.

**8-A.38** Explore the potential to generate energy using biomethane from the City's landfill and wastewater treatment plant.



## 8.4 GREEN BUILDING AND LANDSCAPES

The California Green Building Standards Code (CALGREEN) was adopted in 2010. It was the first code of its kind to mandate green building design and construction in categories related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and air quality standards. Redlands implemented measures from the CALGREEN code, and seeks to adopt additional green building strategies and provide incentives for retrofitting non-compliant structures.

### POLICIES

#### Principles

**8-P.8** Promote sustainability by reducing the community’s greenhouse gas (GHG) emissions and fostering green development patterns – including buildings, sites, and landscapes.

#### Actions

**8-A.39** Continue implementation and enforcement of the California Building and Energy codes to promote energy efficient building design and construction.

**8-A.40** Promote the Leadership in Energy and Environmental Design (LEED) certification program for the design, operation, and construction of high-performance green buildings.

**8-A.41** Promote energy conservation and retrofitting of existing buildings through:

- Encouraging point-of-sale residential energy and water efficiency audits. Provide information on upgrading requirements and/or incentives if necessary;
- Providing financial incentives and low-cost financing products and programs that encourage investment in energy efficiency and renewable energy within existing residential buildings; and
- Educating residents about the availability of free home energy audit programs and encouraging the implementation of audit findings.

**8-A.42** Adopt a construction and demolition waste recycling ordinance that requires, except in unusual circumstances, all

construction, demolition and renovation projects that meet a certain size or dollar value to divert from landfills 100 percent of all cement concrete and asphalt concrete, and an average of at least 75 percent of all remaining non-hazardous debris.

**8-A.43** Decrease the need for artificial cooling, heating, and lighting, and promote outdoor lifestyles in Redlands’ moderate climate by:

- Updating the Zoning Ordinance to provide for adequate private and common open spaces as part of multi-family developments; and

- Encouraging residential and office buildings to have windows that open to the outside in all habitable rooms and maximize the use of daylight.

**8-A.44** Prepare a Landscape Manual or enhance landscape standards in the Municipal Code to mitigate urban heat island effects through maximum tree canopy coverage and minimum asphalt and paving coverage – particularly for denser areas like Downtown, Transit Villages, shopping centers, and industrial and other areas with expansive surface parking. Consider the reflectance of stone and rock ground cover in heat generation.



Homes in Redlands are constructed in accordance with CALGREEN policies concerning energy and resource efficiency.

## 8.5 GREENHOUSE GAS (GHG) REDUCTION

Greenhouse gases (GHGs) are released during energy production and consumption. Principal GHGs include carbon dioxide, methane, nitrous oxide, ozone, and water vapor. The primary sources of GHG emissions in the United States are electricity production (30% of 2014 GHG emissions), transportation (26%), and industry (21%). Though the greenhouse effect is a natural process, the confluence of an excessive amount of GHGs in the atmosphere leads to climate change. Reducing the carbon content

of the fuel source (e.g. solar or wind power versus fossil fuel) or reducing energy consumption (e.g. using energy efficient appliances or designing buildings for solar access) may limit negative impacts on global climate change.

### Redlands GHG

Most Redlands GHG gas emissions in 2008 originated from on-road transportation and building energy (Chart 8.2; this information may be updated following completion of a Climate Action Plan). On-road transportation refers to emissions that result from burning gasoline and diesel fuel on Redlands roadways. Building energy refers to emissions from the use of natural gas and electricity by residential,

commercial, and industrial buildings. Building energy emissions may be high in Redlands due to the presence of heavy industry.

### State Mandates

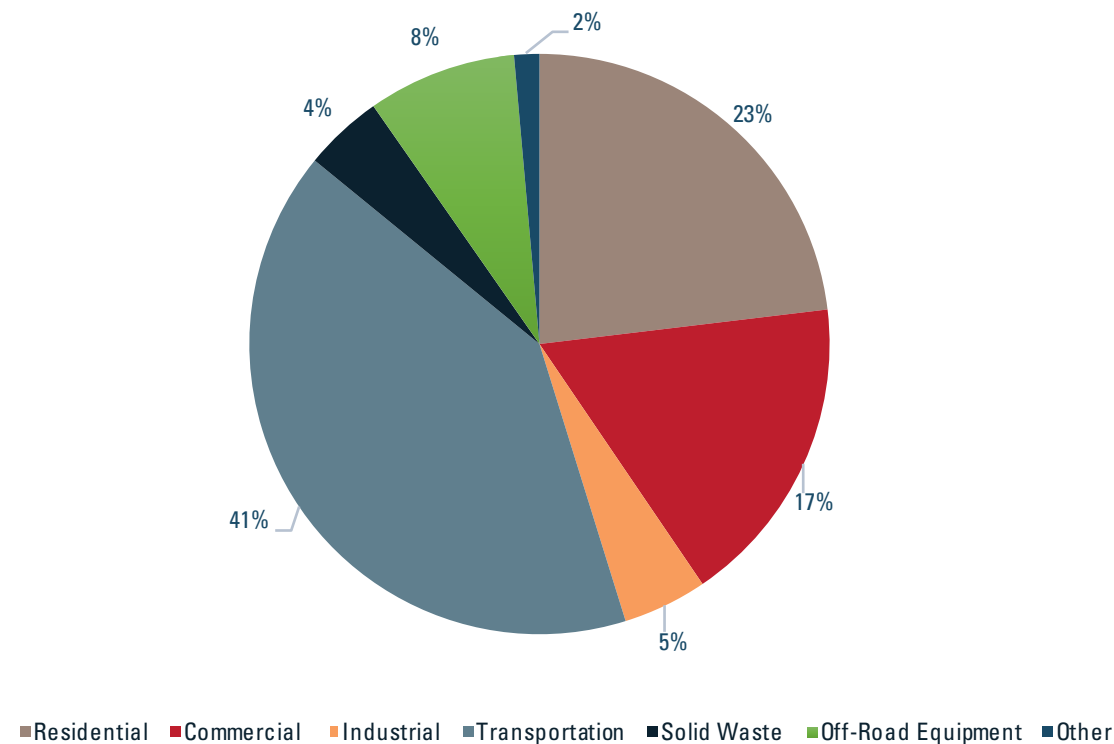
The State of California has enacted several measures to combat global warming and climate change. The Governor's Executive Order S-3-05 commits California to reducing its GHG emissions to Year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The Global Warming Solutions Act of 2006 (AB 32) codifies the 2020 target and tasks the California Air Resources Board (CARB) with developing a plan to achieve this target. Most recently, Executive Order B-30-15 (Brown, 2015) established a California GHG target of 40 percent below 1990 levels by 2030.

### Redlands Climate Action Plan

The Redlands Climate Action Plan (CAP) was prepared concurrently with the General Plan update, and provides an analysis of GHG emissions to the year 2035. The CAP reinforces the City's commitment to reducing GHG emissions and demonstrates how the City will comply with State of California's GHG emission reduction standards. The CAP's GHG emission targets are based on CARB guidelines established in the 2017 Scoping Plan for local jurisdictions. The CAP includes:

- An inventory of the city's GHG emissions;
- Forecasts of future GHG emissions through the year 2035;
- Monitoring and reporting processes to ensure targets are met; and
- Options for reducing GHG emissions beyond State requirements that could be adopted at a future date, if so needed or desired.

Chart 8-2: Redlands GHG Emissions by Sector



Note: Other includes public lighting; agriculture; wastewater; and water transport, distribution, and treatment.

Source: Redlands Draft Climate Action Plan, 2017.

## POLICIES

### Principles

- 8-P.9** Undertake initiatives to enhance sustainability by reducing the community's GHG emissions.
- 8-P.10** Demonstrate leadership by reducing the use of energy and fossil fuel consumption in municipal operations, including transportation, waste reduction, and recycling, and by promoting efficient building design and use.

### Actions

- 8-A.45** Prepare a Climate Action Plan to ensure that the Planning Area complies with State-mandated GHG emissions.
- 8-A.46** Continue to monitor the City's compliance with State-mandated GHG emissions, as provided for in the Climate Action Plan. Make timely adjustments to City policies as required to continue meeting State GHG targets, and as changes in technology, federal and State programs, or other circumstances warrant.
- 8-A.47** Demonstrate City leadership by giving preference to or providing incentives for climate-friendly purchasing.
- 8-A.48** Support a regional approach to study the feasibility of establishing Community Choice Aggregation (CCA) or another program that increases the renewable energy supply and maintains the reliability and sustainability of the electrical grid.

# GLOSSARY

## Acronyms

ALUCP. Airport Land Use Compatibility Plan  
CEQA. California Environmental Quality Act  
CIP. Capital Improvement Program  
CLG. Certified Local Government Program  
CUPA. Certified Unified Public Agency  
CNEL. Community Noise Equivalent Level  
CSA. Community Supported Agriculture  
CALUP. Comprehensive Airport Land Use Plan  
dB. Decibel  
dBA. Decibel, A-weighted  
DOF. California Department of Finance  
EVCSP. East Valley Corridor Specific Plan  
EDAP. Economic Development Action Plan  
EIR. Environmental Impact Report  
FAR. floor area ratio  
FRA. Federal Responsibility Area  
GPSC. General Plan Steering Committee  
LAFCO. San Bernardino County Local Agency Formation Commission.  
Ldn. Day-Night Noise Level  
LEED. Leadership in Energy and Environmental Design  
LID. Low Impact Development  
NRHP. National Register of Historic Places  
RCSP. Redlands Community Sustainability Plan  
SANBAG. San Bernardino Associated Governments  
SBVMWD. San Bernardino Valley Municipal Water District

SCAG. California Association of Governments  
SOI. Sphere of Influence  
SEMS. Standardized Emergency Management System  
SRA. State Responsibility Area  
SWP. State Water Project  
TVOZ. Transit Village Overlay Zone  
TDM. Transportation Demand Management  
WWTP. Wastewater Treatment Plant

## Definitions

**100-Year Flood.** That flood event that has a one-percent chance of occurrence in any one year.

**Active Lifestyle.** A way of living that incorporates activities such as walking, biking, and play into daily routines.

**Active and Passive Recreation.** In addition to a park's primary classification, the city may describe a park as containing active and/or passive areas. Parks can be developed with either active or passive park amenities or a combination of both. Active park areas typically provide a form of organized and/or supervised recreation, such as gymnasiums, swim complexes, multi-use ball fields, tot lots, hard court play surfaces, volleyball, horseshoe areas, BMX bike courses, and skate parks or a combination thereof. Passive park areas often provide minimal or no amenities associated with active use. The very nature of passive use implies quiet, contemplative, low impact activity, such as nature trails, walkways, picnic tables, benches, and small turf and/or landscaped areas.

**Active Open Space.** Open space areas that typically include more complex site improvements and generally have provisions for programmed recreation.

**Active Transportation.** Human-powered transportation that includes walking, cycling, using a wheelchair, in-line skating, or skateboarding.

**Affordable Housing.** Housing for which the allowable housing expenses for a for-sale or rental dwelling unit paid by a household would not exceed thirty percent of the gross monthly income for target income levels, adjusted for household size.

**Agri-Tourism.** Any agriculturally based operation or activity that brings visitors to a farm or ranch, including farm stays, picking fruit, and buying produce directly from a farm.

**Agriculture.** The cultivation and tilling of the soil, dairying, the production, cultivations, growing and harvesting of any agricultural or horticultural commodities, the raising of livestock, bees, fur-bearing animals, or poultry, and the preparation of farm products for market.

**Airport Land Use Compatibility Plan (ALUCP).** Article 3.5, Airport Land Use Commissions, PUC Sections 21670 - 21679.5 requires Airport Land Use Commissions to develop Airport Land Use Compatibility Plans to help minimize the public's exposure to excessive noise and safety hazards while providing for the orderly expansion of airports.

**Arterial.** Streets that collect and distribute traffic to/from freeways and expressways to the local network.

**Avigation Easement.** An easement that transfers certain property rights from a property owner to an airport owner. Among other things, an avigation easement grants the right of flight in the airspace above the property, allows the generation of noise and other impacts associated with overflight, restricts the height of structures, trees and other objects on the property, prohibits potential on ground flight hazards (sources of light/glare, etc.) and permits access to the property to remove or mark objects exceeding the established height limit.

**Bicycle Boulevard.** Low-volume and low-speed streets that prioritize bicycles. Bicycle travel on these boulevards is optimized through traffic calming devices such as speed humps and high visibility crosswalks.

**Best Management Practices (BMP).** The combination of conservation measures, structure, or management practices that reduces or avoids adverse impacts of development on adjoining site's land, water, or waterways, and waterbodies.

**Bike Facilities.** These include bike paths (Class I Facilities), bike lanes (Class II Facilities), and bike routes (Class III Facilities), following a classification system established in the Visalia Bikeway Plan.

**Blight.** Hazardous or unsightly condition, including disrepair, deterioration, the accumulation of debris, and lack of maintenance, regardless of the condition of other properties in the neighborhood.

**Buffer.** In terms of land use, a buffer is a transitional zone or piece of land between two different land uses.

**Buildout.** That level of development characterized by full occupancy of all developable sites in accordance with the General Plan; the maximum probable level of development envisioned by the General Plan under specified assumptions about densities and intensities.

**California Department of Transportation (Caltrans).** The state agency in charge of transportation planning, construction and maintenance of the state's highway system.

**California Environmental Quality Act (CEQA).** Requires the assessment of projects for environmental effects, establishes procedures for preparing and processing environmental documents and includes requirements for the monitoring of environmental mitigation conditions placed on a project.

**Capital Improvement Program (CIP).** The multi-year scheduling of public physical improvements based on studies of fiscal resources available and the choice of specific improvements to be constructed.

**Carbon Dioxide (CO<sub>2</sub>).** The most common of the greenhouse gases, CO<sub>2</sub> is emitted as a result of fossil fuel combustion.

**Certified Local Government Program (CLG).** A program that is jointly administered by the National Parks Service and State Historic Preservation Offices with the goal of creating a partnership between local, state, and federal governments for historic preservation.

**Certified Unified Public Agency (CUPA).** A local agency certified by the California Environmental Protection Agency to implement the hazardous waste and materials standards of the California Environmental Protection Agency, Department of Toxic Substances Control, Governor's Office of Emergency Services, Cal FIRE-Office of the State Fire Marshal, and State Water Resources Control Board.

**Class I Bikeway (bike path).** Provides a separated corridor that is not served by streets and highways and is away from the influence of parallel streets. Class I bikeways are for non-vehicle use only with opportunities for direct access and recreational benefits, right-of-way for the exclusive use of bicycles and pedestrians, and cross flow conflicts are minimized.

**Class II Bikeway (bike lane).** Provides a delineated right-of-way assigned to bicyclists to enable more predictable movements, accommodating bicyclists through corridors where insufficient room exists for side-by-side sharing of existing streets by motorists and bicyclists.

**Class III Bikeway (bike route).** Shared facility that serves either continuity to other bicycle facilities or designates preferred routes through high demand corridors.

**Class IV Bikeway (bike route).** Protected bike lanes, which provide a right-of-way designated exclusively for bicycle travel within a roadway, protected from vehicular traffic with devices such as curbs, flexible posts, inflexible physical barriers, or on-street parking.

**Climate Change.** Climate change, or global climate change, refers to a change in the average climate of the earth that may be measured by wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the distant past, such as during previous ice ages.

**Clustering/Cluster-Type Housing.** Development patterns in which the uses are grouped or "clustered" through a density transfer, rather than spread evenly throughout a parcel as in conventional lot-by-lot development. A zoning ordinance may authorize such development by permitting smaller lot sizes if a specified portion of the land is kept in permanent open space either through public dedication or through creation of a homeowners association.

**Community Choice Aggregation.** A state policy that enables local governments to aggregate electricity demand within their jurisdictions in order to procure alternative energy supplies while maintaining the existing electricity provider for transmission and distribution services.

**Community Garden.** A cooperatively-managed garden in an urbanized area. Community gardens can be a source of fresh produce and provide learning opportunities for community members.

**Community Noise Equivalent Level (CNEL).** The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.

**Community Supported Agriculture (CSA).** An economic model of agriculture and food distribution in which individuals purchase shares of the anticipated harvest of one or more farms at the onset of the growing season and receive shares of the produce and other farm products throughout the growing season.

**Compatible.** Capable of existing together without conflict or ill effects.

**Complete Neighborhoods.** Neighborhoods in which there is access to a range of day-to-day goods and services within walking distance of residences, including medical facilities, community services, youth programs, and employment opportunities.

**Complete Streets.** Streets designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

**Connectivity.** The quality of street patterns that allows for through movement between and within neighborhoods.

**Conservation.** The management of natural resources to prevent waste, destruction, or neglect.

**Consistent.** Free from variation or contradiction.

**Corridor.** A connecting area of land that is identified by a specific common characteristic. Examples include greenways, trails, wildlife linkages, visual corridors and transportation rights-of-way.

**Cost-Benefit Analysis.** An evaluation of the costs and benefits of a project over its life cycle.

**Crime Prevention through Environmental Design.** A multidisciplinary approach to deterring criminal behavior through the built, social, and administrative environment, including improving visibility of potential offenders to the general public and clearly differentiating public space from private space.

**Culture.** The acquaintance with and taste in fine arts, humanities, and broad aspects of science reflected in institutions specializing in zoology, paleontology, history, archaeology, and horticulture.

**Curb Cut.** The opening along the curb line at which point vehicles or other wheeled forms of transportation may enter or leave the roadway. Curb cuts are essential at street corners for wheelchair users.

**Dark Sky Ordinance.** Lighting standards that reduce light pollution, including glare, light trespass, or skyglow.

**Day-Night Noise Level (Ldn).** The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to night-time sound levels (after 10 p.m. and before 7 a.m.). The Ldn is approximately numerically equal to the CNEL for most environmental settings.

**Decibel (dB).** A unit of measurement used to express the relative intensity of sound as heard by the human ear describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

**Decibel, A-weighted (dBA).** The "A-weighted" scale for measuring sound in decibels; weights or reduces the effects of low and high frequencies in order to stimulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

**Dedication.** The commitment by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are required by the city as conditions of approval on a development.

**Density.** The number of people or dwelling units in a given area, typically expressed in dwelling units or people per acre.

**Detention Basin.** Facility classified according to the broad function it serves, such as storage, diversion or detention. Detention facilities are constructed to retard flood runoff and minimize the effect of floods.

**Developer.** An individual who, or business which, prepares raw land for the construction of buildings or builds or causes to be built physical building space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

**Development.** The extension, construction, or change in density or intensity of land uses. Development activities include but are not limited to: subdivision of land; construction or alteration of structures, roads, utilities, and other facilities; installation of septic systems; grading; deposit of refuse, debris, or fill materials; and clearing of natural vegetation cover (with the exception of agricultural activities). Routine repair and maintenance activities are not considered as “development.” (For a precise definition of development in the Coastal Zone, see Carlsbad Municipal Code Chapter 21.04.)

**“Donut Hole”.** The region located in the northwestern portion of Redlands.

**Easement.** A right given by the owner of land to another party for specific limited use of that land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary; usually needed for utilities or shared parking.

**Emerald Necklace.** A system of scenic routes and trails in Redlands, including the Orange Blossom Trail, Zanja Trail, Santa Ana River Trail, San Timoteo Trail, and other trails linking parks, regional trails, and open space areas.

**Endangered Species, California.** A native species or sub-species of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all or a significant portion of its range, due to one or more factors, including loss in habitat, change in habitat, over-exploitation, predation, competition, or disease. The status is determined by the State Department of Fish and Game together with the State Fish and Game Commission.

**Endangered Species, Federal.** A species which is in danger of extinction throughout all or a significant portion of its range, other than the species of the Class Insect determined to constitute a pest whose protection under the provisions of the 1973 Endangered Species Act, as amended, would present an overwhelming and overriding risk to humans. The status is determined by the US Fish and Wildlife Service and the Department of the Interior.

**Energy Audit.** An assessment of the energy needs and efficiency of a building or buildings.

**Entryway.** Ingress and egress to and from a structure.

**Environment.** The physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, and objects of historic or aesthetic significance.

**Environmental Impact Report (EIR).** A document used to evaluate the potential environmental impacts of a project, evaluate reasonable alternatives to the project, and identify mitigation measures necessary to minimize the impacts. The California Environmental Quality Act (CEQA) requires that the agency with primary responsibility over the approval of a project (the lead agency) evaluate the project’s potential impacts in an Environmental Impact Report (EIR).

**Environmentally Sensitive Habitat Areas.** As defined by the California Coastal act, these are areas containing plants or animals in their habitats that

are rare or valuable due to their specific role in the ecosystem, and are likely a potential for disturbance due to human activities.

**Environmentally Sensitive Lands.** Open space lands that are constrained or prohibited from development including beaches, lagoons, wetlands, other permanent water bodies, riparian and other habitats and steep slopes.

**Erosion.** The process by which material is removed from the earth’s surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

**Federal Responsibility Area (FRA).** An area in which the federal government is legally responsible for providing fire protection.

**Fault.** A fracture in the earth’s crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to again. An inactive fault is a fault that shows no evidence of movement in recent geologic time and little potential for movement.

**Findings.** A conclusion reached after an examination; a statement or document containing an authoritative decision or conclusion.

**Fire Hazard.** Any condition or action which may increase the potential of fire to a greater degree than that customarily recognized as normal by official agencies responsible for fire prevention or suppression, or which may obstruct, delay, hinder or interfere with the operations of the fire agency or the egress of occupants in the event of fire.

**Fire Protection Services.** Services designed to protecting life and/or property through such operations which may be necessary to extinguish or control any fire, perform any rescue operation, investigate suspected or reported fires, gas leaks, or other hazardous conditions or situation.

**Firescope.** A statewide program composed of all facets of local, rural, and metropolitan fire departments, the California Department of Forestry and Fire Protection, and federal fire agencies.

**Firescope Incident Command System (ICS).** Organization guidelines and a command strategy designed to allow for single or multi-agency use to increase the effectiveness of command and firefighter safety.

**Flood Hazard Zone.** The relatively level land area on either side of the banks of a stream that is subject to flooding under a 100-year or a 500-year flood.

**Floodplain.** An area adjacent to a lake, stream, ocean or other body of water lying outside the ordinary banks of the water body and periodically inundated by flood flows. Often referred to as the area likely to be inundated by the 100-year flood.

**Floodway.** A river channel and adjacent land area within a floodplain needed to carry a 100-year frequency flood without increasing the water surface elevation more than 1 foot at any point. The boundary of the 100-year floodway shall be determined using data contained on the city’s National Flood Insurance Maps.

**Floor Area Ratio (FAR).** The ratio between gross floor area of structures on a site and gross site area. Thus, a building with a floor area (excluding building area devoted to parking) of 100,000 square feet on a 50,000 square-foot lot will have a FAR of 2.0.

**Frequency.** The composition or spectrum of the sound. Frequency is a measure of the pressure fluctuations per second.

**Gateway.** An entrance corridor that heralds the approach of a new landscape and defines the arrival point as a destination.

**General Plan Steering Committee (GPSC).** The General Plan Steering Committee served in an advisory role to the Planning Commission and City Council on matters related to the General Plan update process.

**Goods Movement.** The transportation of for-sale products from the location of their manufacture or harvest to their final retail destination.

**Greywater.** Untreated household wastewater that comes from bathtubs, showers, bathroom washbasins, clothes washing machines, and even kitchen sinks, and which is re-used for non-potable water applications such as sub-surface irrigation and toilet flushing. It is a form of water recycling without an intermediate treatment process.

**Green Building.** A Green Building generally refers to one that is environmentally friendly in terms of energy consumption, or the waste it produces during its entire life-cycle. A Green Building will have less significant impact on the environment compared to a regular building. Green buildings may be scored by rating systems, such as the Leadership in Energy and Environmental Design (LEED) rating system developed by the U.S. Green Building Council, Green Globes from GBI, and other locally developed rating systems.

**Greenhouse Gases or Green House Gas Emissions.** Gases in the atmosphere that absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. Carbon dioxide, methane, and ozone are examples of greenhouse gases.

**Greenway.** An open space connector linking parks, nature preserves, cultural features, or historic sites to each other and with populated areas in order to improve environmental quality and provide for outdoor recreation.

**Groundwater.** Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

**Groundwater Recharge.** A hydrologic process where water moves downward from surface water to groundwater. Recharge is the primary method through which water enters aquifers.

**Habitat.** The natural environmental of a plant or animal.

**Hazardous Material.** A material or form of energy that could cause injury or illness to persons, livestock, or the natural environment. Some examples from everyday life include, gasoline, fertilizers, detergents, used cooking oil, mineral spirits, batteries, and paint.

**Hazardous Waste.** Waste that requires special handling to avoid illness or injury to persons or damage to property. Includes, but is not limited to, inorganic mineral acids of sulfur, fluorine, chlorine, nitrogen, chromium, phosphorous, selenium and arsenic and their common salts; lead, nickel, and mercury and their inorganic salts or metallo-organic derivatives; coal, tar acids such as phenol and cresols and their salts; and all radioactive materials.

**Health Equity.** Attainment of the highest level of health for all people, including full and equal access for all people to opportunities that enable them to lead healthy lives.

**Heat Island, see "Urban Heat Island."**

**Historic Landmark.** An individual structure or group of structures on a single lot, a site, an area, a district, or combination thereof, having a special historical, architectural, cultural, or aesthetic value.

**Historic Resource.** A historic building or site that is noteworthy for its significance in local, state, national, its architecture or design, or its works of art, memorabilia, or artifacts.

**Historic Structure.** A structure deemed to be historically significant based on its visual quality, design, history, association, context, and/or integrity.

**Household.** All people, related or unrelated, who occupy a housing or dwelling unit.

**Impervious Surface.** Any material that reduces or prevents absorption of water into land.

**Implementation.** Actions, procedures, programs, or techniques that carry out policies.

**Infill.** The development of new housing or other buildings on scattered vacant or underutilized lots in a predominantly developed area or on new building parcels created by permitted lot splits.

**Infrastructure.** Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

**Insurance Service Office.** An organization that collects statistical data, promulgates rating information, develops standard policy forms, and files information with state regulators on behalf of insurance companies that purchase its services.

**Intensity.** Measured as the amount of floor space in a given area (see also Floor Area Ratio).

**Joint Use Agreement.** A formal agreement between two separate government entities--often a school and a city or county--setting forth the terms and conditions for shared use of public property or facilities.

**Layered Network Approach.** An approach to transportation planning that designates modal emphasis by street to create a complete streets network.

**LED Lighting.** Lighting from light-emitting diode (LED) lamps, which have longer lifespans and greater electrical efficiency than incandescent lamps.

**LEED.** The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings.

**Level.** The magnitude or loudness of sound. Sound levels are measured and expressed in decibels (dB).

**Linear Park.** A park that is substantially longer than it is wide.

**Liquefaction.** A sudden large decrease in the shearing resistance of cohesion less soil, caused by a collapse of the structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

**Local Responsibility Area (LRA).** An area of in which the local government is legally responsible for providing fire protection.

**Low Impact Development (LID).** A land planning and engineering design approach to manage stormwater runoff that emphasizes conservation and use of on-site natural features to protect water quality.

**Master Plan.** A plan that supplements and provides more detail to the General Plan and the Land Use Element as it applies to a portion of land in the city.

**Median.** An area in the approximate center of a city street or state highway that is used to separate the directional flow of traffic, may contain left-turn lanes, and is demarcated by curb and guttering, having painted or thermally applied stripes or other means of distinguishing it from the portion of the roadway used for through traffic.

**Mills Act.** An economic incentive program in California for the restoration and preservation of qualified historic buildings by private property owners.

**Minerals.** Any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum (Public Resources Code Section 2005).

**Mitigation Measures.** Action taken to avoid, minimize, or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or



eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by repairing or providing substitute resources or environments.

**Mitigation.** A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant measures are identified.

**Mixed Use.** A development project which includes two or more land use such as residential and commercial, or commercial and professional office.

**Mode (transportation).** Each form of transportation is a mode: public transit, bicycling, walking, and driving.

**Multi Use Trails.** A path that can be used by both walkers and cyclists, as well as equestrians in certain circumstances.

**Natural Resources.** Plant and animal habitat; nature preserves; beaches and bluffs; wetland and riparian areas; canyons and hillsides; and water features such as lagoons and streams.

**Nitrogen Oxides (NOx).** Chemical compounds containing nitrogen and oxygen; react with volatile organic compounds, in the presence of heat and sunlight to form ozone. They are also a major precursor to acid rain.

**Noise Attenuation.** Reduction of the level of a noise source using a substance, material, or surface.

**Noise Contours.** Lines indicating equal levels of noise exposure. CNEL and Ldn are the metrics used to describe annoyance due to noise and to establish land use planning criteria for noise.

**Noise Referral Zones.** Areas in which noise conditions should be included when making land use policy decisions.

**Nonattainment Levels.** Areas where air pollution levels persistently exceed the National Ambient Air Quality Standards.

**Nonpoint Source Pollution.** Pollution that originates from many diffuse sources, caused by rainfall or snowmelt moving over and through the ground picking up and carrying natural and human-made pollutants and depositing them in waterways.

**Nonrenewable Resource.** A resource of economic value that cannot be readily replaced by natural means on a level equal to its consumption.

**Noise Sensitive Land Uses.** Land uses that are particularly affected by excessive noise, including residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospital, parks, recreation areas, etc.

**Open Space.** Any area of land or water that is devoted to an open space use and designated on the city's Land Use Map as open space, or dedicated in fee title or easement for open space purposes. The open space may be in its natural state or modified.

**Ozone (O<sub>3</sub>).** A compound consisting of three oxygen atoms that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Surface level ozone can initiate damage to the lungs as well as to trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere, which shields the earth from harmful ultraviolet radiation.

**Particulate Matter (PM-10 and PM-2.5).** Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. PM-10 and PM-2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM-10 and PM-2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects.

**Pedestrian Facilities.** Sidewalks, crosswalks, and trails that should enable people of all age groups and abilities to safely walk to their destinations.

**Pedestrian-oriented Development.** Development designed with an emphasis on the street sidewalk and on pedestrian access to the building, rather than an auto access and parking areas.

**Performance Standards.** Standards specifying attainment of a specified level or quality of performance (such as, for example, illumination or noise levels), or provision of a Growth Management facility (such as park land).

**Public Facilities.** Uses or structures that provide services to the public such as a library, city hall, fire station, police station, park, traffic signal or major street.

**Reclaimed Wastewater.** Water that is used more than once before it passes back into the natural water cycle by being treated to remove solids and impurities, and used in irrigation, to recharge groundwater aquifers, to meet commercial and industrial water needs, and for drinking.

**Renewable Energy.** Energy that is collected from resources which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

**Right-of-Way.** A continuous strip of land reserved for or actually occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer or other similar use.

**Riparian.** Characteristic vegetation along waterways, often described as "riparian corridors."

**Roadway.** A strip of land that is covered by a street, public thoroughfare or freeway used for vehicular transportation.

**Safe Routes to School.** A national program started in 1997 to improve safety on walking and bicycling routes to school and to encourage children and families to travel between home and school using these modes.

**Scenic Corridors.** An area visible from a highway, waterway, railway or major hiking, biking, or equestrian trail that provides vistas over water, across expanses of land, such as farmlands, woodlands, or coastal wetlands, or from mountaintops or ridges.

**Seismic.** Caused by or subject to earthquakes or earth vibrations.

**Sensitive Receptors.** Persons or land uses that are most sensitive to negative effects of air or noise pollution. Persons who are sensitive receptors include children, the elderly, the acutely ill, and the chronically ill. The term "sensitive receptors" can also refer to the land use categories where these people live or spend a significant amount of time; such areas include residences, schools, playgrounds, child-care centers, hospitals, retirement homes, and convalescent homes.

**Significant Impact.** A beneficial or detrimental impact on the environment. May include, but is not limited to, significant changes in an area's air, water, and land resources.

**Solid Waste.** General category that includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood.

**Special-Status Species.** Any species that is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act. It also includes any species designated by the U.S. Fish and Wildlife Service as a "candidate" or "species of concern" or species identified on California Native Plant Society's Lists 1A, 1B, or 2, implying potential danger of extinction.

**Specific Plan.** A plan that provides detailed design and implementation tools for a specific portion of the area covered by a general plan. A specific plan may include all regulations, conditions, programs, and/or proposed legislation that may be necessary or convenient for the systematic implementation of any general plan element(s).

**The Sphere of Influence (SOI).** The City's ultimate service area as established by the San Bernardino County Local Agency Formation Commission (LAFCO), and includes the unincorporated communities of Mentone and Crafton.

**Standardized Emergency Management System (SEMS).** A system that unifies all elements of California's emergency management community into a single integrated system and standardizes key elements.

**State Responsibility Area (SRA).** An area of in which the state government is legally responsible for providing fire protection.

**State Water Project (SWP).** A water storage and delivery system of reservoirs, aqueducts, powerplants and pumping plants that provides water supplies for 25 million Californians and 750,000 acres of irrigated farmland.

**Stormwater Drainage.** Surplus surface water generated by rainfall that does not seep into the earth but flows overland to a watercourse.

**Stormwater Management.** A coordinated strategy to minimize the speed and volume of stormwater runoff, control water pollution, and maximize groundwater recharge.

**Streetscape.** A design term referring to all the elements that constitute the physical makeup of a street and that, as a group, define its character, including building frontage, street paving, street furniture, landscaping, including trees and other plantings, awnings and marquees, signs, and lighting.

**Subsidence.** Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas.

**Surface Water.** Water found in rivers, streams, creeks, lakes and reservoirs.

**Sustainability.** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Title 24.** Title 24 of the California Code of Regulations contains the regulations that govern the construction of buildings in California.

**Thermal Emittance Values.** The ratio of the radiant emittance of heat of a specific object or surface to that of a standard black body.

**Threatened Species, California.** A species of animal or plant is endangered when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors; or when although not presently threatened with extinction, the species is existing in such small numbers that it may become endangered if its environment worsens. A species of animal or plant shall be presumed to be rare or endangered as it is listed in Sections 670.2 or 670.5, Title 14, California Code of Regulations; or Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

**Threatened Species, Federal.** A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**Toxic Air Contaminant.** An air pollutant that may increase a person's risk of developing cancer and/or other serious health effects. Toxic air contaminants include more than 700 chemical compounds that have been determined to have potential adverse health impacts.

**Transit Oriented Development (TOD).** A development or planning concept typified by the location of residential and commercial districts around a transit station or corridor with high quality service, good walkability, parking management and other design features that facilitate transit use and maximize overall accessibility.

**Transit Village.** Area surrounding a transit station in which the neighborhood is planned, designed, and integrated so that residents, workers, shoppers, and others find it convenient and attractive to patronize transit and other choices in transportation.

**Transit Village Overlay Zone (TVOZ).** The Transit Village Overlay Zone covers areas within a half-mile radius of the Redlands Passenger Rail project stations, and identifies the planning area of the Transit Village Plan, which will detail transportation system enhancements, design guidelines and standards, and the character of development.

**Transportation Demand Management (TDM).** Measures to improve the movement of persons and goods through better and more efficient utilization of existing transportation systems (e.g., streets and roads, freeways and bus systems) and measures to reduce the number of single-occupant vehicles utilized for commute purposes.

**Tributary.** A river or stream flowing into a larger river or lake.

**Unreinforced Masonry (URM) Building.** A type of building where load bearing walls, non-load bearing walls, or other structures, such as chimneys are made of brick, cinderblock, tiles, adobe or other masonry material, that is not braced by reinforcing material, such as rebar in a concrete or cinderblock.

**Urban Heat Island.** A city, metropolitan area, or built area that is significantly warmer than its surrounding areas due to human activities, structures, and materials.

**Use.** The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged as per the City's Zoning Ordinance and General Plan land use designation.

**Variation.** Change over time.

**View Corridor.** The line-of-sight (identified as to height, width, and distance) of an observer looking toward an object of significance to the community (e.g., ridgeline, ocean, historic building, etc.).

**Vision Zero.** A multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries in road traffic.

**Walkability.** A characteristic of an area in which destinations are in close proximity and well-connected by streets and paths that provide a good pedestrian environment.

**Water Conservation.** The reduction of water loss, use or waste via behavioral or technological changes.

**Water Conservation.** Any beneficial reduction in water loss, use, or waste. A water conservation measure is an action, behavioral change, device, technology, or improved design or process implemented to reduce water loss, use, or waste.

**Watershed.** The total area above a given point on a watercourse that contributes water to the flow of the watercourse; the entire region drained by a watercourse.

**Wayfinding.** The process by which people orient themselves in physical space and navigate from place to place.

**Wetlands.** Areas that are permanently wet or periodically covered with shallow water, such as saltwater and freshwater marshes, open or closed brackish marshes, swamps, mud flats, and fens.

**Wildland-Urban Interface.** The zone of transition between undeveloped and developed areas.

**Zero Emissions Vehicles.** A vehicle that emits no tailpipe pollutants from the onboard source of power.

**Zero Net Energy.** A term that describes a building, community, or other system with zero net energy consumption, meaning the total amount of energy used by the system on an annual basis is roughly equal to the amount of renewable energy created on site.

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