

City of Redlands General Plan  
Update and Climate Action Plan

# ENVIRONMENTAL IMPACT REPORT

Revised Draft | July 21, 2017

SCH: #2016081041





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IMPACT REPORT**

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**Prepared for**

City of Redlands

by

**DYETT & BHATIA**

Urban and Regional Planners



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# 0 Executive Summary

This draft Environmental Impact Report (EIR) evaluates the potential impacts of the proposed City of Redlands General Plan (General Plan) and Climate Action Plan (CAP), collectively referred to as the “Proposed Project.” The Proposed Project was developed in response to policy direction provided by the City Council, Planning Commission, and community. The EIR has been prepared on behalf of the City of Redlands, in accordance with the California Environmental Quality Act (CEQA). The City of Redlands is the lead agency for this EIR, as defined by CEQA.

An EIR is intended to inform decision-makers and the general public of the potential significant environmental impacts of a proposed project. The EIR also considers the availability of mitigation measures to minimize significant impacts and evaluates reasonable alternatives to the Proposed Project that may reduce or avoid one or more significant environmental effects. Based on the alternatives analysis, an environmentally superior alternative is identified.

This EIR is a program EIR that examines the potential effects resulting from implementing designated land uses and policies in the Proposed Project. The impact assessment evaluates the Project as a whole and identifies the broad, regional effects that may occur with its implementation. As a programmatic document, this EIR does not assess site-specific impacts. Any future development project made possible by the Proposed Project will be subject to individual, site-specific environmental review, as required by State law. This EIR represents the best effort to evaluate the proposed General Plan given its planning horizon through the year 2035. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of development.

## Proposed Project

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### PROPOSED GENERAL PLAN

The proposed General Plan is intended to respond directly to changes experienced in Redlands since the preparation of the current General Plan (adopted in 1995), and to plan for city growth projected in coming decades. The proposed General Plan, which establishes a long-range planning framework and policies, would fully supplant the City’s existing General Plan when adopted by the City Council.

The General Plan update was initiated to comprehensively examine the existing city and to create a vision for its future. Although the proposed General Plan does not specify or anticipate when buildout of the city will occur, a horizon of year 2035 is assumed for planning purposes. The vision

of the proposed General Plan is based on the core values identified in the “Redlands Community Vision” (summarized below).

### **Planning Area**

The Planning Area encompasses 46 square miles, including all land within the Redlands city limits and the area within the City’s Sphere of Influence (SOI) outside of city limits. The unincorporated island known as the “Donut Hole” that is located in the northwestern portion of the city is not included in the Planning Area. The 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.

### **Proposed General Plan Objectives**

The objectives of the proposed General Plan (as stated in Section 1.1 of the proposed General Plan) are to:

- 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.

### **Core Values and Vision Summary Statements**

Nearly two thousand members of the Redlands community participated in the community visioning outreach program to create a community vision for Redlands’s future. The core themes that emerged from this process are identified in the “Redlands Community Vision,” which was accepted by the City Council in January 2010 and serves as a guide for city leaders, staff, and community members as they implement this vision.



The themes of the Redlands Community Vision are:

1. *Distinctive City.* Enhance Redlands as a distinctive community, unique in the Inland Empire, combining “small town feeling” with historic architecture and a rich cultural heritage while welcoming innovation and adapting to the needs of future generations.
2. *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.
3. *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.
4. *Connected City.* Promote an efficient and integrated circulation system by enhancing the vehicular, biking, walking, and transit networks.
5. *Vital Natural 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.
6. *Healthy Community.* Foster a healthy community in a safe environment that promotes active lifestyles, wellness, and access to recreation and locally sourced foods.
7. *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.

### **Estimated Buildout of the Proposed General Plan**

Development of all uses planned on the proposed General Plan Land Use Map is referred to as buildout. The proposed General Plan has a 2035 horizon year for planning purposes; however, the proposed General Plan does not specify or anticipate when buildout will occur, as long-range demographic and economic trends are difficult to predict. The designation of a site for a certain use also does not necessarily mean that the site will be developed or redeveloped with that use during the planning period, as most development will depend on property-owner initiative. Table ES-1 describes the new development anticipated to result from application of land uses shown on the proposed Land Use Map on vacant and underutilized sites, according to analysis undertaken for the proposed General Plan. Table ES-2 describes the estimated housing units and population anticipated at buildout of the proposed General Plan.

**Table ES-1: Non-Residential Buildout (2035)**

	<i>Redlands</i>		<i>Sphere of Influence</i>		<i>Planning Area Total</i>	
	<i>Developed Square Feet</i>	<i>Jobs</i>	<i>Developed Square Feet</i>	<i>Jobs</i>	<i>Developed Square Feet</i>	<i>Jobs</i>
Existing (2013) <sup>1</sup>	29,247,658	27,248 <sup>2</sup>	1,620,046	1,276 <sup>3</sup>	30,867,704	28,524
Pipeline <sup>4</sup>	741,798	960	–	–	741,798	960
Future Development <sup>5</sup>	7,495,905	14,561	599,149	968	8,095,054	15,529
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 at Buildout</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 estimate 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.

**Table ES-2: Residential Buildout (2035)**

	Redlands		Sphere of Influence		Planning Area Total	
	Housing Units	Population <sup>2</sup>	Housing Units	Population <sup>3</sup>	Housing Units	Population
Existing (2016) <sup>1</sup>	26,749	68,049	3,430	9,220	30,179	77,269
Future Development	4,355	10,964	2,027	5,391	6,382	16,355
<b>Total at Buildout<sup>4</sup></b>	<b>31,105</b>	<b>79,013</b>	<b>5,457</b>	<b>14,611</b>	<b>36,561</b>	<b>93,624</b>

Notes:

1. Data for existing residential housing units was derived from the City’s GIS database as of March 2016.
2. Population is an estimate assuming 2.65 persons per household in Redlands.
3. Population is an estimate assuming 2.80 persons per household in the Sphere of Influence.
4. A vacancy rate of 5% is assumed.

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

## PROPOSED CLIMATE ACTION PLAN

A CAP is a comprehensive plan for addressing a community’s greenhouse gas (GHG) emissions, and can serve as a mitigation strategy under CEQA for GHG/climate change impacts associated with a proposed project. The proposed CAP was developed concurrently with the proposed General Plan, reflecting the City’s proposed land use and transportation strategy, and GHG implications of various proposed General Plan’s goals and policies

The proposed CAP is intended to reinforce the City’s commitment to reducing GHG emissions, and demonstrate how the City will comply with State of California’s GHG emission reduction standards. As a Qualified GHG Reduction Strategy, the CAP will also enable streamlined environmental review of future development projects, in accordance with CEQA.

### Planning Area

As a document adopted by the City of Redlands City Council, the CAP applies to the municipal limits of the City of Redlands. All information and data presented in the CAP, unless otherwise noted, is for the area within the City’s municipal limits.

### Proposed Climate Action Plan Objectives

Section 15183.5 of the CEQA Guidelines permits lead agencies to analyze and mitigate the significant effects of GHG emissions at a programmatic level through a plan to reduce GHG gas emissions. In doing so, the lead agency allows later project-specific environmental documents to tier from and/or incorporate by reference that existing programmatic review. The proposed CAP’s objectives are to meet CEQA requirements (Section 15183.5) to allow for future tiering and streamlining of the analysis of GHG emissions, which state that a plan for the reduction of GHG emissions should:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- Be adopted in a public process following environmental review.

## **Alternatives to the Proposed Project**

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The following alternatives are described and evaluated in this EIR, and are summarized in Table ES-3:

### **Suburban Expansion Alternative**

The Suburban Expansion Alternative was based on community feedback received during the development of the proposed General Plan. Comments received from several community members favored low-density, single-family suburban growth over high-density infill development. Given the limited amount of undeveloped land within Redlands that is relatively flat and can accommodate low-density residential growth, the Suburban Expansion Alternative emphasizes suburban growth and encourages annexations in the SOI.

This alternative continues a pattern of low-density residential development in the eastern portion of the city to the base of the Crafton Hills wherever slopes are less than 15 percent. It also designates low density suburban development west of the proposed Harmony Project in Highlands in the Sphere of Influence. It provides for transit villages at three sites—Downtown, the University of Redlands, and New York Street—but does not include the remaining two locations at California Street and Alabama Street. It addresses all the “focus areas” that are described in the proposed General Plan, except for Crafton, which would no longer be preserved as an agricultural community. The proposed CAP is included in this alternative.

### **No Project Alternative**

The No Project Alternative leaves the 1995 General Plan unchanged and in effect. This alternative keeps all current land use designations and definitions the same. Policies concerning topics such as transportation, economic development, parks, open space, the environment, health, and housing also remain unchanged. The purpose of evaluating the No Project Alternative is to allow decision-makers to compare the potential impacts of approving the project with the potential impacts of not approving the project. The No Project Alternative analysis discusses both the existing conditions at the time the NOP is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved.

**Table ES-3: Comparison of Key Characteristics; Existing, Alternatives, and Proposed General Plan**

	Redlands			Sphere of Influence			Planning Area Total		
	Population <sup>4</sup>	Housing Units	Jobs <sup>5</sup>	Population <sup>4</sup>	Housing Units	Jobs <sup>5</sup>	Population <sup>4</sup>	Housing Units	Jobs <sup>5</sup>
Existing (2016) <sup>1</sup>	68,049	26,749	27,248	9,220	3,430	1,276	77,269	30,179	28,524
Proposed General Plan	79,013	31,104	42,769	14,611	5,457	2,244	93,624	36,561	45,013
Suburban Expansion Alternative	78,681	30,972	42,686	18,722	7,002	2,244	97,403	37,974	44,930
No Project Alternative	76,778	30,216	42,674	14,923	5,574	2,244	91,701	35,790	44,732

Notes:

1. Data for existing residential housing units was derived from the City's GIS database as of March 2016.
2. 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 based on proposed land use designations considering historical density growth patterns. The No Project Alternative and the proposed General Plan have composite reduction factors of about 60 and 68 percent in the City and Sphere of Influence respectively, while the Suburban Expansion Alternative has factors of approximately 64 and 68 percent (see Methodology in Chapter 2: Project Description).
3. 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 (see Methodology in Chapter 2: Project Description).
4. Population was calculated assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 4% is assumed for existing housing units and 5% for future housing units.
5. Job totals do not include non-land use based jobs. Development potential was calculated for underutilized sites by multiplying parcel acreage by floor area ratio (FAR) allowances from proposed land use designations (or in the case of the No Project Alternative, 1995 General Plan land use designations), and converting this figure to square footage. Square footage of pipeline development was added to this total to arrive at total future non-residential buildout. The total number of future jobs was calculated based on jobs per square foot assumptions for both retail and non-retail jobs. The total number of future jobs was added to the total number of existing jobs (as of 2013).
6. 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).
7. Existing jobs in SOI includes only those quantified for the Mentone CDP, which includes Mentone and much (not all) of Crafton.

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

This alternative does not address several current land use issues. For example, the site where Citrus Valley High School is located is designated as Light Industrial in the 1995 General Plan, yet this designation is no longer viable given the construction of the high school. The preservation of Crafton as an agricultural community is not addressed in this alternative, nor are other open space preservation efforts that are part of the "Emerald Necklace" concept. Transitioning land uses in Downtown and west of Downtown that are currently designated as Light Industrial or Commercial/Industrial would remain as such. The only Transit Village included in this alternative is Downtown, as it is described in the current Housing Element. Other issues and community

concerns regarding public health, green development, and preserving citrus heritage, as well as focus areas such as the Colton Avenue/Orange Street commercial corridor would remain unaddressed. The proposed CAP would not be a part of this alternative.

## **Areas of Controversy**

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Although there are no clear-cut areas of controversy, environmental impacts classified as significant and unavoidable have been identified in the resource topics of agricultural resources, air quality, and transportation, and inasmuch as they may be controversial to the general public, agencies, or stakeholders, they are described briefly here.

### **Agricultural Resources**

Loss of agricultural land as a result of the proposed General Plan, including the conversion of Prime Farmland to non-agricultural use, is expected to occur over the next 20 years. Under the proposed General Plan, it is expected Prime Farmland, Farmland of Statewide Importance, and Unique Farmland could be converted to urban uses within the Planning Area. This loss of important farmland is considered a significant and unavoidable impact, though policies are included in the proposed General Plan to make the impact less severe. Despite significant impacts on farmland, the proposed General Plan was designed to provide for the expected growth in Redlands over the next 20 years. The conversion of farmland as a result of the proposed General Plan is essential for this projected growth expected to occur under the proposed General Plan.

Much of the affected farmland is located within city limits, in areas where non-contiguous agricultural uses are interspersed with more intensive uses. The eventual development of these infill areas would be within the character of the surrounding urban development, and would relieve development pressures in rural areas, particularly in Crafton, where larger contiguous areas of important farmland and existing agricultural operations would be preserved.

The proposed General Plan includes policies that provide a framework to permit existing agricultural uses, and ensure that important farmland remains as farming or other related agricultural support uses, for as long as such use is financially feasible. Land use policies aim to preserve agricultural land, from development by promoting infill development in urbanized portions of the community, and preserving the agricultural character of Crafton is emphasized. Additionally, because Redlands' historic citrus industry is an important component of the city's identity and history, General Plan policies preserve citrus groves and encourage the consumption of locally grown citrus. Thus, despite the potential loss of some important farmland, the proposed General Plan would generally preserve agricultural land and support the economic viability of local agriculture.

### **Air Quality**

Implementation of the proposed General Plan would facilitate development within the Planning Area that would allow additional residential units and commercial/office/industrial space by year 2035 buildout over existing conditions. Criteria pollutant emissions would occur during construction and operational activities, resulting in a significant and unavoidable impact. Future construction allowed under the proposed General Plan would result in a temporary addition of

pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions would primarily result from activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. NO<sub>x</sub> and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Although specific project construction schedules that would be implemented under the proposed General Plan are not known at this time, construction emissions generated during construction of future development would potentially exceed South Coast Air Quality Management District (SCAQMD) thresholds; therefore, impacts would be considered significant and unavoidable. Compliance with SCAQMD rules and proposed General Plan policies listed in Chapter 3.3 would further aid in reducing emissions associated with construction activities. However, there is no guarantee emissions would be reduced below SCAQMD thresholds.

Operational emissions from motor vehicles, due to vehicular traffic generated by future development, and area sources, such as natural gas combustion, landscaping, and architectural coatings for maintenance, would exceed the SCAQMD's significance threshold for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> primarily due to motor vehicle emissions; therefore, impacts would be potentially significant. Principles and actions described in the proposed General Plan would reduce impacts associated with operational emissions; however, there is no guarantee emissions would be mitigated below SCAQMD thresholds.

## **Transportation**

Impacts from the proposed General Plan on the vehicular network were forecasted for intersection, roadway, and freeway analysis. Projected levels of service (LOS) were compared to the performance criteria for the applicable jurisdictions to determine whether a significant impact would occur. For intersections and roadway segments, if all roadway improvements in the proposed General Plan were implemented, impacts would be less than significant. However, because eight of the proposed improvements would be located on facilities partially or fully controlled by other jurisdictions, the City of Redlands could not guarantee implementation. Therefore, some impacts could occur that would be significant and unavoidable. The proposed General Plan includes a series of policies to address changes in vehicle LOS resulting from buildout. Proposed policies include roadway and intersection improvements as well as strategies to reduce congestion, particularly on local roads, through the layered network, transportation demand management, and promoting the use of alternative transportation modes. The proposed land use strategy overall would also serve to minimize vehicular traffic by promoting walking, bicycling, and transit use.

Four freeway segments were also determined to experience deterioration in LOS. The impacts on the freeway system are not under the City's control as these would occur due to regional growth and would occur with or without the implementation of the General Plan. While policies of the proposed General Plan would serve to relieve congestion on the freeways as well, impacts would still be considered significant and unavoidable.

The San Bernardino County Congestion Management Plan (CMP) includes six intersections and 14 roadway segments within the Planning Area. With the improvements identified in the proposed General Plan, LOS at these intersections and segments would not degrade existing levels of service below acceptable levels or further degrade existing unacceptable level of service. However, because some improvements that are part of the proposed General Plan are partially or fully within the control of other jurisdictions, the City cannot guarantee that they would be implemented. Without the proposed improvements, the LOS would worsen at a roadway segment already operating at LOS F, resulting in a potentially significant and unavoidable impact.

## **Impacts Summary and Environmentally Superior Alternative**

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### **IMPACTS SUMMARY**

Table ES-4 presents the summary of the significant impacts of the proposed General Plan identified in the EIR and the proposed General Plan policies that reduce these impacts. Detailed discussions of the impacts and proposed policies that would reduce impacts are in Chapter 3.

### **IDENTIFICATION OF ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

CEQA Guidelines (Section 15126.6) require the identification of an environmentally superior alternative among the alternatives analyzed. Of the 15 topics analyzed, the Proposed Project has the least impact for 13 topics: aesthetics; agricultural resources; biological resources; energy, GHG, and climate change; geology, soils, and seismicity; hazards and hazardous materials; historic, archaeological, and paleontological resources; hydrology and water quality; land use and housing; mineral resources; noise; public services and facilities; and public utilities. The Proposed Project is the environmentally superior alternative.

In addition to being environmentally superior, the Proposed Project also achieves the General Plan update's core values, vision, purpose, and objectives as described in Chapter 2—including enhancing Redlands's small-town feel, cultural character, prosperous economy, and sustainability initiatives—better than the other two alternatives. The Proposed Project would accommodate the projected population and job growth in Redlands, and plans for orderly, sequential development that would balance Redlands' natural and built heritage with new infill and transit-oriented development. Allowing growth in Redlands through continuous responsible development relieves development pressures elsewhere in the region and ensures that Redlands will continue to play its part in accommodating San Bernardino County's growth in a sustainable urban form.

Of the two remaining alternatives, the No Project Alternative is superior to the Suburban Expansion Alternative. The Suburban Expansion Alternative would produce new residential development in a spread-out pattern and associated impacts on resources and open spaces. Additionally, the loss of Crafton as an agricultural community would conflict with the community's vision of maintaining citrus heritage in the Planning Area. Because development in this alternative is not focused Downtown and in infill sites, there exists the greatest potential that development under this alternative would affect the environmentally sensitive parts of the Planning Area. This alternative is less desirable than either of the two other alternatives because it would require a greater expansion



of utilities, services, and facilities, the development of which could cause secondary impacts; and it would cause a more significant reduction of visual quality, agricultural resources, historic resources, and biological resources.

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
<b>3.1 Aesthetics</b>		
3.1-1 Implementation of the Proposed Project could cause an adverse effect on a scenic vista.	<p><b>Distinctive City Element</b></p> <p><b>Cultural Resources Principles &amp; Actions</b></p> <p>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.</p> <p>2-P.13 Encourage preservation of and public access to defined and established significant scenic vistas, viewpoints, and view corridors.</p> <p>2-A.28 Develop strategies or guidelines to enhance the public realm and context-sensitive landscapes in the historic and scenic districts.</p> <p>2-A.29 Retain existing easements and rights of way for use as viewpoints, turnouts, and scenic walkways where feasible.</p> <p>2-A.32 Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic resources.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Brookside Avenue, from Lakeside Avenue to Eureka Street;</li> <li>• Olive Avenue, from Lakeside Avenue to Cajon Street;</li> <li>• Center Street, from Brookside Avenue to Crescent Avenue;</li> <li>• Highland Avenue, from Serpentine Drive to Cajon Street;</li> <li>• Sunset Drive, from Serpentine Drive to Edgemont Drive;</li> <li>• Cajon Street;</li> </ul>	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<ul style="list-style-type: none"> <li>• Mariposa Drive, between Halsey and Sunset Drive; and</li> <li>• Dwight Street, between Pepper Street and Mariposa Drive.</li> </ul> <p>In addition, consider designating the following roads as scenic drives within the community as neighborhood connectors and recreational routes for drivers and bike riders.</p> <ul style="list-style-type: none"> <li>• Riverview Drive along the Santa Ana River Wash;</li> <li>• Live Oak Canyon Road;</li> <li>• San Timoteo Canyon Road;</li> <li>• Sylvan Boulevard;</li> <li>• Nevada Street, from the Orange Blossom Trail to Barton Road;</li> <li>• Pioneer Avenue, from River Bend Drive to Judson Street; and</li> <li>• Rural Roads in Crafton.</li> </ul> <p><b>Livable Community Element</b></p> <p><b>Land Use Principles &amp; Actions</b></p> <p>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.</p> <p>4-P.28 Preserve, maintain, and, where possible, enhance the perception of the signature features of canyon areas and hillsides.</p> <p>4-P.29 Maintain density and grading standards designed to preserve the natural appearance of hillsides and ridges.</p> <p>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.</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p> <p><b>Vital Environment Element</b>  <b>Open Space for Conservation Principle &amp; Action</b></p> <p>6-P.6 Promote access to and views of conservation areas in a manner consistent with good land resource stewardship.</p> <p>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.</p>	
<p>3.1-2 Implementation of the Proposed Project could degrade the existing visual character or quality of Redlands and its surroundings.</p>	<p>Principles 4-P.24, 4-P.28, and 4-P.29, and 6-P.6; and actions 4-A.17, 4-A.64, and 6-A.1, as listed under Impact 3.1-1 above; as well as the following policies.</p> <p><b>Distinctive City Element</b>  <b>Cultural Resources Principles &amp; Actions</b></p> <p>2-P.9 Provide incentives to protect, preserve, and maintain the city's heritage.</p> <p>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.</p> <p>2-P.14 Coordinate preservation of historic resources with policies designed to preserve neighborhoods and support the affordability of housing in historical structures.</p> <p>2-P.15 Balance the preservation of historic resources with the desire of property owners of historic structure to adopt energy efficient strategies.</p> <p>2-A.23 Prepare a City of Redlands Historic Context Statement as part of the Certified Local Government Program.</p> <p>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.</p>	<p>Less than significant</p>

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>2-A.36 Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.</p> <p>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.</p> <p>2-A.51 Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.</p> <p>2-A.67 Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.</p> <p><b>Street Trees and Streetscape Principle &amp; Actions</b></p> <p>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.</p> <p>2-A.77 Prepare and maintain a citywide inventory and streetscape plan that includes the following components:</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <p>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.</p> <p>2-A.79 Avoid sound walls as a standard on arterial streets in residential areas.</p> <p>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.</p> <p>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.</p> <p><b><i>Vibrant Downtown Principles &amp; Actions</i></b></p> <p>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.</p> <p>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.</p> <p>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</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>observe. Build on existing activities and events and incorporate facilities to support them.</p> <p><b>Livable Community Element</b></p> <p><b>Land Use Principles &amp; Actions</b></p> <p>4-P.10 Ensure that the scale and character of new development is appropriate for surrounding terrain and the character of existing development.</p> <p>4-P.25 Limit development on steep hillsides to preserve the stability and integrity of the slopes and to ensure public safety.</p> <p>4-A.13 Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.</p> <p>4-A.22 Ensure that neighborhood shopping centers are designed in a manner compatible with adjacent residential areas.</p> <p>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.</p> <p><b>Focus Areas Principles &amp; Actions</b></p> <p>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.</p> <p>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</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p> <p>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.</p> <p>4-P.36 Preserve and enhance the San Timoteo Creek watercourse as the backbone of a linear parkway/activity corridor extending throughout the canyon.</p> <p>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.</p> <p>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.</p> <p>4-A.76 Preserve and enhance the perceived character of the vegetation and wildlife within the Southeast Area as appropriate.</p> <p>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.</p> <p><b>Vital Environment Element</b>  <b>Agriculture and Open Space for Resource Production Actions</b></p> <p>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.</p>	
3.1-3 Implementation of the Proposed Project could result in new sources of light or glare in the area,	<p><b>Distinctive City Element</b>  <b>Historic and Scenic Conservation Actions</b></p> <p>2-A.35 Establish standards for the evaluation of exterior lighting for new development and redevelopment to ensure that exterior lighting (except traffic lights,</p>	Less than significant



<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
and would have the potential to adversely affect day- or night-time views.	<p>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.</p> <p><b>Sustainable Community Element</b></p> <p><b>Energy Efficiency and Conservation Actions</b></p> <p>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.</p> <p>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.</p>	
<b>3.2 Agricultural Resources</b>		
3.2-1 Buildout of the Proposed Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	<p><b>Distinctive City Elements</b></p> <p><b>Cultural Resources Principles</b></p> <p>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.</p> <p><b>Citrus Groves/Farms Principles and Actions</b></p> <p>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.</p> <p>2-P.22 Expand the City inventory of citrus groves.</p>	Significant and Unavoidable

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p> <p>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, and retention of citrus properties within the city.</p> <p>2-A.83 Explore funding mechanisms to increase City acreage of citrus groves.</p> <p>2-A.84 Where practical, establish new groves at the city’s entrances/gateways to announce the city’s citrus heritage.</p> <p>2-A.85 Explore incentives and supportive programs that encourage the ongoing conservation of privately-owned citrus groves.</p> <p>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.</p> <p>2-A.87 Encourage planting new groves along street frontages. At a minimum, two rows of trees should be planted and the area should be at least 10,000 square feet to be a viable grove along street frontages.</p> <p>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.</p> <p>2-A.89 Continue working with packinghouses, local schools, and restaurants to encourage local consumption of citrus.</p>	

	<p><b>Livable Community Elements</b></p> <p><b><i>Growth Management Principles and Actions</i></b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b><i>Land Use Principles and Actions</i></b></p> <p>4-P.23 Preserve agricultural land in the Planning Area and protect it from premature development.</p> <p>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.</p> <p>4-P.25 Limit development on steep hillsides to preserve the stability and integrity of the slopes and to ensure public safety.</p> <p>4-A.34 Preserve agricultural land and protect agricultural operations and soils by identifying and designating these lands as Agriculture.</p> <p>4-A.35 Preserve connections between agricultural lands with other agricultural lands and supporting uses, and discourage the isolation of agricultural parcels among non-agricultural uses.</p> <p>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.</p> <p>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.</p>	
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<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>4-A.38 Encourage the continued operation of existing agricultural operations through the use of agricultural easements and Williamson Act contracts.</p> <p>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.</p> <p><b>Vital Environment Elements</b></p> <p><b>Open Space for Conservation Principles</b></p> <p>6-P.4 Preserve and enhance open space and agricultural land to define the Mentone and Crafton areas as distinct from Redlands.</p> <p><b>Agriculture and Open Space for Resource Production Principles and Actions</b></p> <p>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.</p> <p>6-P.12 Support the viability of agriculture through efforts to promote locally-grown produce and livestock as part of Redlands lifestyle and economy.</p> <p>6-P.13 Preserve the identity of Crafton and San Timoteo /Live Oak canyons as farming neighborhoods.</p> <p>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.</p> <p>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.</p> <p>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</p>	

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	<p>conservation easements at a ratio of 1:1 or greater. <i>The City may also take advantage of funding opportunities in order to establish such a program.</i></p> <p>6-A.24 Utilize local land trusts to make the most efficient use of funds available for agricultural preservation.</p> <p>6-A.25 Utilize State and non-profit funds for agricultural conservation easements with willing participants.</p> <p>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.</p> <p>6-A.27 Promote “agri-tourism”, farm-to-table promotions, roadside stands, and farmer’s markets to enhance the economic viability of farming in Redlands.</p> <p><b>Healthy Community Elements</b></p> <p><b>Public Health Principles and Actions</b></p> <p>7-A.47 Promote locally-grown foods through the following initiatives:</p> <ul style="list-style-type: none"> <li>• Establish organic and local farming economic development zones in San Timoteo Canyon, Crafton, and other suitable locations;</li> <li>• Investigate State and local financing programs to assist with expanding the local farming programs;</li> <li>• Expand the community garden program subject to funding and land availability; and</li> <li>• Eliminate barriers to and establish incentives for increased local food production.</li> </ul> <p>7-A.48 Support farmers’ markets throughout the city.</p> <p>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</p>	

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	<p>for Redlands’ residents– particularly those with limited mobility or limited income and those farthest from existing grocery stores.</p> <p>7-A.58 Develop incentives for new farmer training. Explore land leasing programs for new farmers.</p> <p>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.</p>	
3.2-2 Buildout of the Proposed Project would conflict with an existing Williamson Act contract.	See policies listed under Impact 3.2-1.	Less than significant
3.2-3 Buildout of the Proposed Project would result in changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use.	See policies listed under Impact 3.2-1.	Less than significant
<b>3.3 Air Quality</b>		
3.3-1 Development under the Proposed Project would not conflict with or obstruct the implementation of the applicable air quality plan.	<p><b>Livable Community Element</b></p> <p><b>Transit Villages Principles</b></p> <p>4-P.44 Provide choices for travel options, including walking, biking, vehicular, and transit.</p> <p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles</b></p> <p>5-P.4 Support transportation infrastructure improvements such as safer street crossings and attractive streetscapes to encourage bicyclists, walkers, and users of mobility devices.</p>	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
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	<p>5-P.5 Manage the city’s transportation system to minimize traffic congestion, improve flow, and improve air quality.</p> <p><b>Pedestrian, Bicycle, and Vehicular Movement Actions</b></p> <p>5-A.19 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.</p> <p><b>Bicycle Movement Principles and Actions</b></p> <p>5-P.19 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.</p> <p>5-P.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.</p> <p>5-A.27 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.</p> <p><b>Vehicular Movement Actions</b></p> <p>5-A.32 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.</p> <p>5-A.34 Encourage the use of car share and car hire services within Redlands to provide vehicular transportation alternatives.</p> <p>5-A.37 Plan for areas where alternative fueling stations can be located throughout the city such as electric charging stations, CNG, hydrogen, and flex fuels.</p>	

	<p><b>Transit Principles</b></p> <p>5-P.25 Improve public transit as a viable form of transportation in Redlands.</p> <p>5-P.26 Support passenger rail as an alternative mode of regional transit.</p> <p><b>Transportation Demand Management (TDM) Principles and Actions</b></p> <p>5-P.27 Adopt and implement a Transportation Demand Management Program.</p> <p>5-A.66 Evaluate and include the following appropriate elements in a Transportation Demand Management (TDM) Program:</p> <ul style="list-style-type: none"> <li>• Telecommuting from home</li> <li>• Telecommuting from a satellite work Center</li> <li>• Compressed work week</li> <li>• Flex time</li> <li>• Ridesharing</li> <li>• Ridesharing subsidy and tax credits</li> <li>• Ridesharing parking cost subsidy</li> <li>• Ridematching and carpooling</li> <li>• Guaranteed ride home</li> <li>• Car hire services</li> <li>• Commuter stores</li> <li>• Car share programs</li> <li>• Bike share programs</li> <li>• On-site facilities for commuters</li> <li>• Remote park-and-ride lots with amenities</li> <li>• Preferential parking for ride sharers</li> <li>• Transit pass programs</li> <li>• Other new and innovate alternatives that may arise in the future</li> </ul> <p><b>Healthy Community Element</b></p> <p><b>Public Health Actions</b></p>	
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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p> <p>7-A.46 Encourage the provision of bike lockers, bike-sharing, and other methods of supporting active transportation that can contribute to healthy lifestyles.</p> <p><b>Air Quality Principles and Actions</b></p> <p>7-P.44 Protect air quality within the city and support efforts for enhanced regional air quality.</p> <p>7-P.45 Aim for a diverse and efficiently-operated ground transportation system that generates the minimum amount of pollutants feasible.</p> <p>7-P.46 Increase average vehicle ridership during peak commute hours as a way of reducing vehicle miles traveled and peak period auto travel.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>7-A.145 Provide, whenever possible, incentives for carpooling, flex time, shortened work weeks, telecommuting, and other means of reducing vehicular miles traveled.</p> <p>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</p>	

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	<p>providers in efforts to increase funding for transit improvements to supplement other means of travel.</p> <p>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.</p> <p>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.</p> <p>7-A.149 Ensure that construction and grading projects minimize short-term impacts to air quality.</p> <ul style="list-style-type: none"> <li>• Require grading projects to provide a storm water 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;</li> <li>• Require grading projects to undertake measures to minimize mono-nitrogen oxides (NO<sub>x</sub>) emissions from vehicle and equipment operations; and</li> <li>• Monitor all construction to ensure that proper steps are implemented.</li> </ul> <p>7-A.150 Establish and implement a Transportation Demand Management (TDM) Program.</p> <p>7-A.151 Convert the City fleet to zero emissions vehicles where financially feasible and provide associated infrastructure for such vehicles.</p> <p>7-A.152 Enforce regulations to prevent trucks from excessive idling in residential areas.</p>	

	<p><b>Sustainable Community Element</b></p> <p><b><i>Energy Efficiency and Conservation Principles and Actions</i></b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>8-A.2 Support San Bernardino County and San Bernardino Associated Governments (SANBAG) in implementation of their energy-related policies.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b><i>Green Building and Landscape Principles and Actions</i></b></p>	
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	<p>8-P.8 Promote sustainability by reducing the community’s greenhouse gas (GHG) emissions and fostering green development patterns—including buildings, sites, and landscapes.</p> <p>8-A.39 Continue implementation and enforcement of the California Building and Energy codes to promote energy efficient building design and construction.</p> <p>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.</p> <p>8-A.41 Promote energy conservation and retrofitting of existing buildings through:</p> <ul style="list-style-type: none"> <li>• Encouraging point-of-sale residential energy and water efficiency audits. Provide information on upgrading requirements and/or incentives if necessary;</li> <li>• Providing financial incentives and low-cost financing products and programs that encourage investment in energy efficiency and renewable energy within existing residential buildings; and</li> <li>• Educating residents about the availability of free home energy audit programs and encouraging the implementation of audit findings.</li> </ul> <p><b>Greenhouse Gas Reduction Principles and Actions</b></p> <p>8-P.9 Undertake initiatives to enhance sustainability by reducing the community’s GHG emissions.</p> <p>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.</p> <p>8-A.45 Prepare a Climate Action Plan to ensure that the Planning Area complies with State-mandated GHG emissions.</p> <p>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</p>	

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	<p>policies as required to continue meeting State GHG targets, and as changes in technology, federal and State programs, or other circumstances warrant.</p>	
<p>3.3-2 Development under the Proposed Project would violate air quality standards or contribute substantially to an existing or projected air quality violation.</p>	<p>The proposed General Plan principles and actions as listed under Impact 3.15-1 above, as well as the following policies.</p> <p><b>Healthy Community Element</b></p> <p><b>Public Health Actions</b></p> <p>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.</p> <p>7-A.38 Revise development standards to require pedestrian connections into and inside commercial projects.</p>	<p>Significant and unavoidable</p>
<p>3.3-3 Development under the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the General Plan region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O<sub>3</sub> precursors).</p>	<p>The proposed General Plan principles and actions as listed under Impact 3.15-1 above, and Actions 7-A.35 and 7-A.38 as listed under Impact 3.3-2 above.</p>	<p>Significant and Unavoidable</p>

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3.3-4 Development under the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	<p>Principles 5-P.5, 7-P.44, 7-P.45, 7-P.46, 7-P.47, and 7-P.48, and actions 5-A.27, 5-A.37, 5-A.66, 7-A.144, 7-A.145, 7-A.146, 7-A.147, 7-A.148, 7-A.150, 7-A.151, and 7-A.152, as listed under Impact 3.3-1 above, as well as the following policies.</p> <p><b>Healthy Community Element</b></p> <p><b>Air Quality Principles</b></p> <p>7-P.49 Protect sensitive receptors from exposure to hazardous concentrations of air pollutants.</p> <p><b>Air Quality Actions</b></p> <p>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.</p> <p>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.</p>	Less than significant
3.3-5 Development under the Proposed Project would not create objectionable odors affecting a substantial number of people.	Principles 7-P.44 and 7-P.48, and actions 7-A.144, 7-A.147, 7-A.148, and 7-A.149, as listed under Impact 3.3-1 above.	Less than significant
<b>3.4 Biological Resources</b>		
3.4-1 Implementation of the Proposed Project could have an adverse effect, either directly or through habitat modifications, on	<p><b>Livable Community Element</b></p> <p><b>Southern Hills and Canyons Principles</b></p> <p>4-A.63 Design buildings to accommodate topography and minimize grading.</p> <p>4-A.66 Preserve natural vegetation and wildlife areas to create wildlife corridors extending throughout the Live Oak Canyon and San Timoteo Canyon areas.</p>	Less than significant

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<p>any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations; by the California Department of Fish and Wildlife; or by the U.S. Fish and Wildlife Service.</p>	<p>Work with Caltrans and SANBAG to extend wildlife corridors north of I-10 to provide linkages to open space in those locations.</p> <p><b>Measure U Policies</b></p> <p>4.4.Ii 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.</p> <p><b>Vital Environment Element</b></p> <p><b>Open Space and Conservation Actions</b></p> <p>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.</p> <p><b>Biological Resources Principles and Actions</b></p> <p>6-P.7 Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities.</p> <p>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.</p> <p>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.</p> <p>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.</p>	

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	<p>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.</p> <p>6-A.13 Utilize conservation easements and preserves as a means to conserve natural habitats.</p> <p>6-A.14 Construct freeway and arterial street undercrossings or overpasses where necessary to establish and preserve identified wildlife corridors.</p> <p>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.</p> <p>6-A.16 Work with the Crafton Hills Open Space Conservancy to preserve, enhance, and maintain the Crafton Hills as an ecosystem.</p> <p>6-A.17 Coordinate open space and habitat preservation in the Crafton Hills with the City of Yucaipa.</p> <p>6-A.18 Coordinate open space and habitat preservation in San Timoteo and Live Oak canyons with Riverside County.</p> <p>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.</p> <p><b>Water Quality Actions</b></p> <p>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.</p>	



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	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.	
3.4-2 Implementation of the Proposed Project could have an adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife, or by the U.S. Fish and Wildlife Service.	Principles 6-P.7 and 6-P.9; and actions 6-A.1, 6-A.12, 6-A.15, and 6-A.36, as listed under Impact 3.4-1 above.	Less than significant
3.4-3 Implementation of the Proposed Project could have an adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Principle 6-P.9, and actions 6-A.1, 6-A.12, and 6-A.15, as listed under Impact 3.4-1 above as well as the following policy. <b>Livable Community Element</b> <b>Southeast Area Principles</b> 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.	Less than significant
3.4-4 Implementation of the Proposed Project could	Principles 4.41i, 6-P.7, 6-P.8, and 6-P.9, and actions 4-A.67, 6-A.12, 6-A.14, and 6-A.15, as listed under Impact 3.4-1 above.	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.		
3.4-5 Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	<p>Principle 4.41i, and actions 6-A.16, 6-A.17, 6-A.18, and 6-A.19, as listed under Impact 3.4-1.</p> <p><b>Distinctive City Element</b></p> <p><b>Preservation of Older Neighborhoods Actions</b></p> <p>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.</p> <p><b>Street Trees and Streetscape Principles and Actions</b></p> <p>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.</p> <p>2-P.19 Use trees to establish or reinforce city entrances/gateways that announce arrival and convey the spirit of the city.</p> <p>2-P.20 Use street trees to differentiate arterials and to reduce the apparent width of wide streets.</p> <p>2-A.77 Prepare and maintain a citywide inventory and streetscape plan that includes the following components:</p>	Less than significant

**Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact**

Impact	Proposed General Policies that Reduce the Impact	Significance Level
	<ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <p>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.</p> <p>2-A.79 Avoid sound walls as a standard on arterial streets in residential areas.</p> <p>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.</p> <p>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.</p> <p><b>Citrus Groves/Farms Principles and Actions</b></p> <p>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.</p> <p>2-A.84 Where practical, establish new groves at the city’s entrances/gateways to announce the city’s citrus heritage.</p> <p>2-A.87 Encourage planting new groves along street frontages. At a minimum, two rows of trees should be planted and the area should be at least 10,000 square feet to be a viable grove along street frontages.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p><b>Livable Community Element</b></p> <p><b>Growth Management Principles</b></p> <p>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.</p> <p><b>Vital Environment Element</b></p> <p><b>Open Space for Conservation Actions</b></p> <p>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.</p> <p>6-A.10 Maintain and enhance Redlands’ network of urban forest and street trees.</p> <p><b>Biological Resources Action</b></p> <p>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).</p> <p><b>Construction Aggregates Principle</b></p> <p>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).</p>	
3.4-6 Implementation of the Proposed Project could conflict with the provisions of an adopted habitat conservation plan (the Wash Plan), natural community conservation plan, or other approved	Principle 6-P.9, as listed under Impact 3.4-1, and action 6-A.21, as listed under Impact 3.4-5.	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
local, regional, or state habitat conservation plan.		
<b>3.5 Energy, Greenhouse Gases, and Climate Change</b>		
3.5-1 Development under the Proposed Project would not cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance.	<p><b>Healthy Community Element</b></p> <p><b>Public Health Actions</b></p> <p>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.</p> <p><b>Sustainable Community Element</b></p> <p><b>Energy Efficiency and Conservation Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>8-A.2 Support San Bernardino County and San Bernardino Associated Governments (SANBAG) in implementation of their energy-related policies.</p>	Less than significant

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	<p>8-A.3 Leverage and help drive community participation in utility company programs and financial incentives within the city (e.g., one stop information clearinghouse, incentives, on bill financing, etc.).</p> <p>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.</p> <p>8-A.5 Accelerate the adoption of solar power and/or other alternative energy usage in Redlands through actions such as:</p> <ul style="list-style-type: none"> <li>• Establishing incremental growth goals for solar power/alternative energy systems in Redlands;</li> <li>• Developing guidelines, recommendations, and examples for cost-effective solar and/or other alternative energy-based installation; and</li> <li>• Installing solar/alternative energy technology on available City spaces.</li> </ul> <p>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.</p> <p>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.</p> <p>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.</p>	

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	<p>8-A.10 Integrate trees and shade into the built environment, to mitigate issues such as stormwater runoff and the urban heat island effect.</p> <p>8-A.11 Further City efforts to be a model of energy conservation stewardship by:</p> <ul style="list-style-type: none"> <li>• Continuing participation in SCE/SCG's Community Partnership program;</li> <li>• Moving City electric load off-peak where practical;</li> <li>• Partnering directly with large consumers of energy and encouraging and promoting their energy efficiency activities;</li> <li>• Establishing energy efficiency and conservation baselines; and</li> <li>• Reporting routinely on the progress of goals.</li> </ul> <p>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.</p> <p>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.</p> <p>8-A.14 Seek funding programs to assist low and moderate-income households in energy conservation.</p> <p>8-A.15 Encourage City employees to submit energy efficiency and conservation recommendations for City operations and follow up on the recommendations.</p> <p>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.</p> <p>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:</p>	

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	<ul style="list-style-type: none"> <li>• All new residential construction in California will be zero net energy by 2020.</li> <li>• All new commercial construction in California will be zero net energy by 2030.</li> <li>• 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.</li> </ul> <p>8-A.18 Allocate savings realized from energy efficiency improvements at City facilities to implement additional energy efficiency improvements at City facilities.</p> <p>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.</p> <p>8-A.20 Support energy resiliency through a diversified system of energy sources including zero and near-zero emission technologies.</p> <p><b>Water Conservation Actions</b></p> <p>8-A.27 Seek funding sources to implement renewable energy sources determined to be feasible for water and wastewater operations.</p> <p>8-A.29 Reduce consumption of carbon-based fuels for conveyance and treatment of water and wastewater.</p> <p><b>Waste Reduction and Recycling Actions</b></p> <p>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.</p> <p>8-A.38 Explore the potential to generate energy using biomethane from the City’s landfill and wastewater treatment plant.</p> <p><b>Green Building and Landscapes Actions</b></p> <p>8-A.39 Continue implementation and enforcement of the California Building and Energy codes to promote energy efficient building design and construction.</p>	



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	<p>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.</p> <p>8-A.41 Promote energy conservation and retrofitting of existing buildings through:</p> <ul style="list-style-type: none"> <li>• Encouraging point-of-sale residential energy and water efficiency audits. Provide information on upgrading requirements and/or incentives if necessary;</li> <li>• Providing financial incentives and low-cost financing products and programs that encourage investment in energy efficiency and renewable energy within existing residential buildings; and</li> <li>• Educating residents about the availability of free home energy audit programs and encouraging the implementation of audit findings.</li> </ul> <p>8-A.43 Decrease the need for artificial cooling, heating, and lighting, and promote outdoor lifestyles in Redlands’ moderate climate by:</p> <ul style="list-style-type: none"> <li>• Updating the Zoning Ordinance to provide for adequate private and common open spaces as part of multi-family developments; and</li> <li>• Encouraging residential and office buildings to have windows that open to the outside in all habitable rooms and maximize the use of daylight.</li> </ul> <p>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.</p> <p><b>Greenhouse Gas Reduction Principles</b></p> <p>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.</p>	

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3.5-2 The Proposed Project would not conflict with the CBC Energy Efficiency Standards, the CARB passenger vehicle GHG emission reduction targets for 2020 and 2035, or any other applicable energy conservation regulations.	See proposed energy conservation and mobility-related policies listed above under Impact 3.5-1 and below under Impact 3.5-3.	Less than significant
3.5-3 Development under the Proposed Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	<p><b>Land Use and Community Design Element</b></p> <p><b>Community Integration Actions</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Brookside Avenue, from Lakeside Avenue to Eureka Street;</li> <li>• Olive Avenue, from Lakeside Avenue to Cajon Street;</li> <li>• Center Street, from Brookside Avenue to Crescent Avenue;</li> <li>• Highland Avenue, from Serpentine Drive to Cajon Street;</li> <li>• Sunset Drive, from Serpentine Drive to Edgemont Drive;</li> </ul>	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<ul style="list-style-type: none"> <li>• Cajon Street;</li> <li>• Mariposa Drive, between Halsey and Sunset Drive; and</li> <li>• Dwight Street, between Pepper Street and Mariposa Drive.</li> </ul> <p>In addition, consider designating the following roads as scenic drives within the community as neighborhood connectors and recreational routes for drivers and bike riders.</p> <ul style="list-style-type: none"> <li>• Riverview Drive along the Santa Ana River Wash;</li> <li>• Live Oak Canyon Road;</li> <li>• San Timoteo Canyon Road;</li> <li>• Sylvan Boulevard;</li> <li>• Nevada Street, from the Orange Blossom Trail to Barton Road;</li> <li>• Pioneer Avenue, from River Bend Drive to Judson Street; and</li> <li>• Rural roads in Crafton.</li> </ul> <p><b>Cultural Resources Action</b> 2-A.69 Encourage shared parking or in-lieu parking in older neighborhoods.</p> <p><b>Street Trees and Streetscape Actions</b> 2-A.77 Prepare and maintain a citywide inventory and streetscape plan that includes the following components:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul>	

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	<p>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.</p> <p><b>Vibrant Downtown Actions</b></p> <p>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.</p> <p>2-A.99 Ensure that new development along Redlands Boulevard is pedestrian-oriented.</p> <p><b>Livable Community Element</b></p> <p><b>Land Use Principles and Actions</b></p> <p>4-P.9 Locate medium- and high-density development near regional access routes, transit stations, employment centers, shopping areas, and public services.</p> <p>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.</p> <p>4-A.18 Focus the development of office space in transit-accessible locations.</p> <p><b>Focus Areas Actions</b></p> <p>4-A.52 Improve access and movement of all modes of transportation in the East Valley Corridor and enhance linkages to transit.</p> <p>4-A.95 Encourage the development of bicycle, pedestrian, and transit access that reduce the need for on-site parking.</p> <p><b>Transit Villages Principles and Actions</b></p> <p>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.</p> <p>4-P.44 Provide choices for travel options, including walking, biking, vehicular, and transit.</p>	

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	<p>4-P.45 Accommodate all appropriate modes of transportation in Transit Villages, and promote seamless transitions between modes.</p> <p>4-A.99 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.</p> <p>4-A.104 Add new streets to create a finer-grained (shorter blocks), pedestrian-scaled road network, connecting residential areas to parks and the Mixed-Use Core.</p> <p>4-A.105 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.</p> <p>4-A.106 Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.</p> <p>4-A.108 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.</p> <p>4-A.110 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.</p> <p>4-A.112 Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.</p> <p>4-A.113 Provide pedestrian routes between offices, neighborhoods, and Downtown.</p> <p>4-A.114 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</p>	

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	<p>the Orange Blossom Trail, the Lugonia Trail on New York Street, and a route along Texas Street.</p> <p>4-A.115 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.</p> <p>4-A.116 Ensure safe railway crossings at Tennessee Street, Texas Street, and New York Street for bicyclists and pedestrians.</p> <p>4-A.118 Complete and implement an update of the Downtown Specific Plan to create a cohesive town center with amenities and pedestrian-oriented streets.</p> <p>4-A.124 Establish boulevards along Orange Street, Colton Avenue, and Redlands Boulevard with pedestrian-oriented streetscape improvements and ground-floor active uses.</p> <p>4-A.125 Strengthen pedestrian and bicycle circulation routes within Downtown and to and from adjacent neighborhoods.</p> <p>4-A.126 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.</p> <p>4-A.131 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.</p> <p>4-A.132 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.</p>	

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	<p>4-A.134 Improve the I-10 undercrossings at University Street and Citrus Avenue to allow safe and comfortable access for vehicles, pedestrians, and cyclists.</p> <p><b>Connected City Element</b> <b>Layered, Multi-Modal Network Principles and Actions</b></p> <p>5-P.13 Ensure streets are designed to accommodate bicyclists per the Bicycle Master Plan.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Management and implementation of complete street strategies, including retrofitting existing streets to foster biking and walking as appropriate;</li> <li>• Short block lengths, reduced street widths, and/or traffic calming measures; and</li> <li>• Providing pedestrians and bicyclists with options where motorized transportation is prohibited.</li> </ul> <p>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.</p> <p>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.</p>	

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	<p>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.</p> <p>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.</p> <p><b>Pedestrian Movement Principles and Actions</b></p> <p>5-P.16 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.</p> <p>5-P.17 Encourage creative walking paths pursuant to City planning codes, local, State, and federal laws.</p> <p>5-P.18 Enhance street lighting for pedestrians where current lighting is inadequate.</p> <p>5-A.17 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.</p> <p>5-A.18 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.</p> <p>5-A.19 Provide pedestrian routes between offices, neighborhoods, Downtown, and Transit Villages. Plan for direct connections from the interiors of residential tracts</p>	



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	<p>to neighboring parks, schools, retail, and other services using sidewalks, trails, and paseos.</p> <p>5-A.21 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.</p> <p><b><i>Bicycle Movement Principles and Actions</i></b></p> <p>5-P.19 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.</p> <p>5-P.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.</p> <p>5-A.22 Use the City’s Bicycle Master Plan as the primary resource for planning and implementing bikeway improvements.</p> <p>5-A.23 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, and the San Timoteo Canyon Trail.</p> <p>5-A.24 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, and Wabash Avenue.</p> <p>5-A.25 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.</p> <p>5-A.26 Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>5-A.27 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.</p> <p>5-A.28 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.</p> <p>5-A.29 Work with neighboring jurisdictions, the University of Redlands, and major employers to implement bike sharing programs.</p> <p>Vehicular Movement Actions</p> <p>5-A.32 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.</p> <p>5-A.33 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.</p> <p>5-A.41 Establish new boulevards Downtown and in the transit villages that include planted center medians, accommodations for transit, wider sidewalks, and amenities for pedestrians.</p> <p>5-A.47 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.</p>	

	<p><b>Transit Principles and Actions</b></p> <p>5-P.25 Improve public transit as a viable form of transportation in Redlands.</p> <p>5-P.26 Support passenger rail as an alternative mode of regional transit.</p> <p>5-A.54 Work with Omnitrans to accommodate and adjust transfer centers and bus service as necessary to support future rail service.</p> <p>5-A.55 Work with Omnitrans to expand bus service to additional areas of the city and improving north-south connections.</p> <p>5-A.56 Work with Omnitrans to plan for bus shelters, boarding areas, transfer centers, bus pads in the right-of-way, and bus turnouts.</p> <p>5-A.57 Incorporate real-time information systems so that passengers will know when their bus or train is expected to arrive.</p> <p>5-A.58 Support investments in passenger rail by providing effective on-site circulation and multi-modal connections to transit stations.</p> <p>5-A.59 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.</p> <p>5-A.60 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.</p> <p>5-A.61 Continue to collaborate with regional transit partners to achieve seamless transfers between systems, including scheduling, ticketing, and shared fare systems.</p> <p>5-A.62 Develop strategies to maximize off-peak use of transit.</p> <p>5-A.63 Coordinate with other agencies and private entities to investigate methods of improving service and enhancing safety along the passenger rail corridor.</p> <p>5-A.64 Encourage convenient and safe pedestrian linkages to and from transit service to provide better first-mile and last-mile connectivity.</p>	
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<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>5-A.65 Provide for direct pedestrian paths and access from new developments to the nearest public transportation stop.</p> <p><b>Transportation Demand Management (TDM) and Parking Principles and Actions</b></p> <p>5-P.27 Adopt and implement a Transportation Demand Management Program.</p> <p>5-A.66 Evaluate and include the following appropriate elements in a Transportation Demand Management (TDM) Program:</p> <ul style="list-style-type: none"> <li>• Telecommuting from home</li> <li>• Telecommuting from a satellite work Center</li> <li>• Compressed work week</li> <li>• Flex time</li> <li>• Ridesharing</li> <li>• Ridesharing subsidy and tax credits</li> <li>• Ridesharing parking cost subsidy</li> <li>• Ridematching and carpooling</li> <li>• Guaranteed ride home</li> <li>• Car hire services</li> <li>• Commuter stores</li> <li>• Car share programs</li> <li>• Bike share programs</li> <li>• On-site facilities for commuters</li> <li>• Remote park-and-ride lots with amenities</li> <li>• Preferential parking for ride sharers</li> <li>• Transit pass programs</li> <li>• Other new and innovate alternatives that may arise in the future</li> </ul>	

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	<p>5-A.69 Design parking to meet applicable urban design goals from area plans and minimize negative impacts on pedestrians, bicyclists, and transit users.</p> <p>5-A.72 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.</p> <p>5-A.73 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.</p> <p><b>Healthy Community Element</b> <b>Parks and Recreational Open Space Action</b></p> <p>7-A.24 Coordinate trail planning with bike route planning in preparation for updates to the Redlands Bicycle Master Plan.</p> <p><b>Public Health Principles and Actions</b></p> <p>7-P.17 Achieve more walkable, livable neighborhoods by expanding the multi-modal transportation system and creating a safe, pedestrian-oriented environment.</p> <p>7-A.38 Revise development standards to require pedestrian connections into and inside commercial projects.</p> <p>7-A.39 Install appropriate facilities along streets and at roadway intersections to improve and insure pedestrian safety.</p> <p>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.</p> <p>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.</p>	

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	<p><b>Air Quality Principles and Actions</b></p> <p>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.</p> <p>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.</p>	
3.5-4 Development under the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	See proposed energy conservation and mobility-related policies listed above under Impact 3.5-1 and Impact 3.5-3.	Less than significant
<b>3.6 Geology, Soils, and Seismicity</b>		
3.6-1 Implementation of the Proposed Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or based on other	<p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillside Principles</b></p> <p>4-P.25 Limit development on steep hillsides to preserve the stability and integrity of the slopes and to ensure public safety.</p> <p><b>Southern Hills and Canyons Principles and Actions</b></p> <p>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.</p> <p>4-A.63 Design buildings to accommodate topography and minimize grading.</p>	Less than Significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides.	<p><b>Vital Environment Element</b></p> <p><b>Water Quality Actions</b></p> <p>6-A.36 Require measures during construction and post construction to limit land disturbance activities such as clearing and grading and cut-an-fill; avoid steep sloped, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.</p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b>Seismic and Geologic Hazards Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>	

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	<p>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.</p> <p>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.</p> <p>7-A.111 Undertake review of critical facilities that may be vulnerable to major earthquakes, and develop programs to upgrade them.</p> <p>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.</p> <p>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.</p> <p>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</p>	



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	<p>as appropriate, and make recommendations for mitigating any potential adverse impacts.</p> <p>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.</p> <p>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 evacuation routes, peak load water supply requirements, and minimum road-width/clearance around structures.</p> <p><b>Emergency Management Actions</b></p> <p>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.</p>	
3.6-2 Implementation of the Proposed Project would not result in substantial soil erosion or topsoil loss.	<p>Principles 4-P.25 and 4-P.30; and actions 4-A.63, 6-A.36, 6-A.39, 7-A.113, and 7-A.114, as listed under Impact 3.6-1 above; as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillside Actions</b></p> <p>4-A.39 Encourage the use of soil and water conservation techniques in agricultural operations.</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Actions</b></p> <p>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.</p>	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p><b>Healthy Community Element</b></p> <p><b>Seismic and Geologic Hazards Actions</b></p> <p>7-A.115 Require soil erosion mitigation during construction.</p>	
<p>3.6-3 Implementation of the Proposed Project would not locate structures on expansive soils or on a geologic unit or soil that unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse and create substantial risks to life or property.</p>	<p>Principles 4-P.25, 4-P.30, 7-P.29, and 7-P.30; and actions 4-A.63, 6-A.36, 6-A.39, 7-A.107, 7-A.109, 7-A.110, 7-A.113, 7-A.114, 7-A.116, 7-A.117, and 7-A.132, as listed under Impact 3.6-1 above.</p> <p>Actions 4-A.39 and 7-A.115, as listed under Impact 3.6-2 above.</p>	Less than significant
<p>3.6-4 Implementation of the Proposed Project would not result in soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.</p>	<p><b>Healthy Community Element</b></p> <p><b>Seismic and Geologic Hazards Actions</b></p> <p>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.</p>	Less than significant

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<b>3.7 Hazards</b>		
<p>3.7-1 Development under the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p>	<p><b>Livable Community Element</b></p> <p><b>General Land Use Principles</b></p> <p>4-P.8 Provide for buffers and transitions between low- and high-intensity land uses.</p> <p><b>Office, Commercial, and Industrial Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>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 such as residential and schools. residential uses</p> <p>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.</p> <p>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.</p> <p><b>East Valley Corridor Actions</b></p> <p>4-A.52 Improve access and movement of all modes of transportation in the East Valley Corridor and enhance linkages to transit.</p>	<p>Less than significant</p>

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	<p>4-A.56 Create buffers and appropriate transitions between the East Valley Corridor industrial and commercial areas and adjacent residential neighborhoods.</p> <p><b>Public Safety Principles and Actions</b></p> <p>4-P.59 Ensure a safe community.</p> <p>4-P.60 Locate police and fire resources where they can best serve the community.</p> <p>4-A.150 Ensure that the Police and Fire departments have modern facilities and equipment needed to perform their duties.</p> <p>4-A.152 Continue to enact mutual aid agreements with neighboring police and fire jurisdictions as well as state agencies.</p> <p>4-A.154 Include the Police and Fire Departments in the review of new developments to provide feedback on building and site design safety.</p> <p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles</b></p> <p>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 to specific corridors and geographic areas. <i>With its diverse development patterns, history, and terrain, Redlands needs a multi-modal network to meet its future transportation needs. The layered networks 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 the different modes.</i></p> <p>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.</p> <p><b>Measure U Policies</b></p> <p>5.30j Design major infrastructure improvements to accommodate regional traffic needs in a manner which discourages traffic flows through residential</p>	

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	<p>neighborhoods, encourages traffic flow to existing freeway systems and assures prudent use of federal and local taxpayer dollars.</p> <p><b>Vehicular Movement Principles</b></p> <p>5-P.23 Discourage the use of City streets as alternatives to congested regional highways.</p> <p><b>Freeways Actions</b></p> <p>5-A.38 Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.</p> <p>5-A.39 Support improvements to I-10 and I-210 that improve capacity and flow.</p> <p><b>Collector and Local Streets Actions</b></p> <p>5-A.44 Discourage through-traffic on local streets.</p> <p><b>Goods Movement Principles and Actions</b></p> <p>5-P.28 Prioritize goods movement along specific routes in the city, consistent with the layered network, to foster efficient freight logistics.</p> <p>5-P.29 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.</p> <p>5-P.30 Work to improve the efficiency and safety of rail freight through the city.</p> <p>5-A.73 Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.</p> <p>5-A.74 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.</p> <p>5-A.75 Create easily understood truck route maps, potentially through on-line applications, to be distributed by the goods movement industry.</p>	

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	<p>5-A.76 Conduct education programs for the goods movement industry on designated truck routes through the city.</p> <p>5-A.77 Discourage truck traffic from parking, idling, or traveling through local streets in residential neighborhoods.</p> <p>5-A.78 Seek to improve rail crossings in the San Timoteo Canyon area, exploring the potential for grade separation of all crossings in the canyon area.</p> <p><b>Healthy Community Element</b></p> <p><b>Other Hazards Principles and Actions</b></p> <p>7-P.31 Protect residents from the potential dangers of broken or damaged fuel lines.</p> <p>7-P.32 Protect residents from the potential dangers of hazardous cargos.</p> <p>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.</p> <p>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.</p>	
<p>3.7-2 Development under the Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous</p>	<p>The proposed General Plan goals and actions listed under Impact 3.7-1 would reduce upset and accident conditions potentially involving the release of hazardous materials into the environment, along with the following policy.</p> <p><b>Healthy Community Element</b></p> <p><b>Other Hazards Actions</b></p> <p>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.</p>	<p>Less than significant</p>

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materials into the environment.		
3.7-3 Development under the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Principles 4-P.8, 4-P.20, and 4-P.21; and actions 4-A.30, 4-A.57, and 7-A.118, as listed under Impact 3.7-1; as well as the following policies.  <b>Healthy Community Element</b>  <b>Emergency Management Actions</b> 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.  <b>Other Hazards Actions</b> 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.	Less than significant
3.7-4 Development under the Proposed Project could result in a project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	The proposed General Plan goals and actions listed in Impact 3.7-1, Impact 3.7-2, and Impact 3.7-3 would also help to reduce the risk of significant hazard to the public or environment from a contaminated site.	Less than significant

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3.7-5 Development under the Proposed Project would not result in a safety hazard for people residing or working within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or public use airport.	<p><b>Livable Community Element</b></p> <p><b>Office, Commercial, and Industrial Actions</b></p> <p>4-A.28 Reserve space adjacent to the Redlands Airport to allow for maximum development of airport-related industry, developed in accordance with the Airport Land Use Compatibility Plan.</p> <p><b>Redlands Airport Principles and Actions</b></p> <p>4-P.55 Maintain compatibility of development with airport operations in the area surrounding the airport.</p> <p>4-A.139 Regulate land uses within safety and noise compatibility zones in accordance with the Airport Land Use Compatibility Plan.</p> <p>4-A.140 Review the Comprehensive Airport Land Use Plan (CALUP) prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.</p> <p>4-A.142 Limit land use within the projected CNEL 60 dB contour to agriculture, open space, golf course, and light industry.</p> <p>4-A.143 Require dedication of an aviation easement as a condition of development approval for projects within one mile of the 65 dB CNEL contour. <i>Continuation of this policy alerts buyers to the proximity of the airport and protects the City from possible attempts to limit airport use.</i></p> <p><b>Healthy Community Element</b></p> <p><b>Airport/Aviation Safety Principles and Actions</b></p> <p>7-P.35 Implement the policies and standards of the Redlands Municipal Airport Land Use Compatibility Plan (ALUCP).</p> <p>7-P.36 Limit hazards to and from flight operations of the San Bernardino International Airport.</p>	Less than significant



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	<p>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.</p> <p>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.</p>	
<p>3.7-6 Development under the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	<p>Actions 7-A.119 and 7-A.127, as listed above under Impact 3.7-1 and 3.7-3, as well as the following policies.</p> <p><b>Public Safety Element</b></p> <p><b>Southern Hills and Canyons Principles</b></p> <p>4-P.31 Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.</p> <p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles and Actions</b></p> <p>5-P.7 Minimize emergency vehicle response time and improve emergency access.</p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b>Fire Hazards Actions</b></p> <p>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.</p>	<p>Less than significant</p>

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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, emergency command centers, and emergency communications facilities. If locating such facilities outside of high fire risk areas is not feasible, identify construction methods and other mitigation measures to minimize risks.</p> <p>7-A.96 Ensure that all-weather access is provided 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.</p> <p><b>Seismic and Geologic Hazards Actions</b></p> <p>7-A.117 Use the Local Hazard Mitigation 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 evacuation routes, peak load water supply requirements, and minimum road-width/clearance around structures.</p> <p><b>Emergency Management Principles and Actions</b></p> <p>7-P.37 Use the City of Redlands Local Hazard Mitigation Plan as the guide for disaster planning in the Redlands Planning Area.</p> <p>7-P.38 Aim for City-level self-sufficiency in emergency response.</p> <p>7-A.128 Continue to update and revise the Local Hazard Mitigation 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.</p> <p>7-A.129 Maintain and update the City’s Emergency Plan, as required by State law.</p> <p>7-A.130 Maintain ongoing emergency response coordination with surrounding jurisdictions.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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 &amp; Utilities Engineering Department.</p> <p>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.</p> <p>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.</p>	
<p>3.7-7 Development under the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.</p>	<p>Actions 7-A.90, 7-A.91, 7-A.96, and 7-A.117, as listed above under Impact 3.7-6, as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillside Principles and Actions</b></p> <p>4-P.25 Limit development on steep hillsides to preserve the stability and integrity of the slopes and to ensure public safety.</p> <p>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.</p> <p><b>Southern Hills and Canyons Principles and Actions</b></p> <p>4-P.30 Require that new development adhere to safety standards to protect against property damage, injury, or loss of life from fire or geological hazards.</p> <p>4-P.31 Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.</p> <p>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</p>	<p>Less than significant</p>

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	<p>Planned Residential Developments (PRDs), Conservation Easements, and Specific Plans.</p> <p>4-A.65 Require proposed development within the Live Oak Canyon and San Timoteo Canyon areas that abuts an area of significant natural vegetation 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.</p> <p><b>Southeast Area Actions</b></p> <p>4-A.81 Adopt and implement the Perimeter Fuel Modification/ Access Area (PERFUMAA), concept shown in Figure 4-6 concept 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.</p> <p>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.</p> <p><b>Connected City Element</b></p> <p><b>Layered Multi-Modal Network Principles and Actions</b></p> <p>5-P.7 Minimize emergency vehicle response time and improve emergency access.</p> <p>5-A.15 Access for emergency vehicles and services shall be maintained 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.</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Actions</b></p> <p>6-A.35 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</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>vegetation and other physical or biological features important to preventing erosion or sedimentation.</p> <p><b>Healthy Community Element</b></p> <p><b>Parks and Recreational Open Space Principles</b></p> <p>7-P.12 Create and maintain a system of trails serving both recreational and emergency access needs.</p> <p><b>Fire Hazards Principles and Actions</b></p> <p>7-P.28 Work to prevent wildland and urban fire, and protect lives, property, and watersheds from fire dangers.</p> <p>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.</p> <p>7-A.84 Maintain and update the high fire hazard areas map consistent with changes in designation by CAL FIRE.</p> <p>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.</p> <p>7-A.86 Continue to provide weed abatement services in High Fire Severity Areas in order to curb potential fire hazards.</p> <p>7-A.87 Provide appropriate staffing, equipment, and facilities to maintain an Insurance Service Office (ISO) Rating of 3 or better.</p> <p>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</p>	

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	<p>adequate water supply and require on-site water storage for areas where municipal water service is not available.</p> <p>7-A.89 Require adherence to applicable buildings codes and standards in accordance with Fire Hazard Overlay Districts, California Fire Code, and the California Building Code.</p> <p>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 examples of appropriate vegetation management through activities such as updating and maintaining the City's fire safe landscape garden.</p> <p>7-A.93 Require that new development minimizes risks to life and property from fire hazard through:</p> <ul style="list-style-type: none"> <li>• Assessing site-specific characteristics such as topography, slope, vegetation type, wind patterns etc.;</li> <li>• Siting and designing development to avoid hazardous locations;</li> <li>• 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;</li> <li>• Using appropriate building materials and design features to ensure the minimum amount of required fuel modification; and</li> <li>• Using fire-retardant, native plant species in landscaping.</li> </ul> <p>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.</p> <p>7-A.95 Coordinate with the Redlands Fire Department and other fire prevention agencies to review all applications for new development. The Fire Department's</p>	

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	<p>review should ensure compliance with fire safety regulations and assess potential impacts to existing fire protection services and the need for additional and expanded services.</p> <p>7-A.97 Monitor methane gas production at active and inactive landfills and take preventive action if gas production creates a significant fire hazard.</p> <p>7-A.98 Devise alternative fire protection standards suitable for Rural Living areas not exposed to high wildland fire hazards.</p> <p>7-A.99 Consult the San Bernardino County Fire Safety Overlay Ordinance for possible appropriate implementation measures for development in the foothills area.</p> <p>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.”</p> <p>7-A.101 Work cooperatively with the San Bernardino 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.</p> <p>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.</p> <p>7-A.103 Work with State, County and local agencies as well as nongovernmental organizations to plan for post-fire recovery in a manner that reduces further losses or damages from future fires.</p> <p>7-A.104 Monitor the status of critical infrastructure after major fire incidents to minimize further damage to the land, community, and residents.</p> <p>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.</p>	

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	<p>7-A.106 Expand on the Department’s Community Risk Reduction measures by re-evaluating the risk analysis for the City.</p> <p><b>Seismic and Geologic Hazards Actions</b></p> <p>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.</p> <p><b>Emergency Management Actions</b></p> <p>7-A.82 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.</p>	
<b>3.8 Historical, Archaeological, and Paleontological Resources</b>		
<p>3.8-1 Implementation of the Proposed Project could cause an adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.</p>	<p><b>Distinctive City Element</b></p> <p><b>Cultural Resources Principles</b></p> <p>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.</p> <p>2-P.9 Provide incentives to protect, preserve, and maintain the City’s heritage.</p> <p>2-P.10 Foster an understanding and appreciation of history and architecture.</p>	<p>Less than significant</p>



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	<p>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.</p> <p>2-P.12 Encourage retention of historic structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive reuse where the original use is no longer feasible.</p> <p>2-P.14 Coordinate preservation of historic resources with policies designed to preserve neighborhoods and support the affordability of housing in historical structures.</p> <p>2-P.15 Balance the preservation of historic resources with the desire of property owners of historic structures to adopt energy efficient strategies.</p> <p><b>Cultural Resources Actions</b></p> <p>2-A.23 Prepare a City of Redlands Historic Context Statement as part of the Certified Local Government Program.</p> <p>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.</p> <p>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.</p> <p>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.</p>	

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	<p>2-A.27 Establish guidelines and incentives for appropriate adaptive reuse of historic structures.</p> <p>2-A.28 Develop strategies or guidelines to enhance the public realm and context-sensitive landscapes in the historic and scenic districts.</p> <p>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.</p> <p>2-A.31 Develop ordinance language and procedures to allow designation of thematic resources.</p> <p>2-A.32 Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic resources.</p> <p>2-A.33 Ensure that public funds for rehabilitation are not used to the detriment of private or public historic resources.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Brookside Avenue, from Lakeside Avenue to Eureka Street;</li> <li>• Olive Avenue, from Lakeside Avenue to Cajon Street;</li> <li>• Center Street, from Brookside Avenue to Crescent Avenue;</li> <li>• Highland Avenue, from Serpentine Drive to Cajon Street;</li> <li>• Sunset Drive, from Serpentine Drive to Edgemont Drive;</li> <li>• Cajon Street;</li> <li>• Mariposa Drive, between Halsey and Sunset Drive; and</li> <li>• Dwight Street, between Pepper Street and Mariposa Drive.</li> </ul>	

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	<p>In addition, consider designating the following roads as scenic drives within the community as neighborhood connectors and recreational routes for drivers and bike riders.</p> <ul style="list-style-type: none"> <li>• Riverview Drive along the Santa Ana River Wash;</li> <li>• Live Oak Canyon Road;</li> <li>• San Timoteo Canyon Road;</li> <li>• Sylvan Boulevard;</li> <li>• Nevada Street, from the Orange Blossom Trail to Barton Road;</li> <li>• Pioneer Avenue, from River Bend Drive to Judson Street; and</li> <li>• Rural roads in Crafton.</li> </ul> <p>2-A.36 Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.</p> <p>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.</p> <p>2-A.38 Use exemplary design quality and sensitivity to surrounding historic structures in new City construction, public works, entry ways, and City signs.</p> <p>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.</p> <p>2-A.40 Seek creative solutions to the problem of preservation and maintenance of large houses.</p> <p>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.</p>	

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	<p>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.</p> <p>2-A.43 Institute an architectural salvage program to preserve architectural artifacts from buildings that are demolished.</p> <p>2-A.44 Encourage the use of tax credits, donated easements, and other fiscal incentives for preservation.</p> <p>2-A.45 Encourage energy conservation alterations that are compatible with preservation.</p> <p>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.</p> <p>2-A.47 Encourage the highest maintenance of historic resources by pursuing funding programs to assist people in doing needed repairs by requiring code compliance, encouraging proactive code enforcement, and providing information to homeowners as to how to maintain their property and where to go for assistance and advice.</p> <p>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.</p> <p>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.</p> <p>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,</p>	

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	<p>plaques, archaeological viewing sites, exhibits, or illustrative art works, such as sculpture, mosaics, murals, tile-work, etc.</p> <p>2-A.51 Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.</p> <p>2-A.52 Encourage public participation in the process for evaluating and preserving historic and scenic resources.</p> <p>2-A.53 Encourage citizens to participate in public hearings on designation, Certificates of Appropriateness, and Certificates of Hardship.</p> <p>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.</p> <p>2-A.55 Cooperate with public and private organizations doing preservation work and serve as liaison for such groups.</p> <p>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.</p> <p>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.</p> <p>2-A.58 Encourage involvement of Redlands' schools, adult education classes, and the University of Redlands in preservation programs and activities.</p> <p>2-A.59 Continue to work with local newspapers to inform the community of the Historic and Scenic Preservation Commission and other preservation activities.</p> <p>2-A.60 Print informational brochures and develop electronic media explaining the preservation process and preservation techniques to the public.</p>	

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	<p>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.</p> <p>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.</p> <p>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.</p> <p>2-A.64 Work with civic groups who wish to hold meetings to educate their members about preservation.</p> <p>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.</p> <p>2-A.66 Promote neighborhood preservation and stabilization.</p> <p>2-A.67 Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.</p> <p>2-A.68 Discourage changes in residential areas that would disturb the character or clearly have a destabilizing effect on the neighborhood.</p> <p>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, unpaved and early paved sidewalks, etc.</p>	
3.8-2 Implementation of the Proposed Project could cause an adverse change in the significance of an archaeological resource pursuant to CEQA	<p><b>Distinctive City Element</b></p> <p><b>Cultural Resources Principles and Actions</b></p> <p>2-P.17 Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values.</p>	Less than significant

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Guidelines Section 15064.5.	<p>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.</p> <p>2-A.72 Require that applicants for projects identified by the South Central 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.</p> <p>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.</p> <p>2-A.74 Proactively coordinate with the area’s native tribes in the review and protection of tribal cultural resources at development sites.</p>	
3.8-3 Implementation of the Proposed Project could cause an adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American	Principle 2-P.17 and actions 2-A.71, 2-A.72, 2-A.73, and 2-A.74, as listed under Impact 3.8-2 above.	Less than significant

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<p>Tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>		
<p>3.8-4 Implementation of the Proposed Project could directly or indirectly destroy a unique paleontological resource or</p>	<p>Principle 2-P.17, as listed under Impact 3.8-2 above; as well as the following policies.</p> <p><b>Distinctive City Element</b></p> <p><b>Cultural Resources Principles</b></p> <p>2-P.16 Work with local paleontologists to identify significant non-renewable paleontological resources.</p>	<p>Less than significant</p>



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<p>site or unique geologic feature.</p>	<p><b>Archaeological and Paleontological Resources Actions</b></p> <p>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.</p> <p>2-A.76     Establish a procedure for the management of paleontological materials found on-site during a development, including the following provisions:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Appropriate materials shall be prepared, catalogued, and archived at the applicant’s expense and shall be retained within San Bernardino County if feasible.</li> </ul>	
<p>3.8-5     Development allowed by the Proposed Project would have the potential to disturb human remains, including those interred outside of formal cemeteries.</p>	<p>None, however impacts associated with the disturbance of human remains would be less than significant because existing laws and regulations would reduce the potential for encountering human remains and ensure the appropriate disposition of any human remains that are encountered.</p>	<p>Less than significant</p>

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<b>3.9 Hydrology and Water Quality</b>		
3.9-1 Development under the Proposed Project would not violate any federal, State, or local water quality standards or waste discharge requirements.	<p><b>Vital Environment Element</b></p> <p><b>Construction Aggregates Principles</b></p> <p>6-P.16 Ensure that future mining activity in the Santa Ana River Wash area is consistent with the proposed Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).</p> <p><b>Water Quality Principles and Actions</b></p> <p>6-P.19 Promote the protection of waterways in Redlands from pollution and degradation as a result of urban activities.</p> <p>6-P.20 Pursue creative, innovative, and environmentally sound methods to capture and use storm water and urban runoff for beneficial purposes.</p> <p>6-A.35 Promote the use of Low Impact Development strategies, BMPs, pervious paving materials, and on-site infiltration for treating and reducing storm water runoff before it reaches the municipal storm water system.</p> <p>6-A.40 Maximize the amount of pervious surfaces in public spaces to permit the percolation of urban runoff.</p> <p>6-A.41 Provide a comprehensive public outreach program to educate residents and local businesses about the importance of storm water pollution prevention.</p> <p>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 clean-ups 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.</p> <p>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.</p>	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
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	<p><b>Seismic and Geological Hazards Actions</b></p> <p>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.</p> <p><b>Sustainable Community Element</b></p> <p><b>Waste Reduction and Recycling Actions</b></p> <p>8-A.32 Mitigate impacts associated with the expansion of existing landfills or development of new landfills to include effects on streets and highways, drainage systems, groundwater, air quality, natural resources, aesthetics, and property maintenance.</p>	
<p>3.9-2 Development under the Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of local groundwater tables.</p>	<p>Principle 6-P.20 and actions 6-A.36, 6-A.41, 6-A.42, and 8-A.32, as listed under Impact 3.9-1 above, as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillside Principles</b></p> <p>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.</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Principles and Actions</b></p> <p>6-P.21 Work with regional organizations to manage groundwater resources of the Bunker Hill Basin.</p> <p>6-A.34 Update City development standards to improve the capture of runoff and storm water management through innovative green and blue infrastructure solutions</p>	<p>Less than significant</p>

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	<p>such as the use of permeable surfaces, vegetation areas, swales, BMPs, and other methods to recharge of the groundwater basin.</p> <p><b>Sustainable Community Element</b></p> <p><b>Water Conservation Principles and Actions</b></p> <p>8-P.6 Minimize dependence on imported water through efficient use of local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.</p> <p>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 groundwater 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.</p> <p>8-A.24 Encourage water conservation through the following strategies:</p> <ul style="list-style-type: none"> <li>• Establish water and wastewater rates that encourage conservation and provide for system maintenance.</li> <li>• 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.</li> <li>• Establish incentives for use of water efficient fixtures and fittings.</li> <li>• Expand the current landscaping ordinance for parking lots (Section 18.168.210 of the Municipal Code) to encourage the use of drought tolerant species.</li> <li>• Promote the use of permeable surfaces for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized</li> </ul>	

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	<p>so that land is available to absorb stormwater, reduce polluted urban runoff, recharge groundwater, and reduce flooding.</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>	
<p>3.9-3 Development under the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or by increasing the rate or amount of surface runoff, in a manner that would result in substantial erosion, siltation, or flooding on- or off-site.</p>	<p>Principles 6-P.16 and 6-P.19, and actions 6-A.35, 6-A.40, and 6-A.44, as listed under Impact 3.9-1 above, as well as the following policies.</p> <p><b>Prosperous Economy Element</b></p> <p><b>Measure U Actions</b></p> <p>1.A.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.</p> <p><b>Livable Community Element</b></p> <p><b>Southern Hills and Canyons Actions</b></p> <p>4-A.63 Design buildings to accommodate topography and minimize grading.</p> <p><b>Vital Environment Element</b></p> <p><b>Biological Resources Principles and Actions</b></p> <p>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.</p> <p>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.</p>	<p>Less than significant</p>

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	<p>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.</p> <p>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.</p> <p><b>Water Quality Actions</b></p> <p>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.</p> <p>6-A.37 Protect and, where feasible, enhance or restore the city’s waterways, including zanjias and ditches, preventing erosion along the banks, removing litter and debris, and promoting riparian vegetation and buffers.</p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b>Safety Actions</b></p> <p>7-A.77 Seek funding to implement the improvements detailed in the Drainage Master Plan.</p> <p>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 bioretention facilities in places where they may be most effective.</p> <p>7-A.80 Coordinate with the USACE and San Bernardino County throughout the construction, mitigation, and operation of the various components/projects that</p>	

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	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.	
3.9-4 Development under the Proposed Project would not create or contribute runoff that would exceed the capacity of existing or planned storm drain systems, or that would provide substantial additional sources of polluted runoff.	<p>Principle 6-P.20 and actions 6-A.35, 6-A.40, 6-A.41, 6-A.44, and 7-A.113, as listed under Impact 3.9-1 above.</p> <p>Action 6-A.34, as listed under Impact 3.9-2 above.</p> <p>Actions 7-A.77 and 7-A.78, as listed under Impact 3.9-3 above, as well as the following policies</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Actions</b></p> <p>6-A.38 Encourage development that reflects an integrated approach to building design, civil engineering, and landscape architecture that maximizes rainwater harvesting and storm water retention for landscape irrigation.</p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b>Safety Actions</b></p> <p>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.</p> <p><b>Sustainable Community Element</b></p> <p><b>Energy Efficiency and Conservation Actions</b></p> <p>8-A.10 Integrate trees and shade into the built environment, to mitigate issues such as stormwater runoff and the urban heat island effect.</p>	Less than significant

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3.9-5 Development under the Proposed Project would not otherwise substantially degrade water quality.	Principle 6-P.16 and 6-P.19; and actions 6-A.35, 6-A.40, 6-A.41, 6-A.42, 6-A.44, 7-A.113, and 8-A.23, as listed under Impact 3.9-1 above.	Less than significant
3.9-6 Development under the Proposed Project would not place housing within a 100-year flood hazard area on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	<p><b>Healthy Community Element</b></p> <p><b>Safety Principle &amp; Action</b></p> <p>7-P.26 Preserve as open space those areas that cannot be mitigated for flood hazard.</p> <p>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.</p> <p>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.</p>	Less than significant
3.9-7 Development under the Proposed Project would not place within a 100-year flood hazard area structures which would impede or redirect flood waters.	Principle 7-P.26 and Actions 7-A.74 and 7-A.81, as listed under Impact 3.9-6 above.	Less than significant
3.9-8 Development under the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	Action 7-A.113, as listed under Impact 3.9-1 above. Actions 7-A.77, 7-A.78, and 7-A.80, as listed under Impact 3.9-3 above. Action 7-A.76, as listed under Impact 3.9-4 above. Principle 7-P.26, and actions 7-A.74 and 7-A.81, as listed under Impact 3.9.6 above, as well as the following policies.	Less than significant



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	<p><b>Distinctive City Element</b></p> <p><b>Vibrant Downtown Actions</b></p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b>Safety Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Emergency Management Actions</b></p> <p>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.</p>	
3.9-9 Development under the Proposed Project would not expose people or	Action 7-A.113, as listed under Impact 3.9-1 above. Actions 4-A.63, 7-A.77 and 7-A.78, as listed under Impact 3.9-3 above.	Less than significant

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structures to inundation by seiche, tsunami, or mudflow.	Action 7-A.76, as listed under Impact 3.9-4 above. Principle 7-P.26, and actions 7-A.74 and 7-A.81, as listed under Impact 3.9-6 above. Actions 2.A-92 and 7-A.132, as listed under Impact 3.9-8 above.	
<b>3.10 Land Use and Housing</b>		
3.10-1 The Proposed Project would not physically divide an established community.	<p><b>Distinctive City Element</b></p> <p><b><i>Small Town Feeling &amp; Community Cohesion Principles &amp; Actions</i></b></p> <p>2-P.3 Promote planning practices that mitigate the presence of physical barriers between communities (i.e. freeways) and foster greater connections between neighborhoods and uses.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>2-A.14 Maintain continuity in land uses across barriers such as I-10.</p> <p>2-A.15 Through development standards, ensure smooth transitions for neighborhoods that border one another so that neighborhoods maintain their unique qualities while being compatible with one another.</p>	No impact

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	<p>2-A.18 Use transit stations as focal points for interconnectivity, plan to equally serve travelers from north and south.</p> <p>2-A.19 Establish meeting areas in new neighborhoods, and ensure a safe and secure environment.</p> <p><b>Vibrant Downtown Actions</b></p> <p>2-A.101 Improve connections from Downtown to adjacent neighborhoods, including areas north of I-10, through streetscape enhancement and multi-modal improvements.</p> <p><b>Livable Community Element</b></p> <p><b>Transit Villages Principles</b></p> <p>4-P.42 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.</p> <p>4-P.47 Improve connectivity between Transit Villages and existing neighborhoods.</p> <p><b>Healthy Community Element</b></p> <p><b>Parks and Recreational Open Space Actions</b></p> <p>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.</p> <p>7-A.14 Seek any available State and federal grant assistance in implementing the parks and open space proposals of the General Plan.</p> <p>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.</p> <p>7-A.27 Seek grants and alternative funding mechanisms for trail development and maintenance.</p>	

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	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.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.	
3.10-2 The Proposed Project would be consistent with applicable land use plans, policies, or regulations of an agency with jurisdiction over projects in the Planning Area adopted for the purpose of avoiding or mitigating an environmental effect.	<p><b>Livable Community Element</b></p> <p><b>Growth Management Principles and Actions</b></p> 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-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.	No impact
	<p><b>Redlands Airport Actions</b></p> 4-A.137 Utilize the Redlands Municipal Airport Master Plan in planning for the growth and expansion of the airport and facilities.  4-A.139 Regulate land uses within safety and noise compatibility zones in accordance with the Airport Land Use Compatibility Plan.  4-A.140 Review the Comprehensive Airport Land Use Plan (CALUP) prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.	
	<p><b>Vital Environment Element</b></p> <p><b>Agriculture and Open Space for Resource Production Principles and Actions</b></p> 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).	

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	<p>6-P.17    Ensure that adequate aggregate reserves for local and regional needs are available in accordance with the Wash Plan.</p> <p>6-A.30    Designate mineral resources (mining) area as identified in the Wash Plan.</p> <p><b>Healthy Community Element</b> <b>Safety Principles and Actions</b></p> <p>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.</p> <p>7-P.35    Implement the policies and standards of the Redlands Municipal Airport Land Use Compatibility Plan (ALUCP).</p> <p>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.</p> <p>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.</p>	
<p>3.10-3 The Proposed Project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.</p>	<p><b>Livable Community Element</b> <b>Growth Management Principles</b></p> <p>4-P.2    Provide for the expansion of housing and employment opportunities while ensuring that a high quality of life is maintained in Redlands.</p> <p><b>Land Use Principles</b></p> <p>4-P.16    Promote a variety of housing types to serve the diverse needs of the community.</p>	<p>Less than significant</p>

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<b>3.11 Mineral Resources</b>		
3.11-1 The Proposed Project would allow the availability of a known mineral resource that would be of value to the region and the residents of the state.	<p><b>Livable Community Element</b></p> <p><b>Land Use Principles</b></p> <p>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.</p> <p><b>Vital Environment Element</b></p> <p><b>Agriculture and Open Space for Resource Production Principles and Actions</b></p> <p>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).</p> <p>6-P.17 Ensure that adequate aggregate reserves for local and regional needs are available in accordance with the Wash Plan.</p> <p>6-P.18 Reserve designated Mineral Resource Zone (MRZ) areas outside the Santa Ana River Wash for agricultural or open space uses.</p> <p>6-A.30 Designate mineral resource (mining) areas as identified in the Wash Plan.</p> <p>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.</p>	Less than significant
3.11-2 The Proposed Project would allow the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	The proposed General Plan goals and policies listed under Impact 3.11-1 above.	No impact

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<b>3.12 Noise</b>		
<p>3.12-1 Implementation of the Proposed Project would not expose persons to or generate noise levels in excess of the noise standards established in the proposed General Plan Noise Element or applicable standards of other agencies</p>	<p><b>Healthy Community Element</b></p> <p><b>Noise Principles</b></p> <p>7-P.39 Support measures to reduce noise emissions by motor vehicles, aircraft, and trains.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Land Use and Noise Compatibility Actions</b></p> <p>7-A.135 Use the noise and land use compatibility matrix (Table 7-10) and Future Noise Contours map (Figures 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.</p> <p>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.</p> <p>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</p>	<p>Less than significant</p>

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	<p>the exterior are required to be closed to meet the interior noise standard, mechanical ventilation shall be provided.</p> <p>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.</p> <p><b>Railroad Noise Actions</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Measure U Policies</b></p> <p>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 Table 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].</p> <p>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 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</p>	



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	<p>engineer (i.e., a Registered Professional Engineer in the State of California with a minimum of three years of experience in acoustics).</p> <p>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.</p> <p>9.0h Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.</p> <p>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.</p> <p>9.0j Require the inclusion of noise mitigation measures in the design of new roadway projects.</p> <p>9.0k Ensure the effective enforcement of City, State and federal noise levels by all appropriate City departments.</p> <p>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.</p> <p>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.</p> <p>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.</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>9.0o Establish noise guidelines for City purchasing policy to take advantage of federal regulations and labeling requirements.</p> <p>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.</p> <p>9.0q Provide for continued evaluation of truck movements in the City to provide effective separation from residential or other noise sensitive land uses.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>9.0w Limit hours for all construction or demolition work where site-related noise is audible beyond the site boundary.</p> <p>9.0x Work with Caltrans to establish sound walls along freeways where appropriate.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	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.	
3.12-2 Implementation of the Proposed Project would not expose people to or generate excessive groundborne vibration or groundborne noise levels.	None	Less than significant
3.12-3 The development of the Proposed Project would result in a permanent, temporary, or periodic increase in ambient noise levels above levels existing without the Proposed Project.	Principles and actions under Impact 3.12-1, as well as the following policy: <b>Healthy Community Element</b> <b>Measure U Policies</b> 9.0v Consider the following impacts as possibly “significant”: <ul style="list-style-type: none"> <li>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 GP Table 9.1 [Table 7-10] and GP Table 9.2 [Table 7-11];</li> <li>Any increase of six dB or more, due to the potential for adverse community response.</li> </ul>	Less than significant
3.12-4 The Proposed Project would not result in a project that exposes people residing or working in the project area to excessive noise levels due to the project’s location within an airport land use plan noise impact area.	<b>Healthy Community Element</b> <b>Noise Principles</b> 7-P.43 Ensure long-term compatibility between the Redlands Municipal Airport and surrounding land uses. <b>Airport Noise Actions</b> 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.	Less than significant

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	7-A.143 Periodically update the noise contours at the airport or upon a major change in airport flight patterns.  <b>Measure U Policies</b> 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.	
<b>3.13 Public Facilities and Services</b>		
3.13-1 Implementation of the Proposed Project would have the potential to cause adverse environmental effects or the physical deterioration of existing neighborhood, community, or regional parks, or other recreational facility as a result of increased use of or construction/expansion of such facilities.	<b>Livable Community Element</b> <b>Public Facilities Principles and Actions</b> 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-A.145 Coordinate future development with the City's Capital Improvement Program to ensure adequate funding and planning for needed public services and facilities.  4-A.146 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.148 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.  <b>Vital Environment Element</b> <b>Water Quality Actions</b> 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	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>vegetation and other physical biological features important to preventing erosion or sedimentation.</p> <p>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.</p> <p><b>Healthy Community Element</b></p> <p><b><i>Parks and Recreational Open Space Principles and Actions</i></b></p> <p>7-P.4 Create and maintain a high quality, diversified park system that enhances Redlands' unique attributes.</p> <p>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.</p> <p>7-P.6 Enhance the presence of recreational opportunities in the city and increase park use by selecting new, highly accessible locations for parks.</p> <p>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.</p> <p>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.</p> <p>7-P.9 Review park standards periodically to determine whether needs are being satisfied and how long-term costs will be met.</p> <p>7-P.10 Equitably share the cost of parkland creation and maintenance between existing and new residents, businesses, and property owners.</p> <p>7-P.11 Maximize the availability of recreational facilities and activities throughout the city.</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
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	<p>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.</p> <p>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.</p> <p>7-P.15 Work with landowners to develop, acquire, and maintain the trail system.</p> <p>7-A.1 Develop and maintain a Parks and Recreation Master Plan.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	

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	<p>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.</p> <p>7-A.9 Periodically review the parkland dedication formula to stay current with demographic information and market values.</p> <p>7-A.10 Routinely review the adequacy of available funds for park improvements, including impact fees.</p> <p>7-A.11 Continue annual review of five-year plan recommendations by the Parks and Recreation Commission for needs and available funding mechanisms.</p> <p>7-A.12 Use available techniques, such as working with non-profit land trusts, to minimize acquisition costs.</p> <p>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.</p> <p>7-A.14 Seek any available State and federal grant assistance in implementing the parks and open space proposals of the General Plan.</p> <p>7-A.15 Investigate methods for improving access to private parks.</p> <p>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.</p> <p>7-A.17 Encourage the development through acquisition and/or dedication of a linear park along the Zanja and the railroad right-of-way.</p> <p>7-A.18 Strive to ensure that all areas of the community have an equal distribution of recreational facilities to maximize access and activities.</p> <p>7-A.19 Seek partnerships with schools and private entities to provide more recreational opportunities for citizens.</p> <p>7-A.20 Evaluate and consider expanding after-school recreation programs.</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
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	<p>7-A.21 Require that the recreational needs of children and adults, including seniors and dependent adults, be addressed in development plans.</p> <p>7-A.22 Consider retrofitting older parks with opportunities for additional parking and access.</p> <p>7-A.23 Use the Multi-Use Trails Map ([proposed General Plan] Figure 7-2) for designation and general location of local and regional trails within the Planning Area.</p> <p>7-A.24 Coordinate trail planning with bike route planning in preparation for updates to the Redlands Bicycle Master Plan.</p> <p>7-A.25 Establish agreement with public agencies and private entities for development and maintenance of trails in rights-of-way and utility corridors.</p> <p>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.</p> <p>7-A.27 Seek grants and alternative funding mechanisms for trail development and maintenance.</p> <p>7-A.28 Refer park projects to the Parks and Recreation Commission for review and recommendations of trails.</p> <p>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.</p> <p>7-A.30 Install recreational amenities such as rest areas, benches, water facilities, and hitching posts to be incorporated into trails.</p> <p>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.</p>	



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	<p>7-A.32 Expand street landscape standards to include trail landscape standards.</p> <p>7-A.33 Design and install wayfinding signs for trails and scenic routes.</p> <p>7-A.34 Coordinate trail planning with other regional plans to ensure connectivity and access to the regional trail system.</p> <p><b>Air Quality Principles</b></p> <p>7-A.149 Ensure that construction and grading projects minimize short-term impacts to air quality.</p> <ul style="list-style-type: none"> <li>• Require grading projects to provide a storm water 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;</li> <li>• Require grading projects to undertake measures to minimize mono-nitrogen oxides (NOx) emissions from vehicle and equipment operations; and</li> <li>• Monitor all construction to ensure that proper steps are implemented.</li> </ul> <p><b>Sustainable Community Element</b></p> <p><b>Energy Efficiency and Conservation Actions</b></p> <p>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.</p> <p>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.</p> <ul style="list-style-type: none"> <li>• All new residential construction in California will be zero net energy by 2020.</li> </ul>	

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	<ul style="list-style-type: none"> <li>• All new commercial construction in California will be zero net energy by 2030.</li> <li>• 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.</li> </ul> <p><b>Green Building and Landscape Actions</b></p> <p>8-A.39 Continue implementation and enforcement of the California Building and Energy codes to promote energy efficient building design and construction.</p> <p>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.</p>	
3.13-2 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered school facilities in order to maintain acceptable service standards.	<p>Principle 4-P.56 and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above; as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Education Principles and Actions</b></p> <p>4-P.62 Locate and design schools as contributors to neighborhood identity and pride.</p> <p>4-A.156 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.</p> <p>4-A.157 Continue to assist Redlands Unified School District on enrollment projections.</p> <p>4-A.158 Encourage joint use of school facilities for neighborhood recreation.</p> <p>4-A.159 Plan for adjoining school/park sites where both facilities are needed to serve the same area and space is available.</p>	Less than significant
3.13-3 Implementation of the Proposed Project would	Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above.	Less than significant

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<p>have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered library facilities in order to maintain acceptable service standards.</p>		
<p>3.13-4 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered police and fire facilities in order to maintain acceptable service standards.</p>	<p>Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above; as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Public Safety Principles and Actions</b></p> <p>4-P.59    Ensure a safe community.</p> <p>4-P.60    Locate police and fire resources where they can best serve the community.</p> <p>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.</p> <p>4-A.150    Ensure that the Police and Fire departments have modern facilities and equipment needed to perform their duties.</p> <p>4-A.151    Support and expand neighborhood watch organizations to assist the police in deterring crime.</p> <p>4-A.152    Continue to enact mutual aid agreements with neighboring police and fire jurisdictions as well as State agencies.</p>	<p>Less than significant</p>

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	<p>4-A.153 Encourage the use of police substations throughout the city to increase the police presence in the neighborhoods.</p> <p>4-A.154 Include the Police and Fire Departments in the review of new developments to provide feedback on building and site design safety.</p> <p><b>Healthy Community Element</b>  <b>Public Health Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> </ul>	

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	<ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <p>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.</p> <p>7-A.70 Continue community policing and relationship-building programs, including educational and mentoring initiatives with schools and the community center.</p> <p>7-A.71 Continue to involve residents in neighborhood improvement efforts, including those concerning safety, neighborhood character, planning, and revitalization.</p> <p>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.</p> <p>7-A.73 Improve the sense of safety within Downtown, including the Redlands Mall area.</p> <p><b>Safety Principles and Actions</b></p> <p>7-P.28 Work to prevent wildland and urban fire, and protect lives, property, and watersheds from fire dangers.</p> <p>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</p>	

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	<p>the document on file at the Redlands Fire Department describing High Fire Hazard Area Fire Safety Modification Zones.</p> <p>7-A.84 Maintain and update the high fire hazard areas map consistent with changes in designation by CAL FIRE.</p> <p>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.</p> <p>7-A.86 Continue to provide weed abatement services in High Fire Severity Areas in order to curb potential fire hazards.</p> <p>7-A.87 Provide appropriate staffing, equipment, and facilities to maintain an Insurance Service Office (ISO) Rating of 3 or better.</p> <p>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.</p> <p>7-A.89 Require adherence to applicable buildings codes and standards in accordance with Fire Hazard Overlay Districts, California Fire Code, and the California Building Code.</p> <p>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.</p> <p>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, emergency command centers, and emergency communications facilities. If locating such facilities outside of high fire risk areas</p>	

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	<p>is not feasible, identify construction methods and other mitigation measures to minimize risks.</p> <p>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. <i>The Fire Department can provide examples of appropriate vegetation management through activities such as updating and maintaining the City's fire safe landscape garden.</i></p> <p>7-A.93 Require that new development minimizes risks to life and property from fire hazard through:</p> <ul style="list-style-type: none"> <li>• Assessing site-specific characteristics such as topography, slope, vegetation type, wind patterns etc.;</li> <li>• Siting and designing development to avoid hazardous locations;</li> <li>• 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;</li> <li>• Using appropriate building materials and design features to ensure the minimum amount of required fuel modification; and</li> <li>• Using fire-retardant, native plant species in landscaping.</li> </ul> <p>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.</p> <p>7-A.95 Coordinate with the Redlands Fire Department and other fire prevention agencies to review all applications for new development. The Fire Department's review should ensure compliance with fire safety regulations and assess potential impacts to existing fire protection services and the need for additional and expanded services.</p>	

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	<p>7-A.96 Ensure that all-weather access is provided 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.</p> <p>7-A.97 Monitor methane gas production at active and inactive landfills and take preventive action if gas production creates a significant fire hazard.</p> <p>7-A.98 Devise alternative fire protection standards suitable for Rural Living areas not exposed to high wildland fire hazards.</p> <p>7-A.99 Consult the San Bernardino County Fire Safety Overlay Ordinance for possible appropriate implementation measures for development in the foothills area.</p> <p>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.”</p> <p>7-A.101 Work cooperatively with the San Bernardino 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.</p> <p>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.</p> <p>7-A.103 Work with State, County and local agencies as well as nongovernmental organizations to plan for post-fire recovery in a manner that reduces further losses or damages from future fires.</p> <p>7-A.104 Monitor the status of critical infrastructure after major fire incidents to minimize further damage to the land, community, and residents.</p>	



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	<p>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.</p> <p>7-A.106 Expand on the Department’s Community Risk Reduction measures by re-evaluating the risk analysis for the City.</p>	
3.13-5 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered city administrative facilities in order to maintain acceptable service standards.	Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above.	Less than significant
<b>3.14 Public Utilities and Infrastructure</b>		
3.14-1 Development under the Proposed Project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	<p><b>Livable Community Element</b></p> <p><b>Public Facilities Principles and Actions</b></p> <p>4-P.56 Ensure that public facilities and services are provided in a timely manner to adequately serve new and existing development.</p> <p>4-A.145 Coordinate future development with the City’s Capital Improvement Program to ensure adequate funding and planning for needed public services and facilities.</p> <p>4-A.146 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.</p>	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	4-A.148 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.	
3.14-2 Development under the Proposed Project would not require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.	<p>Policy 4-P.56 and Actions 4-A.145, 4-A.146, and 4-A.148, listed above under Impact 3.14-1 above, as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillsides Actions</b></p> <p>4-A.39 Encourage the use of soil and water conservation techniques in agricultural operations.</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Actions</b></p> <p>6-A.39 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.</p> <p><b>Healthy Community Element</b></p> <p><b>Air Quality Principles</b></p> <p>7-A.149 Ensure that construction and grading projects minimize short-term impacts to air quality.</p> <ul style="list-style-type: none"> <li>a. Require grading projects to provide a storm water 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;</li> <li>b. Require grading projects to undertake measures to minimize mono-nitrogen oxides (NOx) emissions from vehicle and equipment operations; and</li> </ul>	Less than significant

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p style="text-align: center;">c. Monitor all construction to ensure that proper steps are implemented.</p> <p><b>Sustainable Community Element</b></p> <p><b>Water Conservation Principles and Actions</b></p> <p>8-P.4 Promote residential and commercial water conservation using multiple strategies.</p> <p>8-P.5 Conserve the highest quality of water reasonably available for domestic use.</p> <p>8-P.6 Minimize dependence on imported water through efficient use of local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.</p> <p>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 groundwater 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.</p> <p>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.</p> <p>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.</p> <p>8-A.25 Encourage water conservation through the following strategies:</p> <ul style="list-style-type: none"> <li>• Establish water and wastewater rates that encourage conservation and provide for system maintenance.</li> </ul>	

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	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Establish incentives for use of water efficient fixtures and fittings.</li> <li>• Expand the current landscaping ordinance for parking lots (Section 18.168.210 of the Municipal Code) to encourage the use of drought tolerant species.</li> <li>• 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.</li> <li>• 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.</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• Conduct rainfall runoff capture and other system research and pilot studies;</li> <li>• Develop guidebooks for irrigation Best Management Practices (BMPs) and other systems;</li> <li>• Update ordinances to allow for the use of reclaimed water for landscape irrigation;</li> <li>• Update ordinances to allow for use of various greywater sources for use as subsurface landscape irrigation per California Plumbing Code.</li> </ul>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<ul style="list-style-type: none"> <li>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.</li> </ul> <p>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.</p> <p>8-A.29 Reduce consumption of carbon-based fuels for conveyance and treatment of water and wastewater.</p>	
<p>3.14-3 Development under the Proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<p>Proposed General Plan principles and actions listed in Impact 3.14-1 above, as well as the following policies.</p> <p><b>Vital Environment Element</b></p> <p><b>Water Quality Principles and Actions</b></p> <p>6-P.19 Promote the protection of waterways in Redlands from pollution and degradation as a result of urban activities.</p> <p>6-P.20 Pursue creative, innovative, and environmentally sound methods to capture and use stormwater and urban runoff for beneficial purposes.</p> <p>6-P.21 Work with regional organizations to manage groundwater resources of the Bunker Hill Basin.</p> <p>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 of the groundwater basin.</p> <p>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.</p> <p>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</p>	<p>Less than significant</p>

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>slopes, unstable areas and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>6-A.40 Maximize the amount of pervious surfaces in public spaces to permit the percolation of urban runoff.</p> <p>6-A.41 Provide a comprehensive public outreach program to educate residents and local businesses about the importance of stormwater pollution prevention.</p> <p>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 clean-ups 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.</p> <p>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.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>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.</p>	
<p>3.14-4 Development under the Proposed Project would not have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.</p>	<p>Action 4-A.39; Principles 8-P.4, 8-P.5, and 8-P.6; and Actions 8-A.22 through 8-A.29 as listed under impact 3.14-2 above.</p> <p>Principles 6-P.20 and 6-P.21, and Actions 6-A.37, 6-A.38, and 6-A.39 as listed under impact 3.14-3 above, as well as the following policies.</p> <p><b>Livable Community Element</b></p> <p><b>Agriculture, Open Space, and Hillsides Principles</b></p> <p>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.</p> <p><b>Safety Element</b></p> <p><b>Hydrological Hazards</b></p> <p>7-P.27 Support a multi-use concept of flood plains, flood-related facilities, and waterways, including, where appropriate, the following uses:</p> <ul style="list-style-type: none"> <li>• Flood control;</li> <li>• Groundwater recharge;</li> <li>• Mineral extraction;</li> <li>• Open space;</li> <li>• Nature study;</li> <li>• Habitat preservation;</li> <li>• Pedestrian, equestrian, and bicycle circulation; and</li> <li>• Outdoor sports and recreation.</li> </ul>	<p>Less than significant</p>

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p><b>Sustainable Community Element</b></p> <p><b>Energy Efficiency and Conservation Actions</b></p> <p>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.</p>	
<p>3.14-5 Development under the Proposed Project would not result in a determination by the wastewater treatment provider which serves or may serve Redlands that it has inadequate capacity to serve the proposed General Plan’s projected demand in addition to the provider’s existing commitments.</p>	<p>Principle 4-P.56; Actions 4-A.145, 4-A.146, and 4-A.148, as listed under impact 3.14-1 above.</p> <p>Action 4-A.39; Principles 8-P.4, 8-P.5, and 8-P.6; and Actions 8-A.22 through 8-A.29, as listed under impact 3.14-2 above.</p>	<p>Less than significant</p>
<p>3.14-6 Development under the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs.</p>	<p><b>Sustainable Community Element</b></p> <p><b>Waste Reduction and Recycling Principles and Actions</b></p> <p>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.</p> <p>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.</p> <p>8-A.31 Develop programs to divert food waste and other biodegradable waste to composting facilities rather than disposing of them in the landfill.</p>	<p>Less than significant</p>



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	<p>8-A.32 Mitigate impacts associated with the expansion of existing landfills or development of new landfills to include effects on streets and highways, drainage systems, groundwater, air quality, natural resources, aesthetics, and property maintenance.</p> <p>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.</p> <p>8-A.34 Work with private industry to encourage the reduction and reuse of construction and demolition materials through deconstruction and other methods.</p> <p>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.</p> <p>8-A.36 Work with public and private entities to generate creative new opportunities that use solid waste as a resource.</p> <p>8-A.37 Promote design in new development that incorporates space for recycling containers and other waste diversion facilities.</p> <p>8-A.38 Explore the potential to generate energy using biomethane from the City’s landfill and wastewater treatment plant.</p> <p><b>Green Building and Landscapes Policies</b></p> <p>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.</p>	

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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
3.14-7 Development under the Proposed Project would comply with federal, state, and local statues and regulations related to solid waste.	Principle 8-P.7; Actions 8-A.30 through 8-A.38; and Action 8-A.42 as listed under Impact 3.14-6 above.	Less than significant
<b>3.15 Transportation</b>		
3.15-1 Implementation of the Proposed Project could result in conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	<p><b>Livable Community Element</b></p> <p><b>Measure U Policies</b></p> <p>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.</p> <p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles</b></p> <p>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.</p> <p>5-P.3 Review the layered network with neighboring jurisdictions and seek agreement on actions needing coordination.</p> <p>5-P.5 Manage the city’s transportation system to minimize traffic congestion, improve flow, and improve air quality.</p> <p>5-P.10 Require developers to construct or pay their fair share toward improvements for all travel modes consistent with the layered network.</p>	Significant and unavoidable

	<p><b>Measure U Policies</b></p> <p>5.20a Maintain LOS C or better as the standard at all intersections presently at LOS C or better.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Vehicular Movement and Standards for Traffic Service Principles and Actions</b></p> <p>5-P.21 Reduce vehicular congestion to portions of the layered network in the city’s neighborhoods and neighborhood retail areas to the greatest extent feasible.</p> <p>5-P.23 Discourage the use of City streets as alternatives to congested regional highways.</p> <p>5-P.24 Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.</p> <p>5-A.30 Monitor traffic service levels and strive to implement roadway improvements prior to deterioration in levels of service below the stated standard.</p>	
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<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>5-A.32 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.</p> <p>5-A.34 Encourage the use of car share and car hire services within Redlands to provide vehicular transportation alternatives.</p> <p>5-A.38 Work with San Bernardino County, the City of San Bernardino, and Caltrans, where appropriate, to implement all intersection and roadway improvements as shown in Table 5-5 and Figure 5-4.</p> <p><b>Freeways Actions</b></p> <p>5-A.39 Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.</p> <p>5-A.40 Support improvements to I-10 and I-210 that improve capacity and flow.</p> <p><b>Boulevards and Arterials Actions</b></p> <p>5-A.42 Provide adequate capacity on boulevards and arterials to meet LOS standards, and to avoid traffic diversion to local streets or freeways.</p> <p>5-A.43 Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials or boulevards.</p> <p>5-A.44 Maximize the carrying capacity of arterials and boulevards by controlling the number of driveways and intersections, limiting residential access where applicable, and requiring sufficient on-site parking to meet the needs of proposed projects. <i>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.</i></p>	

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	<p><b>Collector and Local Streets Actions</b></p> <p>5-A.45 Discourage through-traffic on local streets.</p> <p>5-A.46 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.</p> <p>5-A.48 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.</p>	
3.15-2 Adoption of the Proposed Project would conflict with an applicable congestion management program (CMP) including, but not limited to level of service standards and travel demand measures, or standards established by the county congestion management agency for designated roads or highways.	The proposed General Plan principles and actions as listed in Impact 3.15-1 above.	Significant and unavoidable
3.15-3 Adoption and implementation of the Proposed Project would not modify the planning or operations of Redlands Municipal Airport, San Bernardino International Airport, or Ontario	<p><b>Livable Community Element</b></p> <p><b>Office, Commercial, and Industrial Actions</b></p> <p>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.</p>	Less than significant

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International Airport, or introduce land use patterns that may cause substantial safety risks to or from air operations.	<p><b>Redlands Airport Principles and Actions</b></p> <p>4-P.55 Maintain compatibility of development with airport operations in the area surrounding the airport.</p> <p>4-A.140 Review the Comprehensive Airport Land Use Plan (CALUP) prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.</p> <p>4-A.143 Require dedication of an aviation easement as a condition of development approval for projects within one mile of the 65 dB CNEL contour. <i>Continuation of this policy alerts buyers to the proximity of the airport and protects the City from possible attempts to limit airport use.</i></p> <p><b>Healthy Community Element</b></p> <p><b>Airport/Aviation Safety Principles and Actions</b></p> <p>7-P.35 Implement the policies and standards of the Redlands Municipal Airport Land Use Compatibility Plan (ALUCP).</p> <p>7-P.36 Limit hazards to and from flight operations of the San Bernardino International Airport.</p> <p>7-A.124 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.</p> <p>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.</p>	
3.15-4 Adoption and implementation of the Proposed Plan would not substantially increase	<p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles and Actions</b></p> <p>5-P.1 Maintain a cohesive circulation system through a “layered network” approach promoting complete streets and mobility for all modes while emphasizing specific</p>	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
hazards due to design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).	<p>transportation modes for specific corridors and geographic areas. <i>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.</i></p> <p>5-P.4 Support transportation infrastructure improvements such as safer street crossings and attractive streetscapes to encourage bicyclists, walkers, and users of mobility devices.</p> <p>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.</p> <p>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.</p> <p>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. <i>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.</i></p> <p>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.</p> <p>5-A.2 Integrate complete streets and a layered networks approach into all City streets, traffic standards, plans, and details.</p>	

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	<p>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:</p> <ul style="list-style-type: none"> <li>• Management and implementation of complete street strategies, including retrofitting existing streets to foster biking and walking as appropriate;</li> <li>• Short block lengths, reduced street widths, and/or traffic calming measures; and</li> <li>• Providing pedestrians and bicyclists with options where motorized transportation is prohibited.</li> </ul> <p>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.</p> <p>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.</p> <p>5-A.8 Manage travel speeds in Downtown, at Transit Villages, and near schools, parks, and the University to enhance safety.</p> <p>5-A.9 Adopt a “vision zero” approach to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.</p> <p>5-A.10 Ensure safe railway crossings along the passenger and freight rail corridors.</p> <p>5-A.12 Engage the community and neighborhoods in street design and re-design. Consult with the Traffic and Parking Commission on major street design projects.</p>	



	<p><b>Pedestrian Movement Principles and Actions</b></p> <p>5-P.16 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.</p> <p>5-A.17 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.</p> <p>5-A.18 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.</p> <p><b>Bicycle Movement Actions</b></p> <p>5-A.25 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.</p> <p><b>Vehicular Movement and Standards for Traffic Service Actions</b></p> <p>5-A.36 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.</p> <p><b>Collector and Local Streets Actions</b></p> <p>5-A.49 Adopt design standards for hillside and rural streets.</p> <p>5-A.50 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.</p> <p>5-A.51 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</p>	
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<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>that adjacent land uses be low intensity to ensure that this slow-speed, low-volume system is not overloaded.</p> <p>5-A.52 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.</p> <p><b>Goods Movement Principles and Actions</b></p> <p>5-P.29 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.</p> <p>5-P.30 Work to improve the efficiency and safety of rail freight through the city.</p> <p>5-A.76 Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.</p> <p>5-A.77 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.</p> <p>5-A.78 Create easily understood truck route maps, potentially through on-line applications, to be distributed by the goods movement industry.</p> <p>5-A.79 Conduct education programs for the goods movement industry on designated truck routes through the city.</p> <p>5-A.80 Discourage truck traffic from parking, idling, or traveling through local streets in residential neighborhoods.</p> <p>5-A.81 Seek to improve rail crossings in the San Timoteo Canyon area, exploring the potential for grade separation of all crossings in the canyon area.</p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
3.15-5 Adoption and implementation of policies in the Proposed Project would not result in inadequate emergency access.	<p>Action 5-A.3 as listed under Impact 3.15-4, as well as the following.</p> <p><b>Livable Community Element</b></p> <p><b><i>Southern Hills and Canyons Principles and Actions</i></b></p> <p>4-P.31 Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.</p> <p>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.</p> <p><b><i>Southeast Area Actions</i></b></p> <p>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.</p> <p><b>Connected City Element</b></p> <p><b><i>Layered, Multi-Modal Network Principles and Actions</i></b></p> <p>5-P.7 Minimize emergency vehicle response time and improve emergency access.</p> <p>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.</p> <p><b><i>Open Space for Conservation Principles</i></b></p> <p>7-P.12 Create and maintain a system of trails serving both recreational and emergency access needs.</p>	Less than significant

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p><b>Fire Hazards Actions</b></p> <p>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.</p> <p>7-A.96 Ensure that all-weather access is provided 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.</p> <p>7-A.101 Work cooperatively with the San Bernardino 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.</p>	
<p>3.15-6 Adoption and implementation of the Proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.</p>	<p>Principle 5-P.10 as listed under Impact 3.15-1.</p> <p>Principle 5-P.1, 5-P.4, 5-P.8, 5-P.11, 5-P.14, and 5-A.16, and action 5-A.2, 5-A.3, 5-A.4, 5-A.5, 5-A.9, 5-A.17, 5-A.18, 5-A.25, as listed under Impact 3.15-4 above, as well as the following.</p> <p><b>Connected City Element</b></p> <p><b>Layered, Multi-Modal Network Principles and Actions</b></p> <p>5-P.6 Support public health by promoting active living and supporting safe walking and biking throughout the city.</p> <p>5-P.12 Develop and implement a comprehensive wayfinding program serving all modes of transportation.</p> <p>5-P.13 Ensure streets are designed to accommodate bicyclists per the Bicycle Master Plan.</p>	<p>Less than significant</p>

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>5-P.15 Strengthen active transportation circulation routes within Downtown and the Transit Villages, and to/ from adjacent neighborhoods.</p> <p>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.</p> <p>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.</p> <p>5-A.14 Close the gaps in the sidewalk network where streets are built out but sidewalks are not complete.</p> <p>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.</p> <p><b><i>Pedestrian Movement Principles and Actions</i></b></p> <p>5-P.18 Enhance street lighting for pedestrians where current lighting is inadequate.</p> <p>5-A.19 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.</p> <p>5-A.20 Strengthen trail connections to Downtown (such as Orange Blossom Trail, Lugonia Trail, Citrus Avenue, and Church Street).</p> <p>5-A.21 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.</p>	

	<p><b>Bicycle Movement Principles and Actions</b></p> <p>5-P.19 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.</p> <p>5-P.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.</p> <p>5-A.22 Use the City’s Bicycle Master Plan as the primary resource for planning and implementing bikeway improvements. <i>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.</i></p> <p>5-A.23 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, and the San Timoteo Canyon Trail.</p> <p>5-A.24 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, and Wabash Avenue.</p> <p>5-A.26 Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.</p> <p>5-A.27 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.</p> <p>5-A.28 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.</p>	
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<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	<p>5-A.29 Work with neighboring jurisdictions, the University of Redlands, and major employers to implement bike sharing programs.</p> <p><b>Transit Principles and Actions</b></p> <p>5-P.25 Improve public transit as a viable form of transportation in Redlands.</p> <p>5-P.26 Support passenger rail as an alternative mode of regional transit.</p> <p>5-A.54 Work with Omnitrans to accommodate and adjust transfer centers and bus service as necessary to support future rail service.</p> <p>5-A.55 Work with Omnitrans to expand bus service to additional areas of the city and improving north-south connections.</p> <p>5-A.56 Work with Omnitrans to plan for bus shelters, boarding areas, transfer centers, bus pads in the right-of-way, and bus turnouts.</p> <p>5-A.57 Incorporate real-time information systems so that passengers will know when their bus or train is expected to arrive.</p> <p>5-A.58 Support investments in passenger rail by providing effective on-site circulation and multi-modal connections to transit stations.</p> <p>5-A.59 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.</p> <p>5-A.60 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.</p> <p>5-A.61 Continue to collaborate with regional transit partners to achieve seamless transfers between systems, including scheduling, ticketing, and shared fare systems. <i>Collaborative technologies include online applications and changeable message signs at major transit stops.</i></p>	

<b>Table ES-4: Summary of Significant Impacts and Proposed General Policies that Reduce the Impact</b>		
<i>Impact</i>	<i>Proposed General Policies that Reduce the Impact</i>	<i>Significance Level</i>
	5-A.62 Develop strategies to maximize off-peak use of transit. 5-A.63 Coordinate with other agencies and private entities to investigate methods of improving service and enhancing safety along the passenger rail corridor. 5-A.64 Encourage convenient and safe pedestrian linkages to and from transit service to provide better first-mile and last-mile connectivity. 5-A.65 Provide for direct pedestrian paths and access from new developments to the nearest public transportation stop.	



# I Introduction

This draft Environmental Impact Report (EIR) has been prepared on behalf of the City of Redlands in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 *et seq.*). The EIR analyzes potential environmental impacts of the adoption and implementation of the proposed Redlands General Plan (General Plan) and Climate Action Plan (CAP), collectively referred to as the “Proposed Project.” This chapter outlines the purpose and overall approach to the preparation of the EIR. The City of Redlands is the lead agency responsible for ensuring that the proposed General Plan and Climate Action Plan comply with CEQA. “Lead agency” is defined by Section 21067 of CEQA as “the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment.”

## I.1 Purpose of the EIR

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Pursuant to the provisions of CEQA and related case law, general plans and other programs must include analyses of the potential significant environmental impacts associated with implementation of their policies and proposals. The primary intent of CEQA is to ensure that public agency decision-makers document and consider the environmental implications of their actions in order to avoid or minimize environmental damage that could result from the implementation of a project wherever feasible and to balance environmental, economic, and social objectives. The purpose of an EIR is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided (California Public Resources Code [PRC] Section 21002.1).

### **PURPOSE**

This EIR serves the following purposes:

- To satisfy CEQA requirements for analysis of environmental impacts by including a complete and comprehensive programmatic evaluation of the physical impacts of adopting and implementing the Project;
- To recommend a set of measures to mitigate any significant adverse impacts;
- To analyze a range of reasonable alternatives to the Proposed Project;
- To inform decision-makers and the public of the potential environmental impacts of the Project prior to taking action on the Project and to assist City officials in reviewing and adopting the proposed General Plan and CAP; and

- To provide a basis for the review of subsequent development projects and public improvements proposed within the planning area. Subsequent environmental documents may be tiered from the final Program EIR.

The proposed General Plan and CAP consist of policies, diagrams, and standards to guide the future development of the City of Redlands and the Sphere of Influence (SOI) within the Planning Area, as described in Chapter 2: Project Description. This EIR contains analysis of all potential environmental impacts expected to result from implementation of the various policies and programs identified as part of the Project, including those that serve to avoid or minimize adverse environmental impacts. In accordance with CEQA requirements, this EIR also identifies and evaluates alternatives to the Project, including the No Project Alternative, which represents the continued implementation of the current General Plan. An environmentally superior alternative is identified as part of the alternatives analysis.

This EIR represents the best effort, at a programmatic level, to evaluate the potential environmental impacts of the Project given its 2035 planning horizon. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of development.

## **APPLICABILITY**

As a program EIR, the preparation of this document does not relieve the sponsors of specific projects from the responsibility of complying with the requirements of CEQA (and/or the National Environmental Policy Act (NEPA) for projects requiring federal funding or approvals). This document focuses on the overall effects associated with adoption and implementation of the Project and does not examine the effects of potential site-specific projects that may occur under the overall umbrella of the Project in the future. As noted, individual projects may be required to prepare a more precise, project-level analysis to fulfill CEQA and/or NEPA requirements. The lead agency responsible for reviewing these projects shall determine the level of review needed, and the scope of that analysis will depend on the specifics of the particular project. These projects may, however, use the discussion of impacts in this EIR as a basis of their assessment of these regional, citywide, or cumulative impacts, provided that the projects are consistent with the General Plan and the data and assumptions used in this EIR remain current and valid.

## **INTENDED USES OF THE EIR**

The CEQA Guidelines (Section 15124(d)) require EIRs to identify the agencies that are expected to use the EIR in their decision-making, and the approvals for which the EIR will be used. This EIR will inform the City of Redlands, in addition to other responsible agencies, persons, and the general public, of the potential environmental effects of the Proposed Project and the identified alternatives. The City of Redlands will use the EIR as part of its review and approval of the General Plan and CAP. Other agencies expected to use the EIR include: The County of San Bernardino, San Bernardino Council of Governments, San Bernardino County Transportation Authority, and the Southern California Association of Governments, as well as State agencies such as CalFire and Caltrans.

## **I.2 Planning Process and Public Involvement**

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The General Plan update process was initiated by the City of Redlands in June 2015. The CAP preparation began in October 2016. In order to ensure that the resulting plans accurately addressed community needs and values, the City undertook a comprehensive public process to obtain the input of residents, business, and property owners, as well as decision-makers and members of various City departments.

### **COMMUNITY INVOLVEMENT PROCESS**

#### **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 and provide comment on draft components.

#### **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.

#### **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.

#### **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 and Planning Commission Workshops**

The Planning Commission met in April 2016 to review the draft principles, actions, and themes of the proposed General Plan. Two City Council workshops were held. The first was a joint public meeting/workshop with the Planning Commission in June 2016 to review proposed land use changes. The second meeting was a public workshop to review the draft principles, actions, and themes recommended by the Steering Committee.

### **Open House**

An open house was held in September 2016 to present the draft General Plan that had been developed with input from the GPSC. Copies of the draft were made available to the public. Displays included large-format versions of the proposed General Plan land use map in order to show land uses in greater detail. Staff was available to answer any questions and to receive comments from the public.

### **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. The URL for the project website is [www.Redlands2035.org](http://www.Redlands2035.org).

## **EIR PROCESS**

### **Notice of Preparation and Public Participation**

A Notice of Preparation (NOP) for the EIR on the Project was submitted to the State Clearinghouse on August 10, 2016 and circulated among relevant State and local agencies, as well as to members of the public. The City received comments during a 30-day review period, which ended September 9, 2016. The NOP and comments on the NOP received by the City are included as Appendix A of this EIR. An EIR Scoping Meeting conducted by the Environmental Review Committee was held on August 30, 2016 in Council Chambers to receive comments and suggestions on scope and content for the EIR; solicit inputs on potential impacts, mitigation measures, and alternatives to consider; and consult with public agencies responsible for natural resources, other regulatory bodies, neighboring communities, Native American tribes, and members of the public. Comments on the NOP, along with input received during public workshops and meetings over the course of the General Plan update process, have helped to identify the major planning and environmental issues and concerns and establish the framework of this EIR.

### **Tribal Consultation (SB 18 and AB 52)**

Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places. Additionally, Assembly Bill (AB) 52

(effective in 2015) requires tribal cultural resources to be addressed under CEQA. AB 52 provides both federal and non-federally recognized tribes the right to formal consultation with project lead agencies. The City contacted the NAHC in August 2016 to request a consultation list of tribes traditionally and culturally affiliated with the Planning area. The City contacted the listed tribes and provided information about the planning process and forthcoming EIR.

### **Draft EIR Review**

The 45-day review period for the draft EIR ends on June 19, 2017. The EIR and appendices are available for review at the City of Redlands City Clerk's office (Suite 4) and the Development Services office (Suite 20) at 35 Cajon Street, Redlands CA 92373, and online at [www.redlands2035.org](http://www.redlands2035.org).

Please submit comments on this draft EIR in writing or via email to:

Troy Clark, General Plan Project Administrator  
City of Redlands Development and Services Department  
Planning Division  
35 Cajon Street, Suite 20  
Redlands, CA 92373  
[Troy.Clark@cityofredlands.org](mailto:Troy.Clark@cityofredlands.org)

After the close of the public review period, City staff and CEQA consultants will review the comments and determine whether any changes are required to the EIR. The City Council will then consider certification of the Final EIR. Subsequent to certification of the Final EIR, the City Council may approve the Proposed Project. If the City Council approves the Project, a Notice of Determination will be filed with the State Office of Planning and Research and the Clerk of San Bernardino County.

## **1.3 Approach and Scope of the EIR**

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### **TYPE OF EIR**

This EIR is a program EIR, defined in Section 15168 of the CEQA Guidelines as: “[An EIR addressing a] series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) A[s] logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways.”

Program EIRs can be used as the basic, general environmental assessment for an overall program of projects such as the Proposed Project, intended to be developed over a 20-year planning horizon. A program EIR has several advantages. First, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. Second, it allows the lead agency to look at the broad, regional impacts of a program of actions before its

adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative effects.

As a programmatic document, this EIR presents a citywide assessment of the potential impacts of the Proposed Project. It does not separately evaluate subcomponents of the Proposed Project nor does it assess project-specific impacts of potential future projects under the Proposed Project, all of which are required to comply with CEQA and/or NEPA as applicable.

As a program EIR, the preparation of this document does not relieve the sponsors of specific projects from the responsibility of complying with the requirements of CEQA (and/or the National Environmental Policy Act (NEPA) for projects requiring federal funding or approvals). As noted, individual projects are required to prepare a more precise, project-level analysis to fulfill CEQA and/or NEPA requirements. The lead agency responsible for reviewing these projects shall determine the level of review needed, and the scope of that analysis will depend on the specifics of the particular project. These projects may, however, use the discussion of impacts in this EIR as a basis of their assessment of these regional, citywide, or cumulative impacts, provided that the projects are consistent with the General Plan and the data and assumptions used in this EIR remain current and valid.

## **ENVIRONMENTAL ISSUE AREAS**

Information gathered about the environmental setting is used to define relevant planning issues, determine thresholds of significance, and evaluate potential impacts. Based on the initial analysis of environmental setting and baseline conditions, and comments on the NOP, the following issues are analyzed in this Program EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Energy, Greenhouse Gases, and Climate Change
- Geology, Soils, and Seismicity
- Hazards and Hazardous Materials
- Historic, Archeological, and Paleontological Resources
- Hydrology and Water Quality
- Land Use, Population, and Housing
- Mineral Resources
- Noise
- Public Services and Facilities
- Public Utilities
- Transportation

## **PLANNING HORIZON**

For analytic purposes in this EIR, the base year is 2015 unless otherwise noted, and the horizon year representing future conditions is 2035. In cases where current data is not available, the most recent known data is used to depict baseline conditions. The horizon year of 2035 represents the target year of the Project when projects and programs are anticipated to be fully implemented and serves as an assumed year for buildout of the proposed General Plan. In reality, full buildout of the Project may take more or less than 20 years.

## **ALTERNATIVES**

CEQA requires EIRs to evaluate a reasonable range of alternatives to the Project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts. This EIR evaluates two alternatives, including the Suburban Expansion Alternative and the No Project Alternative, which represents the continuation of the City's currently adopted General Plan without adoption of the proposed CAP.

### **1.4 Other Relevant Plans and Environmental Studies**

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An Existing Conditions Report was published in December 2015/January 2016 to explore a range of social, economic, and environmental topics as part of the planning process for the proposed General Plan. In some instances, the report may contain information at a greater level of detail than this EIR; however, information in this EIR is more current. This document can be viewed online at <http://www.redlands2035.org>. Other plans and studies relevant to the Project include the following:

- City of Redlands Bicycle Master Plan (2015)
- City of Redlands Drainage Master Plan (2014)
- City of Redlands East Valley Corridor Specific Plan (1989)
- Redlands Community Sustainability Plan (2011)
- Redlands Downtown Specific Plan (1994)
- Proposed Redlands Downtown Specific Plan Update (Draft 2011)
- Redlands General Plan Master Environmental Assessment (1991)
- Redlands Municipal Airport Land Use Compatibility Plan (Revised 2003)
- San Bernardino County General Plan (2007)
- San Bernardino County General Plan EIR (2007)

## I.5 Organization of EIR

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This draft EIR is organized into the following chapters, plus appendices:

- ES. **Executive Summary.** The executive summary summarizes the Program EIR by providing an overview of the Project, the potentially significant environmental impacts that could result from the Project, the mitigation measures identified to reduce or avoid these impacts, alternatives to the Project, and identification of the environmentally superior alternative.
1. **Introduction.** This chapter introduces the purpose for the EIR, explains the EIR process and intended uses of the EIR, and describes the overall organization of this EIR.
  2. **Project Description.** This chapter includes a detailed description of the proposed General Plan and CAP, including the Project location and planning boundaries, purpose and objectives of the Project, buildout under the Project, and implementation of the Project.
  3. **Settings, Impacts, and Mitigation Measures.** This chapter analyzes the environmental impacts of the Project. Impacts are organized by major topic. Each topic area includes a description of the environmental setting, significance criteria, methodology, and potential impacts.
  4. **Analysis of Alternatives.** This chapter presents a reasonable range of alternatives to the Project, provides discussion of environmental impacts associated with each alternative, compares the relative impacts of each alternative to those of the Project and other alternatives, discusses the relationship of each alternative to the Project's objectives, and identifies the environmentally superior alternative.
  5. **CEQA Required Conclusions.** This chapter provides a summary of significant environmental impacts, including growth-inducing, cumulative, and significant and unavoidable impacts; significant irreversible environmental change; and impacts found not to be significant.
  6. **Bibliography.** A list of documents used in the preparation of the EIR.
  7. **Report Authors.** Identifies the persons and organizations that contributed to the preparation of the EIR.
  8. **Appendices.** Technical appendices include the NOP and compilation of agency and public comments received on the NOP, as well as other technical appendices related to traffic and cultural resources.
    - Appendix A includes the NOP and responses.
    - Appendix B includes supporting documents for Section 3.3: Air Quality, including SCAQMD permitted facilities in the Planning Area and the Teledyne Proposition 65 warning.
    - Appendix C includes supporting documents for Section 3.3: Air Quality, including air quality monitoring results.
    - Appendix D includes the cultural resources records search results referenced in Section 3.8: Historic, Archaeological, and Paleontological Resources.



- Appendix E includes letters pertaining to tribal consultation as referenced in Section 3.8: Historic, Archaeological, and Paleontological Resources.
- Appendix F includes documentation of analysis conducted for Section 3.12: Noise.
- Appendix G includes existing traffic counts referenced in Section 3.15: Transportation.
- Appendix H includes existing intersection level of service calculations referenced in Section 3.15: Transportation.
- Appendix I includes future year intersection level of service calculations for the Proposed Project as referenced in Section 3.15: Transportation.

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## 2 Project Description

This EIR analyzes the proposed Redlands General Plan (General Plan) and proposed Climate Action Plan (CAP), collectively referred to as the “Proposed Project.” Under California Government Code §65300 et seq., cities are required to prepare a general plan that establishes policies and standards for future development, housing affordability, and resource protection for the entire planning area. By law, a general plan must be an integrated, internally consistent statement of city policies. California Government Code Section 65302 requires that the general plan include the following seven elements: land use, circulation, housing, conservation, open space, noise, and safety. State law allows cities to include additional (or optional) elements in general plans as well. Optional elements included in the proposed General Plan address the community values related to local economy and sustainability. All elements of the proposed General Plan have equal weight, and no one element supersedes another. As noted in Chapter 1, the proposed plan includes six of the seven elements. The Housing Element, last updated in 2014, is not being updated at this time and is not part of the Proposed Project.

This chapter introduces the purpose and objectives of the Proposed Project and summarizes specific information to describe the Proposed Project and complete the EIR analysis. This includes a description of the existing regional and local project setting, an outline of the projected population and employment growth rates and development patterns through the planning horizon year, the proposed General Plan land use diagram, key data tables, and key policy direction for both the proposed General Plan and the proposed CAP. This project description provides the basis for the environmental analysis in Chapter 3.

### 2.1 Regional Location and Project Boundaries

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#### 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. Figure 2.1-1 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. State Route 210 (SR 210) or the Foothill Freeway originates in Redlands, traverses the northwest part of the city, and heads west towards Pasadena.

## **PROJECT BOUNDARIES**

### **Proposed General Plan**

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 and the area within the City's Sphere of Influence (SOI). An unincorporated island known as the "Donut Hole" that is located in the northwestern portion of the city is not included in the Planning Area.<sup>1</sup> 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 occurs.

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 2.1-2. The Planning Area is further subdivided into subareas based on qualities such as topography, historic neighborhoods, and development characteristics. The subareas are shown in Figure 2.1-3.

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<sup>1</sup> The NOP for the Proposed Project incorrectly stated that the Donut Hole was part of the Planning Area. This has been corrected in this project description.

Figure 2.1-1: Regional Setting

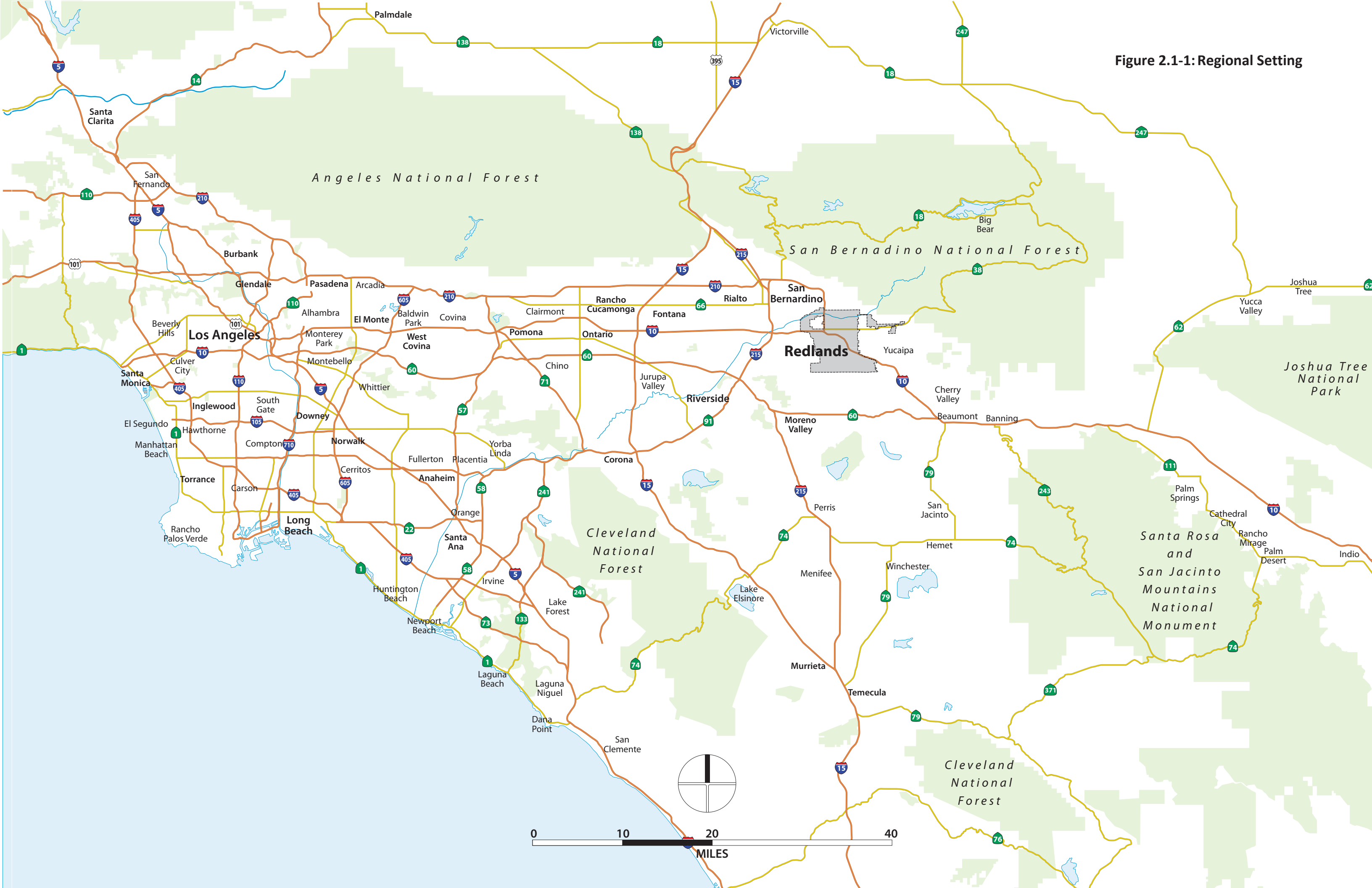
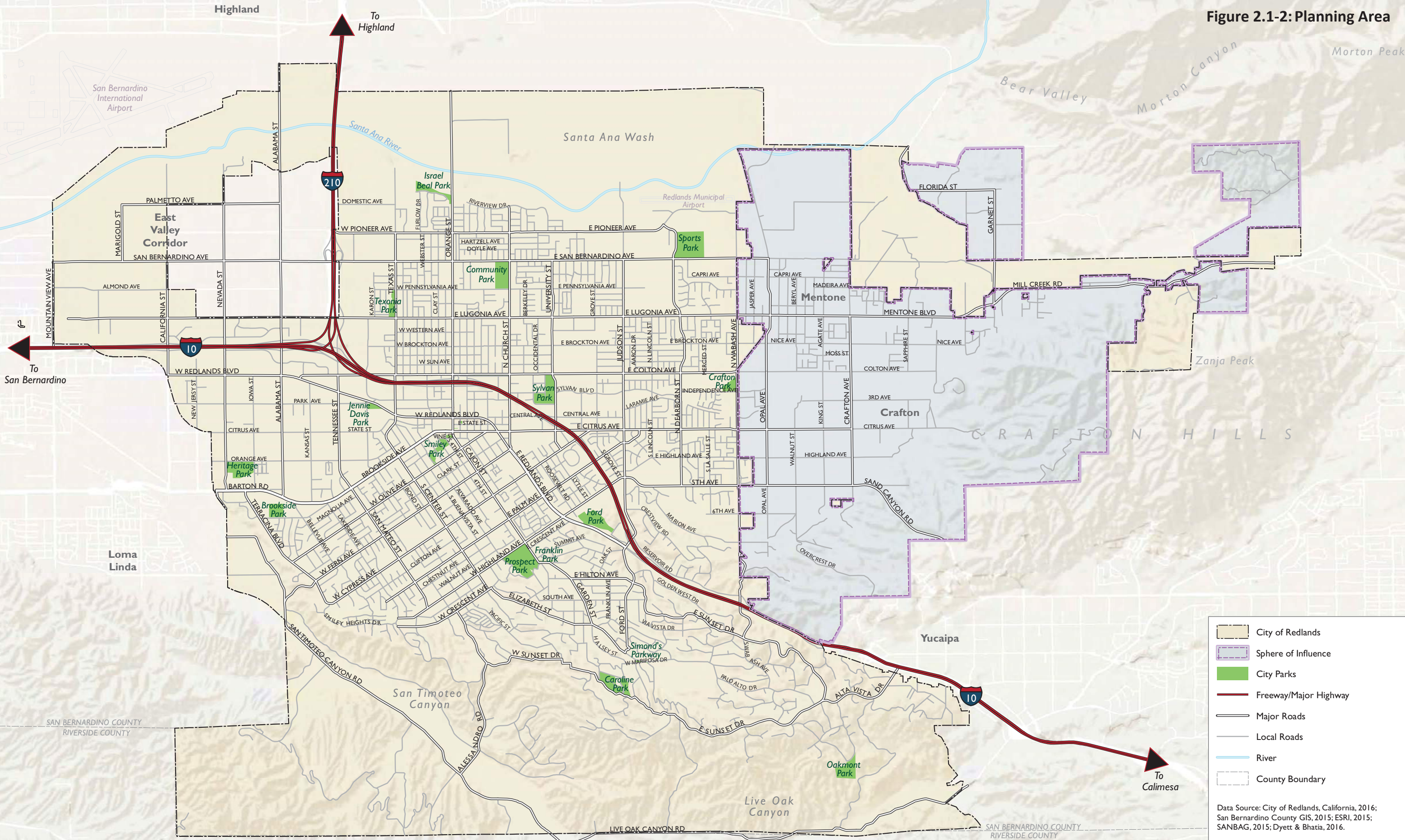


Figure 2.1-2: Planning Area

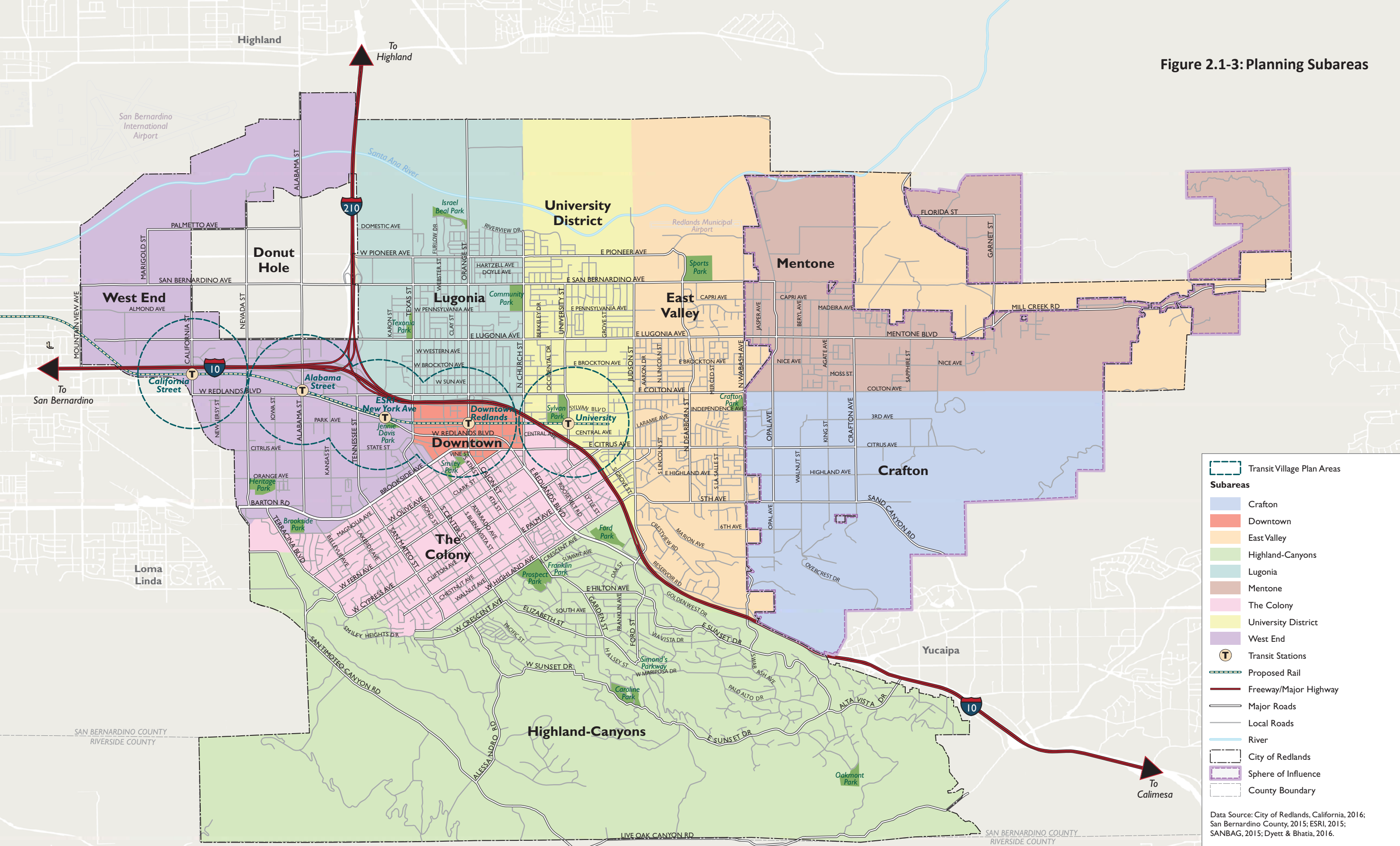


	City of Redlands
	Sphere of Influence
	City Parks
	Freeway/Major Highway
	Major Roads
	Local Roads
	River
	County Boundary

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



Figure 2.1-3: Planning Subareas



**Transit Village Plan Areas**

**Subareas**

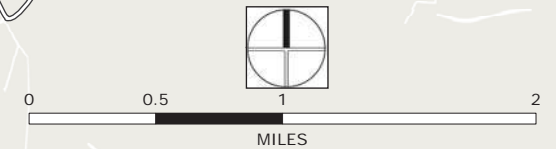
- Craffton
- Downtown
- East Valley
- Highland-Canyons
- Lugonia
- Mentone
- The Colony
- University District
- West End

**Other Symbols:**

- 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.

RIVERSIDE COUNTY



SAN BERNARDINO COUNTY  
RIVERSIDE COUNTY

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### **Proposed Climate Action Plan**

As a document adopted by the City of Redlands City Council, the CAP applies to the municipal limits of the City of Redlands. All information and data presented in the CAP, unless otherwise noted, is for the area within the City's municipal limits.

## **2.2 Purpose and Objectives of the Proposed Project**

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CEQA Guidelines (§1512[b]) require a description of the Proposed Project purpose and objectives.

### **PROPOSED GENERAL PLAN**

#### **Purpose**

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 proposed General Plan contains policies to guide decision-making related to development, housing, transportation, environmental quality, public services, parks, and open spaces. The proposed General Plan is a document to be 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 proposed General Plan, there will be instances where more detailed studies will be necessary in order to implement the plan's policies.

## Objectives

The objective of the proposed General Plan is to implement the Redlands community's vision for its city by promoting seven main values of cultural richness, strength, unity, sustainability, health, prosperity, excellence, and safety identified by the community during the planning process as essential to the city's future development. The following statement is an expression of the community's collective vision, and serves as the foundation for the principles and actions set forth in the proposed General Plan:

*“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.”*

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 proposed General Plan, and serve as the document's organizing themes. These values are described as follows:

- **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, art, 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.

## **CLIMATE ACTION PLAN**

### **Purpose**

A CAP is a comprehensive plan for addressing a community's greenhouse gas (GHG) emissions. A CAP, or similar strategy, can serve as a mitigation strategy under CEQA for GHG/climate change impacts associated with a proposed project. The proposed CAP was developed concurrently with the proposed General Plan, reflecting the City's proposed land use and transportation strategy, and GHG implications of various proposed General Plan's goals and policies

The proposed CAP is intended to reinforce the City's commitment to reducing GHG emissions, and demonstrate how the City will comply with State of California's GHG emission reduction standards. As a Qualified GHG Reduction Strategy, the CAP will also enable streamlined environmental review of future development projects, in accordance with CEQA. Specifically, the proposed CAP quantifies existing and projected GHG emissions in the Planning Area through horizon year 2035 resulting from activities within the Planning Area and the region, and it includes GHG emissions reduction targets for the year 2035. The proposed CAP also contains actions that demonstrate the City's commitment to achieve State GHG reduction targets through monitoring and reporting processes to ensure that targets are met, and options for reducing GHG emissions beyond State requirements. If the proposed CAP is adopted, projects that demonstrate consistency with the updated Redlands General Plan and CAP are allowed a streamlined CEQA review process for mitigation of GHG emissions, pursuant to CEQA Guidelines §15183.5.

California has taken an aggressive stance to reduce GHG emissions in order to combat the impacts of climate change. Executive Order S-3-05 (EO S-3-05) recognizes California's vulnerability to increased temperatures causing human health impacts, rising sea levels, and reduced Sierra snowpack due to a changing climate. The Executive Order established targets to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The Global Warming Solutions Act of 2006 (Assembly Bill 32, or AB 32) codified the target set in EO S-3-05 of statewide reductions to 1990 emissions levels by 2020.

Executive Order S-3-15 (EO S-3-15), issued in 2015, established an interim target to reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2016, the California Legislature passed Senate Bill (SB) 32, which codified the 2030 GHG emissions reduction target. To reflect this target, CARB's 2017 Climate Change Scoping Plan Update recommends that local governments target 6 metric tons carbon dioxide equivalent (MTCO<sub>2e</sub>) per capita for 2030 emissions and 2 MTCO<sub>2e</sub> per capita for 2050 emissions.

The CAP's GHG emission targets are based on meeting the goals set in EO S-3-15 and SB 32, following the CAP guidelines established in the 2017 Scoping Plan.

### **Objectives**

Section 15183.5 of the CEQA Guidelines permits lead agencies to analyze and mitigate the significant effects of GHG emissions at a programmatic level through a plan to reduce GHG gas emissions. In doing so, the lead agency allows later project-specific environmental documents to tier from and/or incorporate by reference that existing programmatic review. The proposed CAP's objectives are to meet CEQA requirements (Section 15183.5) to allow for future tiering and streamlining of the analysis of GHG emissions, which state that a plan for the reduction of GHG emissions should:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
- Be adopted in a public process following environmental review.

## 2.3 Proposed General Plan

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### 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 and the drafting of the proposed General Plan. Community input activities are described below and were instrumental in the establishment of the community vision that underpins the policies of the proposed General Plan.

- **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 proposed 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.

- **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.
- **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.
- **Open House.** An Open House was held in September 2016 to gather input into a preliminary draft General Plan. Approximately 50 people visited to review the draft General Plan and informative maps, ask questions of City staff, and provide comments.
- **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.

## ORGANIZATION

The proposed General Plan is organized around seven themes derived from the community vision and values. Each theme serves as a chapter of the proposed General Plan that collects a series of related topics. Goals, which are aspirational statements for each of the Plan's themes, are presented on the introductory page for each theme.

Each chapter of the proposed General Plan is divided into topics that provide background information and establish context for the policies that follow. For each topic under a theme, the proposed 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.

Table 2.3-1 outlines the seven themes along with their relevant topic areas, with topics corresponding to State-required elements noted with an asterisk (\*). 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.** 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 2.3-1: 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 Strength Unity Sustainability Health Prosperity Excellence Safety</b>						
<b>Themes</b>	<b>2. Distinct 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 2.2 Cultural Resources 2.3 Street Trees and Streetscapes 2.4 Citrus Groves/Farms 2.5 Vibrant Downtown 2.6 Arts and Culture	3.1 Diverse and Resilient Economy (Economic Development) 3.2 Land Use Balance 3.3 Innovation, Knowledge Infrastructure, and Workforce Preparedness 3.4 Tourism 3.5 Downtown	4.1 Growth Management 4.2 Principles of Managed Development 4.3 Land Use* 4.4 Focus Areas 4.5 Transit Villages 4.6 Redlands Airport 4.7 Public Facilities 4.8 Public Safety 4.9 Education	5.1 Layered, Multi-modal Network (Circulation)* 5.2 Pedestrian, Bicycle, and Vehicular Movement 5.3 Transit 5.4 Transportation Demand Management (TDM) and Parking 5.5 Goods Movement	6.1 Open Space* 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 7.4 Safety - (Emergency management and preparedness for floods, fire, seismic, wind, and man-made disasters)* 7.5 Noise* 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

Notes:  
\*State Required Elements

## **PROPOSED LAND USE FRAMEWORK**

The proposed General Plan emphasizes infill in the city's core area while preserving agriculture and open space around the periphery. Proposed changes in land use designations and policies seek to promote thoughtful development within the city's existing footprint in line with the community's vision. The proposed General Plan establishes Transit Villages at each of the five proposed Metrolink rail stations in Redlands, where more density and mixed uses can allow for walkable neighborhoods with distinctive characters, while also focusing on the protection of existing single-family neighborhoods nearby. It focuses on Downtown development and vitality by changing land use designations in and around Downtown from industrial categories to commercial ones that can accommodate shops, restaurants, housing, and mixed uses. New focus areas identified by the community are also added, including Redlands Boulevard and the Colton Avenue and Orange Street commercial corridors.

To preserve the open space character on the Planning Area's borders, a new Open Space land use category is proposed to designate areas suitable for open space uses. These include certain publicly-owned lands and areas previously designated for recreation, flood control, and construction aggregate mining and conservation. Meanwhile, proposed policies aim to preserve agricultural areas in the canyons and Crafton.

The proposed General Plan also brings the land use map up to date with the existing community. It provides for land use changes to reflect areas in transition and where major land use changes since 1995, such as the development of new reservoirs, parks, citrus groves, schools, and churches.

### ***Proposed Land Use Changes***

Proposed land use changes are summarized below:

- **City-Owned Citrus Groves.**
  - Redesignate 14 acres on two parcels of City-owned citrus groves located north and south of Almond Avenue and east of Mountain View Avenue from Commercial/Industrial to Agriculture;
  - Redesignate 26.3 acres on three parcels of City-owned citrus groves along Judson Street Between San Bernardino Avenue and Lugonia Avenue from Very Low Density Residential to Agriculture;
  - Redesignate 24 acres on 13 parcels of City-owned citrus groves surrounding the University Groves subdivision at Dearborn Street and Lugonia Avenue from Very Low Density Residential to Agriculture;
  - Redesignate 6 acres on one parcel of City-owned citrus groves located on Riverbend Drive from Very Low Density Residential to Agriculture, and 4.9 acres on the parcel occupied by the Church of Jesus Christ of Latter-Day Saints from Agriculture to Very Low Density Residential; and
  - Redesignate 6.9 acres on 3 parcels located south of I-10 and west of California Street from Commercial to Agriculture.

- **Changes Reflecting Actual Use.**
  - Redesignate 3.5 acres on one parcel of City-owned park land designated Parks/Golf Courses, Low Density Residential, and Flood Control/Construction Aggregates Conservation/Habitat Preservation to Parks/Golf Courses;
  - Redesignate 53.4 acres on one parcel at the site of the Citrus Reservoir and Pump Station at San Bernardino Avenue and Opal Avenue from Agriculture to Public/Institutional;
  - Redesignate 5.9 acres on three parcels at the site of the Dearborn Reservoir on the east side of Dearborn Street and north of Herrington Drive from Agriculture to Public/Institutional;
  - Redesignate 12.6 acres on one parcel at the site of the Crafton Reservoir at the eastern end of 3rd Avenue and Reservoir Road from Rural Living to Public/Institutional;
  - Redesignate 0.8 acres on three parcels east of North Lincoln Street and north of Laramie Avenue from Low Density Residential to Parks/Golf Courses, and 0.9 acres of Flood Control/Construction Aggregates Conservation/Habitat Preservation along the Zanja to Parks/Golf Courses;
  - Remove proposed Neighborhood Commercial at the intersection of Wabash Avenue and Interstate 10; and
  - Remove proposed Parks/Golf Course in lieu of open space provided at Canyon Drive.
- **Changes in Transitioning Areas.**
  - Redesignate 1.9 acres on five parcels designated Commercial and .8 acres on two parcels designated High Density Residential to Office along State Street at its intersection with Center Street and Center Place;
  - Redesignate 0.5 acres on one parcel on the north side of Park Avenue between New York Street and Tennessee Street from Light Industrial to Commercial;
  - Redesignate 9.7 acres on 15 parcels on the south side of Park Avenue between New York Street and Tennessee Street from Light Industrial to Office; and 2.1 acres on four parcels from Light Industrial to Commercial, and 1.8 acres on 3 parcels from Office to Commercial on the east side of Tennessee at the intersection with Park Avenue;
  - Redesignate 1.9 acres on two parcels of privately owned land along Redlands Boulevard at its intersection with New York Street from Parks/Golf Course to Commercial; and 1 acre on four parcels on the southwest corner of Texas Street and Stuart Avenue from Commercial/Industrial to Commercial; and
  - Redesignate 34 acres on 47 parcels in the southwest portion of Downtown between Stuart Avenue and State Street, east of Texas Street and west of Eureka Street, from Commercial/Industrial to Commercial.
- **Changes Requested by Owners.**
  - Redesignate 8.7 acres on one parcel located at 1500 Citrus Avenue from Agriculture to Low Density Residential, with a proposed Parks/Golf Courses overlay;
  - Redesignate 9.8 acres on five parcels located on the west side of Alabama Street at its intersection with Orange Avenue from Office to Medium Density Residential;

- Redesignate 46.4 acres on three parcels at the northeast corner of the intersection of Crafton Avenue and Madera Avenue from Flood Control/Construction Aggregates Conservation/Habitat Preservation to Light Industrial;
  - Redesignate 19.1 acres on two parcels east of Wabash Avenue and south of Citrus Avenue from Rural Living to Very Low Density Residential to reflect a recent annexation; and
  - Remove Public/Institutional overlay on 0.7 acres east of Cypress Avenue and north of I-10.
- **Change in Designation.**
    - Relocate a proposed Park along Nevada Street near its intersection with Beaumont Avenue to the west side of San Timoteo Canyon Road near its intersection with Fern Avenue;
    - Redesignate 2.4 acres on one parcel west of University Street and north of I-10 from High Density Residential to Parks/Golf Courses;
    - Redesignate approximately 3.4 acres on a 9.7-acre parcel near the extension of New York Street north of Lugonia Avenue from Commercial to Low Density Residential, and include a proposed park;
    - Redesignate 22.7 acres on 11 parcels along New York Street near its intersection with Redlands Boulevard from Commercial/Industrial to Commercial;
    - Redesignate 56.3 acres on 12 parcels occupied by Citrus Valley High School from Light Industrial to Public/Institutional north of Pioneer Avenue near its intersection with Texas Street; 19.4 acres west of Citrus Valley High School along Pioneer Avenue from Light Industrial to Commercial/Industrial; 76.5 acres on 10 parcels from Light Industrial to Low Density Residential and 53.9 acres on five parcels from Light Industrial to Very Low Density Residential north of Citrus Valley High School to the Santa Ana River Wash; and 9.9 acres on one parcel from Light Industrial to Open Space at the northern terminus of Texas Street;
    - Redesignate 26.8 acres on 2 parcels located north of Redlands Boulevard and west of Nevada Street from Public/Institutional to Commercial/Industrial;
    - Replace Resource Conservation land use designation with Hillside Conservation;
    - Create Open Space land use designation and change 4,180 acres involving 372 parcels from Flood Control/Construction Aggregates Conservation/Habitat Preservation and 194 acres on 3 parcels owned by the City from Resource Conservation to Open Space; and
    - Create Transit Village Overlay Zone covering up to a half-mile radius from the center of five proposed rail stations at the University of Redlands (near University Street), Downtown (near the Redlands Depot at Orange Street), New York Street (near its Intersection with Redlands Boulevard), Alabama Street (near its intersection with Redlands Boulevard), and California Street (near its intersection with Redlands Boulevard).

### ***Proposed Land Use Diagram***

The land use framework of the proposed General Plan is depicted on the proposed General Plan Land Use Diagram (Figure 2.3-1), which is a graphic representation of the land use themes and policies in the proposed General Plan. It designates the proposed general location, distribution, and extent of land uses. The classifications are meant to be broad enough to give the city flexibility in implementation, but clear enough to provide sufficient direction to carry out the goals of the proposed General Plan. The diagram is to be used and interpreted only in conjunction with the text and other figures contained in the proposed General Plan. The legend of the proposed General Plan Land Use Map includes the land use classifications described below.

### ***Proposed Land Use Classifications***

The following land use descriptions apply to the land use designations shown with color, shade, or symbol on the proposed General Plan Land Use Map (Figure 2.3-1). The amounts of land designated for each land use type are listed in Table 2.3-2.

**Table 2.3-2: Summary of Land Use Designation Acreage (2035)**

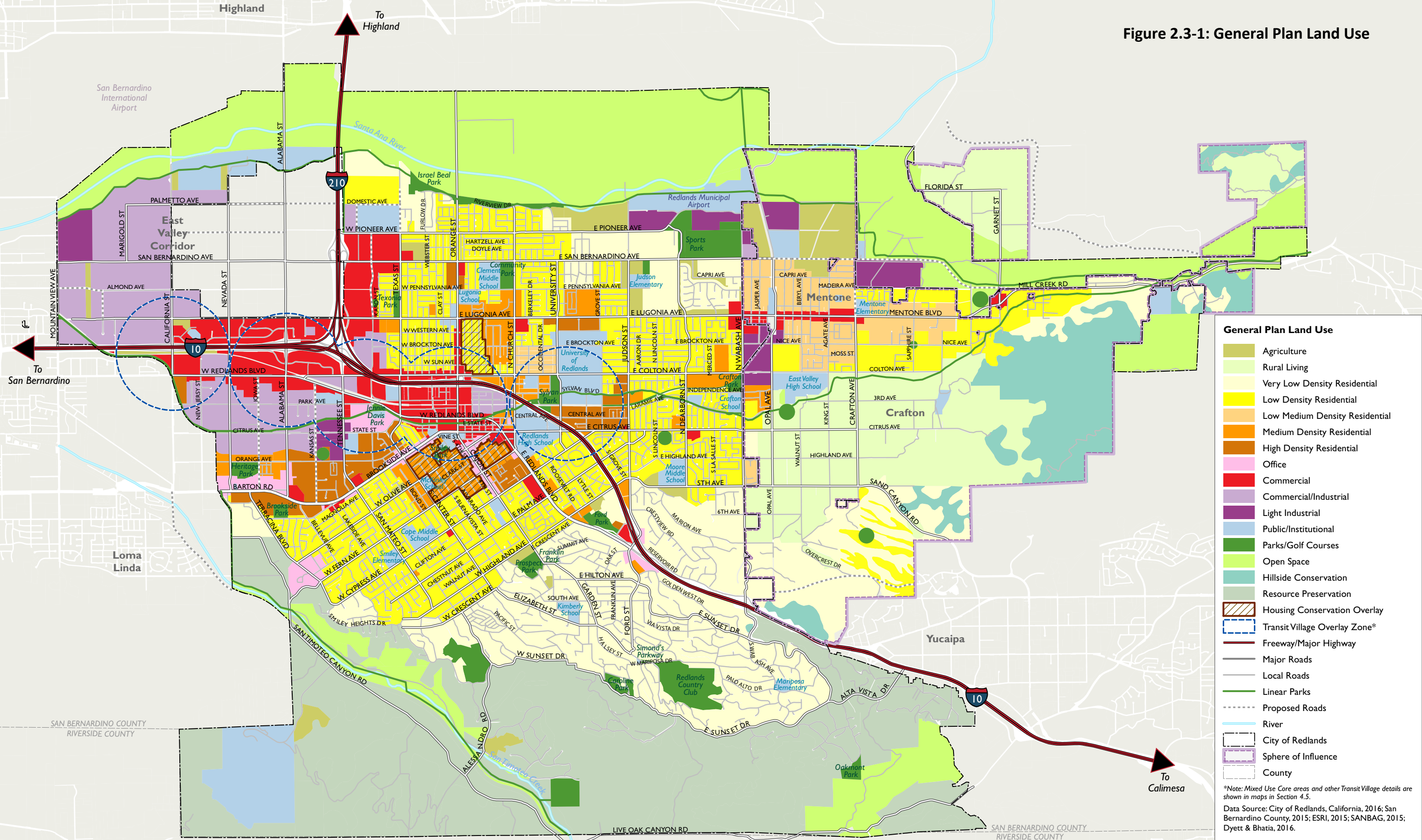
	Redlands	Sphere of Influence outside of city limits	Planning Area <sup>1</sup>
<b>Residential</b>	<b>6,343</b>	<b>4,042</b>	<b>10,386</b>
Rural Living	9	2,115	2,125
Very Low-Density Residential	2,694	861	3,555
Low-Density Residential	2,643	574	3,216
Low-Medium Density Residential	63	469	532
Medium-Density 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 Hillsides</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 outside of city limits have been conceptually identified overlaying other land uses and are not counted in the above table.

Source: City of Redlands, 2016.

Figure 2.3-1: General Plan Land Use

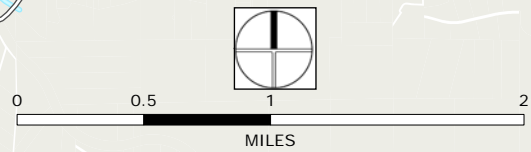


**General Plan Land Use**

- Agriculture
- Rural Living
- Very Low Density Residential
- Low Density Residential
- Low Medium Density Residential
- Medium Density Residential
- High Density Residential
- Office
- Commercial
- Commercial/Industrial
- Light Industrial
- Public/Institutional
- Parks/Golf Courses
- Open Space
- Hillside Conservation
- Resource Preservation
- Housing Conservation Overlay
- Transit Village Overlay Zone\*
- Freeway/Major Highway
- Major Roads
- Local Roads
- Linear Parks
- Proposed Roads
- River
- City of Redlands
- Sphere of Influence
- County

\*Note: Mixed Use Core areas and other Transit Village details are shown in maps in Section 4.5.  
Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

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



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### *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. Rural Living designations are located in Crafton. This land use designation differs from the 1995 General Plan in its density allowances, where the 1995 General Plan allowed 1 unit per 2.5 gross acres on slopes of 0 to 15 percent, and 1 unit per 5 gross acres on slopes greater than 15 percent.

**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. The Very Low-Density Residential designation is located near the San Timoteo Canyon area and extends into Crafton. Very Low-Density Residential is also designated in the East Valley subarea near Judson Elementary and in the Lugonia Subarea near Citrus Valley High School. This land use designation is carried over from the 1995 General Plan with the same intent and allowable densities.

**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). The Low-Density Residential designation is found throughout the Planning Area, including most of the Colony subarea, and residential portions of Lugonia, the University District, the East Valley, and Mentone. This land use designation is carried over from the 1995 General Plan with the same intent and allowable densities.

**Low-Medium Density Residential.** Low Medium-Density Residential designates areas intended to be developed at up to 8 du/ac. Low-Medium Density Residential areas are predominantly located in Mentone and the University District. 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. This land use designation is carried over from the 1995 General Plan with the same intent and allowable densities.

**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). Medium-

Density Residential designated-areas are located in the Colony subarea, as well as the Lugonia, University District, and East Valley subareas. This land use designation is carried over from the 1995 General Plan with the same intent and allowable densities.

**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. Areas designated as High-Density Residential are located near the university and in the East Valley Corridor planning area. 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.

This land use designation is carried over from the 1995 General Plan with the same intent and allowable densities.

#### *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. The ESRI Headquarters and most major medical facilities in Redlands are designated as Office, as are other campuses throughout the city. This land use designation is carried over from the 1995 General Plan with the same allowable intensities, though the proposed definition is more descriptive in terms of potential types of office uses.

**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. Areas designated as Commercial are located Downtown, in the East

Valley Corridor planning area, and along corridors such as Mentone Boulevard. This land use designation is carried over from the 1995 General Plan with the same allowable intensities, though the proposed designation is more clearly defined and its description is more consistent with the other land use designations in the proposed General Plan.

**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. Commercial/Industrial-designated areas are located mostly in the West End, but also in Lugonia and near Downtown. This land use designation is carried over from the 1995 General Plan with the same intent and allowable intensities.

**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 proposed Santa Ana Wash Plan. The Light Industrial land uses designation is scattered throughout the Planning Area, including the West End, Lugonia, Mentone, and the East Valley. This land use designation is carried over from the 1995 General Plan with the same allowable intensities, though the description has been updated to include modern light industrial uses such as R&D.

#### *Agriculture and Hillsides*

**Agriculture.** Areas designated for crops, orchards, groves, grazing, horse boarding, apiaries, 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. Agricultural uses are generally located on the periphery of the Planning Area, including near the Santa Ana Wash and in the San Timoteo Canyon area. This land use designation is carried over from the 1995 General Plan, though the definition has been simplified to focus on land use types rather than ownership.

**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. This land use is proposed in Crafton. This land use designation completely replaces the Resource Conservation designation in the 1995 General Plan in covering areas in Crafton exceeding 30 percent slope. Allowable densities of the proposed designation are lower than in the 1995 General Plan, which allowed for 1 unit per 5 acres in areas of 30 to 40 percent slope, and 1 unit per 10 acres in areas of 40 percent slope or greater.

**Resource Preservation.** This designation limits uses in areas that 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. Resource Preservation land uses are located in the San Timoteo Canyon area. The Resource Preservation designation was established by Measure U, and is thus carried over verbatim from the 1995 General Plan.

#### *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. The Public/Institutional land use designation is distributed throughout the Planning Area. This designation is carried over from the 1995 General Plan, though the proposed definition has been updated for clarity and consistency with the other land use designation descriptions.

**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. This designation is distributed throughout the Planning Area. The designation is carried over from the 1995 General Plan, though the definition has been updated for clarity and consistency with the other land use designation descriptions.

**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 proposed 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; and roads and highways. The Open Space land use designation is proposed for the area along the Santa Ana Wash, as well as portions of the San Timoteo Canyon. This is a new land use designation that completely replaces the Flood Control/Construction Aggregates Conservation/Habitat Preservation designation of the 1995 General Plan in order to simplify the City's land use designations, improve consistency between the Redlands General Plan and those of neighboring jurisdictions, and to allow for future additions of open space land.

#### *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. The Housing Conservation designation was introduced in the 1995 General Plan, and since then 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. This designation is carried over from the 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 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. This is a new overlay designation that was not included in the 1995 General Plan.

**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. This is a new overlay designation that was not included in the 1995 General Plan.

### ***Density and Intensity Standards***

State law requires the General Plan to establish standards of population density and building intensity for each land use classification. 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.

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 in Table 2.3-3.

**Table 2.3-3: Proposed General Plan Density and Intensity Standards**

<i>Land Use Designation</i>	<i>Residential Density Range (gross dwelling units/acre)</i>	<i>Maximum Non-Residential Intensity (FAR)</i>
<b>Residential</b>		
Rural	0–0.2	N/A
Very Low-Density	0–0.7	N/A
Low-Density	2.7–6.0	N/A
Low-Medium Density	6.0–8.0	N/A
Medium-Density	8.0–15.0	N/A
High-Density	15.0–27.0	N/A
<b>Non-Residential and Mixed Use</b>		
Commercial	N/A	.30
<i>Exception for Downtown</i>	N/A	2.00
<i>Exception for EVCSP<sup>I</sup> Area</i>	N/A	.25–.60
Office	N/A	.40
<i>Exception for Downtown</i>	N/A	2.00
<i>Exception for EVCSP Area</i>	N/A	.60–.90
Industrial	N/A	.45
<i>Exception for Downtown</i>	N/A	N/A
<i>Exception for EVCSP Area</i>	N/A	.80–1.20
Mixed Use	15.0–27.0	See corresponding land use types above

Note:

I. EVCSP refers to the East Valley Corridor Specific Plan

Source: City of Redlands, 2017.

## **BUILDOUT UNDER THE PROPOSED GENERAL PLAN**

Buildout refers to the development likely to take place under the proposed General Plan through the horizon year of 2035. As buildout is dependent on numerous factors outside of the City’s control, including long-term economic and demographic trends, buildout estimates describe potentialities rather than definitive figures. Moreover, the designation of a site for a specific land use in the proposed General Plan does not guarantee that the site will be developed or redeveloped with that use or at the maximum permitted density during the planning period, as future development will rely primarily on each property owner’s initiative. In addition, while the City of Redlands has the purview to plan for areas within the sphere, those lands are under the development control of San Bernardino County unless annexed. Once annexed, the County’s zoning and building regulations would apply.

### **Residential Buildout**

Table 2.3-4 describes potential residential development resulting from application of land uses shown on the proposed General Plan Land Use Map, according to analysis undertaken for the

proposed General Plan. It is assumed in these projections that the housing market will remain healthy over the next 20 years and that the number of units constructed will be higher than has been typical in recent years. This optimistic forecast was used to ensure that projections are within the targets set by Measure U, the city’s growth management ordinance (see Section 3.10 for a discussion of Measure U).

**Table 2.3-4: Projected Residential Buildout (2035)**

	Redlands			Sphere of Influence			Planning Area Total		
	SFR <sup>1</sup>	MFR <sup>2</sup>	Total	SFR	MFR	Total	SFR	MFR	Total
Existing (2016) <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 Development	2,124	1,298	3,422	1,822	0	1,822	3,946	1,298	5,244
Outside of Transit Villages <sup>5</sup>	1,900	374	2,274	1,822	0	1,822	3,722	374	4,096
Transit Village Housing <sup>6</sup>	224	924	1,148	0	0	0	224	924	1,148
<b>Total at Buildout</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>

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 were under construction, had been entitled, or were in the planning stage as of November 2016.
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 based on proposed land use designations considering historical density growth patterns (see Methodology section below).
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 (see Methodology section below).

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

### Methodology

In computing the residential buildout for the 20-year horizon of the proposed General Plan, existing residential development, pipeline projects, and future development were considered. These were derived as follows:

- **Existing residential development.** These estimates were derived from the City’s geographic information system (GIS) database. The database contains detailed information about the number of structures on each parcel, usage, and Assessor’s information. It is highly accurate and is regularly updated by City staff. Data used to calculate buildout was gathered for existing residential development as of March 2016. The analysis produced a

current population estimate of approximately 68,049 residents and 26,749 housing units within the City of Redlands. These numbers are consistent with 2015 population estimates from the California Department of Finance and the U.S. Census Bureau's 2010 housing estimates.

- **Pipeline projects.** Pipeline projects include those currently under construction, entitled, going through the entitlement process, or are in the early stages of development review in the City's Development Services Department as of November 2016. While it is possible that some of these projects may not be constructed, using real totals from approved and planned projects provides the most accurate buildout estimate for vacant parcels.
- **Future residential development.** Future residential development takes into account the realistic maximum number of potential units that could be built under the proposed land use designations (excluding any overlay district such as the Housing Preservation Overlay Zone or the Transit Village Overlay Zones).

#### *Future Development Outside of Transit Villages*

For areas outside of the Transit Villages, the analysis identified parcels that were vacant or that could be further subdivided with residential land use designations. The maximum number of potential units was calculated by multiplying acreage with the maximum density allowed by the proposed General Plan. Slope was factored into the density totals for those areas where density is determined by a slope-based formula, such as those areas designated Resource Preservation in San Timoteo and Live Oak Canyon, or Hillside Conservation in the Crafton Hills. This produced a maximum total number of potential units.

Maximum buildout is not considered realistic given two main factors that impact the total: 1) the likelihood of development within the 20-year planning horizon, and 2) historical patterns of approved density including site constraints.

- The likelihood of buildout within the 20-year horizon is impacted by several conditions, including local housing market conditions, desire of an owner to develop their property, and the time required to go through the entitlement process. For these reasons, the projected potential number of units was reduced by 15 percent.
- Historical approved density patterns for development are often based on site constraints, including continued farming in areas reserved for agricultural uses and enrolled in the Williamson Act; the availability of public facilities that could support higher densities; physical characteristics of remaining undeveloped land that could pose development challenges; the purchase of land for parks or conservation by the City or private groups; oddly-shaped or substandard lots; homeowners who desire larger lots and have no wish to further subdivide their property; and the density of adjoining neighborhoods. Historical patterns of approved, entitled density were examined relative to the maximum density permitted under a proposed General Plan land use category. For projects in the pipeline, approved densities averaged 66.4 percent of permitted maximum gross density. This number was used as a starting point, but to account for potential greater demand in the future, a percentage of 70 was used as a factor within the City. A factor of 80 percent was applied to the SOI outside of city limits, which has fewer development requirements and restrictions than land within the City.



Together, these two factors created a composite reduction factor of approximately 60 percent to 68 percent of the total potential number of units over the 20-year horizon.

#### *Future Development in Transit Villages*

For residential areas within the Transit Villages, areas were identified that could be developed for mixed-use or residential uses. These areas consist of mostly vacant or under-utilized parcels or areas planned for redevelopment such as the Redlands Mall. The associated acreage was then multiplied by the total maximum number of units permitted. For example, areas designated High Density Residential would permit to 27 dwelling units per gross acre.

Two composite factors were then applied to account for the likelihood of buildout within the 20-year planning horizon and for development constraints that are present in any development or redevelopment of a site.

- In this instance, the likelihood of buildout within the planning horizon is also impacted by the timeline of the development of the rail stations and associated infrastructure. At this time (2016), only three of the five proposed stations are planned to be built and rail service to these three stations is not projected to begin until 2020. Thus, a factor of 70 percent was applied to a potential maximum number of units given the associated timelines.
- Factors that reduce the number of potential units developed include: the limit on residential development within a 500-foot Air Quality Management District (AQMD) buffer applied along the I-10 freeway; parcels that are narrow, shallow, or oddly shaped; challenges of assembling parcels that can support a higher density project; development requirements for setbacks, yards, parking, and other factors that limit density; and the desire of some property owners to build projects with only commercial or office uses. A factor of 80 percent of the potential maximum units was applied to account for these limiting factors. An 80-percent factor translates to approximately 22 dwelling units per gross acre under the High Density Residential designation of 27 dwelling units per gross acre. Some developments are likely to be much lower density than projected given site constraints, and some may be higher if a density bonus is applied.

#### **Projected Buildout Population**

The buildout population takes into consideration the number of housing units estimated in 2016, as well as those new units projected in the Planning Area, including Transit Villages. The population projection assumes 2.65 persons per household in the Planning Area, as well as a 4-percent vacancy rate for existing units and a 5-percent vacancy rate for future development. Table 2.3-5 describes the projected population at buildout of the proposed General Plan.

**Table 2.3-5: Projected Population at Buildout (2035)**

	<i>Redlands</i>	<i>Sphere of Influence</i>	<i>Planning Area Total</i>
Existing (2016) <sup>1</sup>	68,049	9,220	77,269
From Future Development <sup>2</sup>	10,964	5,391	16,355
<b>Total at Buildout<sup>3</sup></b>	<b>79,013</b>	<b>14,611</b>	<b>93,624</b>

Notes:

1. Existing population is an estimate assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence.
2. Future population was calculated assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence.
3. A vacancy rate of 5% is assumed.

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

**Non-Residential Buildout**

Non-residential buildout was predicated on the development of vacant or underutilized land. Underutilized land is defined by AV ratio, a ratio of the assessed value of improvements (buildings and structures) to the assessed value of land. An AV ratio less than 1.0 indicates a property where the value of the built improvements is less than the value of the land itself and which therefore may be a candidate for future redevelopment. For this analysis, any parcels with AV ratios less than 1.0 were considered underutilized. Identifying a parcel as vacant or underutilized does not guarantee it will be redeveloped. Similarly, parcels that were not designated as vacant or underutilized may undergo redevelopment. For this buildout calculation, it was assumed that 80 percent of vacant sites, 50 percent of sites with AV ratios of less than 0.5, and 30 percent for sites of with AV ratios between 0.5 and 0.99 would be redeveloped over the planning horizon.

Development potential was calculated for the underutilized sites by multiplying parcel acreage by floor area ratio (FAR) allowances from proposed General Plan land use designations, and converting this figure to square footage. Square footage of pipeline development was added to this total to arrive at total future non-residential buildout. The total number of future jobs was calculated based on jobs-per-square-foot assumptions for both retail and non-retail jobs. The total number of future jobs was added to the total number of existing jobs (as of 2013). Table 2.4-3 describes projected non-residential development in terms of square feet and potential jobs.

**Table 2.3-6: Projected Non-Residential Buildout (2035)**

	Redlands		Sphere of Influence outside of city limits		Planning Area Total	
	Developed Square Feet	Jobs	Developed Square Feet	Jobs	Developed Square Feet	Jobs
Existing (2016) <sup>1, 2</sup>	29,247,658	27,248 <sup>3</sup>	1,620,046	1,276 <sup>4</sup>	30,867,704	28,524
Pipeline <sup>5</sup>	741,798	960	–	–	741,798	960
Future Development	7,495,905	14,561	599,149	968	8,095,054	15,529
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	1,599
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 at Buildout</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 square footage is as of 2016.
- 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 outside of city limits 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 non-land use based jobs estimate 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.

## **PROPOSED GENERAL PLAN POLICY GOALS**

Important objectives for each of the proposed General Plan elements are presented in this section. Implementing policies are included in the proposed General Plan. All policies are incorporated by reference into this project description and analyzed in this EIR.

### **Distinctive City**

- Promote community integration, identity, cohesion, and engagement;
- Preserve historic city properties, privately-owned historic resources, archeological and paleontological resources, and scenic resources;
- Educate the public about Redlands heritage and preservation;
- Develop cohesive streetscapes that enforce Redlands' heritage, using street trees to minimize the apparent width of wide streets, and using street trees to reinforce city entrances/gateways;
- Conserve citrus farmland and promote the consumption of locally grown citrus;
- Promote Downtown Redlands (the retail area centered at the intersections of Orange and State streets) as a vibrant center of uses and activities for Redlands residents, visitors, and workers; and
- Foster arts and culture in Redlands.

### **Prosperous Economy**

- Provide a high-quality climate conducive to economic growth and innovation in Redlands;
- Support a balance of land uses that foster economic development;
- Promote the development of home-grown businesses, public/private technology infrastructure projects, and a skilled local labor force;
- Promote Redlands as a tourist destination; and
- Strengthen Downtown as a center of commerce and culture, with attractions for local residents, workers, and regional visitors year-round.

### **Livable Community**

- Promote a balanced rate and distribution of development and uses pursuant to Measure U, including providing for the expansion of housing and employment opportunities, focusing development in infill areas, and maintaining separation of urban and rural uses, while ensuring compatibility with the fabric of the existing community;
- Maintain balanced patterns of residential; office, commercial and industrial; agriculture, open space, and hillside land uses;
- Enhance the character of and promote development where appropriate at the University of Redlands, the East Valley Corridor, the Southern Hills and Canyons, the Southeast Area, Crafton, Redlands Boulevard, Colton Avenue, and the Orange Street Commercial Corridor;

- Foster the development of connected, accessible transit-oriented villages at California Street (centered near California Street and Redlands Boulevard), Alabama Street (centered at Alabama Street and Redlands Boulevard), New York Street (centered at New York Street and Redlands Boulevard), Downtown Redlands, and the University of Redlands (the Transit Villages are shown in Figure 2.3-1);
- Enhance the Redlands Municipal Airport as a distinctive asset of the community;
- Ensure new public facilities are provided in a timely, equitable manner commensurate with new development; and
- Ensure a safe community and that police and fire services are located where they can best serve the community.

### **Connected City**

- Promote a layered circulation system and transportation infrastructure improvements to ensure safe pedestrian, biking, and road networks;
- Ensure safe pedestrian, bicycle, and vehicular networks via the creation of comprehensive transportation networks;
- Improve public transit as a viable form of transportation;
- Adopt and implement a Transportation Demand Management program; and
- Support the movement of goods and also seek to reduce the impact of truck operations on city streets and adjacent land uses.

### **Vital Environment**

- Develop a balanced and integrated open space system, including the Emerald Necklace;
- Preserve natural habitat areas as open space, and promote access to and views of conservation areas;
- Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities;
- Preserve agricultural land and mineral resources; and
- Maintain high water quality by protecting waterways in Redlands, employing innovative storm water and urban runoff capture methods, and managing Bunker Hill Basin groundwater resources.

### **Healthy Community**

- Encourage accessibility to trails and open space, community events, and employee wellness programs in order to promote active lifestyles;
- Develop a high quality, comprehensive system of parks, recreational facilities, and trails;
- Ensure that all residents have access to a variety of transportation and physical activity options that enhance public health; healthy locally grown foods; and a broad range of health and safety services;

- Ensure safety in the event of fire hazards, seismic and geologic hazards, and other hazards;
- Ensure airport/aviation safety and efficient emergency management;
- Reduce noise emissions and ensure compatibility between noisy land uses; and
- Protect air quality within the city and support efforts for enhanced regional air quality.

### **Sustainable Community**

- Promote energy efficiency and conservation policies via public education and update of City plans and policies;
- Conserve water used for residential and commercial purposes, minimize dependence on imported water, and conserve high water quality;
- Reduce generation of solid waste, including household hazardous waste, and recycle those materials that are used to slow the filling of local and regional landfills;
- Promote sustainability by reducing the community’s GHG emissions and fostering green development patterns—including buildings, sites, and landscapes; and
- Reduce energy and fossil fuel consumption.

## **2.4 Climate Action Plan**

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### **PLANNING PROCESS**

The proposed CAP reflects the City’s commitment to the core values presented in the proposed General Plan, and links elements of the plan—including Distinctive City, Livable Community, Connected City, Healthy Community, and Sustainability—with the goal of GHG reduction. The CAP was prepared in 2017 by City staff and consultants, using public input from the General Plan update process and referencing CEQA Guidelines, the California Air Resources Board (CARB) 2006 and 2008 Scoping Plans, and State GHG targets established by EO S-3-05 and AB 32. Drafting of the proposed CAP involved the development of an emissions inventory describing direct GHG emissions from sources within the city, as well as indirect emissions associated with the consumption of energy generated outside of the city, using modeling tools, activity data, and emissions factors. Forecasts were conducted for GHG emissions through 2035 to determine whether, with State and federal actions and the policies of the proposed General Plan, additional action would be required in order to ensure that the City meets GHG reduction targets.

### **ORGANIZATION**

The proposed CAP includes the following four chapters:

1. **Introduction.** This chapter describes the scope and purpose of the proposed CAP, provides an overview of climate change and GHGs, introduces the California GHG reduction legal framework and State and federal standards on GHG emissions, and describes the planning process and how the plan is intended to be used.

2. **Emissions Inventory.** This chapter identifies the major sources and the overall magnitude of GHG emissions in Redlands, pursuant to Sections 15183.5(b)(1)(A) and 15183.5(b)(1)(C) of the state CEQA Guidelines.
3. **Greenhouse Gas Reduction Targets and Forecasts.** This chapter describes the GHG reduction targets provided by State law, provides a baseline forecast of GHG emissions, and models forecasts of future GHG emissions through 2035. The chapter also quantifies GHG reductions from (1) State actions and (2) the updated General Plan policies and actions, and applies these reductions to the emissions forecast.
4. **Monitoring Progress and Potential Additional Measures.** This chapter describes steps to monitor progress, as well as potential additional measures that can be taken in the future should the City so desire.

## **PROPOSED CAP MEASURES**

### **Monitoring Progress**

The proposed CAP forecast analysis shows that projected GHG emissions in 2030 and in 2035 will be well below the standards established in CARB's 2017 Scoping Plan (slated for adoption in June 2017 by CARB). Thus, additional GHG reduction actions are not needed for Redlands to have and maintain a Qualified GHG Reduction Strategy. Therefore, the proposed CAP provides a framework for the City of Redlands to monitor progress toward GHG emissions and continue to meet emissions targets. Monitoring would enable the City to make timely adjustments to existing policies, replace ineffective actions, and/or add new policies as changes in technology, federal and State programs, or other circumstances warrant. The monitoring framework consists of the following two steps:

- **Monitoring and Reporting.** The City will periodically monitor and report on progress towards achieving the emissions targets, potentially every five years, unless otherwise required more frequently by State law. The monitoring report will include information on the status of the federal and State level emissions reductions measures identified in Chapter 3 of the CAP, as well as any new efforts that may emerge in the reporting year. The report will be presented to the City Council at a public meeting during which interested parties may comment on the report.
- **Updating GHG Inventory and the CAP.** The City will update the GHG inventory periodically. For continuity, the inventory updates will tally emissions from the same sectors analyzed in Chapter 2 of this CAP. If an updated inventory reveals that Redlands is not making adequate progress toward meeting the GHG target, or that new technologies and programs emerge that warrant inclusion in the CAP, the City will adjust the CAP by modifying, adding, and/or replacing policies in the General Plan or elsewhere, or by incorporating additional measure(s) outlined in Section 4.2 of the CAP.

### **Optional Measures to Further Reduce Emissions**

Additional measures are offered as a menu of choices should the City decide to more aggressively target GHG emissions at a future date. Measures are optional, and could be undertaken independently or collectively.

- **Measure A:** Promote Installation of Residential Photovoltaic (PV) Systems.
- **Measure B:** Promote Installation of Commercial and Industrial Photovoltaic Systems.
- **Measure C:** Encourage Residential Energy Efficiency Retrofits.
- **Measure D:** Encourage Commercial and Industrial Efficiency Retrofits.
- **Measure E:** Promote Commercial and Industrial Facility Commissioning.
- **Measure F:** Promote Replacement of Incandescent and Halogen Bulbs with LED or Other Energy Efficient Lamps.
- **Measure G:** Promote an Increase in the Amount of Zero-Emissions Vehicle Travel.
- Other measures that would result in GHG emissions reductions under 1 percent, including:
  - Implementation of a 5 percent improvement in energy efficiency above the City of Redlands green building code;
  - Produce 11,100 MWh, or the equivalent of 5 percent of projected residential electricity supplied by Southern California Edison (SCE) projected for 2035, from renewable energy projects;
  - Replace incandescent and halogen light bulbs in public lighting with LED or similarly efficient lighting by 2035; and
  - Reduce the intensity of GHG emissions from water utilities (including water supply, wastewater, and recycled water) conveyance, treatment, and distribution by 10 percent by 2035.

## 2.5 Proposed Project Implementation

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The Proposed Project provides specific policy guidance for implementation of each plan's concepts. Implementing these policies would involve coordinated actions by the City Council, the Planning Commission, other City boards and commissions, and City departments. The City also would need to work with the Caltrans, San Bernardino County, adjacent cities, and other public agencies to implement policies that would affect topics governed by those other agencies. The principal responsibilities that City officials and staff have for implementation of the Proposed Project are briefly summarized below; details on their responsibilities are provided in the Redlands Municipal Code.

### RESPONSIBLE AGENCIES

#### City Council

The City Council is responsible for the overall management of municipal affairs; it acts as the legislative body and is responsible for adoption of the Proposed Project as well as any amendments to the Project. The Council also may adopt area plans and specific plans as needed for Proposed Project implementation. The City Council appoints the City Manager, who is the chief executive of the City and has overall responsibility for the day-to-day implementation of the Proposed Project. The City Council also appoints members to the City's standing commissions established under the Municipal Code, as well as to advisory committees. The Council's role in implementing the



Proposed Project would be to set implementation priorities; approve zoning map and text amendments, and subdivision maps consistent with the Proposed Project; approve a Capital Improvement Program and budget to carry out the Proposed Project; and review periodic CAP monitoring reports.

### **Planning Commission**

The Planning Commission is responsible for preparing and recommending adoption or amendment of the Proposed Project, zoning and subdivision ordinances and other regulations, resource conservation and management plans, and programs and legislation needed to implement the Proposed Project. The Planning Commission also may prepare and recommend adoption of design guidelines and specific plans, developer-initiated master plans, neighborhood plans, or special plans as needed for implementation. Finally, the Commission is responsible for development project review, as specified in the zoning ordinance, and for other implementation actions, as specified in proposed General Plan elements or in the zoning ordinance.

### **City Departments**

#### ***Development Services***

Development Services contains the Planning, Economic Development, and Building and Safety divisions. The Planning Division is responsible for long-range planning; regional planning and coordination; current planning; environmental review, analysis, and compliance; and historical preservation. It would be in charge of the preparation, maintenance, and implementation of the General Plan and CAP, as well as any specific plans and the Zoning Ordinance by reviewing and evaluating projects to ensure that they are designed and developed in conformance with these documents.

The Building and Safety Division regulates construction and occupancy of all residential, commercial, and industrial buildings to ensure life, fire, and health safety. It performs plan check for all proposed construction projects in the city, plan checks for grading and erosion control plans, and inspections for grading and erosion control of buildings. Field inspections are performed on all new construction, additions, structural alterations, and demolitions for compliance to all structural, fire, safety, health safety and life safety requirements. The division also provides information to the general public on basic construction, seismic safety, and flooding; calculates fees; and issues building, plumbing, electrical, mechanical, grading and demolition permits.

The Economic Development Division administers a variety of economic development programs and services that support businesses and residents in Redlands. Division staff is involved in business retention and attraction activities, City/Chamber and regional collaborative efforts, business networking, marketing, workforce development, tourism, and project support. The division would likely assist in the implementation of General Plan policies, particularly proposed economic development policies.

#### ***Emergency Management***

The role of the Emergency Management Department is to prepare the city for potential disaster and reduce the effects and impacts of the event after it occurs. The department may assist with

implementation of policies in the Healthy Community chapter of the proposed General Plan, as well as other proposed policies related to safety and hazards.

### **Fire**

The Fire Department provides fire and emergency services for the City of Redlands. Services include review of all development plans for compliance with the California Fire Code, authorization for fire permits, fire safety inspections, and fire prevention. The Fire Department responds to urban and wildland fires as well as emergency medical calls, traffic accidents, hazardous materials release, as well as other emergencies. Cooperation with the Fire Department would be required for the implementation of the proposed General Plan's policies regarding fire safety, as well as proposed development and transportation policies that must comply with the Fire Code.

### **Quality of Life**

The Quality of Life Department provides a broad spectrum of services related to parks, trees, City-owned citrus groves, Hillside Memorial Park cemetery, Redlands Municipal Airport, solid waste removal, and code enforcement and maintenance of street lights, traffic signals, and streets. The department would play a role in the implementation of proposed General Plan policies and CAP efforts related to its programs.

### **Municipal Utilities and Engineering**

The Municipal Utilities and Engineering Department (MUED) is responsible for providing infrastructure and related public services, including water production and distribution, wastewater collection and treatment, engineering review and inspections of development proposals, public infrastructure improvements, development and construction of new public facilities, and optimization of the cost of ownership of the City's physical assets. Coordination with MUED would be necessary for implementation of proposed General Plan and CAP policies related to the provision of infrastructure and public utilities, including water, wastewater, and roadways.

### **Police**

The Police Department provides public safety services in Redlands. The department may be involved in the implementation of policies in the proposed General Plan related to safety and quality of life.

### **Other Commissions, Committees, and Boards**

The City has numerous commissions, committees, and advisory boards, many of which would play a role in the implementation of the Proposed Project, including:

- Airport Advisory Board;
- Citrus Preservation Commission;
- Cultural Arts Commission;
- Disaster Council;
- Historic and Scenic Preservation Commission;
- Human Relations Commission;

- Municipal Utilities/Public Works Commission;
- Parks & Recreation Advisory Committee;
- Street Tree Committee;
- Traffic and Parking Commission; and
- Other standing commissions and ad hoc committees as appointed by City Council.

The Proposed Project does not envision any substantive change in the responsibilities assigned to these committees. The City Council periodically revises and updates the list of advisory committees and creates new committees and task forces, as needed.

## **POLICY AND REGULATORY IMPLEMENTATION**

The City would use a variety of regulatory mechanisms and administrative procedures to implement the General Plan. Under California law, Redlands is required to have the Zoning Ordinance be consistent with the General Plan. In fact, the consistency requirement is the keystone of Plan implementation. Without a consistency requirement, there is no assurance that proposed General Plan policies will be implemented.

### **Zoning Ordinance**

The City's Zoning Ordinance translates General Plan policies into specific use regulations, development standards and performance criteria that governs development on individual properties. The Redlands General Plan establishes the policy framework, while the Zoning Ordinance prescribes standards, rules, and procedures for development. The Zoning Map will provide more detail than the General Plan Land Use Diagram.

The proposed General Plan provides for the adoption of new ordinances pertaining to landscapes and landscape irrigation, street trees, commercial recreational facilities, urban agriculture, crime prevention, noise, energy efficiency, dark skies, and construction and demolition waste recycling, among others.

### **Specific Plans**

The proposed General Plan states that specific plans, including the Downtown Specific Plan, and the East Valley Corridor Specific Plan, would need to be updated to reflect land use and other policy changes that are part of the Proposed Project. Other specific plans may also require updates.

### **Transit Village Plan**

The proposed General Plan provides a vision for the establishment of Transit Village Areas around the proposed railway stations and describes a land use and multi-modal transportation strategy for areas within the Transit Village Overlay Zone. In order to implement the proposed Transit Village Strategy, the City would need to develop a Transit Village Plan that would provide more specific policies, land uses, and development and design standards for the proposed Transit Villages.

## **Hazards**

Plans and documents pertaining to local hazards would require updates to comply with proposed General Plan policies. These include the Local Hazard Mitigation Plan and the City Emergency Plan.

## **Other Plans and Regulatory Items**

Other plans that may require updates include the Bicycle Master Plan, Water Conservation Plan (Ordinance 2151), and the City of Redlands' Urban Water Master Plan. The General Plan calls for the development of two new plans, a Parks and Open Space Master Plan, and an Arts and Culture Master Plan. Other regulatory items specified in the General Plan that will require updates to comply with the General Plan include the Archeological Resource Sensitivity Map, and the City list of street trees.

# 3 Environmental Settings and Impacts

## Overview

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Sections 3.1 through 3.16 analyze the potential environmental impacts that may occur as a result of implementation of the Proposed Project. The environmental issues subject to detailed analysis in the following sections include those that were identified by the City as potentially significant in response to the NOP. There are 15 environmental issues addressed in the following sections, as well as a brief discussion of additional impacts that were determined to be not potentially significant. The environmental topics addressed are as follows:

- 3.1 Aesthetics
- 3.2 Agricultural Resources
- 3.3 Air Quality
- 3.4 Biological Resources
- 3.5 Energy, Greenhouse Gases, and Climate Change
- 3.6 Geology, Soils, and Seismicity
- 3.7 Hazards and Hazardous Materials
- 3.8 Historic, Archeological, and Paleontological Resources
- 3.9 Hydrology and Water Quality
- 3.10 Land Use and Housing
- 3.11 Mineral Resources
- 3.12 Noise
- 3.13 Public Services and Facilities
- 3.14 Public Utilities
- 3.15 Transportation
- 3.16 Impacts Not Potentially Significant

These assessments do not satisfy the need for project-level California Environmental Quality Act (CEQA) analysis for individual projects. Individual projects under the Proposed Project will require project-level analysis at the time they are proposed based on the details of those projects and the existing conditions at the time such projects are pursued.

## Impacts Considered

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According to the CEQA Guidelines, the following general types of environmental impacts must be considered in this program EIR:

- **Direct or primary impacts**, which are caused by the project and occur at the same time and place as the project.
- **Indirect or secondary impacts**, which are caused by the project and occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Indirect or secondary impacts may also include cumulative impacts.
- **Short-term impacts**, which are those of a limited duration, such as the impacts that would occur during the construction phase of a project.
- **Long-term impacts**, which are those of greater duration, including those that would endure for the life of a project and beyond.
- **Significant unavoidable impacts**, which cannot be mitigated to a level that is less than significant.
- **Irreversible environmental changes**, which may include current or future irretrievable commitments to using non-renewable resources, or growth-inducing impacts that commit future generations to similar irretrievable commitments of resources. Also, irreversible change can result from risks of accidents and injury associated with the project. Such changes are addressed in Chapter 5: CEQA Required Conclusions.
- **Cumulative impacts**, which include two or more individual impacts that when considered together are considerable or which compound or increase other adverse environmental effects. The individual impacts may be changes resulting from a single project or a program of projects. The cumulative effect from several projects is the change in the environment that results from the incremental effect of the Proposed Project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time. Cumulative impacts are addressed in Chapter 5: CEQA Required Conclusions.

## Organization

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Each section is formatted to include a summary of existing conditions, including regulatory context; the criteria for determination of significance for each impact; evaluation of potential project impacts; a mitigation framework, if applicable; and a conclusion of significance after mitigation for impacts identified as significant.

The goals, policies, and implementation programs of the proposed General Plan reduce some impacts of the Proposed Project, and cases in which existing and proposed policies and regulations reduce the impacts to a less-than-significant level are documented.

### Physical Setting

This subsection provides relevant information about the existing physical environment related to the particular environmental topic. In accordance with Section 15125 of the CEQA Guidelines, the discussion of the physical environment describes existing conditions within the Planning Area at the time the NOP was filed on August 10, 2016, unless otherwise noted.

### Regulatory Setting

This subsection describes federal, State, regional, and local plans, policies, regulations, and laws that may apply to the environmental topic under evaluation.

### Impact Analysis

This subsection focuses on an analysis of the potential environmental impacts of the Proposed Project described in Chapter 2, “Project Description,” of this EIR. All potential direct and indirect impacts in Chapter 3 are evaluated in relation to applicable City, State, and federal standards. Thresholds of significance based on Appendix G of the CEQA Guidelines are used to identify the potential environmental impacts of the Proposed Project; the methods used to conduct the impact analysis are summarized; and the impacts analyzed in the respective sub-section are summarized. Following this is a more in-depth analysis of the potential environmental impacts, divided by impact significance criterion, presented in the following format:

**Impact 3.X-X    The impact statement briefly summarizes the findings of the impact discussion based on the identified threshold of significance. The level of significance is included at the end of the impact statement. Levels of significance listed in this EIR (as described below) are *no impact, less than significant, or significant and unavoidable.*)**

The impact discussion is contained in the paragraphs following the impact statement. The analysis compares implementation of the Proposed Project to existing conditions. In addition, the effects of policies in the Proposed Project that will reduce the impacts are discussed.

### **Proposed General Plan Policies that Would Reduce the Impact**

If applicable, relevant proposed General Plan policies that would reduce the impact are summarized.

### **Mitigation Measures**

If the impact is found to be less than significant, no mitigation measures are required. Where no mitigation measures have been identified that could reduce an impact to less than significant, the reason is stated and no mitigation measures are listed.

## **Determining Level of Significance**

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For each potential environmental impact identified in this EIR, a statement of the level of significance of the impact is provided. Impacts are assessed as one of the following categories:

The term “no impact” is used when the environmental resource being discussed would not be adversely affected by implementation of the Proposed Project. It means no change from existing conditions. This impact level does not need mitigation.

A “less-than-significant impact” would cause a minor change in the physical environment but the impact would not meet or exceed the significance threshold. This impact level does not require mitigation, even if feasible, under CEQA.

A “significant and unavoidable impact” would cause a substantial adverse effect on the environment, and no known feasible mitigation measures are available to reduce the impact to a less-than-significant level. Under CEQA, a project with significant and unavoidable impacts may be approved, but the lead agency (in this case, the City) must prepare a “statement of overriding considerations” in accordance with Section 15093 of the CEQA Guidelines, explaining how the benefits of the project outweigh the potential for significant impacts.



## 3.1 Aesthetics

This section provides an evaluation of potential impacts on the Planning Area's aesthetic character as a result of the Proposed Project.

### Environmental Setting

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#### PHYSICAL SETTING

##### Visual Character Overview

Redlands is set against a backdrop of mountains, waterways, and canyons. It is bounded to the north by the Santa Ana River Wash, an area that has been designated for open space uses due to the floodplain and presence of natural resources, with the San Bernardino Mountains visible beyond. The Wash acts as a buffer and greenbelt between Redlands and Highland to the north, with only a few roads connecting the two municipalities. The southern boundary of the Planning Area is defined by the San Timoteo and Live Oak canyons, much of which are composed of steep slopes and are generally undeveloped with some of the valley portions used for agriculture.

Visitors primarily reach Redlands via Interstates 210 and 10 (I-210 and I-10). In several locations, as drivers exit the highways, signs welcome them to Redlands. Signage includes pillars, large stone signs, and service club signs. These features also welcome visitors to the city as one drives into Redlands along Redlands Boulevard, Barton Road, and Tennessee Street, among others. Citrus groves alongside Interstates and other entrances to the city announce its citrus heritage. The historic Downtown area is marked with entrance gateways.

Redlands itself is composed of numerous residential neighborhoods, with non-residential development located along major corridors and near the major highways that trisect the city. The highways connect the city to neighboring Yucaipa, Loma Linda, Highland, San Bernardino, and the region. The central area of the city, which includes Downtown Redlands and surrounding neighborhoods, is the oldest part of the city, and retains much of its historical architecture. Downtown has small blocks and a walkable street grid, and is dominated by commercial and civic uses. Historic neighborhoods surround this area. North of Redlands Boulevard, development generally follows a north-south and east-west grid pattern, and arterial and collector roads are oriented north-south and east-west. South of the boulevard, in the older parts of the city known as the Colony, the street grid is obliquely aligned. Further south, in the canyon lands, the grid disappears as development becomes less dense and more suited to the steep terrain. The western portion of the city, as designated in the East Valley Corridor Specific Plan, is devoted to industrial and commercial uses, many of which

take place on large lots and in commercial centers and strips. The city's densest multi-family developments are south of this area.

East of Redlands, within the Sphere of Influence, less of the land is subdivided. Residential developments are located mainly in Mentone, with Crafton reflecting more of the region's agricultural background through a larger concentration of citrus groves among large residential lots. Density decreases farther east to the Crafton Hills and Sand Canyon areas, which form a buffer of undeveloped land between the Planning Area's developed areas and the City of Yucaipa.

## **Scenic Resources and Vistas**

### ***Open Space***

Natural areas and open spaces, including watershed features, hillsides, habitats, and preserves are some of the most defining and integral components of the city's form and structure. Some of the Planning Area's open space is available for recreational use, including portions of San Timoteo Canyon, Live Oak Canyon, and the Crafton Hills. Open space views range from the scrubland and distant ranges along the Santa Ana River Wash, to the steep vegetated landforms of the canyons and their lush valleys, to scenes of wetland, riparian, grassland, and chaparral ecosystems.



*Santa Ana River Wash (left); San Timoteo Canyon (right)*

### ***Agriculture and Citrus Groves***

The Planning Area has strong historical ties to agricultural production, particularly citrus, as evidenced by the citrus groves in cultivation throughout Redlands and the Planning Area (see Section 3.2: Agricultural Resources for more information). The visual character provided by the groves is distinctive, adding greenery and texture to the urban area while providing a connection to Redlands' heritage. The groves also tie in to the city's overall identity, as many municipal signs and amenities are branded with citrus imagery. The region's citrus groves have dwindled in recent years, but several can be found in and around City parks, in the canyons, and throughout the Crafton Hills.



*Citrus grove (left); Kimberly Crest house and gardens, listed on the National Register of Historic Places (right)*

### **Historic Districts and Resources**

Redlands' historic resources are important contributors to the city's visual character. The city itself was established in the 1800s, and many examples of period architecture have survived to the present day (see Section 3.5: Cultural Resources for more information). The City of Redlands has designated eight historic and/or scenic districts (geographical areas that have a significant architectural enclave of historic buildings or scenic vistas) and 747 historic properties, including homes and civic and commercial structures of varying architectural styles, such as Victorian, Queen Anne, Colonial Revival, Craftsman, Bungalow, and Mission Style. Nationally- and State-designated districts and resources include architecturally significant properties, the Santa Fe Depot District and the Smiley Park Historic District, the Mill Creek Zanja, and the Judson Brown Ditch. The majority of historical districts and properties are clustered in the Downtown and Colony areas, though the Zanja and Judson Brown Ditch are visible in the eastern parts of the city and Planning Area.

### **Scenic Corridors**

Redlands' pedestrian, bicycle, road network, and other scenic passages offer dramatic views of natural scenery. 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. When applied on a citywide scale, these types of amenities improve pedestrian and bike access while further enhancing neighborhood connections to natural and scenic surroundings.



*Cajon Street, a Redlands Scenic Corridor.*

Part of State Route 38 near Redlands is included on the Caltrans list of eligible scenic highways (California Department of Transportation, 2011). State Route 38 features views of forested mountainsides and distant views of the desert. The City Council has designated numerous streets as scenic highways, drives, and historic streets. Special development standards have been adopted by resolution for these streets (see *Scenic Corridors* under Local Regulations for a listing of the streets).

## **Community Character**

### ***Residential***

Redlands is a city of small neighborhoods whose character is often determined by the natural landscape and the era in which the area was settled. Downtown Redlands and the Colony, among the first areas to be settled, feature visually distinctive, tree-lined, walkable blocks of historic residential neighborhoods. As one ventures south of Downtown towards the canyons, the road network becomes curvilinear in form to conform with the slope of the topography, and offers scenic views of the city. Large single-family homes are perched on hillsides and often obscured from view from the roads by landscaping or large front setbacks. In Mentone, Crafton, and other areas where agriculture is a prominent land use, residential development becomes sparser and the lot sizes larger.

Commercial land uses in Redlands include auto-related commercial, general commercial and retail, office and business parks, and mixed uses. In Downtown Redlands, commercial facilities are small in scale and clustered together in a walkable urban setting. These commercial uses are often interspersed with residential and other uses, contributing to a charming and active mixed-use neighborhood.

## **Light and Glare**

Light and glare sources within the Planning Area are primarily associated with residential, commercial, and industrial land uses. Street lights are provided at greatest frequency along major streets, such as Colton Avenue and Highland Avenue. In commercial and industrial areas, signage and cars in parking lots may produce light. The light and glare that exist in these developed areas of the city are typical for an urban setting. LED lights along State Street and Orange Street serve Downtown Redlands. Redlands also has abundant open space resources, which are dispersed throughout the city's land use pattern. Street lights are less common in rural areas and residential neighborhoods in the San Timoteo Canyon. Light and glare levels in these areas are generally lower; many of these natural open space resources serve as important habitat areas for wildlife, which may be sensitive to light and glare sources. Redlands Sports Park is a major contributor of light and glare to adjacent land uses, as are other outdoor sports fields.

## **REGULATORY SETTING**

### **State Regulations**

#### ***California Scenic Highways Program***

Recognizing the value of scenic areas and the value of views from roads in such areas, the California State Legislature established the California Scenic Highway Program in 1963. This legislation sees scenic highways as "a vital part of the all-encompassing effort...to protect and enhance California's beauty, amenity and quality of life." Under this program, a number of State highways have been designated as eligible for inclusion as scenic routes. An eligible highway may change to an officially designated highway when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. Parts of State Route 38 near Redlands is included on the Caltrans list of eligible scenic highways.

### **Local Regulations**

#### ***Chapter 2.24, Historic and Scenic Preservation Commission***

Chapter 2.24 of the Redlands Municipal Code establishes the City's Historic and Resource Preservation Commission. The Commission has the responsibility of making a recommendation to the City Council on the formation of a Historic District, a geographical area that has a significant architectural enclave of historic buildings or scenic vistas. Properties of scenic significance, as defined by the Municipal Code, may include landscaping, light standards, trees, curbing, and signs that contribute aesthetically to the scenic heritage of the city.

#### ***Chapter 18.124: Open Land District***

The Open Land District (O) indicates land for public use, hazard avoidance, and buffering. Land is occasionally designated as Open Land to provide visual relief from urban development.

- Publicly owned land in the district may include public parks, playgrounds, wildlife preserves, and other public uses; drainage or flood control channels, creeks, rivers, canals and other watercourses; and freeways, parkways and park drives.

- Privately owned land, when the use of the land would endanger the public health, safety, and general welfare, may include areas where topography is too steep to build upon or where grading of the land may cause a public hazard due to erosion or flooding; areas subject to flooding or inundation from storm water; and areas beyond fire servicing, where development might endanger life, property, or the watershed.
- Buffer areas may include areas separating industrial and commercial districts from residential districts.

The O District limits permitted uses to those related to agricultural and open uses of land, trails, flood control, off-street parking, public facilities and utilities, and recreation. Conditional uses in this district include aggregate processing and asphalt batch plants, and excavation.

### **Chapter 18.138, HD Hillside Development District**

Chapter 18.138 establishes the Hillside Development District (HD), an overlay that addresses numerous risks to development on the city's hillsides. Objectives of the HD district include minimizing flood hazards, runoff, and soil erosion incurred from development of hillsides and providing safe vehicular circulation. This Chapter also ensures development on or near topographic features relates to surrounding topography, and will not disrupt scenic views due to the design or its location.

### **City of Redlands Architectural Guidelines**

Pursuant to Section 18.12.170 of the City of Redlands Municipal Code, the City established architectural guidelines for non-residential development located outside of the city's Downtown area. These guidelines are intended to provide design professionals, property owners, residents, staff, and decision makers with a clear and common understanding of the City's expectations for the planning, design, and review of development proposals. The guide contains examples of architectural design that is sensitive to the cultural and historic character of Redlands. Topics covered in the guide include building articulation, windows, the pedestrian realm, entryways, building materials, contextual design, signage, energy efficient design, adaptive reuse of structures, public art, site design, and landscaping, among others.

### **Scenic Corridors**

The City Council has designated numerous streets within the city as scenic highways, drives, and historic streets. Special development standards have been adopted by resolution for these streets. These streets include:

- 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.

### **San Bernardino County General Plan**

The San Bernardino County General Plan's Open Space Element seeks to guide the protection and preservation of open space, recreation, and scenic areas, while accommodating future growth. Specific policies for the Valley Region, which contains the Planning Area, include preserving open space lands by creating a plan to develop trails between communities, and preserving open space corridors for wildlife movement and recreational use, and designating scenic routes throughout the Crafton and Mentone portions of the Planning Area. The County General Plan's Conservation Element contains policies that seek to protect and maintain areas of biological, cultural, and paleontological sensitivity, while also protecting resources such as water, agricultural soils, and minerals.

The General Plan includes an open space overlay map that shows the location of open space resources, as well as biotic resources and cultural sensitivity overlay maps to identify areas where protection may be required. The open space overlay shows the policy areas, wildlife corridors, and scenic routes discussed in the Open Space Element. These include policy areas in and adjacent to the Crafton and Mentone areas of the Planning Area that contain County-designated scenic routes, as well as wildlife corridors surrounding the Planning Area along the Santa Ana River Wash, San Timoteo Creek, and Live Oak Canyon. Wildlife corridors and sensitive species are discussed further in Chapter 10 of this document. The County's cultural sensitivity overlay does not cover any areas adjacent to the Planning Area.

### **San Bernardino County Development Code**

Chapter 82.19 of the San Bernardino County Development Code describes the Open Space (OS) Overlay zone, which covers open space for the protection of natural resources, preservation of scenic resources, and provision of trails. The code contains special requirements for areas designated as a wildlife corridor, special policy area, or buffer zone and areas designated as a scenic area, and provides development standards for trails.

### **Specific Plans**

The City uses specific plans to coordinate development and infrastructure improvements on large sites or series of parcels. Specific plans must be consistent with the General Plan and are typically used to establish development plans and standards to achieve the design and development objectives for a particular area. The Downtown Specific Plan, the East Valley Corridor Specific Plan, and the draft Transit Village Plan are described below.

#### ***Redlands Downtown Specific Plan (1994)***

The City's current Downtown Specific Plan was adopted in 1994 and amended through 2008. Its purpose is to provide a comprehensive set of standards for land use, development design, and public improvements for the Downtown area, and its primary goal is to create a compact, pedestrian-oriented environment that is consistent in character and density with the older Redlands core. The specific plan establishes Town Center (TC), Town Center-Historic (TC-H), and Service-Commercial (S-C) land use districts to organize permitted land uses in the planning area. The specific plan also establishes standards for building aesthetics, including architectural guidelines and standards

regarding height, floor area ratio (FAR), setbacks, facades, landscaping, lot coverage, building materials, and parking locations. For the area as a whole, the specific plan also addresses streetscaping priorities and design, open space and parks, and historical preservation. An update to the Downtown Specific Plan was completed in 2011, but as of February 2017, has not yet been adopted. The proposed General Plan would not change the Downtown Specific Plan. Rather, according to the proposed General Plan, the Redlands Downtown Specific Plan should be updated to create a cohesive town center with amenities and pedestrian-oriented streets. The updated specific plan would cover a larger area, including the traditional State Street commercial and civic areas in south Downtown, and would emphasize mixed-use and transit-oriented development Downtown.

#### *East Valley Corridor Specific Plan, 1989 (Revised 2010)*

The East Valley Corridor Specific Plan (EVCSP) 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 area is comprised of 4,350 acres adjacent to I-10 freeway and State Route 210, 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, mainly with large-scale warehousing and distribution uses, as well as the Citrus Plaza and Mountain Grove shopping centers. The construction of Citrus Valley High School on a key site within an area planned in the EVCSP as a scientific research park has dramatically changed the character of the neighborhood. The City has acknowledged a need to update the EVCSP to reflect this change.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purposes of this EIR, a significant adverse impact would occur if the Proposed Project would:

- Criterion 1: Have a substantial adverse effect on a scenic vista;**
- Criterion 2: Substantially degrade the existing visual character or quality of Redlands and its surroundings; or**
- Criterion 3: Create a new source of substantial light or glare that would adversely affect day-or night-time views in the area.**



## **METHODOLOGY AND ASSUMPTIONS**

Aesthetics and visual resources are generally subjective by nature, and therefore the level of the Proposed Project's visual impact is difficult to quantify. As such, this analysis was conducted qualitatively, assessing potential implications of growth occurring consistent with the proposed General Plan Land Use Map on the existing visual character of the Planning Area.

## **SUMMARY OF IMPACTS**

The Proposed Project is not expected to have significant adverse impacts on the Planning Area's scenic resources by detracting from scenic vistas, existing visual character and quality, or existing conditions of light and glare. Land use and design changes in the proposed General Plan generally seek to direct development into already urbanized infill areas while providing for visual compatibility within those areas. This has the effect of preserving the scenic quality of open space, canyons, and hillsides, while enhancing and unifying visual quality of built environments. While densification of selected areas is likely to occur, proposed policies will regulate physical aspects of development, such as building scale and landscape design, to ensure visual compatibility. Additional policies in the proposed General Plan promote the preservation of the Planning Area's existing urban historical and scenic natural characters. Because new development would be sited mostly in urbanized areas, and will be subject to Municipal Code policies, the impacts of added light and glare resulting from the Proposed Project would also be less than significant. The proposed Climate Action Plan (CAP) does not include any land use changes or measures that would affect aesthetics or visual resources, and would therefore have no impact.

## **IMPACTS**

### **Impact 3.1-1 Implementation of the Proposed Project could cause an adverse effect on a scenic vista. (Less than Significant)**

Scenic vistas in the Planning Area consist of the scenic corridors and views to and from the open spaces, canyonlands, hillsides, groves, and the San Bernardino Mountains. Scenic views are also found in the urbanized part of the city, including along scenic and historic drives. The proposed General Plan would continue to regulate development in these areas, and contains policies to ensure that opportunities to enjoy scenic views are either preserved or enhanced. Thus, substantial adverse effects are not expected to occur.

The proposed General Plan introduces land use changes throughout the city. In the majority of cases, the land use change sites are located in or near already developed areas and coincide with areas designated for development under the existing General Plan. By focusing development in infill areas, the proposed General Plan relieves pressure to develop in open space and agricultural areas while filling visual gaps in existing neighborhoods. This allows for the preservation of open space views and the enhancement of urban views. There are some land use changes in the hillsides and canyons, but these land use changes would not be detrimental to the scenic qualities of these areas. The changes are intended to preserve that agricultural character of the Crafton area by aligning the permitted densities of the City's General Plan with that of the County. The proposed General Plan maintains the Resource Preservation land use categorization, and changes the land use of the Resource Conservation district to a new Hillside Conservation district to more accurately reflect

the purpose of the designation. The Hillside Conservation district designates areas of 30 percent slope or greater, and limits development depending on site-specific soil and slope conditions in order to preserve ridges and the visual quality of the hills.

Along the scenic drives, the proposed General Plan's land use changes are minimal, as most of the scenic drives are located in areas where some development has already taken place. Proposed policies ensure Redlands will maintain special design standards for these streets that are sensitive to the streets' scenic qualities. Additionally, proposed policies designate additional scenic streets with special design standards, and encourage streetscape design that is cognizant of viewpoints and vistas.

The Proposed Project also proposes several policies pertaining to preserving the unique visual qualities of the Planning Area's natural environment, including waterways, open space, hillsides, and vegetation. The Proposed Project proposes policies to reduce the deterioration of these natural features, and consequently their scenic qualities. Policies include context-specific design of new development and limiting development in areas with scenic qualities. Individual development projects will still be subject to development and planning review, and must therefore conform to zoning and other ordinances regarding aesthetic qualities such as lighting, signage, landscaping, and building setbacks.

Due to the siting and nature of the proposed land use changes, and policies that ensure that new development will have minimal impact on scenic corridors and other scenic resources, the Proposed Project will have a less than significant impact on the city's scenic vistas.

The proposed CAP does not include any land use changes or other measures that would affect scenic vistas, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Distinctive City Element*

#### **Cultural Resources 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.13 Encourage preservation of and public access to defined and established significant scenic vistas, viewpoints, and view corridors.

#### **Cultural Resources Actions**

- 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.32 Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic 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.

#### *Livable Community Element*

#### **Land Use Principles**

- 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.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.

### **Land Use Actions**

- 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.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.

### *Vital Environment Element*

### **Open Space for Conservation Principles**

- 6-P.6 Promote access to and views of conservation areas in a manner consistent with good land resource stewardship.

### **Open Space for Conservation 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.

### **Mitigation Measures**

None required.

### **Impact 3.1-2 Implementation of the Proposed Project could degrade the existing visual character or quality of Redlands and its surroundings. (Less than Significant)**

The proposed General Plan does not call for any substantial changes to land use or building design for most neighborhoods within the planning area and includes provisions to preserve or improve the existing visual character of the city.

Proposed land use designations and policies would direct new development into underutilized or previously developed areas, where any proposed changes in land use and physical design are intended to increase visual quality. The transit villages and surrounding areas will experience the most development densification under the proposed General Plan. However, proposed policies seek to ensure that any development or redevelopment is visibly compatible with the surrounding environment. Policies regarding visual compatibility in the proposed General Plan pertain to scale, historic preservation, landscaping, and preservation of scenic views and vistas. Additionally, policies pertaining to areas of new development promote visually appealing streetscapes and public art in order to improve the visual character of the Planning Area.

The proposed General Plan has policies intended to preserve the existing historic character of Redlands. In particular, policies aim to aid property owners to preserve historic structures, strengthen the influence of the Historic and Scenic Preservation Commission, and encourage streetscape and building design that compliments the historic character of the community. In doing so, the proposed General Plan will preserve the historic charm and visual character of the Planning Area. The Proposed Project also generally promotes a more pedestrian-friendly environment, including streetscape improvements at the pedestrian scale, and ensures that residents have nearby access to

shops and services. The result would be a more unified and aesthetically pleasing streetscape with an emphasis on well-designed sidewalks, landscaping, and street trees.

The open space and canyon components of the Planning Area's visual character would not be significantly altered by the Proposed Project. The Proposed Project contains policies to preserve hillsides and ridges, open space, and natural scenery. Additional measures ensure development is visually compatible with surrounding landscapes, and does not disrupt the natural features of the natural environment. These policies will ensure the Planning Area's natural features are preserved as visual assets of the community.

As the proposed General Plan includes policies recognizing the sensitivity of preserving the visual character of existing neighborhoods and open spaces, and which promote investment in the ongoing maintenance and improvement of these areas, it is unlikely to lead to visual degradation of the city or its surroundings. While the proposed General Plan would have a beneficial impact in some areas, it is expected that any adverse impacts on visual character would be less than significant.

The proposed CAP does not include any land use changes or other measures that would affect visual character, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

Principles 4-P.24, 4-P.28, and 4-P.29, and 6-P.6; and actions 4-A.17, 4-A.64, and 6-A.1, as listed under Impact 3.1-1 above; as well as the following policies.

#### *Distinctive City Element*

#### **Cultural Resources Principles**

- 2-P.9 Provide incentives to protect, preserve, and maintain the city's heritage.
- 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.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.

#### **Cultural Resources Actions**

- 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.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.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.51 Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.
- 2-A.67 Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.

#### **Street Trees and Streetscape 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.

#### **Street Trees and Streetscape 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
  - 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.

### **Vibrant Downtown Principles**

- 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.

### **Vibrant Downtown Actions**

- 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.

### *Livable Community Element*

#### **Land Use Principles**

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

#### **Land Use Actions**

- 4-A.13 Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.
- 4-A.22 Ensure that neighborhood shopping centers are designed in a manner compatible with adjacent residential areas.
- 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.

#### **Focus Areas Principles**

- 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.

#### **Focus Areas Actions**

- 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.76 Preserve and enhance the perceived character of the vegetation and wildlife within the Southeast Area as appropriate.
- 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.

#### *Vital Environment Element*

#### **Agriculture and Open Space for Resource Production Actions**

- 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.

#### **Mitigation Measures**

None required.

#### **Impact 3.1-3 Implementation of the Proposed Project could result in new sources of light or glare in the area, and would have the potential to adversely affect day- or night-time views. (Less than Significant)**

New development resulting from implementation of the proposed General Plan would necessitate the use of additional light fixtures and would contribute to existing conditions of light and glare. New light sources may include residential and non-residential interior and exterior lighting, parking lot lighting, commercial signage lighting, and lamps for streetscape and public recreational areas. Most new development resulting from the Proposed Project would take place in or near developed and urbanized areas, where moderate light and glare already exist, and would not be out of character with the urban environment. The proposed General Plan includes policies related to buffering between development and sensitive habitats, and between commercial, residential, and industrial uses. The proposed General Plan also includes a policy to preserve the visual character of the canyon areas and the agricultural area of Crafton by exploring the adoption of a dark sky ordinance. With these measures in place, this impact is considered less than significant.



The proposed scenic vistas, and proposed CAP do not include any land use changes or other measures that would affect light or glare, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

*Distinctive City Element*

**Historic and Scenic Conservation Actions**

- 2-A.35 Establish standards for the evaluation of exterior lighting for new development and re-development 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.

*Sustainable Community Element*

**Energy Efficiency and Conservation Actions**

- 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.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.

**Mitigation Measures**

None required.

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## 3.2 Agricultural Resources

This section provides an evaluation of potential impacts on Redlands' agricultural resources as a result of the Proposed Project. Per the California Environmental Quality Act (CEQA), adverse impacts to forestry and timberland should be discussed in this section. Since Redlands does not have forestry resources, forestry is not included in this detailed analysis. For more information, see *Chapter 3.16: Impacts Not Potentially Significant*.

### Environmental Setting

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#### EXISTING FARMLAND

Agricultural land use covers 2,180 acres, or about 7 percent of land in the Planning Area, including 911 acres in the city and 1,269 acres in the Sphere of Influence (SOI) outside of city limits. The majority of agricultural land the Planning Area is located outside of city limits, particularly in Crafton, where agricultural uses make up 25 percent of the total land area. Agricultural land is also in the northern portion of Redlands along the Santa Ana River Wash and in the bottom lands of San Timoteo Canyon. Agricultural uses in the Planning Area encompass row crops, horse ranching, citrus, poultry, dairy, and avocado production.

#### FARMLAND CLASSIFICATION

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) uses the Important Farmlands Inventory to classify farmland into five different categories based on soil type and current land use: Prime Farmland (Prime), Farmland of Statewide Importance (Important), Unique Farmland (Unique), Farmland of Local Importance, and Grazing Land. Two additional categories, (1) Urban and Built-up Land and (2) Other Land, are used for mapping purposes (for a discussion of soils, see Chapter 3.6: Geology, Soils, and Seismicity). For a more detailed description of these categories, see Farmland Mapping and Monitoring Program under State Regulations in the Regulatory Setting portion of this section. Table 3.2-1 shows the acreage in the Planning Area by farmland classification. These farmland classifications are mapped in Figure 3.2-1. FMMP farmland classifications are not necessarily designated as Agricultural land uses in the proposed General Plan, and are sometimes designated as Rural Living, Resource Preservation, and in other land use categories.

**Table 3.2-1: Farmland Acreages by Classification**

<i>Farmland Type</i>	<i>City of Redlands</i>	<i>Sphere of Influence Outside of City Limits</i>	<i>Planning Area Total</i>
Prime Farmland	745.0	1,327.6	2072.6
Farmland of Statewide Importance	142.9	94.5	237.4
Unique Farmland	249.3	443.8	693.1
Grazing Farmland	8,604.2	3,091.3	11,695.5
Urban and Built Up Land	12,353.7	1,289.6	13,643.3
Other Land	1,013.1	276.8	1,289.9
<b>TOTAL</b>	<b>23,147.4</b>	<b>6,523.7</b>	<b>29,671.0</b>

Notes:

1. Source data for farmland category is from 2014. Additional urban development may have occurred since then.
2. Numbers may not add due to rounding.

Source: *Farmland Mapping and Monitoring Program (FMMP), 2014; City of Redlands, 2016; San Bernardino County GIS, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.*

## **WILLIAMSON ACT LANDS**

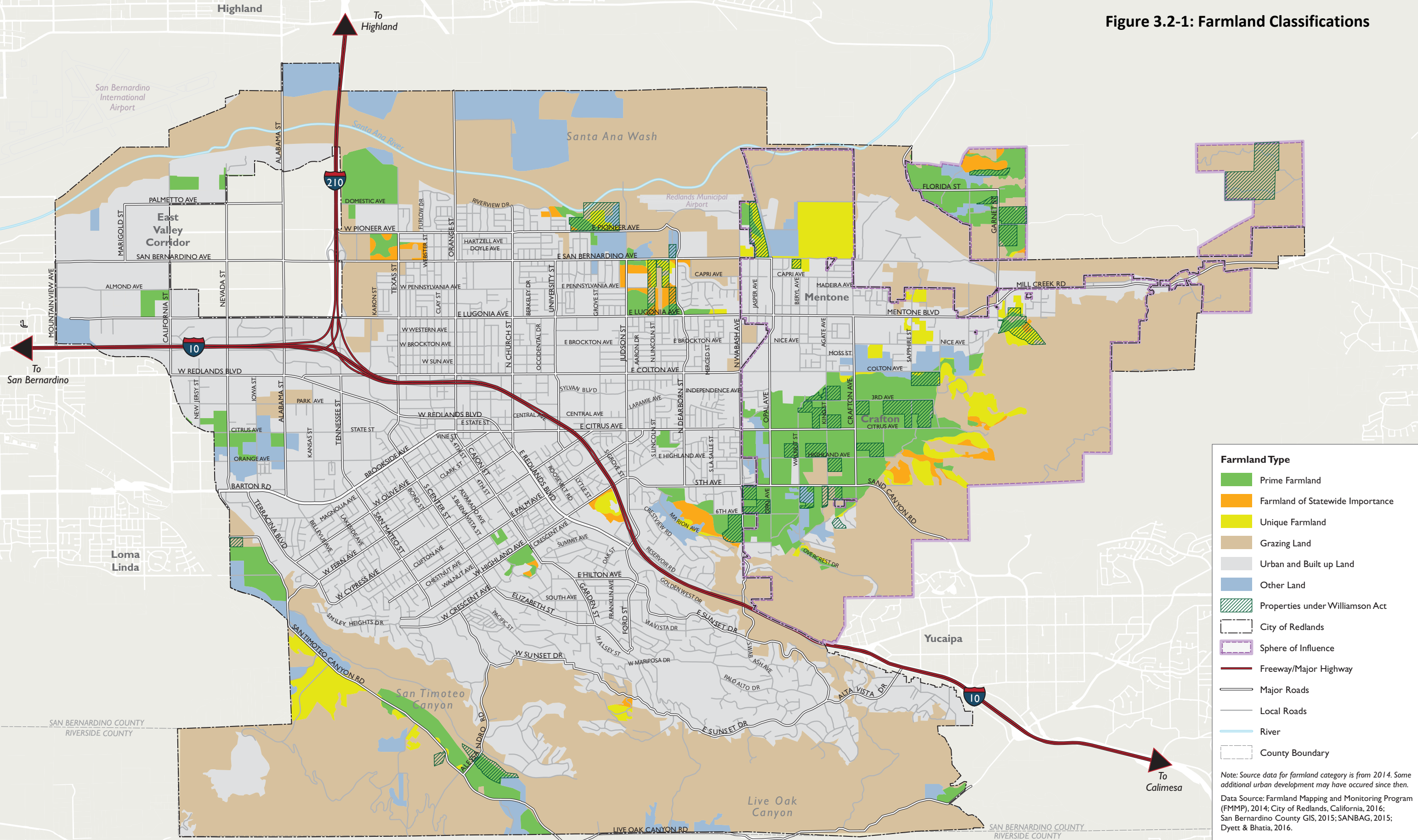
The California Land Conservation Act of 1965, also known as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. These properties are referred to as Williamson Act lands or Agricultural Preserves. In recent years, Redlands has seen its total number of Williamson Act contracts decline. For instance, a parcel formerly contracted under the Williamson Act at Domestic Avenue and Texas Street has been converted to school/educational use. Similarly, a parcel near the Redlands Municipal Airport has been developed as part of the airport. As of 2014, when the most recent FMMP data was available, there were 170 acres of land contracted under the Williamson Act in Redland and 451.7 acres in Crafton and Mentone. In total, there were 621.6 acres of farmland contracted under the Williamson Act in the Planning Area.

## **CITRUS PRODUCTION**

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 streetscaping elements. Despite the city's celebration of its citrus heritage, the amount of land in citrus production has decreased substantially over the years; in 1991, 4,925 acres of land were under citrus cultivation in the Planning Area, but that number has decreased to 1,985 acres as of 2016.

The City of Redlands owns 16 citrus groves, or 152 acres of land dedicated to citrus production throughout the city, shown on Figure 3.2-2.

Figure 3.2-1: Farmland Classifications



**Farmland Type**

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Urban and Built up Land
- Other Land
- Properties under Williamson Act
- City of Redlands
- Sphere of Influence
- Freeway/Major Highway
- Major Roads
- Local Roads
- River
- County Boundary

*Note: Source data for farmland category is from 2014. Some additional urban development may have occurred since then.*  
 Data Source: Farmland Mapping and Monitoring Program (FMMP), 2014; City of Redlands, California, 2016; San Bernardino County GIS, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

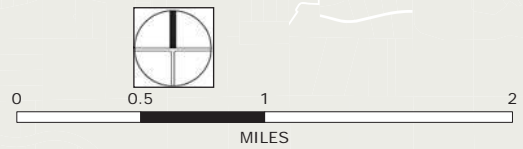
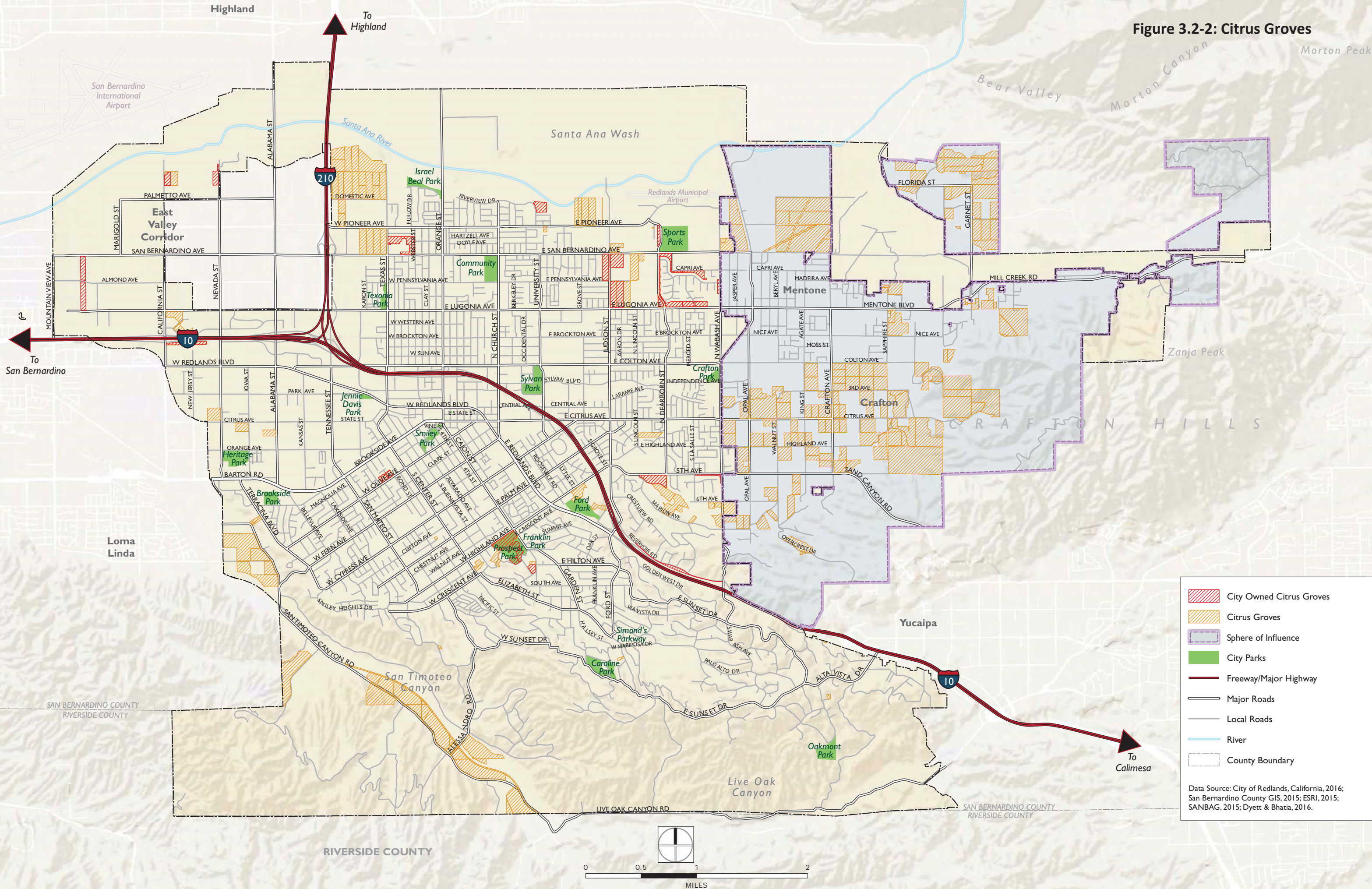


Figure 3.2-2: Citrus Groves



	City Owned Citrus Groves
	Citrus Groves
	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.

The City is planting two new groves that will add to these holdings: a 4.8-acre parcel located at the end of Riverview Drive and a 6.9-acre property located along Interstate 10 (I-10) on the city's western boundary. Varieties grown include Valencia Oranges, Navel Oranges, Ruby Star Grapefruit, and Rio Grapefruit. The groves are currently farmed by Larry Jacinto Farming, with whom the City entered into an agreement in 2012 in an effort to consolidate all farming operations into one contract that includes the care, harvest, and marketing of the City's groves. Citrus is sold to a local packing house that works with Sunkist, and is exported to other parts of the United States or to Asia.

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. The City occasionally chooses to sell citrus grove land; as an example, Palmetto Grove was sold in 2012 and the proceeds were used to fund various open space projects within the city, and the Citrus Preservation Division itself.

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. The City has sought to manage the spread of the psyllid through seasonal spraying. The City also encourages private owners of more than 25 trees to spray seasonally, through pamphlets and educational support. San Bernardino County provides private owners of fewer than 25 trees with Asian citrus psyllid spray.

Groves outside of city limits in the Planning Area 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, the area of existing citrus operations west of the proposed Crafton Hills Open Space area, 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.

## **REGULATORY SETTING**

### **Federal Regulations**

#### **U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)**

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving, and sustaining the nation's limited soil resources. In addition to many other natural resource conservation programs, the NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with state, tribal, or local governments to acquire conservation easements or other interests from landowners.

The NRCS also classifies soils according to their suitability for irrigated and non-irrigated agricultural use, as follows:

- Class I Soils have slight limitations that restrict their use.
- Class I soils in the Planning Area include Grangeville Fine Sandy Loam (Gr)(irrigated), Hanford Sandy Loam (HbA)(irrigated), and San Emigdio Fine Sandy Loam (ScA, ScC, SeD2) (irrigated).
- Class II Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class II soils in the Planning Area include Greenfield Sandy Loam (GtC) (irrigated), Ramona Sandy Loam (RmC, RmD, RmE2) (irrigated), and San Emigdio Gravelly Sandy Loam (SbC)(irrigated).
- Class III Soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
- Class III soils in the Planning Area include Grangeville Fine Sandy Loam (Gr)(non-irrigated), Greenfield Fine Sandy Loam (GtD)(irrigated and non-irrigated), Greenfield Sandy Loam (GtC)(non-irrigated), Hanford Coarse Sandy Loam (HaC, HaD)(irrigated and non-irrigated), Hanford Sandy Loam (HbA)(non-irrigated), Metz Coarse Sandy Loam (MgC)(irrigated and non-irrigated), Ramona Sandy Loam (RmC, RmD, RmE2)(non-irrigated), San Emigdio Fine Sandy Loam (ScA, ScC, SeD2)(non-irrigated), and San Emigdio Gravelly Sandy Loam (SbC)(non-irrigated).
- Class IV Soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
- Class IV soils in the Planning Area include Psamments and Fluvents (Ps) (non-irrigated), Soboba Gravelly Loamy Sand (SoC) (irrigated), and Tujunga Gravelly Loamy Sand (TvC) (irrigated and non-irrigated).
- Class V Soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- There are no Class V soils in the Planning Area.
- Class VI Soils have severe limitations that make them generally unsuitable for cultivation and that limit their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class VI soils in the Planning Area include Cieneba Sandy Loam (CnD) (non-irrigated), Cieneba-Friant Sandy Loam (Cp) (non-irrigated), San Timoteo Loam (SgF2) (non-irrigated), and Soboba Gravelly Loamy Sand (SoC) (non-irrigated).
- Class VII Soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to rangeland, forestland, or wildlife habitat.



Class VII soils in the Planning Area include Friant-Rock Outcrop Complex (Fr)(non-irrigated) and Saugus Sandy Loam (ShF)(non-irrigated).

Class VIII Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use mainly to recreation, wildlife habitat, water supply, and esthetic purposes.

Class VIII soils in the Planning Area include Cieneba-Rock Outcrop Complex (Cr)(non-irrigated).

## State Regulations

### ***Farmland Mapping and Monitoring Program***

As noted above, the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) classifies farmland into five different categories based on soil type and current land use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The minimum mapping unit is 10 acres, with the exception of grazing land, which is 40 acres. Two additional categories, Urban and Built-up Land and Other Land, are used for mapping purposes.

- *Prime Farmland* is land that has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when managed (including water management) according to current farming methods. Prime Farmland must have been used for the production of crops within the last three years.
- *Farmland of Statewide Importance* is land other than Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops. It must have been used for crop production within the last three years.
- *Unique Farmland* is that which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but which is currently used for the production of specific high economic value crops (as listed in the last three years of *California Agriculture*, produced by the California Department of Food and Agriculture). It has the special combination of location, soil quality, growing season, and moisture supply to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming practices. Examples may include oranges, olives, avocados, rice, grapes, and cut flowers.
- *Farmland of Local Importance* is either currently producing crops or has the capability to do so. It is land other than Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, but it may be important to the local economy due to its productivity. There is no such Farmland in the Planning Area.
- *Grazing Land* is that on which the existing vegetation, whether grown naturally or through management, is suitable for livestock grazing. This category does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique

Farmland, or Farmland of Local importance, of other lands where the terrain restricts the access and movement of livestock.

- *Urban and Built-up Land* is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel.
- *Other Land* includes low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than forty acres; and vacant and non-agricultural land larger than 40 acres and surrounded on all sides by urban development.

See Table 3.2-1 for a listing of acreage by farmland classification in the Planning Area.

### **California Farmland Conservancy Program**

The California Farmland Conservancy Program (Public Resources Code Section 10200 et seq.) supports the voluntary granting of agricultural conservation easements from landowners to qualified nonprofit organizations, such as land trusts, as well as local governments. Conservation easements are voluntarily established restrictions that are permanently attached to property deeds, with the general purpose of retaining land in its natural, open-space, agricultural, or other condition while preventing uses that are deemed inconsistent with the specific conservation purposes expressed in the easements. Agricultural conservation easements define conservation purposes that are tied to keeping land available for continued use as farmland. Such farmlands remain in private ownership and the landowner retains all farmland use authority, but the farmland is restricted in its ability to be subdivided or used for nonagricultural purposes, such as urban uses. Potential impacts on conservation easements would be addressed in subsequent project-level documents. There are no existing conservation easements in the Planning Area.

### **Williamson Act and Farmland Security Zone Contracts**

The California Land Conservation Act (Government Code Section 51200 et seq.) of 1965, commonly known as the Williamson Act, provides a tax incentive for the voluntary enrollment of agricultural and open space lands in contracts between local government and landowners. The contract restricts the land to agricultural and open space uses and compatible uses defined in State law and local ordinances. An agricultural preserve, which is established by local government, defines the boundary of an area within which a city or county will enter into contracts with landowners. Local governments calculate the property tax assessment for lands under contract based on the actual use of the land rather than the potential land value assuming full development.

Williamson Act contracts are effective for periods of 10 years and longer. The contract is automatically renewed each year, maintaining a constant, 10-year contract, unless the landowner or local government files to initiate non-renewal. Should that occur, the Williamson Act would terminate 10 years after the filing of a notice of non-renewal. Only a landowner can petition for a contract cancellation. Tentative contract cancellations can be approved only after a local government makes specific findings and determines the cancellation fee to be paid by the landowner.

The State of California has the following policies regarding public acquisition of and locating public improvements on lands in agricultural preserves and on lands under Williamson Act contracts (Government Code Section 51290–51295):

- Avoid locating federal, State, or local public improvements and improvements of public utilities, and the acquisition of land, in agricultural preserves.
- Locate public improvements that are in agricultural preserves on land other than land under Williamson Act contract.
- Any agency or entity proposing to locate such an improvement, in considering the relative costs of parcels of land and the development of improvements, give consideration to the value to the public of land, particularly prime agricultural land, in an agricultural preserve.

Since 1998, another option in the Williamson Act Program has been established with the creation of Farmland Security Zone contracts. A Farmland Security Zone is an area created within an agricultural preserve by a board of supervisors upon the request of a landowner or group of landowners. Farmland Security Zone contracts offer landowners greater property tax reduction and have a minimum initial term of 20 years. Like Williamson Act contracts, Farmland Security Zone contracts renew annually unless a notice of non-renewal is filed. Potential cancellation of Williamson Act and Farmland Security Zone contracts would be addressed in subsequent project-level documents.

Under the Open Space Subvention Act of 1971, the State has provided annual subvention payments to counties for foregone property tax revenue due to Williamson Act contracts. The Budget Act of 2009 virtually eliminated these payments for the 2009-10 fiscal year. While partial funding was restored for the 2010-11 fiscal year, long-term state support to counties for agricultural land conservation is uncertain. Despite the elimination of most payments from the state, the California Department of Conservation has continued to release status reports of lands under Williamson Act contracts, with the most recent release occurring in 2012, covering 2010 and 2011. Land contracted under the Williamson Act are scattered throughout the city, as shown in Figure 3.2-1, with most of the contracted land located in the SOI outside of city limits. As of 2015, there are 18 active Williamson contracts in the city.

### **California Civil Code Section 3482.5 (Right to Farm Act)**

In accordance with California Civil Code Section 3482.5, if a commercial agricultural use operates according to proper and accepted customs and standards (i.e., in compliance with all applicable state and federal statutes and regulations), has existed in its present location for three or more years and was not considered a nuisance when it began operations, the operations cannot become a private or public nuisance due to any changed condition in the locality, such as encroaching urban development.

### **Local Regulations**

#### **Chapter 18.16.050: Annexation**

Title 18 of the Municipal Code states that any area annexed to the city after the effective date hereof shall automatically be zoned in the A-1 (agricultural) district. The annexed land is to remain as A-

1 until the zoning district for the area has been adopted by the commission and council, unless the commission and council determine the precise zoning as a part of the annexation procedure. The commission shall recommend to the council appropriate districting of the land within (90) days after an application for change has been filed with the commission.

### **Measure U**

Measure U, adopted in 1997 as an amendment to the General Plan, articulates growth management policies in the City of Redlands. It aims to reduce development density on the periphery of the city, particularly in the San Timoteo and Live Oak canyons, in order to preserve natural scenic and biological resources. Principle Four of this amendment articulates the importance of preserving agricultural land to the greatest extent possible. This principle is consistent with Proposition R and Measure N, previous growth management policies adopted by the City. For a more detailed discussion of Measure U, see Chapter 3.10: Land Use, Population, and Housing.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purposes of this EIR, a significant adverse impact on agricultural resources would occur if the Proposed Project would:

- Criterion 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring of the California Resources Agency, to non-agricultural use;**
- Criterion 2: Conflict with an existing Williamson Act contract; or**
- Criterion 3: Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use.**

### **METHODOLOGY AND ASSUMPTIONS**

Farmland resource acreages were assessed based on the California Department of Conservation's FMMP, a biennial report and mapping resource on the conversion of farmland and grazing land. Williamson Act contract lands were identified by the Department of Conservation and by the City of Redlands. Using these sources, the Proposed Project was analyzed for potential conversion of Important Farmland, conversion of Williamson Act contract lands, and other changes resulting from the proposed General Plan that may result in the conversion of farmland from agricultural production to urban uses.

To analyze the significance of each impact, the proposed General Plan goals and policies were considered to determine if significant impacts would still remain with development of the General Plan and full implementation of all policies.

## SUMMARY OF IMPACTS

The proposed General Plan is expected to produce an adverse environmental impact concerning the conversion of Prime Farmland to urban or other uses. Although there are policies in the proposed General Plan to reduce this impact, it would remain significant and unavoidable. Land use changes are not expected to affect the status of Williamson Act contracts. The proposed General Plan is not expected to involve other changes in the existing environment that would result in the conversion of Farmland to non-agricultural use. The proposed Climate Action Plan (CAP) does not include measures that affect the agricultural resources of the Planning Area. Therefore, it does not affect the impacts addressed below.

## IMPACTS AND MITIGATION MEASURES

### **Impact 3.2-1 The Proposed Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. (Significant and Unavoidable)**

Agricultural land use, at approximately 7 percent of total land use in the Planning Area, represents a small portion of Redlands' overall land use. Table 3.2-1 shows the existing inventory of important farmland by category. Prime and Unique Farmland, as well as Farmland of Statewide Importance, is scattered throughout the city, mostly on the periphery where development is less intense. Most Prime Farmland is located in Crafton, and is used for citrus production. There is also Unique Farmland and Farmland of Statewide Importance located near this Prime Farmland in Crafton. Unique and Prime Farmland is also clustered in the San Timoteo Canyon along San Timoteo Canyon Road. North of the city, near the Santa Ana River Wash, are areas of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Land designated as Prime Farmland is also located near the East Valley Corridor, where some farmland has converted to commercial and industrial land uses since the adoption of the 1995 General Plan.

Under the proposed General Plan, proposed land use changes could impact about 200 acres of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (important farmland) designated by the FMMP program currently under cultivation throughout the Planning Area. The affected important farmland is mainly located where non-contiguous agricultural uses are interspersed with more intensive uses, such as in the East Valley Corridor Specific Plan area, along Mentone Boulevard, among residential development near the Redlands Municipal Airport, and among residential uses along Wabash Avenue and Marion Avenue. If a project proposes urban uses on these sites, it would result in conversion of agricultural lands, which would be considered significant. Additional Prime Farmland, Farmland of Statewide Importance, and Unique Farmland can be found throughout the Planning Area, but the remainder has either previously been developed, or would be protected or allowed to continue under Agriculture, Open Space, Rural Living, Hillside Conservation, Resource Conservation, or Very Low Density Residential land use designations under the proposed General Plan, and so would not be significantly impacted. In addition, as residential uses would not be permitted within the 500-foot Air Quality Management District buffer along Interstate 210 (I-210), the portion of farmland located within the buffer would be protected from development.

Individual projects under the proposed General Plan would be required to undergo subsequent environmental review pursuant to CEQA, and as part of this review effort, projects requiring discretionary approval would be required to address impacts on agricultural lands. Overall, the proposed General Plan policies provide a framework to permit existing agricultural uses, and ensure that important farmland remains as farming or other related agricultural support uses, for as long as such use is financially feasible. Land use policies, such as the urban growth boundary and 5-acre lot minimums for the Rural Living land use designation, aim to preserve agricultural land in the Planning Area as a whole by promoting infill development in urbanized portions of the community and allowing for larger and more sustainable concentrations of agricultural uses in the Planning Area outside of city limits. Additionally, because Redlands' historic citrus industry is an important component of the city's identity and history, proposed General Plan policies preserve citrus groves and encourage the consumption of locally grown citrus. Though 200 acres of Prime, Important, or Unique farmland could potentially be converted under the proposed General Plan, proposed policies such as those promoting farmland mitigation and transfer of development rights would seek to preserve agricultural land and support the economic viability of local agriculture in other locations. However, despite proposed policies and existing State and local regulations that would make the loss of Prime, Important, or Unique farmland less severe, the conversion of this farmland would be considered a significant and unavoidable impact.

The proposed CAP does not include any land uses changes or other strategies that would result in conversion of Farmland to non-agricultural use. It would therefore have no impact on this topic.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Distinctive City Elements*

##### **Cultural Resources 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.

##### **Citrus Groves/Farms 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.
- 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.

##### **Citrus Groves/Farms 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, and retention of citrus properties within the city.

- 2-A.83 Explore funding mechanisms to increase City acreage of citrus groves.
- 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. At a minimum, two rows of trees should be planted and the area should be at least 10,000 square feet to be a viable grove along street frontages.
- 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.

#### *Livable Community Elements*

##### **Growth Management Principles**

- 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.

##### **Growth Management 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.

##### **Land Use Principles**

- 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.

##### **Land Use Actions**

- 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, and discourage the isolation of agricultural parcels among non-agricultural 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.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.

#### *Vital Environment Elements*

##### **Open Space for Conservation Principles**

- 6-P.4 Preserve and enhance open space and agricultural land to define the Mentone and Crafton areas as distinct from Redlands.

##### **Agriculture and Open Space for Resource Production Principles**

- 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.

##### **Agriculture and Open Space for Resource Production Actions**

- 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 farmer’s markets to enhance the economic viability of farming in Redlands.

### *Healthy Community Elements*

#### **Public Health Principles**

- 7-P.18 Promote locally grown foods.

#### **Public Health 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.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.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.

#### **Mitigation Measures**

No mitigation is available that would reduce impacts to a level that is less than significant.

#### **Impact 3.2-2 The Proposed Project would conflict with an existing Williamson Act contract. (Less than Significant)**

Like important farmland described in Impact 3.2-1, Williamson Act contracts are spread throughout the periphery of the city. Most contracted land is located in Crafton, but there are also contracted lands in the San Timoteo Canyon and in the north of the city near the Santa Ana River Wash. Most and contracted under the Williamson Act would not be susceptible to buildout pressure due to their categorization as low density Rural Living and Agriculture land uses under the proposed General Plan. Some contracted land is located on sites designated as Very Low Density

Residential, which allows for the continuation of agricultural uses. One area of contracted land located in Mentone south of Mill Creek Road is partially designated as Low Density Residential under the proposed General Plan, which could lead to the eventual conversion of these lands from agricultural uses. However, as no individual projects are proposed as part of the proposed General Plan that would conflict with the provisions of a Williamson Act contract, this area would be significantly impacted. As described in Impact 3.2-1, proposed General Plan policies aim to protect agricultural resources and preserve Redlands' historical agricultural heritage and encourage the use and continuation of Williamson Act contracts. Because none of the land use changes proposed in this General Plan update conflict with an existing Williamson Act contract, this impact is considered less than significant.

The proposed CAP does not include any land use changes or other strategies that would conflict with an existing Williamson Act contract. It would therefore have no impact on this topic.

### **Proposed General Plan Policies that Reduce the Impact**

The proposed General Plan principles and actions as listed under Impact 3.2-1 above.

### **Mitigation Measures**

None required.

### **Impact 3.2-3 The Proposed Project would result in changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. (Less than Significant)**

Agricultural lands within Redlands are largely located at the fringe of the urbanized core. Urban development can cause a direct threat to agricultural resources, but growth can have indirect, negative impacts on agricultural resources as well. Urban development has the potential to result in conflicts with adjacent agricultural practices, and could lead to restrictions on the use of agricultural chemicals, complaints regarding noise, dust and odors, trespassing, and vandalism. These conflicts may increase costs of agricultural operations, and together with other factors, encourage the conversion of additional farmland to urban uses.

The proposed land use diagram locates most agricultural land away from high-intensity land use designations such as commercial and industrial facilities, separating them with buffers of lower intensity uses such as low-density residential. Only a few land use changes proposed in the General Plan may impact existing farmland. A parcel of Unique Farmland is adjacent to a proposed Light Industrial parcel in Mentone, north of Mentone Boulevard. An area of Prime Farmland north of Domestic Avenue is adjacent to a proposed Commercial/Industrial parcel. An area of Prime Farmland is located immediately north of two small Office parcels at the intersection of Orange Avenue and Alabama Street, which are proposed as Medium Density Residential land uses in the proposed General Plan. The proposed General Plan policies allow for agricultural uses throughout the city, and aim to preserve agricultural land from fragmentation or isolation by directing development to infill sites in the urbanized part of the city and allowing for larger areas of low-density and agricultural uses in the periphery. Therefore, this impact is less than significant.

The proposed CAP does not include any land uses changes or other strategies that would result in conversion of Farmland to non-agricultural use. It would therefore have no impact on this topic.

***Proposed General Plan Policies that Reduce the Impact***

The proposed General Plan principles and actions as listed under Impact 3.2-1 above.

***Mitigation Measures***

None required.

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## 3.3 Air Quality

### Environmental Setting

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This section assesses the local and regional air quality impacts of implementing the Proposed Project. This analysis focuses on criteria pollutants and toxic air contaminants. Greenhouse gases (GHGs) are evaluated in Section 3.5: Energy and Greenhouse Gases.

#### PHYSICAL SETTING

While air quality is largely a regional issue, the land use, circulation, and growth decisions made by local communities, such as Redlands, affects regional air quality. Located within the South Coast Air Basin (SCAB or Basin), Redlands' air quality is overseen by the South Coast Air Quality Management District (SCAQMD). The SCAQMD includes Orange County, most of Los Angeles County, and the western portions of San Bernardino and Riverside counties.

The SCAQMD covers an overall area of approximately 10,743 square miles, and is generally bounded by the Pacific Ocean to the west, and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east.

#### Topography, Climate, and Meteorology

The climate within the SCAQMD varies considerably as a result of the coastal zone, inland valleys, mountain areas, and deserts. Much of the Basin is generally arid, with little rainfall, and abundant sunshine during summer months.

The topography and climate of Southern California contribute to the SCAB as an area of high air pollution potential. Within this Basin, a warm air mass frequently descends over the cool, moist marine layer of the atmosphere, and the warm upper layer can form a cap over the cooler surface layer, which traps pollutants near the ground. Light winds can further limit or minimize ventilation, and abundant sunlight triggers photochemical reactions that produce ozone and the majority of particulate matter (SCAQMD, 2017a).

In general, the SCAB's air pollution is a consequence of emissions from the nation's largest urban area, meteorological conditions adverse to the dispersion of those emissions, and mountainous terrain surrounding the Basin, as the sea breeze pushes those pollutants inland. Within the Basin, high concentrations of ozone (O<sub>3</sub>) are normally recorded during the late spring and summer months when more intense sunlight results in enhanced photochemical reactions. The SCAB can experience elevated levels of PM<sub>10</sub>(particulate matter less than or equal to 10 microns) and PM<sub>2.5</sub>

(particulate matter less than or equal to 2.5 microns) concentrations throughout the year, but occur most frequently in fall and winter (SCAQMD, 2017a).

### **Sensitive Populations and Receptors**

Populations most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Thus, there are numerous sensitive receptors in the Planning Area.

### **Pollutants and Effects**

Criteria air pollutants are defined as pollutants for which the federal or State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O<sub>3</sub>, nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>), and lead. These pollutants are discussed below, based on the U.S. Environmental Protection Agency's (EPA's) website for Criteria Air Pollutants and the CARB Glossary of Air Pollution Terms (EPA, 2017). In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

**Ozone.** O<sub>3</sub> is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROGs), and NO<sub>x</sub> react in the presence of ultraviolet sunlight. O<sub>3</sub> is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO<sub>x</sub>, the precursors of O<sub>3</sub>, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O<sub>3</sub> formation, and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O<sub>3</sub> at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

**Nitrogen Dioxide.** Most NO<sub>2</sub>, like O<sub>3</sub>, is not directly emitted into the atmosphere but is instead formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO<sub>2</sub> are collectively referred to as NO<sub>x</sub> and are major contributors to O<sub>3</sub> formation. High concentrations of NO<sub>2</sub> can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO<sub>2</sub> and chronic pulmonary fibrosis, and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

**Carbon Monoxide.** CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as Redlands, automobile exhaust

accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

**Sulfur Dioxide.** SO<sub>2</sub> is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO<sub>2</sub> are coal and oil used in power plants and industries; as such, the highest levels of SO<sub>2</sub> are generally found near large industrial complexes. In recent years, SO<sub>2</sub> concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO<sub>2</sub> and the limits on the sulfur content of fuels. SO<sub>2</sub> is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO<sub>2</sub> can also yellow plant leaves and erode iron and steel.

**Particulate Matter.** Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM<sub>2.5</sub> and PM<sub>10</sub> represent fractions of particulate matter. Fine particulate matter, or PM<sub>2.5</sub>, is roughly 1/28 the diameter of a human hair. PM<sub>2.5</sub> results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM<sub>2.5</sub> can be formed in the atmosphere from gases such as sulfur oxides (SO<sub>x</sub>), NO<sub>x</sub>, and VOC. Inhalable or coarse particulate matter, or PM<sub>10</sub>, is about 1/7 the thickness of a human hair. Major sources of PM<sub>10</sub> include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

PM<sub>2.5</sub> and PM<sub>10</sub> pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM<sub>2.5</sub> and PM<sub>10</sub> can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM<sub>10</sub> tends to collect in the upper portion of the respiratory system, PM<sub>2.5</sub> is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

**Lead.** Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters.

Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

**Toxic Air Contaminants.** A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC. CARB has identified diesel engine exhaust particulate matter as the predominant TAC in California. Diesel particulate matter is emitted into the air by diesel-powered mobile vehicles, including heavy-duty diesel trucks, construction equipment, and passenger vehicles. Certain ROGs may also be designated as TACs.

## **Local Air Quality**

### **SCAB Attainment Designation**

An area is designated in attainment when it is in compliance with the NAAQS (federal) and/or California Ambient Air Quality Standards (CAAQS) (State). These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Table 3.3-4 in the “Regulatory Setting” section lists the current NAAQS and CAAQS.

As noted above, the criteria pollutants of primary concern that are considered in this air quality assessment include O<sub>3</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. There are no ambient standards for VOCs or NO<sub>x</sub>, though they are important as precursors to O<sub>3</sub>.

SCAB is in attainment of the current PM<sub>10</sub> 24-hour NAAQS, and is in attainment of the NAAQS for SO<sub>2</sub>, CO, and NO<sub>2</sub> (SCAQMD, 2017a). Although the 1-hour NO<sub>2</sub> federal standard was exceeded in the SCAB at one station on one day in 2015, the NAAQS NO<sub>2</sub> design value has not been exceeded; thus, the SCAB is in attainment of the NO<sub>2</sub> NAAQS. The EPA designated the Los Angeles County portion of the SCAB as nonattainment for the revised 2008 federal lead standard on the basis of source-specific monitoring at two locations determined by the EPA using 2007-2009 data, though all other stations in the SCAB, including those in Los Angeles County, have remained below the lead National Ambient Air Quality Standards (NAAQS) for the 2012 to 2015 period. As such, the



SCAQMD will request that the EPA re-designate the Los Angeles County portion of the basin as in attainment for lead (SCAQMD, 2017a). SCAB is designated as a non-attainment area for current and former federal and State O<sub>3</sub> standards, the current federal and State PM<sub>2.5</sub> standards, and State PM<sub>10</sub> standards.

Table 3.3-1, SCAB Attainment Classification, summarizes the SCAB's federal and State attainment designations for each criteria pollutant.

**Table 3.3-1: SCAB Attainment Classification**

<i>Pollutant (Averaging Time and Level)<sup>1</sup></i>	<i>Federal Designation<sup>2</sup></i>	<i>State Designation<sup>3</sup></i>
O <sub>3</sub> (1 hour - 1979)	Nonattainment <sup>2</sup> (Extreme)	Nonattainment
O <sub>3</sub> (8-hour – 1997) <sup>4</sup>	Nonattainment(Extreme)	
(8-hour – 2008) <sup>4</sup>	Nonattainment (Extreme)	Nonattainment
(8-hour – 2015) <sup>4</sup>	Nonattainment (Extreme) <sup>5</sup>	
CO (1-hour – 1971)	Attainment (Maintenance)	Attainment
(8-hour – 1971)	Attainment (Maintenance)	Attainment
PM <sub>10</sub> <sup>6</sup> (24-hour – 1987)	Attainment (Maintenance)	Nonattainment
(Annual)	N/A	Nonattainment
PM <sub>2.5</sub> <sup>7</sup> (24-hour – 2006)	Nonattainment (Serious)	
(Annual – 1997)	Attainment (Pending) <sup>5</sup>	Nonattainment
(Annual – 2012)	Nonattainment (Moderate)	
NO <sub>2</sub> <sup>8</sup> (1-hour – 2010)	Unclassifiable/Attainment	Attainment
(Annual – 1971)	Attainment (Maintenance)	Attainment
SO <sub>2</sub> <sup>9</sup> (1-hour – 2010)	Unclassifiable/Attainment <sup>5</sup>	Attainment
(24-hour – 1971)	Unclassifiable/Attainment	Attainment
(Annual – 1971)	Unclassifiable/Attainment	
Lead <sup>10</sup> (3-months rolling – 2008)	Nonattainment (Partial) (Attainment determination to be Requested)	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Attainment

Notes:

1. CA State standards, or CAAQS, for ozone, CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are values not to be exceeded; lead, sulfates, and H<sub>2</sub>S standards are values not to be equaled or exceeded; CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.
3. CA State designations shown were updated by CARB in 2016, based on the 2013–2015 3-year period; stated designations are based on a 3-year data period after consideration of outliers and exceptional events (Source: <http://www.arb.ca.gov/design/statedesig.htm#current>).
4. The 1979 1-hour ozone NAAQS (0.12 ppm) was revoked in June 2005; however, the Basin has not attained this standard and therefore has some continuing obligations with respect to the revoked standard.
3. The 2008 8-hour ozone NAAQS (0.075 ppm) was revised to 0.070 ppm in December 2015 with classifications and implementation goals to be finalized October 2017; the 1997 8-hour ozone NAAQS (0.08 ppm) was revoked in the 2008 ozone NAAQS implementation rule in April 2015; there are continuing obligations under the revoked 1997 and revised 2008 ozone NAAQS until they are attained.

**Table 3.3-1: SCAB Attainment Classification**

<i>Pollutant (Averaging Time and Level)<sup>1</sup></i>	<i>Federal Designation<sup>2</sup></i>	<i>State Designation<sup>3</sup></i>
5. Indicated pending status and/or classification; however, these final statuses are expected and/or anticipated.		
6. The annual PM <sub>10</sub> NAAQS was revoked, effective 12/18/06; the 24-hour PM <sub>10</sub> NAAQS deadline was 12/31/2006; the Basin's Attainment Redesignation Request and PM <sub>10</sub> Maintenance Plan was approved by EPA on 6/26/13, effective 7/26/13.		
7. The attainment deadline for the 2006 24-hour PM <sub>2.5</sub> NAAQS was 12/31/15 for the former "moderate" classification; U.S.EPA approved reclassification to "serious," effective 2/12/16 with an attainment deadline of 12/31/2019; the 2012 (proposal year) annual PM <sub>2.5</sub> NAAQS was revised on 1/15/13, effective 3/18/13, from 15 to 12 µg/m <sup>3</sup> ; new annual designations were final 1/15/15, effective 4/15/15; on July 25, 2016 EPA finalized a determination that the Basin attained the 1997 annual (15.0 µg/m <sup>3</sup> ) and 24-hour PM <sub>2.5</sub> (65 µg/m <sup>3</sup> ) NAAQS, effective August 24, 2016.		
8. New 1-hour NO <sub>2</sub> NAAQS became effective 8/2/10, with attainment designations 1/20/12; annual NO <sub>2</sub> NAAQS retained.		
9. The 1971 annual and 24-hour SO <sub>2</sub> NAAQS were revoked, effective 8/23/10; however, these 1971 standards will remain in effect until one year after EPA promulgates area designations for the 2010 SO <sub>2</sub> 1-hour NAAQS; final area designations expected by 12/31/20 due to new source-specific monitoring requirements; Basin expected to be in attainment due to ongoing clean data.		
10. Partial Nonattainment designation – Los Angeles County portion of the Basin only for near-source monitors; expect to remain in attainment based on current monitoring data; attainment re-designation request pending.		

Sources: South Coast Air Quality Management District. 2016 Air Quality Management Plan, 2017. Table 2-3, page 2-8 and Table 2-5, page 2-10.

### **Air Quality Monitoring Data**

The SCAQMD operates a network of ambient air monitoring stations throughout the SCAB, including the City of Redlands, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The SCAQMD monitors air quality conditions at 38 permanent monitoring stations and five single-pollutant source impact Lead (Pb) air monitoring sites (SCAQMD, 2016). The 500 North Dearborn Street ambient air quality monitoring station in Redlands monitors air pollutant data in the city. The air quality trends from this station are used to represent the city's ambient air quality. Ambient concentrations of pollutants from 2013 through 2015 are presented in Table 3.3-2. Where data were not available in Redlands, the 24302 4th Street ambient air quality monitoring station in San Bernardino was used. The number of days exceeding the ambient air quality standards (State and federal) is shown in Table 3.3-3.

**Table 3.3-2: Ambient Air Quality Monitored at the Redlands–500 North Dearborn Street Station**

Pollutant	Averaging Time	2013	2014	2015
O <sub>3</sub>	8-hour	0.119 ppm	0.104 ppm	0.115 ppm
	1-hour	0.133 ppm	0.128 ppm	0.137 ppm
PM <sub>10</sub>	Annual	27.1 µg/m <sup>3</sup>	25.9 µg/m <sup>3</sup>	24.7 µg/m <sup>3</sup>
	24-hour	72.0 µg/m <sup>3</sup>	62.0 µg/m <sup>3</sup>	95.0 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual <sup>1</sup>	11.4 µg/m <sup>3</sup>	ND	10.7 µg/m <sup>3</sup>
	24-hour	55.3 µg/m <sup>3</sup>	32.2 µg/m <sup>3</sup>	68.0 µg/m <sup>3</sup>
NO <sub>2</sub>	Annual	0.018 ppm	0.018 ppm	0.015 ppm
	1-hour	0.072 ppm	0.072 ppm	0.071 ppm
CO <sup>2</sup>	8-hour	1.7 µg/m <sup>3</sup>	2.4 µg/m <sup>3</sup>	1.8 µg/m <sup>3</sup>
	1-hour	3.8 µg/m <sup>3</sup>	4.1 µg/m <sup>3</sup>	2.3 µg/m <sup>3</sup>
SO <sub>2</sub>	Annual	ND	ND	ND
	24-hour	ND	ND	ND

Notes: Data represent maximum values

1. Data were taken from the 24302 4th Street, San Bernardino ambient air quality monitoring station.

2. Data were taken from EPA, "Monitor Values Report."

µg/m<sup>3</sup> = micrograms per cubic meter

ppm = parts per million

µg/m<sup>3</sup> = micrograms per cubic meter

ND = No data. There was insufficient (or no) data to determine the value.

Source: CARB. "Air Quality Data Statistics." 2013.

**Table 3.3-3: Frequency of Air Quality Standard Violations in the South Coast Air Basin**

Year	Number of Days Exceeding Standard				
	State		Federal	State 24-hour PM101, 2	Federal 24-hour PM2.51
	1-Hour O <sub>3</sub>	8-Hour O <sub>3</sub> (0.070 ppm)	8-Hour O <sub>3</sub> (0.075 ppm)		
2013	45	101	98	86	13
2014	50	97	93	119	10
2015	52	86	96	87	30

Notes:

1. Measured # of Days > 24-hour Standard

2. Measurements are usually collected every six days. Measured day's counts the days that a measurement was greater than the level of the standard. N/D = no data or insufficient data

Source: CARB. "Air Quality Data Statistics." 2017.

## **EXISTING SOURCES OF AIR POLLUTION**

The primary source of air pollution in Redlands is from on-road mobile sources such as automobiles, trucks, motorcycles, buses, and motor homes. These sources account for the majority of the O<sub>3</sub> precursor emissions in the city. On-road mobile source emissions are directly related to regional VMT on both local roadways and interstate freeways. As population growth in the region occurs, VMT increases, resulting in increased O<sub>3</sub> precursor emissions. Particulate emissions are generated by woodsmoke from residential fireplaces and from construction activities. Consumer products, architectural coatings, fertilizers, and asphalt paving are also sources of air pollution within Redlands.

There are numerous stationary sources of emissions in the city as well, including industrial facilities. SCAQMD maintains a Facility Information Detail (FIND) database of AQMD-regulated facilities (facilities that are required to have a permit to operate equipment that releases pollutants into the air). A search of the database found over 700 permits for facilities within Redlands (392 active) and 23 permits for facilities (21 active) in the Planning Area outside of city limits (SCAQMD, 2017b). The database included two Title V-permitted facilities, the Southern California Edison Mountainview Generating Station at 2492 W. San Bernardino Avenue and the San Bernardino County Waste Management facility at 31 Refuse Road. Title V applies to “major sources,” or facilities that emit, or have the potential to emit, any criteria pollutant or hazardous air pollutant (HAP) at levels equal to or greater than thresholds established by the EPA. Additionally, the Teledyne Battery Products facility at 840 W. Brockton Avenue, also listed in the FIND database, issued a Proposition 65 warning in 2016 regarding lead emissions. The warning showed an area within the vicinity of the facility where persons may be exposed to lead at or above a threshold level determined by the State. Results from the FIND database search and the Proposition 65 warning are included in Appendix B of this EIR.

## **REGULATORY SETTING**

### **Federal Regulations**

#### ***Clean Air Act***

The Federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including the setting of NAAQS for major air pollutants, hazardous air pollutant standards, approval of State attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O<sub>3</sub> protection, and enforcement provisions. NAAQS are established for “criteria pollutants” under the Clean Air Act, which are O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State

Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

### State Regulations

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts (AQMDs) and air pollution control districts (APCDs) at the regional and county levels. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. The CAAQS for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 3.3-4, Ambient Air Quality Standards.

**Table 3.3-4: Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone <sup>8</sup> (O <sub>3</sub> )	1-Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24-Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		–		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24-Hour	–	–	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry	35 ppm (40 mg/m <sup>3</sup> )	–	Non-Dispersive Infrared Photometry

**Table 3.3-4: Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
	8-Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	–	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		–	–	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	–	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>9</sup>	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) <sup>9</sup>	–	
Lead (Pb) <sup>12, 13</sup>	30-Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average <sup>9</sup>	–		0.15 µg/m <sup>3</sup>		
Visibility-Reducing Particles <sup>14</sup>	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No		

**Table 3.3-4: Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Sulfates	24-Hour	25 µg/m <sup>3</sup>	Ion Chromatography	Federal Standards		
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24-Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			
Notes:						
ppm= parts per million by volume      µg/m <sup>3</sup> = micrograms per cubic meter      mg/m <sup>3</sup> = milligrams per cubic meter						
1. California standards for O <sub>3</sub> , carbon monoxide (except 8-hour Lake Tahoe), SO <sub>2</sub> (1- and 24-hour), NO <sub>2</sub> , and suspended particulate matter (PM <sub>10</sub> , PM <sub>2.5</sub> , and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.						
2. National standards (other than O <sub>3</sub> , particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O <sub>3</sub> standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM <sub>10</sub> , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m <sup>3</sup> is equal to or less than 1. For PM <sub>2.5</sub> , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the USEPA for further clarification and current federal policies.						
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.						
4. Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.						
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.						
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.						
7. Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.						
8. On October 1, 2015, the national 8-hour O <sub>3</sub> primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm.						
9. On December 14, 2012, the national annual PM <sub>2.5</sub> primary standard was lowered from 15 µg/m <sup>3</sup> to 12.0 µg/m <sup>3</sup> . The existing national 24-hour PM <sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m <sup>3</sup> , as was the annual secondary standard of 15 µg/m <sup>3</sup> . The existing 24-hour PM <sub>10</sub> standards (primary and secondary) of 150 µg/m <sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.						
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.						
11. On June 2, 2010, a new 1-hour SO <sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO <sub>2</sub> national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.						

**Table 3.3-4: Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
<p>Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standards to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm</p> <p>12. CARB has identified Pb and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.</p> <p>13. The national standard for Pb was revised on October 15, 2008, to a rolling 3-month average. The 1978 Pb standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.</p> <p>14. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.</p>						

Source: CARB “Ambient Air Quality Standards,” 2016.

### California Clean Air Act

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain CAAQS for carbon monoxide, ozone, sulfur dioxide, and nitrogen dioxide by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

### California Air Resources Board Handbook

The CARB has developed an Air Quality and Land Use Handbook, which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB, 2005). According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that planning agencies strongly consider proximity to these sources when finding new locations for “sensitive” land uses such as homes, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.



- Within 1,000 feet of a major service and maintenance rail yard.
- Immediately downwind of ports (in the most heavily affected zones) and petroleum refineries.
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet).
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site-specific meteorology, freeway truck percentages, or other factors that influence risk for a particular project site. The purpose of this analysis is to further examine project sites for actual health risk associated with the location of new sensitive land uses.

## Local Regulations

### **South Coast Air Quality Management District**

While CARB is responsible for the regulation of mobile emission sources within the State, local AQMDs and APCDs are responsible for enforcing standards and regulating stationary sources. The SCAQMD is responsible for clean air in the SCAB. Redlands is located within the SCAB and is subject to SCAQMD guidelines and regulations. The 2016 Air Quality Management Plan (AQMP) is the regional blueprint for achieving federal and State air quality standards, and includes a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures within the SCAB. The SCAQMD develops rules based on control measures identified within the AQMP which are designed to reduce air pollution from specific sources.

In general, the SCAQMD has several regulations and rules that would apply to future development under implementation of the proposed General Plan. SCAQMD regulations establish rules for the following:

- **Regulation IV – Prohibitions:** This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air pollutant emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events.
  - **Rule 402 – Nuisance:** This rule restricts the discharge of any contaminant in quantities that cause or have a natural ability to cause injury, damage, nuisance, or annoyance to businesses, property, or the public.
  - **Rule 403 – Fugitive Dust:** This rule requires the prevention, reduction, or mitigation fugitive dust emissions from a project site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM<sub>10</sub> emissions to less than 50 µg/m<sup>3</sup> and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to utilize one or more of the best available control measures (identified in the

tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers, and/or ceasing all activities. Finally, Rule 403 requires that a contingency plan be prepared if so determined by the EPA. Future development resulting from approval of the project will comply with Rule 403.

- **Regulation XI – Source Specific Standards:** Regulation XI sets emissions standards for different sources.
  - **Rule 1113 – Architectural Coatings:** This rule limits the amount of VOCs from architectural coatings and solvents, which lowers the emissions of odorous compounds.

The SCAQMD is responsible for demonstrating regional compliance with ambient air quality standards but has limited indirect involvement in reducing emissions from fugitive, mobile, and natural sources. To that end, the SCAQMD works cooperatively with the CARB, the Southern California Association of Governments (SCAG), county transportation commissions, local governments, and other federal and State government agencies. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs) to meet the CAAQS and National Ambient Air Quality Standards (NAAQS). The SCAQMD has developed the 2016 AQMP, which incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated emission inventory methodologies for various source categories.

The AQMP is the region's Clean Air Plan, which guides the region's air quality planning efforts to attain the CAAQS. The SCAQMD's 2016 AQMP contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO<sub>x</sub>), particulate matter, and greenhouse gas emissions. The 2016 AQMP developed integrated strategies and measures to meet the following NAAQS:

- 8-hour Ozone (75 ppb) by 2032;
- Annual PM<sub>2.5</sub> (12 µg/m<sup>3</sup>) by 2021–2025;
- 8-hour Ozone (80 ppb) by 2024 (updated from the 2007 and 2012 AQMPs);
- 1-hour Ozone (120 ppb) by 2023 (updated from the 2012 AQMP); and
- 24-hour PM<sub>2.5</sub> (35 µg/m<sup>3</sup>) by 2019 (updated from the 2012 AQMP).

The 2016 AQMP also included an initial look at the new 2015 Federal 8-hour ozone standard (70 ppb), as well as incorporated energy, climate, transportation, goods movement, infrastructure, and other planning efforts that affect future air quality. The most significant air quality challenge in the Basin is to reduce NO<sub>x</sub> emissions sufficiently to meet the upcoming ozone standard deadlines. Based on preliminary analyses, the approximately 580 tons per day (tpd) of total Basin NO<sub>x</sub> emissions are projected to drop to approximately 300 tpd and 250 tpd in the attainment years of 2023 and 2031 respectively, due to continued implementation of already adopted control measures.

The primary challenge is that mobile sources currently contribute about 88 percent of the region's total NO<sub>x</sub> emissions, and SCAQMD has limited authority to regulate mobile sources. SCAQMD is

working closely with the CARB and EPA, which have primary authority over mobile sources to ensure mobile sources do their fair share of pollution reduction.

Since NO<sub>x</sub> emissions also lead to the formation of PM<sub>2.5</sub>, the NO<sub>x</sub> reductions needed to meet the ozone standards will lead to significant improvements in PM<sub>2.5</sub> levels. The 2016 AQMP includes PM<sub>2.5</sub> control strategies as needed to ensure that the PM<sub>2.5</sub> NAAQS will also be met on time.

SCAQMD has published the *CEQA Air Quality Handbook* (Handbook) and updates on its website that are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs, which were used in this analysis.

The SCAQMD adopted land use planning guidelines in the May 2005 “Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning,” which, like the Handbook, also consider impacts to sensitive receptors from facilities that emit TACs. The SCAQMD’s distance recommendations are the same as those provided by the CARB (e.g., the same siting criteria for freeways, distribution centers, and dry cleaning facilities). The SCAQMD’s document introduces land use-related policies that rely on design and distance parameters to manage potential health risk that are suggested for use by local governments. These guidelines are voluntary initiatives recommended for consideration by local planning agencies.

### **Southern California Association of Governments**

SCAG is a council of governments for Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura Counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG prepares the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which address regional development and growth forecasts and form the basis for the land use and transportation control portions of the AQMP, and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP, RTIP, and AQMP are based on projections originating within local jurisdictions.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG’s Regional Comprehensive Plan (RCP) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCP is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2015, and beyond. Policies within the RCP include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

On April 7, 2016, SCAG adopted the 2016–2040 RTP/SCS. Using growth forecasts and economic trends, the RTP provides a vision for transportation throughout the region for the next 20 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility

needs. The SCS is a newly required element of the RTP, which integrates land use and transportation strategies to achieve CARB emissions reduction targets. The inclusion of the SCS is required by Senate Bill 375 (SB 375), which was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning. The RTP/SCS would successfully achieve and exceed the greenhouse gas emission-reduction targets set by the CARB by achieving an 8 percent reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 compared to the 2005 level on a per capita basis. This RTP/SCS also meets criteria pollutant emission budgets set by the EPA.

The 2016–2040 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the NAAQS as set forth by the CAA. Even with ongoing aggressive control strategies, ever more stringent national O<sub>3</sub> standards require further NO<sub>x</sub> emission reductions in the SCAG region. In the Basin, for example, it is estimated that NO<sub>x</sub> emissions will need to be reduced by approximately 50 percent in 2023 and an additional 15 percent NO<sub>x</sub> reduction beyond 2023 levels by 2031. Most sources of NO<sub>x</sub> emissions, cars and factories, are already controlled by over 90 percent. The level of emission reduction required is so significant that 2030 emissions forecast from just three sources—ships, trains, and aircraft—would lead to O<sub>3</sub> levels near the Federal standard. To accomplish the reduction required to meet O<sub>3</sub> standards, the 2016–2040 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023 to 2040 timeframe and clear steps to move toward this objective.

## Impact Analysis

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### SIGNIFICANCE CRITERIA

For the purposes of this Program EIR, a significant impact would occur if the Proposed Project would:

- Criterion 1: Conflict with or obstruct the implementation of the applicable air quality plan;**
- Criterion 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation;**
- Criterion 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O<sub>3</sub> precursors);**
- Criterion 4: Expose sensitive receptors to substantial pollutant concentrations; or**
- Criterion 5: Create objectionable odors affecting a substantial number of people.**

### SCAQMD Thresholds

SCAQMD is in the process of developing an “Air Quality Guidance Guidebook” to replace the California Environmental Quality Act (CEQA) Air Quality Handbook originally approved by the

AQMD Governing Board in 1993. Although the Guidebook is being developed, the SCAQMD has still made available the Air Quality Thresholds, which are identified below in Table 3.3-5.

**Table 3.3-5: SCAQMD Air Quality Significance Thresholds**

<b>Construction Emissions</b>	
<i>Pollutant</i>	<i>Total Emissions (Pounds per Day)</i>
Respirable Particulate Matter (PM <sub>10</sub> )	150
Fine Particulate Matter (PM <sub>2.5</sub> )	55
Oxides of Nitrogen (NO <sub>x</sub> )	100
Oxides of Sulfur (SO <sub>x</sub> )	150
Carbon Monoxide (CO)	550
Lead	3
Volatile Organic Compounds (VOC)	75
<b>Operational Emissions</b>	
<i>Pollutant</i>	<i>Total Emissions (Pounds per Day)</i>
Respirable Particulate Matter (PM <sub>10</sub> )	150
Fine Particulate Matter (PM <sub>2.5</sub> )	55
Oxides of Nitrogen (NO <sub>x</sub> )	55
Sulfur Oxides (SO <sub>x</sub> )	150
Carbon Monoxide (CO)	550
Lead	3
Volatile Organic Compounds (VOC)	55
<b>TAC's and Odor Thresholds</b>	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Risk > 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas > 1 in 1 million Chronic & Acute Hazard Index > 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402a

Note: Rule 402 states that A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

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Sources: SCAQMD. *Air Quality Significance Thresholds*, March 2015.

The thresholds listed in Table 3.3-5 represent screening-level thresholds that can be used for CEQA purposes to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 3.3-5, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

## **METHODOLOGY AND ASSUMPTIONS**

Information and analysis have been compiled based on an understanding of the existing ambient air quality of the SCAB and review of existing technical data, aerial maps, and applicable laws, regulations, and guidelines. Vehicle miles traveled (VMT) associated with the proposed General Plan were derived from the traffic impact analysis prepared by Fehr and Peers. The California Emissions Estimator Model version 2016.3.1 (CalEEMod) was utilized to estimate project-related mobile and stationary source emissions.

## **SUMMARY OF IMPACTS**

Implementation of the proposed General Plan could result in significant air quality impacts. These impacts could occur due to future construction activities such as grading and excavation associated with development, and due to increased vehicular traffic associated with future growth within the City. The proposed Climate Action Plan (CAP) does not include any land use changes or any mandatory actions that would affect air quality and would therefore have no impact. As described below, the proposed General Plan includes principles and actions that would help to reduce potential air quality impacts through reductions in construction and operational emissions, and buffering new residential uses from the freeways. However, as described below, even with implementation of the proposed General Plan principles and actions, long-term operation air quality impacts would remain significant and unavoidable.

## **IMPACTS**

**Impact 3.3-1      Development under the Proposed Project will not conflict with or obstruct the implementation of the applicable air quality plan.  
(Less than Significant)**

As mentioned earlier in this analysis, the SCAQMD is responsible for developing and implementing the clean air plan for attainment and maintenance of the NAAQS and CAAQS in the SCAB. This air quality evaluation was prepared to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed General Plan. As discussed above, SCAQMD has published the *CEQA Air Quality Handbook* and updates on its website that are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides

standards, methodologies, and procedures for conducting air quality analyses in EIRs, which were used in this analysis.

It is noted that the SCAQMD thresholds for operational emissions are designed for analysis of individual development projects, not for a long-range planning program such as the City of Redlands' proposed General Plan, which will be implemented over a long period of time. In order to quantify the level of emissions associated with individual development projects, specific information regarding the size and type of development and the location of receptors would be needed. Emissions associated with the operation of individual projects, depending on project type and size, could exceed project-specific thresholds established by the SCAQMD.

CEQA requires general plans be evaluated for consistency with the AQMP. A consistency determination plays an important role in local-agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental effects of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean-air goals in the AQMP. Only new or amended general plan elements, specific plans, and major projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan. There are two key indicators of consistency:

- **Indicator 1:** Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the AAQS or interim emission reductions in the AQMP.
- **Indicator 2:** Whether the project would exceed the assumptions in the AQMP. The AQMP strategy is, in part, based on projections from local general plans.

*Indicator 1:* The Basin is designated nonattainment for O<sub>3</sub> and PM<sub>2.5</sub> under the CAAQS and NAAQS, nonattainment for lead (Los Angeles County only) under the NAAQS, and nonattainment for PM<sub>10</sub> under the CAAQS. Because the proposed project involves long-term growth associated with buildout of the City of Redlands, emissions of criteria pollutants associated with future development consistent with the proposed project may exceed the thresholds for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and VOCs. Future development under the proposed project would be required to comply with CARB motor vehicle standards, SCAQMD regulations from stationary sources and architectural coatings, Title 24 energy efficiency standards, and the proposed General Plan principles and actions. While existing City policies and regulations and proposed General Plan principles and actions are intended to reduce impacts associated with air quality violations, specific measures that implement these policies and regulations are proposed to ensure that the intended environmental protections are achieved. Consequently, emissions generated by development projects in addition to existing sources within the city are not considered to cumulatively contribute to the nonattainment designations of the Basin. Buildout of the proposed General Plan would not contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP, and emissions generated from buildout of the proposed General Plan would not result in a significant air quality impact. Therefore, the

proposed General Plan would result in a less than significant impact associated with air quality. The proposed project would be consistent with the AQMP under the first indicator.

*Indicator 2:* The land-use designations in the existing General Plan form, in part, the foundation for the emissions inventory for the SCAB in the AQMP. The AQMP is based on projections in population, employment, and VMT in the Basin projected by SCAG. If a project proposes development that is greater than that anticipated in the local general plan and SCAG's growth projections, the project might be in conflict with the AQMP and may contribute to a potentially significant cumulative impact on air quality. Future land uses and development projects that occur consistent with the proposed General Plan would increase vehicle trips and VMT that would result in ozone precursor emissions and particulate matter. However, individual projects under the proposed General Plan would be required to undergo subsequent environmental review pursuant to CEQA, and as part of this review effort, projects requiring discretionary approval would be required to demonstrate compliance with the AQMP. Individual projects would also be required to demonstrate compliance with SCAQMD rules and regulations governing air quality, specifically particulate matter. The City of Redlands would continue to coordinate with the SCAQMD and SCAG to ensure city-wide growth projections, land use planning efforts, and local development patterns are accounted for in the regional planning and air quality planning processes. The proposed General Plan principles and actions listed below would help to reduce potential impacts related to conflicts with an applicable air quality plan. For these reasons, and emission control measures established by the AQMP, the proposed General Plan would not conflict with or obstruct the implementation of the applicable air quality plan. Impacts would be less than significant.

The proposed CAP provides optional measures to reduce greenhouse gas (GHG) emissions and energy use from future development, and does not contain any land use changes. Any renewable energy, energy-efficient, or water utilities improvements installation as result of the proposed CAP would be subject to the development review and permitting process, and State and federal laws, as well as proposed policies listed below. Therefore, impacts on air quality from the proposed CAP would be beneficial and less than significant.

### ***Proposed General Plan Principles and Actions that Reduce the Impact***

#### *Livable Community Element*

##### **Transit Villages Principles**

4-P.44 Provide choices for travel options, including walking, biking, vehicular, and transit.

#### *Connected City Element*

##### **Layered, Multi-Modal Network Principles**

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.



### **Pedestrian, Bicycle, and Vehicular Movement Actions**

- 5-A.19 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.

### **Bicycle Movement Principles**

- 5-P.19 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.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.

### **Bicycle Movement Actions**

- 5-A.27 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.

### **Vehicular Movement Actions**

- 5-A.32 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.34 Encourage the use of car share and car hire services within Redlands to provide vehicular transportation alternatives.
- 5-A.37 Plan for areas where alternative fueling stations can be located throughout the city such as electric charging stations, CNG, hydrogen, and flex fuels.

### **Transit Principles**

- 5-P.25 Improve public transit as a viable form of transportation in Redlands.
- 5-P.26 Support passenger rail as an alternative mode of regional transit.

### **Transportation Demand Management (TDM) Principles**

- 5-P.27 Adopt and implement a Transportation Demand Management Program.

### **Transportation Demand Management (TDM) Actions**

- 5-A.66 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

*Healthy Community Element*

**Public Health Actions**

- 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.46 Encourage the provision of bike lockers, bike-sharing, and other methods of supporting active transportation that can contribute to healthy lifestyles.

**Air Quality 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.

### **Air Quality 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 storm water 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 (NO<sub>x</sub>) 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.

### **Sustainable Community Element**

#### **Energy Efficiency and Conservation 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.

#### **Energy Efficiency and Conservation 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.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.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.

#### **Green Building and Landscape 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.

#### **Green Building and Landscape 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.

### **Greenhouse Gas Reduction 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.

### **Greenhouse Gas Reduction 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.

### **Mitigation Measures**

None required.

### **Impact 3.3-2 Development under the proposed General Plan would violate air quality standards or contribute substantially to an existing or projected air quality violation. (Significant and Unavoidable)**

As stated previously, in the SCAB, O<sub>3</sub>, NO<sub>2</sub>, and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SCAB has been designated as a nonattainment area for the State O<sub>3</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> standards. The SCAB is also designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> and is in attainment/maintenance for the federal PM<sub>10</sub>, CO, and NO<sub>2</sub> standards.

#### **Construction**

Construction activities associated with the proposed General Plan would occur over the buildout horizon of the proposed General Plan, which would cause short-term emissions of criteria air pollutants. The primary source of NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions is the operation of construction equipment.

The primary sources of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving.

Information regarding specific development projects, soil types, and the locations of receptors would be necessary in order to quantify the level of impact associated with construction activity. Due to the scale of development activity associated with buildout of the proposed General Plan, emissions would likely exceed the SCAQMD regional significance thresholds. In accordance with the SCAQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the Basin. The Basin is designated nonattainment for O<sub>3</sub> and particulate matter. Emissions of VOC and NO<sub>x</sub> are precursors to the

formation of O<sub>3</sub>. In addition, NO<sub>x</sub> is a precursor to the formation of particulate matter. Therefore, the project would cumulatively contribute to the nonattainment designations of the Basin for O<sub>3</sub> and particulate matter. Air quality related to construction must be addressed on a project-by-project basis.

For this program EIR, it is not possible to determine whether the scale and phasing of individual projects would exceed the SCAQMD's short-term regional or localized construction emissions thresholds. In addition to regulatory measures (e.g., SCAQMD Rule 201 for a permit to operate, Rule 403 for fugitive dust control, Rule 1113 for architectural coatings, Rule 1403 for new source review, and the CARB's Airborne Toxic Control Measures), mitigation imposed at the project level may include extension of construction schedules and/or use of special equipment. Existing City policies and regulations and proposed General Plan principles and actions are intended to minimize impacts associated with non-attainment criteria pollutants. While these regulations and policies would reduce impacts associated with construction activities, there is no guarantee emissions would be mitigated below SCAQMD thresholds. Therefore, impacts would remain significant and unavoidable during construction.

#### *Operation*

Long-term air emission impacts are those associated with area sources and mobile sources involving any change related to the proposed General Plan. In addition to the short-term construction emissions, buildout of the proposed General Plan would also generate long-term air emissions. These long-term emissions are primarily mobile source emissions that would result from vehicle trips and VMT associated with buildout of the proposed General Plan. Area sources, such as natural gas heaters, landscape equipment, and use of consumer products, would also result in pollutant emissions.

PM<sub>10</sub> emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. PM<sub>10</sub> occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles. Since much of the future traffic fleet would be made up of light-duty gasoline-powered vehicles, a majority of the PM<sub>10</sub> emissions would result from entrainment of roadway dust from vehicle travel.

Energy source emissions result from activities in buildings for which electricity and natural gas are used (non-hearth). The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or cooking equipment. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources.

Area source emissions associated with buildout of the proposed General Plan would include emissions from water heating and the use of landscaping equipment. Stationary sources, other than area sources, were not included in operational emissions estimate calculations as new stationary source projects under the proposed General Plan are not proposed at this time. Additionally, should

any future stationary sources be constructed, these projects would be subject to permitting review by the SCAQMD to ensure violations of current air quality standards would not occur, as well as independent environmental review under CEQA. Therefore, because future stationary source projects that would occur under the proposed General Plan would be required to obtain permits issued by the SCAQMD, and would be subject to independent environmental review, stationary source emissions are not provided.

Emission estimates for the proposed General Plan were calculated using CalEEMod. Model results are shown in Table 3.3-6 and provided in Appendix C. For the purposes of this analysis, the net new land uses associated with buildout of the proposed General Plan in year 2035 were estimated in CalEEMod to determine operational emissions associated with its implementation. Existing land uses were not included in the analysis, therefore the emissions estimates shown in Table 3.3-6 are assumed to be the net new project emissions over baseline conditions. Buildout of the proposed General Plan would allow for future residential, office, commercial, commercial/industrial, light industrial, and public/institutional uses, and increases in land use densities and development intensities. These land uses were included in CalEEMod. VMT estimates for the project were based on the traffic impact analysis for the proposed General Plan prepared by Fehr and Peers for this EIR, which estimates that buildout of the proposed General Plan would result in an increase in 417,930 total VMT per day. Complete details of the emissions calculations are provided in Appendix C.

**Table 3.3-6: Estimated Daily Maximum Operational Emissions (pounds/day)**

Emission Source	General Plan Buildout (2035)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	2,103.75	138.48	3,771.15	8.31	490.43	490.43
Energy	10.98	96.47	59.48	0.60	7.58	7.58
Mobile	126.40	832.86	846.81	3.85	326.64	88.65
<b>Total</b>	<b>2,241.12</b>	<b>1,067.81</b>	<b>4,677.44</b>	<b>12.75</b>	<b>824.66</b>	<b>586.66</b>
Emission Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>

Note: Emissions represent summer. "Summer" emissions are representative of the conditions that may occur during the ozone season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

Source: LSA, 2017.

As identified above, operational emissions associated with the additional development that would occur under Buildout conditions of the General Plan, would exceed the SCAQMD's significance threshold for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, impacts would be potentially significant. SO<sub>x</sub> emissions would be below SCAQMD's significance thresholds. Future development under the proposed project would be required to comply with the AQMP, SIP, CARB motor vehicle standards, SCAQMD regulations for stationary sources and architectural coatings, Title 24 energy efficiency standards, and the proposed General Plan principles and actions; however, there is no guarantee emissions would be mitigated below SCAQMD thresholds. Proposed General Plan principles and actions, as listed below, would reduce impacts associated with long-term operational

criteria pollutant emissions; however, impacts would remain significant and unavoidable during operation.

#### *Climate Action Plan*

The proposed CAP provides optional measures to reduce greenhouse gas (GHG) emissions and energy use from future development. Any renewable energy, energy-efficient, or water utilities improvements installation as result of the proposed CAP would be subject to the development review and permitting process, and State and federal laws, as well as proposed policies listed below. Therefore, impacts on air quality from the proposed CAP would be beneficial and less than significant.

#### **Proposed General Plan Principles and Actions that Reduce the Impact**

The proposed General Plan principles and actions as listed under Impact 3.15-1 above, as well as the following policies.

#### *Healthy Community Element*

##### **Public Health 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.38 Revise development standards to require pedestrian connections into and inside commercial projects.

#### **Mitigation Measures**

No mitigation is available beyond measures identified in the AQMP, SIP, CARB motor vehicle standards, SCAQMD regulations for stationary sources and architectural coatings, Title 24 energy efficiency standards, and principles and actions in the proposed General Plan that would partially reduce impacts. Therefore, impacts would remain significant and unavoidable.

**Impact 3.3-3      Development under the Proposed Project would result in a cumulatively considerable net increase of criteria pollutants for which the General Plan region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O<sub>3</sub> precursors). (Significant and Unavoidable)**

In analyzing cumulative impacts from the proposed General Plan, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. If the proposed General Plan does not exceed thresholds and is determined to have less-than-significant impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the proposed General Plan, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the proposed General Plan would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of



the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

The SCAB has been designated as a federal nonattainment area for O<sub>3</sub> and PM<sub>2.5</sub>, and a State nonattainment area for O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub>. PM<sub>10</sub> and PM<sub>2.5</sub> emissions associated with construction generally result in localized impacts. As discussed previously in Impact 3.2-2, future development projects allowed under the proposed General Plan and associated land uses would generate vehicle trips and VMT that would result in ozone precursor emissions and particulate matter. However, individual projects proposed under the proposed General Plan would be required to undergo subsequent environmental review pursuant to CEQA, and as part of this review effort, projects requiring discretionary approval would be required to assess whether the project complies with the applicable air quality plan. Additionally, SCAQMD would require that individual projects demonstrate compliance with SCAQMD rules and regulations governing air quality, specifically particulate matter. The City of Redlands would continue to coordinate with SCAQMD to ensure city-wide growth projections, land use planning efforts, and local development patterns are accounted for in the regional planning and air quality planning processes. However, as shown in Table 3.3-6, implementation of the General Plan would result in an exceedance of SCAQMD’s threshold for daily operational emissions. Therefore, the proposed General Plan would result in a cumulatively considerable impact.

The proposed CAP provides optional measures to reduce greenhouse gas (GHG) emissions and energy use from future development. Any renewable energy, energy-efficient, or water utilities improvements installation as result of the proposed CAP would be subject to the development review and permitting process, and State and federal laws, as well as proposed policies listed below. Therefore, cumulative air quality impacts from the proposed CAP would be less than significant.

### **Proposed General Plan Principles and Actions that Reduce the Impact**

The proposed General Plan principles and actions as listed under Impact 3.15-1 above.

Actions 7-A.35 and 7-A.38 as listed under Impact 3.3-2 above.

### **Mitigation Measures**

No mitigation is available beyond measures identified in the AQMP, SIP, CARB motor vehicle standards, SCAQMD regulations for stationary sources and architectural coatings, Title 24 energy efficiency standards, and principles and actions in the proposed General Plan that would partially reduce impacts. Therefore, impacts would remain significant and unavoidable.

**Impact 3.3-4      Development under the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)**

#### *Construction*

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the State and federal governments as TACs or HAPs. State law has established the framework for California’s TAC identification and control program, which is generally more stringent than the federal program and is aimed at HAPs that are a problem in California. The State

has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs. As examples, TACs include acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter. Some of the TACs are groups of compounds that contain many individual substances (for example, copper compounds and polycyclic organic matter). The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. SCAQMD designates an incremental cancer risk threshold of 10 in 1 million or greater. “Incremental Cancer Risk” is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer quantified using standard risk-assessment methodology. The proposed General Plan construction activities would be dispersed intermittently over an 18-year period.

Off-road diesel construction equipment and heavy-duty diesel trucks (e.g., concrete trucks, building materials delivery trucks), which are sources of diesel exhaust particulate matter, are regulated under three airborne toxic control measures (ATCMs) adopted by CARB. The ATCM for diesel construction equipment specifies particulate matter emission standards for equipment fleets, which become increasingly stringent over time. Furthermore, most newly-purchased construction equipment introduced into construction fleets after 2013–2015, depending on the engine horsepower rating, are equipped with high-efficiency diesel particulate filters. One of ATCMs for heavy-duty diesel trucks specifies that commercial trucks with a gross vehicle weight rating over 10,000 pounds are prohibited from idling for more than 5 minutes unless the engines are idling while queuing or involved in operational activities. In addition, starting in model year 2008, new heavy-duty trucks must be equipped with an automatic shutoff device to prevent excessive idling or meet stringent NO<sub>x</sub> requirements. Lastly, fleets of diesel trucks with a gross vehicle weight rating greater than 14,000 pounds are subject to another ATCM. This ATCM requires truck fleet operators to replace older vehicles and/or equip them with diesel particulate filters, depending on the age of the truck. Therefore, over the life of the project, the diesel exhaust particulate matter emissions from off-road construction equipment and trucks will be controlled substantially. Accordingly, implementation of the proposed General Plan is not anticipated to result in a long-term exposure of sensitive receptors to substantial concentration of TACs. Impacts would be less than significant.

### *Operation*

Various industrial and commercial processes (e.g., manufacturing and dry cleaning) allowed under the proposed General Plan would be expected to release TACs. Industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, gasoline-dispensing facilities, the Southern California Edison, and the Teledyne Battery Products facility have the potential to be substantial stationary sources that would require a permit from SCAQMD for emissions of TACs. Emissions of TACs would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits

under SCAQMD Rule 1401. Until specific future projects are proposed, the associated emissions cannot be determined or modeled at this time. Implementation of the proposed General Plan would not result in projects that emit TACs. Therefore, this is considered a less than significant impact.

Buildout of the proposed General Plan could allow residential and other sensitive land uses to locate in the vicinity of air pollutant sources such as stationary sources and the freeways. Policies in the proposed General Plan would serve to protect new sensitive receptors from exposure to substantial pollutant concentrations. Proposed policies would require applicants for sensitive land uses to minimize the potential for air pollution exposure through siting and design. Proposed policies also would require the development of requirements for retrofitting existing residential buildings within a 500-foot buffer along the freeway to abate air pollution, and limit new residential developments within the buffer. The SCAQMD permitting process for new emissions sources and existing sources in the vicinity of new sensitive developments would further help to ensure that substantial exposure to air pollutants would be avoided.

In addition to stationary/area sources of TACs, warehousing operations could generate a substantial amount of diesel particulate matter emissions from off-road equipment use and truck idling. Diesel particulate matter (DPM) accounts for approximately 84 percent of the excess cancer risk in the Basin (SCAQMD, 2008). New land uses in the City that use trucks, including trucks with transport refrigeration units, could generate an increase in DPM that would contribute to cancer and noncancer health risk in the Basin. Furthermore, trucks would travel on regional transportation routes through the Basin, contributing to near-roadway DPM concentrations. Land development projects are required to comply with AB 2588, SCAQMD Rule 1401, and CARB standards for diesel engines. Additionally, as described below the proposed General Plan includes measures to reduce DPM impacts and provide buffers between sensitive receptors and TAC sources. Therefore, the proposed project would be considered to have a less than significant impact associated with the exposure of sensitive receptors to substantial pollutant concentrations.

#### *Climate Action Plan*

The proposed CAP provides optional measures to reduce greenhouse gas (GHG) emissions and energy use from future development and does not contain any land use changes. Any renewable energy, energy-efficient, or water utilities improvements installation as result of the proposed CAP would be subject to the development review and permitting process, and State and federal laws, as well as proposed policies listed below. Therefore, air quality impacts as they relate to TACs or hazardous air pollutants (HAPs) from the proposed CAP would be less than significant.

#### **Proposed Plan Principles and Actions that Reduce the Impact**

Principles 5-P.5, 7-P.44, 7-P.45, 7-P.46, 7-P.47, and 7-P.48, and actions 5-A.27, 5-A.37, 5-A.66, 7-A.144, 7-A.145, 7-A.146, 7-A.147, 7-A.148, 7-A.150, 7-A.151, and 7-A.152, as listed under Impact 3.3-1 above, as well as the following policies.

#### *Healthy Community Element*

##### **Air Quality Principles**

7-P.49      Protect sensitive receptors from exposure to hazardous concentrations of air pollutants.

### **Air Quality Actions**

- 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.

### **Mitigation Measures**

None required.

### **Impact 3.3-5 Development under the Proposed Project would not create objectionable odors affecting a substantial number of people. (Less than Significant)**

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of future projects under the proposed General Plan. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Development under the proposed General Plan would be required to meet all local, State, and federal regulations related to odor control, including permit requirements. However, new sensitive receptors would be potentially located near odor-generating land uses. Future project-level analysis will demonstrate consistency with the proposed General Plan and principles and actions as listed below would ensure that odor impacts would be reduced to a level that is less than significant.

The proposed CAP provides measures to reduce greenhouse gas (GHG) emissions and energy use from future development. Any renewable energy, energy-efficient, or water utilities improvements installation as result of the proposed CAP would be subject to the development review and permitting process, and State and federal laws, as well as proposed policies listed below. Therefore, air quality impacts as they relate to odors from the proposed CAP would be less than significant.

### **Proposed Plan Principles and Actions that Reduce the Impact**

Principles 7-P.44 and 7-P.48, and actions 7-A.144, 7-A.147, 7-A.148, and 7-A.149, as listed under Impact 3.3-1 above.

### **Mitigation Measures**

None required.

## **3.4 Biological Resources**

This section describes the potential environmental impacts on existing biological resources from future development under the Proposed Project, including listed or otherwise sensitive plant or animal species, riparian or streamside resources under the jurisdiction of either federal or State agencies, and consistency with adopted habitat conservation plans.

### **Environmental Setting**

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#### **PHYSICAL SETTING**

##### **Existing Vegetation**

The project Planning Area encompasses 29,700 acres or 46 square miles, of which three quarters (76 percent) is developed or disturbed (see Table 3.4-1). Approximately a third (7,375 acres) of the disturbed land is in agricultural use or is covered by annual grasslands. The remaining undisturbed land supports native vegetation including Riversidian alluvial fan sage scrub (3,109 acres), chaparral (2,050 acres), and upland Riversidian sage scrub (1,672 acres). The Planning Area also supports 147 acres of riparian vegetation and 94 acres of oak woodland. Figure 3.4-1 shows the location of existing vegetation within the Planning Area.

Within the city limits, almost two-thirds of the land (15,079 acres or 65 percent) is developed or is in agricultural use. The remaining 8,140 acres (35 percent) supports natural vegetation, including the two varieties of sage scrub (3,640 acres), chaparral (1,792 acres), riparian (135 acres), and oak woodland (38.6 acres).

**Table 3.4-1: Existing Vegetation**

<i>Land Use/Vegetation Type</i>	<i>City Limits</i>	<i>Sphere of Influence Outside City Limits</i>	<i>Total</i>	<i>Percent</i>
<i>Disturbed Land</i>	17,612.7	5,072.8	22,685.5	76.2
Developed/Ruderal	13,732.5	1,573.8	15,306.3	51.4
Agriculture	1,346.8	1,945.8	3,292.6	11.1
Annual Grassland	2,533.4	1,553.2	4,086.6	13.7
<i>Native Vegetation</i>	5,605.8	1,461.4	7,067.2	23.8
Chaparral	1,792.2	258.0	2,050.2	6.9
Riversidian Alluvial Fan Sage Scrub	2,667.1	442.0	3,109.1	10.5
Upland Riversidian Sage Scrub	972.8	698.8	1,671.6	5.6
Riparian	135.1	7.5	142.6	0.5
Oak Woodland	38.6	55.1	93.7	0.3
<b>Total</b>	<b>23,218.5</b>	<b>6,534.2</b>	<b>29,752.7</b>	<b>100</b>

Source: LSA, 2017.

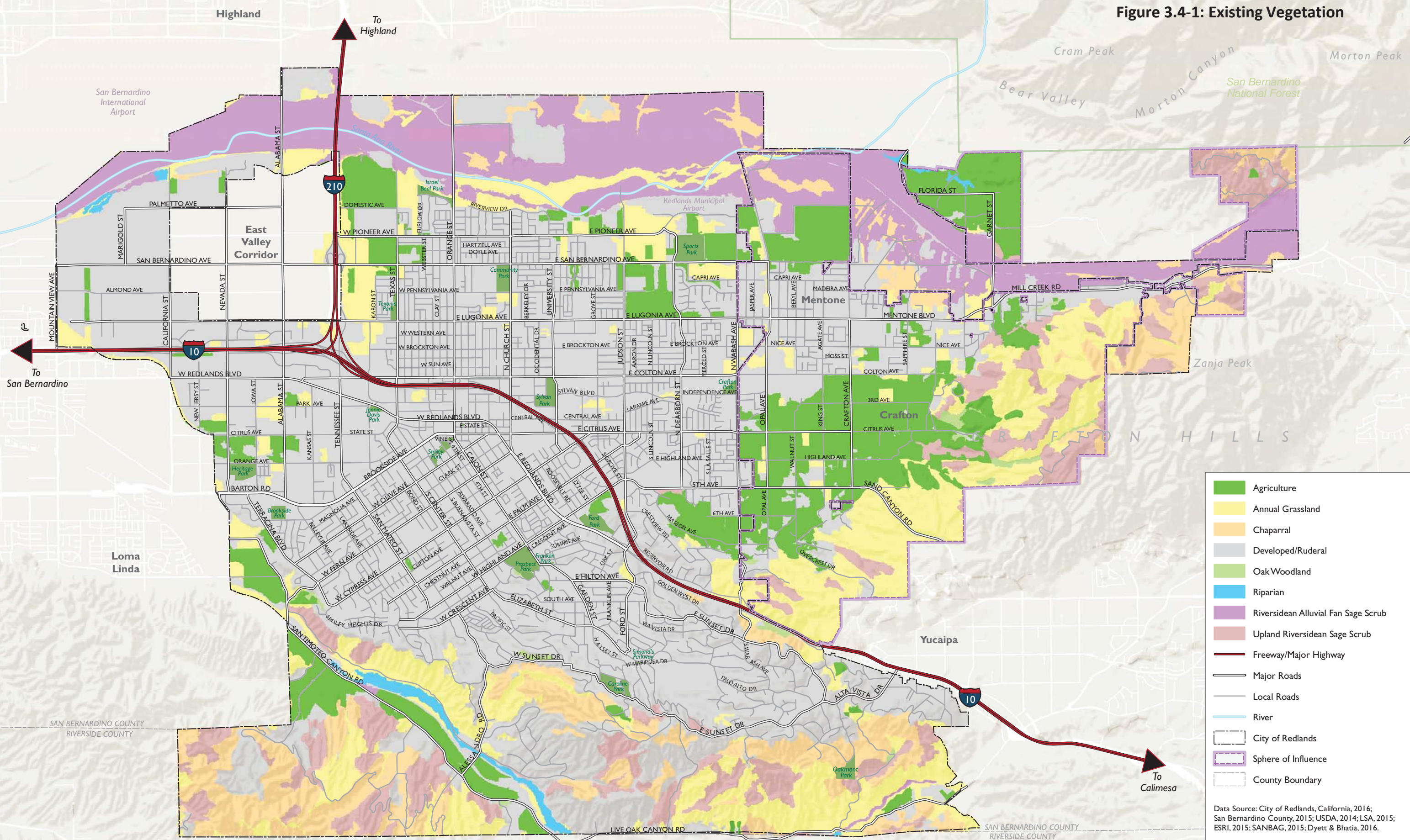
### Natural Communities

Although they are not legally protected in the same way as 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, such communities include oak woodland, Riversidean alluvial fan sage scrub, and riparian forest, woodland, and scrub communities. The riparian communities are important as habitat for the southwestern willow flycatcher (*Empidonax trailii*) and least Bell's vireo (*Vireo bellii pusillus*), while the Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), and San Bernardino kangaroo rat (*Dipodomys merriami parvus*) inhabit Riversidean alluvial fan sage scrub. Upland Riversidean sage scrub is considered sensitive when occupied by California gnatcatcher (*Polioptila californica*).

### Listed or Sensitive Species

The U.S. Fish and Wildlife Service (USFWS) identifies as critical habitat specific geographical areas that it considers to be essential to the conservation of a threatened or endangered species and that may require special management considerations or protection. The Planning Area includes approximately 1,007 acres of the Santa Ana River and its tributaries that have been designated as critical habitat for the federally endangered Santa Ana sucker. Although the range of the sucker does not currently extend into the city, the local portions of the Santa Ana River and Mill Creek are important to the species because they provide water and sediment transport important to downstream populations. A broader area of approximately 4,476 acres along these drainages, consisting primarily of Riversidean alluvial fan sage scrub and annual grassland, has been designated as critical habitat for the federally endangered San Bernardino kangaroo rat. Approximately 104 acres of riparian habitat along San Timoteo Creek have been designated as critical habitat for the federally endangered southwestern willow flycatcher (see Figure 3.4-2).

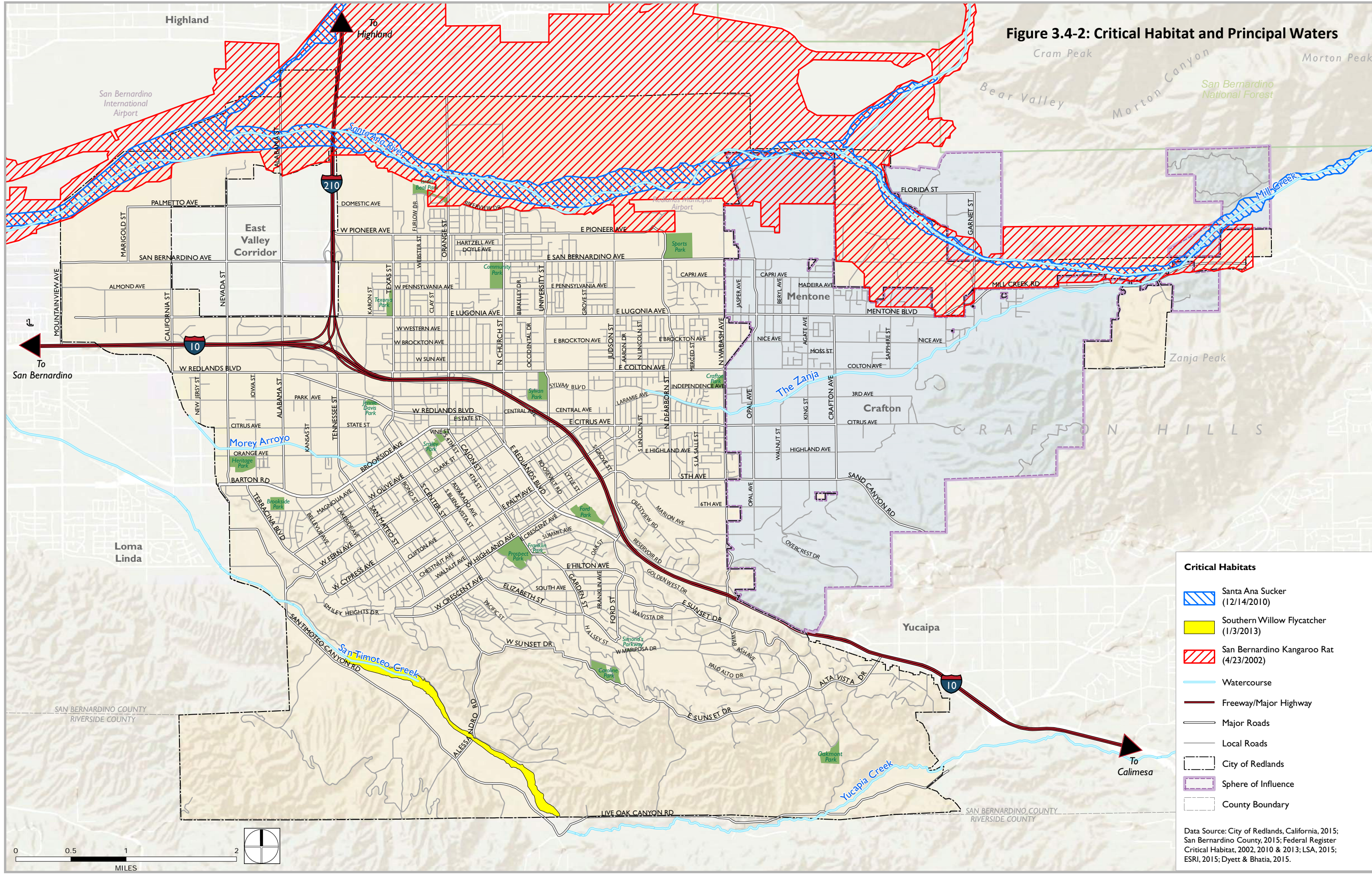
**Figure 3.4-1: Existing Vegetation**











	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.

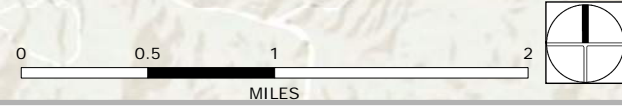
**Figure 3.4-2: Critical Habitat and Principal Waters**



**Critical Habitats**

-  Santa Ana Sucker (12/14/2010)
-  Southern Willow Flycatcher (1/3/2013)
-  San Bernardino Kangaroo Rat (4/23/2002)
-  Watercourse
-  Freeway/Major Highway
-  Major Roads
-  Local Roads
-  City of Redlands
-  Sphere of Influence
-  County Boundary

Data Source: City of Redlands, California, 2015; San Bernardino County, 2015; Federal Register Critical Habitat, 2002, 2010 & 2013; LSA, 2015; ESRI, 2015; Dyett & Bhatia, 2015.





### Special-Status Species

There are also sensitive species that are known to occur or that may occur in the Planning Area. Some of these 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 (NPPA), and the California Endangered Species Act (CESA). These, as well as other sensitive species, require consideration in reviews of development and infrastructure projects under the California Environmental Quality Act (CEQA) and review of public works projects that have federal involvement or funding under the National Environmental Policy Act (NEPA). There are 19 species that are State or federally listed as rare, threatened, or endangered species identified as potentially present within the Planning Area. Only the following eight species are either known to be present 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-nosed 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 species that are considered to be sensitive by federal and/or State resource agencies 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:

- Smooth tarplant (*Centromadia pungens ssp. laevis*)
- Parry's spineflower (*Chorizanthe parryi var. parryi*)
- White-bracted spineflower (*Chorizanthe xanti var. leucotheca*)
- California satintail (*Imperata brevifolia*)
- Hall's monardella (*Monardella macrantha ssp. hallii*)
- Santa Ana speckled dace (*Rhinichthys osculus ssp.*)
- Western spadefoot (*Spea hammondi*)
- California legless lizard (*Anniella pulchra*)
- Orange-throated whiptail (*Aspidoscelis hyperythra*)
- Red diamond rattlesnake (*Crotalus ruber*)
- Blainville's horned lizard (*Phrynosoma blainvillii*)
- Two-striped garter snake (*Thamnophis hammondi*)
- Golden eagle (*Aquila chrysaetos*)
- Long-eared owl (*Asio otus*)
- Burrowing owl (*Athene cunicularia*)
- White-tailed kite (*Elanus leucurus*)
- Yellow-breasted chat (*Icteria virens*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Yellow warbler (*Setophagia petechia*)
- Pallid bat (*Antrozous pallidus*)
- Western mastiff bat (*Eumops perotis californicus*)
- Western yellow bat (*Lasiurus xanthinus*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- San Diego desert woodrat (*Neotoma lepida intermedia*)
- Southern grasshopper mouse (*Onychomys torridus ramona*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)
- American badger (*Taxidea taxus*)

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 3.4- summarizes the listing status, habitat requirements, and probabilities of occurrence of these species.

### **Jurisdictional Drainages**

The principal natural watercourses shown in Figure 3.4-2 would likely be considered jurisdictional by the U.S. Army Corps of Engineers (USACE) as waters of the U.S. and by the California Department of Fish and Wildlife (CDFW) as streambeds. Smaller drainages, particularly in the hilly areas in the southern and eastern portions of the Planning Area, may be considered jurisdictional by one or both agencies as well. The Zanja and Morey Arroyo are artificial ditches but may also be subject to regulation by one or both of these agencies. Several drainages within the Planning Area outside of city limits fall under the jurisdiction of federal and/or State resource agencies, including the Santa Ana River in Mentone, San Timoteo Creek, and Oak Glen Creek in Live Oak Canyon. These drainages and others may contain wetlands that meet federal resource agency criteria. Information about federal and State jurisdictional criteria is presented below under Regulatory Setting.

### **Wildlife Movement**

Wildlife movement includes seasonal migration along corridors, as well as daily movements for foraging. Migration corridors may provide for unobstructed movement for deer, bobcats, mountain lions, and other large wildlife species. Riparian corridors provide cover for migrating birds, routes between breeding waters and upland habitat for amphibians, and routes between roosting and feeding areas for resident birds. The principal natural watercourses in the Planning Area serve as wildlife corridors in addition to habitat for many wildlife species. The Santa Ana River and Mill Creek are particularly important corridors linking the foothills of the San Bernardino Mountains with habitat to the south and west. The Crafton Hills provide for movement between the Santa Ana River/Mill Creek/San Bernardino Mountains habitats to the north and the Live Oak and San Timoteo canyons/Badlands area to the south. San Timoteo Creek and the hills in the southern part of the Planning Area are part of an important wildlife movement corridor that extends into Riverside County where it connects with a core open space area for Riverside County's Multi-Species Habitat Conservation Plan (MSHCP).

**Table 3.4-2: 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/IB	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)	<b>Present.</b> 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: IB	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)	<b>Present.</b> Known from the northern and eastern portions of the Planning Area.
<i>Dodecahema leptoceras</i> <b>Slender-horned spineflower</b>	US: FE CA: SE/IB	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)	<b>Present.</b> 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/IB	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	<b>Present.</b> 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: IB	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)	<b>High.</b> Known from along Mill Creek just outside the Planning Area.

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
<i>Centromadia pungens</i> <i>ssp. 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)	<b>Moderate.</b> 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)	<b>Moderate.</b> Known from the vicinity. May occur in San Timoteo Canyon or other moist sites.
<i>Monardella macrantha</i> <i>ssp. 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)	<b>Moderate.</b> Known from just outside the Planning Area along Mill Creek. May also occur in hilly areas.
<i>Horkelia cuneata</i> <i>ssp. 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)	<b>Low.</b> 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)	<b>Low.</b> 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)	<b>Low.</b> Historical records from vicinity, but none from the Planning Area.

**Table 3.4-2: 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>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)	<b>Low.</b> This is primarily a mountain species, but there is a historical record (1955) from Mill Creek Canyon a few miles east of Redlands.
<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)	<b>Low.</b> 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	<b>Present.</b> 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	<b>Low.</b> 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)	<b>High.</b> May occur in large road ruts and other temporarily ponded areas in undeveloped portions of the Planning Area.

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
<i>Anaxyrus (Bufo) californicus</i> <b>Arroyo toad</b>	US: FE CA: 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	<b>Low.</b> 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	<b>Present.</b> 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	<b>High.</b> 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	<b>High.</b> 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	<b>High.</b> Suitable habitat is present along the Santa Ana River and in sandy areas in other portions of the Planning Area.

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
<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	<b>Moderate.</b> May occur along San Timoteo Creek and in other areas of permanent or near permanent water.
<b>Birds</b>				
<i>Icteria virens</i> (nesting) <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	<b>Present.</b> Known from riparian habitat along San Timoteo Creek. Suitable habitat exists in other areas of riparian forests and scrub.
<i>Lanius ludovicianus</i> (nesting) <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	<b>Present.</b> Known from San Timoteo canyon, and likely also occurs in other open habitats.
<i>Polioptila californica</i> <b>California gnatcatcher</b>	US: FT CA: 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	<b>Present.</b> 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</i> (nesting) <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	<b>Present.</b> Known from riparian habitat along San Timoteo Creek. Suitable habitat also occurs in other areas of riparian woodland, forest, and scrub.



**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
<i>Vireo bellii pusillus</i> <b>Least Bell's vireo</b>	US: FE CA: 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	<b>Present.</b> Known from riparian habitat along San Timoteo Creek and may also occur in other riparian areas.
<i>Athene cunicularia</i> (burrow sites) <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	<b>High.</b> Potentially suitable habitat is present in open areas associated with agriculture and in grassland throughout the Planning Area.
<i>Elanus leucurus</i> (nesting) <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	<b>High.</b> Suitable habitat occurs along major watercourses with adjacent grassland or scrub.
<i>Aquila chrysaetos</i> (nesting & wintering) <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	<b>Moderate.</b> May forage over the Santa Ana River and other large open areas. No nesting habitat is present.
<i>Asio otus</i> (nesting) <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	<b>Moderate.</b> Potentially suitable habitat exists for this species in riparian woodlands and adjacent areas.
<i>Empidonax traillii extimus</i> <b>Southwestern willow flycatcher</b>	US: FE CA: 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	<b>Moderate.</b> May nest in riparian forest in San Timoteo Creek and along other major watercourses.

**Table 3.4-2: 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>Agelaius tricolor</i> (nesting colony)  <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	<b>Low.</b> 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>  <b>Northwestern 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	<b>Present.</b> 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: FE CA: 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	<b>Present.</b> 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	<b>Present.</b> Known from areas of scrub along the Santa Ana River. Suitable habitat also exists in other areas of scrub and chaparral.

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
<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.	<b>Present.</b> 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	<b>High.</b> 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	<b>High.</b> 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	<b>High.</b> 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	Year-round; nocturnal	<b>Moderate.</b> Potentially suitable roosting habitat exists in rocky outcrops, buildings, and bridges. Potentially suitable foraging habitat exists in grasslands, rocky slopes,

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
		porches and open buildings. Grasslands, shrublands, woodlands, and forest in western North America.		woodland, and riparian forest communities.
<i>Dipodomys stephensi</i> <b>Stephens' kangaroo rat</b>	US: FE CA: 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	<b>Moderate.</b> 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	<b>Moderate.</b> 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	<b>Moderate.</b> 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	<b>Low.</b> Marginally suitable habitat may occur in hilly areas in the eastern and southern portions of the Planning Area.

**Table 3.4-2: Special-Status Species Potentially Occurring in the Planning Area or Vicinity**

<i>Species</i>	<i>Status</i>	<i>Habitat and Distribution</i>	<i>Activity Period</i>	<i>Probability of Occurrence in the Planning Area</i>
Legend:			SA: Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.	
<b>US: Federal Classifications</b>			IA: California Rare Plant Rank 1A – presumed extinct in California	
FE: Listed as Endangered			IB: California Rare Plant Rank 1B – rare, threatened or endangered in California and elsewhere.	
FT: Listed as Threatened			2B: California Rare Plant Rank 2 – rare, threatened or endangered in California, but more common elsewhere.	
<b>CA: State Classifications</b>				
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.				

Source: LSA, 2015.

## **REGULATORY SETTING**

### **Federal Regulations**

#### ***Federal Endangered Species Act (FESA).***

The FESA was enacted to protect any species of plant or animal that is endangered or threatened with extinction. Section 9 of the FESA prohibits “take” of federally threatened or endangered wildlife. Take, as defined under the FESA, means to harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct (16 USC 1532[19]). Section 9 also prohibits the removal and reduction of endangered plants from lands under federal jurisdiction, and the removal, cutting, digging, damage, or destruction of endangered plants on any other area in “knowing violation of State law or regulation.” Section 9 of the FESA (16 USC 1538) prohibits take of a federally listed endangered species of fish or wildlife except pursuant to a permit and habitat conservation plan (HCP) approved under Section 10(a) of the FESA (16 USC 1539). The FESA prohibitions and requirements are different, however, for endangered species of plants. Section 9 prohibits the take of endangered plants only from areas under federal jurisdiction, or if such take would violate state law. For listed plants located on private land, formal consultation with the USFWS is required when a project has a federal “nexus” (i.e., a federal permit is required or federal funding is involved). In the absence of a federal nexus, a project does not require a permit under the FESA for impacts to listed plants on private lands.

#### ***Clean Water Act (CWA)***

The USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the Federal Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or indirect (through a nexus identified in the USACE regulations). The USACE typically regulates as non-wetland waters of the United States any body of water displaying an ordinary high water mark (OHWM). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. The portion of the Santa Ana River in the Planning Area meets the USACE’s Clean Water Act Section 404 wetland criteria, as do upstream reaches to the north and downstream reaches to the south down to Prado Dam and beyond.

In 2006, the United States Supreme Court addressed CWA jurisdiction over wetlands adjacent to or abutting navigable, non-navigable, and ephemeral tributaries, and over permanent and relatively permanent non-navigable tributaries. According to the United States Supreme Court, the CWA does not assert jurisdiction over upland erosional features, gullies, or roadside ditches that have infrequent, low volume, and short duration of water flow; instead, the USACE uses a “significant nexus” analysis. A water body is considered to have a “significant nexus” with a traditional navigable water (TNW) if its flow characteristics and functions, in combination with the ecologic

and hydrologic functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream TNW. Additional information is provided in two joint documents prepared by the U.S. Environmental Protection Agency (EPA) and the USACE: (1) a memorandum titled “Clean Water Act Jurisdiction Following the U.S. Supreme Court’s Decision in *Rapanos v. United States* & *Caravell v. United States*,” dated June 5, 2007; and (2) “Jurisdictional Determination Form Instructional Guidebook.”

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to “waters of the State,” including wetlands, under the California Porter-Cologne Water Quality Control Act.

### **State Regulations**

#### ***California Endangered Species Act (CESA)***

The CESA is similar to the FESA in that its intent is to protect species of fish, wildlife, and plants that are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors. “Take” as defined under CESA means hunt, pursue, capture, or kill, or attempt to hunt, pursue, capture, or kill. Under certain conditions, CESA has provisions for take through a 2081 Permit or a Section 2081 Memorandum of Understanding. The impacts of the authorized take must be minimized and fully mitigated. No permit may be issued if the issuance of the permit would jeopardize the continued existence of the species.

#### ***California Environmental Quality Act (CEQA)***

Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet specified criteria. These criteria have been modeled after the definitions in FESA and CESA and § 2780–2781 of Article 1 of the California Fish and Game Code dealing with the California Wildlife Protection Act of 1990. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

#### ***California Fish and Game Code Section 3503 and the Migratory Bird Treaty Act (MBTA)***

Section 3503 of the California Fish and Game Code prohibits the destruction of bird nests except as otherwise provided for in the Fish and Game Code. The MBTA similarly protects the nests of migratory birds. These regulations apply to the individual nests of these species, but do not regulate impacts to the species’ habitats.

#### ***Raptor Protection***

The California Fish and Game Code (Fish and Game Code, Sections 3503, 3503.5, 3505 and 3513), and California Code of Regulations (Title 14, Sections 251.1, 652 and 783-786.6) have specific provisions for the protection of raptors (birds of prey).

### **Streambed Alteration Agreements**

Sections 1600 et seq. of the California Fish and Game Code define the responsibilities of the CDFW and require public and private applicants to obtain an agreement for projects that would “divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or would use material from the streambed designated by the department.” CDFW wardens and/or unit biologists typically have the responsibility for formulating and issuing Streambed Alteration Agreements. The CDFW, through provisions of the Code (Sections 1601–1603), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

### **Native Plant Protection Act (NPPA)**

Sections 1900–1913 of the California Fish and Game Code (Native Plant Protection Act) direct the CDFW to carry out the Legislature’s intent to “... preserve, protect and enhance endangered or rare native plants of this state.” The NPPA gives the California Fish and Game Commission the power to designate native plants as “endangered” or “rare” and protect endangered and rare plants from take.

### **Regional and Local Regulations**

#### **Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan)**

The Santa Ana River 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 will eventually propose land use designations for the entire wash area in Redlands, including land for habitat conservation, aggregate mining, flood control, and water conservation. It will also have detailed mapping of habitats and a specific plan for the management of sensitive species and habitats in the Santa Ana River Wash. The San Bernardino Valley Municipal Water District is currently preparing a habitat conservation plan (HCP) for the upper reach of the Santa Ana River in cooperation with a number of local water and utility agencies as well as federal and State resource agencies. The Wash Plan is in the first stage of development (i.e., feasibility, responsibilities, and estimated costs) and a Phase 1 Report was issued in March of 2014 (SBVMWD 2014). Completion of the plan is anticipated for the end of 2017. Activities within the Planning Area that are adjacent to the Santa Ana River would need to be consistent with any adopted Wash Plan and HCP policies at the time activities are proposed.



### **San Bernardino County General Plan (2007)**

The San Bernardino County General Plan's Open Space and Conservation Element provides for the long-term protection of important natural resources within the County, including the Santa Ana River and Crafton Hills. The General Plan applies to unincorporated land within the Redlands Planning Area, including unincorporated lands in Mentone and Crafton within the Sphere of Influence (SOI). Pursuant to Section 65300 of the California Government Code, counties and cities with shared jurisdiction in a SOI have a dual mandate related to land use planning within the spheres of influence. The San Bernardino County General Plan features open space and natural resource conservation policies to encourage annexations or incorporations of land within SOI areas. Unless annexed into the City, development proposals within these SOI areas must be consistent with San Bernardino County's Land Use Map (i.e., Mentone and Crafton Hills areas).

### **City of Redlands Ordinance for Trees and Tree Protection along Streets and in Public Places**

Chapter 12.52 of the City of Redlands Municipal Code addresses the use and maintenance of trees along streets and in public places. The ordinance is intended to preserve and grow the tree canopy by protecting landmark, native and specimen, and public trees, as well as street trees and trees on public property; and providing for the regulation of the protection, planting, maintenance, and removal of public trees. The ordinance provides for the designation of landmark and specimen trees, which are, respectively, public trees designated as a historic resource as a tree of historic or cultural significance, or public trees that meet species and size criteria established by the City Council to be outstanding specimens of a desirable species. Abuse or mutilation of public trees is prohibited, and procedures are established regarding tree maintenance and protection of trees during improvements.

### **City of Redlands Street Tree Policy**

The Street Tree Policy and Protection Guidelines Manual was established in accordance with Chapter 12.52 of the Municipal Code in 2013. The guidelines are intended to define and illustrate the policies and procedures that shall be utilized by City staff in the management and care of all public trees. They also provide guidance to residents for the planting and care of street trees.

## Impact Analysis

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### SIGNIFICANCE CRITERIA

Implementation of the Proposed Project would have a significant impact related to biological resources if it would:

- Criterion 1:** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations; by the California Department of Fish and Wildlife; or by the U.S. Fish and Wildlife Service;
- Criterion 2:** Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife, or by the U.S. Fish and Wildlife Service;
- Criterion 3:** Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Criterion 4:** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Criterion 5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Criterion 6:** Conflict with the provisions of an adopted habitat conservation plan (the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan), natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

### METHODOLOGY AND ASSUMPTIONS

The analysis of potential biological resources impacts is based upon review of City of Redlands documents and maps, federal and State regulations and mapping of critical habitat, and analysis of proposed General Plan goals, policies, and actions relative to future growth on vacant land within the Planning Area over the next 20 years.

## SUMMARY OF IMPACTS

Future development within the Planning Area has the potential to change environmental conditions that currently support important biological resources within the Planning Area, and possibly in downstream areas, depending on location. However, the proposed General Plan continues to protect critical habitat areas along the Santa Ana River, Mill Creek, and San Timoteo Creek with an Open Space designation, and principles and actions in the proposed General Plan require the City to protect sensitive lands and habitats. Temporary impacts from construction of new development might result in short-term impacts, these impacts are less than significant. The proposed General Plan is consistent with local policies and ordinances, and there are no adopted Habitat Conservation Plans that apply to the Planning Area. The proposed Climate Action Plan (CAP) does not include any land use changes or other measures that would impact biological resources.

## IMPACTS

**Impact 3.4-1 Implementation of the Proposed Project could have an adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations; by the California Department of Fish and Wildlife; or by the U.S. Fish and Wildlife Service (Less than Significant).**

There are 19 species that are State or federally listed as rare, threatened, or endangered species that have been or were identified as potentially present within the Planning Area. Only the following eight species are known to either be present or have a moderate to high probability of occurring due to the presence of suitable habitat, mainly along the Santa Ana River, Mill Creek, or San Timoteo Creek:

- Nevin's barberry;
- Slender-horned spineflower;
- Santa Ana River woolly star;
- Southwestern willow flycatcher;
- California gnatcatcher;
- Least Bell's vireo;
- San Bernardino kangaroo rat; and
- Stephens' kangaroo rat.

The Arroyo toad may also be present but has a low probability of occurring along San Timoteo Creek or other drainages in the area. The other 10 species that are listed as rare, threatened, or endangered, and that are reported from the general vicinity of Redlands are not expected to occur within the Planning Area. Future development or public works activities in the Planning Area may

result in significant impacts on listed species due to removal of critical habitat or land that provides habitat for sensitive species, especially land with native vegetation adjacent to or immediately upstream of the Santa Ana River, Mill Creek, or San Timoteo Creek, which support a number of listed and special-status species.

Direct impacts on special-status species could result from the conversion of habitat either temporarily, as a result of grading, excavation, and construction activities, or permanently from the ongoing operation and/or maintenance of a project or plan. Indirect impacts could result from elevated dust or noise levels or increased sediment loads in runoff from construction activities. Indirect impacts could also result from permanent alterations to hydrology upstream of habitats supporting sensitive species, including increased runoff, sedimentation, or pollutant loads, and increased human activity. Most new development expected to occur within the timeframe of the proposed General Plan would be within existing developed areas, rather than along the Santa Ana River, Mill Creek, or San Timoteo Creek where critical habitat has been identified.

An extension of San Bernardino Avenue is proposed through an area of potential kangaroo rat critical habitat between Crafton Avenue and Garnet Street, shown in Figure 3.4-2. The proposed General Plan policies listed below, which call for the protection of rare, threatened, or endangered species, would serve to avoid or minimize any impacts to the species and its habitat.

Under the proposed General Plan, the land use designation for most of the Santa Ana River channel, as well as the Mill Creek channel is proposed to change from Flood Control/Construction Aggregates Conservation/Habitat Preservation to Open Space. The Open Space land use designation is intended for the conservation of natural resources, compatible outdoor recreational uses, the protection of natural habitats, and the protection of public health and safety. Thus, there would not be a major change in the function of the designated areas. The Open Space designation would limit allowable uses and maintain natural resources along the channel. Similarly, for the San Timoteo Creek channel, the change in designation of areas from Flood Control/Construction Aggregates Conservation/Habitat Preservation to Open Space, and the addition of Open Space overlays on open space areas in the Resource Preservation designation, would not significantly alter potential uses of the land. In addition to these critical habitat areas, vacant and underutilized parcels in the Planning Area may be providing habitat for a variety of species. Infill development and redevelopment under the proposed General Plan could affect habitat and species on these parcels.

Potential impacts to vegetation types are as follows, based on their location in the Planning Area. Potential impacts to the Santa Ana woolly star would be addressed by preservation of the Santa Ana River channel through the Wash Plan HCP.

- **Developed/Ruderal, Agriculture, Annual Grassland.** Areas where vegetation types are categorized as developed/ruderal, agriculture, and annual grassland have limited value for native plant and animal species. Future development in these areas would therefore be expected to have a lower impact on sensitive species and their habitats.
- **Chaparral and Upland Riversidean Sage Scrub.** Areas with the chaparral and upland Riversidean sage scrub vegetation types, which provide habitat for the California gnatcatcher, are located mainly on the steep upper slopes of the Crafton Hills and San

Timoteo Canyon – areas that would generally be protected from development under Resource Preservation, Open Space, and Hillside Conservation land use designations.

- **Riversidean Alluvial Fan Sage Scrub.** Areas of Riversidean alluvial fan sage scrub are found mainly along the Santa Ana River, where it provides habitat for the San Bernardino kangaroo rat, Stephen’s kangaroo rat, Nevin’s barberry, slender horned spineflower, and California gnatcatcher. These areas would generally be protected from future development under the proposed Open Space designation, and would be managed under the Wash Plan.
- **Riparian.** Riparian areas are limited in the Planning Area, but provide habitat for southwestern willow flycatcher, least Bell’s vireo, and foraging for the California gnatcatcher. Most riparian areas would be protected under proposed General Plan Actions 6.A-11 through -13 and 6.A-16 through -19.
- **Oak Woodland.** Oak woodland is also limited in extent, and is mainly present in the Crafton Hills and canyonlands. Where adjacent to sage scrub, it would provide habitat for the California gnatcatcher. The locations where oak woodland is found would generally be protected from development by the Resource Preservation, Open Space, and Hillside Conservation land use designations.

Principles and actions in the proposed General Plan would reduce potential impacts on special-status species from future development. Action 6-A.11 would require a biological survey for individual projects that would identify specific impacts to critical habitat and restrict development accordingly, and Action 6-A.12 would require the same for projects adjacent to wetlands, riparian corridors, or wildlife corridors. Other proposed policies would require the City to protect wildlife habitat and wildlife corridors, limit grading and ground-disturbing activities, and support conservation and restoration of natural habitats.

Principles and actions in the proposed General Plan, the City’s development review process, and regulatory permitting required by existing federal and State laws relative to listed species would reduce potential impacts of the proposed General Plan on federally or State-listed species of plants or animals to less than significant levels.

The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on any species identified as a candidate, sensitive, or special-status species, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

#### **Southern Hills and Canyons Principles**

- 4-A.63 Design buildings to accommodate topography and minimize grading.
- 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.

### **Measure U Policies**

- 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.

### *Vital Environment Element*

#### **Open Space and Conservation 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.

#### **Biological Resources 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.

#### **Biological Resources 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 a 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.

#### **Water Quality Actions**

- 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.

#### **Mitigation Measures**

None required.

#### **Impact 3.4-2 Implementation of the Proposed Project could have an adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife, or by the U.S. Fish and Wildlife Service (Less than Significant).**

Future development or public works activities in the city may result in significant impacts on riparian vegetation or other sensitive natural communities, especially on land with native vegetation adjacent to or immediately upstream of the Santa Ana River, Mill Creek, and San Timoteo Creek. However, as described in Impact 3.4-1, most riparian areas are designated Open Space under the proposed General Plan, and would thus be protected from direct impacts from development.

Furthermore, principles and actions in the proposed General Plan would serve to reduce any potential impacts. Proposed General Plan Principle 6-P.7 would require the City to protect environmentally sensitive lands, and Principle 6-P.9 would require the City to protect wildlife corridors, including natural watercourses. Action 6-A.12 would require the City to review all future private development and public works activities on sites that contain or are adjacent to riparian resources to determine an appropriate buffer between developed uses and drainages, and Action 6-A.15 would require the City to enhance riparian corridors. Action 6-A.35 would promote the protection and restoration of waterways and riparian areas. In addition, projects that involve removal of riparian vegetation will have to comply with established regulatory permitting through the appropriate federal and/or State agency, consistent with current federal and State laws.

The proposed General Plan principles and actions discussed above, the City's development review process, and regulatory permitting required by existing federal and State laws relative to riparian habitat or other sensitive natural communities would reduce potential impacts of the proposed General Plan to less than significant levels.

The proposed CAP provides does not include any land use changes or other strategies that would result in adverse effects on any riparian habitat or other sensitive natural community, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

Principles 6-P.7 and 6-P.9; and actions 6-A.1, 6-A.12, 6-A.15, and 6-A.36, as listed under Impact 3.4-1 above.

**Mitigation Measures**

None required.

**Impact 3.4-3 Implementation of the Proposed Project could have an adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant).**

Several of the natural watercourses shown in Figure 3.4-2 would likely be considered under the federal jurisdiction of the USACE as waters of the U.S. and thus subject to the federal Clean Water Act. Smaller drainages, particularly in the hilly areas in the southern and eastern portions of the Planning Area, may be considered jurisdictional by the USACE. The Zanja and Morey Arroyo are artificial ditches but may also be subject to regulation by the USACE. It is possible that one or more of these drainages may contain wetland features, either now or in the future, depending on annual rainfall, but there is little or no potential for marshes, vernal pools, or other specific types of wetlands to occur within the city.

The proposed General Plan does not plan for development on any federally protected wetlands. However, where such wetlands may occur within the city, they may be impacted by future development or human activities adjacent to or upstream of specific wetland vegetation.

Action 6-A.12 in the proposed General Plan would reduce potential impacts by requiring the City to review all future private development and public works activities on sites that contain or are adjacent to wetlands to determine an appropriate buffer from developed uses. Projects that involve impacts on drainages with wetland features would have to comply with established regulatory permitting through the appropriate federal and/or State agency, consistent with current federal and State laws.

Implementation of the indicated proposed General Plan policies, and the City's development review process, and regulatory permitting required by existing federal and State laws relative to



jurisdictional features, would reduce potential impacts of the proposed General Plan on federally protected wetlands to less than significant levels.

The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on protected wetlands, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

Principle 6-P.9, and actions 6-A.1, 6-A.12, and 6-A.15, as listed under Impact 3.4-1 above as well as the following policy.

#### *Livable Community Element*

#### **Southeast Area Principles**

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.

#### **Mitigation Measures**

None required.

#### **Impact 3.4-4 Implementation of the Proposed Project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant).**

The many drainages, canyons, and extensive hillsides with native vegetation can provide corridors or areas for travel for local wildlife, especially where such drainages or areas connect to larger areas of undisturbed native vegetation, all of which can provide a variety of resources and protection for native wildlife. Future development within the Planning Area could sever or restrict connectivity or the usefulness of such wildlife corridors if human activities or improvements are allowed to encroach into such corridor areas; however, principles and actions in the proposed General Plan would reduce the potential impact on wildlife corridors. Principle 4-A.67 would require the City to create wildlife corridors extending throughout the Live Oak Canyon and San Timoteo Canyon areas. Principles 6-P.7, 6-P.8, and 6-P.9 would require the City to protect wildlife habitat, including wildlife corridors 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. Action 6-A.14 would reduce impacts from transportation projects on wildlife corridors; Action 6-A.12 would require projects adjacent to wildlife corridors to be specifically analyzed; and Action 6-A.15 would require the City to enhance riparian corridors. Projects that involve impacts on drainages or corridors of native vegetation would have to comply with established regulatory permitting through the appropriate federal and/or State agency, consistent with current federal and State laws.

Implementation of the indicated proposed General Plan policies and the City's development review process, and possible regulatory permitting required by existing federal and State laws relative to listed species that utilize wildlife corridors, would reduce potential impacts of the proposed General Plan to less than significant levels.

The proposed CAP does not include any land use changes or other strategies that would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

Principles 4.41i, 6-P.7, 6-P.8, and 6-P.9, and actions 4-A.67, 6-A.12, 6-A.14, and 6-A.15, as listed under Impact 3.4-1 above.

**Mitigation Measures**

None required.

**Impact 3.4-5 Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less Than Significant Impact).**

The proposed General Plan establishes the over-arching policies and direction for the City relative to development review and protection of biological resources, so the proposed General Plan would not conflict with local ordinances or policies which are intended to implement and be consistent with the goals of the General Plan. The proposed General Plan's policies to promote the health and maintenance of street trees is consistent with Municipal Code Chapter 12.52. Proposed policies are also consistent with the Street Tree Policy and Protection Guidelines Manual adopted in accordance with the Municipal Code, though these guidelines may be updated to better implement proposed General Plan policies to care for street trees and trees in public places. The principles and actions of the proposed General Plan would help to lay the groundwork for any future ordinances or programs to protect trees and other biological resources.

Measure U is an adopted ballot measure that modified the 1995 General Plan, and its policies have been incorporated into the proposed General Plan. In accordance with Measure U, the proposed General Plan limits development potential in the Resource Preservation land use category in the eastern and southern canyon portions of the Planning Area.

The Proposed Project would also be consistent with the Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan) and the San Bernardino County General Plan. Policies in the proposed General Plan maintain consistency with the Wash Plan by deferring to the Wash Plan's resource management standards. Similarly, the proposed General Plan seeks to maintain consistency with the policies of the San Bernardino County General Plan, particularly regarding the protection of open space and natural resources including critical habitat and habitat for sensitive plant or animal species.

Any future specific ordinances or programs to protect biological resources would have to be consistent with the goals of the proposed General Plan. Therefore, there would be no inconsistencies and no impacts in this regard, and no need for mitigation.

The proposed CAP does not include any land uses changes or other strategies that would conflict with any local policies or ordinances protecting biological resources. Therefore, there would be no impact from the proposed CAP.

### **Proposed General Plan Policies that Reduce the Impact**

Principle 4.41i, and actions 6-A.16, 6-A.17, 6-A.18, and 6-A.19, as listed under Impact 3.4-1.

#### *Distinctive City Element*

#### **Preservation of Older Neighborhoods Actions**

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.

#### **Street Trees and Streetscape 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.

#### **Street Trees and Streetscape 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.

**Citrus Groves/Farms Principles**

- 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.

**Citrus Groves/Farms Actions**

- 2-A.84 Where practical, establish new groves at the city's entrances/gateways to announce the city's citrus heritage.
- 2-A.87 Encourage planting new groves along street frontages. At a minimum, two rows of trees should be planted and the area should be at least 10,000 square feet to be a viable grove along street frontages.

*Livable Community Element*

**Growth Management 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.

*Vital Environment Element*

**Open Space for Conservation Actions**

- 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.10 Maintain and enhance Redlands' network of urban forest and street trees.

**Biological Resources Action**

- 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).

**Construction Aggregates Principle**

- 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).

**Mitigation Measures**

None required.

**Impact 3.4-6 Implementation of the proposed General Plan could conflict with the provisions of an adopted habitat conservation plan (the Wash Plan),**

**natural community conservation plan, or other approved local, regional, or state habitat conservation plan (Less Than Significant Impact).**

At present, there are no adopted regional HCPs or natural community conservation plans. However, the City is participating in the proposed Wash Plan, which has a habitat conservation plan component. Though that plan is in draft form and not adopted as yet, policies in the proposed General Plan emphasize consistency with the Wash Plan's habitat conservation policies. Therefore, implementation of the proposed General Plan would have a less than significant impact.

The proposed CAP does not include any land use changes or other strategies that would conflict with the provisions of an adopted habitat conservation plan. Therefore, there would be no impact from the proposed CAP.

**Proposed General Plan Policies that Reduce the Impact**

Principle 6-P.9, as listed under Impact 3.4-1, and action6-A.21, as listed under Impact 3.4-5.

**Mitigation Measures**

None required.

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## 3.5 Energy, Greenhouse Gases, and Climate Change

This section describes energy use and greenhouse gas (GHG) emissions in the Planning Area and analyzes potential impacts of the Proposed Project on energy usage and GHG emissions.

### Environmental Setting

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#### PHYSICAL SETTING

##### Energy

In the United States, California is the second largest consumer of energy, second only to Texas (EIA, 2016). However, California's per capita energy consumption is relatively low, in part due to mild weather that reduces energy demand for heating and cooling, and in part due to the State's energy efficiency programs and standards. Petroleum and natural gas currently supply the majority of the energy consumed in California.

The concept of sustainable energy generally refers to renewable energy sources, such as solar power, wind power, wave power, geothermal power, tidal power, and biomass, as well as technologies that improve energy efficiency. Energy conservation refers to efforts made to reduce energy consumption in order to preserve future resource capacities and reduce pollutants. Energy conservation can be achieved through increased energy efficiency, decreased energy consumption, and/or reduced consumption from conventional, nonrenewable energy sources.

##### **State Energy Conditions**

##### *Electricity*

In 2014, California used over 262,560 gigawatt-hours of electricity (EIA, 2016). Electricity use in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building.

Because of the State's energy efficiency standards and efficiency and conservation programs, California's per capita electricity use has remained stable for more than 30 years while the national average has steadily increased. The California Energy Commission's (CEC's) 2016 Integrated Energy Policy Report Update estimates that electricity consumption will grow by up to 1.42 percent

per year between 2015 and 2026, with peak demand growing an average of 1.03 percent annually over the same period.

Of California's electricity generation in 2015, the majority is from natural gas (60 percent), nuclear power plants (9 percent), and solar production (8 percent). Other sources include coal-fired power plants and other renewable energy sources, such as wind turbines. California also imports electricity from out of state (CEC, 2016a).

#### ***Natural Gas***

In 2014, California used approximately 2.4 trillion cubic feet of natural gas (EIA, 2016). California is the second largest natural gas consumer in the United States, representing more than 10 percent of national natural gas consumption. In 2012, residential and commercial uses accounted for 30 percent of the state's natural gas demand, large consumers such as electricity generators and the industrial sector accounted for about 70 percent of demand, and vehicle fuel amounted to 1 percent of natural gas usage in the state (CEC, 2017a). California remains heavily dependent on natural gas to generate electricity, which accounted for roughly 40 percent of natural gas demand (CEC, 2016b).

The CEC's 2015 Integrated Energy Policy Report forecasts that natural gas consumption by end users (excluding electricity generation) is expected to grow by up to 0.33 percent annually through 2024 (CEC, 2016b).

#### ***Petroleum***

In 2010, California used approximately 588.5 million barrels of petroleum (EIA, 2016). Petroleum use in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel.

Due to the prevalence of petroleum product use in the transportation sector, the rise in costs of these fuels, the federal Renewable Fuel Standard (RFS), and the California Low Carbon Fuel Standard (LCFS), California is diversifying its transportation fuel sources, increasing fuel efficiency, and changing land use and urban design to reduce the needs for transportation.

#### ***Local Energy Conditions***

Table 3.5-1 shows 2015 electricity and natural gas usage in the Planning Area for the residential, commercial, and industrial sectors.



**Table 3.5-1: Annual Residential, Commercial, and Industrial Electricity and Natural Gas Use; 2015**

Sectors	Utility Type	Redlands Usage	Planning Area Usage
Residential	Electric (kWh)	203,878,268	205,849,668
	Natural Gas (therms)	9,399,719	9,473,958
Commercial	Electric (kWh)	216,129,896	216,645,511
	Natural Gas (therms)	4,393,353	4,408,735
Industrial	Electric (kWh)	83,940,583	89,783,966
	Natural Gas (therms)	62,390	64,224
<b>Total by Utility Type</b>			
Electricity (kWh)		503,948,747	512,279,144
Natural Gas (therms)		13,855,462	13,946,916

Sources: Southern California Edison, 2017; Southern California Gas Company, 2017.

## Greenhouse Gas Emissions

### The Greenhouse Effect and Greenhouse Gases

Gases that trap heat in the atmosphere are often called “greenhouse gases” (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. This “trapping” of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Principal GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), and water vapor (H<sub>2</sub>O). Some GHGs, such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub> are largely by-products of fossil fuel combustion, whereas CH<sub>4</sub> results mostly from off-gassing associated with agricultural practices and landfills. Human-made GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>), which are associated with certain industrial products and processes (CAT, 2006).

The greenhouse effect is a natural process that contributes to regulating the Earth’s temperature. Without it, the temperature of the Earth would be about 0° Fahrenheit (F) (–18° Celsius (C)) instead of its present 59°F, or 15°C (University Corporation for Atmospheric Research, 2017). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect, which increases the Earth’s temperature.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its “global warming potential” (GWP). GWP varies between GHGs; for example, the GWP of CH<sub>4</sub> is 25, and the GWP of N<sub>2</sub>O is 298. Total GHG emissions are expressed as a function of how much warming

would be caused by the same mass of CO<sub>2</sub>. GHG gas emissions are typically measured in terms of pounds or tons of “CO<sub>2</sub> equivalent” (CO<sub>2</sub>e).<sup>1</sup>

### California Contributions to Greenhouse Gas Emissions

In 2014, the United States produced 6,870.5 million metric tons of CO<sub>2</sub>e (MMTCO<sub>2</sub>e) (EPA, 2016a). The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, representing approximately 81 percent of total GHG emissions. The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94 percent of the CO<sub>2</sub> emissions and 76 percent of overall GHG emissions.

According to the 2014 GHG inventory data compiled by the California Air Resources Board (CARB) for the California Greenhouse Gas Inventory for 2000–2014, California emitted 441.5 MMTCO<sub>2</sub>e of GHGs, including emissions resulting from out-of-state electrical generation (CARB, 2016). The primary contributors to GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture and forestry, and other sources, which include commercial and residential activities. These primary contributors to California’s GHG emissions and their relative contributions in 2014 are presented in Table 3.5-2, GHG Sources in California.

**Table 3.5-2: GHG Sources in California**

<i>Source Category</i>	<i>Annual GHG Emissions (MMTCO<sub>2</sub>e)</i>	<i>Percent of Total</i>
Transportation	163.0	36.9 percent
Industrial uses	104.2	23.6 percent
Electricity generation (In State)	51.8	11.7 percent
Electricity generation (Imports)	36.6	8.3 percent
Agriculture and forestry	36.1	8.2 percent
Residential	27.4	6.2 percent
Commercial	21.6	4.9 percent
Other	0.8	0.2 percent
<b>TOTALS</b>	<b>441.5</b>	<b>100.00 percent</b>

Source: CARB, 2016.

### Local GHG Emissions

The City of Redlands conducted a GHG emissions inventory for the Planning Area in 2015, finding that the Planning Area emitted 472,651 metric tons CO<sub>2</sub>e (MTCO<sub>2</sub>e) in 2015. As shown in Table 3.5-3 below, the transportation sector was the largest source of emissions, generating approximately 186,782 MTCO<sub>2</sub>e, or 40 percent of total 2015 emissions. Transportation sector emissions are the result of diesel and gasoline combustion in vehicles traveling on both local roads and State highways that pass through the jurisdictional boundaries of the Planning Area. Electricity and natural gas

<sup>1</sup> The CO<sub>2</sub> equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that MTCO<sub>2</sub>e = (metric tons of a GHG) x (GWP of the GHG). For example, the GWP for CH<sub>4</sub> is 25. This means that emissions of 1 metric ton of methane are equivalent to emissions of 25 metric tons of CO<sub>2</sub>.

consumption within the residential sector, the second greatest source of 2015 emissions, generated 97,723 MTCO<sub>2</sub>e, or 21 percent of the total. The third greatest source, electricity and natural gas use in the Planning Area’s commercial sector, produced 73,272 MTCO<sub>2</sub>e, or 16 percent of total emissions.

**Table 3.5-3: 2015 GHG Emissions Summary by Sector (MTCO<sub>2</sub>e)**

Sector	Annual Redlands Greenhouse Gas Emissions	Annual Planning Area Greenhouse Gas Emissions
Residential	96,875	97,723
Commercial	73,071	73,272
Industrial	19,637	20,991
Transportation	170,635	186,782
Solid Waste	18,618	21,140
Water Transport, Distribution, and Treatment	2,284	2,594
Wastewater	2,222	2,523
Off- Road Equipment	34,797	39,512
Public Lighting	747	848
Agriculture	530	27,267
<b>TOTAL</b>	<b>419,417</b>	<b>472,651</b>

Source: Dyett & Bhatia, 2017.

### Climate Change

Climate change refers to a change in the average global climate that may be measured by wind patterns, storms, precipitation, and temperature. The term climate change is often used interchangeably with the term global warming. Global warming refers to an average increase in the temperature of the atmosphere near the Earth’s surface, which can contribute to changes in global climate patterns. However, rising temperatures are just one aspect of climate change.

The EPA’s indicators of climate change include:

- **Greenhouse Gases:** the amount of GHGs emitted into the atmosphere through human activities, the concentrations of these gases in the atmosphere, and how emissions and concentrations have changed over time.
- **Weather and Climate:** frequency of heat waves, increased drought conditions, increased average precipitation and shifting weather patterns, and the intensity of tropical storms.
- **Oceans:** increased ocean heat affecting water temperature, sea level, and currents; changes in sea level; increased ocean acidity affecting marine organisms.
- **Snow and Ice:** reduced Arctic sea ice, diminished glaciers, decreased time that lakes stay frozen, decreased snow cover and snowpack.

- **Health and Society:** heat-related illnesses, increased length of growing season reflecting earlier spring warming and later fall/winter frosts, prolonged allergy seasons.
- **Society and Ecosystems:** shifts in plant hardiness zones reflecting higher winter temperatures, changes in bird migration patterns as a result of temperature variability (EPA, 2016b).

### **Potential Effects of Human Activity on Climate Change**

Among scientists, global climate change is now a widely accepted phenomenon. National and international science academies and scientific societies have assessed the available evidence and largely followed or endorsed the Intergovernmental Panel on Climate Change (IPCC) position of January 2001 which states: “An increasing body of observations gives a collective picture of a warming world and other changes in the climate system. There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.” Since 1976, every year has been warmer than the twentieth-century average temperature. In 2015, the average temperature across global land and ocean surfaces was 1.62°F (0.90°C) above the twentieth-century average (NOAA, 2017). To date, no scientific body of national or international standing has maintained a dissenting opinion; the last was the American Association of Petroleum Geologists, which in 2007 updated its 1999 statement rejecting the likelihood of human influence on recent climate with its current noncommittal position.

Some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, higher O<sub>3</sub> days, larger forest fires, and more drought years. Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists’ understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts.

## **REGULATORY SETTING**

### **Federal Regulations**

#### **Energy Policy and Conservation Act**

In 1975, Congress enacted the Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the EPA and National Highway Traffic Safety Administration (NHTSA) are responsible for establishing additional vehicle standards. In 2012, new Corporate Average Fuel Economy (CAFE) standards were approved to increase the fuel economy to 54.5 miles per gallon average for cars and light trucks by Model Year 2025 (EPA, 2012). Fuel economy is determined based on each manufacturer’s average fuel economy for the fleet of vehicles available for sale in the United States.

The regulations also include targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including:

- Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles.
- Incentives for hybrid technologies for large pickups and for other technologies that achieve high fuel economy levels on large pickups.
- Incentives for natural gas vehicles.
- Credits for technologies with potential to achieve real-world GHG reductions and fuel economy improvements that are not captured by the standards test procedures.

### **Energy Star Program**

Energy Star is a joint program of the EPA and the DOE. The program establishes criteria for energy efficiency for household products and labels energy efficient products with the Energy Star seal. Homes can be qualified as “Energy Star Homes” if they meet efficiency standards. In California, Energy Star Homes must meet energy efficiency standards as determined by a CEC-approved software program, pass the California Energy Star Homes Quality Insulation Installation and Thermal Bypass Checklist Procedures, have Energy Star windows, and have minimal duct leakage.

### **Massachusetts vs. EPA**

On April 2, 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the Clean Air Act (CAA). On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

- The Administrator found that elevated concentrations of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

### **Energy Independence and Security Act**

The Energy Independence and Security Act of 2007 (EISA) set increased CAFE standards for motor vehicles and established other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (EISA Section 202)
- Appliance and Lighting Efficiency Standards (EISA Sections 301–325)
- Building Energy Efficiency (EISA Sections 411–441).

This federal legislation requires ever-increasing levels of renewable fuels—the RFS—to replace petroleum. The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions of GHG emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation’s renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

### ***Carbon Pollution Standards and Clean Power Plan***

On August 3, 2015, the EPA finalized the Carbon Pollution Standards, which are national limits on the amount of carbon pollution that new, modified, and reconstructed power plants will be allowed to emit. On the same date, the EPA also finalized the Clean Power Plan, national limits on the amount of carbon pollution from existing power plants. The EPA also approved oil and natural gas air pollution standards in 2016 to reduce pollution from the oil and natural gas industry.

### **State Regulations**

#### ***Building Energy Efficiency Standards (Title 24) and CALGreen***

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (24 California Code of Regulations (CCR) Part 6) were first established in 1978 in response to a legislative mandate to reduce California’s energy consumption.

In 2007, Governor Schwarzenegger directed the California Building Standards Commission (CBSC) to work with State agencies on the adoption of green building standards for residential, commercial, and public building construction for the 2010 code adoption process. A voluntary version of the California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 in 2009. The 2010 version of CalGreen took effect January 1, 2011, and instituted

mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals.

The most recent CALGreen code was adopted in 2016 and became effective in 2017. CALGreen contains voluntary Tier 1 and Tier 2 levels, which are designed to exceed energy efficiency and other standards by 15 percent or 30 percent, respectively.

The California Building Code (CBC) has been amended and adopted as Title 15 of the Redlands Municipal Code, which regulates all building and construction projects within the city.

### **Assembly Bill 1493**

In a response to the transportation sector accounting for more than half of California's CO<sub>2</sub> emissions, Assembly Bill (AB) 1493 was enacted in 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004.

Before these regulations could go into effect, the EPA had to grant California a waiver under the federal CAA, which ordinarily preempts State regulation of motor vehicle emission standards. The EPA Administrator granted the waiver on June 30, 2009. On March 29, 2010, the CARB Executive Officer approved revisions to the motor vehicle GHG standards to harmonize the State program with the national program for 2012–2016 model years (see *Energy Policy and Conservation Act* above). The revised regulations became effective on April 1, 2010.

### **Advanced Clean Cars Program**

In 2012, CARB adopted the Advanced Clean Cars (ACC) program, developed in coordination with the EPA. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of battery electric and fuel cell electric vehicles, with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.

### **Executive Order S-3-05**

In 2005, Executive Order S-3-05 established California's GHG emissions reduction targets: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. The California Environmental Protection Agency (CalEPA) Secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The California Climate Action Team (CAT) is responsible for implementing global warming emissions reduction programs. Representatives from several State agencies comprise the CAT.

### **AB 32**

In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on

September 27, 2006. The GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

The first action under AB 32 resulted in the adoption of a report (June 21, 2007) listing early action GHG emission reduction measures. The early actions include three specific GHG control rules that meet the narrow legal definition of “discrete early action GHG reduction measures”:

- A low-carbon fuel standard to reduce the “carbon intensity” of California fuels
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of “do-it-yourself” automotive refrigerants
- Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32, which were also considered “discrete early action GHG reduction measures”:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification
- Reduction of PFCs from the semiconductor industry
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products)
- Requirements that all tune-up, smog check, and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency
- Restriction on the use of SF<sub>6</sub> from non-electricity sectors if viable alternatives are available.

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 MMTCO<sub>2</sub>e. In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of GHGs for large facilities that account for 94 percent of GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity



retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and other industrial sources that emit CO<sub>2</sub> in excess of specified thresholds.

On December 11, 2008, CARB approved the *Climate Change Proposed Scoping Plan: A Framework for Change* to achieve the goals of AB 32. The scoping plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The scoping plan evaluates opportunities for sector-specific reductions, integrates all CARB and CAT early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

The key elements of the scoping plan include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33 percent
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the LCFS
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of California's long-term commitment to AB 32 implementation.

### **Executive Order S-3-15**

Executive Order S-3-15 issued in 2015 established an interim target to reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2016, the Legislature passed Senate Bill (SB) 32, which codified the 2030 GHG emissions reduction target. To reflect this target, CARB's 2017 Climate Change Scoping Plan Update recommends that local governments target 6 MTCO<sub>2e</sub> per capita per year in 2030 and 2 MTCO<sub>2e</sub> per capita per year in 2050.

### **Senate Bill 1368**

In September 2006, Governor Schwarzenegger signed SB 1368, which requires the CEC to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low or lower than new combined-cycle natural gas plants, by requiring imported electricity to meet GHG performance standards in California, and by requiring that the standards be developed and adopted in a public process.

### **Executive Order S-1-07**

Issued on January 18, 2007, Executive Order S-1-07 sets a declining LCFS for GHG emissions measured in CO<sub>2e</sub> gram per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources such as algae, wood, and agricultural waste. In addition, the LCFS would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles.

### **SB 97**

In August 2007, the legislature enacted SB 97, which directs the Governor's Office of Planning and Research (OPR) to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions. OPR was to develop proposed guidelines by July 1, 2009, and the Natural Resources Agency was directed to adopt the guidelines by January 1, 2010. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the CEQA Guidelines.

The Natural Resources Agency adopted the CEQA Guidelines amendments on December 30, 2009, and transmitted them to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law completed its review and filed the amendments with the secretary of state. The amendments became effective on March 18, 2010. The amended guidelines establish several new CEQA requirements concerning the analysis of GHGs, including the following:

- Requiring a lead agency to “make a good faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project” (CEQA Section 15064.4(a))
- Providing a lead agency with the discretion to determine whether to use quantitative or qualitative analysis or performance standards to determine the GHG emissions resulting from a particular project (CEQA Section 15064.4(a))
- Requiring a lead agency to consider the following factors when assessing the significance of impacts from GHG emissions on the environment (CEQA Section 15064.4(b)):
  - The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
  - Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
  - The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.
- Allowing lead agencies to consider feasible means of mitigating the significant effects of GHG emissions, including, among others (CEQA Section 15126.4(c)):

- Measures in an existing plan or program for reduction of emissions that are required as part of the lead agency's decision.
- Reductions in emissions through the implementation of project features or off-site measures, including offsets that are not otherwise required.
- In the case of the adoption of a general plan, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

The amended CEQA guidelines also establish two new guidance questions in the Environmental Checklist regarding GHG emissions (CEQA Guidelines Appendix G):

- Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The adopted amendments do not establish a GHG emission threshold, and instead allow a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

### **SB 375**

In August 2008, the legislature passed and on September 30, 2008, Governor Schwarzenegger signed, SB 375, which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-duty truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards (see AB 1493), the composition of fuels (see Executive Order S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a sustainable communities strategy (SCS) within their regional transportation plan (RTP).

The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, an MPO must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the SCS or alternative planning strategy. On September 23, 2010, CARB adopted the SB 375 targets for the regional MPOs. Achieving these goals through adoption of a SCS will be the responsibility of the MPOs. CARB's targets called for the

Southern California Association of Governments (SCAG) region, the MPO in which the Planning Area is located, to reduce per capita emissions 8 percent by 2020 and 13 percent by 2035 based on a 2005 baseline.

SCAG adopted its own RTP/SCS in April 2012 (see discussion below). The SCS lays out how the region will meet GHG targets to reduce per capita emissions 9 percent by 2020 and 16 percent by 2035 based on a 2005 baseline. In April 2016, SCAG adopted targets of 8 percent, 18 percent, and 21 percent reduction per capita GHG emissions by 2020, 2035, and 2040, respectively, based on a 2005 baseline.

#### **Executive Order S-14-08**

On November 17, 2008, Governor Schwarzenegger issued Executive Order S-14-08. This Executive Order focuses on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. The governor's order requires that all retail suppliers of electricity in California serve 33 percent of their load with renewable energy by 2020. Furthermore, the order directs State agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency, through collaboration with the CEC and California Department of Fish and Wildlife (CDFW), is directed to lead this effort. Pursuant to a Memorandum of Understanding between the CEC and the CDFW creating the Renewable Energy Action Team, these agencies will create a "one-stop" process for permitting renewable energy power plants.

#### **Executive Order S-21-09**

On September 15, 2009, Governor Schwarzenegger issued Executive Order S-21-09. This Executive Order directed CARB to adopt a regulation consistent with the goal of Executive Order S-14-08 by July 31, 2010. CARB is further directed to work with the CPUC and CEC to ensure that the regulation builds upon the Renewable Portfolio Standard (RPS) program and is applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB is to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB adopted regulations to implement a "Renewable Electricity Standard," which would achieve the goal of the executive order (contribution of renewable energy to meet the state's electrical needs) with the following intermediate and final goals: 20 percent for 2012–2014, 24 percent for 2015–2017, 28 percent for 2018–2019, and 33 percent for 2020 and beyond. Under the regulation, wind; solar; geothermal; small hydroelectric; biomass; ocean wave, thermal, and tidal; landfill and digester gas; and biodiesel would be considered sources of renewable energy. The regulation would apply to investor-owned utilities and public (municipal) utilities.

#### **SB XI-2**

On April 12, 2011, Governor Jerry Brown signed SB XI-2 in the first extraordinary session, which would expand the RPS by establishing a goal that renewable energy shall comprise 20 percent of the total electricity sold to retail customers in California per year, by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using

renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered prior, SB X1-2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC is required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20 percent by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets, and the governing boards would be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

### **Senate Bill 350**

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50% and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the CPUC and CEC.

### **Assembly Bill 341**

In 2011, AB 341 set the goal of 75 percent recycling, composting, or source reduction of solid waste by 2020 calling for the California Department of Resources Recycling and Recovery (CalRecycle) to take a statewide approach to decreasing California's reliance on landfills. This goal was an update to the former goal of 50 percent waste diversion set by AB 939. Reductions in solid waste disposal has the potential to reduce GHG emissions from landfills.

### **California Air Pollution Control Officers Association**

The California Air Pollution Control Officers Association (CAPCOA) is the association of air pollution control officers representing all 35 air quality agencies throughout California. CAPCOA is not a regulatory body, but has been an active organization in providing guidance in addressing the CEQA significance of GHG emissions and climate change as well as other air quality issues.

### **Local Regulations**

#### ***SANBAG Regional Greenhouse Gas Reduction Plan***

The San Bernardino Associated Governments (SANBAG) Regional Greenhouse Gas Reduction Plan serves as a guide to help policymakers in 21 participating cities (one of which is Redlands) address climate change as they make decisions to meet the needs of our growing population, maintain and enhance our quality of life, and promote economic stability. The policy measures are not requirements under SANBAG, local governments, or any other entity. Moreover, it is the discretion of each agency to decide whether and how to best implement the various policy measures listed in this plan.

### **SCAG Regional Transportation Plan/Sustainable Community Strategy**

The SCAG RTP/SCS is an integrated long-range land-use/housing plan and transportation plan and demographic and economic forecast for the SCAG region, which includes the Planning Area. This plan coordinates land use and transportation in order to reduce greenhouse gases emissions for cars and light-duty trucks for the region through the year 2040.

To achieve greenhouse gas emissions reductions, the 2016 RTP/SCS promotes compact, mixed-use commercial and residential development walkable and bikable and close to public transit, jobs, schools, shopping, parks, recreation, and other amenities. The plan provides a strategy for meeting 46 percent of the region's future housing growth in High Quality Transit Areas (HQTAs), which are areas near public transit with high service frequency during peak commuting hours.

### **Redlands Water Conservation and Solid Waste Recycling Ordinances**

The City of Redlands Municipal Code includes ordinances to conserve water and reduce the amount of solid waste disposed in landfills. Water conservation efforts reduce energy use from supplying water. See Chapter 3.14: Utilities for details.

### **Redlands Buildings and Construction Ordinance**

The City of Redlands has a buildings and construction ordinance (Municipal Code Title 15) that adopts the 2016 California Building Standards Code, which includes energy efficiency measures as described under the State Regulations section above.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

#### **Energy**

The CEQA Guidelines Appendix G does not contain specific thresholds to identify when a significant energy-use impact would occur. CEQA Guidelines Appendix F, Energy Conservation, provides direction as to the type of information, analysis, and mitigation that should be considered in evaluating a proposed project, but does not provide specific energy conservation thresholds.

Other guidance on the content and standards for environmental impact report (EIR) energy evaluations has come from recent case law. On August 27, 2009, the California Court of Appeal, Third Appellate District, issued the first ever CEQA decision on the requirements of an energy conservation impacts analysis in the case of Tracy First v. City of Tracy 177 Cal.App. 4th 912 (2009). The court ruled it was appropriate for the EIR to rely upon the CBC Energy Efficiency Standards, which are part of the State's Title 24 Building Code, to determine that the project's energy impacts would be less than significant. The court also held that CEQA does not require that an EIR discuss "every possible energy impact or conservation measure" listed in Appendix F of the CEQA Guidelines.

In accordance with Appendix F of the CEQA Guidelines and recent case law, and for the purposes of this EIR, the Proposed Project would result in a significant impact to energy conservation if it would:

**Criterion 1: Cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance; or**

**Criterion 2: Conflict with the CBC Energy Efficiency Standards, the CARB passenger vehicle GHG emission reduction targets for 2020 and 2035, or any other applicable energy conservation regulations.**

### **Greenhouse Gas Emissions and Climate Change**

The California Natural Resources Agency, through its December 2009 amendments to the CEQA Guidelines provides a framework for the evaluation of the GHG emissions associated with the Proposed Project.

The State of California has developed guidelines to address the significance of climate change impacts based on Appendix G of the CEQA Guidelines, which provides guidance that implementation of the Proposed Project would have a significant environmental impact if it would:

**Criterion 3: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or**

**Criterion 4: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

### **METHODOLOGY AND ASSUMPTIONS**

Information and analysis regarding the proposed General Plan GHG emissions have been compiled based on an understanding of the existing local and regional greenhouse gas sources and review of existing technical data, aerial maps, and applicable laws, regulations, and guidelines. Analysis of GHG emissions and reductions was also derived from the proposed Climate Action Plan (CAP).

The proposed CAP, which has been prepared concurrently with the City's General Plan, includes:

- An inventory of the city's GHG emissions;
- Forecasts of future GHG emissions;
- Actions that demonstrate the City of Redlands commitment to achieve State GHG reduction targets by monitoring and reporting processes to ensure targets are met; and
- Options for reducing GHG emissions beyond State requirements.

### **SUMMARY OF IMPACTS**

Future development under the proposed General Plan would result in an increase in energy consumption and generation of GHG emissions from mobile, stationary, and area sources. Federal, State, and local regulations, as well as policies in the proposed General Plan would make the impacts

of the proposed General Plan less than significant. Despite the overall increase in future energy use, the state's current and future energy code and the proposed General Plan policies would ensure energy efficient designs in new development and encourage energy efficiency upgrades in existing development, both of which would minimize wasteful, inefficient energy consumption. Additionally, the proposed General Plan would meet all GHG emissions targets through 2035. Moreover, the proposed General Plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

## **IMPACTS**

### **Impact 3.5-1 Development under the Proposed Project would not cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance. (Less than Significant)**

Development under the proposed General Plan would increase future energy consumption within the plan area, resulting in additional demand for electricity and natural gas supply and services. Future development projects and land uses proposed under the proposed General Plan would increase the population and employment in the city, and associated energy demand above existing conditions. However, despite the overall increase in future energy use, the state's current and future energy code and the proposed General Plan policies would ensure energy efficient designs in new development and encourage energy efficiency upgrades in existing development, both of which would minimize wasteful, inefficient energy consumption. The proposed General Plan policies listed below also require energy conservation.

The proposed CAP was designed to ensure that the City meets State targets for GHG emissions through monitoring and optional GHG reduction measures. As GHG emissions are often the result of energy consumption, the proposed CAP may help to promote energy efficiency by helping to maintain emissions below a certain level.

Future development would be required to comply with Title 24 energy performance standards and the proposed General Plan energy conservation policies and actions. With implementation of the proposed General Plan and the proposed CAP, impacts would be less than significant.

#### **Proposed General Plan Policies that Reduce the Impact**

##### *Healthy Community Element*

##### **Public Health Actions**

- 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.

##### *Sustainable Community Element*

##### **Energy Efficiency and Conservation 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.

**Energy Efficiency and Conservation 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 clearinghouse, 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.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.

#### **Water Conservation Actions**

- 8-A.27 Seek funding sources to implement renewable energy sources determined to be feasible for water and wastewater operations.
- 8-A.29 Reduce consumption of carbon-based fuels for conveyance and treatment of water and wastewater.

### **Waste Reduction and Recycling Actions**

- 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.38 Explore the potential to generate energy using biomethane from the City's landfill and wastewater treatment plant.

### **Green Building 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.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.

### **Greenhouse Gas Reduction Principles**

- 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.

### **Mitigation Measures**

None required.

**Impact 3.5-2 The Proposed Project would not conflict with the CBC Energy Efficiency Standards, the CARB passenger vehicle GHG emission**

**reduction targets for 2020 and 2035, or any other applicable energy conservation regulations. (Less than Significant)**

All future development under the proposed General Plan would be required to comply with the latest CBC requirements, including CBC Energy Efficiency Standards, as well as all federal, State, and local rules and regulations pertaining to energy consumption and conservation. The proposed General Plan includes policies that emphasize energy reduction strategies as described in Impact 3.5-1. The proposed CAP includes an inventory of citywide GHG emissions; forecasts of future citywide GHG emissions; monitoring and reporting processes to ensure State GHG targets are met; and options for reducing GHG emissions beyond State requirements. The proposed CAP is written for intended implementation through the year 2035.

Through implementation of City policies as delineated in the proposed General Plan and described under Impact 3.5-3, the proposed General Plan would support the CARB passenger vehicle GHG emissions reduction targets through measures that would reduce vehicle miles traveled (VMT) throughout the city. Additionally, CARB's LCFS, which aims to reduce the carbon intensity of the life-cycle of gasoline and diesel fuels by 10 percent by 2020, would further assist in meeting energy reduction goals and GHG emission reduction targets. Therefore, impacts would be considered less than significant.

**Proposed General Plan Policies that Reduce the Impact**

See proposed energy conservation and mobility-related policies listed above under Impact 3.5-1 and below under Impact 3.5-3.

**Mitigation Measures**

None required.

**Impact 3.5-3 Development under the Proposed Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. (Less than Significant)**

The following analysis and emissions estimates were derived from data gathered during drafting of the proposed CAP. While gathering data for city-level emissions used in the proposed CAP, data for the Planning Area outside of city limits was also gathered for the purpose of conducting a Planning Area-level analysis in this EIR.

Planning Area GHG emissions from the 2015 inventory were 472,651 MTCO<sub>2</sub>e per year, or 6.1 MTCO<sub>2</sub>e per capita per year. As discussed under the State Regulations section above, in 2015 Executive Order S-3-15 established a target to reduce GHG emissions to 40 percent below 1990 levels by 2030, in addition to the target set by Executive Order S-3-05 of 80 percent below 1990 levels by 2050.

To reflect these targets, the California Air Resources Board (CARB) recommends that local governments reduce their GHG emissions to 6 MTCO<sub>2</sub>e per capita per year in 2030 and 2 MTCO<sub>2</sub>e per capita per year in 2050.

The horizon year for analysis in the Proposed Project is 2035. The proposed CAP uses a linear trajectory in emissions reductions between 2030 and 2050 to determine the 2035 target: 5 MTCO<sub>2e</sub> per capita.

To project future GHG emissions, the following analysis provides a baseline forecast of GHG emissions, and models forecasts of future GHG emissions through 2035. The analysis then quantifies GHG reductions from State actions and the updated General Plan policies, and applies these reductions to the emissions forecast.

### **Business as Usual Forecast**

The Business as Usual (BAU) forecast estimates emissions through the year 2035, based on the proposed General Plan land use and circulation system. However, it does not include the effects of the following State actions discussed in Section 1.4 of the proposed CAP: the RPS, 2016 Title 24 Building Energy Efficiency Standards, or the 75 percent solid waste diversion goal. The Pavley regulations and the ACC program discussed in Section 1.4 are already accounted for in the transportation emission factors output by the EMFAC2014 model, so these are automatically included in the BAU forecast. Conversely, the LCFS is not included in the EMFAC2014 model because LCFS GHG reductions come from upstream emissions, rather than tailpipe emissions, as discussed in the EMFAC2014 Technical Documentation (CARB, 2015). Additionally, the BAU forecast does not include the effects of policies in the proposed General Plan discussed in Section 3.4 of the proposed CAP.

The forecast predicts all direct GHG emissions<sup>2</sup> from sources within the Planning Area, including fuel combusted in the Planning Area.<sup>3</sup> Indirect emissions associated with the consumption of energy that is generated outside the borders of the Planning Area are also included. Other indirect or embodied emissions are not covered in the forecast, in accordance with International Council for Local Environmental Initiatives standards. The forecast tallies emissions from 10 sectors:

- Residential;
- Commercial;
- Industrial;
- Transportation<sup>4</sup>;
- Solid waste;
- Water;
- Wastewater;

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<sup>2</sup> GHGs considered in the report are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). The emissions have been converted to carbon dioxide equivalent (CO<sub>2e</sub>), which converts the three other GHGs into the equivalent mass of carbon dioxide.

<sup>3</sup> This does not include the Mountainview Generating Station, for reasons described in the proposed CAP.

<sup>4</sup> For transportation trips that originate or end in the Planning Area, emissions for the half of the entire trip are included, and not just for the miles traveled within the Planning Area; however, trips that just pass through the Planning Area are excluded, as their emissions would be reflected at their trip ends.

- Off-Road Equipment;
- Public Lighting; and
- Agriculture.

The emissions projected in the forecast use the activity data (or usage) from the 2015 emissions inventory as an initial value. The predicted growth in each sector is projected to scale with various Redlands characteristics, such as population growth and increase in commercial building square footage. The proposed CAP describes how the predicted growth in each section was determined.

Under BAU conditions, Planning Area emissions are forecast to reach 489,519 MT CO<sub>2</sub>e in the year 2035, as shown in Table 3.5-4. Table 3.5-4 shows the citywide and Planning Area emissions for each sector and the total emissions for all sectors.

The greatest projected emissions continue to be from the transportation sector, which accounts for 30 percent of emissions in 2030 and 26 percent of emissions in 2035. Residential emissions are the next largest sector, with 23 percent of emissions in 2030 and 24 percent of the total in 2035.

**Table 3.5-4: BAU Forecast Emissions by Sector, 2015 to 2035 (MTCO<sub>2</sub>e per year)**

Sector	Redlands			Planning Area		
	2015	2030	2035	2015	2030	2035
Residential	96,875	108,357	112,491	97,723	112,845	118,389
Commercial	73,071	86,071	90,899	73,272	87,788	93,240
Industrial	19,637	23,955	25,595	20,991	25,713	27,512
Transportation	170,635	133,727	117,667	186,782	145,452	127,709
Solid Waste	18,618	21,501	21,501	21,140	24,414	25,615
Water Transport, Distribution, and Treatment	2,284	3,342	3,427	2,594	3,795	3,891
Wastewater	2,222	3,138	3,208	2,523	3,563	3,642
Off-Road Equipment	34,797	46,659	52,326	39,512	52,981	59,416
Public Lighting	747	836	867	848	980	1,028
Agriculture	530	455	433	27,267	26,899	26,802
<b>TOTAL</b>	<b>419,417</b>	<b>428,041</b>	<b>428,414</b>	<b>472,651</b>	<b>484,430</b>	<b>487,245</b>

Source: Dyett & Bhatia, 2017.

### **GHG Reductions from State Actions**

GHG reductions from State actions and other trends to the forecast are quantified in this section. These reductions include the following:

1. Renewable Portfolio Standard;
2. Title 24 building efficiency improvements; and

3. 75 percent solid waste diversion.

Refer to the proposed CAP for details on how the GHG reductions from these policies were quantified.

**Renewable Portfolio Standard**

California’s RPS, discussed under the State Regulations section above, is one of the most ambitious renewable energy standards in the country. The RPS requires that investor-owned utilities like Southern California Edison (SCE) supply 33 percent of their electricity from renewable resources by 2020 and 50 percent of their electricity from renewable sources by 2030. Emissions reductions from the RPS for Redlands and the Planning Area are provided in Table 3.5-5.

**Title 24 Building Efficiency Improvements**

Title 24, discussed under the State Regulations section above, is California’s Building Energy Code. The most recent Title 24 code became effective in 2017. The Title 24 building efficiency improvements’ effects on emissions through the 2013 update were automatically incorporated into the 2015 inventory since this code update was already in effect by 2015. Emissions reductions from Title 24 for Redlands and the Planning Area are provided in Table 3.5-5.

**75 Percent Solid Waste Diversion**

AB 341, discussed under the State Regulations section above, set the goal of 75 percent recycling, composting, or source reduction of solid waste by 2020. The reductions in Redlands and Planning Area GHG emissions based on this waste diversion standard are shown in Table 3.5-5.

**Emissions Reductions**

The annual reductions from the above-referenced State actions—RPS, Title 24 building efficiency improvements, and 75 percent solid waste diversion—were combined. Table 3.5-5 lists the total BAU forecast for years 2030 and 2035, juxtaposed with reductions from State actions.

**Table 3.5-5: GHG Forecast with State Actions Reductions**

Scope	Year	BAU Forecast Emissions with General Plan Land Use and Circulation System <sup>1</sup>	Emissions Reductions from Renewable Portfolio Standard <sup>1</sup>	Emissions Reductions from Title 24 Building Efficiency Improvements <sup>1</sup>	Emissions Reductions from 75 Percent Waste Diversion <sup>1</sup>	Total Forecast Emissions with General Plan Land Use and Circulation System & State Actions Reductions <sup>1</sup>	Total Forecast Emissions with General Plan Land Use and Circulation System & State Actions Reductions <sup>2</sup>
Redlands	2030	428,041	47,918	6,710	2,134	371,279	4.9
	2035	428,414	49,255	9,478	2,239	367,442	4.7
Planning Area	2030	486,656	52,300	8,180	2,423	423,753	4.7
	2035	489,519	53,626	11,392	2,542	420,432	4.5

Notes:

1. Measured by MTCO<sub>2</sub>e per year.
2. Measured by MTCO<sub>2</sub>e per capita per year.

Source: Dyett & Bhatia, 2017.

### **Modified Baseline: GHG Reductions from General Plan Policies and Actions**

This section describes proposed General Plan policies and actions that reduce GHG emissions, quantifies emissions reductions, and explains how these policies and actions will be implemented. “No Project” conditions that result in reductions are reflected in the SANBAG modeling used to calculate VMT in the Planning Area, and are incorporated into the proposed General Plan land use and circulation system. The proposed General Plan land use and circulation system incorporates reductions from “No Project” conditions that are already reflected in the SANBAG modeling used to calculate VMT in the Planning Area. The following reductions are from policies and actions in addition to State regulations and the General Plan land use and circulation system. The General Plan policies and actions are organized according to the following categories:

1. Bikeway System Improvements
2. Pedestrian Improvements and Increased Connectivity
3. Traffic Calming
4. Parking Facilities and Policies
5. Transportation Improvements

Specific General Plan policies that would contribute to the reduction of GHG emissions are listed below.

CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures* report was developed as a resource for local governments to assess emissions reductions from GHG mitigation measures (CAPCOA, 2008). The proposed CAP uses the methodology outlined in the CAPCOA report for each category to quantify emissions reductions from the proposed General Plan policies and actions.<sup>5</sup> The reductions are applied to the forecast to get the “modified forecast.” GHG reductions from proposed General Plan policies are provided in Table 3.5-6.

#### ***Bikeway System Improvements***

The Redlands Bicycle Master Plan, adopted in 2015 and referenced in the General Plan, recommends the enhancement of the existing bicycle network with the implementation of 33 miles of new Class I bike paths and 148 miles of new Class II and III bikeways. Currently, there are 18 miles of bicycle paths in Redlands.<sup>6</sup> In total, the recommended enhancements will create a total of 181 miles of new bike paths, to result in a total of 199 miles of bike paths.

An estimated 0.09 percent reduction in transportation GHG emissions is assumed to occur where there are 4 miles of bike lane per square mile. A reduction of 0.14 percent is assumed in areas with 8 miles of bike lanes per square mile. The minimum density threshold given for these assumptions

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<sup>5</sup> While many of the policies and actions quantified in the proposed CAP are project-level in nature, much of the supporting literature is from studies on a citywide, countywide, or regional context. The methodology in the proposed CAP is based on these regional studies, which is therefore applicable to the General Plan policies and actions listed in the proposed CAP.

<sup>6</sup> One mile of bicycle paths is equivalent to 2 “lane miles,” a measure used in Section 3.15 of this EIR.



is 2,000 people per square mile. With the total bicycle improvements, there would be approximately 4.3 miles of bike lanes per square mile. However, the Planning Area currently has approximately 1,665 people per square mile, not quite reaching the threshold of 2,000 people per square mile. Therefore, the lower percent reduction in transportation GHG emissions of 0.09 is used. The Planning Area will reach a density of 2,017 people per square mile in 2035, passing the threshold of 2,000 people per square mile.

A 0.09 percent reduction in VMT emissions corresponds to 131 MTCO<sub>2</sub>e per year in 2030 and 115 MTCO<sub>2</sub>e per year in 2035 for the Planning Area. See Table 3.5-6 for policy reductions for Redlands and the Planning Area.

#### *Pedestrian Improvements and Increased Connectivity*

The City has adopted several programs and plans related to improving the walking environment. The Downtown Specific Plan identifies districts and corridors and provides direction for pedestrian circulation and pedestrian-oriented street design. Additionally, there are a number of improvements described in the proposed General Plan that will enhance connectivity for bicycles and pedestrians. The General Plan also articulates a vision for transit-oriented development and strategies for future development patterns around the proposed Redlands Passenger Rail stations.

Providing an improved pedestrian network and increasing connectivity encourages people to walk more and results in people driving less, causing a reduction in VMT. An estimate of a 1 percent reduction in VMT from pedestrian improvements and connectivity was assumed, which corresponds to a reduction of 1,455 MTCO<sub>2</sub>e per year in 2030 and 1,277 MTCO<sub>2</sub>e per year in 2035 for the Planning Area. See Table 3.5-6 for policy reductions for Redlands and the Planning Area.

#### *Traffic Calming*

The General Plan includes policies for “calming” traffic to make streets more safe and comfortable for pedestrian travel. Traffic calming devices include speed tables, speed bumps, roundabouts, and other devices that encourage people to drive more slowly or to walk or bike instead of using a vehicle, especially for short trips in and around residential neighborhoods.

CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures* was used to quantify the effect of traffic calming devices. A 0.25 percent reduction in VMT was assumed to occur from these improvements, which corresponds to a reduction of 364 MTCO<sub>2</sub>e per year in 2030 and 319 MTCO<sub>2</sub>e per year in 2035 for the Planning Area. See Table 3.5-6 for policy reductions for Redlands and the Planning Area.

#### *Parking Facilities and Policies*

To promote “right sizing” of parking facilities, techniques such as shared parking, in-lieu parking fees, and parking management strategies are included as part of the proposed General Plan Mobility Element. Refer to the proposed CAP for additional details.

According to CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures*, parking strategies have estimated VMT reductions. Reduced parking standards and other policies reducing parking availability have an estimated 5 to 12.5 percent VMT reduction. Conservatively assuming the effect of General Plan parking reduction strategies would result in the lower end of VMT reduction, the

cumulative reduction from implementations would result in a 5 percent VMT reduction to give an estimated 7,273 MTCO<sub>2e</sub> per year reduction by 2030, and a 6,385 MTCO<sub>2e</sub> per year reduction in 2035 for the Planning Area. See Table 3.5-6 for policy reductions for Redlands and the Planning Area.

### *Transportation Improvements*

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

An inactive rail line runs through the center of Redlands. SANBAG is currently implementing the Redlands Passenger Rail project, which will extend rail transit to the Planning Area. 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. Since this expansion of the transit network is already included in the SANBAG model from which VMT was calculated, it is not considered in calculations of additional GHG reductions resulting from General Plan policies.

General Plan policies seek to further transit-improvement efforts by organizing land uses and proposing new streets and bicycle paths to capitalize on the passenger rail extension, connect rail with other modes and destinations in the Planning Area, and allow for expansion of existing transit networks.

The General Plan also calls for traffic signal management (TSM) techniques as part of a long-term transportation solution and traffic mitigation strategy.

Transportation system improvements can result in VMT reductions. According to CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*, transit system improvements can result in the following reductions: 0.02 to 3.2 percent VMT reduction from a bus rapid transit system and 0.5 to 24.6 percent VMT reduction from increasing transit accessibility. Conservatively assuming the combined effect of these strategies, summing the low end of the VMT reduction ranges gives a 0.53 percent reduction in VMT emissions, or estimated 771 MTCO<sub>2e</sub> per year reduction by 2030, and a 677 MTCO<sub>2e</sub> per year reduction by 2035 for the Planning Area. See Table 3.5-6 for policy reductions for Redlands and the Planning Area.

### *Emissions Reductions*

Table 3.5-6 shows the GHG reductions from each of the above components for Redlands and the Planning Area. The largest reduction comes from parking facilities and policies, followed by pedestrian improvement and increased connectivity, transportation improvements, traffic calming, and bikeway system improvements. VMT emissions are projected to decrease in the future due to higher fuel efficiency standards. Therefore, despite VMT projections' continuing to climb from 2030 to 2035, the effect of the VMT reductions are greater in 2030 than in 2035 for all General Plan policies considered in this section. For example, the reductions from traffic calming for the Planning Area in 2035 are 319 MTCO<sub>2e</sub> per year, which is less than the reduction in 2030 of 364 MTCO<sub>2e</sub> per year.

**Table 3.5-6: GHG Reductions from General Plan Policies and Actions (MTCO<sub>2</sub>e per year)**

Scope	Year	Bikeway System Improvements	Pedestrian Improvements and Increased Connectivity	Traffic Calming	Parking Facilities and Policies	Transportation Improvements	Total GHG Reductions from Additional General Plan Policies and Actions
	2035	106	1,177	294	5,883	624	8,084
Planning Area	2030	131	1,455	364	7,273	771	9,993
	2035	115	1,277	319	6,385	677	8,774

Source: Dyett & Bhatia, 2017.

### Modified Forecast

Table 3.5-7 shows the total citywide and Planning Area emissions with the reductions from the following policies and actions described above:

- Proposed General Plan land use and circulation system;
- State actions; and
- Proposed General Plan policies (identified below).

Projected emissions drop steeply to 2030 from the combined effect of GHG reduction policies and actions and continue a gradual decline to 2035. The decline becomes more gradual because no increases in federal or State standards relating to renewable energy or other GHG reduction methods are assumed, even though these may well occur by that time. With the effect of all the GHG reductions considered, the total Planning Area forecast emissions are 412,148 MTCO<sub>2</sub>e per year in 2030 and 409,351 MTCO<sub>2</sub>e per year in 2035.

Table 3.5-7 shows that the Planning Area will meet its targets for 2030 and 2035 without any additional measures beyond those identified above.

**Table 3.5-7: Modified Forecast (Forecast Emissions with General Plan Land Use and Circulation System, State Actions, and Additional General Plan Policies) and Emissions Targets**

Year	GHG Emissions Targets <sup>1</sup>	Redlands		Planning Area	
		Total Modified Forecast <sup>2</sup>	Total Modified Forecast <sup>1</sup>	Total Modified Forecast <sup>2</sup>	Total Modified Forecast <sup>1</sup>
2030	6.0	362,092	4.8	413,819	4.6
2035	5.0	359,358	4.5	411,709	4.4

Notes:

1. Measured by MTCO<sub>2</sub>e per capita per year
2. Measured by MT CO<sub>2</sub>e

Source: Draft Redlands Climate Action Plan, 2017.

Section 4 of the proposed CAP provides information regarding steps to monitor GHG emissions progress, and potential additional measures that can be taken in the future should the City so desire. As the proposed General Plan would meet all State-mandated emissions targets through 2035, impacts would be considered less than significant and no additional measures are required.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Land Use and Community Design Element*

#### **Community Integration Actions**

- 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.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.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.

### **Cultural Resources Action**

- 2-A.69 Encourage shared parking or in-lieu parking in older neighborhoods.

### **Street Trees and Streetscape 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
  - 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.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.

### **Vibrant Downtown Actions**

- 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.99 Ensure that new development along Redlands Boulevard is pedestrian-oriented.

### *Livable Community Element*

#### **Land Use Principle**

- 4-P.9 Locate medium- and high-density development near regional access routes, transit stations, employment centers, shopping areas, and public services.

#### **Land Use Actions**

- 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.18 Focus the development of office space in transit-accessible locations.

#### **Focus Areas Action**

- 4-A.52 Improve access and movement of all modes of transportation in the East Valley Corridor and enhance linkages to transit.
- 4-A.95 Encourage the development of bicycle, pedestrian, and transit access that reduce the need for on-site parking.

#### **Transit Villages 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.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.

**Transit Villages Actions**

- 4-A.99 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.104 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.105 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.106 Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.108 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.110 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.112 Establish boulevards along Redlands Boulevard and Colton Avenue with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.113 Provide pedestrian routes between offices, neighborhoods, and Downtown.
- 4-A.114 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.115 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.116 Ensure safe railway crossings at Tennessee Street, Texas Street, and New York Street for bicyclists and pedestrians.
- 4-A.118 Complete and implement an update of the Downtown Specific Plan to create a cohesive town center with amenities and pedestrian-oriented streets.
- 4-A.124 Establish boulevards along Orange Street, Colton Avenue, and Redlands Boulevard with pedestrian-oriented streetscape improvements and ground-floor active uses.
- 4-A.125 Strengthen pedestrian and bicycle circulation routes within Downtown and to and from adjacent neighborhoods.

- 4-A.126 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.131 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.132 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.134 Improve the I-10 undercrossings at University Street and Citrus Avenue to allow safe and comfortable access for vehicles, pedestrians, and cyclists.

#### *Connected City Element*

#### **Layered, Multi-Modal Network Principles**

- 5-P.13 Ensure streets are designed to accommodate bicyclists per the Bicycle Master Plan.
- 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.

#### **Layered, Multi-Modal Network Actions**

- 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.

#### **Pedestrian Movement Principles**

- 5-P.16 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.17 Encourage creative walking paths pursuant to City planning codes, local, State, and federal laws.
- 5-P.18 Enhance street lighting for pedestrians where current lighting is inadequate.

#### **Pedestrian Movement Actions**

- 5-A.17 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.18 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.19 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 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.

#### **Bicycle Movement Principles**

- 5-P.19 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.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.

#### **Bicycle Movement Actions**

- 5-A.22 Use the City’s Bicycle Master Plan as the primary resource for planning and implementing bikeway improvements.
- 5-A.23 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, and the San Timoteo Canyon Trail.
- 5-A.24 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, and Wabash Avenue.

- 5-A.25 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.26 Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.
- 5-A.27 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.28 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.29 Work with neighboring jurisdictions, the University of Redlands, and major employers to implement bike sharing programs.

#### **Vehicular Movement Actions**

- 5-A.32 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.33 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.41 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.47 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.

#### **Transit Principles**

- 5-P.25 Improve public transit as a viable form of transportation in Redlands.
- 5-P.26 Support passenger rail as an alternative mode of regional transit.

#### **Transit Actions**

- 5-A.54 Work with Omnitrans to accommodate and adjust transfer centers and bus service as necessary to support future rail service.

- 5-A.55 Work with Omnitrans to expand bus service to additional areas of the city and improving north-south connections.
- 5-A.56 Work with Omnitrans to plan for bus shelters, boarding areas, transfer centers, bus pads in the right-of-way, and bus turnouts.
- 5-A.57 Incorporate real-time information systems so that passengers will know when their bus or train is expected to arrive.
- 5-A.58 Support investments in passenger rail by providing effective on-site circulation and multi-modal connections to transit stations.
- 5-A.59 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.60 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.61 Continue to collaborate with regional transit partners to achieve seamless transfers between systems, including scheduling, ticketing, and shared fare systems.
- 5-A.62 Develop strategies to maximize off-peak use of transit.
- 5-A.63 Coordinate with other agencies and private entities to investigate methods of improving service and enhancing safety along the passenger rail corridor.
- 5-A.64 Encourage convenient and safe pedestrian linkages to and from transit service to provide better first-mile and last-mile connectivity.
- 5-A.65 Provide for direct pedestrian paths and access from new developments to the nearest public transportation stop.

**Transportation Demand Management (TDM) and Parking Principle**

- 5-P.27 Adopt and implement a Transportation Demand Management Program.

**Transportation Demand Management (TDM) and Parking Action**

- 5-A.66 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 innovative alternatives that may arise in the future
- 5-A.69 Design parking to meet applicable urban design goals from area plans and minimize negative impacts on pedestrians, bicyclists, and transit users.
- 5-A.72 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.73 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.

*Healthy Community Element*

**Parks and Recreational Open Space Action**

- 7-A.24 Coordinate trail planning with bike route planning in preparation for updates to the Redlands Bicycle Master Plan.

**Public Health Principle**

- 7-P.17 Achieve more walkable, livable neighborhoods by expanding the multi-modal transportation system and creating a safe, pedestrian-oriented environment.

**Public Health Actions**

- 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.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.

### **Air Quality Principle**

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.

### **Air Quality Action**

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.

### **Mitigation Measures**

None required.

### **Impact 3.5-4 Development under the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. (Less than Significant)**

Through implementation of the proposed General Plan policies aimed at reducing GHG emissions, and the proposed CAP that would serve as the implementation tool for GHG monitoring and reporting, the Proposed Project would serve to implement a number of strategies and measures aimed at reducing greenhouse gas emissions. Additionally, the SCAG RTP/SCS, discussed under the Local Regulations section above, includes a set of policy objectives related to mobility, reliability, system preservation and safety, social equity, healthy environment, and economic growth. The RTP will assist in SCAG's implementation of SB 375, the California Global Warming Solutions Act of 2006, and regional GHG targets. With implementation of the proposed General Plan's goals and policies related to sustainability and multi-modal transportation objectives, the proposed General Plan would complement the goals and policies of the RTP/SCS and would continue to carry out the goals of AB 32 and SB 375. Therefore, future development projects and land uses proposed under the proposed General Plan and proposed CAP would, by nature, result in reduced transportation GHG emissions relative to the No Project Alternative, as shown in Chapter 4.0 Alternatives. This achieves the overarching goals of local, regional, and State plans to reduce GHG emissions. As such, the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts would be less than significant.

### **Proposed General Plan Policies that Reduce the Impact**

See proposed energy conservation and mobility-related policies listed above under Impact 3.5-1 and Impact 3.5-3.

### **Mitigation Measures**

None required.

## 3.6 Geology, Soils, and Seismicity

This section describes hazards due to earthquake faults, groundshaking, landslides, erosion, and liquefaction in the Planning Area and analyzes potential impacts related to the implementation of the Proposed Project.

### Environmental Setting

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#### PHYSICAL SETTING

##### Local Geology and Soils

The Planning Area is located north of the Peninsular Range geomorphic province, which is characterized by northwest trending mountains and valleys of granite and older metamorphic rocks. The Planning Area lies in the San Bernardino Valley, just south of the San Bernardino Mountains. The mountains represent the eastern extension of the Transverse Ranges. The area's topography generally slopes downward to the southwest (Terry A. Hayes Associates Inc., 2011).

The area between the mouths of the Santa Ana River Wash and Mill Creek Canyon are primarily composed of alluvium, while the majority of the Crafton Hills consist of gneissic or Pelona schist. Two relatively small granitic areas also border a segment of Mill Creek, north of Crafton Hills. In addition, the San Timoteo and Live Oak canyons are carved in part through the San Timoteo Formation, which is composed of nonmarine sandstone, siltstone, conglomerate, and shale (Blayney Dyett Greenberg, 1991).

Surficial deposits in the Planning Area include very young, young, old, and very old deposits. Very young deposits are recently transported and deposited sediment in channels and washes, on surfaces of alluvial fans and plains, and on hill slopes. These include very young wash deposits (Qvyw), very young alluvial-fan deposits (Qvyf), very young axial-valley deposits (Qvya), and very young landslide deposits (Qvyls). Young surficial deposits are slightly to moderately consolidated and slightly to moderately dissected, and include young alluvial-fan deposits (Qyf), young axial-valley deposits (Qya), and young landslide deposits (Qyls). Old surficial deposits are moderately consolidated and slightly to moderately dissected and include old alluvial-fan deposits (Qof), old axial-valley deposits (Qoa), and old landslide deposits (Qols). Very old surficial deposits are moderately to well consolidated to lithified, and moderately to well dissected. Very old deposits include very old alluvial-fan deposits (Qvof) and very old axial-valley deposits (Qvoa) (Matti et. al., 2003).

Emerging through the alluvium in assorted places are more solidly consolidated formations, including gneiss, schist, granite, and sedimentary rock. Most of the Crafton Hills are composed of gneissic undeformed-to-slightly-deformed metamorphic rocks. The northern front of the Crafton Hills, adjacent to the Mill Creek channel, is composed of Pelona schist. There are two relatively small granitic areas in the Planning Area, bordering a segment of Mill Creek, north of the Crafton Hills. The San Timoteo and Live Oak canyons are carved, in part, through a sedimentary formation composed of nonmarine sandstone, siltstone, conglomerate and shale, known as the San Timoteo Formation. This formation weathers to form extensive badlands topography; hence, the name of the range south of San Timoteo Canyon (Blayney Dyett Greenberg, 1991).

Distribution of soils in the Planning Area is depicted in Figure 3.6-1. The dominant soil series are described below:

- The Hanford soil series dominates in the East Valley Corridor Specific Plan area and along the Zanja and San Timoteo creeks. The Hanford series is characterized by very deep, well-drained soils formed in moderately coarse alluvium, dominantly from granite. They typically form on streambeds, floodplains, and alluvial fans, and tend to have lower slopes.
- The Santa Ana River Wash is dominated by the Soboba soil series, characterized by deep, excessively drained soils formed in alluvium from primarily granitic sources. Soboba soils are found on alluvial fans and floodplains, and have low to moderate slopes. This area also has a presence of sandy psamments and fluvents.
- The central portion of the Planning Area is dominated by Tujunga soils north of the Zanja, and Ramona soils to the south. Both are formed in alluvium from granitic sources, and have moderate to low slopes. Tujunga soils are generally used for grazing, citrus, grapes, and other fruits, while Ramona soils are used generally for grain, pasture, citrus, and fruits. The canyon areas are dominated by soils of sedimentary composition, the Saugus, San Emigdio series and San Timoteo series. The Saugus series is characterized by deep, well-drained soils, and moderate to high slopes.
- The Cieneba soil series dominates the Crafton Hills and a portion of Crafton near Interstate 10. These are shallow, somewhat excessively drained soils formed from weathered granitic rock. They are found on hills and mountains and have steep slopes.

## **Seismic and Geologic Hazards**

### ***Earthquake Faults***

The Planning Area is bounded 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 3.6-2. 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.

The San Andreas and San Jacinto faults are right-lateral strike-slip faults trending northwest-southwest. The Crafton Hills fault zone is a system of normal dip-slip faults. The San Andreas San

Bernardino fault is predicted to have the capacity to produce an earthquake with a maximum moment magnitude of  $M_w$  7.5. The San Jacinto San Bernardino fault is predicted to have the capacity to produce an earthquake with a maximum moment magnitude of  $M_w$  6.7 (Cao et. al., 2003). Though the Crafton Hills fault zone is an active fault (an active fault is one that has shown movement or surface displacement since the Holocene), the California Geological Survey does not currently have a prediction of maximum potential magnitude for this fault system.

Other faults in the vicinity of the Planning Area include the San Geronio Pass fault zone, located 3 miles away with probable magnitudes of  $M_w$  6.0 to 7.0; the Banning fault zone, 14 miles away with probable magnitudes of  $M_w$  6.0 to 7.2; and the Cucamonga fault zone, 26 miles away with probable magnitudes of  $M_w$  6.0 to 7.0 (Southern California Earthquake Data Center, 2013).

Due to its position among a high number of active or potentially active faults, the Planning Area may be subject to both primary (fault rupture) and secondary effects of seismic activity, including ground shaking, liquefaction, slope collapse/landslides, and dam-related hazards.

### **Groundshaking**

Ground movement 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 ground shaking. 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.

### **Landslides and Erosion**

According to data from the U.S. Department of Agriculture, Natural Resources Conservation Service, 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 (Blayney-Dyett, 1989).

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 the United States Geological Survey (USGS) shows areas classified as moderate to high potential for landslides in various parts of southern Redlands and some smaller parts in the eastern side of the Planning Area, as shown in Figure 3.6-3.

### **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 3.6-4. The only portions of the Planning Area mapped

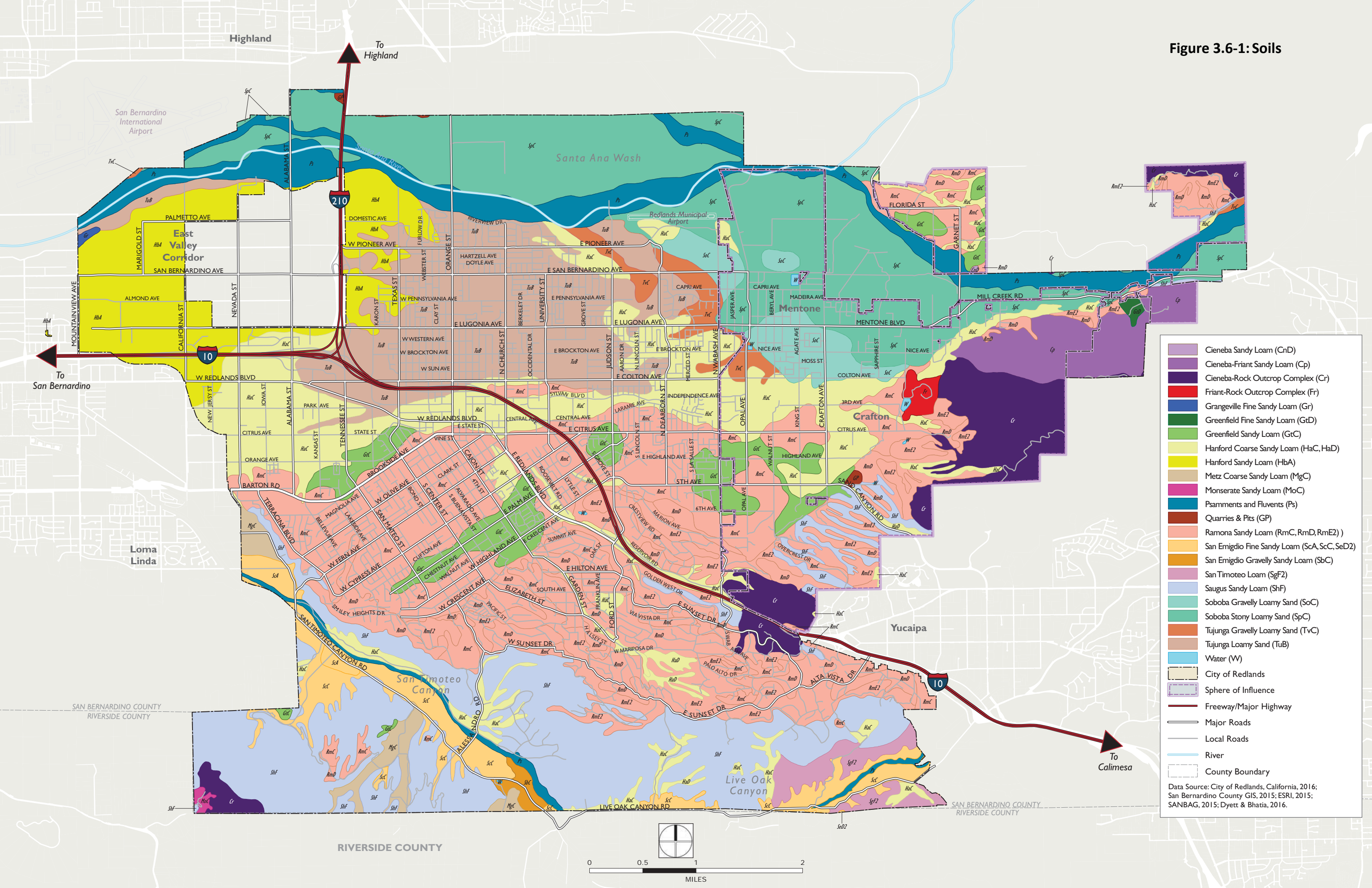
with liquefaction susceptibility are along the Santa Ana River Wash and in Mentone. However, because a majority of the Planning Area, including Downtown Redlands, is situated upon alluvial fan deposits, there may be potential for impacts related to liquefaction as the result of severe seismic shaking.

### **Surface Rupture**

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.

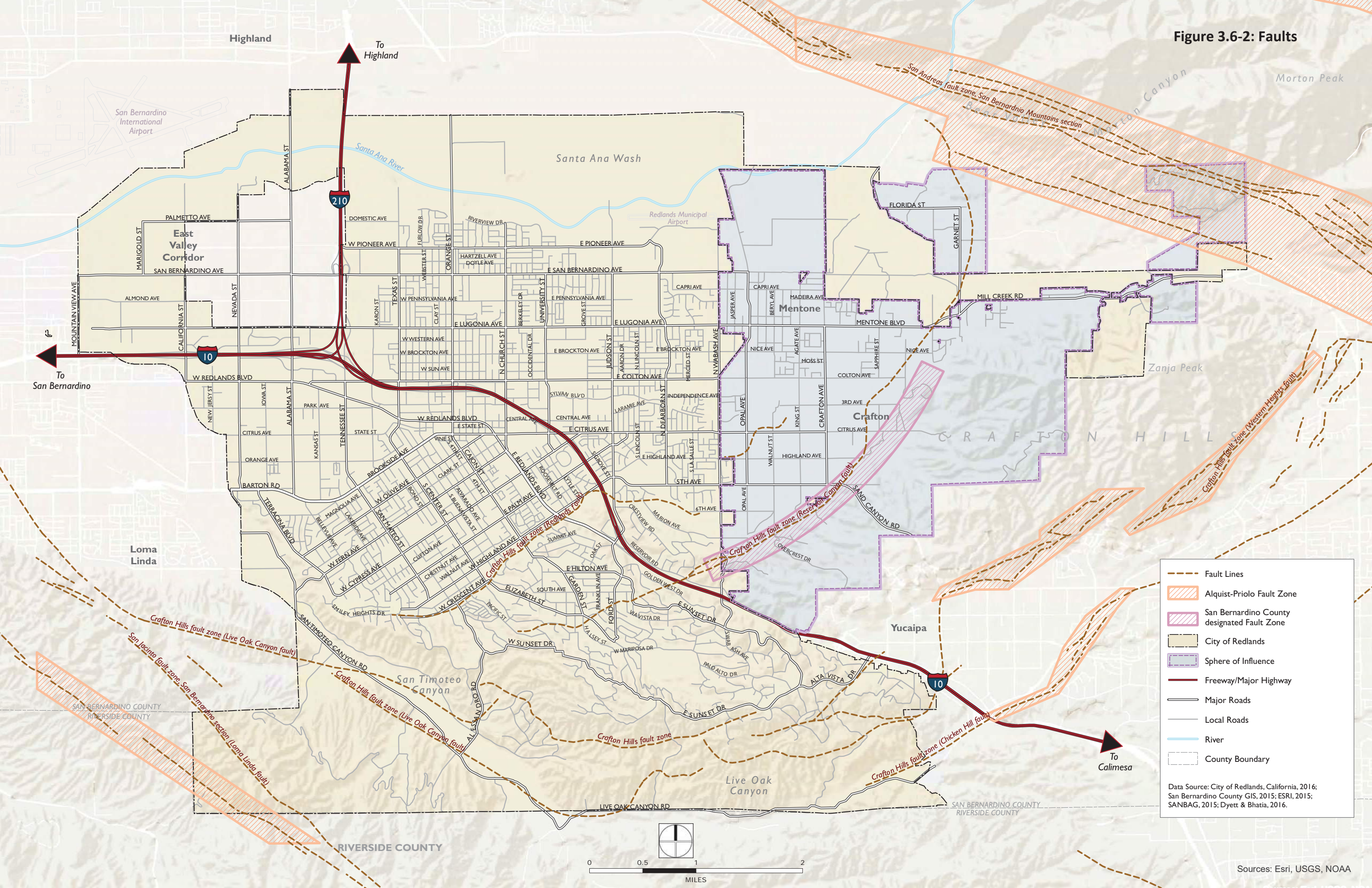


Figure 3.6-1: Soils



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

Figure 3.6-2: Faults

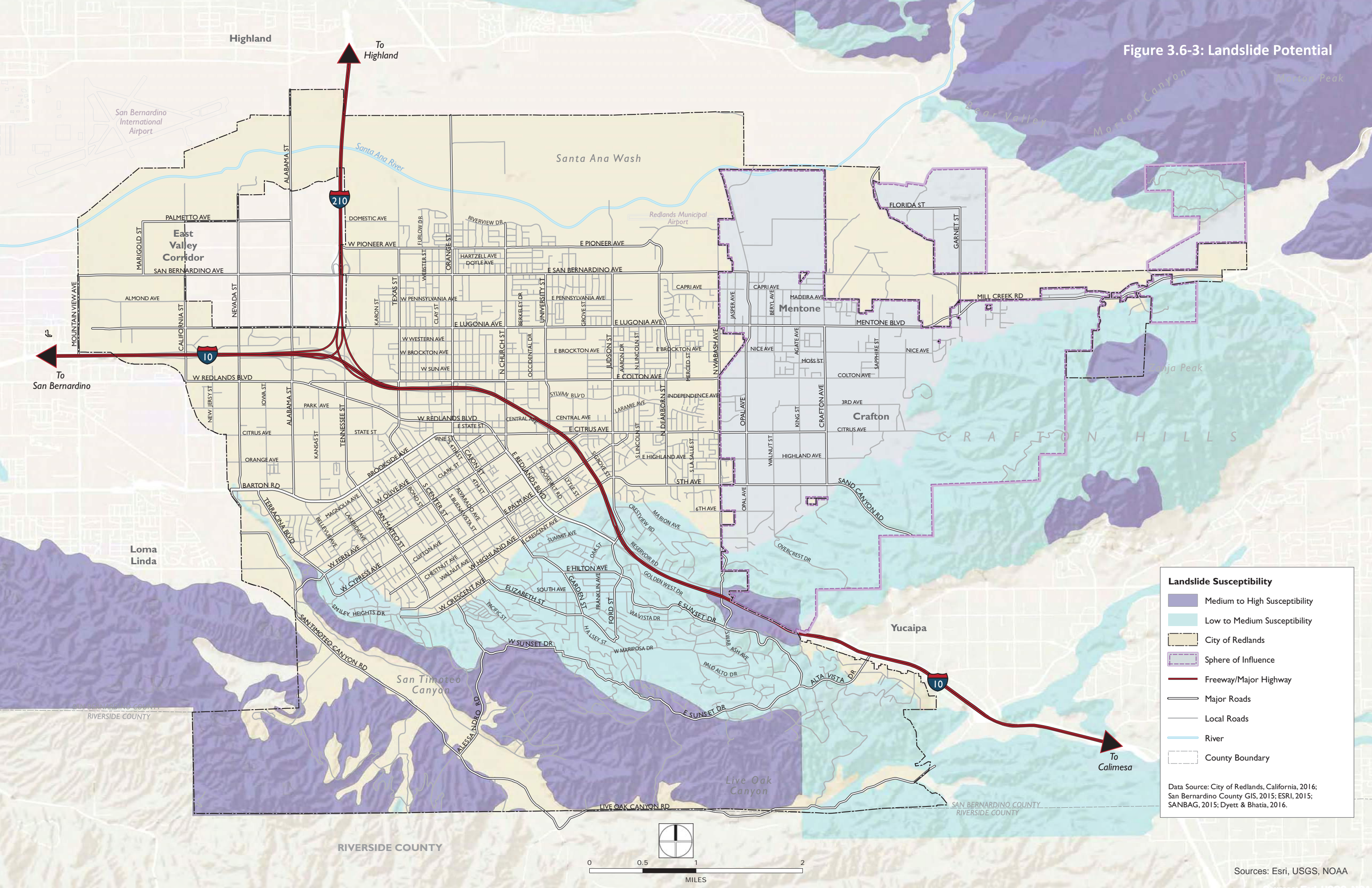


	Fault Lines
	Alquist-Priolo Fault Zone
	San Bernardino County designated Fault Zone
	City of Redlands
	Sphere of Influence
	Freeway/Major Highway
	Major Roads
	Local Roads
	River
	County Boundary

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



Figure 3.6-3: Landslide Potential



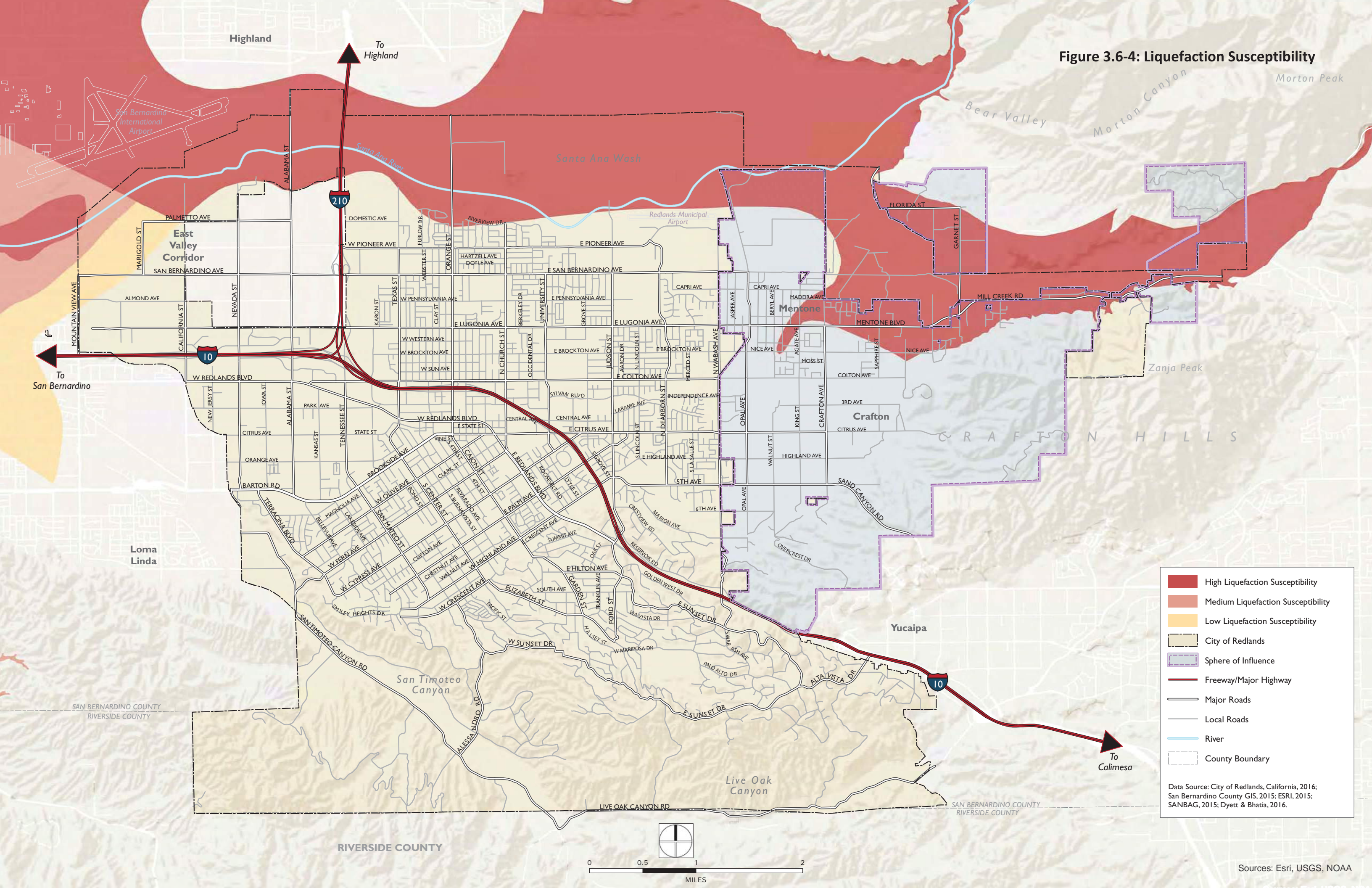
**Landslide Susceptibility**

- Medium to High Susceptibility
- Low to Medium Susceptibility
- 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.

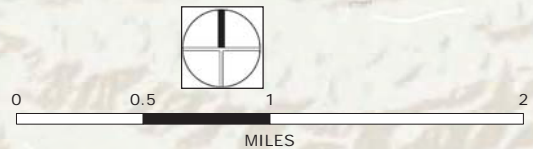


Figure 3.6-4: Liquefaction Susceptibility



<span style="display:inline-block; width:15px; height:15px; background-color:darkred;"></span>	High Liquefaction Susceptibility
<span style="display:inline-block; width:15px; height:15px; background-color:mediumslateblue;"></span>	Medium Liquefaction Susceptibility
<span style="display:inline-block; width:15px; height:15px; background-color:yellow;"></span>	Low Liquefaction Susceptibility
<span style="display:inline-block; border:1px dashed black; width:15px; height:15px;"></span>	City of Redlands
<span style="display:inline-block; border:1px dashed purple; width:15px; height:15px;"></span>	Sphere of Influence
<span style="display:inline-block; width:15px; height:15px; background-color:darkred; border:2px solid darkred;"></span>	Freeway/Major Highway
<span style="display:inline-block; width:15px; height:15px; border:1px solid black;"></span>	Major Roads
<span style="display:inline-block; width:15px; height:15px; border:1px solid gray;"></span>	Local Roads
<span style="display:inline-block; width:15px; height:15px; background-color:lightblue;"></span>	River
<span style="display:inline-block; border:1px dashed gray; width:15px; height:15px;"></span>	County Boundary

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



## **REGULATORY SETTING**

### **Federal Regulations**

#### ***U.S. Geological Survey Landslide Hazard Program***

The USGS created the Landslide Hazard Program in the mid-1970s; the primary objective of the program is to reduce long-term losses from landslide hazards by improving our understanding of the causes of ground failure and suggesting mitigation strategies. The federal government takes the lead role in funding and conducting this research, whereas the reduction of losses due to geologic hazards is primarily a state and local responsibility. In San Bernardino County, plans and programs designed for the protection of life and property are coordinated by the San Bernardino County Office of Emergency Services.

#### ***Earthquake Hazards Reduction Act***

The Earthquake Hazards Reduction Act was enacted in 1977 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was last amended in 2004 by NEHRP.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the National Institute of Standards and Technology (NIST) as the lead agency of the program. As lead agency, it develops, evaluates, and tests earthquake resistant design and construction practices for implementation in the building codes and engineering practice. Under NEHRP, the Federal Emergency Management Agency (FEMA) is responsible for developing earthquake risk reduction tools and promoting their implementation, as well as supporting the development of disaster-resistant building codes and standards. USGS monitors seismic activity, provides earthquake hazard assessments, and conducts and supports targeted research on earthquake causes and effects. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards.

#### ***Disaster Mitigation Act of 2000***

The Disaster Mitigation Act of 2000 (DMA2K) (Public Law 106-390) amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 to establish a Pre-Disaster Mitigation (PDM) program and new requirements for the federal post-disaster Hazard Mitigation Grant Program (HMGP). DMA2K encourages and rewards local and state pre-disaster planning. It promotes sustainability and seeks to integrate state and local planning with an overall goal of strengthening statewide hazard mitigation. This enhanced planning approach enables local, tribal, and state governments to identify specific strategies for reducing probable impacts of natural hazards such as floods, fire, and earthquakes. In order to be eligible for hazard mitigation funding after November 1, 2004, local governments are required to develop a Hazard Mitigation Plan that

incorporates specific program elements of the DMA2K law. The City of Redlands adopted a Hazard Mitigation Plan in 2015, as described below under Local Regulations.

## **State Regulations**

### **California Multi-Hazard Mitigation Plan**

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. The State is required under the Disaster Mitigation Act of 2000, described above, to review and update its SHMP and resubmit for FEMA approval at least once every 5 years to ensure the continued eligibility for federal funding. The SHMP provides goals and strategies which address minimization of risks associated with natural hazards and response to disaster situations. The SHMP notes that the primary sources of losses in the State of California are fire and flooding.

### **California Building Standards Code**

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. The State of California provides minimum standards for building design through the California Building Standards Code (CBC) (California Code of Regulations Title 24). Where no other building codes apply, Chapter 18 of the CBC regulates excavation, foundations, and retaining walls. The CBC applies to building design and construction in the state and is based on the Federal Uniform Building Code (FUBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The FUBC has been modified for California conditions with numerous more detailed or more stringent regulations.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. The CBC requires an evaluation of seismic design that falls into Categories A–F (where F requires the most earthquake-resistant design) for structures designed for a project site. The CBC philosophy focuses on “collapse prevention,” meaning that structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. Chapter 16 of the CBC specifies exactly how each seismic design category is to be determined on a site-specific basis through the site-specific soil characteristics and proximity to potential seismic hazards.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls. This chapter regulates the preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Chapter 18 also regulates analysis of expansive soils and the determination of the depth to groundwater table. For Seismic Design Category C, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading. For Seismic Design Categories D, E, and F, Chapter 18 requires these same analyses plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also requires mitigation measures to be considered in structural design. Mitigation measures may include ground stabilization, selection of appropriate foundation type and depths, selection of

appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. Peak ground acceleration must be determined from a site-specific study, the contents of which are specified in CBC Chapter 18.

Finally, Appendix Chapter J of the CBC regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

The CBC has been amended and adopted as Title 15 of the Redlands City Code, which regulates all building and construction projects within the city.

### **California Alquist–Priolo Earthquake Fault Zoning Act**

The Alquist–Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures used for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on top of active faults. The law only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards, such as ground shaking or landslides.

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist–Priolo Zones) around the surface traces of active faults, and to issue appropriate maps. The maps are then distributed to all affected cities, counties and state agencies for their use in planning and controlling new or renewed construction. Generally, construction within 50 feet of an active fault zone is prohibited. The California Geological Survey identifies Redlands on its list of cities affected by Alquist–Priolo Earthquake Fault Zones (California Geological Survey, 2007). As discussed under *Earthquake Faults* in the Physical Setting section, portions of the fault zones within the Planning Area are designated Alquist-Priolo fault zones (see Figure 3.6-2).

### **Hospital Facilities Seismic Safety Act of 1973**

The Alfred E. Alquist Hospital Facilities Seismic Safety Act (HSSA) was passed in 1973 to ensure that hospitals in California conform to high construction standards and are reasonably capable of providing services to the public after a disaster. The HSSA requires the establishment of rigorous seismic design regulations for hospital buildings and requires that new hospitals and additions to hospitals have the capacity, as far as is practical, to remain functional after a major earthquake. State law requires that all existing hospital buildings providing general acute care as licensed under provisions of Section 1250 of the California Health and Safety Code be in compliance with the intent of the HSSA by the year 2030.

### **Seismic Hazards Mapping Act, California Public Resources Code Sections 2690–2699.6**

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Fault zones in the Planning Area prone to earthquakes are shown in Figure 3.6-2 and described in the Physical Setting section above. Also discussed in the Physical

Setting section, areas at risk for landslides are shown in Figure 3.6-3, and areas at risk for liquefaction are shown in Figure 3.6-4. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by the California Geologic Society (CGS) Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards (CGS 1997).

### **California Department of Transportation (Caltrans)**

Jurisdiction of the California Department of Transportation (Caltrans) includes State and interstate routes within California. Any work within the right-of-way of a federal or State transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans standards incorporate the California Building Code, and contain numerous rules and regulations to protect the public from seismic hazards such as surface fault rupture and ground shaking. In addition, Caltrans standards require that projects be constructed to minimize potential hazards associated with cut and fill operations, grading, slope instability, and expansive or corrosive soils, as described in the Caltrans Highway Design Manual (HDM).

### **National Pollution Discharge Elimination System Permits**

In California, the State Water Resources Control Board (SWRCB) and its Regional Water Quality Control Board (RWQCB) administer the National Pollution Discharge Elimination System (NPDES) program. The NPDES permit system was established as part of the Federal Clean Water Act to regulate both point source discharges and non-point source discharges to surface water of the United States, including the discharge of soils eroded from construction sites.

The NPDES program consists of characterizing receiving water quality, identifying harmful constituents (including siltation), targeting potential sources of pollutants (including excavation and grading operations), and implementing a comprehensive stormwater management program. Construction and industrial activities typically are regulated under statewide general permits that are issued by the SWRCB. Additionally, the SWRCB issues Water Discharge Requirements that also serve as NPDES permits under the authority delegated to the RWQCBs, under the Clean Water Act. See Section 4.9 of this EIR, “Hydrology and Water Quality,” for more information about the NPDES.

### **Local Regulations**

#### **City of Redlands Public Services Ordinance**

The City of Redlands has a public services ordinance (Municipal Code Title 13) that specifies minimum distances required between well drilling and septic tanks, in addition to requirements for septic tanks to be allowed on a property.

#### **City of Redlands Buildings and Construction Ordinance**

As described under the State Regulations section above, the City of Redlands has a buildings and construction ordinance (Municipal Code Title 15) that adopts the 2016 California Building Standards Code, which includes chapters that protect soil and seismic safety.



### **City of Redlands Zoning Ordinance**

The Redlands Zoning Ordinance implements the policies of the General Plan. It contains provisions to mitigate potential hazards in the vicinity of the airport, on floodplains, and on hillsides. Chapter 18.138 establishes the Hillside Development District (HD), an overlay that addresses numerous risks to development on the city's hillsides. Objectives of the HD district include minimizing flood hazards, runoff, and soil erosion incurred from development of hillsides; provide safe vehicular circulation; and minimize exposure to wildland fire. The Zoning Ordinance would likely be revised to implement the General Plan Update.

### **City of Redlands Hazard Mitigation Plan**

The City of Redlands adopted a Hazard Mitigation Plan (HMP) in 2015 to comply with the Disaster Mitigation Act of 2000 to increase disaster planning funding. 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. The HMP shall provide for the effective mobilization of all of the resources of the City, both public and private, to meet any condition constituting a local emergency, state of emergency, or state of war emergency. The HMP provides a well-organized public education and awareness effort involving preparedness and mitigation. These actions include hazard, risk and vulnerability identification, the identification of mitigation actions, and the support of mitigation efforts. The emergency multi-hazard functional plan shall take effect upon adoption by resolution of the City Council (City of Redlands Municipal Code Title 2 – Administration and Personnel Chapter 2.52.150 – Emergency Organization Ordinance).

### **San Bernardino County General Plan**

The 2007 San Bernardino County General Plan, which applies to unincorporated portions of the county, contains a Safety Element that aims to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from earthquakes, landslides, and erosion. Policies seek to minimize potential risks through education, information provision, and emergency preparedness; protect people and property from natural and man-made disasters; minimize exposure to geologic and seismic hazards; provide adequate emergency evacuation and access; and provide a Hazard Mitigation Plan.

### **San Bernardino County Development Code**

The San Bernardino County Development Code includes provisions for a Geologic Hazard (GH) Overlay District. The GH district establishes investigation requirements for areas that are subject to potential geologic problems, including active faulting, landsliding, debris flow/mud flow, rock fall, liquefaction, seiche, and adverse soil conditions such as hydrocollapsible, expansive, or corrosive soils. These districts are shown in Figures 3.6-2, 3.6-3, and 3.6-4.

## Impact Analysis

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### SIGNIFICANCE CRITERIA

Implementation of the Proposed Project would have a potentially significant adverse impact if it would:

**Criterion 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or based on other substantial evidence of a known fault,
- Strong seismic ground shaking,
- Seismic-related ground failure, including liquefaction, or
- Landslides.

**Criterion 2: Result in substantial soil erosion or topsoil loss;**

**Criterion 3: Locate structures on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;**

**Criterion 4: Locate structures on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or**

**Criterion 5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.**

### METHODOLOGY AND ASSUMPTIONS

This evaluation of geologic and seismic hazard conditions was completed using published geologic, soils, and seismic maps and studies from USGS, CGS, and SANBAG. In order to reduce or mitigate potential hazards from earthquakes or other local geologic hazards, implementation of the Proposed Project would ensure that development will continue to be completed in compliance with local and State regulations. These regulations include the CBC, the Seismic Hazard Mapping Act, and the City of Redlands Municipal Code. Policies and implementation measures developed for the Proposed Project include continued conformance with these applicable local and State building regulations.

### SUMMARY OF IMPACTS

Future development under the Proposed Project could result in substantial adverse effects from seismic ground shaking, or seismic-related ground failure. However, as described below, the proposed General Plan includes policies that focus on geology, soil, and seismic safety. Furthermore, future development projects would be subject to State regulations and the California

Building Code, ensuring that risks from seismic and geologic conditions are minimized. Implementation of these goals, policies, and regulations would ensure potential impacts would remain below a level of significance. The proposed Climate Action Plan (CAP) does not include measures that affect the geology, soil, and seismic safety of the Planning Area. Therefore, it does not affect the impacts addressed below.

## **IMPACTS AND MITIGATION MEASURES**

**Impact 3.6-1 Implementation of the Proposed Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. (Less than Significant)**

The proposed General Plan would have less than significant impacts regarding substantial adverse effects from fault rupture, groundshaking, and liquefaction as discussed below. The proposed CAP does not include any land use changes or other measures that relate to these geologic hazards, and would therefore have no impact.

### **Fault Rupture**

As noted under *Earthquake Faults* in the Physical Setting section, the Planning Area is located within a seismically active area where several faults and fault zones are considered active by the California Department of Conservation, Division of Mines and Geology. Alquist-Priolo Earthquake Fault Zones have been established for the majority of these faults and fault zones. The purpose of the Alquist-Priolo Earthquake Fault Zones is to prohibit the location of structures on the traces of active faults, thereby mitigating potential damage due to fault surface rupture. As shown in Figure 3.6-2, though the majority of the Alquist-Priolo designated zones and other fault lines are outside of the Planning Area, some of these faults extend into the south and northeast portions of the Planning Area. Also shown in Figure 3.6-2, a San Bernardino County designated Fault Zone is located in the Crafton Hills portion of the Planning Area. Within these areas, the proposed General Plan allows for some residential land uses that are very low density. However, potential adverse effects on people or structures from the rupture of a known earthquake fault would be minimized to the greatest extent feasible by CBC requirements that protect buildings from fault rupture and the policies proposed in the General Plan Update listed below that require geotechnical reports and continued restrictions near active/potentially active faulting. Thus, impacts related to fault rupture are less than significant.

Furthermore, the General Plan update does not propose land uses differing from the current General Plan, except for Open Space, Hillside Conservation, and Parks/Golf Courses. The Hillside Conservation land use allows for residential development. However, the proposed Hillside Conservation land use would replace the current Resource Conservation land use in the fault zone areas, which leads to a reduction in allowed housing density from 1 dwelling unit per 5 acres to 1 unit per 20 acres on slopes between 30 and 40 percent. For areas with slope greater than 40 percent, the reduction in allowed density is from 1 unit per 10 acres to 1 unit per 40 acres.

## **Groundshaking**

Earthquakes in and near the Planning Area have the potential to cause ground shaking of significant magnitude. Figure 3.6-2 displays the location and extent of the profiled earthquake faults in and near the Planning Area based on the USGS earthquake model that shows probabilistic peak ground acceleration. The proposed General Plan would allow for additional development within the city, which could expose people and property to strong seismic ground shaking. However, new buildings would be constructed in compliance with the CBC. Section 1613 of the CBC requires all structures be designed and constructed to resist the effects of earthquake motions in accordance with the Minimum Design Loads for Buildings and Other Structures established by the American Society of Civil Engineers. Additionally, the proposed General Plan policies listed below would further reduce any potential impacts associated with strong seismic ground shaking. Therefore, compliance with the CBC and implementation of the Proposed Project would result in less-than-significant impacts to people and structures from strong seismic ground shaking.

## **Liquefaction**

Liquefaction typically occurs in areas underlain with loose saturated cohesionless soils within the upper 50 feet of subsurface materials. These soils, when subjected to ground shaking, can lose their strength as a result of the buildup of excess pore water pressure, causing them to behave closer to a liquefied state. As shown in Figure 3.6-4, locations within the Planning Area are considered prone to liquefaction hazards. The areas in the northern part of the Planning Area, around the Santa Ana River, Mentone Boulevard, and Mill Creek Road are susceptible to liquefaction. Damage from earthquake-induced ground failure associated with liquefaction could be high in buildings constructed on improperly engineered fills or saturated alluvial sediments that have not received adequate compaction or treatment in accordance with current building code requirements. Ground failure, including liquefaction, as a result of an earthquake could occur in the Planning Area depending on the underlying conditions including moisture content, relative size of soil particles, and density of subsurface materials within 50 feet of ground surface.

The proposed General Plan designates most of the areas susceptible to liquefaction as Open Space, but it allows for some additional industrial, commercial, and low-density residential development in the Planning Area. The impacts from ground failure, including liquefaction, from development of land uses associated with the Proposed Project would be addressed through site-specific geotechnical studies prepared in accordance with CBC requirements and standard industry practices. Subsequent development would be required to conform to the current seismic design provisions of the CBC to minimize losses from ground failure as a result of an earthquake. These future projects would also be required to adhere to Proposed Project policies that contain seismic safety requirements and help strengthen existing code requirements such as limiting the disturbance of natural terrain and vegetation to the minimum necessary to accommodate reasonable use of property. Therefore, the potential impact related to seismically related ground failure including liquefaction is less than significant. Furthermore, the proposed General Plan does not designate any new residential or commercial land uses in high liquefaction susceptibility areas beyond those designated in the current General Plan.

## **Seismically Induced Landslides**

Highly landslide-susceptible areas are primarily located in various parts of southern Redlands and some smaller parts in the eastern side of the Planning Area, as shown in Figure 3.6-3. Landslides may occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges. Landslide-susceptible areas are characterized by steep slopes and downslope creep of surface materials.

The proposed General Plan redesignates some City-owned areas identified as medium to high susceptibility to landslides in the Crafton Hills area from Very Low Density Residential to Open Space. The proposed General Plan also designates City-owned areas in San Timoteo and Live Oak canyons as Open Space, which increases the amount of designated open space land located in the medium to high susceptibility areas, with proposed open space policies supporting further expansion in the future. Therefore, the proposed General Plan would reduce the potential exposure of people and structures to landslide risk by limiting the development that could take place in medium to high susceptibility areas. Some areas designated as Very Low Density Residential would remain in the medium to high susceptibility areas in the southern portion of the city. However, the proposed General Plan would only allow for 0 to 0.7 residential units per acre under the Very Low Density Residential designation, and proposed policies would limit development to appropriate areas based on slope and soil stability.

The impacts from landslides on development of future land uses associated with the Proposed Project would be addressed through site-specific geotechnical studies prepared in accordance with CBC requirements and standard industry practices, which would specifically address landslide hazards located in landslide hazard areas. Development would conform to the current design provisions of the CBC to mitigate losses from landslides. Proposed developments would also adhere to the development requirements contained in the proposed policies below as well as the existing regulations to resist landslides through modern construction design, slope stabilization techniques, and density limits. Therefore, the potential for adverse landslide impacts related to proposed changes from implementation of the Proposed Project is considered less than significant.

### **Proposed General Plan Policies that Would Reduce the Impact**

#### *Livable Community Element*

#### **Agriculture, Open Space, and Hillside Principles**

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

#### **Southern Hills and Canyons Principles**

- 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.

#### **Southern Hills and Canyons Actions**

- 4-A.63 Design buildings to accommodate topography and minimize grading.

*Vital Environment Element*

**Water Quality Actions**

- 6-A.36 Require measures during construction and post construction to limit land disturbance activities such as clearing and grading and cut-an-fill; avoid steep sloped, 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.39 Require that new development provides landscaping and re-vegetation of graded or disturbed areas with drought-tolerant native or non-invasive plants.

*Healthy Community Element*

**Seismic and Geologic Hazards 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.

**Seismic and Geologic Hazards 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.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 evacuation routes, peak load water supply requirements, and minimum road-width/clearance around structures.

#### **Emergency Management Actions**

- 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.

#### **Mitigation Measures**

None required.

#### **Impact 3.6-2 Implementation of the Proposed Project would not result in substantial soil erosion or topsoil loss. (Less than Significant)**

Development associated with the Proposed Project would likely include earthwork activities that could expose soils to the effects of erosion or loss of topsoil. Once disturbed, either through removal of vegetation, asphalt, or an entire structure, stockpiled soils can be exposed to the effects of wind and water if not managed properly. Generally, earthwork and ground-disturbing activities, unless below minimum requirements, require a grading permit, compliance with which minimizes erosion, and the City's grading permit requirements ensure that construction practices include measures to protect exposed soils such as limiting work to dry seasons, covering stockpiled soils and use of straw bales and silt fences to minimize offsite sedimentation.

In addition, development that disturbs more than one acre would be subject to compliance with a National Pollutant Discharge Elimination System (NPDES) permit, including the implementation of best management practices (BMPs), some of which are specifically implemented to reduce soil erosion or loss of topsoil, and the implementation of a storm water pollution prevention plan (SWPPP) through the local jurisdiction. BMPs that are required under a SWPPP include erosion prevention measures that have proven effective in limiting soil erosion and loss of topsoil. Generally, once construction is complete and exposed areas are revegetated or covered by buildings, asphalt, or concrete, the erosion hazard is substantially eliminated or reduced.

The proposed CAP does not include any land use changes or measures that would affect soil erosion or topsoil loss, and would therefore have no impact.

Therefore, the potential for adverse soil erosion and topsoil loss impacts related to land use changes from implementation of the Proposed Project is less than significant with implementation of the proposed policies below.

#### **Proposed General Plan Policies that Would Reduce the Impact**

Principles 4-P.25 and 4-P.30; and actions 4-A.63, 6-A.36, 6-A.39, 7-A.113, and 7-A.114, as listed under Impact 3.6-1 above; as well as the following policies.

##### *Livable Community Element*

#### **Agriculture, Open Space, and Hillside Actions**

4-A.39 Encourage the use of soil and water conservation techniques in agricultural operations.

##### *Vital Environment Element*

#### **Water Quality Actions**

6-A.37 Protect and, where feasible, enhance or restore the city's waterways, including zanjias and ditches, preventing erosion along the banks, removing litter and debris, and promoting riparian vegetation and buffers.

##### *Healthy Community Element*

#### **Seismic and Geologic Hazards Actions**

7-A.115 Require soil erosion mitigation during construction.

#### **Mitigation Measures**

None required.



**Impact 3.6-3 Implementation of the Proposed Project would not locate structures on expansive soils or on a geologic unit or soil that unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse and create substantial risks to life or property. (Less than Significant)**

Some improvements associated with implementation of the Proposed Project could be located on geologic units or soils that are unstable, or that could become unstable and result in geologic hazards if not addressed appropriately. Areas with underlying materials that include undocumented fills, soft compressible deposits, or loose debris could be inadequate to support development, especially multi-story buildings. Soils that exhibit expansive properties when exposed to varying moisture content over time could result in damage to foundations, walls, or other improvements. Structures, including residential units and commercial buildings, could be damaged as a result of a settlement or differential settlement where structures are underlain by materials of varying engineering characteristics. Construction of new structures in the vicinity of relatively steep slopes could provide additional loading causing landslides or slope failure from unstable soils or geologic units. Slope failure can occur naturally through rainfall or seismic activity, or through earthwork and grading related activities.

The potential hazards of unstable soil or geologic units would be addressed largely through the integration of geotechnical information in the planning and design process for projects to determine the local soil suitability for specific projects in accordance with standard industry practices and state-provided requirements, such as CBC requirements which are used to minimize the risk associated with these hazards. Geotechnical investigations would be required to thoroughly evaluate site-specific geotechnical characteristics of subsurface soils and bedrock to assess potential hazards and recommend site preparation and design measures to address any hazards which may be present. These measures are enforced through compliance with the CBC to avoid or reduce hazards relating to unstable soils and slope failure. In addition, the proposed policies below would help ensure that potential impacts related to unstable units are minimized and would reduce the potential impact to less than significant. The potential for landslide, lateral spreading, subsidence, liquefaction, or collapse impacts related to changes from implementation of the Proposed Project is less than significant.

The proposed CAP does not include any land use changes or other measures that would affect soil stability, and would therefore have no impact.

**Proposed General Plan Policies that Would Reduce the Impact**

Principles 4-P.25, 4-P.30, 7-P.29, and 7-P.30; and actions 4-A.63, 6-A.36, 6-A.39, 7-A.107, 7-A.109, 7-A.110, 7-A.113, 7-A.114, 7-A.116, 7-A.117, and 7-A.132, as listed under Impact 3.6-1 above.

Actions 4-A.39 and 7-A.115, as listed under Impact 3.6-2 above.

**Mitigation Measures**

None required.

**Impact 3.6-4 Implementation of the Proposed Project would not result in soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (Less than Significant)**

Future development that may result from implementation of the Proposed Project in areas where sewers are not available could include septic systems or other alternative waste water disposal systems. As discussed under *City of Redlands Public Services Ordinance* in the Regulatory Setting section, the City of Redlands Municipal Code prevents well drilling near septic tanks. Furthermore, the proposed General Plan policy below would make sure that future development in areas where sewer systems are not available would not impair the surrounding soil's ability to support the use of alternative wastewater disposal systems. The proposed CAP does not include any land use changes or other measures that would affect septic or alternative wastewater disposal systems and would have no impact. Therefore, the Proposed Project would have a less than significant impact related to soils capability to support wastewater disposal.

**Proposed General Plan Policies that Would Reduce the Impact**

*Healthy Community Element*

**Seismic and Geologic Hazards Actions**

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.

**Mitigation Measures**

None required.

## **3.7 Hazards and Hazardous Materials**

This section analyzes potential impacts from the proposed Project related to hazardous materials, airport hazards, emergency response, and wildland fire hazards. For discussion of impacts regarding geologic and seismic hazards, see Section 3.6: Geology, Soils, and Seismicity. For discussion of impacts regarding flood hazards, see Section 3.9: Hydrology and Water Quality.

### **Environmental Setting**

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#### **PHYSICAL SETTING**

##### **Hazardous Materials**

Hazardous materials, as defined by the California Code of Regulations (CCR), are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. This refers to a variety of injurious substances, including pesticides, herbicides, toxic metals and chemicals, liquefied natural gas, explosives, volatile chemicals, and radioactive materials. Hazardous materials are commonly found throughout the Planning Area in households, businesses, and agricultural operations. Typical residential and commercial substances include motor oil, paint, cleaners and solvents, gasoline, refrigerants, and lawn and gardening chemicals. In rural areas, pesticides and herbicides are often used in conjunction with agricultural operations.

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. The criteria that render a material hazardous also make a waste hazardous. Nearly all businesses and households generate hazardous waste, and some businesses (such as industrial operations, gas stations and auto-related businesses, printers, and dry cleaners) may generate larger amounts. Medical waste, generated by hospitals, clinics, and laboratories, is also potentially hazardous. If improperly handled, hazardous materials and hazardous waste can be released into soils, groundwater, or air, where they can pose hazards to public health.

In the 2015 Redlands Hazard Mitigation Plan, the probability of future hazardous materials release was determined to be High, with Medium Impact. Potential impacts were identified as disruption in services, contaminated water and/or food supplies, lack of medical supplies, and economic loss.

### **Hazardous Materials Transport**

Within the Planning Area, hazardous materials may be transported by vehicle along roadways or through transmission lines such as pipelines. Major transportation routes include Interstate 10 (I-10) and Interstate 210 (I-210), surface streets, and the railway through San Timoteo Canyon. Additionally, natural gas pipelines are located throughout the Planning Area, including SoCalGas high pressure distribution lines along portions of Mountain View Avenue, Orange Avenue, Redlands Boulevard, Crafton Avenue, Sand Canyon Road, I-10, and others (SoCalGas, 2017).

### **Hazardous Materials Sites**

The California Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB) track and identify sites with known or potential contamination and sites that may impact groundwater, as follows:

- **EnviroStor.** The DTSC EnviroStor hazardous waste facility and cleanup sites database identifies sites that have known contamination or potentially contaminated sites requiring further investigation, and facilities permitted to treat, store, or dispose of hazardous waste. The EnviroStor database includes lists of the following site types: federal Superfund sites; State Response, including military facilities and State Superfund; voluntary cleanup; and school sites.
- **GeoTracker.** The SWRCB GeoTracker database tracks sites that impact groundwater or have the potential to impact groundwater. It includes sites that require groundwater cleanup such as Leaking Underground Storage Tanks (LUSTs), Department of Defense, and Site Cleanup Program sites; as well as permitted facilities that could impact groundwater such as operating Underground Storage Tanks (USTs), irrigated lands, oil and gas production sites, and land disposal sites.

Data for this analysis was downloaded from EnviroStor and GeoTracker databases on March 16, 2017. A total of 40 sites were identified as permitted hazardous waste facilities, land disposal sites, or USTs by DTSC, the EPA, or SWRCB. Fourteen sites were identified by DTSC as cleanup sites having known or potential hazardous substance release; fifty-eight were identified as such by SWRCB. Out of the 72 total cleanup sites identified, 65 are unique sites. Sites include 10 cases located outside of, but near the borders of, the Planning Area, in the cities of Loma Linda, Yucaipa, and San Bernardino, and in the Donut Hole. Sites are listed in Table 3.7-1, Table 3.7-2, and Table 3.7-3, and shown on Figure 3.7-1.

**Table 3.7-1: Permitted Hazardous Materials Facilities**

Site Name	Site Type	Status	Location
<i>DTSC Permitted Sites (Envirostor)</i>			
<b>Redlands</b>			
EPTC-San Bernardino	Haz Waste – RCRA	Closed	2492 San Bernardino Ave.
QA Processor Service	Haz Waste – Standardized ISD	Closed	302 Alabama St.
Teledyne Battery Products	Haz Waste – RCRA	Closed	840 W Brockton Ave.
<i>SWRCB Permitted Sites (Geotracker)</i>			
<b>Redlands</b>			
Alabama Street Septage Pits	Land Disposal Site <sup>1</sup>	Open – Inactive	8203 Alabama St.
California Street Landfill	Land Disposal Site	Open – Operating	2151 Nevada St.
Curti Onestop Composting	Land Disposal Site	Open – Operating	13024 San Timoteo Canyon
Jorco Chemical Co., Brine Facility	Land Disposal Site	Completed – Case Closed	32185 East Highway 10
Redlands Brine Ponds	Land Disposal Site	Open – Closed/With Monitoring	End of Nevada St.
Robertsons Ready Mix Temporary Surface Impoundment	Land Disposal Site	Completed – Case Closed	8383 Alabama St.
San Timoteo Cyn Landfill	Land Disposal Site	Open – Operating	San Timoteo Canyon
7-Eleven Inc #33292	UST	N/A	1161 W Lugonia Ave.
76 Ford Exit	UST	N/A	1075 Parkford Dr.
Ag-P S 80 <sup>2</sup>	UST	N/A	NW corner of Olive & Nevada
Arco #6052	UST	N/A	539 E Redlands Blvd.
California Gas & Liquor	UST	N/A	941 California St.
Circle K #5214	UST	N/A	765 W Redlands Blvd.
Circle K Store #2705020	UST	N/A	1598 Orange St.
Circle K Stores Inc. Site #2709505	UST	N/A	1325 Brookside Ave.
Citrus Petroleum, Inc. #82997	UST	N/A	2098 W Redlands Blvd.
Frontier California, Inc.: Redlands Co	UST	N/A	11 S 4th St.

**Table 3.7-1: Permitted Hazardous Materials Facilities**

Site Name	Site Type	Status	Location
G&M Oil Co. #98	UST	N/A	1580 W Redlands Blvd.
Old Town La Quinta Gas Stn	UST	N/A	201 E Redlands Blvd.
Plymouth Village	UST	N/A	900 Salem Dr.
Redlands Aviation	UST	N/A	1745 Sessums Dr.
Redlands Chevron	UST	N/A	120 The Terrace
Redlands Community Hospital	UST	N/A	350 Terracina Blvd.
Redlands Corp Yrd	UST	N/A	1270 W Park Ave.
Redlands Gas & Food Mart	UST	N/A	1195 W Redlands Blvd.
Redlands Shell #135799	UST	N/A	127 E Redlands Blvd.
Redlands Unocal	UST	N/A	27300 Lugonia Ave.
Redlands Usd Trans Yrd	UST	N/A	956 E Central Ave.
Southern California Gas Company: Redlands	UST	N/A	1981 W Lugonia Ave.
Tesoro (Shell) 68593	UST	N/A	1600 Industrial Park Ave.
Tesoro (USA) 63346	UST	N/A	902 Orange St.
<b>Planning Area outside of City Limits</b>			
Circle K Store #2708735	UST	N/A	2097 Mentone Blvd.
Frontier California, Inc.: Mentone Co	UST	N/A	1960 Mentone Blvd.
Mentone Gas & Minimart	UST	N/A	1759 Mentone Blvd.
S and P Investments	UST	N/A	1811 Mentone Blvd.
United #1971	UST	N/A	1702 Mentone Blvd.
<b>Outside of Planning Area</b>			
Loma Linda Oil	UST	N/A	1880 Mountain View Ave.

Note:

1. The Land Disposal program regulates waste discharge to land for treatment, storage, and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.
2. Site not mapped due to lack of location data.

Sources: DTSC, 2017; SWRCB, 2017.

Three permitted hazardous waste sites were identified through Envirostor; all are now closed. In addition, seven Land Disposal Sites and 30 permitted USTs were identified through Geotracker.

**Table 3.7-2: DTSC Cleanup Sites (Envirostor)**

Site Name	Site Type	Status	Location
<i>Active or Evaluation Required</i>			
<b>Redlands</b>			
Teledyne Battery Products	Corrective Action	Active	840 W. Brockton Ave.
Edison/Redlands II (Redlands BL) MGP	Voluntary Cleanup	Active	501-525 W. Redlands Blvd. at Kendall
So Cal Gas/Redlands I (State St.) MGP	Voluntary Cleanup	Active	State St. at Redlands Blvd.
Layne Christensen Redlands Property	Voluntary Cleanup	Inactive - Needs Evaluation	10701-10765 Iowa St.
<b>Outside of Planning Area</b>			
Southern California Edison - San Bernardino Generating Station	Corrective Action	Active	2492 San Bernardino Ave.
<i>Referred to Other Agency</i>			
<b>Redlands</b>			
Crafton-Redlands Area	State Response or NPL	Referred to RWQCB	Bunker Hill Groundwater Sub-Basin
Former Demma Parcels	Evaluation	Referred to Local Agency	104 and 112 Cedar
Redlands Airport	Evaluation	Referred to Local Agency	1745 Sessums Dr.
<i>Completed Sites</i>			
<b>Redlands</b>			
Judson Street Elementary School	School Investigation	No Further Action	Judson St./Pennsylvania Ave.
New High School No. 3	School Investigation	No Further Action	Texas St./W. Pioneer Ave.
Redlands Community Day School	School Investigation	No Further Action	Alabama St./West Park Ave.
Redlands Early Education Center	School Investigation	No Further Action	1712 West Park Ave.
<b>Outside of Planning Area</b>			
Jorco Chemical Company	Voluntary Cleanup	No Further Action	32185 East Outer Highway 10
So Cal Gas/San Bernardino 2 (Rialto)	Voluntary Cleanup	No Further Action	Rialto between D & Arrowhead

Source: DTSC, 2017.

Of the 14 unique sites identified through Envirostor, four remain active, meaning that an investigation and/or remediation is currently in progress and that the DTSC is actively involved in a lead or support capacity. An additional site is not active, but DTSC has determined that an evaluation is required. Three sites have been referred to other agencies to supervise the cleanup of a simple waste release; two of these are for evaluation. One of these, the Bunker Hill Groundwater Sub-basin is a State Response or NPL (Federal Superfund) site, meaning that is either a confirmed release site where DTSC is involved in remediation (generally high-priority and high potential risk); or a site where the EPA proposed, listed, or delisted a site on the National Priority List (NPL). Cleanup of Bunker Hill has been referred to the RWQCB. The remaining sites are School Investigation sites and require no further action.

**Table 3.7-3: SWRCB Geotracker Sites**

<i>Site Name</i>	<i>Site Type</i>	<i>Status</i>	<i>Location</i>
<b>Open Cases</b>			
<b>Redlands</b>			
9 West Colton Avenue Property	Cleanup Program Site	Open – Site Assessment	9 West Colton Ave.
Lockheed Environmental Systems Tech Co	Cleanup Program Site	Open – Assessment & Interim Remedial Action	1500 Crafton Ave.
<b>Planning Area outside of City Limits</b>			
Union Pacific Railroad Company	LUST Cleanup Site	Open – Site Assessment	Unk Crafton And Colton Avenue
<b>Outside of Planning Area</b>			
Sorenson Engineering, Inc.	Cleanup Program Site	Open – Assessment & Interim Remedial Action	32032 Dunlap Blvd.
<b>Closed Cases</b>			
<b>Redlands</b>			
Arco #5205	LUST Cleanup Site	Completed –Case Closed	25715 Redlands Blvd.
Arco #6052	LUST Cleanup Site	Completed –Case Closed	539 E Redlands Blvd.
Arco #6052	LUST Cleanup Site	Completed –Case Closed	539 E Redlands Blvd.
Arco #6052	LUST Cleanup Site	Completed –Case Closed	539 E Redlands Blvd.
Arco Petroleum Products #9716	LUST Cleanup Site	Completed –Case Closed	902 Orange St.
Brookside Dairy	LUST Cleanup Site	Completed –Case Closed	325 Alabama St.
C. L. Pharris Sand & Gravel	LUST Cleanup Site	Completed –Case Closed	8203 Alabama St.



**Table 3.7-3: SWRCB Geotracker Sites**

<i>Site Name</i>	<i>Site Type</i>	<i>Status</i>	<i>Location</i>
California Shell	LUST Cleanup Site	Completed –Case Closed	941 California St.
California Target Entp. #943	LUST Cleanup Site	Completed –Case Closed	1580 Redlands Blvd.
Chevron #9-7222	LUST Cleanup Site	Completed –Case Closed	1256 Orange St.
City of Redlands California Street Landfill	LUST Cleanup Site	Completed –Case Closed	1950 Nevada St.
Conoco Phillips #253356	LUST Cleanup Site	Completed –Case Closed	201 E Redlands Blvd.
Exxon Service Station #3102	LUST Cleanup Site	Completed –Case Closed	1280 Alabama St.
E-Z Serve	LUST Cleanup Site	Completed –Case Closed	680 Redlands Blvd.
Goodyear Tire Center	LUST Cleanup Site	Completed –Case Closed	1631 W Redlands Blvd.
GTE	LUST Cleanup Site	Completed –Case Closed	11 4th St.
Highland Supply/Seven-W Ent.	LUST Cleanup Site	Completed –Case Closed	1500 Crafton Ave.
Hillside Memorial Park	LUST Cleanup Site	Completed –Case Closed	1540 Alessandro Rd.
Holiday Shell Station	LUST Cleanup Site	Completed –Case Closed	800 M E Lugonia Ave.
Mccalla Brothers	LUST Cleanup Site	Completed –Case Closed	802 Nevada St.
Mobil #08-Ev5	LUST Cleanup Site	Completed –Case Closed	604 Orange St.
Mobil #18-E9P (Dry Well, Waste Oil)	Cleanup Program Site	Completed –Case Closed	1325 Brookside Ave.
Orange Empire Car Wash	LUST Cleanup Site	Completed –Case Closed	2051 Redlands Blvd.
Orange Plaza Cleaners	Cleanup Program Site	Completed –Case Closed	450 Orange St.
Performance Auto	LUST Cleanup Site	Completed –Case Closed	520 E State St.
Redland Community Hospital	LUST Cleanup Site	Completed –Case Closed	350 Terracina Blvd.
Redlands Battery	LUST Cleanup Site	Completed –Case Closed	305 W Colton Ave.

**Table 3.7-3: SWRCB Geotracker Sites**

<i>Site Name</i>	<i>Site Type</i>	<i>Status</i>	<i>Location</i>
Redlands Corporate Yard	LUST Cleanup Site	Completed –Case Closed	1270 Park Ave.
Redlands Oil Company (Former)	Cleanup Program Site	Completed –Case Closed	395 Texas St.
Redlands Redevelopment Agency	LUST Cleanup Site	Completed –Case Closed	325 N Eureka St.
Redlands Redevelopment Agency	LUST Cleanup Site	Completed –Case Closed	325 N Eureka St.
Redlands Shell	LUST Cleanup Site	Completed –Case Closed	127 E Redlands Blvd.
Redlands Unified School Dist.	LUST Cleanup Site	Completed –Case Closed	955 E Citrus Ave.
Rich Oil Co., Inc	LUST Cleanup Site	Completed –Case Closed	1029 Orange St.
Robertson's Ready Mix	LUST Cleanup Site	Completed –Case Closed	8353 N Alabama St.
Sellers Chevron #9-2514	LUST Cleanup Site	Completed –Case Closed	1220 Alabama St.
Stater Bros. Site	Cleanup Program Site	Completed –Case Closed	11 E Colton Ave.
Stop N' Go #385	LUST Cleanup Site	Completed –Case Closed	765 W Redlands Blvd.
Sunwest Materials	LUST Cleanup Site	Completed –Case Closed	8203 Alabama St.
Teledyne	Cleanup Program Site	Completed –Case Closed	840 W Brockton Ave.
Teledyne Battery	LUST Cleanup Site	Completed –Case Closed	840 W Brockton Ave.
Texas Street Pumping Plant	LUST Cleanup Site	Completed –Case Closed	1401 Texas St.
Thrifty Oil #346/ Arco #9716	LUST Cleanup Site	Completed –Case Closed	902 Orange St.
Tosco/ 76 Station #6019	LUST Cleanup Site	Completed –Case Closed	901 N Orange Ave.
U-Haul Center Of Redlands	LUST Cleanup Site	Completed –Case Closed	1200 Alabama St.
Unocal #5555	LUST Cleanup Site	Completed –Case Closed	1075 Parkford Dr.
William Brown Facility	LUST Cleanup Site	Completed –Case Closed	1516 Linda Vista St.

**Table 3.7-3: SWRCB Geotracker Sites**

Site Name	Site Type	Status	Location
Robertsons Ready Mix Temporary Surface Impoundment	Land Disposal Site	Completed –Case Closed	8383 Alabama St.
<b>Planning Area outside of City Limits</b>			
Circle K #1971	LUST Cleanup Site	Completed –Case Closed	1702 Mentone Blvd.
Mentone Service Station	LUST Cleanup Site	Completed –Case Closed	1759 Mentone Blvd.
<b>Outside of Planning Area</b>			
Jorco Chemical Co.	Cleanup Program Site	Completed –Case Closed	32185 E Outer Highway I-10
Circle K #0324	LUST Cleanup Site	Completed –Case Closed	31933 Highway I- 10, Outer
Redlands-Yucaipa Rentals	LUST Cleanup Site	Completed –Case Closed	32194 Outer Highway I-10
Sorenson Engineering	LUST Cleanup Site	Completed –Case Closed	32032 Dunlap Blvd.
Loma Linda Oil Company	LUST Cleanup Site	Completed –Case Closed	1880 Mountain View Ave.

Source: SWRCB, 2017.

The 58 cleanup cases identified through Geotracker include nine Cleanup Program sites, seven Land Disposal sites, and 49 LUST Cleanup Sites. These programs are described as follows:

- The Site Cleanup Program regulates and oversees the investigation and cleanup of ‘non-federally owned’ sites where recent or historical unauthorized releases of pollutants to the environment, including soil, groundwater, surface water, and sediment, have occurred. Sites in the program are varied and include, but are not limited to, pesticide and fertilizer facilities, rail yards, ports, equipment supply facilities, metals facilities, industrial manufacturing and maintenance sites, dry cleaners, bulk transfer facilities, refineries, and some brownfields. These releases are generally not from strictly petroleum USTs. The types of pollutants encountered at the sites are plentiful and diverse and include solvents, pesticides, heavy metals, and fuel constituents to name a few.
- Leaking underground storage tanks are a significant source of petroleum impacts on groundwater and may pose potential threats to health and safety. Cleanup is conducted under the direction of the lead regulatory agency and may include free product removal, vapor extraction, ozone sparging or technologies such as groundwater extraction, for example. In some cases, soil excavation and disposal completes the cleanup.

Table 3.7-3 shows that nine of the identified cases are Cleanup Program sites, and of those, four cases remain open, including sites at the Redlands Airport, near Downtown at Colton and Orange, in the northeast of the City near Mentone, and in Yucaipa near the canyons. Of the seven cases at

Land Disposal sites, five remain open, including two at the Redlands California Street and San Timoteo Canyon landfills and three others in the vicinity of the two landfills. Of the 49 LUST Cleanup sites, only one case remains open, located in Mentone.

### **Household Hazardous Waste**

The Household Hazardous Waste and Electronic Waste collection program provides for proper disposal of household hazardous materials. The City of Redlands implemented the program in order to reduce the quantity and frequency of household hazardous waste entering the community's landfills and to prevent groundwater contamination from such materials. This program also provides Redlands Fire Department personnel with the proper training and equipment to mitigate a leak, spill, or other release of hazardous or toxic materials in its jurisdiction. Approximately 3,600 citizens use the disposal facility each year. The program is operated in partnership by the Redlands Fire Department and the San Bernardino Fire Department. The disposal site is located at 1270 W. Park Avenue in Redlands (City of Redlands, 2015) (City of Redlands Fire Department, 2017).

### **Hazardous Materials Release**

#### *Prevention*

The San Bernardino County Fire Department (SBFD) is the State-designated Certified Unified Program Agency (CUPA) for County areas. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits, inspection activities, and enforcement activities throughout San Bernardino County. As a CUPA, SBFD manages six hazardous material and hazardous waste programs. These include the Hazardous Materials Release Response Plans and Inventory program, Hazardous Waste and Onsite Treatment program, Aboveground Petroleum Storage Act/Spill Prevention, Control, and Countermeasure Plan program, UST program, California Accidental Release Program, and Hazardous Materials Management Plans and Inventory Statements under California Fire Code (SBFD, 2016).

#### *Response*

In the City of Redlands, the Fire Department is responsible for responding to hazardous materials incidents. Trained personnel are also members of the San Bernardino County Inter-Agency Hazardous Materials Response Team and respond countywide through a mutual aid agreement. The Countywide team would provide a response if the level of hazard were above the certified level of City Staff. From there, the County Hazardous Materials response team would provide for the evacuation, mitigation, and facilitation of cleanup efforts in the event of an accidental release of hazardous materials (City of Redlands, 2015).

### **Airport Hazards**

Risks associated with airport operations include those to people and property located in the vicinity of the airport in the event of an accident, 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 and 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. Airspace protection policies may address the height of objects on the ground and activities that can cause electronic or visual impairment to navigation or attract large numbers of birds (Caltrans, 2011).

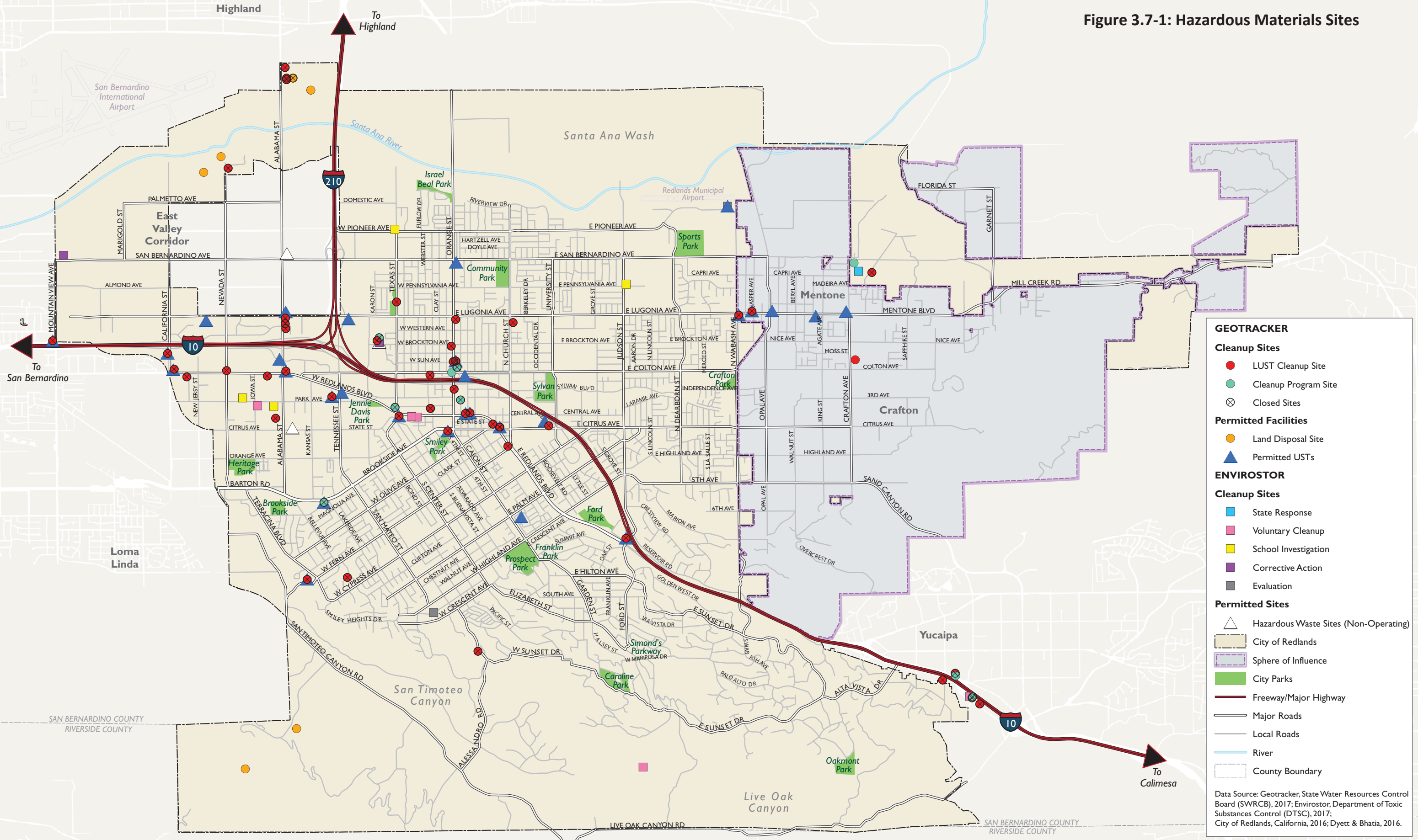
### **Redlands Municipal Airport**

The Redlands Municipal Airport is located in Redlands near the Santa Ana River Wash, roughly 2 miles from Downtown Redlands. It is a general aviation airport owned and operated by the City of Redlands, and covers approximately 180 acres. The airport has a 75-foot wide runway serving approximately 240 based aircraft and has fixed base operators that provide a variety of services including fuel, flight training, repair and maintenance, hanger and tie-down rental, airplane rental and related services. The airport is used for aircraft and helicopter pilot training, utilities servicing pipelines and electric transmission, air medical access, firefighting aircraft access, police surveillance aircraft access, and business and charter aircraft. In its 2008 Master Plan, the Redlands Municipal Airport reported annual operations of 20,500 itinerant flights and 61,500 local flights. The master plan estimated that by 2028 the airport would be serving 350 based aircraft and 149,000 itinerant and local flights.

An Airport Land Use Compatibility Plan (ALUCP) was adopted for the Redlands Municipal Airport in 1997 and revised in 2003. The ALUCP designates compatibility zones surrounding the airport based on levels of risk related to airport operations, associated with conditions for development appropriate in those areas. The airport influence area (AIA) of the Redlands Municipal Airport includes these compatibility zones as well as an area of special compatibility concern, located outside of the Planning Area in the Santa Ana River Wash. The compatibility criteria for each Compatibility Zone are described in Table 3.7-4 and Table 3.7-5. The compatibility zones are shown in Figure 3.7-2. Additional discussion of the ALUCP is in the Regulatory Setting section below.

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Figure 3.7-1: Hazardous Materials Sites



**GEOTRACKER**

**Cleanup Sites**

- LUST Cleanup Site
- Cleanup Program Site
- ⊗ Closed Sites

**Permitted Facilities**

- Land Disposal Site
- ▲ Permitted USTs

**ENVIROSTOR**

**Cleanup Sites**

- State Response
- Voluntary Cleanup
- School Investigation
- Corrective Action
- Evaluation

**Permitted Sites**

- △ Hazardous Waste Sites (Non-Operating)

**Map Features**

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

Data Source: Geotracker, State Water Resources Control Board (SWRCB), 2017; Envirostor, Department of Toxic Substances Control (DTSC), 2017; City of Redlands, California, 2016; Dyett & Bhatia, 2016.

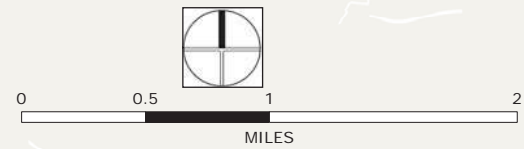
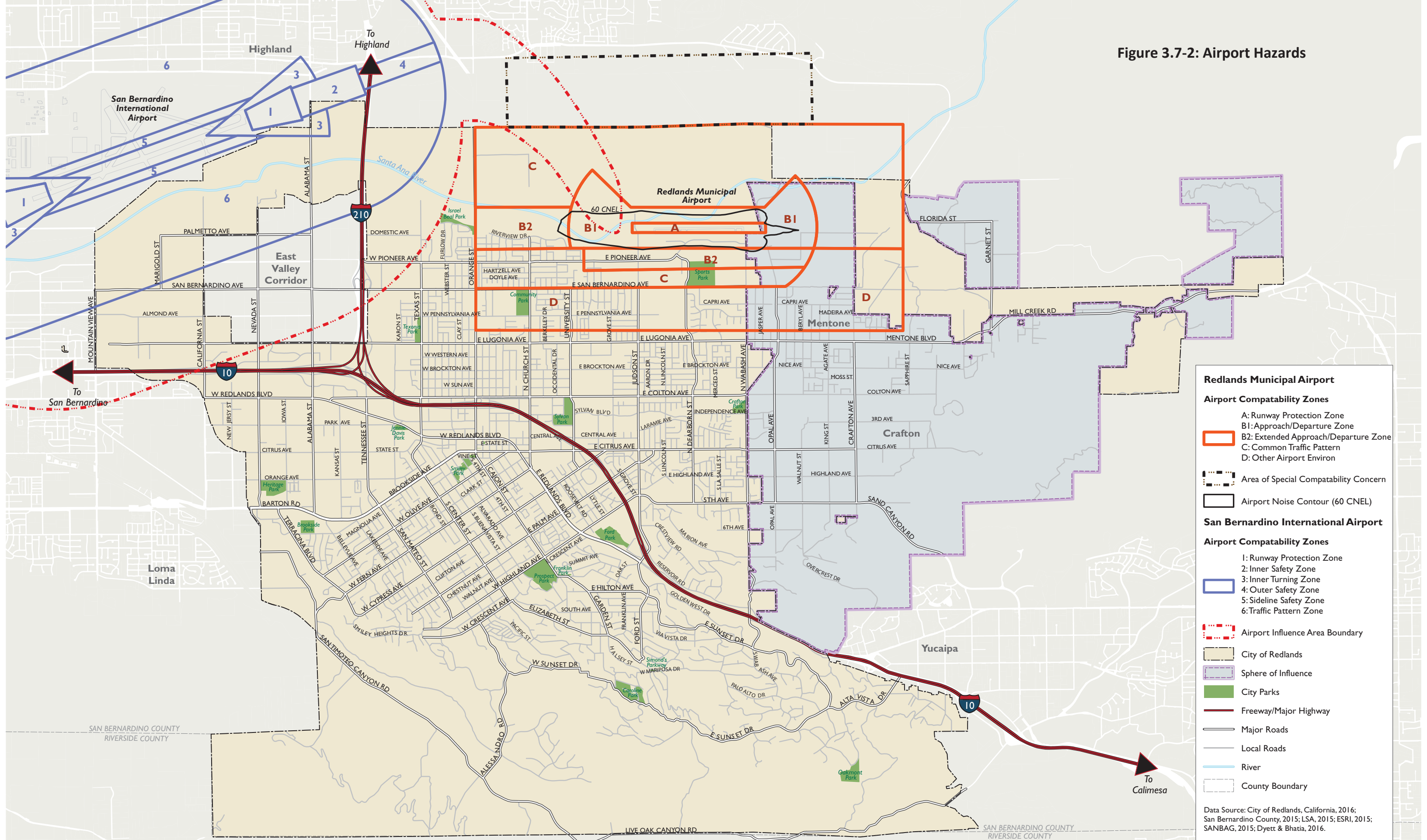


Figure 3.7-2: Airport Hazards



**Redlands Municipal Airport**

**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)

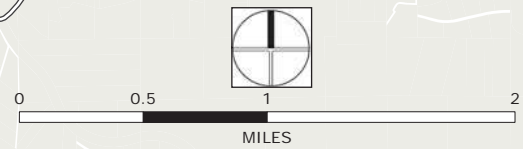
**San Bernardino International Airport**

**Airport Compatibility Zones**

- 1: Runway Protection Zone
- 2: Inner Safety Zone
- 3: Inner Turning Zone
- 4: Outer Safety Zone
- 5: Sideline Safety Zone
- 6: Traffic Pattern Zone

- Airport Influence Area Boundary
- 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.





**Table 3.7-4: Redlands Municipal Airport Primary Compatibility Criteria**

Zone	Location	Risk Level	Maximum Densities		Required Open Land <sup>3</sup>
			Residential (du/ac) <sup>1</sup>	Other Uses (people/ac) <sup>2</sup>	
A	Runway Protection Zone or within Building Restriction Line	High risk	0	20	All remaining
B1	Approach/Departure Zone and Adjacent to Runway	Substantial risk – aircraft commonly below 800 feet AGL <sup>4</sup>	0.1 (10-acre parcel)	60	30%
B2	Extended Approach/Departure Zone	Moderate risk – aircraft commonly below 400 feet AGL or within 1,000 feet of runway	0.5 (2-acre parcel)	90	30%
C	Common Traffic Pattern	Limited risk – aircraft at or below 1,000 feet AGL	6	150	15%
D	Other Airport Environs	Negligible risk	No limit	No limit	No requirement

Notes:

1. Residential development should not contain more than the indicated number of dwelling units per gross acre. Clustering of units is encouraged as a means of meeting the Required Open Land requirements.
2. The land use should not attract more than the indicated number of people per acre at any time, measured as an average over the entire site. In Compatibility Zones B1 and B2, no single acre (rectangular, not irregular in shape) should be occupied by more than double the average number of people per acre allowed for the specified compatibility zone. In Zone C, no single acre should attract more than triple the average allowable number of people per acre. These figures should include all individuals who may be on the property (e.g., employees, customers, visitors, etc.). These densities are intended as general planning guidelines to aid in determining the acceptability of proposed land uses.
3. Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan. See supporting compatibility policies on safety for definition of open land.
4. AGL = above ground level

Source: Redlands Municipal Airport Land Use Compatibility Plan, Table 2A, 2003.

**Table 3.7-5: Redlands Municipal Airport Additional Compatibility Criteria**

Zone	Prohibited Uses	Other Development Conditions <sup>1</sup>
A	<ul style="list-style-type: none"> <li>All structures except one with location set by aeronautical function</li> <li>Assemblages of people</li> <li>Objects exceeding FAR Part 77 height limits<sup>2</sup></li> <li>Aboveground bulk storage of hazardous materials</li> <li>Hazard to flight<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Dedication of avigation easement</li> </ul>
B1 and B2	<ul style="list-style-type: none"> <li>Children’s schools, day care centers, libraries</li> <li>Hospitals, nursing homes</li> <li>Highly noise-sensitive uses (e.g., outdoor theaters)</li> <li>Aboveground bulk storage of hazardous materials<sup>4</sup></li> <li>Hazards to flight<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Locate structures maximum distance from extended runway centerline</li> <li>Minimum NLR<sup>5</sup> of 25 dB in residential and office buildings</li> <li>Dedication of avigation easement</li> </ul>
C	<ul style="list-style-type: none"> <li>Children’s schools</li> <li>Hospitals, nursing homes</li> <li>Hazards to flight<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Dedication of overflight easement for residential uses</li> </ul>
D	<ul style="list-style-type: none"> <li>Hazards to flight<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Deed notice required for residential development</li> </ul>

Notes:

- Airport proximity and the existence of aircraft overflights should be disclosed as part of all real estate transactions involving property within any of the airport influence area zones. Easement dedication and deed notice requirements apply only to new development.
- Part 77, Subpart C, of the Federal Aviation Regulations
- Hazards to flight include physical, visual, and electronic forms of interference with the safety of aircraft operations. See supporting compatibility policies on airspace protection for details.
- Storage of aviation fuel, other aviation-related flammable materials, and up to 2,000 gallons of nonaviation flammable materials are exempted from this criterion in Zones B1 and B2.
- NLR = Noise Level Reduction; i.e., the attenuation of sound level from outside to inside provided by the structure.

Source: Redlands Municipal Airport Land Use Compatibility Plan, Table 2A, 2003.

### San Bernardino International Airport

The San Bernardino International Airport (SBIA) is located in the City of San Bernardino, adjacent to the Planning Area along the Santa Ana River Wash. Portions of the Planning Area are located within the SBIA AIA and its compatibility zones, as shown in Figure 3.7-2. SBIA has not adopted an ALUCP, thus its compatibility zones follow the basic guidelines provided in the California Airport Land Use Planning Handbook. Compatibility zones for SBIA are described in Table 3.7-6 and 3.7-7. The airport’s AIA extends beyond the compatibility zones.

**Table 3.7-6: SBIA Primary Compatibility Criteria**

Zone	Location	Risk Level	Maximum Densities/Intensities <sup>1</sup>			Required Open Land <sup>2</sup>
			Residential (du/ac)	Non-residential (people/ac)	Maximum Single Acre (people/ac)	
1	Runway Protection Zone	Very High	0	0 <sup>3</sup>	0	All undeveloped land
2	Inner Approach/Departure Zone	High	0	60 – 80	120 – 160	25 – 30%
3	Inner Turning Zone	Moderate to High	Allow infill at up to the average of surrounding residential area	100 – 150	300 – 450	15 – 20%
4	Outer Approach/Departure Zone	Moderate	Allow infill at up to the average of surrounding residential area	150 – 200	450 – 600	15 – 20%
5	Sideline Zone	Low to Moderate	Allow infill at up to the average of surrounding residential area	100 – 150	300 – 450	25 – 30%
6	Traffic Pattern Zone	Low	No limit <sup>4</sup>	No limit <sup>5</sup>	No limit <sup>5</sup>	10% or an open area approx. every quarter- to half-mile

Notes:

1. Maximum densities and intensities are based on criteria for urban development per gross acre. Other allowances may be made for rural, suburban, or dense urban development as described in the California Airport Land Use Planning Handbook.
2. Open land areas need to meet minimum size criteria to be of value. Therefore, the above guidelines are only practical when applied with respect to land use patterns proposed in general plans, specific plans, or large developments (generally 20 acres or more), not to individual smaller parcels. Both public and private lands should be counted. If the indicated amount of open land can be provided totally on public property, individual private parcels may not need to have any.
3. Exceptions can be permitted for agricultural activities, roads, and automobile parking provided that FAA criteria are satisfied.
4. Noise and overflight should be considered.
5. Large stadiums and similar uses should be avoided.

Source: Caltrans Division of Aeronautics, 2011.

The airport supports over 35,000 annual charter, corporate, and general aviation flights. Facilities include a 10,000 by 200-foot runway; seven hangar bays designed to support heavy aircraft maintenance and related services; lease space for office, warehouse, and shipping/receiving uses; and two terminals (San Bernardino International Airport, 2017).

**Table 3.7-7: SBIA Additional Compatibility Criteria**

<i>Zone</i>	<i>Prohibited Uses</i>	<i>Other Development Conditions<sup>1</sup></i>
1	<ul style="list-style-type: none"> <li>• All new structures and residential land uses</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid non-residential uses except if very low intensity in character and confined to outer sides, parking lots, streets, and roads</li> <li>• Airport ownership of property encouraged</li> <li>• Uses on airport property subject to FAA standards</li> </ul>
2	<ul style="list-style-type: none"> <li>• Theaters, meeting halls, and other assembly uses</li> <li>• Office buildings greater than 3 stories</li> <li>• Labor-intensive industrial uses</li> <li>• Children’s schools, large daycare centers, hospitals, nursing homes</li> <li>• Stadiums, group recreational uses</li> <li>• Hazardous uses (e.g. aboveground bulk fuel storage)</li> </ul>	<ul style="list-style-type: none"> <li>• Limit single-story office buildings and non-residential uses except activities that attract few people</li> <li>• Avoid all residential uses except as infill in developed areas, multi-story uses, uses with high density or intensity, shopping centers, and most eating establishments</li> </ul>
3	<ul style="list-style-type: none"> <li>• Major shopping centers, theaters, meeting halls, and other assembly facilities</li> <li>• Children’s schools, large daycare centers, hospitals, nursing homes</li> <li>• Stadiums, group recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>• Limit residential uses to very low densities, and office and other commercial uses to low intensities</li> <li>• Avoid commercial and other non-residential uses having higher usage intensities, buildings with more than 3 aboveground habitable floors, and hazardous uses</li> </ul>
4	<ul style="list-style-type: none"> <li>• Children’s schools, large daycare centers, hospitals, nursing homes</li> <li>• Stadiums, group recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>• Limit residential uses to low density</li> <li>• Avoid high-intensity retail or office buildings</li> <li>• Most low- to moderate-intensity uses are acceptable</li> <li>• Restrict assemblages of people</li> <li>• Consider potential airspace protection hazards of certain energy/industrial projects</li> </ul>

**Table 3.7-7: SBIA Additional Compatibility Criteria**

<i>Zone</i>	<i>Prohibited Uses</i>	<i>Other Development Conditions<sup>1</sup></i>
5	<ul style="list-style-type: none"> <li>• Children’s schools, large daycare centers, hospitals, nursing homes</li> <li>• Stadiums, group recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>• Limit residential uses to very low densities</li> <li>• Avoid residential uses unless airport-related, and high-intensity non-residential uses</li> <li>• Allowed uses subject to height limitations for airspace protection</li> </ul>
6	None	<ul style="list-style-type: none"> <li>• Limit children’s schools, large day care centers, hospitals, and nursing homes; and processing and storage of bulk quantities of highly hazardous materials</li> <li>• Avoid outdoor stadiums and similar uses with very high intensities</li> <li>• Noise and overflight impacts should be considered for residential uses where ambient noise levels are low</li> </ul>

*Source: Caltrans Division of Aeronautics, 2011.*

## **Emergency Operations**

### **Emergency Management**

Emergency operations in the Planning Area is undertaken by the City of Redlands and San Bernardino County. For San Bernardino County, disaster preparedness, response, and evacuation is coordinated through the Office of Emergency Services (OES), a division of the San Bernardino County Fire Department. The OES works with all county departments and 24 cities, and many non-government organizations. In the event of an emergency the OES manages the County’s Emergency Operations Center (EOC) and coordinates the County’s disaster response expenses for recovery from State and federal governments. For the City of Redlands, disaster preparedness, response, and evacuation is coordinated by the Emergency Operations Manager.

The Planning Area is located in the San Bernardino County Operational Area. The Operational Area Emergency Management system consists of all County Departments, the 24 cities and towns within the county, unincorporated areas, and special districts, together with the private and volunteer sector. This system represents all resources available within the County that may be applied to disaster response and recovery. The Operational Area was formed in 1995 with a cooperative agreement between San Bernardino County and the 24 cities and towns located within the County. This agreement formed the San Bernardino County Operational Area Coordinating Council (OACC) as part of the San Bernardino County Operational Area and recognizes the County OES as the lead agency for the Operational Area. In 2006, the Operational Area Resolution was amended to include the National Incident Management System (NIMS) as an integral component of the Operational Area disaster management system (San Bernardino County OES, 2013).

### **San Bernardino County**

San Bernardino County has adopted an Emergency Operations Plan and is planning development of a Continuity of Operations Plan. San Bernardino County conducts all emergency management functions in accordance with SEMS and NIMS. During an emergency, the County has the responsibility to manage and coordinate the overall emergency response and recovery activities. The Office of Emergency Services along with each County Department is responsible for ensuring critical staff are identified and trained at a level enabling effective execution of existing response policies, plans, and procedures (San Bernardino County OES, 2013).

### **City of Redlands**

The City of Redlands is currently drafting an Emergency Operations Plan and a Continuity of Operations Plan 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, and are described in the Regulatory Setting. When completed, the plans will establish the City's procedures for emergency response and for function of administrative services in the case of an emergency. The plans will identify roles and responsibilities for relevant City departments and local agencies in cases of emergency.

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 (City of Redlands, 2016).

### **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; and
- 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.

### **Volunteer Disaster Response**

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.

### **Wildland Fire Hazards**

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 (SOI) outside of city limits. 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. Figure 3.7-3 shows fire hazards in the Planning Area.

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 Crafton Hills area, which is within the Sphere of Influence, but not Redlands city limits, is another high fire threat area. Land use authority in this area resides with San Bernardino County.

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 3.7-3, 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 City has continually purchased land within the canyons and kept it in preserve as open space. These lands 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 within the area 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.

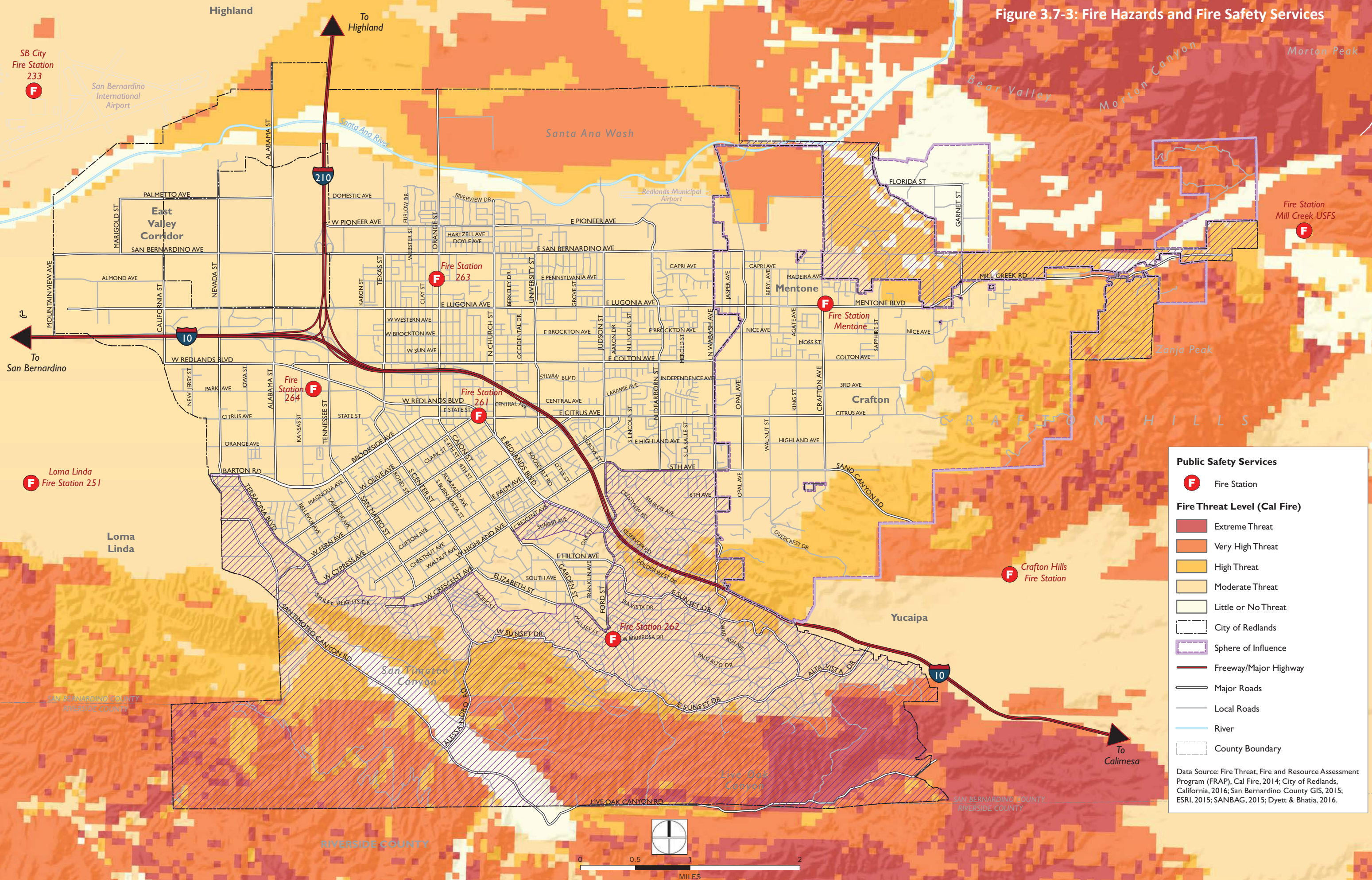
### **Fire Protection and Prevention**

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. Some parts of the City may be more readily reached by personnel from the San Bernardino (city) and Loma Linda fire departments. Fire station locations are shown in Figure 3.7-3. See Section 3.13 Public Services and Facilities for more detail.

In addition to fire protection, each service provider implements fire prevention programming. The City of Redlands Fire Department has a Fire Prevention Division, which has the goal of safeguarding the community from fire through programs ensuring adherence to fire regulations, public education, and mitigation. Fire prevention responsibilities include review of development plans, authorization of fire permits, conducting safety inspections, and educational programming. Similarly, the San Bernardino County Fire Department also conducts plan review, new construction inspections, fire inspection, and public education programs. CAL FIRE's fire prevention programming includes wildland pre-fire engineering, vegetation management, fire planning, education, and law enforcement.



Figure 3.7-3: Fire Hazards and Fire Safety Services



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## **REGULATORY SETTING**

### **Federal Regulations**

#### ***Environmental Protection Agency***

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the HSWA.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

#### ***United States Department of Transportation (USDOT)***

The USDOT Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials, as described in Title 40, 42, 45, and 49 of the Code of Federal Regulations, and implemented by Title 17, 19, and 27 of the CFR. The USDOT Hazardous Materials Regulations (HMR) apply to persons who undertake transportation of hazardous materials. The Pipeline and Hazardous Materials Safety Administration (PHMSA) issues the HMR. PHMSA has also issued procedural regulations, including provisions on registration and public sector training and planning grants (49 CFR Parts 105, 106, 107, and 110). PHMSA's regulatory functions include issuing rules and regulations governing the safe transportation of hazardous materials and representing USDOT in international organizations and working to assure the compatibility of domestic regulations with the regulations of bodies such as the Federal Motor Carrier Safety Administration (FMCSA). The FMCSA issues regulations concerning highway routing of hazardous materials, the hazardous materials endorsement for a commercial driver's license, highway hazardous material safety permits, and financial responsibility requirements for motor carriers of hazardous materials.

#### ***Federal Emergency Management Agency***

The primary mission of the Federal Emergency Management Agency is to reduce the loss of life and property and to protect the nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

### **Disaster Mitigation Act**

The Disaster Mitigation Act of 2000 requires a state mitigation plan as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: “Standard” and “Enhanced.” States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Disaster Mitigation Act also established a new requirement for local mitigation plans.

### **Emergency Planning and Community Right-To-Know Act**

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. EPCRA was passed in response to concerns regarding the environmental and safety hazards proposed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and Community Right-to-know reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR Appendix B). The Community Right-to-Know provisions help increase the public’s knowledge of and access to information on chemicals at individual facilities, their uses, and their release into the environment.

### **Hazardous Materials Transportation Act**

The Hazardous Materials Transportation Act (HMTA) of 1975 was created to provide adequate protection from the risks to life and property related to the transportation of hazardous materials in commerce by improving regulatory enforcement authority of the Secretary of Transportation.

### **Occupational Safety and Health Administration (OSHA)**

With the Occupational Safety and Health Act of 1970, Congress created the Occupational Safety and Health Administration (OSHA) to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance.

### **State Regulations**

#### **California Code of Regulations Title 22**

Hazardous substances are regulated by state and federal agencies in order to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that threaten life, health, property, or environment. The California Code of Regulations (CCR) Title 22 provides the following definition:

*A hazardous material is a substance or combination of substances which, because of its quantity, concentration or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored,*

*transported or disposed of. Hazardous materials include waste that has been abandoned, discarded, or recycled on the property and as a result represents a continuing hazard as the development is proposed. Hazardous materials also include any contaminated soil or groundwater.*

### **California Environmental Protection Agency**

The management of hazardous materials and waste within California is under the jurisdiction of the CalEPA, which was created by the State of California to establish a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources.

### **California Health and Safety Code, Hazardous Materials Release Response Plans and Inventory**

The California Health and Safety Code Chapter 6.95 includes provisions for Hazardous Materials Release Response Plans and Inventory. The intent of the code is to protect the public health and safety and the environment; it is necessary to establish business and area plans relating to the handling and release or threatened release of hazardous materials. It calls for the establishment of a statewide environmental reporting system. In San Bernardino County, this program is referred to as the Hazardous Materials Release Response Plans and Inventory (Business Plan) program, and is operated by the Sbfd CUPA.

The Business Plan program is intended to provide information regarding hazardous materials at facilities to emergency responders and the general public, along with coordinating the reporting of releases and spill response among businesses to local, State, and federal government authorities. Facilities are required to disclose all hazardous materials and wastes above certain designated quantities which are used, stored, or handled at their facility, and to update their plans regularly. Facilities are also required to provide initial and annual training for employees to safely handle chemicals and to take appropriate emergency response actions. In San Bernardino County, the Business Emergency/Contingency Plan ("Business Plan") is also used to satisfy the contingency plan requirement for hazardous waste generators. Any business subject to any of the CUPA permits is required in San Bernardino County to file a Business Emergency/Contingency Plan using the California Environmental Reporting System (CERS). A new business going through the process of obtaining County or City planning or building approval is required to comply with the Business Emergency/Contingency Plan requirement prior to obtaining final certificate of occupancy and prior to bringing hazardous materials onto the property.

### **Senate Bill (SB) 1889, Accidental Release Prevention Law/Chemical Accident Release Prevention Program**

SB 1889 required California to implement a federally mandated program governing the accidental airborne release of chemicals listed under Section 112 of the Clean Air Act. Effective January 1, 1997, CalARP replaced the previous California Risk Management and Prevention Program (RMPP) and incorporated the mandatory federal requirements. CalARP addresses facilities containing specified hazardous materials that, if involved in an accidental release, could result in adverse off-site consequences. CalARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive. The CalARP program in San Bernardino County is implemented by the Sbfd CUPA.

### **Cortese List**

The Cortese List refers to provisions in Government Code Section 65962.5. Section 65962.5 requires the DTSC, State Department of Health Services, SWRCB, and designated local enforcement agencies to compile and update lists of hazardous materials sites under their purview as specified in the code. The “Cortese List” consists of the information provided by these agencies under the code.

### **Emergency Response to Hazardous Materials Incidents**

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which coordinates the responses of other agencies, including CalEPA, the California Highway Patrol, CDFW, and RWQCB.

### **Office of Environmental Health Hazard Assessment**

The State of California Office of Environmental Health Hazard Assessment oversees implementation of many public health-related environmental regulatory programs within CalEPA, including implementing the provisions of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Proposition 65 requires the governor to publish, at least annually, a list of chemicals known to the state to cause cancer or reproductive toxicity. The proposition was intended by its authors to protect California citizens and the state’s drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm and to inform citizens about exposures to such chemicals.

### **The California Department of Toxic Substances Control**

Within CalEPA, the California DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law. Since August 1, 1992, the DTSC has been authorized to implement the state’s hazardous waste management program for the CalEPA.

### **The California Department of Transportation**

The California Department of Transportation (Caltrans) manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on highway and freeway lanes and inter-city rail services.

### **State Water Resources Control Board**

The Santa Ana RWQCB is authorized by the SWRCB to enforce provisions of the Porter–Cologne Water Quality Control Act of 1969. This act gives the Santa Ana RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened and to require remediation of the site, if necessary.

### **California Multi-Hazard Mitigation Plan**

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 under the Disaster Mitigation Act of 2000. The SHMP provides goals and strategies which address minimization of risks associated with natural hazards and response to disaster situations.

### **Safe School Plan (California Education Code Sections 32282 et seq.)**

This statute requires public schools to prepare a school safety plan, which includes routine and emergency disaster procedures and a school building disaster plan. The plan can be amended as needed and shall be evaluated at least once a year to ensure that the comprehensive school safety plan is properly implemented.

### **Title 27, CCR**

The California Department of Resources Recycling and Recovery (CalRecycle) and the SWRCB jointly issue regulations pertaining to waste disposal on land, including criteria for all waste management units, facilities, and disposal sites; documentation and reporting; enforcement, financial assurance; and special treatment, storage, and disposal units.

### **State Aeronautics Act**

Through the State Aeronautics Act, the State of California requires every county that contains a public airport to develop and comply with an airport land use compatibility plan (ALUCP) with a 20-year planning horizon. The purpose of an ALUCP is to protect public health, safety, and welfare by providing for the orderly growth and land use development of the area surrounding the airport. ALUCP policies generally set controls on land use and development standards that ensure safe and efficient airport and flight operations and minimize the public's exposure to excessive noise and safety hazards within the airport's vicinity. An ALUCP does not designate land uses, but instead establishes criteria to encourage the development of compatible land uses. It also has no ability to alter existing non-conforming uses; the focus is on future development.

The body responsible for creating and carrying out the ALUCP is each respective county's Airport Land Use Commission (ALUC) or other designated agency. San Bernardino County and its incorporated cities dissolved its ALUC in 1993 and instead delegated the responsibility of preparing ALUCPs to each airport owner. An Airport Mediation Board was established to help resolve any disputes arising out of the preparation of ALUCPs. The Redlands Municipal Airport has an adopted ALUCP, described below. SBIA does not have an adopted ALUCP, but has identified compatibility zones as described in the Physical Setting.

### **California Emergency Services Act**

The California Emergency Services Act (Government Code Chapter 7, Sections 8550-8668) was adopted in 1970. The act's purpose is to ensure that preparations within the state will be adequate to deal with the effects of natural, manmade, or war-caused emergencies. The act provides for emergency powers to be conferred upon the Governor and local executives; the establishment of the State Office of Emergency Services; the coordination and direction of state entities during an

emergency, and mutual aid by the State and its departments and agencies, as well as political subdivisions.

### **2010 California Strategic Fire Plan**

The California Fire Plan is the state's road map for reducing the risk of wildfire. The plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection (CalFire). By placing the emphasis on what needs to be done long before a fire starts, the Fire Plan looks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to overall ecosystem health.

### **SB 1241 (2012)**

To address the increasing "wildland-urban interface," Senate Bill 1241 (Kehoe, Statutes of 2012) revised the safety element requirements for state responsibility areas and very high fire hazard severity zones (Government Code Sections 65302 and 65302.5). Specifically, during the next revision of the housing element on or after January 1, 2014, the safety element shall be reviewed and updated as necessary to address the risk of fire in SRAs and very high fire hazard severity zones. SB 1241 requires that the draft element or draft amendment to the safety element of a county or a city's general plan be submitted to the State Board of Forestry and Fire Protection ("State Board") and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to either: 1) the adoption or amendment to the safety element of its general plan for each county that contains state responsibility areas; or 2) the adoption or amendment to the safety element of its general plan for each city or county that contains a very high fire hazard severity zone as defined pursuant to subsection I of Section 51177.

### **California Subdivision Requirements**

Section 66474.02 of Government Code Title 7, Chapter 4 states that before approving a tentative map, or parcel map for which a tentative map was not required, for an area located in an SRA or a very high fire hazard severity zone, a legislative body of a county shall make the following three findings:

1. A finding supported by substantial evidence in the record that the design and location of each lot in the subdivision, and the subdivision as a whole, are consistent with any applicable regulations adopted by the State Board of Forestry and Fire Protection pursuant to Sections 4290 and 4291 of the Public Resources Code.
2. A finding supported by substantial evidence in the record that structural fire protection and suppression services will be available for the subdivision through any of the following entities:
  - a. A county, city, special district, political subdivision of the state, or another entity organized solely to provide fire protection services that is monitored and funded by a county or other public entity.
  - b. The Department of Forestry and Fire Protection by contract entered into pursuant to Section 4133, 4142, or 4144 of the Public Resources Code.



3. A finding that to the extent practicable, ingress and egress for the subdivision meets the regulations regarding road standards for fire equipment access adopted pursuant to Section 4290 of the Public Resources Code and any applicable local ordinance.

### **Public Resources Code Sections 4290 and 4291**

Public Resources Code Sections 4290 and 4291 apply to SRA lands, and establish minimum requirements for development in hazardous fire areas and mountainous, forest-, brush-, and grass-covered lands. According to Section 4290, the Board of Forestry shall adopt regulations including road standards for fire equipment access, standards for signs, minimum private water supply reserves for emergency fire use, and fuel breaks and greenbelts that act as minimum fire safety standards related to defensible space which are applicable to state responsibility area lands under CalFire's authority. Section 4291 states that a person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall adhere to minimum requirements for defensible space and fuel modification.

### **Local Regulations**

#### **City of Redlands Fire Code**

The Fire Code is Chapter 15.20 of the Redlands Municipal Code. It adopts an amended version of the California Fire Code. The Redlands Fire Code amends several provisions of the California Fire Code in order to address local needs pertaining to high fire hazard areas, water supplies, fire extinguishing and sprinkler systems, and flammable and combustible materials (City of Redlands Fire Prevention Bureau, 2012). Modifications to the California Fire Code include water supply and sprinkler requirements for areas without City water service; the delineation of a Local Responsibility Area for the city's wildland-urban interface area; vegetation management (fuel modification) requirements for buildings and structures in or adjoining hazardous fire areas; defensible space requirements for properties in the designated very high fire hazards severity zone; and requirements for a fire protection plan for new development in the wildland-urban interface area.

#### **City of Redlands Hazard Mitigation Plan (HMP)**

The City of Redlands adopted a Hazard Mitigation Plan (HMP) in 2015 in accordance with 44 CFR. 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.

#### **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.

### **Redlands Airport Land Use Compatibility Plan (ALUCP)**

The Redlands Municipal Airport ALUCP was originally adopted by Redlands City Council in 1997. The ALUCP provides a set of policies for use by the City of Redlands in evaluating the compatibility between proposals for land use development within the vicinity of the Redlands Municipal Airport and operations at the Airport. The ALUCP was amended in 2003 in conjunction with the City's Sports Park Project, as a result of the helicopter flight pattern being relocated.

Policies in the ALUCP 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. 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.

Airspace protection policies include height limits for structures, trees, and other objects in the vicinity of the airport, aviation easement requirements, and restrictions on other flight hazards in the Airport Influence Area. Requirements for aviation easement dedication preserve the right of flight in the airspace above a property; restrict the height of structures, trees, and other objects on the property; and prohibit other potential hazards to flight. Restrictions on other flight hazards disallow characteristics such as glare or distracting lights; sources of dust, steam, or smoke; sources of electrical interference; and uses that attract large flocks of birds.

### **San Bernardino County Multi-Jurisdictional Hazard Mitigation Plan**

The San Bernardino County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) documents the plan for reducing and/or eliminating risk in the unincorporated area of the County and its five Special Districts, including the San Bernardino County Fire Protection District, the San Bernardino County Flood Control District, Big Bear Valley Recreation and Parks District, Bloomington Recreation and Parks District (Districts), and those Board-governed Special Districts administered by the San Bernardino County Special Districts Department.

### **San Bernardino County Emergency Operations Plan**

The San Bernardino County Emergency Operations Plan provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property. The plan is consistent with the requirements of SEMS as defined in Government Code Section 8607(a) and NIMS as defined by Presidential Executive Orders for managing response to multi-agency and multi-jurisdictional emergencies. As such, the plan is flexible enough to use in all emergencies and will facilitate response and short-term recovery activities. SEMS/NIMS incorporate the use of ICS, mutual aid, the operational area concept, and multi/interagency coordination.

### **San Bernardino County General Plan**

The 2007 San Bernardino County General Plan, which applies to unincorporated portions of the county, contains a Safety Element that aims to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from fires, flooding, earthquakes, landslides, erosion, and hazardous waste. Policies seek to minimize potential risks through education, information provision, and emergency preparedness; protect people and property from fire, flooding, and other natural and man-made disasters; minimize exposure to geologic and seismic hazards; and minimize exposure to aviation hazards; provide adequate emergency evacuation and access; and provide a Hazard Mitigation Plan.

### **San Bernardino County Development Code**

The San Bernardino County Development Code includes provisions for an Airport Safety (AR) Overlay district, Fire Safety (FS) Overlay district, Floodplain Safety (FP) Overlay district, and a Geologic Hazard (GH) Overlay District. The AR district is intended to provide greater safety to aviators and the general public by establishing requirements for land use compatibility reviews within designated areas in close proximity to a public use airport. The FS district is intended to provide greater public safety in areas prone to wildland brush fires, by establishing additional development standards for these areas.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purposes of this EIR, a significant impact would occur if the Proposed Project would:

- Criterion 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;**
- Criterion 2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;**
- Criterion 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;**
- Criterion 4: Result in a project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;**
- Criterion 5: Result in a safety hazard for people residing or working within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or public use airport;**
- Criterion 6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or**

**Criterion 7: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.**

## **METHODOLOGY AND ASSUMPTIONS**

This analysis considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from implementation of the Proposed Project, and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. The analysis included a qualitative evaluation of impacts associated with the potential presence of hazardous materials or hazards in the Planning Area, and an evaluation of the extent to which the proposed General Plan would allow industrial uses and other uses that commonly employ or generate hazardous materials or waste in their production processes. It is based on a review of materials ranging from the Envirostor and Geotracker databases, hazard mapping, and relevant plans and regulations at the federal, State, and local levels.

## **SUMMARY OF IMPACTS**

Implementation of the Proposed Project may result in increased risk from hazardous materials, airport hazards, disruptions to emergency responses, and wildland fires related to new development under the proposed General Plan. The proposed General Plan allows a range of land uses, some of which may require the routine use, transport, and disposal of hazardous material and waste. It is possible that land uses allowed by the proposed General Plan within a quarter-mile of existing schools may use hazardous materials. The proposed General Plan could also allow development on sites within the Planning Area that have been identified on the Cortese List as hazardous materials sites. However, as described below, the Proposed Project includes policies that focus on reducing these threats, including requiring facilities with hazardous materials permits to be routinely inspected by the SBFDF and providing buffers between high- and low-intensity land uses. Although portions of the Planning Area are within proximity to the Redlands Municipal Airport and SBIA, the proposed land uses and policies in the General Plan are compatible with relevant airport guidelines. Policies in the proposed General Plan also reduce the risk from potential new obstacles to emergency responses, by supporting the implementation of the HMP, improving emergency access, and improving emergency preparedness. There are portions of the Planning Area characterized by CalFire as having High, Very High, and Extreme treat of fire; however, land use designations and policies in the proposed General Plan limit new development in these areas, promote fire safety, and require adherence to applicable building and fire codes. Implementation of the proposed General Plan policies along with existing federal, State, and local regulations pertaining to hazardous materials, airport hazards, emergency response, and wildland fires would ensure potential impacts would remain below a level of significance. The proposed Climate Action Plan (CAP) does not include measures that affect hazardous materials, emergency response, or wildland fires in the Planning Area. Therefore, it has no impact on the issues addressed below.

## IMPACTS

### **Impact 3.7-1 Development under the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)**

The Proposed Project itself would not create any hazards related to the routine transport, use, or disposal of hazardous materials. However, implementation of the proposed General Plan would allow for the development of land uses, including residential, mixed-use, recreational, industrial, commercial, and office uses, that may require the routine use, transport, and disposal of hazardous material and waste within the Planning Area. Additionally, future construction activities associated with buildout of the proposed General Plan may generate hazardous materials and waste, such as fuels and oils from construction equipment and vehicles.

As described in the Regulatory Setting, federal and State regulations require adherence to specific guidelines regarding the use, transportation, disposal, and accidental release of hazardous materials. Regulations associated with using, transporting, or disposing of hazardous materials include RCRA, EPCRA, HMTA, California Health and Safety Code, CCR Title 22, CCR Title 27, SB 1889, and the Consolidated Fire Code. Locally, facilities requiring a hazardous materials permit would be subject to routing inspection by the SBFD, further minimizing foreseeable risks of an accident that could create a hazard to the public or environment.

Transportation of hazardous waste in connection with construction and operations of future development under the Proposed Project would be subject to USDOT's requirements for hazardous materials transport, and would require carriers to register with the DTSC. Policies in the proposed General Plan seek to lessen the risk from transport through the Planning Area by providing for more direct access between the highways and more intense land uses, reducing the amount of truck traffic on local roads near residential areas, and protecting the public from damaged fuel lines and hazardous cargos.

In compliance with existing regulations, businesses handling or storing certain amounts of hazardous materials would be required to prepare a hazardous materials business plan to inventory hazardous materials on-site and provide information on safe use and emergency response regarding such materials. Businesses would also be required to implement health and safety policies and procedures regarding hazardous materials used. For future development where employees would be expected to handle or work around hazardous materials, compliance with federal and State laws to eliminate or reduce the consequence of hazardous materials accidents would be required. Existing regulations also specify storage areas for hazardous materials, designed to prevent accidental release and to protect against moderate explosion hazard, high fire or physical hazard, or health hazards. Additionally, future projects developed in accordance with the Proposed Project would be required to complete all applicable environmental review processes and to conform with environmental regulations related to new construction, and hazardous materials use and storage.

To further minimize risks from hazardous materials usage that may occur in implementing the Proposed Project, policies in the proposed General Plan seek to ensure that more intense land uses that may be more likely to utilize hazardous materials are sufficiently buffered from lower-intensity

uses such as residential. Proposed policies also seek to ensure that all projects, including those using hazardous materials, meet development standards to ensure public safety, and that emergency responders have the appropriate facilities and agreements in place to act quickly in case of an upset.

There are currently no permitted hazardous waste facilities in the Planning Area. Any future disposal of hazardous waste by a hazardous waste generator, transporter, or treatment storage and disposal facility would require compliance with relevant federal and State law, including permitting through the DTSC and compliance with the SBFD's CUPA requirements for hazardous waste generation and onsite treatment.

Implementation of the applicable federal, State, and local regulations and policies would serve to lessen the risk of death, injury, and/or property loss associated with the transport, use, or disposal of hazardous materials by promoting safe handling and storage, documentation and information sharing, and appropriate emergency planning and response. In addition, compliance with proposed General Plan policies would further ensure safe practices regarding hazardous materials. Therefore, compliance with the proposed General Plan policies and federal and State regulations will ensure the impact of routine use, transport, and disposal of hazardous materials associated with implementation of the Proposed Project would be less than significant.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

#### **General Land Use Principles**

4-P.8 Provide for buffers and transitions between low- and high-intensity land uses.

#### **Office, Commercial, and Industrial Principles**

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 such as residential and schools. residential uses

#### **Office, Commercial, and Industrial Actions**

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.29 Maintain standards for industrial development and operation that prohibit creation of noise, odor, or other harmful emissions beyond the boundaries of the site.

### **East Valley Corridor Actions**

- 4-A.52 Improve access and movement of all modes of transportation in the East Valley Corridor and enhance linkages to transit.
- 4-A.56 Create buffers and appropriate transitions between the East Valley Corridor industrial and commercial areas and adjacent residential neighborhoods.

### **Public Safety Principles**

- 4-P.59 Ensure a safe community.
- 4-P.60 Locate police and fire resources where they can best serve the community.

### **Public Safety Actions**

- 4-A.150 Ensure that the Police and Fire departments have modern facilities and equipment needed to perform their duties.
- 4-A.152 Continue to enact mutual aid agreements with neighboring police and fire jurisdictions as well as state agencies.
- 4-A.154 Include the Police and Fire Departments in the review of new developments to provide feedback on building and site design safety.

### *Connected City Element*

### **Layered, Multi-Modal Network 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 to 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 networks 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 the different modes.*

- 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.

### **Measure U Policies**

- 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.

### **Vehicular Movement Principles**

- 5-P.23 Discourage the use of City streets as alternatives to congested regional highways.

### **Freeways Actions**

- 5-A.38 Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.

5-A.39 Support improvements to I-10 and I-210 that improve capacity and flow.

#### **Collector and Local Streets Actions**

5-A.44 Discourage through-traffic on local streets.

#### **Goods Movement Principles**

5-P.28 Prioritize goods movement along specific routes in the city, consistent with the layered network, to foster efficient freight logistics.

5-P.29 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.30 Work to improve the efficiency and safety of rail freight through the city.

#### **Goods Movement Actions**

5-A.73 Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.

5-A.74 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.75 Create easily understood truck route maps, potentially through on-line applications, to be distributed by the goods movement industry.

5-A.76 Conduct education programs for the goods movement industry on designated truck routes through the city.

5-A.77 Discourage truck traffic from parking, idling, or traveling through local streets in residential neighborhoods.

5-A.78 Seek to improve rail crossings in the San Timoteo Canyon area, exploring the potential for grade separation of all crossings in the canyon area.

#### *Healthy Community Element*

#### **Other Hazards 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.

#### **Other Hazards 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.



### **Mitigation Measures**

None required.

#### **Impact 3.7-2 Development under the Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant)**

As noted in Impact 3.7-1 above, implementation of the proposed General Plan would result in future development of land uses that would involve the use, transportation, disposal, and storage of hazardous materials in the Planning Area. Thus, personal injury, property damage, environmental degradation, or death could result from the release of hazardous materials caused by upset or accident conditions.

Although the risk of upset and accident conditions involving the release of hazardous materials into the environment cannot be completely eliminated, it can be reduced to a manageable level. Existing regulations at the federal, State, and local levels serve to minimize the potential for upset during routine transportation, use, and disposal as discussed in Impact 3.7-1. Additionally, regulations are in place to minimize the risk of upset or accident involving sites that have previously been contaminated by hazardous substances. Proper implementation of the SBFDD's CUPA programs would help to ensure documentation of releases and threatened releases as well as the development of risk management and hazardous materials release response plans. Given existing regulations and programs and proposed General Plan policies that reduce the potential for hazardous materials upsets and promote the ability of emergency services to respond to incidents, impacts associated with the release of hazardous materials into the environment would be less than significant. The proposed CAP does not include any land use changes or other measures that would affect upset or accident conditions involving the release of hazardous chemicals, and would therefore have no impact

#### **Proposed General Plan Policies that Reduce the Impact**

The proposed General Plan goals and actions listed under Impact 3.7-1 would reduce upset and accident conditions potentially involving the release of hazardous materials into the environment, along with the following policy. One additional policy in the proposed General Plan applies to this issue.

#### **Healthy Community Element**

##### **Other Hazards Actions**

- 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.

### **Mitigation Measures**

None required.

**Impact 3.7-3 Development under the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Less than Significant)**

Implementation of the proposed General Plan would allow land uses that would be reasonably expected to handle hazardous materials or generate hazardous emissions. Under the land use designations of the proposed General Plan, there would be a range of land uses potentially allowed within a quarter-mile of existing schools (there are no proposed schools). The most intense uses allowed under the proposed General Plan, under the Light Industrial or Commercial/Industrial designations, include manufacturing, distribution, research and development, and ancillary commercial uses for the former; and auto services, commercial retail and services, manufacturing for the latter. Heavy industries would only be permitted in areas designated by the proposed Santa Ana River Wash Plan, located away from any schools. The proposed CAP does not propose any land use changes and would not directly affect the siting of future development.

Of the 21 public and private schools in the Planning Area, there are four (Mariposa Elementary, Valley Preparatory, Smiley Elementary, and McKinley Elementary) that are located in areas where the proposed General Plan contains only designations for residential, park, or other schools within a quarter mile of the property. Two (Kimberly Elementary and Judson Elementary) have proposed General Plan designations for residential, park, or agricultural uses within a quarter mile. Six (Cape Middle, Kingsbury Elementary, Moore Middle, Clement Middle, Lugonia Elementary, and Orangewood High) have proposed General Plan designations for residential, commercial, office, agriculture, parks, and public uses within a quarter mile. The remaining nine schools (Redlands High, Franklin Elementary, Crafton, East Valley High, Mentone Elementary, Citrus Valley High, Redlands Adventist, Arrowhead Christian, and Grove High) would all have proposed General Plan designations for Light Industrial or Commercial/Industrial within a quarter mile of the property.

Proposed land use changes that would introduce Light Industrial or Commercial/Industrial designations within a quarter mile of a school include a Flood Control/Construction Aggregates area that would be redesignated as Light Industrial near Mentone Elementary, and a Commercial area that would be redesignated as Commercial/Industrial adjacent to Citrus Valley High School. In the former case, the proposed change is intended to reflect historical uses of the property, which is currently a business park. As the proposed designation change would not lessen any regulations relevant to development on the property, no significant change in the type of hazardous substances permitted there would be expected. In the latter case, the change was intended to allow for commercial uses and a potential business park. The Light Industrial area directly north of Citrus Valley High School has been designated as Low and Very Low Residential. In all cases, future projects would be subject to regulations regarding the siting of uses handling hazardous materials.

Furthermore, individual users of hazardous materials would continue to be regulated by local disclosure, permitting, and notification requirements of the “Disclosure of Hazardous Materials” program consistent with all federal, State, and local laws. Public schools are also required to evaluate and potentially amend their school safety plan on an annual basis as described in greater detail in the Regulatory Setting discussion above. In the case that new schools or alterations to existing schools would be required in the future, the siting of schools, including existing facilities and upgrading construction projects, would be regulated by the California Department of Education;

and new facilities would not be constructed within a quarter mile of facilities emitting or handling materials consistent with California Department of Education requirements. In addition, proposed General Plan policies, as provided below, encourage compatibility of adjacent land uses, require buffering between high- and low-intensity land uses, prohibit the creation of harmful emissions, allow for the availability of information regarding hazardous materials for school planning, and provide for emergency planning to address potential upsets. Therefore, impacts from the Proposed Project would be less than significant.

**Proposed General Plan Policies that Reduce the Impact**

Principles 4-P.8, 4-P.20, and 4-P.21; and actions 4-A.30, 4-A.57, and 7-A.118, as listed under Impact 3.7-1; as well as the following policies.

*Healthy Community Element*

**Emergency Management 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.

**Other Hazards Actions**

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.

**Mitigation Measures**

None required.

**Impact 3.7-4 Development under the Proposed Project could result in a project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment. (Less than Significant)**

As discussed in the Environmental Setting section, there are numerous sites in the Planning Area that are included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 or that need further investigation (see Figure 3.7-1 and tables 3.7-1 through 3.7-3). Several of the sites have reported releases to the ground resulting in soil and groundwater contamination and which are subject to various State and federal laws and regulators, including CERCLA, EPA, DTSC, and the RWQCB, and are in various stages of the cleanup process as stipulated by the relevant agencies. Redevelopment of sites with existing soil or groundwater contamination in accordance with the Proposed Project could potentially pose a significant hazard to the public or the environment through releases of hazardous materials into the environment; however, as discussed in Impact 4.7-1, these sites are regulated by existing federal and State policies and have been or are being investigated and remediated.

Proposed General Plan policies would limit any impacts on new development from listed hazardous materials sites; Action 7-A.124 in particular directly addresses this impact. Existing regulations and CUPA programs would also help by ensuring the reporting and documentation of any hazardous materials incidents in the Planning Area such that property owners could be aware of potential hazards. For future projects, the California Environmental Quality Act (CEQA) requires developers to reference the Cortese List and state if the project or any alternatives would be located on a listed site. Compliance with these policies, regulations, and programs would reduce the impact to less than significant. The proposed CAP does not include any land use changes or other measures that would site a project on a Cortese List site, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

The proposed General Plan goals and actions listed in Impact 3.7-1, Impact 3.7-2, and Impact 3.7-3 would also help to reduce the risk of significant hazard to the public or environment from a contaminated site.

### **Mitigation Measures**

None required.

### **Impact 3.7-5 Development under the Proposed Project would not result in a safety hazard for people residing or working within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or public use airport. (Less than Significant)**

The Planning Area includes portions that are within the airport land use plan area of the Redlands Municipal Airport or within two miles of the SBIA. The Proposed Project does not include strategies, policies, or land use changes that would conflict with the Redlands Municipal Airport ALUCP or the guidelines for SBIA's compatibility zones as provided in the California Airport Land Use Planning Handbook. Rather, the proposed General Plan would continue to guide development in a way that is consistent with land use compatibility requirements for both airports.

For SBIA, portions of the Planning Area are located within compatibility zones 3 and 6, the Inner Turning Zone and Traffic Pattern Zone respectively. Zone 3 is the more restrictive of the two, limiting residential uses to very low densities and non-residential intensities to 100-150 persons per gross acre. Sensitive uses and uses allowing for large assemblies are prohibited in Zone 3. In the proposed General Plan, areas located in Zone 3 would be designated as Open Space, which would generally preclude development and be compatible with the airport's safety requirements. Zone 6 is less restrictive and sets no prohibitions on land uses and does not limit development densities or intensities. Much of the land in Zone 6 would be designated as Open Space. Other land use designations, including Public/Institutional, Commercial/Industrial, Light Industrial, and Agriculture, would meet the compatibility requirements of the zone.

The Redlands Municipal Airport ALUCP specifies allowable residential densities in its compatibility zones as described in Table 3.7-3. In Zone A, where structures not serving an aeronautical function are prohibited by the ALUCP, the proposed General Plan designates only Public/Institutional and Open Space land uses (where the Public/Institutional land corresponds to the Redlands Municipal Airport property). In Zone B1, the proposed General Plan designates only Open Space, Parks/Golf Courses, Agricultural, Public/Institutional, and Industrial land uses,

consistent with the ALUCP's limitations on sensitive uses and residential development. Any future development allowed under these designations could be compatible with the ALUCP's intensity requirements as well. In Zone B2, the proposed General Plan designates only Open Space, Parks/Golf Courses, Agriculture, Very Low Density Residential, Low Density Residential, and Light Industrial land uses. Future non-residential uses allowed under the proposed General Plan could be compatible with maximum intensities allowed by the ALUCP. Although the residential land uses proposed for Zone B2 have upper density ranges of 0.7 du/ac for Very Low Density Residential and 6 du/ac for Low Density Residential, where the zone allows a maximum of 0.5 du/ac per two-acre parcel, proposed General Plan policies ensure that future development would be compatible with the policies and standards of the ALUCP. Such policies would ensure that future residential development occurs within the range allowed by the ALUCP. In Zone C, proposed land use designations of Open Space, Parks/Golf Courses, Agriculture, Public/Institutional, Commercial/Industrial, Light Industrial, Very Low Density Residential, and Low Density Residential could all be compatible with density and intensity requirements of the ALUCP. Zone D specifies no land use requirements, though all land uses proposed for that area could comply with hazard limitations and deed noticing as required in the ALUCP.

As proposed land uses in the AIAs for the two airports allow for compatibility with safety requirements in the ALUCP and California Airport Land Use Planning Handbook, and as proposed General Plan policies specify that new development should be compatible with the ALUCP, exposure to hazards of persons or structures within the AIAs would be limited. The proposed CAP does not include any land use changes or strategies that would affect land uses within the Redlands Municipal Airport land use plan area or within two miles of SBIA and would have no impact. Therefore, impacts on the safety of those working or residing within the Redlands Municipal Airport land use plan area and within two miles of SBIA from the Proposed Project would be less than significant.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

#### **Office, Commercial, and Industrial Actions**

- 4-A.28 Reserve space adjacent to the Redlands Airport to allow for maximum development of airport-related industry, developed in accordance with the Airport Land Use Compatibility Plan.

#### **Redlands Airport Principles**

- 4-P.55 Maintain compatibility of development with airport operations in the area surrounding the airport.

#### **Redlands Airport Actions**

- 4-A.139 Regulate land uses within safety and noise compatibility zones in accordance with the Airport Land Use Compatibility Plan.
- 4-A.140 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.142 Limit land use within the projected CNEL 60 dB contour to agriculture, open space, golf course, and light industry.

- 4-A.143 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.*

#### **Healthy Community Element**

##### **Airport/Aviation Safety 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 of the San Bernardino International Airport.

##### **Airport/Aviation Safety 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.

##### **Mitigation Measures**

None required.

#### **Impact 3.7-6 Development under the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)**

In the case of the Proposed Project, relevant emergency response or emergency evacuation plans include the San Bernardino County Emergency Operations Plan and, to the extent that they mitigate potential disasters in the Planning Area, the Redlands HMP and the San Bernardino County MJHMP. Physical development under the Proposed Project, including new roadways, land uses, and increased densities, could create obstacles to the implementation of emergency response or evacuation plans adopted for the Planning Area. However, policies in the proposed General Plan would eliminate or reduce these impacts by seeking to utilize the Redlands HMP, which is consistent with the MJHMP, as a guide for emergency planning, thus taking into account the area's hazards and promoting means to reduce local risks, as well as to improve emergency access, ingress, and egress, emergency preparedness, and inter-jurisdictional cooperation throughout the Planning Area. The proposed CAP does not include any land use changes or other strategies that would affect emergency response or evacuation. Thus, the impact is less than significant.

##### **Proposed General Plan Policies that Reduce the Impact**

Actions 7-A.119 and 7-A.127, as listed above under Impact 3.7-1 and 3.7-3, as well as the following policies.

*Public Safety Element*

**Southern Hills and Canyons Principles**

- 4-P.31 Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.

*Connected City Element*

**Layered, Multi-Modal Network Principles**

- 5-P.7 Minimize emergency vehicle response time and improve emergency access.

**Layered, Multi-Modal Network Actions**

- 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.

*Healthy Community Element*

**Fire Hazards Actions**

- 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, emergency command centers, and emergency communications facilities. If locating such facilities outside of high fire risk areas is not feasible, identify construction methods and other mitigation measures to minimize risks.
- 7-A.96 Ensure that all-weather access is provided 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.

**Seismic and Geologic Hazards Actions**

- 7-A.117 Use the Local Hazard Mitigation 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 evacuation routes, peak load water supply requirements, and minimum road-width/clearance around structures.

**Emergency Management Principles**

- 7-P.37 Use the City of Redlands Local Hazard Mitigation Plan as the guide for disaster planning in the Redlands Planning Area.
- 7-P.38 Aim for City-level self-sufficiency in emergency response.

### **Emergency Management Actions**

- 7-A.128 Continue to update and revise the Local Hazard Mitigation 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 Department.
- 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.

### **Mitigation Measures**

None required.

### **Impact 3.7-7 Development under the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. (Less than Significant)**

As shown in Figure 3.7-3, the majority of Redlands is characterized by Cal Fire as having a Moderate fire threat level, with areas of High, Very High, and Extreme threat found on the periphery of the city and in the SOI outside of city limits: in the canyonlands, Crafton, Mentone, and in the Santa Ana River Wash. Some areas of Little or No Threat can be found along San Timoteo Creek and the Santa Ana River. Areas of High to Extreme fire threat are characterized by natural vegetation that can serve as fuel for wildland fires, and steeper topographies that can impede emergency access and facilitate the rapid spread of potential fire.

Areas identified as High to Extreme fire threat correspond to proposed General Plan land use designations associated with open space, agriculture, and very low residential densities, which would minimize the exposure of people and structures to fire hazards. In Crafton, where some residential development could be allowed under the Rural Living, Very Low Density Residential, Low Density Residential, and Hillside Conservation land uses, projects would be constrained by terrain and proposed General Plan policies that limit development based on slope and emergency access in order to reduce the safety risks associated with these factors. The Hillside Conservation designation would only allow development if it would not negatively impact public safety or welfare. Proposed policies for the canyonlands would require fire safety measures including access roads to be in place before any development could be allowed, though most land in the canyons would be designated as Resource Preservation and thus developed at a low density rate. New development that occurs pursuant to the Proposed Project would generally take place within areas shown with Moderate fire threat, which covers most of the already urbanized portions of the



Planning Area accessible to emergency services and managed vegetation. In general, proposed policies would require all development to adhere to safety standards provided in the CBC and California Fire Code, and would promote close coordination with the Redlands Fire Department and the fire services of neighboring jurisdictions to ensure the safety of new development.

Land use patterns that limit new development in areas of High to Extreme fire threat; proposed policies that promote fire safety through agency cooperation and management of risk factors associated with fire threat; adherence to applicable building and fire codes; and existing programs such as weed abatement and education under the Redlands Fire Department and fire services in neighboring jurisdictions would serve to reduce any impacts related to the exposure of people or structures to wildland fire to less than significant. The proposed CAP would not include any land use changes or measures that would affect exposure to wildland fire risk, and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

Actions 7-A.90, 7-A.91, 7-A.96, and 7-A.117, as listed above under Impact 3.7-6, as well as the following policies.

#### *Livable Community Element*

#### **Agriculture, Open Space, and Hillsides Principles**

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

#### **Agriculture, Open Space, and Hillsides Actions**

- 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.

#### **Southern Hills and Canyons Principles**

- 4-P.30 Require that new development adhere 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.

#### **Southern Hills and Canyons Actions**

- 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 Planned Residential Developments (PRDs), Conservation Easements, and Specific Plans.
- 4-A.65 Require proposed development within the Live Oak Canyon and San Timoteo Canyon areas that abuts an area of significant natural vegetation 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.

### **Southeast Area Actions**

- 4-A.81 Adopt and implement the Perimeter Fuel Modification/ Access Area (PERFUMAA), concept shown in Figure 4-6 concept 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.

### *Connected City Element*

#### **Layered Multi-Modal Network Principles**

- 5-P.7 Minimize emergency vehicle response time and improve emergency access.

#### **Layered Multi-Modal Network Actions**

- 5-A.15 Access for emergency vehicles and services shall be maintained 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.

### *Vital Environment Element*

#### **Water Quality Actions**

- 6-A.35 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.

### *Healthy Community Element*

#### **Parks and Recreational Open Space Principles**

- 7-P.12 Create and maintain a system of trails serving both recreational and emergency access needs.

#### **Fire Hazards Principles**

- 7-P.28 Work to prevent wildland and urban fire, and protect lives, property, and watersheds from fire dangers.

#### **Fire Hazards 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 buildings codes and standards in accordance with Fire Hazard Overlay Districts, California Fire Code, and the California Building Code.
- 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 examples of appropriate vegetation management through activities such as updating and maintaining the City's fire safe landscape garden.
- 7-A.93 Require that new development minimizes 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 Department's review should ensure compliance with fire safety regulations and assess potential impacts to existing fire protection services and the need for additional and expanded services.
- 7-A.97 Monitor methane gas production at active and inactive landfills and take preventive action if gas production creates a significant fire hazard.

- 7-A.98 Devise alternative fire protection standards 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 Bernardino 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 agencies as well as nongovernmental organizations 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 Actions**

- 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.

**Emergency Management Actions**

- 7-A.82 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.

**Mitigation Measures**

None required.

## 3.8 Historical, Archaeological, and Paleontological Resources

This section describes historical, archaeological, and paleontological resources in the Planning Area, and potential impacts of the Proposed Project on those resources. Tribal cultural resources are also addressed in this section, pursuant to requirements of Senate Bill (SB) 18 and Assembly Bill (AB) 52.

### Environmental Setting

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#### PHYSICAL SETTING

The Study Area for this analysis includes the Planning Area and a one-mile buffer beyond the Planning Area Boundaries. Development within the Planning Area should not affect the areas outside the Planning Area since historic, paleontological, and archeological impacts are generally site-specific; however, the records search and sensitivity assessment for the City (Appendix D) extends one mile beyond the Planning Area boundaries to account for sprawling or linear cultural resources which may be located along and extend beyond the boundaries of the Planning Area. Historic, paleontological, and/or archeological resources encountered beyond the Planning Area would be managed subject to the jurisdiction in which they are located.

#### Historical Setting

##### *Prehistoric 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 Gabrieliño/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. During seasonal rounds to exploit available resources, small groups often ranged considerable distances in search of specific plants and animals. These procurement strategies left behind signs of special use sites, often marked by midden deposits or artifact scatters which may include milling stations comprised of bedrock mortars and slicks, at the locations of the resources.

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 Gabrieliño/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. Most surviving Native Americans eventually resettled on reservations, and persons of Cahuilla, Serrano, and Gabrieliño/Tongva descent are still present in Southern California (Castillo, n.d.).

### **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 Gabrieliño/Tongva 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 Gauchama 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 land to private 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 (Hinckley, 1951). 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 (Swett, 1967).

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 Interstate 10 (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 (Deegan and Carillo, 2013).

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 (Deegan and Carillo, 2013).

### **Archaeological Resources**

Archaeological resources are those associated with prehistoric cultural sites and isolated artifacts that predate the advent of human written records in a particular region that are considered important to a culture, subculture, or community for scientific or humanistic reasons. These include geographic districts, structures, sites, objects, trails, and other physical evidence of prehistoric human activity. The records search of the Study Area found 11 prehistoric resources. However, as many areas within the Study Area have not yet been studied, there may be other archaeological resources in the Planning Area that have not yet been discovered. Refer to Appendix D for a list of archeological resources identified through the records search.

Of particular archaeological interest are the Planning Area's waterways. Remnants of the lifeways of the Cahuilla, Serrano, and Gabrieliño/Tongva Indians indicate settlement and resource procurement locations at or adjacent to reliable water sources, which include springs and streams, such as San Timoteo Canyon Creek and Yucaipa Creek in Live Oak Canyon, and 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.

### **Historic Resources**

Historic Resources can be buildings, structures, objects, sites, and districts of any type that are 50 years of age or older. Sometimes called the built environment, historic resources can also include non-inhabitable structures such as irrigation works and engineering features. Also included are orchards, refuse scatters, and roads or trails. The records search identified approximately 370 historical resources within one mile of the Planning Area (see Appendix D).

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 Public 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. There are 22 State-listed landmarks or points of interest in the Planning Area, including 11 resources (nine historic sites, buildings, structures, or objects and two historic districts) that are also listed in the National Register of Historic Places. Table 3.8-1 details the known State- and federally-listed Historical Resources or Historic Properties, respectively, within the Planning Area.

Many of the older buildings and homes of Redlands emulate Spanish Mission, Bungalow, Queen Anne, Colonial Revival, Craftsman, and Victorian architectural styles, which emphasize craftsmanship and the use of natural materials. These structures 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. Many Redlands residents feel strongly about preserving the community's rich agricultural heritage and architectural character.

The City of Redlands has designated eight historic and/or scenic districts, including one (Smiley Park) that is also on the National Register. These eight districts are shown on Figure 3.8-1 and Figure 3.8-2, and summarized below:

- West Highland Avenue Historic and Scenic District: A broad avenue of prestigious houses, many of them pre-1900 (1887-1914);
- Early Redlands Historic and Scenic District: Substantial Victoria and turn of the century houses and churches close to downtown;
- Eureka Street Historic District: Five Victorian cottages (1885-1900);
- Normandie Court Historic District: Eighteen "Hansel and Gretel" cottages built in 1926;
- East Fern Avenue Historic and Scenic District: A spectrum of Redlands' major architectural styles between 1900 and 1956;
- Garden Hill Historic and Scenic District: A unique curving hillside street featuring an adobe house, California Mediterranean houses, and other styles, enhanced by beautiful views;
- La Verne Street Historic and Scenic District: Primarily Victorian and turn of the century cottages; and
- Smiley Park Neighborhood Historic District: This large district focuses on Smiley Park and surrounding cultural amenities including the Redlands Bowl, the A.K. Smiley Public Library, the Lincoln Memorial Shrine, and the City Hall, as well as the surrounding residential areas.



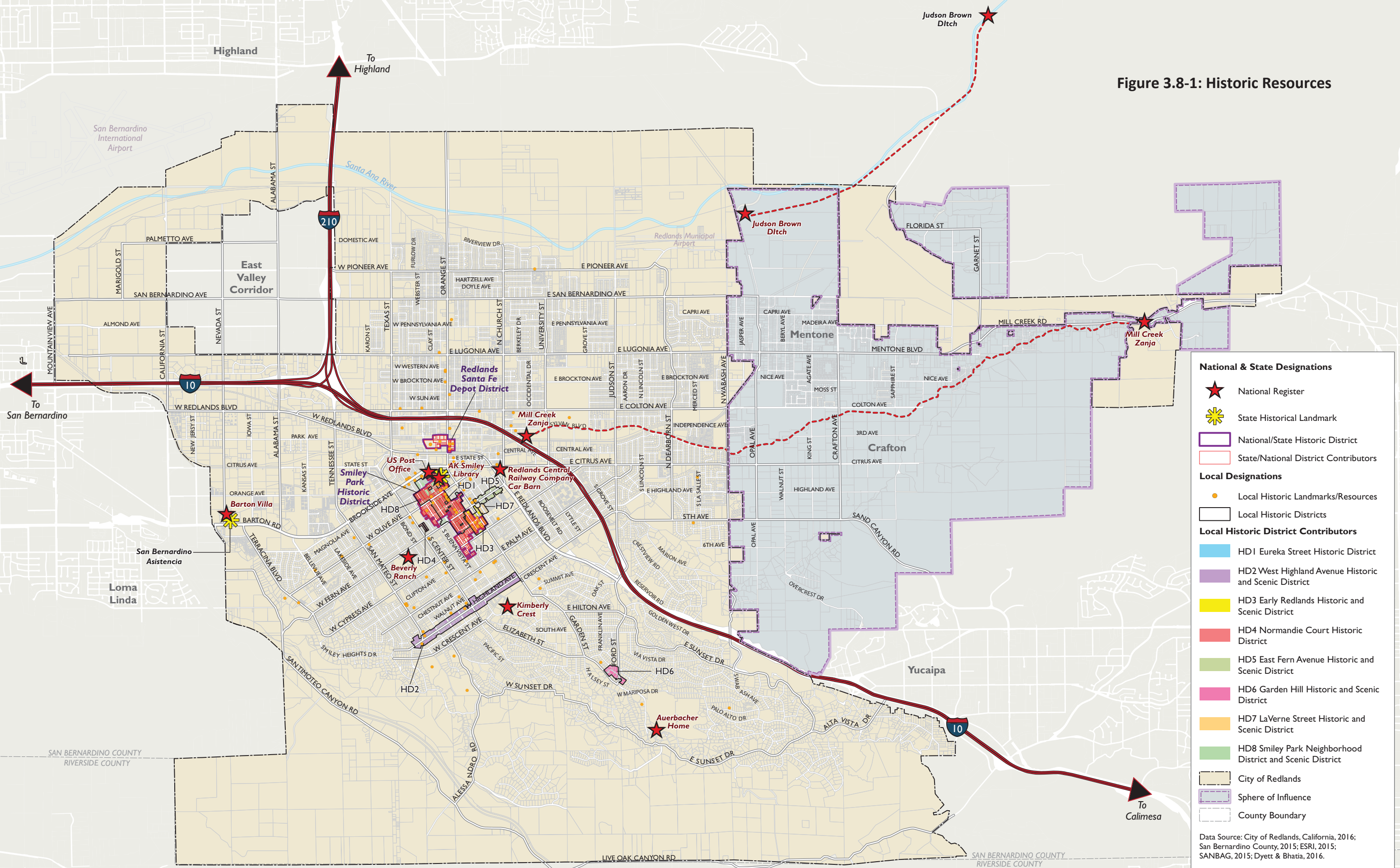
**Table 3.8-1: Federal and State Historic Resources in the City of Redlands**

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 Neighborhood 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. Table 2-2, Redlands General Plan.

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Figure 3.8-1: 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.

RIVERSIDE COUNTY

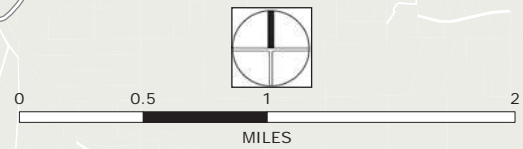
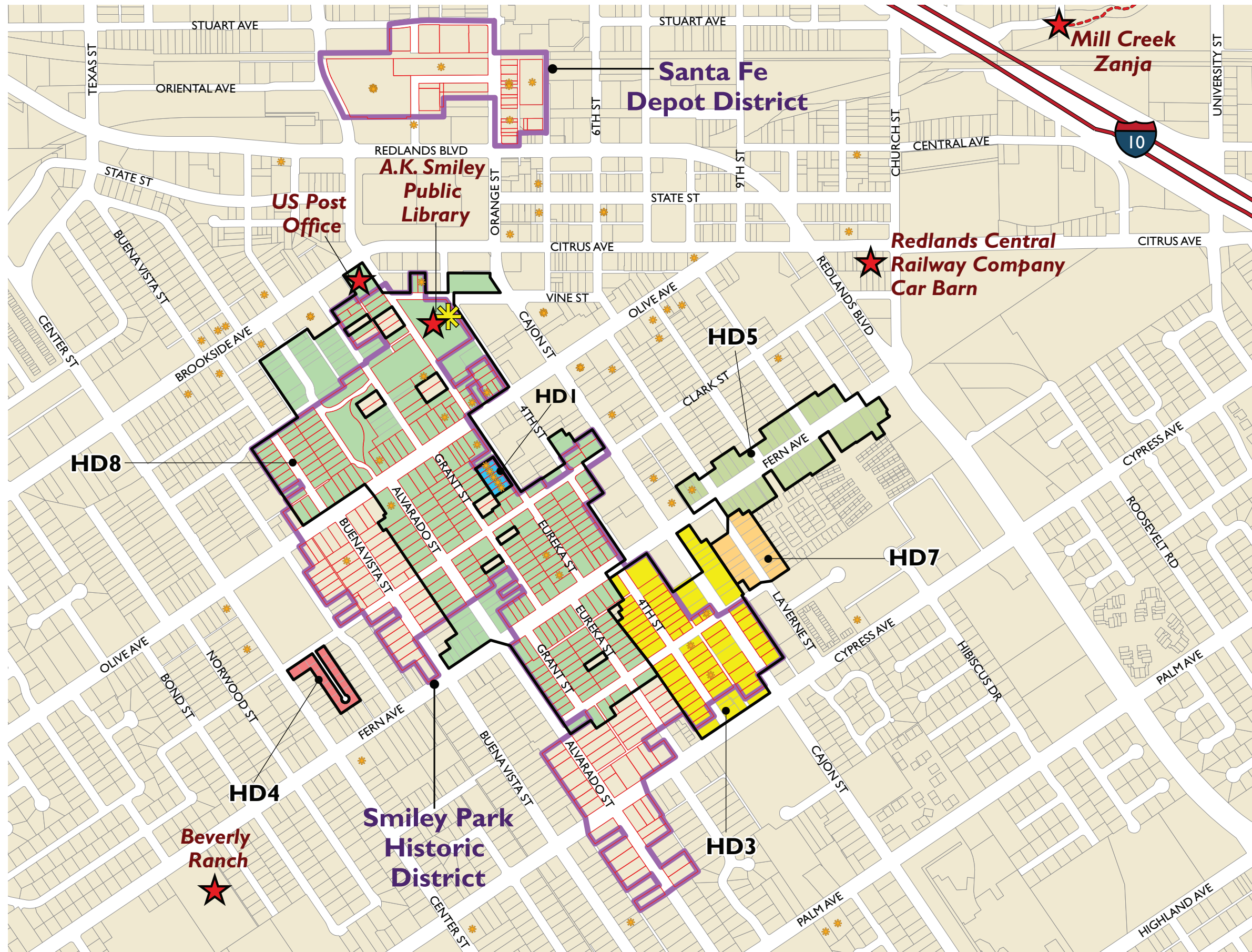
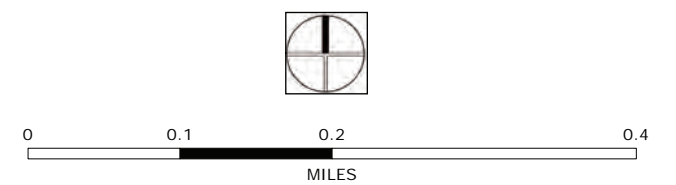


Figure 3.8-2: Historic Resources (Zoom)



- National & State Designations**
- ★ National Register
  - ✱ State Historical Landmark
  - State/National District Contributors
  - ▭ National/State Historic District
- Local Designation**
- ✱ Local Historic Landmarks/Resources
  - ▭ Local Historic Districts
- Local District Contributors**
- HD1 Eureka Street Historic District
  - HD3 Early Redlands Historic and Scenic District
  - HD4 Normandie Court Historic District
  - HD5 East Fern Avenue Historic and Scenic District
  - HD7 LaVerne Street Historic and Scenic District
  - HD8 Smiley Park Neighborhood District and Scenic District



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

### **Tribal Cultural Resources**

AB 52 expands the government-to-government consultation originally outlined in SB 18 and requires California Environmental Quality Act (CEQA) documents to examine tribal cultural resources, which is a more broadly-defined concept that is more akin to traditional tribal landscapes (i.e., geographic areas or features) than to the specific archaeological sites or artifacts that were considered in the past. Since this is a program EIR for a general plan, the City is required to consult with local Native American tribal groups/representatives under both SB 18 and AB 52.

Pursuant to SB 18 and AB 52, the City contacted the California Native American Heritage Commission (NAHC) in July of 2016 to request a search of its *Sacred Lands File* and to obtain a list of California Native American tribes whom the City would engage for the purposes of avoiding, protecting, and/or mitigating impacts on cultural resources.

A search of the NAHC *Sacred Lands File* yielded negative results within the Planning Area. However, according to the NAHC, the Planning Area is considered generally sensitive for cultural resources, and the absence of specific resources information in the *Sacred Lands File* does not preclude the presence of Native American cultural resources in the Planning Area.

The NAHC provided the City with a list of 13 California Native American tribes to contact in accordance with SB 18. Of the 13 tribes contacted by the City, the Agua Caliente Band of Cahuilla Indians and the San Manuel Band of Mission Indians responded. The tribal contacts did not identify any cultural resources in the Planning Area, but requested drafts of the proposed General Plan policies (which were provided) and the cultural resources section of the EIR once prepared (see Appendix E for related materials).

### **Paleontological Resources**

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 paleontological finds to occur in remaining, unexcavated open space areas within and adjacent to the City of Redlands. 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. Paleontological resources have been identified in San Timoteo Canyon area in the past (Albright, 1999).

## **REGULATORY SETTING**

### **Federal Regulations**

#### ***National Historic Preservation Act and Section 106***

The intent of the National Historic Preservation Act is to preserve historic and archaeological sites across the United States. The Act solidified the role of the National Parks Service as lead agency in the historic preservation program and created cooperative partners in the process, including the Advisory Council on Historic Preservation, State Historic Preservation Offices, and Tribal Historic Preservation Offices. Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their actions on historic properties. The goal of the Section 106 process is to identify historic properties potentially affected by the action in question, assess the effects, and

provide ways to avoid, minimize, or mitigate any adverse effect that may occur to a historic property.

### **National Register of Historic Places**

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. Resources listed in the National Register are automatically listed in the California Register. The criteria are:

- Property is associated with events that have made a significant contribution to the broad patterns of our history
- Property is associated with the lives of persons significant in our past. Eligible properties based on this criterion are generally those associated with the productive life of the individual in the field in which it achieved significance
- Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction
- Property has yielded, or is likely to yield, information important to prehistory or history.

In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey historic significance. The register has identified the following seven aspects of integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association. Properties are nominated to the register by the State Historic Preservation Officer of the state in which the property is located, by the Federal Preservation Officer for properties under federal ownership or control, or by the Tribal Preservation Officer if on tribal lands.

Listing in the NRHP provides formal recognition of a property's historic, architectural, or archeological significance based on national standards used by every state. Once a property is listed on the NRHP, it becomes searchable in the NRHP's database of research information. Documentation of a property's historic significance helps encourage preservation of the resource. Listing in the NRHP provides incentives to property owners such as: federal preservation grants for planning and rehabilitation federal investment tax credits, preservation easements to nonprofit organizations, international building code fire and life safety code alternatives, state tax benefits, and grant opportunities. The Federal Tax Incentive Program encourages private sector rehabilitation of historic buildings and is a successful and cost-effective community revitalization program, which generates jobs and creates moderate and low-income housing in historic buildings. Listing does not lead to public acquisition or require public access. In addition, listing does not place any obligations on the private property owners; and there are no restrictions on use, treatment, transfer, or disposition of private property.

### ***The Certified Local Government (CLG) Program***

The 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 2017, Redlands is a Certified Local Government.

### ***National Environmental Policy Act***

The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970. NEPA created an environmental review process requiring federal agencies to consider the effects of their actions on the environment. Under NEPA, all federal agencies must carry out their regulations, policies, and programs in accordance with NEPA's policies for environmental protection, including project compliance with Section 106 of the National Historic Preservation Act, as previously discussed.

### ***National Native American Graves Protection and Repatriation Act***

The Native American Graves Protection and Repatriation Act (NAGPRA) was passed in 1990 to provide for the protection of Native American graves. The act conveys to Native American's of demonstrated lineal descent, the human remains, including the funerary or religious items, that are held by federal agencies and federally supported museums, or that have been recovered from federal lands. NAGPRA makes the sale or purchase of Native American remains illegal, whether or not they were derived from federal or Native American lands.

## **State Regulations**

### ***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, 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.

### ***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 Public Library and the San Bernardino Asistencia (Table 3.8-1). Resources listed as California Historical Landmarks are automatically listed in the California Register.

#### ***California Points of Historical Interest***

In addition to Landmarks, the Study Area contains California Points of Historical Interest, which are sites, buildings, features, or events of local (city or county) significance, having 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 Study Area (Table 3.8-1). 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 designated as both a Landmark and a Point; if a Point is subsequently granted status as a Landmark, the Point designation will be retired (California OHP).

#### ***California Environmental Quality Act***

A “historical resource” includes, but is not limited to, any object, building, site, area, place, record, or manuscript that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. CEQA mandates that lead agencies consider a resource “historically significant” if it meets the criteria for listing in the California Register of Historic Resources (California Register). Such resources meet this requirement if they (1) are associated with events that have made a significant contribution to the broad patterns of California history, (2) are associated with the lives of important persons in the past, (3) embody distinctive characteristics of a type, period, region, or method of construction, and/or (4) represent the work of an important creative individual or possesses high artistic value. These criteria mimic the criteria utilized to determine eligibility for the National Register.

In addition, Public Resources Code Section 21083.2 and *CEQA Guidelines* Section 15064.5(f) recognize that historical or unique archaeological resources other than potential Native American burials may be accidentally discovered during project construction. This guideline recommends that immediate evaluation defined by qualified archaeologists be included in mitigation measures. This guideline also recommends that if the find is determined to be a historical or unique archaeological resource, that contingency funding and time allotments sufficient to allow for implementation and avoidance measures be available.

#### ***California Government Code Section 65040.2(g)***

California Government Code Section 65040.2(g) provides guidelines for consulting with Native American tribes for the following: (1) the preservation of, or the mitigation of impacts on places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code; (2) procedures for identifying through the Native American Heritage Commission (NAHC) the appropriate California Native American tribes; (3) procedures for continuing to protect the



confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects; and (4) procedures to facilitate voluntary landowner participation to preserve and protect the specific identity, location, character, and use of those places, features, and objects.

### **Senate Bill 18 (SB 18)**

Signed into law in September 2004, and effective March 1, 2005, SB 18 permits California Native American tribes recognized by the California Native American Heritage Commission (NAHC) to hold conservation easements on terms mutually satisfactory to the tribe and the landowner. The term “California Native American tribe” is defined as “a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC.” The bill also requires that, prior to the adoption or amendment of a city or county’s general plan, the city or county consult with California Native American tribes for the purpose of preserving specified places, features, and objects located within the city or county’s jurisdiction. SB 18 also applies to the adoption or amendment of specific plans. This bill requires the planning agency to refer to the California Native American tribes specified by the NAHC and to provide them with opportunities for involvement.

As previously stated, the City contacted the NAHC in July of 2016 to request a search of its *Sacred Lands File* and to obtain a list of California Native American tribes whom the City would engage for the purposes of avoiding, protecting, and/or mitigating impacts on cultural resources pursuant to SB 18. The *Sacred Lands File* yielded negative results within the Planning Area, which nevertheless is considered generally sensitive for cultural resources.

The NAHC provided the City with a list of 13 California Native American tribes to contact in accordance with SB 18. Of the 13 tribes contacted by the City, the Agua Caliente Band of Cahuilla Indians and the San Manuel Band of Mission Indians responded. The tribal contacts did not identify any known tribal cultural resources in the Planning Area.

### **Assembly Bill 52 (AB 52)**

This bill, passed in 2014, establishes a consultation process with all California Native American Tribes on the Native American Heritage Commission List and federally non-recognized tribes. It establishes a new class of resources: tribal cultural resources, and consideration is now given to Tribal Cultural Values in the determination of project impacts and mitigation. It requires Tribal notice and meaningful consultation [PRC 21080.3.2(b)]. Consultation ends when either Parties agree to mitigation measures or avoid a significant effect on tribal cultural resources. In preparation of the proposed General Plan, local Native American tribes were contacted and two tribes consulted, pursuant to AB 52 and invited to participate in the General Plan review process.

Tribes must submit a written request to the lead agency requesting to be notified of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe. (§21080.3.1(b)(1)). The Lead agency must submit written notification to the tribe that requested notification within 14 days of determining that an application for a project is complete – notification must include project description and proposed location. (§21080.3.1(d)). Tribes must submit written response within 30 days of receiving notification requesting consultation. Tribes must designate a lead contact person. If no designation, or if a tribe designates multiple lead

contacts, the lead agency shall consult with Native American Heritage Commission's SB 18 list contact person. (§21080.3.1(b)(2)). Consultation shall begin prior to the release of the environmental document. (§21080.3.1(b)). Consultation shall include discussion regarding alternatives, recommended mitigation measures, or significant effects, but only if the tribe requests consultation regarding these issues. (§21080.3.2(a)).

Consultation may include discussion concerning the type of environmental review necessary (in circumstances where consultation begins prior to that determination), the significance of tribal cultural resources, the significance of a project's impacts on tribal cultural resources, and, if necessary, project alternatives or mitigation measures. (§21080.3.2(a)). Any mitigation measures agreed upon during consultation must be recommended for inclusion in the environmental document. (§21082.3 (a)). Consultation shall be concluded when either occurs (§21080.3.2(b)):

- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- b. A party, acting in good faith and after reasonable effort, concludes that a mutual agreement cannot be reached.

A "tribal cultural resource" is one of the following (§21074):

- a. A site, feature, place, cultural landscape, sacred place, and object with cultural value to the tribe that is either (1) included or determined to be eligible for inclusion in the California Register of Historical Resources or (2) included in a local register of historical resources; or
- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying these criteria, the lead agency must consider the significance of the resource to a California Native American tribe.

As previously stated, no tribal cultural resources are known to exist in the Planning Area; neither of the tribes that contacted the City pursuant to notification identified any resources. The two tribes did request drafts of relevant General Plan policies and sections of the EIR once prepared.

### **California Public Resources Code**

Sections 5097–5097.6 of the California Public Resources Code outline the requirements for cultural resource analysis prior to the commencement of any construction project on state lands. The state agency proposing the project may conduct the cultural resource analysis or they may contract with the State Department of Parks and Recreation. In addition, this section stipulates that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. It prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands and provides for criminal sanctions. This section was amended in 1987 to require consultation with the California NAHC whenever Native American graves are found. Violations for the taking or possessing remains or artifacts are felonies.

The Public Resources Code Section 5097.9-991, regarding Native American heritage, outlines protections for Native American religion from public agencies and private parties using or occupying public property. Also protected by this code are Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property.

### **California Health and Safety Code**

The California Health and Safety Code Section 7050.5 states that if human remains are discovered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. This regulation is applicable to any project where ground disturbance would occur. Section 7052 of the California Health and Safety Code makes the willful mutilation, disinterment, or removal of human remains a felony.

### **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 Nov. 20, 2012.

### **Local Regulations**

#### **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 1976, 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. Local, State, and national historic resources mapped in the city include the area surrounding Downtown and Colony, where the city's historic resources are more highly concentrated.

#### **Historic and Scenic Preservation Ordinance**

The City of Redlands adopted a Historic and Scenic Preservation Ordinance in 1986 to strengthen historic resource protection in Redlands. The ordinance is included as Chapter 2.62 of the Municipal Code. The ordinance gives authority to the Historic and Scenic Preservation Commission to make recommendations, decisions, and determinations regarding the designation, preservation, protection, and enhancement of historic resources. The Commission also has the authority to deny demolition, except in cases of proven hardship, and to designate without owner consent. In addition, the provisions of Redlands' design guidelines apply to any kind of alteration, enhancement, or demolition to historic landmarks, historic properties, and historic and/or scenic districts and are subject to the review of the City in accordance with the ordinance.

### **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.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

The City of Redlands has not established local CEQA significance thresholds as described in §15064.7 of the State CEQA Guidelines. For this reason, this EIR incorporates the CEQA checklist included in Appendix G of the State CEQA Guidelines to determine the significance of environmental impacts. The following thresholds of significance regarding potential impacts on cultural resources are based on Appendix G of the CEQA Guidelines. Implementation of the Proposed Project would have a significant impact related to cultural resources if it would:

- Criterion 1:** Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Criterion 2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Criterion 3:** Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
- (a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
  - (b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
- Criterion 4:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Criterion 5:** Disturb any human remains, including those interred outside of formal cemeteries.

A substantial adverse change, as defined by CEQA Guidelines Section 15064.5(b), means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings

such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, Association of Environmental Professionals 2014 CEQA Guidelines 134 unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

## **METHODOLOGY AND ASSUMPTIONS**

The analysis of potential cultural resources impacts is based upon a comprehensive records search and sensitivity assessment (Appendix C) conducted at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton, and at the Eastern Information Center (EIC), located at the University of California Riverside. The records search included a review of all recorded historic and prehistoric cultural resources within one mile of the City and its Sphere of Influence (SOI) as well as a review of known cultural resources survey and excavation reports. In addition, the California State Historic Property Data File (HRI), which includes the National Register of Historic Places (National Register), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and various local historic registers and historic maps, was examined. The analysis also included a search of the NAHC *Sacred Lands File*, consultation with the Agua Caliente Band of Cahuilla Indians and the San Manuel Band of Mission Indians, review of City of Redlands documents and figures, as well as federal and State regulations, and analysis of proposed General Plan goals, policies, and actions relative to future growth on vacant land within the Planning Area over the next 20 years.

## **SUMMARY OF IMPACTS**

Implementation of the Proposed Project could result in impacts on cultural resources in the Planning Area, including historical, archaeological, tribal cultural, and paleontological resources. While the Proposed Project itself would not result in any direct impacts on these resources, activities related to future development allowed by the proposed General Plan could cause substantial adverse changes to cultural resources, as defined by CEQA Guidelines Section 15064.5, if not properly controlled. Such activities include grading, excavation, overland vehicle travel, and other ground-disturbing activities, and the facilitation of public access to sensitive sites. The proposed Climate Action Plan (CAP) contains no land use changes or other measures that would affect cultural resources and would therefore have no impact. Various policies included in the

proposed General Plan serve to protect cultural resources by enabling access to information, establishing procedures to assess and plan for the potential discovery of resources prior to project approval, and promoting consultation with the Planning Area's Native American tribal groups. With implementation of the proposed General Plan's policies and adherence to federal, State, and local laws regarding cultural resources, the impact would be reduced to less than significant.

## **IMPACTS**

### **Impact 3.8-1 Implementation of the Proposed Project could cause an adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. (Less than Significant)**

Implementation of the proposed General Plan would not directly result in the destruction of, or damage to, historical resources; however, future development and redevelopment permitted under the proposed General Plan could result in changes that affect historic resources. Changes could include demolition, seismic retrofitting, and accidents caused by nearby construction. The impact of such activities would be considered significant if they were to cause a substantial adverse change to the historical resources as defined by CEQA Guidelines Section 15064.5.

At the time development or redevelopment projects are proposed, the project-level CEQA document would need to identify potential impacts on known or potential historic sites and structures. The CEQA Guidelines require a project that will have potentially adverse impacts on historical resources to conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties. The Redlands Historic and Scenic Preservation Ordinance offers additional protections to historic resources by giving the City the authority to make recommendations, decisions, and determinations regarding the designation, preservation, protection, and enhancement of historic resources, including the authority to deny demolition, except in cases of proven hardship.

Additionally, the proposed General Plan includes goals and policies that would minimize or avoid impacts on historical resources by requiring the protection and preservation of such resources. Proposed policies seek to recognize historic resources within the Planning Area in a manner that fosters the preservation of historic character in the area's structures and neighborhoods. Proposed policies also establish development procedures and incentives that promote historic preservation. The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on any historical resources. Thus, with implementation of proposed General Plan principals and actions, and adherence to federal, State, and local regulations, potential impacts on historical resources from future development within the Planning Area would be reduced to less than significant levels.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Distinctive City Element*

#### **Cultural Resources 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 reversion to their original use where feasible. Encourage sensitive, adaptive reuse where the original use is no longer feasible.
- 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.

### **Cultural Resources 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.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.

- 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.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.



*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 pursuing funding programs to assist people in doing needed repairs by requiring code compliance, encouraging proactive code enforcement, and providing information to homeowners as to how to maintain their property and where to go for assistance and advice.

*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.
- 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.
- 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.
- 2-A.58 Encourage involvement of Redlands' schools, adult education classes, and the University of Redlands 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.70 Encourage preservation of historic public and private improvements, such as street curbs, street trees, specimen trees, street lights, hitching posts, masonry walls, unpaved and early paved sidewalks, etc.

**Mitigation Measures**

None required.

**Impact 3.8-2 Implementation of the Proposed Project could cause an adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. (Less than Significant)**

The records search conducted for the General Plan update indicated the presence of 11 area prehistoric resources within one mile of the Planning Area. The prehistoric resources include habitation areas, artifact scatters, bedrock milling sites, and isolated artifacts. As the records search area has not been 100 percent studied and there are areas within the Planning Area that have never been examined or researched, there is potential for new archaeological resources to be discovered in the future.

Future development projects or public works activities allowed under the proposed General Plan may involve grading, excavation, overland vehicle travel, or other ground-disturbing activities, or could facilitate public access to archaeological sites, which could disturb or damage unknown archaeological resources. The impact of such activities would be considered significant if they were to cause a substantial adverse change to the archaeological resources as defined by CEQA Guidelines Section 15064.5.

Although implementation of the proposed General Plan may result in actions that could adversely affect archaeological resources, policies in the proposed General Plan would minimize or avoid impacts by requiring the protection and preservation of such resources. In accordance with Public Resources Code Section 21083.2 and CEQA Guidelines Section 15064.5(f), which recognize that historical or unique archaeological resources may be accidentally discovered during project construction, proposed General Plan Action 2-A.74 would require that areas identified to contain historical or unique archaeological resources be evaluated of by a qualified archaeologist for implementation of avoidance or appropriate mitigation measures, pursuant to CEQA Guidelines Section 15064.5(f). Additional proposed policies would serve to ensure the availability of information regarding archaeological resources in the Planning Area in order to allow the avoidance of negative impacts on known resources, as well to ensure the development of appropriate mitigation and monitoring procedures for projects on sensitive sites. The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on any archaeological resources. With implementation of the identified proposed General Plan

principals and actions, potential impacts on archaeological resources from future development within the city would be reduced to less than significant levels.

**Proposed General Plan Policies that Reduce the Impact**

*Distinctive City Element*

**Cultural Resources Principles**

- 2-P.17 Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values.

**Cultural Resources Actions**

*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 Central 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 tribal cultural resources at development sites.

**Mitigation Measures**

None required.

**Impact 3.8-3 Implementation of the Proposed Project could cause an adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:**

- (a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or**
- (b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (*Less than Significant*)**

There are no known tribal cultural resources in the Planning Area. However, the Planning Area has the potential to contain tribal cultural resources from past Native American activities. Sensitive areas include lands along water sources—though there is potential that resources near waterways have been disturbed over time by alluvial processes and flooding—and the many rock outcroppings and boulders in upland portions of the Planning Area. Thus, it is possible that future development in the Planning Area could encounter tribal cultural resources.

Implementation of the proposed General Plan would not directly result in physical construction that could impact tribal cultural resources. However, future development allowed under the proposed General Plan could result in direct or indirect impacts through grading, overland vehicle travel, or other ground-disturbing activities, or through facilitation of access to archaeological sites by the public. The impact of such activities would be considered significant if they were to cause a substantial adverse change to the resources as defined by CEQA Guidelines Section 15064.5.

Policies in the proposed General Plan would minimize or avoid potential impacts to any resources not known at this time that may be encountered in future, and would promote consultation with local Native American tribal groups during future projects to ensure the protection of tribal cultural resources. Future development projects would also be subject to State and federal law regarding the protection of tribal cultural resources. The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on any tribal cultural resources. With implementation of the identified proposed General Plan principles and actions, and future Native American consultation required by State law for development projects, potential impacts on tribal cultural resources from future development within the city would be reduced to less than significant levels.

***Proposed General Plan Policies that Reduce the Impact***

Principle 2-P.17 and actions 2-A.71, 2-A.72, 2-A.73, and 2-A.74, as listed under Impact 3.8-2 above.

### **Mitigation Measures**

None required.

#### **Impact 3.8-4 Implementation of the Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant)**

Some portions of the city, especially in San Timoteo Canyon, are underlain by geologic formations that have yielded fossiliferous materials (Albright, 1999). It is possible that future development or public works activities within the city could cause significant impacts on these resources if they are disturbed during grading or excavation activities.

Implementation of the proposed General Plan would not directly result in physical construction that could impact paleontological resources. However, future development and redevelopment allowed under the proposed General Plan could result in direct or indirect impacts on paleontological resources. Construction activities such as grading, excavation, and ground-disturbing activities may result in the accidental destruction or disturbance of paleontological sites. However, the majority of development anticipated under the proposed General Plan would involve redevelopment of or new development within existing developed areas. Substantial excavation activities for installation of new infrastructure would be limited to new development in undeveloped areas; potential for this type of development does exist but is limited by the proposed General Plan. For example, in the proposed General Plan, undeveloped areas in San Timoteo Canyon are designated for land uses with extremely low development potential, including Resource Preservation, Open Space, and Parks/Golf Courses. Other undeveloped areas in the Planning Area's periphery, including the Santa Ana River Wash, Mentone, and Crafton, would be designated with low-density or open space uses as well. Thus, the likelihood of finding new or undiscovered paleontological resources would be limited. In addition, the proposed General Plan includes the policies listed below that would minimize or avoid impacts on paleontological resources, in addition to subsequent measures to be implemented as applicable. The proposed CAP does not include any land use changes or other strategies that would result in adverse effects on any paleontological resources. Compliance with the proposed General Plan policies would ensure that impacts on paleontological resources, sites, or unique geological features would be less than significant.

#### **Proposed General Plan Policies that Reduce the Impact**

Principle 2-P.17, as listed under Impact 3.8-2 above; as well as the following policies.

##### *Distinctive City Element*

#### **Cultural Resources Principles**

- 2-P.16 Work with local paleontologists to identify significant non-renewable paleontological resources.

#### **Archaeological and Paleontological Resources Actions**

- 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.

**Mitigation Measures**

None required.

**Impact 3.8-5 Development allowed by the Proposed Project would have the potential to disturb human remains, including those interred outside of formal cemeteries. (Less than Significant)**

Human remains, particularly those interred outside formal cemeteries, could be disturbed during grading, excavation, or other ground-disturbing activities associated with future development or redevelopment projects allowed under the proposed General Plan. The treatment of Native American human remains is regulated by Public Resources Code Section 5097.98, as amended by Assembly Bill 2641, which addresses the disposition of Native American burials, protects remains, and appoints the NAHC to resolve disputes. In addition, Health and Safety Code Section 7050.5 includes specific provisions for the protection of human remains in the event of discovery, including the following:

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
  - The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required; and
  - If the coroner determines the remains to be Native American:
    - The coroner shall contact the Native American Heritage Commission within 24 hours.
    - The Native American Heritage Commission (NAHC) shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
    - The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of,

with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code § 5097.98 (PRC § 5097.98), or

- Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further and future subsurface disturbance pursuant to PRC § 5097.98(e).
  - The NAHC is unable to identify a most likely descendant.
  - The most likely descendant is identified by the NAHC, fails to make a recommendation within 48 hours of being granted access to the site; or
  - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

This regulation is applicable to any project where ground disturbance would occur. Therefore, future private development and public works activities are required to comply with this existing State law.

Although the proposed General Plan does not include any goals or policies that directly address the disturbance of human remains, future development and redevelopment projects allowed under the proposed General Plan would be required to adhere to the laws and regulations discussed above and listed in the Regulatory Setting section. Therefore, impacts associated with the disturbance of human remains would be less than significant because existing laws and regulations would reduce the potential for encountering human remains and ensure the appropriate disposition of any human remains that are encountered. The proposed CAP does not include any land use changes or other strategies that would necessarily disturb human remains and would therefore have no impact.

### **Mitigation Measures**

None required.



## 3.9 Hydrology and Water Quality

This section addresses hydrology and water quality in the Planning Area, including surface water quality, stormwater runoff, groundwater supply and quality, and potential flood hazards.

### Environmental Setting

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The study area for this analysis includes the Planning Area and surrounding environments, including hydrological conditions and water sources upstream and downstream of the Planning Area.

#### PHYSICAL SETTING

Water resources are important not only for residents and businesses but also for sustainability of the natural environment. The Planning Area's natural waterways also contribute to the character of the community. Careful stewardship is critical to conserve and protect water resources, ensure water quality, manage stormwater, and create a more livable city. Water quality standards are established and enforced by the State and the Santa Ana Regional Water Quality Control Board (RWQCB). The RWQCB also issues general and individual National Pollutant Discharge Elimination System permits for certain activities, per the federal Water Pollution Control Act.

#### Climate

The Redlands area has a Mediterranean climate, with moderate to warm summers and mild winters. The average daily maximum temperature in August, the warmest month, is 96 degrees Fahrenheit, and the average minimum temperature in January and December, the coolest months, is 40 degrees. The area receives an average of 13 to 14 inches of rainfall annually (U.S. Climate Data, 2017).

#### Surface Water and Groundwater Hydrology

The Santa Ana River and its tributaries drain the southern portions of the eastern San Gabriel Mountains and the southern parts of the San Bernardino Mountains, as shown in Figure 3.9-1. From headwaters near Big Bear Lake in the San Bernardino Mountains, the flows descend into the San Bernardino Valley and recharge the largest underground water basin in the region, the Upper Santa Ana Valley Groundwater Basin. This basin is identified by the California Department of Water Resources as Basin 8-02; most of the Planning Area lies in the Basin's Bunker Hill Subbasin, identified as 8-02.06. The boundaries of Basin 8.02's subbasins are shown in Figure 3.9-1.

Surface and groundwater in the Upper Santa Ana River Basin flow through Prado Dam, at the head of the Santa Ana River Canyon several miles downstream of Redlands, and through Orange County where waters are diverted for recharge of the Orange County groundwater basin. From there, stormwater flows may reach the Pacific Ocean.

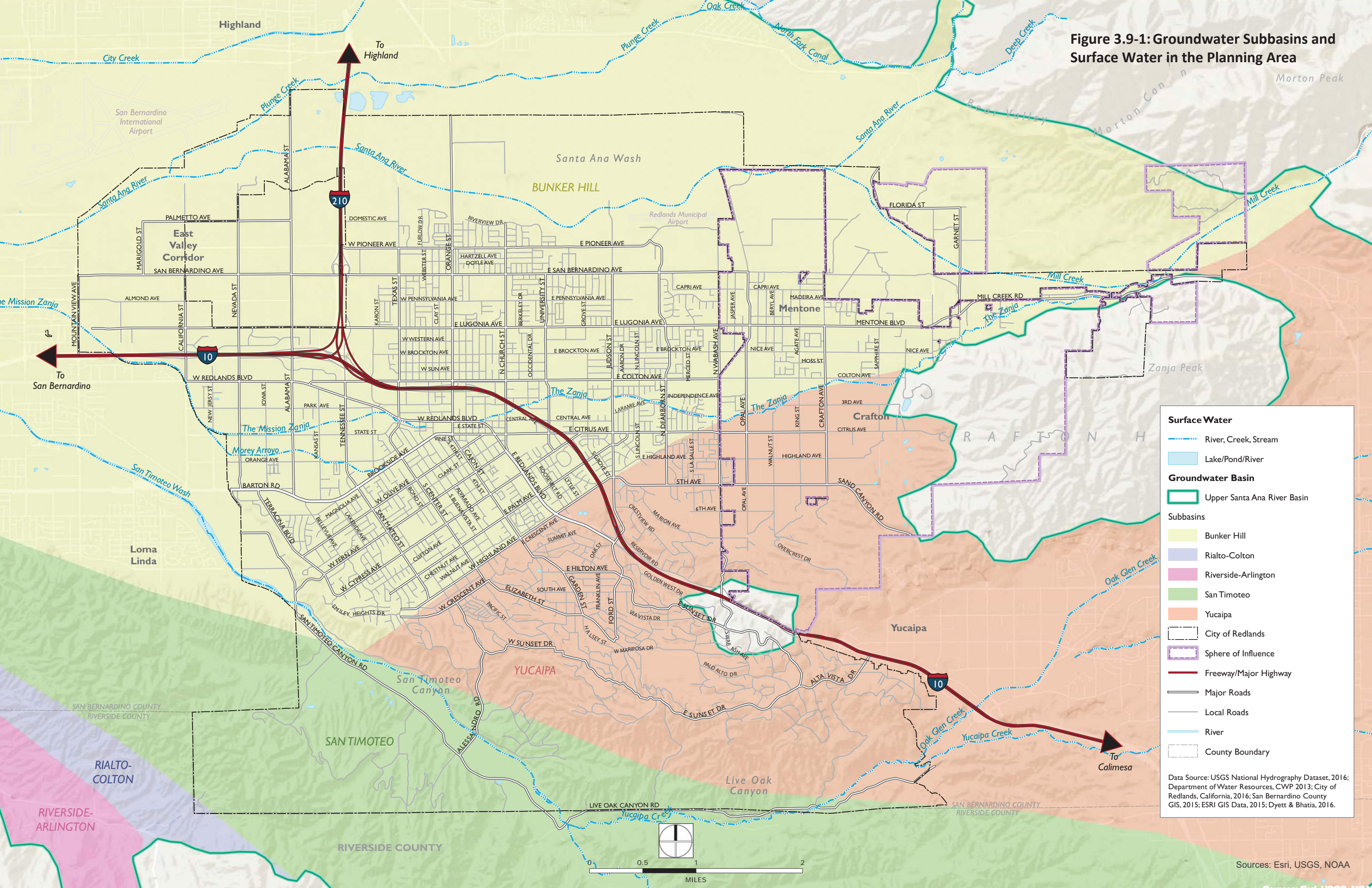
The Santa Ana River traverses the northern edge of the Redlands Planning Area. From the upper Santa Ana Canyon, the river hits a natural floodplain and becomes a broadened wash, up to two miles wide. This sandy wash is punctuated by numerous stream channels, many of which are dry for most of the year, and several percolation basins. The main channel of the river is located along the southern edge of the wash and flows are generally confined to a narrow channel within the riverbed. From the upper Santa Ana Canyon mouth to Prado Reservoir, the channel is alternately natural and improved as it passes through various undeveloped and developed areas. In addition to this significant feature, three other important drainage ways cross the Planning Area, flowing generally east to west.

Merging with the Santa Ana River in the northeast corner of the Planning Area north of Mentone is the Mill Creek channel. The flows of this natural-bottom channel are confined by levees where Mill Creek turns to the northwest and broadens to join the Santa Ana River.

The Zanja (known locally and in various reaches as the "Sankee," the Mill Creek Zanja, the Zanja/Mill Creek channels, and the Mission Zanja) splinters to the southwest of Mill Creek's main channel north of the Crafton Hills, and flows through the heart of the City, joining with the drainage of Morey Arroyo at New Jersey Street and Citrus Avenue. The Mill Creek Zanja watershed extends to the crest of the Crafton Hills, and thus accepts all the runoff from these hills. The Zanja becomes the Mission Zanja just before leaving the Planning Area in the west. After this journey above and below ground, through both natural-bottom and developed channels, the Mission Zanja finally joins the Santa Ana River west of Tippecanoe Avenue in San Bernardino. Native Americans carved and deepened the Zanja channel in the 1800s, and it is now recognized as a historic feature.

Yucaipa Creek drains Live Oak Canyon in the southeast corner of the Planning Area. Where Live Oak Canyon meets San Timoteo Canyon, the flows join, and continue their journey together towards the Santa Ana River. After leaving the confines of San Timoteo Canyon, the channel broadens to a wash, joining the Santa Ana River east of the Planning Area, in Loma Linda. San Timoteo Creek is partially improved and runs in a narrow channel for a five-mile reach through Loma Linda, before its confluence with the Santa Ana River.

**Figure 3.9-1: Groundwater Subbasins and Surface Water in the Planning Area**



**Surface Water**

- River, Creek, Stream
- Lake/Pond/River

**Groundwater Basin**

- Upper Santa Ana River Basin

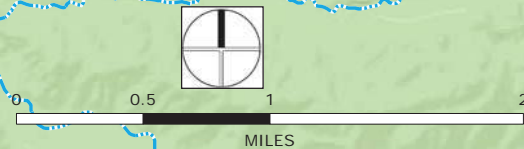
**Subbasins**

- Bunker Hill
- Rialto-Colton
- Riverside-Arlington
- San Timoteo
- Yucaipa

**Other Features**

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

Data Source: USGS National Hydrography Dataset, 2016; Department of Water Resources, CWP 2013; City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI GIS Data, 2015; Dyett & Bhatia, 2016.



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## Water Quality

### Surface Water

Stormwater runoff flows by gravity into the Mission Channel, Morey 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. The City’s stormwater management program is regulated by the NPDES stormwater permit, commonly known as MS4 permit, issued by the RWQCB. For details regarding the NPDES program, see the Regulatory Setting section below.

Most of the treated sewage generated in the Planning Area is eventually discharged to the Santa Ana River via the Redlands wastewater treatment plant on the south side of the Santa Ana River Wash at Nevada Street.

As discussed under *Clean Water Act* in the Regulatory Setting section below, the Clean Water Act’s Section 303(d) requires states, territories, and authorized tribes to develop a list of water-quality limited segments and their impairments for rivers and other water bodies under their jurisdiction. Table 3.9-1 shows the water bodies in the Upper Santa Ana River region that are listed on the State’s 303(d) list for water quality impairments.

**Table 3.9-1: 303(d) Listed Water Bodies in the Upper Santa Ana River Region**

Water Body	Impairments
Big Bear Lake	Mercury, Noxious Aquatic Plants, Nutrients, PCBs
Grout Creek	Nutrients
Knickerbocker Creek	Pathogens
Lytle Creek	Pathogens
Mill Creek, Reach 1	Pathogens
Mill Creek, Reach 2	Pathogens
Mountain Home Creek	Pathogens
Mountain Home Creek, East Fork	Pathogens
Rathbone (Rathbun) Creek	Cadmium, Copper, Nutrients, Sediment/ Siltation
Santa Ana River, Reach 6	Cadmium, Copper, Lead
Santa Ana River, Reach 4	Pathogens
Santa Ana River, Reach 3	Copper (wet weather only), Lead, Pathogens
Summit Creek	Nutrients

Source: Upper Santa Ana River Watershed Integrated Regional Water Management Plan, 2015.

### Groundwater

Groundwater consists of water within underground aquifers that is recharged from the land surface. The rate of groundwater recharge is affected by the permeability of the ground surface. The Planning Area is located within the Upper Santa Ana Valley Groundwater Basin boundaries. Contamination plumes containing high concentrations of trichloroethylene (TCE) and perchlorate have impacted water supply wells in the Planning Area. Both plumes are in the upper 300 to 400

feet of groundwater. Currently, water supply well concentrations of TCE are around 7 ppb. Perchlorate is present in water supply wells at concentrations up to 77 ppb.

As required by the Santa Ana Regional Water Quality Control Board (SARWQCB), the Lockheed Martin Corporation (Lockheed) has prepared contingency plans to address impacts of the plume on water supply wells. These include blending, treatment, and/or providing alternative water supply sources. The plumes are currently being captured by the City of Riverside's Gage Well Field. Lockheed has installed granular activated carbon treatment units at some of the gage wells to remove TCE and has installed ion exchange units on some of these wells for the removal of perchlorate (San Bernardino Valley Municipal Water District, 2015).

As discussed in Section 3.12, Utilities, of this EIR, the City's domestic water wells constitute about 50 percent of the water supply. However, 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 agricultural nitrates, and would require costly treatment if the wells were to be used for domestic purposes.

### **Flood Hazards**

Flooding has historically been a concern in the Planning Area, where moderate to heavy storms can overwhelm the area's drainages and intermittent waterways. Redlands is drained by four streams, each of which represents a potential flood hazard at peak flows: the Santa Ana River/Mill Creek, the Mill Creek Zanja (also known as Mission Zanja and Mission Storm Drain), San Timoteo Creek, and Live Oak Creek. The Santa Ana River/Mill Creek and the Mission Zanja pose particular flooding hazards to the Planning Area.

In 2014, the City of Redlands completed a Drainage Master Plan for the city and adjacent areas to provide comprehensive long-range planning for the implementation and development of drainage facility improvements. The Drainage Master Plan states that the main cause of flooding in the Planning Area is a lack of conveyance capacities in the Mission Zanja, Redlands Boulevard storm drain, and Oriental storm drain, which, along with the Carrot storm drain, confluence near the intersection of Redlands Boulevard and 9th Street in Downtown Redlands.

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. Recent flood control improvements, including the Seven Oaks Dam, Mill Creek levee renovation, and the San Timoteo Canyon channel and debris basins, have helped to reduce hazards to lives and property (City of Redlands, 2015).

**Flood Hazard Zones**

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRM) describing flood hazard zones for the Planning Area. As shown in Figure 3.9-2 and described in Table 3.9-1, areas prone to flooding are in the north, south, and central portions of the Planning Area. Areas with a 1-percent annual chance of flooding (commonly referred to as the 100-year floodplain) 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.

**Table 3.9-2: FEMA Floodplain Designations in the Planning Area (Zones)**

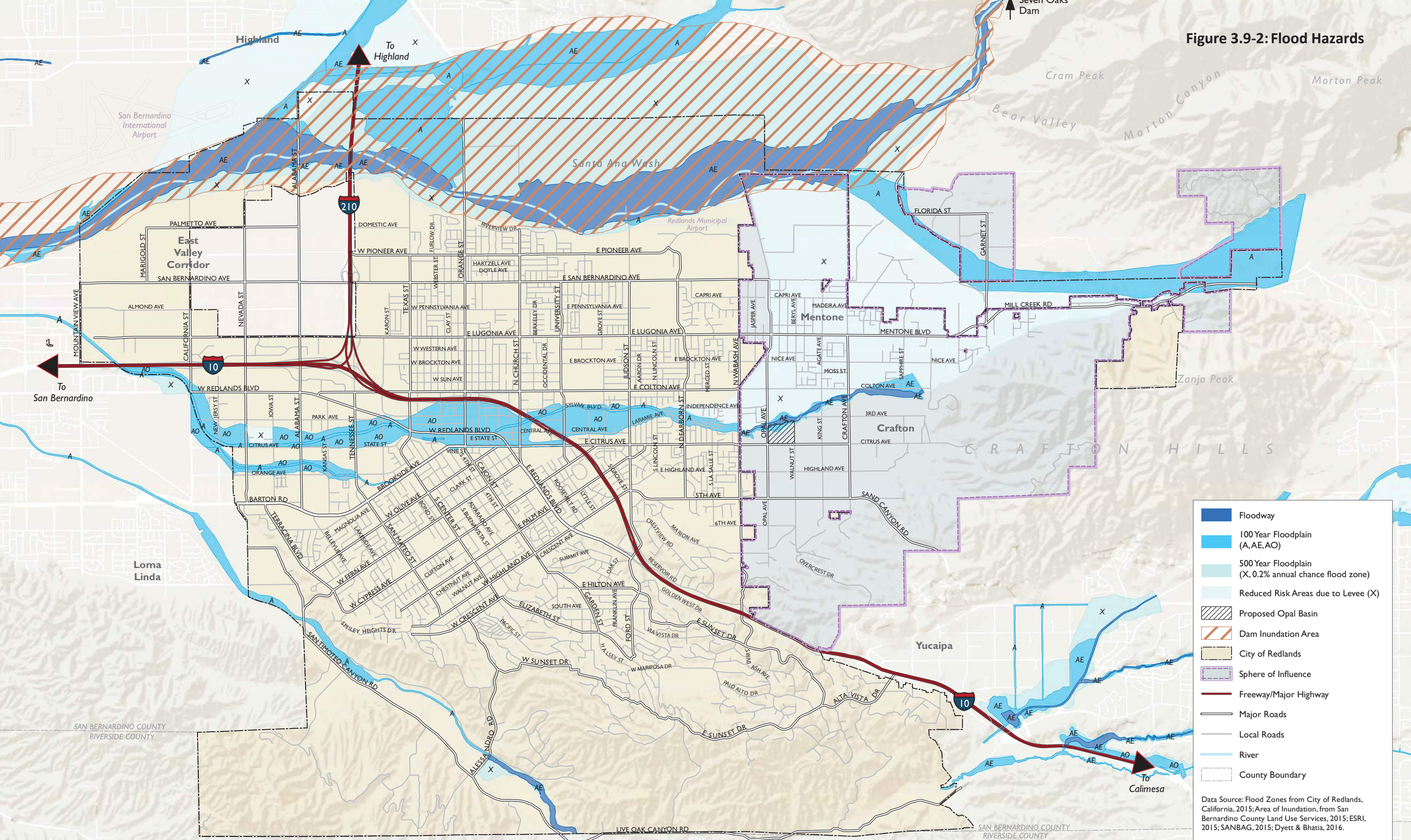
Zone	Description
<b>High Risk Areas</b>	
A	Areas subject to inundation by the 1-percent-annual-chance flood event (100-year flood) generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
AE	Areas subject to inundation by the 1-percent-annual-chance flood event (100-year flood) determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.  Some Zone AO have been designated in areas with high flood velocities such as alluvial fans and washes. Communities are encouraged to adopt more restrictive requirements for these areas.
<b>Moderate to Low Risk</b>	
X	X zones are moderate to minimal-risk areas where flood insurance is not mandatory. These include areas between the limits of the base flood and the 0.2-percent-annual-chance (500-year) flood, and areas outside the Special Flood Hazard Area and higher than the elevation of the 0.2-percent-annual-chance flood.

Source: FEMA, 2015.

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Figure 3.9-2: Flood Hazards



	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.



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### **Watersheds and Flooding Potential**

The City of Redlands generally drains from east to west to one of two main existing major flood control facilities: the Santa Ana River and the San Timoteo Channel. Several tributaries to these two facilities run through the city, including Mission Zanja, Reservoir Canyon Channel, and Mission Channel (RBF, 2014). The 2014 Drainage Master Plan divides the Planning Area into five watersheds or drainage areas, and describes the flooding potential for each as summarized below. Areas tributary to San Timoteo Creek were not modeled as part of the Drainage Master Plan. The Drainage Master Plan drainage areas are shown in Figure 3.9-3.

**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 with Redlands city limits to the west and the hills to the east. 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 have shown no cost-effective solutions. 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 during a major flood event.

**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 Interstate 10(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 primarily 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 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.”

### **Flood Hazard Control System**

The Planning Area’s flood control system consists of ultimate and interim channels, storm drains, levees, basins, and dams managed primarily by the San Bernardino County Flood Control District. The Flood Control District covers all of San Bernardino County, including both incorporated and

unincorporated areas. The Planning Area is primarily located in Flood Control Zone 3 of the district, which includes Redlands as well as the cities of Highland, Loma Linda, San Bernardino and Yucaipa, and the community of Mentone. The Flood Control District is one of the operators of the Seven Oaks Dam, which works in tandem with the Prado Dam 35 miles downstream to provide flood protection as part of the Santa Ana River Mainstem Project. The Seven Oaks Dam, in regulating the Santa Ana River, reduces some of the flood hazard in the North City Watershed as identified by the Drainage Master Plan, but would not impact flood potential in other parts of the city. Stormwater facilities maintained by the City of Redlands also manage flows during storm events, and are discussed in Section 3.14 Public Utilities of this report.

#### *Planned Improvements*

The following projects are currently planned to improve the flood control system as funding becomes available:

**Opal Basin.** The Opal Basin Project is also discussed in Section 3.14 Public Utilities. This project is to construct a multipurpose basin for flood control and groundwater recharge located at Citrus and Opal avenues to intercept peak flows from the Zanja system and tributaries to reduce the amount of flooding in the Downtown area. The proposed basin will protect Downtown Redlands in a 25-year flood event, reduce the Redlands 100-year flood zone by 60 percent, and reduce the anticipated 100-year peak flow of 3,200 cubic feet per second (cfs) by 600 cfs (California Department of Water Resources, 2010).

**9th Street Diversion Storm Drain.** This storm drain would intercept flows at 9th Street and Zanja and divert them to Texas Street to join Mission Creek, allowing them to bypass the Downtown area.

**Downtown Capacity Enhancements.** Local Downtown storm drains and laterals would also be improved to be sized for the recommended alternative for handling regional flow. Improvements would include eight facilities, with some replacing older conduits and some newly-added conduits, in the rights-of-way of segments of several Downtown Redlands streets.

#### ***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, is the closest dam upstream of the Planning Area. The Bear Valley Dam is located 13 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, as shown in Figure 3.9-2.

#### ***Seven Oaks Dam***

The closest existing dam upstream of the Planning Area is the Seven Oaks Dam, itself a flood control project that is part of the Santa Ana River Mainstem Project. Construction of the dam was completed in 2000 and it has a volume of 38 million cubic yards, though reservoir levels fluctuate seasonally. The dam was designed to withstand a maximum credible earthquake of Richter

magnitude 8+ (Mejia and Dawson, 2007). The north branch of the San Andreas Fault is located approximately one-half mile north of the dam site, and the south branch, one mile south.

#### *Bear Valley Dam*

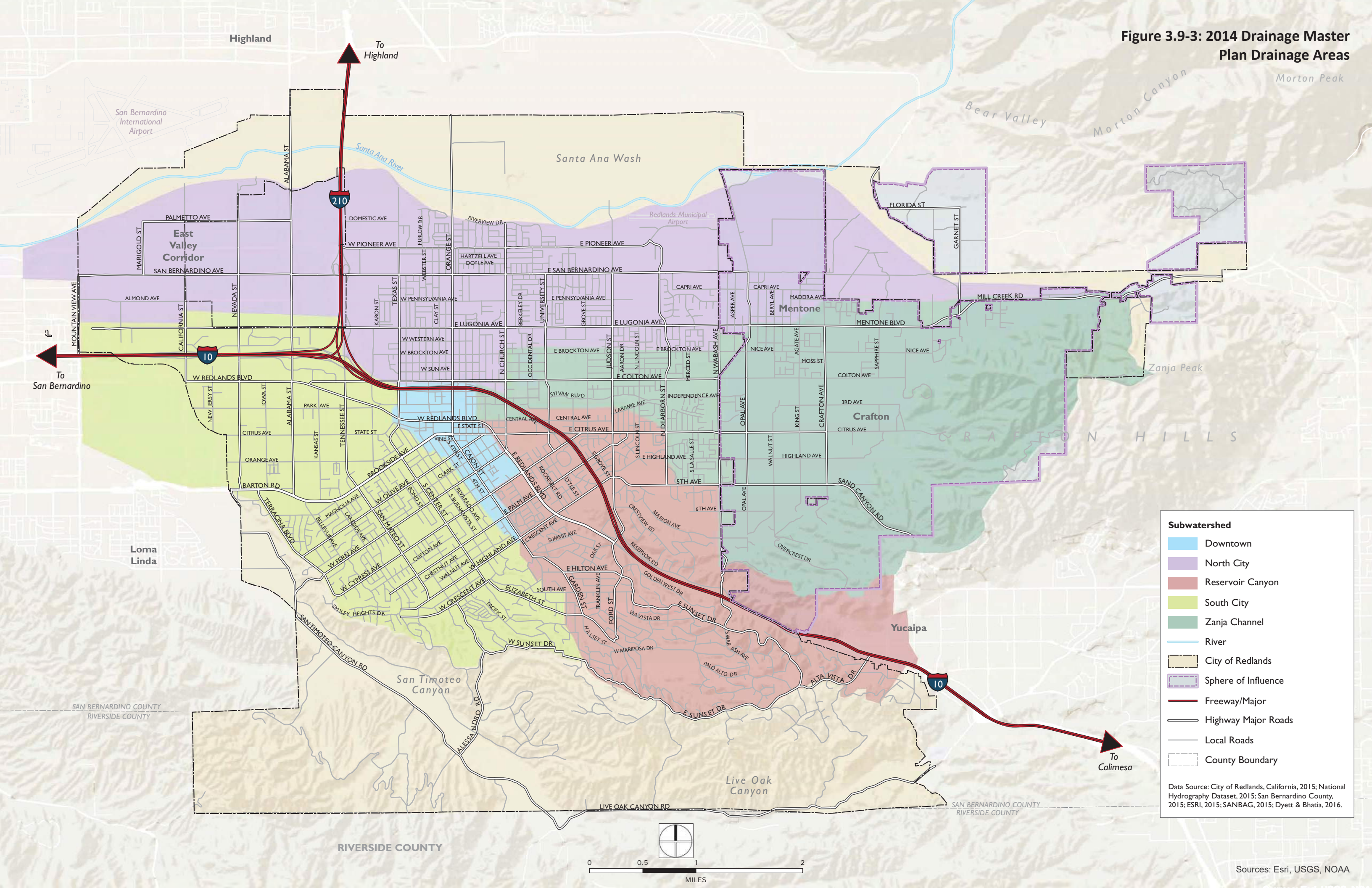
Drainage from the Bear Valley Dam and reservoir flows into Bear Creek, which joins the Santa Ana River approximately five miles north of Redlands. The reservoir is Big Bear Lake, which is used for recreation. The dam is located 13 miles northeast of the Planning Area. Construction of the dam was completed in 1912. In 1986, the Big Bear Water Management District was required to make seismic repairs to the dam, which were completed in 1989. Additional seismic repairs were initiated in 2005, and are ongoing as of this writing.

#### *Mill Creek Levee*

This levee protects the Mentone area. The County Flood Control District is working with the U.S. Army Corps of Engineers (USACE) on levee certification.

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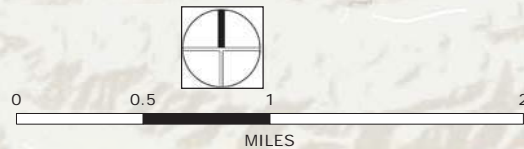
**Figure 3.9-3: 2014 Drainage Master Plan Drainage Areas**



**Subwatershed**

- Downtown
- North City
- Reservoir Canyon
- South City
- Zanja Channel
- River
- City of Redlands
- Sphere of Influence
- Freeway/Major
- Highway Major Roads
- Local Roads
- County Boundary

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



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## REGULATORY SETTING

### Federal Regulations

#### **Clean Water Act (CWA)**

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into “waters of the United States.” The Act specifies a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Some of these tools include:

- Section 303(d) – Total Maximum Daily Loads
- Section 401 – Water Quality Certification
- Section 402 – National Pollutant Discharge Elimination System Program
- Section 404 – Discharge of Dredge or Fill Material

**Section 303(d)** requires states, territories, and authorized tribes to develop a list of water-quality limited segments of rivers and other water bodies under their jurisdiction. These waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waters on the list and develop action plans, called Total Maximum Daily Loads (TMDL), to improve water quality. These are action plans designed to improve the quality of water resources. As part of the TMDL process, municipalities must examine the water quality problems and identify sources of pollutants in order to create specific actions designed to improve water quality.

**Section 401** requires every applicant for a federal permit or license for any activity that may result in a discharge to a water body to obtain a water quality certification that the proposed activity will comply with applicable water quality standards.

**Section 402** regulates point-source discharges to surface waters through the NPDES program. In California, the State Water Resources Control Board (SWRCB) oversees the NPDES program, which is administered by the Regional Water Quality Control Boards (RWQCBs). The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits. The NPDES program covers municipalities, industrial activities, and construction activities. The NPDES program includes an industrial stormwater permitting component that covers ten categories of industrial activity that require authorization under a NPDES industrial stormwater permit for stormwater discharges. Construction activities, also administered by the State Water Board, are discussed below. Section 402(p) of the federal Clean Water Act, as amended by the Water Quality Act of 1987, requires NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s), stormwater discharges associated with industrial activity (including construction activities), and designated stormwater discharges, which are considered significant contributors of pollutants to waters of the United States. On November 16, 1990, USEPA published regulations (40 CFR Part 122), which prescribe permit application requirements for MS4s pursuant to CWA 402(p). On May 17, 1996, the U.S. EPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal

Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s. MS4 permits include requirements for post-construction control of stormwater runoff in what is known as Provision C.3. The goal of Provision C.3 is for the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.

**Section 404** establishes a permit program, administered by USACE, to regulate the discharge of dredge or fill materials into waters of the U.S., including wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. CWA Section 404 permits are issued by USACE.

#### ***Federal Antidegradation Policy, 40 CFR 131.12***

The federal antidegradation policy is designed to protect existing water uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected;
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

#### ***National Toxics Rule and California Toxics Rule, 40 CFR 131***

In 1992, EPA promulgated the National Toxics Rule under the Clean Water Act to establish numeric criteria for priority toxic pollutants for 14 states to bring all states into compliance with the requirements of section 303(c)(2)(B) of the CWA. The National Toxics Rule established water quality standards for 42 pollutants not covered under California's statewide water quality regulations at that time. As a result of the court ordered revocation of California's statewide Basin Plans in September 1994, EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, EPA issued the California Toxics Rule, which includes all the priority pollutants for which EPA has issued numeric criteria not included in the National Toxics Rule.

### **Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA), administered by the U.S. EPA in coordination with the states, is the main federal law that ensures the quality of drinking water. Under the SDWA, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Department of Public Health administers the regulations contained in the SDWA in the State of California.

### **Regulations Covering Development in Floodplains**

#### *National Flood Insurance Program*

Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains.

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues Flood Insurance Rate Map (FIRMs) for communities participating in the NFIP.

#### *Executive Order 11988*

Executive Order 11988 directs federal agencies to avoid to the extent practicable and feasible short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Further, this Executive Order requires the prevention of uneconomic, hazardous, or incompatible use of floodplains; protection and preservation of the natural and beneficial floodplain values; and consistency with the standards and criteria of the National Flood Insurance Program (NFIP).

Federal Highway Administration regulations require that a local hydraulic study and risk assessment be performed where a planned facility or action would encroach on a base floodplain or support incompatible floodplain development. When the hydraulic study indicates significant encroachment, findings must be made that it is the only practicable alternative. The hydraulic study and risk assessment protocol are set forth in the Caltrans Highway Design Manual (Caltrans, 2010). This manual provides guidance and procedures whenever an encroachment permit is anticipated.

#### *Disaster Mitigation Act*

In 2000, FEMA adopted revisions to Title 44 of the Code of Federal Regulations (44 CFR). This revision is known as Disaster Mitigation Act (DMA). DMA 2000, Section 322 (a-d) requires that local governments, as a condition of receiving federal disaster mitigation funds, have a Hazard Mitigation Plan (HMP) that describes the process for assessing hazards, risks, and vulnerabilities, identifying and prioritizing mitigation actions, and engaging/soliciting input from the community (public), key stakeholders, and adjacent jurisdictions/agencies.

## **State Regulations**

### **Porter-Cologne Water Quality Control Act of 1969**

The Porter-Cologne Water Quality Control Act established the SWRCB and divided the state into nine regional basins, each with a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, while the regional boards are responsible for developing and enforcing water quality objectives and implementation plans. The Planning Area is within the jurisdiction of Santa Ana RWQCB.

The act authorizes the SWRCB to enact state policies regarding water quality in accordance with CWA 303. In addition, the act authorizes the SWRCB to issue WDRs for projects that would discharge to state waters. The Porter-Cologne Water Quality Control Act requires that the SWRCB or the Santa Ana RWQCB adopt water quality control plans (basin plans) for the protection of water quality. A basin plan must:

- Identify beneficial uses of water to be protected;
- Establish water quality objectives for the reasonable protection of the beneficial uses; and
- Establish a program of implementation for achieving the water quality objectives.

Basin plans also provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every three years in accordance with Article 3 of Porter-Cologne Water Quality Control Act and CWA 303(c). The local basin plans are described under *Local Regulations*, below.

### **Cobey-Alquist Floodplain Management Act**

The Cobey-Alquist Floodplain Management Act (California Water Code 8400-8415) and Executive Order B-39-77 give support to the National Flood Insurance Program. The Act encourages local governments to plan, adopt, and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet in order to receive State financial assistance for flood control. In 2002, the California Floodplain Management Task Force created and recommended a proposed revised Executive Order for the State's consideration.

### **California Water Code and Regional Water Quality Control Boards**

The California Water Code establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (i.e. Basin Plans), which set forth the State's water quality standards (i.e. beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. The Planning Area lies within the jurisdiction of the Santa Ana RWQCB, which has adopted the Water Quality Control Plan (Basin Plan) for the Santa Ana Region, to implement plans, policies, and provisions for water quality management (see discussion of basin plans under *Local Regulations*, below).

### **California Department of Public Health**

The Drinking Water Program, which regulates public water supply systems, is a major component of the State Department of Public Health Division of Drinking Water and Environmental

Management. Regulatory responsibilities include the enforcement of the federal and State Safe Drinking Water Acts, the regulatory oversight of public water systems, issuance of water treatment permits, and certification of drinking water treatment and distribution operators. State regulations for potable water are contained primarily within the Food and Agricultural Code, the Government Code, the Health and Safety Code, the Public Resources Code, and the Water Code. Regulations are from Title 17 and Title 22 of the California Code of Regulations.

The regulations governing recycled water are found in a combination of sources including the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations. Issues related to treatment and distribution of recycled water are generally under the influence of the RWQCB, while issues related to use and quality of recycled water are the responsibility of the California Department of Public Health.

### **State Water Quality Certification Program**

The RWQCBs also coordinate the State Water Quality Certification Program, or Section 401 of the CWA. Under Section 401, states have the authority to review any permit or license that will result in a discharge or disruption to wetlands and other waters under state jurisdiction, to ensure that the actions will be consistent with the state's water quality requirements. This program is most often associated with Section 404 of the CWA, which obligates USACE to issue permits for the movement of dredge and fill material into and from the "waters of the United States." Additionally, Section 404 requires permits for activities affecting wetlands. Prospective alterations of hydrologic features such as wetlands, rivers, and ephemeral creek beds resulting from construction require Section 404 permits.

### **Streambed Alteration Agreement**

The California Department of Fish and Wildlife (DFW) regulates streambed alterations in accordance with the California Fish and Game Code 1601–1616: Streambed Alterations. Whenever a project proposes to alter a streambed, channel, or bank, an agreement with DFW is required. The agreement is a legally binding document that describes measures agreed to by both parties to reduce risks to fish and wildlife in the stream system during the project. This is a separate process from California Environmental Quality Act (CEQA) approval but is usually coordinated with CEQA compliance.

### **California Construction Stormwater Permit**

The California Construction Stormwater Permit (Construction General Permit)<sup>1</sup>, adopted by the SWRCB, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges and all discharges that contain a hazardous substance in excess of reportable quantities established at

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<sup>1</sup> *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, National Pollutant Discharge Elimination System No. CAS000002.

40 Code of Federal Regulations 117.3 or 40 Code of Federal Regulations 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

The Construction General Permit requires that all developers of land where construction activities will occur over more than one acre do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the Nation;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

In order to obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all Permit Registration Documents with the SWRCB prior to the start of construction.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.

### **Construction Dewatering Permit**

The RWQCB construction dewatering permit is required for construction activities such as excavating and trenching in areas with shallow groundwater. Dewatering is regulated under state requirements for stormwater pollution prevention and control. Discharge of non-stormwater from an excavation or trench that contains sediments or other pollutants to water bodies is prohibited. Discharge of uncontaminated groundwater from an excavation or trench is a conditionally exempted discharge by the RWQCB. Since the removed water could be contaminated by chemicals released from construction equipment, disposal of this water would require permits either from the RWQCB for discharge to surface creeks or local agencies for discharge to sewers. Dewatering operations would require a NPDES permit, or an exemption, from the RWQCB, which would establish discharge limitations for specific chemicals, as applicable.

### **State Multi-Hazard Mitigation Plan**

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, including flooding hazards. The adoption of the SHMP qualifies the State of California for federal funds in the event of a disaster. The State is required under the Disaster Mitigation Act of 2000, described above, to review and update its SHMP and resubmit for FEMA approval at least once every 5 years to ensure the continued eligibility for federal funding. The SHMP provides goals and strategies which address minimization of risks associated with

natural hazards and response to disaster situations. The SHMP notes that the primary sources of losses in the State of California are fire and flooding.

### **Local Regulations**

#### ***Santa Ana Region Basin—Region 8, Water Quality Control Plan***

The Planning Area falls within the jurisdiction of Region 8 of the RWQCB. The Santa Ana Region Basin—Region 8, Water Quality Control Plan establishes water quality standards for compliance in the Santa Ana Region Basin. The RWQCB is also responsible for implementing the provisions of the General Permit, including reviewing SWPPPs and monitoring reports, conducting compliance inspections, and taking enforcement actions.

#### ***Upper Santa Ana River Watershed Integrated Regional Water Management Plan (IRWMP)***

The most current IRWMP was developed in 2015, and serves as an update to the previous IRWMP developed in 2007. The City was involved in developing and updating the IRWMP. Goals of the IRWMP include improving water supply reliability, balancing flood management and increasing stormwater recharge, improving water quality, and improving habitat and open space. Additionally, the IRWMP assesses the impacts and effects of climate change on flooding hazards.

#### ***San Bernardino County Municipal Stormwater Permit (MS4 Permit)***

As discussed above, the Clean Water Act amendments of 1987 established a framework for regulating stormwater discharges from municipal, industrial, and construction activities under the NPDES program. For the Planning Area, the program requires compliance with Municipal Permit Order No. R8-2010-0036, NPDES Permit No. CAS618036, issued by the California RWQCB, Santa Ana Region. Pursuant to the Municipal Permit issued by the Santa Ana RWQCB, co-permittees are required to develop and implement construction and permanent stormwater BMP regulations addressing stormwater pollution associated with private and public development projects. Development projects are also required to include BMPs to reduce pollutant discharges from the project site in the permanent design. The Municipal Stormwater Permit outlines the individual responsibilities of the co-permittees including, but not limited to, the implementation of management programs, BMPs, and monitoring programs, within their jurisdiction and their watershed(s). BMPs associated with the final design are described in the Model Standard Urban Stormwater Mitigation Plan. The County of San Bernardino requires a stormwater management plan to describe potential construction and post-construction pollutants and identify BMPs to protect water resources.

In addition, the RWQCB's MS4 permit requires control of hydromodification, or changes in the natural flow pattern (surface flow or groundwater) of an area due to development. Hydromodification can be managed by reducing runoff flow and volume, along with including BMPs that reduce volume.

#### ***City of Redlands Zoning Ordinance***

The Redlands Zoning Ordinance implements the policies of the General Plan. It contains provisions to mitigate potential hazards on floodplains. Chapter 18.136 establishes the Floodplain District (FP), which prohibits occupancy or encroachment of any structure or development that

would obstruct the natural flow of floodwaters within a designated floodway; ensure that developments in the floodplain outside of the floodway remain above the design flood flow elevation; and to prevent economic loss of loss of life or property from excessive flooding. Chapter 18.138 establishes the Hillside Development District (HD), an overlay that addresses numerous risks to development on the city's hillsides. Objectives of the HD district include minimizing flood hazards, runoff, and soil erosion incurred from development of hillsides and providing safe vehicular circulation. The Zoning Ordinance would likely be revised to implement the General Plan Update.

#### **City of Redlands Well Drilling Ordinance**

The City of Redlands Municipal Code, Chapter 13.42, requires that permit applications for well drilling include important factors related to hydrology and water quality such as approximate drainage patterns of the surrounding property, location and classification of any past or present hazardous waste disposal sites within 2 miles of the proposed well, and the proposed or probable depth of the well. The Ordinance also sets minimum distances that wells must be from potential sources of contamination such as sewers, septic tanks, and cesspools.

#### **City of Redlands Pretreatment and Regulation of Wastes Ordinance**

Surface water quality is protected in part by the City of Redlands Municipal Code, Chapter 13.52, which requires water users to remove certain pollutants from wastewater prior to discharging into the public sewer or to the public treatment facility. Without this pretreatment, water quality of surface flows could ultimately be compromised, since the City's wastewater treatment facility is not equipped to handle industrial pollutants.

#### **City of Redlands Storm Drains Ordinance**

The City of Redlands Municipal Code, Chapter 13.54, eliminates all non-permitted discharges to Redlands storm sewers, controls the discharge to Redlands storm sewers from spills, prohibits dumping or disposal of materials other than stormwater, and reduces pollutants in stormwater discharges to the maximum extent practicable. This ordinance also requires all commercial, industrial, and construction sites that employ pollution prevention BMPs to submit a yearly report to the City's Municipal Utilities and Engineering Department detailing inspection dates, any maintenance performed, and any repairs that were made to the BMPs. The report shall also include a summary of the effectiveness of the BMPs used. The report must be prepared and signed by a California registered engineer; a professional hydrologist as certified by the American Institute of Hydrology; a certified professional in erosion and sediment control; a certified professional in stormwater quality; or a certified erosion, sediment, and stormwater inspector.

#### **City of Redlands Flood Damage Prevention Ordinance**

The City of Redlands Municipal Code, Chapter 15.32, minimizes public and private losses due to flood conditions in areas of special flood concern by establishing requirements and restrictions designed to protect human life and health, minimizes expenditure of public money for costly flood control projects and damage to public facilities and utilities, minimizes the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public, maintains a stable tax base by providing for the sound use and development of areas of special hazards so as to minimize future flood blight areas, and ensures that potential buyers are notified



that property is in an area of special flood hazard. The ordinance requires greater detail in development permit applications in areas of special flood concern to enforce more stringent approval standards.

### ***City of Redlands Hazard Mitigation Plan***

The City of Redlands adopted a Hazard Mitigation Plan (HMP) in 2015 to comply with the Disaster Mitigation Act of 2000 to increase disaster planning funding. 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.

The City of Redlands has adopted Ordinances 2639 and 2485 that require the emergency services chief to be responsible for the development and update of the City of Redlands HMP. The HMP shall provide for the effective mobilization of the city's resources, both public and private, to meet any condition constituting a local emergency, state of emergency, or state of war emergency. The HMP provides a well-organized public education and awareness effort involving preparedness and mitigation. These actions include hazard, risk and vulnerability identification, the identification of mitigation action, and the support of mitigation efforts. The emergency multi-hazard functional plan shall take effect upon adoption by resolution of the City Council (City of Redlands Municipal Code Title 2 – Administration and Personnel Chapter 2.52.150 – Emergency Organization Ordinance).

### ***San Bernardino County General Plan***

The 2007 San Bernardino County General Plan, which applies to unincorporated portions of the county, contains a Safety Element that aims to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from flooding, erosion, and hazardous waste. Policies seek to minimize potential risks through education, information provision, and emergency preparedness; protect people and property from flooding and other natural and man-made disasters; provide adequate emergency evacuation and access; and provide a Hazard Mitigation Plan.

### ***San Bernardino County Development Code***

The San Bernardino County Development Code includes provisions for a Floodplain Safety (FP) Overlay district. The FP district is intended to promote safety and minimize losses by establishing regulations for development and construction within flood prone areas.

## Impact Analysis

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### **SIGNIFICANCE CRITERIA**

Implementation of the Proposed Project would have a potentially significant adverse impact if it would:

- Criterion 1:** Violate any federal, state, or local water quality standards or waste discharge requirements.
- Criterion 2:** Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of local groundwater tables.
- Criterion 3:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or by increasing the rate or amount of surface runoff, in a manner that would result in substantial erosion, siltation, or flooding on- or off-site.
- Criterion 4:** Create or contribute runoff that would exceed the capacity of existing or planned storm drain systems, or that would provide substantial additional sources of polluted runoff.
- Criterion 5:** Otherwise substantially degrade water quality.
- Criterion 6:** Place housing within a 100-year flood hazard area on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Criterion 7:** Place within a 100-year flood hazard area structures which would impede or redirect flood waters.
- Criterion 8:** Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Criterion 9:** Expose people or structures to inundation by seiche, tsunami, or mudflow.

### **METHODOLOGY AND ASSUMPTIONS**

Potential impacts on surface and groundwater quality and the potential risk of flooding resulting from implementation of the Proposed Project were evaluated based on relevant information from FEMA, San Bernardino County, and the City of Redlands. Programmatic impacts are discussed in broad, qualitative terms. This assessment does not satisfy the need for project-level California Environmental Quality Act (CEQA) analysis for individual projects.

## IMPACT SUMMARY

Future development under the proposed General Plan could result in impacts on water quality, hydrology, flooding, or other inundation hazards; however, federal, State, and local regulations, as well as policies in the Proposed Project would ensure that impacts would be less than significant. Compliance with the IRWMP would ensure water quality standards are not violated and would ensure protection of water quality during construction and operation of future development within the city. In addition, the Proposed Project goals and policies would further reduce any potential impacts by ensuring compliance with the City's NPDES permit, Well Drilling Ordinance (Municipal Code Chapter 13.42), Pretreatment and Regulation of Wastes Ordinance (Municipal Code Chapter 13.52), and Storm Drains Ordinance (Municipal Code Chapter 13.54). Potential flooding impacts would be avoided through compliance with the City's Flood Damage Prevention Ordinance (Municipal Code Chapter 15.32) and the proposed General Plan goals and policies, which restrict or prohibit land uses considered unsafe in a floodplain. The proposed Climate Action Plan (CAP) does not include any land use changes that would affect hydrology or water quality, though greenhouse gas reductions resulting from the proposed CAP may help to reduce flood impacts due to climate change. Implementation of the Proposed Project would therefore result in less than significant impacts on hydrology, flooding, and water quality.

## IMPACTS

### **Impact 3.9-1 Development under the Proposed Project would not violate any federal, State, or local water quality standards or waste discharge requirements. (Less than Significant)**

A community's impact on water quality is closely related to the hydrologic context of a region and the sources and types of pollutants that can further degrade or impair the area's water resources. As additional development occurs in the Planning Area, impervious surfaces may increase from the placement of roads, parking lots, buildings, and other infrastructure.

Other sources of water quality impacts include direct discharge associated with industrial/commercial activities, automobiles, agriculture, and herbicides. Pollutant sources may be generated from past waste disposal practices and chemicals and fertilizers applied to landscaping. Contaminants may include sediment, PCBs/mercury, hydrocarbons and metals, pesticides, nutrients, bacteria, and trash.

The Proposed Project would have a significant environmental impact if it would violate water quality standards and waste discharge requirements set out in Municipal Permit Order No. R8-2010-0036, NPDES Permit No. CAS618036, issued by the Santa Ana RWQCB. Violation of these permits could occur if the Proposed Project would substantially increase pollutant loading levels in the sanitary sewer system or in groundwater underlying the city, either directly through the introduction of pollutants generated by industrial land uses, or indirectly through stormwater pollution. As NPDES Permit CAS618036 is based on the federal Clean Water Act, compliance with the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide water quality control plans and policies adopted by the SWRCB, the Basin Plan adopted by the RWQCB, the California Toxics Rule, the California Toxics Rule Implementation Plan, and NPDES would ensure compliance with other applicable plans and regulations pertaining to water quality.

The proposed General Plan would allow for additional development and redevelopment within the city that would increase the area of impervious surfaces and could therefore increase the amount of runoff and associated pollutants during both construction and operation. However, as described in the Regulatory Setting section above, every construction activity within the Planning Area that has the potential to negatively affect water quality is required to comply with the NPDES Stormwater Discharge Permit. The City's Pretreatment and Regulation of Wastes Ordinance and its Storm Drains Ordinance, discussed in the Regulatory Setting section above, further protect water quality in the Planning Area.

Implementation of practices required by the NPDES Permit would reduce the volume of runoff from impervious surfaces and increase the amount of natural filtration of pollutants from stormwater occurring on site, generally improving the quality of stormwater before it enters the city's stormwater system.

Furthermore, the proposed General Plan contains goals and policies pertaining to water quality, as listed below. The proposed goals and policies promote the protection of the city's natural water bodies, prevent water pollution, ensure preparation and implementation of applicable water quality plans, require incorporation of BMPs, and otherwise ensure compliance with the city's NPDES Permit and other related regulations. Overall, the proposed General Plan's policies would promote improved water quality in the Planning Area and continued compliance with federal, state, and local water quality regulations, and would ensure that water quality is protected to the maximum extent practicable. Therefore, implementation of the proposed General Plan would ensure that impacts are less than significant.

The proposed CAP does not include strategies related to water quality and would therefore have no impact related to federal, State, or local water quality standards or waste discharge requirements.

### ***Proposed General Plan Policies that Would Reduce the Impact***

#### ***Vital Environment Element***

##### **Construction Aggregates Principles**

- 6-P.16 Ensure that future mining activity in the Santa Ana River Wash area is consistent with the proposed Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).

##### **Water Quality 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 storm water and urban runoff for beneficial purposes.

### **Water Quality Actions**

- 6-A.35 Promote the use of Low Impact Development strategies, BMPs, pervious paving materials, and on-site infiltration for treating and reducing storm water runoff before it reaches the municipal storm water system.
- 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 storm water 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 clean-ups 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.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.

### **Seismic and Geological Hazards Actions**

- 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.

### *Sustainable Community Element*

### **Waste Reduction and Recycling Actions**

- 8-A.32 Mitigate impacts associated with the expansion of existing landfills or development of new landfills to include effects on streets and highways, drainage systems, groundwater, air quality, natural resources, aesthetics, and property maintenance.

### **Mitigation Measures**

None required.

**Impact 3.9-2 Development under the Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of local groundwater tables. (Less than Significant)**

As described in the Environmental Setting section above, the Planning Area is located in the Upper Santa Ana Valley Groundwater Basin. The City's domestic water wells constitute about 50 percent of the water supply, and the proposed General Plan would allow for additional development within the Planning Area that could increase demands for water. However, the proposed General Plan policies listed below, along with water conservation policies discussed in Section 3.12: Utilities of this EIR, would help to conserve groundwater in the Planning Area. In addition, the proposed General Plan policies listed below would help to preserve permeable surfaces in the Planning Area. Furthermore, the City's Well Drilling Ordinance, described in the Regulatory Section above, protects groundwater from potential sources of contamination resulting from well drilling. The proposed CAP does not include any land use changes or other measures that would impact groundwater supplies. Overall, impacts on groundwater associated with the Proposed Project would be less than significant.

**Proposed General Plan Policies that Would Reduce the Impact**

Principle 6-P.20 and actions 6-A.35, 6-A.40, 6-A.41, and 8-A.32, as listed under Impact 3.9-1 above, as well as the following policies.

*Livable Community Element*

**Agriculture, Open Space, and Hillside Principles**

- 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.

*Vital Environment Element*

**Water Quality Principles**

- 6-P.21 Work with regional organizations to manage groundwater resources of the Bunker Hill Basin.

**Water Quality Actions**

- 6-A.34 Update City development standards to improve the capture of runoff and storm water management through innovative green and blue infrastructure solutions such as the use of permeable surfaces, vegetation areas, swales, BMPs, and other methods to recharge of the groundwater basin.

### *Sustainable Community Element*

#### **Water Conservation Principles**

- 8-P.6 Minimize dependence on imported water through efficient use of local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.

#### **Water Conservation 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 groundwater 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.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.

#### **Waste Reduction and Recycling Actions**

##### **Mitigation Measures**

None required.

**Impact 3.9-3 Development under the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or by increasing the rate or amount of surface runoff, in a manner that would result in substantial erosion, siltation, or flooding on- or off-site. (Less than Significant)**

Implementation of the Proposed Project would not involve the direct alteration of existing streams, rivers, or other drainage patterns. However, future development/redevelopment allowed under the proposed General Plan could impact the existing drainage system. Increases to impervious surfaces, such as roofs, patios, driveways, and parking areas would lead to increased stormwater flow. The proposed General Plan would allow for additional development that could increase the amount of impervious surfaces within the city and could therefore increase runoff from these sites into the local storm drains in the Planning Area. An increase in runoff volumes could result in hydromodification effects—such as erosion, siltation, and flooding—on the hydrological systems within the Planning Area, which occur when rainfall runoff is increased from impervious areas above the natural rainfall rate that would otherwise occur. However, the majority of development that may occur in the Planning Area is redevelopment of areas with already impervious surfaces.

Furthermore, the City recognizes the importance of water quality and preventing hydromodification. As described in the Regulatory Setting section above, any development that would occur under the proposed General Plan would be subject to City’s Flood Damage Prevention ordinance that helps prevent flood damage resulting from hydromodification. Adherence to the City’s Storm Drains Ordinance would limit surface runoff from development under the proposed General Plan, reducing siltation and erosion. In addition, the proposed General Plan’s goals and policies are intended to preserve natural watercourses or naturalized drainage channels, and to ensure future development incorporates BMPs to reduce runoff from a site. For these reasons, impacts associated with the proposed General Plan would be less than significant.

The proposed CAP does not include strategies related to drainage pattern alterations and would therefore have no impact related to existing drainage patterns.

**Proposed General Plan Policies that Would Reduce the Impact**

Principles 6-P.16 and 6-P.19, and actions 6-A.35, 6-A.40, and 6-A.44, as listed under Impact 3.9-1 above, as well as the following policies.

*Prosperous Economy Element*

**Measure U Actions**

- 1.A.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.



*Livable Community Element*

**Southern Hills and Canyons Actions**

- 4-A.63 Design buildings to accommodate topography and minimize grading.

*Vital Environment Element*

**Biological Resources Principles**

- 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.

**Biological Resources Actions**

- 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.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.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.

**Water Quality Actions**

- 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 zanjias and ditches, preventing erosion along the banks, removing litter and debris, and promoting riparian vegetation and buffers.
- 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.

*Healthy Community Element*

**Safety Actions**

- 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 bioretention facilities in places where they may be most effective.
- 7-A.80 Coordinate with the USACE and San Bernardino County throughout the construction, mitigation, and operation of the various components/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.

### **Mitigation Measures**

None required.

#### **Impact 3.9-4 Development under the Proposed Project would not create or contribute runoff that would exceed the capacity of existing or planned storm drain systems, or that would provide substantial additional sources of polluted runoff. (Less than Significant)**

Implementation of the Proposed Project would not involve the direct alteration of existing streams, rivers, or other drainage patterns. However, future development/redevelopment allowed under the proposed General Plan could impact the existing drainage system. Increases to impervious surfaces, such as roofs, patios, driveways, and parking areas would lead to increased stormwater flow.

As described under Impact 3.9-1, the RWQCB ensures compliance with NPDES permit requirements, as well as with applicable state and federal laws. Additionally, every construction activity within the Planning Area that has the potential to negatively affect water quality must prepare a construction SWPPP. Projects that would result in the disturbance of one acre or more of impervious surface or would create more than 10,000 square feet of impervious surfaces are subject to the NPDES Stormwater Discharge Permit and stormwater pollution prevention requirements.

Furthermore, the proposed General Plan contains goals and policies pertaining to water quality, as listed below. The proposed goals and policies promote the protection of the city's natural water bodies, prevent water pollution, ensure preparation and implementation of applicable water quality plans, require incorporation of BMPs, and otherwise ensure compliance with the City's NPDES Permit and other related regulations. Overall, the proposed General Plan's goals and policies would promote improved water quality in the city and continued compliance with federal, state, and local water quality regulations, and would ensure that water quality is protected to the maximum extent practicable.

See the discussion under Impact 3.14-3 in Section 3.14 of this EIR, "Utilities," for an analysis of the stormwater drainage system's capacity to handle greater stormwater due to new development resulting from the proposed General Plan. Compliance with the City's current regulations and the proposed General Plan policies listed below would ensure that the runoff as a result of future development under the proposed General Plan would not exceed the capacity of existing or planned storm drain systems or generate substantial pollutant runoff. Therefore, impacts would be less than significant.

The proposed CAP does not include strategies related to stormwater runoff and would therefore have no impact related to storm drain systems.

**Proposed General Plan Policies that Would Reduce the Impact**

Principle 6-P.20 and actions 6-A.35, 6-A.40, 6-A.41, 6-A.44, and 7-A.113, as listed under Impact 3.9-1 above.

Action 6-A.34, as listed under Impact 3.9-2 above.

Actions 7-A.77 and 7-A.78, as listed under Impact 3.9-3 above, as well as the following policies

*Vital Environment Element*

**Water Quality Actions**

- 6-A.38 Encourage development that reflects an integrated approach to building design, civil engineering, and landscape architecture that maximizes rainwater harvesting and storm water retention for landscape irrigation.
- 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.

*Healthy Community Element*

**Safety Actions**

- 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.

*Sustainable Community Element*

**Energy Efficiency and Conservation Actions**

- 8-A.10 Integrate trees and shade into the built environment, to mitigate issues such as stormwater runoff and the urban heat island effect.

**Mitigation Measures**

None required.

**Impact 3.9-5 Development under the Proposed Project would not otherwise substantially degrade water quality. (Less than Significant)**

As described under Impact 3.9-1, the proposed General Plan would allow for new development that could potentially degrade water quality; however, development would be subject to the RWQCB requirements and City of Redlands Municipal Code, as described above. Furthermore, the proposed General Plan contains goals and policies pertaining to water quality, as described previously. Overall, the proposed General Plan’s goals and policies would promote improved water quality in the Planning Area and continued compliance with federal, state, and local water quality regulations, and would ensure that water quality is protected to the maximum extent practicable. Therefore, the proposed General Plan would not substantially degrade water quality and impacts would be less than significant.

As discussed under Impact 3.9-1 above, the proposed CAP would have no impact water quality.

### **Proposed General Plan Policies that Would Reduce the Impact**

Principle 6-P.16 and 6-P.19; and actions 6-A.35, 6-A.40, 6-A.41, 6-A.42, 6-A.44, 7-A.113, and 8-A.23, as listed under Impact 3.9-1 above.

### **Mitigation Measures**

None required.

### **Impact 3.9-6 Development under the Proposed Project would not place housing within a 100-year flood hazard area on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. (Less than Significant)**

The proposed General Plan would designate land for residential development within the Planning Area in the 100-year flood hazard area north and south of Orange Avenue, between the western edge of the Planning Area and Brookside Avenue, as identified in Figure 3.9-2. The proposed General Plan would also designate residential land in the 100-year flood hazard area that extends from I-10 to just west of Sapphire Street. The proposed General Plan would also designate land for residential development in Mixed Use Core Areas. One of these Mixed Use Cores overlaps with the 100-year flood hazard area between I-10 and West Redlands Boulevard, on both sides of California Street. Another Mixed-Use Area overlaps with the 100-year flood hazard area between Tennessee Street and New York Street, between Orange Blossom Trail and West Redlands Avenue. These areas currently contain either vacant parcels or lower-density residential, commercial, or industrial land uses. Under the proposed General Plan, multi-family residential uses could be permitted in these areas. However, Redlands requires a special permit for any development proposed in areas of special flood hazards (Municipal Code Chapter 15.32). The ordinance also restricts or prohibits land uses considered unsafe in a floodplain and establishes the required elevation of the lowest floor of residential uses be located at least two feet above the base flood elevation for each type of flood zone. Furthermore, the proposed General Plan policies listed below would further reduce potential impacts on residential development within the 100-year flood hazard areas. Therefore, the proposed General Plan would result in less than significant impacts related to placing housing within a 100-year flood hazard area.

The proposed CAP does not include any land use changes or other measure that would impact the location of development relative to flood hazard areas.

### **Proposed General Plan Policies that Would Reduce the Impact**

#### *Healthy Community Element*

#### **Safety Principles**

7-P.26 Preserve as open space those areas that cannot be mitigated for flood hazard.

#### **Safety 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.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.

**Mitigation Measures**

None required.

**Impact 3.9-7 Development under the Proposed Project would not place within a 100-year flood hazard area structures which would impede or redirect flood waters. (Less than Significant)**

As described under Impact 3.9-6, the proposed General Plan would designate land for commercial and residential development within 100-year flood hazard areas, as identified in Figure 3.9-2. However, the City of Redlands requires a special use permit for any development proposed in areas of special flood hazards (Municipal Code Chapter 15.32). The ordinance also restricts or prohibits land uses considered unsafe in a floodplain. Proposed grading and drainage improvements are analyzed to ensure that drainage is not diverted from its natural drainage basin to another basin that was not designed to take that additional flow. Redevelopment of sites within the 100-year flood hazard areas are required to meet current stormwater management regulations. In addition, the proposed General Plan policies listed below would further reduce any potential impacts associated with structures located within flood hazard areas. Therefore, compliance with regulations regarding building within flood hazard areas, as well as the proposed General Plan policies, ensure that impacts would be less than significant.

The proposed CAP does not include any land use changes or other measures that would impact the location of structures relative to flood hazard areas.

**Proposed General Plan Policies that Would Reduce the Impact**

Principle 7-P.26, and actions 7-A.74 and 7-A.81, as listed under Impact 3.9-6 above.

**Mitigation Measures**

None required.

**Impact 3.9-8 Development under the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. (Less than Significant)**

As described under Impacts 3.9-6 and 3.9-7 above, implementation of the Proposed Project is not anticipated to result in any significant impacts in terms of placing structures within a 100-year flood hazard area. However, according to the 2015 City of Redlands HMP, the Seven Oaks Dam poses a low-probability, medium-impact threat from dam failure or inundation. Figure 3.9-2 shows Dam Inundation areas in the Planning Area. The proposed General Plan does not designate any residential land uses in the dam inundation area.

Dam failure is considered a low-probability event, caused most often by age, poor design, or structural damage resulting from earthquake or flood. With continued evaluation of dam stability

and continued compliance with state regulations, impacts associated with flooding due to dam failure are not anticipated.

As discussed in the IRWMP, the forest ecosystems in the San Bernardino National Forest are currently on the decline. These high elevation ecosystems are anticipated to decrease in area by fifty to seventy percent by 2100. It is believed that climate change, caused by increased greenhouse gas emissions, is a primary factor contributing to this decline. While high elevation ecosystems decrease, the severity of future floods is likely to increase.

The City of Redlands requires a special use permit for any development proposed in areas of special flood hazards (Municipal Code Chapter 15.32). The ordinance also restricts or prohibits land uses considered unsafe in a floodplain. As described under Impact 3.8-6, the proposed General Plan would designate land for residential development within 100-year flood hazard areas, as identified in Figure 3.9-2. However, compliance with City regulations pertaining to development within flood hazard areas would reduce potential impacts related to development. The proposed General Plan also contains policies listed below that would further reduce the risk of loss, injury, or death due to flooding, including as a result of dam failure. Additionally, GHG emission reductions due to the proposed CAP would reduce contributions to flood hazards due to climate change and thus potentially reduce the exposure of people or structures to flooding. Therefore, impacts would be less than significant.

***Proposed General Plan Policies that Would Reduce the Impact***

Action 7-A.113, as listed under Impact 3.9-1 above.

Actions 7-A.77, 7-A.78, and 7-A.80, as listed under Impact 3.9-3 above.

Action 7-A.76, as listed under Impact 3.9-4 above.

Principle 7-P.26, and actions 7-A.74 and 7-A.81, as listed under Impact 3-9.6 above, as well as the following policies.

***Distinctive City Element***

**Vibrant Downtown Actions**

- 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.

***Healthy Community Element***

**Safety 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.

### **Safety Actions**

- 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.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.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.

### **Emergency Management Actions**

- 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.

### **Mitigation Measures**

None required.

### **Impact 3.9-9 Development under the Proposed Project would not expose people or structures to inundation by seiche, tsunami, or mudflow. (Less than Significant)**

The Planning Area is located sufficiently inland to be out of what would be considered a potential hazard area for seiches, tsunamis, and sea level rise.

Mudflow, also known as a landslide or mudslide, is a flow of dirt and debris that occurs after intense rainfall or earthquakes. The speed of the mudflow is dependent on the amount of precipitation, steepness of slope, and vibration of the ground. Potential impacts of the proposed General Plan related to mudflow are reduced by California Building Code design provisions, geotechnical investigation requirements, modern construction design, slope stabilization techniques, and density limits, as discussed under Impacts 3.6-1 and 3.6-3 in Section 3.6 of this EIR, "Geology, Soils, and Seismicity." Therefore, these impacts are less than significant.

Compliance with the City's existing regulations pertaining to flooding and landslide hazards, along with the proposed General Plan policies listed below, ensure the impacts associated with mudflow would be less than significant.

The proposed CAP does not include any land use changes or other measures that would impact the location of development relative to flood hazard areas, and would therefore have no impact.

### **Proposed General Plan Policies that Would Reduce the Impact**

Action 7-A.113, as listed under Impact 3.9-1 above.

Actions 4-A.63, 7-A.77 and 7-A.78, as listed under Impact 3.9-3 above.

Action 7-A.76, as listed under Impact 3.9-4 above.

Principle 7-P.26, and actions 7-A.74 and 7-A.81, as listed under Impact 3.9-6 above.

Actions 2.A-92 and 7-A.132, as listed under Impact 3.9-8 above.

***Mitigation Measures***

None required



## 3.10 Land Use and Housing

This section provides an evaluation of potential impacts on Redlands' land use pattern and housing development as a result of the Proposed Project.

### Environmental Setting

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The study area for this analysis is the Redlands Planning Area.

#### PHYSICAL SETTING

##### Existing Land Use

The geographically dominant land use in Redlands is single-family residential, with neighborhoods distributed throughout the city. Table 3.10-1 summarizes the composition of existing land uses in Redlands, excluding rights-of-way and roads; this data is based on information from the City of Redlands. Residential uses account for about 30 percent of land in the Planning Area, with the largest share attributable to single-family homes. According to the City of Redlands, as of 2016, there are about 26,750 housing units in the city and 30,200 in the Planning Area. Figure 3.10-1 depicts the location of existing land uses.

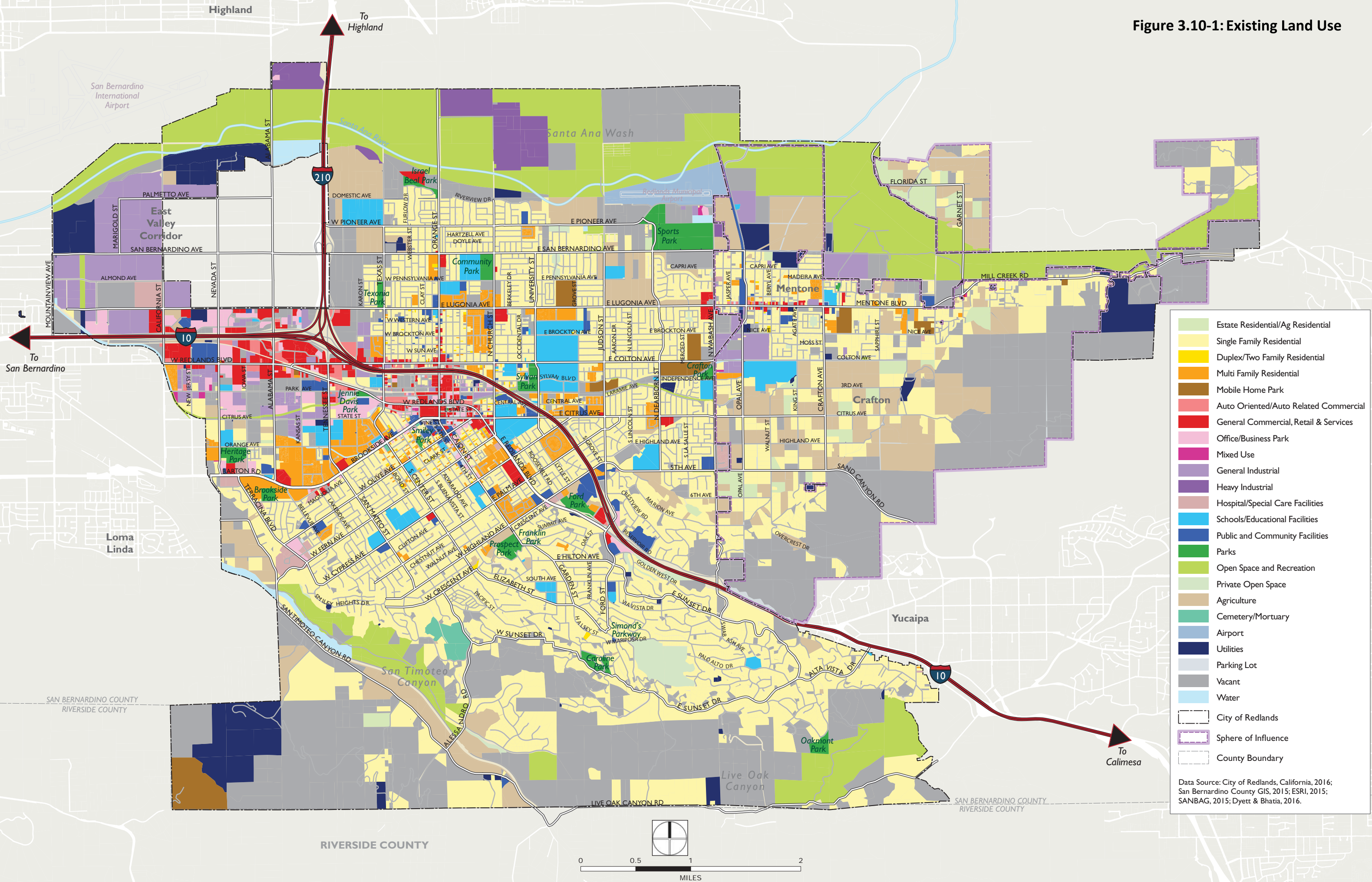
Non-residential uses, including commercial, industrial, and public/institutional, account for about 10 percent of the Planning Area. The majority of commercial uses are located in the western region of the Planning Area, along I-10 and Redlands Boulevard, and in Downtown Redlands. Additional commercial corridors are along Orange Street north of I-10 and along Mentone Boulevard, with some smaller neighborhood shopping centers appearing in predominantly residential areas. Commercial land uses cover 764 acres or 2.6 percent of land in the Planning Area.

Industrial uses cover 1,253 acres or 4.2 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 and in the Colony. The Planning Area's heavy industrial uses are in the north of the city near the Santa Ana River Wash. Public and institutional uses include schools and educational facilities, and public and community facilities such as the University of Redlands, civic buildings, community centers, and post offices. These uses cover 971 acres or 3.3 percent of the Planning Area.

Parks, open space, and recreation uses account for 4,138 acres or about 14 percent of the Planning Area, constituting the third largest land use. This category includes public parks, open space and recreation, private open space, and Hillside Memorial Park Cemetery. Among these, the largest category is open space and recreation, which covers 3,645 acres, or 12.3 percent of land in the Planning Area, and which is located along the Santa Ana River Wash and in the San Timoteo and Live Oak canyons.

About 7 percent of the Planning Area is used for agriculture and 4 percent for the Redlands Municipal Airport, utilities, parking lots, and water. The remaining 23.3 percent of land is vacant.

Figure 3.10-1: Existing Land Use



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

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**Table 3.10-1: Existing Land Uses in the Planning Area**

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

Sources: City of Redlands, 2015; Dyett & Bhatia, 2016.

## **Housing**

As of 2016, there were about 19,900 single-family residential and 6,900 multi-family residential housing units in the City of Redlands, for a total of about 26,800 housing units. There were about 3,000 single-family residential and 400 multi-family residential units in the Planning Area outside of city limits, bringing the total number of housing units to about 3,400. In the Planning Area as a whole, there were about 22,900 single-family residential units and about 7,350 multi-family residential units, for a grand total of about 30,200 housing units. The Planning Area outside of city limits has a greater percentage of single-family homes than the City of Redlands, with about 88 percent of the housing mix being single-family residential in Planning Area outside of city limits compared to about 74 percent in the City of Redlands.

## **REGULATORY SETTING**

### **State Regulations**

#### ***General Plan Consistency with Airport Land Use Compatibility Plans***

Public Utilities Code Section 21675 requires each airport land use commission to formulate an airport land use compatibility plan. California Government Code Section 65302.3 further requires that general plans be consistent with airport land use compatibility plans. In addition, general plans and applicable specific plans must be amended to reflect amendments to the airport land use compatibility plan. The Redlands Municipal Airport Land Use Compatibility Plan is discussed further below. San Bernardino International Airport does not have an airport land use compatibility plan.

#### ***Department of Housing and Community Development***

The State of California Department of Housing and Community Development (HCD) is responsible for determining the regional housing need for all jurisdictions in California and ensuring the availability of affordable housing for all income groups.

### **Local Regulations**

#### ***City of Redlands Growth Management Plan (Measure U)***

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. In the 1980s, the City of Redlands experienced a rapid increase in residential development – 20 percent of the current housing stock was constructed in that decade alone.<sup>1</sup> Several voter initiatives, as discussed below, have been passed that place limits on growth and development.

In 1978, Redlands voters passed Proposition R, a program for the alleviation of residential construction, with the intent to reduce the rapidly growing number of residential dwelling units that were being built. Proposition R encouraged planned residential growth within existing urban areas providing accessibility to necessary public facilities. Specifically, Proposition R capped the

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<sup>1</sup> The 2009-2013 5-year American Community Survey estimated that in 2013, 6,036 of Redlands' 26,967 housing units were built between 1980 and 1989.

number of dwelling units permitted to 450 units per year within the City's boundaries, and 150 units per year within the Planning Area outside of city limits.

Measure N, a growth control ordinance that amended Proposition R, was approved by the voters in 1987 with the intent to preserve agricultural land. The measure limited the development of residential dwelling units to 400 units per calendar year. Of the 400 units within the city, 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 provided prohibitions on 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. Limitations were also placed on development of steep slopes. For slopes greater than 15 percent, density is limited to one dwelling unit per 2 acres, and for slopes greater than 30 percent, density is limited to one dwelling unit per 5 acres.

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, limiting 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 will be considered single-family dwellings for purposes of this calculation. Certain types of development were exempted from the provisions of Measure U, including rehabilitation and remodeling, development related to rail stations, and new development Downtown.

Measure U states that extension of public utility services to areas outside the City limits shall occur when 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-annexations 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 landowner 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.

### **Chapter 18.16.050: Annexation**

Title 18 of the Municipal Code states that any area annexed to the city after the effective date hereof shall automatically be zoned in the A-1 (agricultural) district. The annexed land is to remain as A-1 until the zoning district for the area has been adopted by the commission and council, unless the commission and council determine the precise zoning as a part of the annexation procedure. The

commission shall recommend to the council appropriate districting of the land within (90) days after an application for change has been filed with the commission.

***Redlands Municipal Airport Land Use Compatibility Plan (ALUCP)***

The City 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.

***Upper Santa Ana River Wash Land Management and Habitat Conservation Plan (Wash Plan)***

The Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan) is proposed for the Santa Ana River Wash area, which is intended to provide 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. It also has detailed mapping of habitats and a specific plan for the management of sensitive species and habitats in the Santa Ana River Wash. The Wash Plan has not yet been adopted, and completion of the plan is anticipated for the end of 2017.

***San Bernardino County General Plan (2007)***

The San Bernardino County General Plan's Land Use Element seeks to guide the density/intensity, land uses, and distribution of future development in San Bernardino County. The General Plan applies to unincorporated land within the Redlands Planning Area, including unincorporated lands in Mentone and Crafton within the City's Sphere of Influence (SOI). Pursuant to Section 65300 of the California Government Code, counties and cities with shared jurisdiction in a SOI have a dual mandate related to land use planning within the spheres of influence. The San Bernardino County General Plan features land use policies to encourage annexations or incorporations of land within SOI areas, and land use designations that apply within those areas. According to San Bernardino County's Land Use Map, the areas within Redlands SOI under County jurisdiction (Mentone and Crafton areas) are classified as the Valley Region and designated as rural living, single residential, neighborhood commercial, general commercial, regional industrial, institutional, and resource conservation. The San Bernardino County General Plan provides specific goals and policies pertaining to the Valley Region, and estimates the development potential of the area.



### **San Bernardino County Development Code**

The purpose of the San Bernardino County Development Code is to implement the San Bernardino County General Plan by classifying and regulating the uses of land and structures within unincorporated San Bernardino County, preserve and protect the County's assets and natural resources, and promote public health, safety, and welfare. The Development Code applies to unincorporated land within the Redlands Planning Area, including unincorporated lands in Mentone and Crafton within the City's SOI. The Code provides standards and guidelines for growth and development of the County, creates a land use pattern, and ensures compatibility of land uses.

### **Specific Plans**

The City of Redlands uses specific plans to coordinate development and infrastructure improvements on large sites or series of parcels. Specific plans must be consistent with the General Plan and are typically used to establish development plans and standards to achieve the design and development objectives for a particular area. The Downtown Specific Plan and the East Valley Corridor Specific Plan are detailed below.

#### ***Redlands Downtown Specific Plan (1994)***

The City's current Downtown Specific Plan was adopted in 1994 and amended through 2008. Its purpose is to provide a comprehensive set of standards for land use, development design, and public improvements for the Downtown area, and its primary goal is to create a compact, pedestrian-oriented environment that is consistent in character and density with the older Redlands core. The specific plan establishes Town Center (TC), Town Center-Historic (TC-H), and Service-Commercial (S-C) land use districts to organize permitted land uses in the planning area. The specific plan also establishes standards for building aesthetics, including architectural guidelines and standards regarding height, floor area ratio (FAR), setbacks, facades, landscaping, lot coverage, building materials, and parking locations. For the area as a whole, the specific plan also addresses streetscaping priorities and design, open space and parks, and historical preservation.

An update to the Downtown Specific Plan was completed in 2011, but as of February 2017 has not yet been adopted. The updated specific plan would cover a larger area, including residential and civic areas in south Downtown and would emphasize mixed-use and transit-oriented development Downtown.

#### ***East Valley Corridor Specific Plan (1989, revised 2010)***

The East Valley Corridor Specific Plan (EVCSP) 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 is comprised of 4,350 acres adjacent to I-10 freeway and State Route 30, 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, containing large-scale warehousing and distribution uses, as well as Citrus Plaza/Mountain Grove, a mall.

## Impact Analysis

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### SIGNIFICANCE CRITERIA

For the purposes of this EIR, a significant land use impact would occur with full implementation of the Proposed Project if it would do one or more of the following:

- Criterion 1: Physically divide an established community;**
- Criterion 2: Locate Conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over projects in the Planning Area adopted for the purpose of avoiding or mitigating an environmental effect; or**
- Criterion 3: Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.**

Changes in land use are not, in and of themselves, environmental impacts. Land use changes are impacts only relative to the surrounding usage and character (i.e. division of an established community) or the prior use of the site (e.g. displacement of homes).

### METHODOLOGY AND ASSUMPTIONS

This EIR analysis considers current and proposed General Plan policies and goals, existing and proposed land use conditions within Redlands, and applicable regulations and guidelines.

The proposed General Plan has a year 2035 horizon; however, the proposed General Plan does not specify or anticipate when complete buildout will occur, as long-range demographic and economic trends are difficult to predict. The designation within the proposed General Plan of a site for a certain use does not necessarily mean that the site will be developed or redeveloped with that use during the planning period, as most development will depend on property owner initiative.

With much of the city currently “built out,” or developed, and the preservation of open space a priority, undeveloped land available for development is limited in Redlands. Most of the vacant and underutilized commercial sites in the Planning Area tend to be clustered in the western half of the city, especially near the East Valley Corridor Area and near Interstate 10 (I-10) and Interstate 210 (I-210) interchange. The five Transit Villages are anticipated to experience a mix of commercial residential development on infill sites. Residential development is primarily expected to occur in the Transit Villages, as well as on vacant sites near the periphery of the Planning Area, particularly in Mentone.

## IMPACT SUMMARY

Implementation of the proposed General Plan would not physically divide any established community. Rather, by improving connectivity within and between existing and proposed neighborhoods, the proposed General Plan would provide more linkages within the city and the surrounding area. The proposed General Plan Connected City element focuses on mobility and connectivity of the city's transportation system, and describes specific improvements in street connectivity, bicycling, walking and transit. The Transit Village concepts aim to extend the breadth of commercial clusters to nearby neighborhoods and across I-10. Finally, the trail system aims to provide a comprehensive pedestrian network throughout the entire city.

If adopted, the proposed General Plan would be the guiding document for land use in Redlands. Adopted plans, regulations, and other implementing tools would be amended to conform to the proposed General Plan and thus address any potential inconsistencies. The proposed General Plan does not contain provisions that conflict with federal, State, regional, or other local agency plans, regulations, or policies.

The 20-year buildout projected in the proposed General Plan assumes the majority of development will occur on infill sites within urbanized areas of the city. As infill sites are scattered throughout the city, and are generally already served by public services and facilities, there should not be a significant increase in population and business in one particular part of the city. Additionally, development on the periphery of the city near open space resources is regulated by Measure U, which sets forth policies to preserve environmental resources.

The proposed General Plan would not directly displace any housing units, businesses, or people. Redevelopment of existing uses will likely occur; however, such development will take place over time as the market allows and will result in a net increase in residential units. Though it is impossible to guarantee residents will not be displaced as a result of implementation of the General Plan, proposed General Plan policies seek to preserve existing neighborhoods.

The proposed Climate Action Plan (CAP) does not include any land uses changes or other measures that would affect land use or housing, and would therefore have no impact.

## IMPACTS

### **Impact 3.10-1     The Proposed Project would not physically divide an established community. (No Impact)**

The proposed General Plan would not result in uses or development that would physically divide any established community. Additionally, the proposed General Plan does not propose new highways or infrastructure facilities that would physically divide the community. Rather, by improving connectivity and land use consistency within and between existing neighborhoods, the proposed General Plan provides more linkages within the city and the region. Policies are proposed that seek to minimize the impact of the interstate highway as a physical barrier and unite the northern and southern parts of the city through land uses, infrastructure, and design. Furthermore, proposed improvements to the bicycle, trail, and road networks will make it easier for citizens to travel throughout the community. Therefore, there is no adverse impact.

The proposed CAP does not include any land uses changes or other strategies that would divide the Planning Area and would have no impact on this issue.

**Proposed General Plan Policies that Reduce the Impact**

The following proposed General Plan policies seek to increase the connectivity within and between existing neighborhoods in Redlands.

*Distinctive City Element*

**Small Town Feeling & Community Cohesion Principles**

- 2-P.3 Promote planning practices that mitigate the presence of physical barriers between communities (i.e. freeways) and foster greater connections between neighborhoods and uses.

**Small Town Feeling & Community Cohesion Actions**

- 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.
- 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.13 Maintain continuity in land uses across barriers such as I-10.
- 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.16 Use transit stations as focal points for interconnectivity, plan to equally serve travelers from north and south.
- 2-A.17 Establish meeting areas in new neighborhoods, and ensure a safe and secure environment.

**Vibrant Downtown Actions**

- 2-A.102 Improve connections from Downtown to adjacent neighborhoods, including areas north of I-10, through streetscape enhancement and multi-modal improvements.

*Livable Community Element*

**Transit Villages 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.46 Improve connectivity between Transit Villages and existing neighborhoods.

*Healthy Community Element*

**Parks and Recreational Open Space Actions**

- 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.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.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.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.

**Mitigation Measures**

None required.

**Impact 3.10-2 The Proposed Project would be consistent with applicable land use plans, policies, or regulations of an agency with jurisdiction over projects in the Planning Area adopted for the purpose of avoiding or mitigating an environmental effect. (No Impact)**

Since the proposed General Plan updates policies and land use designations for future development, it may naturally be inconsistent with existing planning regulations, such as density/intensity standards and allowed uses, that were designed to implement the current General Plan. These existing regulations must be updated to be consistent with and/or effectively implement the proposed General Plan if it were adopted. Amendments to the General Plan may also be needed from time to time to conform to State or federal laws passed since adoption of the General Plan, and to eliminate or modify policies that may become obsolete or unrealistic due to changed conditions. Additionally, the City's Zoning Ordinance would be revised to implement the proposed General Plan, and it will translate the proposed General Plan policies into specific use regulations, development standards and performance criteria that will govern development on individual

properties. The Zoning Ordinance will ultimately prescribe standards, rules, and procedures for development and the Zoning Map will provide more detail than the proposed General Plan Land Use Map.

Measure U is an adopted ballot measure that modified the 1995 General Plan, and its policies have been incorporated into the proposed General Plan. In accordance with Measure U, the proposed General Plan limits development potential in the Resource Preservation land use category. The proposed General Plan projected housing distribution at buildout for the Planning Area is consistent with Measure U requirements for a housing mix of 75 percent single-family homes to 25 percent multi-family homes. Measure U also includes traffic level of service standards that have been incorporated in the proposed General Plan. Thus, the Proposed Project incorporates Measure U policies as mandated by the regulation.

In addition to its General Plan, the City of Redlands maintains specific plans for some areas within the city, as described in the Regulatory Setting section above. By State law, specific plans must be consistent with the General Plan. The proposed General Plan Land Use Map includes changes to land use designations within the boundaries of various specific plans to ensure that land use designations throughout the city will be harmonious and consistent. The existing Downtown Specific Plan would need to be updated to reflect land use and development regulations established in the proposed General Plan. In particular, the updated specific plan would need to address the establishment of the Downtown Redlands Transit Village, and should address mixed uses, commercial development, visual character, circulation, and pedestrian amenities. The East Valley Corridor Specific Plan would also need to be updated to reflect the proposed land uses changes around Citrus Valley High School.

The Planning Department has primary responsibility for administering the laws, regulations and requirements that pertain to the physical development of the city. Specific duties relating to implementation of the proposed General Plan would include preparing zoning and subdivision ordinance amendments, reviewing development applications, conducting investigations, and making reports and recommendations on planning and land use, zoning, subdivisions, development plans, and environmental regulations.

The proposed General Plan would also be consistent with regional and local plans, including the proposed Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan), the San Bernardino County General Plan, and the Redlands Municipal Airport ALUCP. Policies in the proposed General Plan maintain consistency with the Wash Plan by deferring to the Wash Plan's resource management standards. Similarly, the proposed General Plan seeks to maintain consistency with the policies of the San Bernardino County General Plan, particularly regarding the protection of open space and the densities permitted in the Rural Living land use category. The General Plan is also consistent with ALUCP, ensuring that land uses within the designated airport compatibility zones are appropriate in terms of density, intensity, and sensitivity to noise, and including policies that support the goals of the ALUCP.

Given that (1) the proposed General Plan does not conflict with any other agencies' applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and (2) the preparation of amendments to other city policies and regulations where required

is detailed in the proposed General Plan, conflicts with existing local and regional plans and the Zoning Ordinance are not expected to occur.

The proposed CAP is consistent with the proposed General Plan, Measure U, the proposed Wash Plan, and the ALUCP and would have no impact on this issue.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

##### **Growth Management 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.

##### **Growth Management Actions**

- 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.

##### **Redlands Airport Actions**

- 4-A.137 Utilize the Redlands Municipal Airport Master Plan in planning for the growth and expansion of the airport and facilities.
- 4-A.139 Regulate land uses within safety and noise compatibility zones in accordance with the Airport Land Use Compatibility Plan.
- 4-A.140 Review the Comprehensive Airport Land Use Plan (CALUP) prepared for Redlands Municipal Airport to ensure conformity between the CALUP and the General Plan.

#### *Vital Environment Element*

##### **Agriculture and Open Space for Resource Production Principles**

- 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.

##### **Agriculture and Open Space for Resource Production Actions**

- 6-A.30 Designate mineral resources (mining) area as identified in the Wash Plan.

#### *Healthy Community Element*

##### **Safety Principles**

- 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.

- 7-P.35 Implement the policies and standards of the Redlands Municipal Airport Land Use Compatibility Plan (ALUCP).

### **Safety 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.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.

### **Mitigation Measures**

None required.

### **Impact 3.10-3 The Proposed Project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. (Less than Significant)**

The majority of developed land in the Planning Area is composed of residential uses, which are not anticipated to undergo substantial land use changes under the Proposed Project. Under the proposed General Plan, about 6,400 housing units are projected to be built in the Planning Area by 2035, increasing the total number of housing units in the Planning Area from about 30,200 in 2016 to about 36,600 by 2035. The proposed General Plan focuses infill residential development opportunities in vacant areas in Redlands, while policies seek to preserve existing neighborhoods. It is possible that some homes may be lost in the event of redevelopment of sites where housing currently exists. However, the proposed General Plan would increase the overall number of dwelling units and provide housing to serve the diverse needs of the community, meaning potentially displaced people would be able to find housing elsewhere in the community. This impact is less than significant.

The proposed CAP does not include any land uses changes or other strategies that would displace housing or people and would have no impact on this issue.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

#### **Growth Management Principles**

- 4-P.2 Provide for the expansion of housing and employment opportunities while ensuring that a high quality of life is maintained in Redlands.

#### **Land Use Principles**

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

### **Mitigation Measures**

None required.



## 3.11 Mineral Resources

This section describes mining operations and mineral resources in the Planning Area and analyzes potential impacts of the Proposed Project on these resources.

### Environmental Setting

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The study area for this analysis includes the Planning Area and surrounding environment, including portions of the Santa Ana River Wash considered in the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan (Wash Plan).

#### PHYSICAL SETTING

##### Mineral Resources

The Planning Area is located within the San Bernardino Production-Consumption (P-C) Region, which includes portions of both San Bernardino and Riverside counties and encompasses the largest area of the seven P-C Regions in the greater Los Angeles Area (SMGB, 2015). The State Mining and Geology Board (SMGB) has classified large areas in the north of the Planning Area as Mineral Resource Zone-2 (MRZ-2), indicating the existence of a deposit that meets certain criteria for value and marketability. Portions of these areas, centered around the Santa Ana River Wash, have been designated as containing regionally significant PCC (Portland cement concrete)-grade aggregate resources such as sand, gravel, and crushed rock. Figure 3.11-1 shows mineral land classifications and designated aggregate resource sectors as provided 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 3.11-1. As of 2015, there were 3,771 acres of designated land in Redlands, and 757 acres of designated land in the Planning Area outside of city limits, totaling about 4,528 acres in the Planning Area. Classifications and designations may be updated by CGS and SMGB over time. The classification-designation process is described below under *Surface Mining and Reclamation Act of 1975* in the Regulatory Setting section.

In 2012, CGS estimated the 5-year aggregate demand for the San Bernardino P-C Region to be 993 million tons, compared to permitted aggregate reserves estimated at 241 million tons (24 percent of the estimated demand). Projected years remaining based on permitted resources in 2012 was

estimated to be 11 to 20 years (CGS, 2016). Based on SMBG estimates, there are potentially 5 million tons of aggregate available within designated resource sectors in the P-C region (SMGB, 2015).

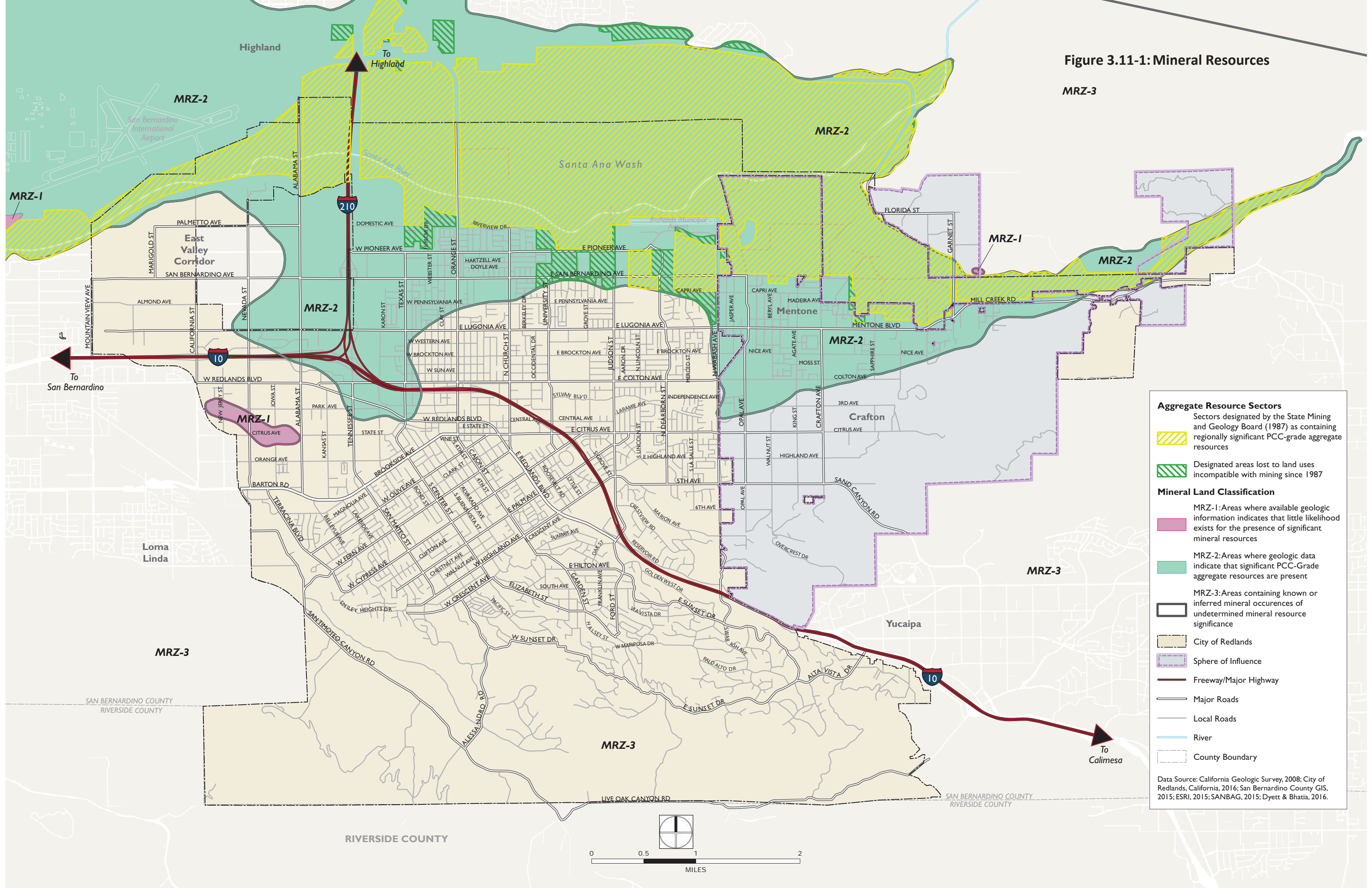
There are no other known mineral resources in the Planning Area.

### **Mining Operations**

The Santa Ana River Wash adjoining the northern edge of Redlands and the southern edge of Highland contains high quality construction aggregates (sand, gravel, and crushed stone) that have been mined since the 1920s. Mining in the Santa Ana River Wash is conducted on both sides of the boundary between the cities of Redlands and Highland. 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 [SBVWCD]), the land is leased to allow mining and (haul) roads. Existing and past mining and processing operations have been generally located in the western and central western portions of the wash area. The Planning Area includes properties that are currently under leases from the SBVWCD and the City of Redlands for sand and gravel mining to both Cemex (as successor to C.L. Pharris Sand and Gravel, Inc. dba Sunwest Materials) and Robertson's Ready Mix, Inc. Cemex and Robertson's are the current aggregate mining and processing operators within the Planning Area.

In 1993, representatives of mining companies and public agencies, including water, flood control, wildlife, and municipal interests, formed the Wash Committee to discuss and coordinate proposals for aggregate mining in the Wash. In 1997, the role of the committee was expanded in order to address competing land use interests in the area, including uses for recharging the groundwater basin, mining, habitat conservation, and flood control. In 2008, the Committee produced a Land Management and Habitat Conservation Plan for the Santa Ana River Wash (Wash Plan), covering 4,500 acres ranging from the mouth of the Santa Ana River canyon to Alabama Street which seeks to disregard land ownership lines in favor of a "best use" strategy for land use planning to resolve conflicts between competing uses. The Wash Plan designates an aggregate mining area for the continued and expanded extraction of sand and gravel. With implementation of the Wash Plan, aggregate mining land uses in the Wash would increase by approximately 363 acres, from an existing 832 acres previously and currently mined to approximately 1,195 acres. Overall, the proposed mining land use area would total approximately 759 acres within the City of Redlands and approximately 436 acres within the City of Highland. Aggregate mining would be located in a consolidated area away from habitat conservation areas. While the Wash Plan designates a smaller area for mining operation than what had originally been proposed by the mining companies, it offers greater assurance that mining permits in that area would be approved (SBVWCD, 2008).

Figure 3.11-1: Mineral Resources



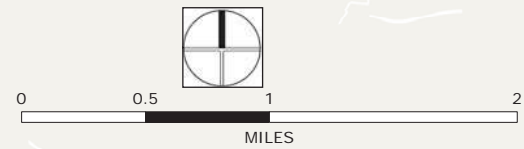
**Aggregate Resource Sectors**  
 Sectors designated by the State Mining and Geology Board (1987) as containing regionally significant PCC-grade aggregate resources

**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.



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## **REGULATORY SETTING**

### **State Regulations**

#### ***Surface Mining and Reclamation Act of 1975 (SMARA)***

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 SMGB. SMARA provides for a mineral lands inventory process termed “classification-designation.” The State Geologist is responsible for preparing a geological inventory of selected mineral commodities within a defined study region by classifying areas into various Mineral Resource Zones (MRZs) based on their mineral resource potential. By statute, classifications are made based on geologic factors without regard to existing land use and economic factors. Once the classification process is complete, the SMGB may choose to identify deposits that are potentially available from a land-use perspective and are of prime importance in meeting future needs of the region or state. Designation is the formal recognition by the SMGB of lands containing mineral resources of regional or statewide economic significance that are needed to meet the demands of the future. In some cases, the SMGB will terminate existing designations in areas where the development of land uses is incompatible with mining.<sup>1</sup>

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.

### **Local Regulations**

#### ***Upper Santa Ana Wash Land Management and Habitat Conservation Plan***

The Upper Santa Ana Wash Land Management and Habitat Conservation Plan is proposed for the Santa Ana River Wash area, and is intended to provide 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 (see Figure 3.11-2). Objectives of the Wash Plan include the following:

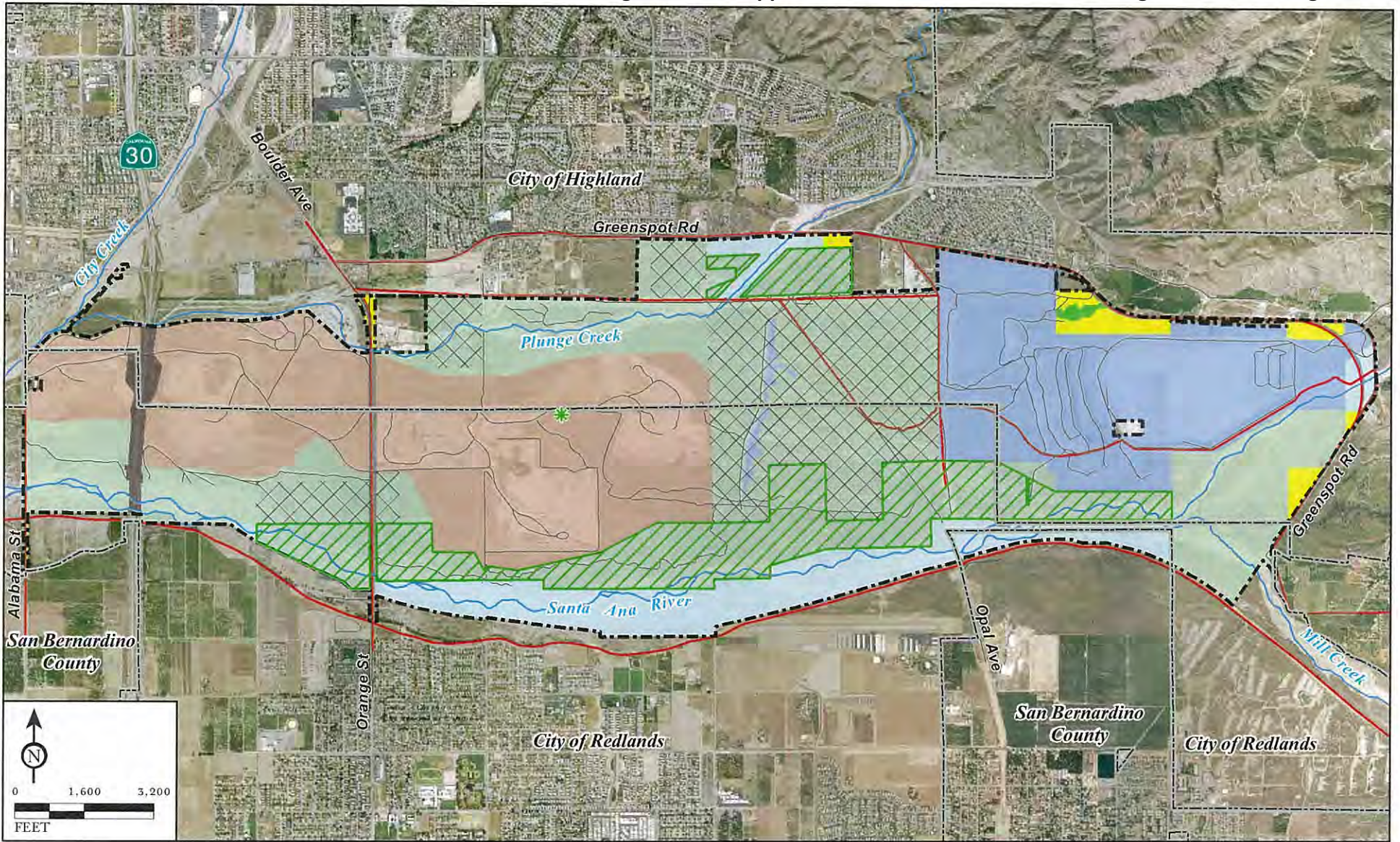
- Ensure the continued ability of the SBVWCD to replenish the Bunker Hill Groundwater Basin with native Santa Ana River water using existing and potential future water recharge facilities in the Planning Area;
- Ensure the continued ability of the San Bernardino County Flood Control District to protect land and property by managing the floodwaters of the Santa Ana River and its local tributaries (Mill Creek, Plunge Creek, and City Creek);

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<sup>1</sup> California State Mining and Geology Board. Designation Report No. 14: Updated Designation of Regionally Significant Aggregate Resources in the San Bernardino Production-Consumption Region, San Bernardino and Riverside County. 2015.

- Set aside and maintain habitat for sensitive, threatened, or endangered species populations on the project site, and prevent colonization by non-native plants and animals, as mitigation for impacts from other aspects of the project, such as mining, designation of areas for future roadways or water spreading facilities;
- Accommodate the relocation and expansion of aggregate mining quarries, to help ensure long-term availability of high quality aggregate reserves located within the Santa Ana River Wash Planning Area for local and regional use, consistent with the MRZ-2 designation for reserves in this area, and do so on land adjacent to existing quarries, that have mostly been disturbed;
- Accommodate arterial roads and highways to provide safe modes of travel; and
- Provide trails for public enjoyment of the existing environment.

Figure 3.11-2: Upper Santa Ana River Wash Land Management Plan Designations



LSA

PLAN BOUNDARY

JURISDICTIONAL BOUNDARY

WATER CONSERVATION

FLOOD CONTROL

HABITAT CONSERVATION

AGGREGATE MINING

STATE ROUTE 30

Subject to the Spineflower Relocation Program

ROADS

AGRICULTURAL

UNDESIGNATED/PUBLIC OWNERSHIP

WOOLLYSTAR PRESERVATION AREA

BLM, ACEC OR RNA

ROADS\*

TRAILS

RIVER OR CREEK\*

SOURCES: Thomas Bros, 2001, San Bernardino Water Conservation District, Dudek, Santa Ana Watershed Project Authority, AirPhotoUSA, 2007.

\* Road and stream locations digitized from 2006 aerial.

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## Impact Analysis

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### SIGNIFICANCE CRITERIA

For the purposes of this EIR, a significant land use impact would occur with full implementation of the Proposed Project if it would do one or more of the following:

**Criterion 1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or**

**Criterion 2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.**

### METHODOLOGY AND ASSUMPTIONS

Potential impacts resulting from implementation of the Proposed Project were evaluated based on relevant information from the SMGB and CGS, including relevant maps and mineral resource designation reports, and environmental documentation for the Wash Plan. Programmatic impacts are discussed in broad, qualitative terms. This assessment does not satisfy the need for project-level California Environmental Quality Act analysis for individual projects. Individual projects under the proposed General Plan will require a project-level analysis at the time they are proposed based on the details of these projects and the existing conditions at the time such projects are pursued.

### SUMMARY OF IMPACTS

The Proposed General Plan includes changes to land use designations for areas designated by the SMGB as containing regionally significant aggregate resources. These changes include the reclassification of areas currently designated Flood Control/Construction Aggregates Conservation/Habitat Preservation under the existing General Plan to Open Space, a new designation that would continue to allow aggregate mining as a conditionally permitted use; and a change in designation of a Mentone area property from Flood Control/Construction Aggregates Conservation/Habitat Preservation to Light Industrial to better reflect existing land uses and zoning on that site. These proposed changes would not impact any mining uses currently existing in the Planning Area and would thus not result in the loss of availability of any resource recovery sites. The proposed changes would also not create any significant conflicts with land in the Planning Area designated by SMGB that would cause the loss of availability of known mineral resources. Policies in the proposed General Plan would support the long-term conservation of the Planning Area's aggregate resources and ensure the availability of land suitable for mining uses, as well as support the implementation of the Wash Plan.

The proposed Climate Action Plan (CAP) does not include any land use changes or other strategies that would result in the loss of availability of known mineral resources of value to the region or state or locally important mineral resource recovery site and would thus have no potential impact on mineral resources in the Planning Area.

As described below, the Proposed Project would have less than significant impacts on mineral resources in the Planning Area.

## IMPACTS

### **Impact 3.11-1 The Proposed Project would allow the availability of a known mineral resource that would be of value to the region and the residents of the state. (Less than Significant)**

The proposed General Plan includes changes to land use designations in areas designated by SMGB as containing regionally significant aggregate resources classified as MRZ-2. The proposed changes include the reclassification of all areas currently designated Flood Control/Construction Aggregates Conservation/Habitat Preservation as the proposed Open Space land use designation, as well as a change in designation of an 86-acre property at the northeast corner of Crafton Avenue and Madeira Avenue in Mentone from Flood Control/Construction Aggregates Conservation/Habitat Preservation to Light Industrial.

The proposed Open Space designation is intended to consolidate open space uses in the Planning Area under a single designation, including the managed production of resources, such as the mining and conservation of mineral deposits. Therefore, the transition of the Flood Control/Construction Aggregates Conservation/Habitat Preservation designation to the Open Space designation would not introduce land uses incompatible with current or future mining operations that would cause a mineral resource designation to be terminated by the SMGB or cause a loss of access to known resources. Similarly, the Open Space designation would not create any land use conflicts that would cause the SMGB to terminate its aggregate resource designations within the Planning Area.

With regards to the property at Crafton and Madeira avenues, the change in land use designation is proposed in order to reflect existing land uses and zoning on the property, which has been developed and in use since the 1960s. In recent years, the property has functioned as an industrial park, thus the proposed redesignation would not create conflicts with any current mining operations in the area, though it would preclude any future mining operations on the property. This redesignation would not create any incompatibilities with SMGB's designation for the area that do not already exist. If, in the future, the property owner desires to convert the existing land use to a mining use, an amendment to the proposed General Plan is possible as long as it does not significantly impact the community or surrounding environment. Therefore, the impact of the proposed change to the property's land use designation would not significantly impact the availability of aggregate resources in the area.

Policies in the proposed General Plan seek to ensure the availability of open space for the managed production of resources as well as the availability of land designated by the SMGB for mining uses. Proposed policies include those that prevent the development of urban or industrial uses incompatible with mining within SMGB-designated areas in the Planning Area by maintaining consistency with the Wash Plan and by reserving designated MRZs outside of the Wash Plan planning area for agriculture or open space uses. While the Wash Plan does limit the operation and expansion of mining activities to a fraction of the Wash Plan planning area, the EIR for the Wash Plan found that doing so would not result in a significant impact to the availability of mineral resources of value to the region and state.

Given that the proposed General Plan would continue to apply a land use designation appropriate for mining to nearly all SMGB-designated land in the Planning Area; would not create land use conflicts with any existing mining operation; and is compatible with the Wash Plan, which would not significantly impact mineral resource availability within its planning area; the proposed General Plan would have a less than significant impact on the availability of a known mineral resource that would be of value to the region and the residents of the state.

The proposed CAP does not include any land uses changes or other strategies that would result in the loss of availability of known mineral resources of value to the region or state, and would therefore have no impact.

Impacts from the Proposed Project would be less than significant.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

##### **Land Use Principles**

- 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.

#### *Vital Environment Element*

##### **Agriculture and Open Space for Resource Production Principles**

- 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.

##### **Agriculture and Open Space for Resource Production Principles Actions**

- 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.

#### **Mitigation Measures**

None required.

**Impact 3.11-2 The Proposed Project would allow the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. (No Impact)**

As discussed for Impact 3.11-1, the proposed General Plan does not contain land use changes or policies that would affect existing mining operations within or adjacent to the Planning Area. The existing Redlands General Plan does not designate any locally important mineral resource recovery sites in the Planning Area, though it does include the Flood Control/Construction Aggregates Conservation/Habitat Preservation land use designation which applies to land that would potentially be used for aggregate mining activities. All areas containing existing mining uses in areas that are currently designated as Flood Control/Construction Aggregates Conservation/Habitat Preservation would be redesignated as Open Space, which would include construction aggregate mining as a conditionally permitted land use in the same fashion as the existing Flood Control/Construction Aggregates Conservation/Habitat Preservation designation. Similarly, no proposed land use changes would conflict with the Wash Plan, which applies an Aggregate Mining designation to portions of the Santa Ana River Wash with existing mining activity or that are suitable for future potential mining activity. Policies in the proposed General Plan would support the implementation of the Wash Plan and its designations.

The proposed CAP does not include any land uses changes or other strategies that would affect existing mining operations within or adjacent to the Planning Area, and would therefore have no impact.

The Proposed Project would therefore have no impact on locally important mineral resource recovery sites.

***Proposed General Plan Policies that Reduce the Impact***

The proposed General Plan goals and policies listed under Impact 3.11-1 above.

***Mitigation Measures***

None required.

## 3.12 Noise

This section discusses the fundamentals of sound; examines federal, State, and local noise guidelines, policies, and standards; reviews noise levels at existing sensitive receptor locations; and evaluates potential noise impacts associated with the Proposed Project. This section evaluates the potential for implementation of the Proposed Project to result in noise impacts in the city and surrounding areas adjacent to the city. Noise calculations on which this analysis is based are included in Appendix F.

### Environmental Setting

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#### PHYSICAL SETTING

##### Characteristics of Noise

To the human ear, sound is technically described in terms of its loudness (amplitude) and pitch (frequency). Pitch is generally an annoyance, while loudness can affect the ability to hear. Noise is usually defined as unwanted sound; it consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

##### Measurement of Noise

The standard unit of measurement of the loudness of sound is the decibel (dB). Decibels are based on a logarithmic scale. The logarithmic scale compresses the wide range in sound levels resulting in a more usable range of sound level values. To humans, a sound 10 dB higher than another is considered to be twice as loud; a sound 20 dB higher than another is considered four times as loud; etc. Typical daily sounds in the environment range from 30 dB (very quiet) to 100 dB (very loud).

Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the dBA.

There are two categories of noise that are measured to characterize noise conditions: single event noise and community, or cumulative, noise. Single event measurements describe the noise levels from an individual event such as a passing airplane, train, or a heavy-duty truck. Cumulative measurements average the total noise in a community over a specific time period, which is typically

1 or 24-hours. The noise impact analysis performed for this EIR is based on assessment of both single event noise and community or cumulative, noise.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on humans; (2) the variety of noises found in the environment; (3) the variations in noise levels that occur as a person moves through the environment; and (4) the variations associated with the time of day. They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to affect people is dependent on the total acoustical energy content of the noise. Numerous noise scales have been developed to account for this observation. Two of the predominant noise scales are the Equivalent Continuous Noise Level ( $L_{eq}$ ) and the Community Noise Equivalent Level (CNEL).  $L_{eq}$  is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period.  $L_{eq}$  is the “energy” average noise level during the time period of the sample.  $L_{eq}$  can be measured for any time period, but is typically measured for 1 hour. This 1-hour noise level is also referred to as the Hourly Noise Level (HNL). It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL is the predominant rating scale now in use in California for land use noise compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the dBA. Time weighted refers to the inclusion of penalties for noise that occurs during certain noise-sensitive time periods. The evening time period (7 p.m. to 10 p.m.) penalizes noises by 5 dBA, while nighttime (10 p.m. to 7 a.m.) noises are penalized by 10 dBA, reflecting people’s increased sensitivity to noise during these time periods. A CNEL noise level may be reported as a CNEL of 60 dBA, 60 dBA CNEL, or simply 60 CNEL.

$L(\%)$  is a statistical method of describing noise which accounts for variance in noise levels throughout a given measurement period.  $L(\%)$  is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example, since 5 minutes is 25 percent of 20 minutes,  $L(25)$  is the noise level that is equal to or exceeded for five minutes in a twenty-minute measurement period. It is  $L(\%)$  that is used for most Noise Ordinance standards. For example, most daytime county, state, and city noise ordinances use a standard of 55 dBA for 30 minutes per hour, or an  $L(50)$  level of 55 dBA. In other words, the noise ordinance may state that no noise level should exceed 55 dBA for more than fifty percent of a given period.

The maximum noise level ( $L_{max}$ ) is the highest exponential time averaged sound level that occurs during a stated time period. The noise levels discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ , which reflects peak noise conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

### Fundamentals of Groundborne Vibration

Vibration refers to groundborne noise and perceptible motion of the earth. Similar to airborne noise, vibration is transmitted in noise-like waves through the earth and solid objects. There are several ways to categorize vibration sources. One way is to divide vibration into natural sources (e.g., earthquakes, volcanic eruptions, sea waves, and landslides) and human sources (e.g., explosions, machinery, traffic, trains, and construction equipment). Similar to noise sources, vibration sources can also be described as continuous (e.g., operating factory machinery) or transient (e.g., explosions).

As with noise, ground vibrations can be described by amplitude and frequency. Vibration amplitude is characterized by its displacement, velocity, and acceleration. Displacement is the distance that soil particles travel from their original location as a result of vibration, as measured in inches or millimeters. Velocity is the speed of the soil particles measured in inches per second or millimeters per second. Acceleration of the soil particles is measured in inches per second or millimeters per second. Particle velocity is the most commonly used vibration attribute used to describe vibration. Table 3.12-1 presents the human reaction to various levels of peak particle velocity. Vibrations also vary in frequency. Traffic vibrations generally range in frequencies from 10 to 30 hertz (Hz), and tend to average around 15 Hz. As a point of reference, city buses often generate frequencies around 3 Hz at high vehicle speeds, due to their suspension systems.

**Table 3.12-1: Human Reaction to Typical Vibration Levels**

<i>Vibration Level Peak Particle Velocity (inches/second)</i>	<i>Human Response</i>
3.6	Very disturbing
0.7	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

*Source: Caltrans, 2013.*

Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernable. Without the effects associated with the shaking of a building, there is less adverse reaction. Building vibration may be perceived by the occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. Building damage is not a factor for normal projects, with the occasional exception of blasting and pile driving during construction or mining. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by up to 10 decibels. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to within about 100 feet of the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 feet (Federal Transit

Authority, 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible.

Factors that influence groundborne vibration and noise include the following:

- *Vibration Source:* Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source.
- *Vibration Path:* Soil type, rock layers, soil layering, depth to water table, and frost depth.
- *Vibration Receiver:* Foundation type, building construction, and acoustical absorption.

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground versus at ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at a great distance from the source. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

### **Land Use Compatibility Classifications**

Table 3.12-2 shows the various land use compatibility classifications based on exterior noise levels, and these categories are described as follows:

- **Noise Range I – Normally Acceptable.** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- **Noise Range II – Conditionally Acceptable.** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made, and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
- **Noise Range III – Normally Unacceptable.** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
- **Noise Range IV – Clearly Unacceptable.** New construction or development should generally not be undertaken.



**Table 3.12-2: Land Use Compatibility for Exterior Community Noise**

Land Use Category	Noise Range ( $L_{dn}$ or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50–55	55–70	70+
Auditoriums, concert halls, amphitheaters	45–50	50–65	65–70	70+
Residential, low-density single-family, duplex, mobile homes	50–55	55–70	70–75	75+
Residential multifamily	50–60	60–70	70–75	75+
Transient lodging, motels, hotels	50–60	60–70	70–80	80+
Schools, libraries, churches, hospitals, nursing homes	50–60	60–70	70–80	80+
Actively used open spaces, playgrounds, neighborhood parks	50–67	–	67–73	73+
Golf courses, riding stables, water recreation, cemeteries	50–70	–	70–80	80+
Office buildings, business commercial and professional	50–67	67–75	75+	–
Industrial, manufacturing, utilities, agriculture	50–70	70–75	75+	–

CNEL = Community Noise Equivalent Level  
dB = decibel(s)  
 $L_{dn}$  = day-night average noise level

Source: California Department of Health, Office of Noise Control, 1976.

### 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 3.12-3 shows common sound levels and their noise sources.

**Table 3.12-3: Common Sound Levels and Their Noise Sources**

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
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	⅛ as loud
Soft Whisper	30	Faint	—
Rustling Leaves	20	Very Faint	—
Human Breathing	10	Very Faint	Threshold of Hearing
—	0	Very Faint	—

Source: LSA Associates, Inc., 2015.

### Sources of Noise in the Planning Area

Major noise sources in the Planning Area include traffic noise, rail noise, aircraft noise, and stationary noise.

The most important difference between transportation and non-transportation noise sources is that municipalities can generally exercise control on the level and duration of noise at the property line of any non-transportation source of noise. Cities can adopt exposure standards for noise generated from mobile sources such as trucks, trains, or planes, and then make permitting decisions regarding sensitivity of land uses in areas with excessive noise. Cities play a role in enforcing the requirement in the State vehicle code regarding properly operating mufflers and may also set speed limits or weight restrictions on streets.

### **Traffic Noise**

Automobiles, buses, trucks, and trains produce transportation noise in Redlands. For purposes of assessing vehicular noise, three generic weight classifications are considered (light, medium, and heavy). At 35 miles per hour (mph), 1 medium duty truck is as loud as 10 cars, and 1 heavy truck is as loud as 30 cars. A bus is approximately equivalent to 20 cars. In addition, bus noise may be worsened by grade or by the condition of the pavement.

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.

Bus service in the Planning Area is provided by Omnitrans, a public transit agency serving the San Bernardino Valley. Bus service is provided along Orange Street, San Bernardino Avenue, Alabama Street, Lugonia Avenue, Mountain Avenue, and Redlands Boulevard through various routes (i.e., Routes 8,15, and 19), and may be a source of noise.

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in Redlands. Existing traffic volumes were obtained from the traffic analysis performed for Section 3.15: Transportation, and extrapolated traffic volumes from the SBTAM model were used to assess the potential traffic noise impacts along the street segments in the city. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Existing traffic volumes were used to assess existing traffic noise levels. Table 3.12-4 provides the existing traffic noise levels within the Planning Area for study segments. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix F. Figure 3.12-1 shows the existing traffic noise contours along local roadways and freeways within the Planning Area.

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
5th Avenue between Ford Street and Dearborn Street	8,600	< 50	75	155	65.1
5th Avenue between Dearborn Street and Wabash Avenue	8,600	< 50	75	155	65.1
Alabama Street north of Palmetto Avenue	16,800	57	121	260	69.5
Alabama Street between Palmetto Avenue and Pioneer Avenue	17,000	58	122	262	69.5
Alabama Street between Pioneer Avenue and San Bernardino Avenue	16,600	60	122	258	68.5
Alabama Street between San Bernardino Avenue and Lugonia Avenue	35,100	98	200	425	71.0
Alabama Street between Lugonia Avenue and I-10	35,100	85	169	358	69.9
Alabama Street between I-10 and Redlands Boulevard	26,700	84	175	375	70.9
Alabama Street between Redlands Boulevard and Park Avenue	16,400	63	128	271	68.8
Alabama Street between Park Avenue and Citrus Avenue	16,400	72	149	317	69.8
Alabama Street between Citrus Avenue and Orange Avenue	14,800	68	139	296	69.4
Alabama Street between Orange Avenue and Barton Road	12,300	< 50	89	186	66.3
Alessandro Road between Crescent Avenue and Creekside Drive	4,700	< 50	51	109	64.4
Alessandro Road between Creekside Drive and San Timoteo Canyon Road	4,700	< 50	51	109	64.4
Barton Road between Nevada Street and Terracina Boulevard	25,200	73	151	321	69.9
Barton Road between Terracina Boulevard and Alabama Street	25,200	73	151	321	69.9
Barton Road between Alabama Street and Bellevue Avenue	11,700	< 50	78	162	65.4
Barton Road between Bellevue Avenue and San Mateo Street	11,700	< 50	78	162	65.4
Beaumont Avenue east of Nevada Street	2,600	< 50	< 50	< 50	57.8
Cajon Street between Citrus Avenue and Vine Street	10,200	< 50	< 50	71	59.7

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Cajon Street between Vine Street and Olive Avenue	10,200	< 50	< 50	68	60.6
Cajon Street between Olive Avenue and Fern Avenue	10,200	< 50	< 50	67	61.2
Cajon Street between Fern Avenue and Cypress Avenue	10,200	< 50	< 50	88	63.0
Cajon Street between Cypress Avenue and Palm Avenue	10,200	< 50	< 50	88	63.0
Cajon Street between Palm Avenue and Highland Avenue	10,200	< 50	< 50	88	63.0
Cajon Street south of Highland Avenue	4,000	< 50	< 50	< 50	58.9
California Street north of San Bernardino Avenue	6,000	< 50	56	112	62.9
California Street between San Bernardino Avenue and I-10	7,900	< 50	66	134	64.1
California Street between I-10 and Redland Boulevard	10,900	< 50	80	165	65.5
Center Street between Brookside Avenue and Glenwood Drive	7,600	< 50	< 50	94	63.4
Center Street between Glenwood and Olive Avenue	7,600	< 50	< 50	94	63.4
Center Street between Olive Avenue and Fern Avenue	7,600	< 50	< 50	94	63.4
Center Street between Fern Avenue and Cypress Avenue	7,600	< 50	< 50	94	63.4
Center Street between Cypress Avenue and Highland Avenue	4,700	< 50	< 50	68	61.3
Center Street south of Highland Avenue	6,000	< 50	< 50	80	62.4
Church Street between San Bernardino Avenue and Lugonia Avenue	7,000	< 50	< 50	70	60.8
Church Street between Lugonia Avenue and Colton Avenue	7,300	< 50	< 50	71	61.6
Church Street between Colton Avenue and Stewart Avenue	7,300	< 50	< 50	71	61.6
Church Street between Stuart Avenue and Central Avenue	7,300	< 50	< 50	71	61.5
Church Street between Central Avenue and Citrus Avenue	7,300	< 50	< 50	71	61.5

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Church Street south of Citrus Avenue	7,300	< 50	< 50	71	61.5
Citrus Avenue between San Mateo Street and 6th Street	9,300	< 50	< 50	70	60.8
Citrus Avenue between 6th Street and Olive Avenue	9,300	< 50	< 50	70	60.8
Citrus Avenue between Olive Avenue and Redlands Boulevard	9,300	< 50	< 50	70	60.8
Citrus Avenue between Redlands Boulevard and University Street	3,100	< 50	< 50	< 50	56.1
Citrus Avenue between University Street and Cypress Avenue	3,100	< 50	< 50	68	60.0
Citrus Avenue between Cypress Avenue and Judson Street	11,700	< 50	76	161	65.8
Citrus Avenue between Judson Street and Dearborn Street	10,200	< 50	70	147	65.2
Citrus Avenue between Dearborn Street and La Salle Street	6,800	< 50	56	117	63.7
Colton Avenue between Alabama Street and Tennessee Street	5,300	< 50	< 50	84	60.9
Colton Avenue between Tennessee Street and Texas Street	5,300	< 50	< 50	84	60.9
Colton Avenue between Texas Street and Orange Street	5,300	< 50	< 50	81	62.4
Colton Avenue between Orange Street and Church Street	8,300	< 50	51	109	64.4
Colton Avenue between Church Street and University Street	13,500	< 50	56	120	65.0
Colton Avenue between University Street and Judson Street	13,500	< 50	57	121	64.4
Colton Avenue between Judson Street and Dearborn Street	9,300	< 50	55	117	64.8
Colton Avenue between Dearborn Street and Kensington Drive	6,000	< 50	< 50	107	64.2
Colton Avenue between Kensington Drive and Wabash Avenue	6,000	< 50	< 50	108	63.2
Crafton Avenue between Mentone Boulevard and Nice Avenue	6,300	< 50	< 50	67	60.5

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Crafton Avenue between Nice Avenue and Colton Avenue	6,300	< 50	< 50	66	61.1
Crafton Avenue between Colton Avenue and Citrus Avenue	6,300	< 50	< 50	66	61.1
Crafton Avenue between Citrus Avenue and Sand Canyon Road	5,600	< 50	< 50	61	60.6
Cypress Avenue between Citrus Avenue and I-10 Ramps	9,100	< 50	66	141	66.1
Cypress Avenue between I-10 Ramps and Lytle Street	9,100	< 50	66	141	65.5
Cypress Avenue between Lytle Street and Roosevelt Road	9,100	< 50	66	141	65.5
Cypress Avenue between Roosevelt Road and Redlands Boulevard	9,100	< 50	68	142	65.0
Cypress Avenue between Redlands Boulevard and Cajon Street	7,500	< 50	60	125	64.1
Cypress Avenue between Cajon Street and Buena Vista	7,400	< 50	60	124	64.1
Cypress Avenue between Buena Vista and Center Street	7,400	< 50	61	126	64.2
Cypress Avenue between Center Street and San Mateo Street	7,400	< 50	61	126	64.2
Cypress Avenue south of San Mateo Street	7,400	< 50	61	126	64.2
Eureka Street north of Redlands Boulevard	14,900	59	119	252	68.3
Fern Avenue between Redlands Boulevard and Myrtle Street	5,200	< 50	< 50	84	62.0
Fern Avenue between Myrtle Street and Cajon Street	5,200	< 50	< 50	83	62.6
Fern Avenue between Cajon Street and Center Street	4,900	< 50	< 50	81	61.8
Fern Avenue between Center Street and San Mateo Street	4,900	< 50	< 50	81	61.8
Fern Avenue between San Mateo Street and Bellevue Avenue	6,300	< 50	< 50	75	62.0
Fern Avenue between Bellevue Avenue and Terracina Boulevard	7,100	< 50	< 50	82	62.5
Ford Street between Citrus Avenue and Highland Avenue	6,800	< 50	< 50	101	63.2

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Ford Street between Highland Avenue and I-10 Ramps	6,800	< 50	< 50	100	63.8
Ford Street between I-10 Ramps and Sunset Drive	11,800	< 50	80	165	65.5
Ford Street south of Sunset Drive	3,000	< 50	< 50	54	59.8
Highland Avenue between Ford Street and Redlands Boulevard	7,800	< 50	61	128	64.3
Highland Avenue between Redlands Boulevard and York Street	7,800	< 50	60	127	64.8
Highland Avenue between York Street and Cajon Street	7,800	< 50	60	127	64.8
Highland Avenue between Cajon Street and Center Street	8,900	< 50	53	113	64.6
Highland Avenue between Center Street and San Mateo Street	5,100	< 50	< 50	78	62.2
Highland Avenue south of San Mateo Street	640	< 50	< 50	< 50	50.1
Judson Street north of Pennsylvania Avenue	3,600	< 50	< 50	67	60.5
Judson Street between Pennsylvania Avenue and Lugonia Avenue	3,600	< 50	< 50	66	61.1
Judson Street between Lugonia Avenue and Colton Avenue	5,300	< 50	< 50	86	62.2
Judson Street between Colton Avenue and Citrus Avenue	7,800	< 50	52	110	63.8
Lugonia Avenue west of California Street	5,000	< 50	< 50	90	61.9
Lugonia Avenue between California Street and Alabama Street	5,500	< 50	< 50	95	62.8
Lugonia Avenue between Alabama Street and Citrus Avenue	17,800	< 50	98	207	67.0
Lugonia Avenue between Citrus Avenue and SR-210 Ramps	17,800	< 50	102	214	67.2
Lugonia Avenue between SR-210 Ramps and Texas Street	25,200	63	127	269	68.8
Lugonia Avenue between Texas Street and Orange Street	25,200	61	126	269	69.2
Lugonia Avenue between Orange Street and Herald Street	26,100	62	129	275	69.3
Lugonia Avenue between Herald Street and Church Street	18,200	< 50	105	226	68.5



**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Lugonia Avenue between Church Street and University Street	18,200	< 50	106	226	68.0
Lugonia Avenue between University Street and Judson Street	22,100	58	120	257	68.9
Lugonia Avenue between Judson Street and Dearborn Street	22,100	58	120	257	68.9
Lugonia Avenue between Dearborn Street and Revelation (up to Wabash Avenue)	22,100	60	122	258	68.5
Mentone Boulevard between Wabash Avenue and Opal Avenue	15,400	< 50	97	208	68.0
Mentone Boulevard between Opal Avenue and Crafton Avenue	15,400	< 50	97	208	68.0
Mentone Boulevard between Crafton Avenue and Plumwood Lane	11,900	< 50	81	175	67.5
Nevada Street north of San Bernardino Avenue	4,200	< 50	< 50	63	60.8
Nevada Street between San Bernardino Avenue and Almond Avenue	4,200	< 50	< 50	63	60.8
Nevada Street between Almond Avenue and Lugonia Avenue	4,800	< 50	< 50	69	61.4
Nevada Street between Lugonia Avenue and Redlands Boulevard	4,800	< 50	< 50	69	61.4
Nevada Street south of Redlands Boulevard	4,800	< 50	< 50	69	61.4
Orange Street north of Pioneer Avenue	14,300	< 50	82	176	67.5
Orange Street between Pioneer Avenue and San Bernardino Avenue	15,000	< 50	88	183	66.2
Orange Street between San Bernardino Avenue and Lugonia Avenue	15,000	< 50	85	182	67.1
Orange Street between Lugonia Avenue and Colton Avenue	17,400	< 50	93	201	68.3
Orange Street between Colton Avenue and I-10 Ramps	17,400	< 50	96	202	66.8
Orange Street between I-10 Ramps and Stuart Avenue	18,600	< 50	< 50	105	63.0
Orange Street between Stuart Avenue and Oriental Avenue	18,600	< 50	54	111	63.4
Orange Street between Oriental Avenue and Redlands Boulevard	18,600	< 50	54	111	63.4

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Orange Street between Redlands Boulevard and Citrus Avenue	18,600	< 50	56	112	62.9
Palm Avenue north of Redlands Boulevard	8,200	< 50	51	109	64.4
Palm Avenue between Redlands Boulevard and Hibiscus Drive	4,500	< 50	< 50	73	61.8
Palm Avenue between Hibiscus Drive and Cajon Street	4,500	< 50	< 50	73	61.8
Palm Avenue between Cajon Street and Center Street	12,900	< 50	69	148	66.4
Palm Avenue between Center Street and San Mateo Street	12,900	< 50	69	148	66.4
Palm Avenue south San Mateo Street	12,900	< 50	< 50	93	63.3
Pioneer Avenue between Alabama Street and SR-210	1,700	< 50	< 50	< 50	57.8
Pioneer Avenue between SR-210 and Texas Street	1,700	< 50	< 50	< 50	57.2
Pioneer Avenue between Texas Street and Webster Street	6,500	< 50	< 50	97	63.6
Pioneer Avenue between Webster Street and Orange Street	6,500	< 50	< 50	97	63.6
Pioneer Avenue between Orange Street and Brookstone Street	4,900	< 50	< 50	80	62.4
Pioneer Avenue between Brookstone Street and Church Street	4,900	< 50	< 50	71	61.6
Pioneer Avenue between Church Street and Occidental Drive	4,800	< 50	< 50	71	61.5
Pioneer Avenue between Occidental Drive and Judson Street	4,100	< 50	< 50	64	60.8
Pioneer Avenue east of Judson Street	1,600	< 50	< 50	< 50	56.7
Redlands Boulevard between Bryn Mawr Avenue and California Street	15,200	< 50	106	224	67.5
Redlands Boulevard between California Street and Iowa Street	21,200	64	131	278	69.0
Redlands Boulevard between Iowa Street and Alabama Street	21,200	59	118	251	68.3
Redlands Boulevard between Alabama Street and Tennessee Street	79,400	132	280	602	74.0

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
Redlands Boulevard between Tennessee Street and Center Street	80,300	133	282	606	74.1
Redlands Boulevard between Center Street and Eureka Street	31,800	63	127	270	68.8
Redlands Boulevard between Eureka Street and Orange Street	31,800	63	127	270	68.8
Redlands Boulevard between Orange Street and Citrus Avenue	10,500	< 50	< 50	106	62.5
Redlands Boulevard between Citrus Avenue and Fern Avenue	12,900	< 50	58	120	63.8
Redlands Boulevard between Fern Avenue and Cypress Avenue	12,900	< 50	72	149	64.8
Redlands Boulevard between Cypress Avenue and Palm Avenue	12,900	< 50	65	132	64.0
Redlands Boulevard between Palm Avenue and Highland Avenue	12,900	< 50	65	132	64.0
Redlands Boulevard south of Highland Avenue	19,500	69	142	302	69.5
San Bernardino Avenue between Mountain View Avenue and Marigold Avenue	15,800	< 50	106	218	66.6
San Bernardino Avenue between Marigold Avenue and California Street	7,800	< 50	72	139	63.5
San Bernardino Avenue between California Street and Nevada Street	10,800	< 50	83	169	65.3
San Bernardino Avenue between Nevada Street and Alabama Street	10,800	< 50	78	167	67.2
San Bernardino Avenue between Alabama Street and SR-210	9,100	< 50	89	180	65.3
San Bernardino Avenue between SR-210 and Orange Street	11,000	< 50	79	169	67.2
San Bernardino Avenue between Orange Street and Church Street	7,600	< 50	< 50	89	63.1
San Bernardino Avenue between Church Street and Cheryl Street	7,600	< 50	< 50	89	63.1
San Bernardino Avenue between Cheryl Street and Judson Street	7,400	< 50	< 50	95	63.5
San Bernardino Avenue between Judson Street and Dearborn Street	8,500	< 50	71	152	66.6

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
San Bernardino Avenue between Dearborn Street and Wabash Avenue	3,600	< 50	< 50	87	62.2
San Bernardino Avenue east of Wabash Avenue	3,500	< 50	< 50	85	62.7
San Mateo Street between Brookside Avenue and Olive Avenue	9,800	< 50	53	110	63.3
San Mateo Street between Olive Avenue and Fern Avenue	9,800	< 50	53	110	63.3
San Mateo Street between Fern Avenue and Cypress Avenue	6,000	< 50	< 50	64	59.6
San Mateo Street south of Cypress Avenue	6,000	< 50	< 50	64	59.6
San Timoteo Canyon Road between Barton Road and Alessandro Road	7,700	< 50	67	143	66.2
San Timoteo Canyon Road east of Alessandro Road	8,900	< 50	< 50	89	63.1
Sand Canyon Road east of Crafton Avenue	11,200	< 50	98	209	67.5
Tennessee Street between San Bernardino Avenue and Lugonia Avenue	10,600	< 50	76	164	67.0
Tennessee Street between Lugonia Avenue and I-10	14,300	< 50	94	200	67.2
Tennessee Street between I-10 and Colton Avenue	22,400	63	127	270	68.8
Tennessee Street between Colton Avenue and Redlands Boulevard	22,400	61	126	270	69.2
Tennessee Street between Redlands Boulevard and State Street	13,700	< 50	92	195	67.1
Tennessee Street between State Street and Orange Avenue	12,800	< 50	90	192	67.0
Terracina Boulevard south Barton Road and Brookside Avenue	12,000	< 50	63	134	65.1
Texas Street between Pennsylvania Avenue and Lugonia Avenue	5,300	< 50	< 50	97	63.6
Texas Street between Lugonia Avenue and Colton Avenue	3,900	< 50	< 50	79	62.3
Texas Street south Colton Avenue	3,400	< 50	< 50	74	60.6
University Street between Pennsylvania Avenue and Lugonia Avenue	2,900	< 50	< 50	< 50	55.3

**Table 3.12-4: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane
University Street between Lugonia Avenue and Colton Avenue	10,400	< 50	< 50	84	62.7
Wabash Avenue between San Bernardino Avenue and Lugonia Avenue	1,500	< 50	< 50	< 50	56.0
Wabash Avenue between Lugonia Avenue and Colton Avenue	3,300	< 50	< 50	57	59.4
Wabash Avenue between Colton Avenue and Citrus Avenue	4,400	< 50	< 50	84	61.5
Wabash Avenue between Citrus Avenue and Highland Avenue	4,400	< 50	< 50	99	63.8
Wabash Avenue between Highland Avenue and 5th Avenue	4,400	< 50	< 50	99	63.8
I-210 between 5th Street and Pioneer Avenue	79,800	413	889	1,914	81.6
I-210 between San Bernardino Avenue and Lugonia Avenue	112,000	557	1,198	2,579	82.5
I-10 between Mountain Avenue and California Street	164,000	704	1,513	3,258	83.7
I-10 between California Street and Alabama Street	130,600	599	1,288	2,773	82.7
I-10 between Tennessee Street and Orange Street	104,000	556	1,193	2,569	82.2
I-10 between 6th Street and University Street	157,000	750	1,613	3,473	84.1
I-10 between Cypress Avenue and Ford Street	138,000	721	1,550	3,338	83.9
I-10 between Wabash Avenue and Yucaipa Boulevard	138,000	725	1,559	3,357	83.9

Note: Traffic noise within 50 ft. of the roadway centerline should be evaluated with site-specific information.

ADT = Average Daily Traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft. = feet

Source: LSA Associates, Inc., 2017.

### Rail Noise

The noise impacts associated with rail activities depend on numerous factors, including the type of train, the length of train, the physical track conditions, the geometry and intervening structures between the rail line and its receptor, the number of trains operating during the daytime, the

number of trains operating during the nighttime, and the speed of the train. Additionally, if the horn is required to sound a warning (typically at at-grade crossings), the noise level impact will be greater to those uses nearest the intersection.

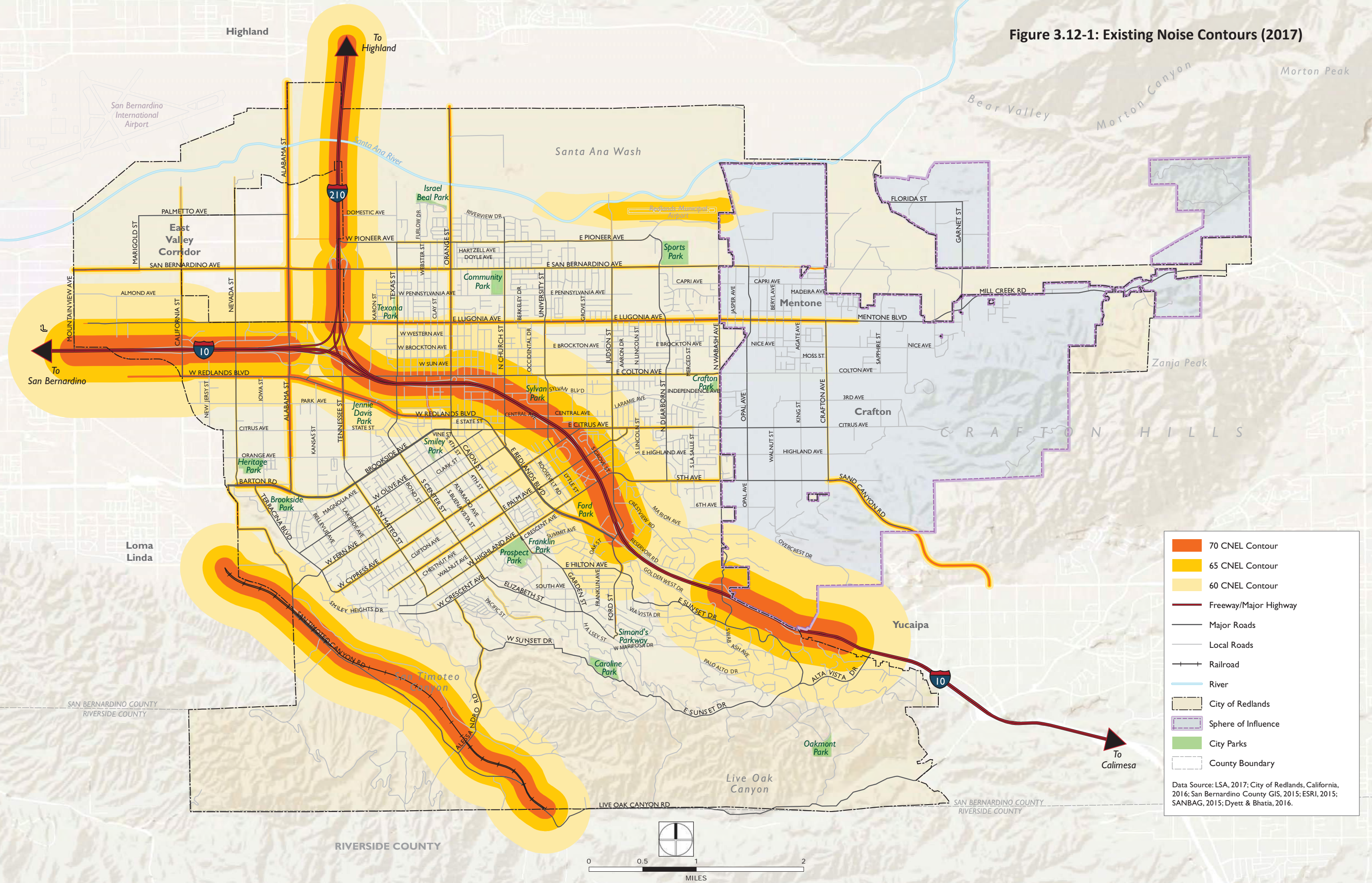
Currently, two rail lines pass through portions of the city. The first is located along the Redlands Boulevard corridor and runs in an east-west direction generally following I-10, and runs through Downtown Redlands. This rail line is currently inactive. However, the San Bernardino Associated Governments' (SANBAG's) Redlands Passenger Rail Project is now cleared for final design and construction. Impacts associated with the addition of the operations within the Redlands Corridor were assessed in a technical noise report, which follows the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment. Mitigation measures were provided in the analysis; however, it was determined that further analysis to assess all the potential impacts on the surrounding noise-sensitive uses would be necessary once the final design is complete. Noise contours for the Passenger Rail Project were not available, but the final project EIR for the Passenger Rail Project screened various locations within screening distance of the rail line to show potential noise impacts. With the implementation of quiet zones, most locations would experience less than severe noise impacts. Figures 3.12-2a and 3.12-2b reproduce figures from the Passenger Rail Project EIR showing noise impacts with quiet zones. In February 2015, the City Redlands approved quiet zones for the Redlands Passenger Rail Project. The project is currently in the design and construction stages.

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. Figure 3.12-1 shows typical noise contours for a rail line along the Union Pacific rail line. The contours show values typical for train noise rather than actual, as data specific to this line was not available. For all future developments within the city that fall within the required noise screening distances as specified in the FTA Noise and Vibration Manual, a detailed noise analysis would be required. The screening distances for commuter rail and freight trains are 750 feet with no obstruction between the rail line and receptor and 375 feet with intervening buildings. The City of Redlands has approved a quiet zone for the Union Pacific Line at Alessandro Road in the San Timoteo Canyon, and the project has been funded. It is currently in the design stage.

### **Aircraft Noise**

The Redlands Municipal Airport is a source of noise, primarily from takeoffs and landings. Average inbound and outbound flights from this airport are approximately 120 per day. Aircrafts at this airport include 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. Aircraft-related noise would not exceed 65 dBA CNEL outside the boundary of the Redlands Municipal Airport. Figure 3.12-3 shows the noise contour map for Redlands Municipal Airport (Shutt Moen Associates, 1997). Figure 3.12-4 shows the noise contour for the San Bernardino International Airport (Coffman Associates, Inc., 2010). As shown, the airport is not a significant source of noise within the Planning Area.

Figure 3.12-1: Existing Noise Contours (2017)



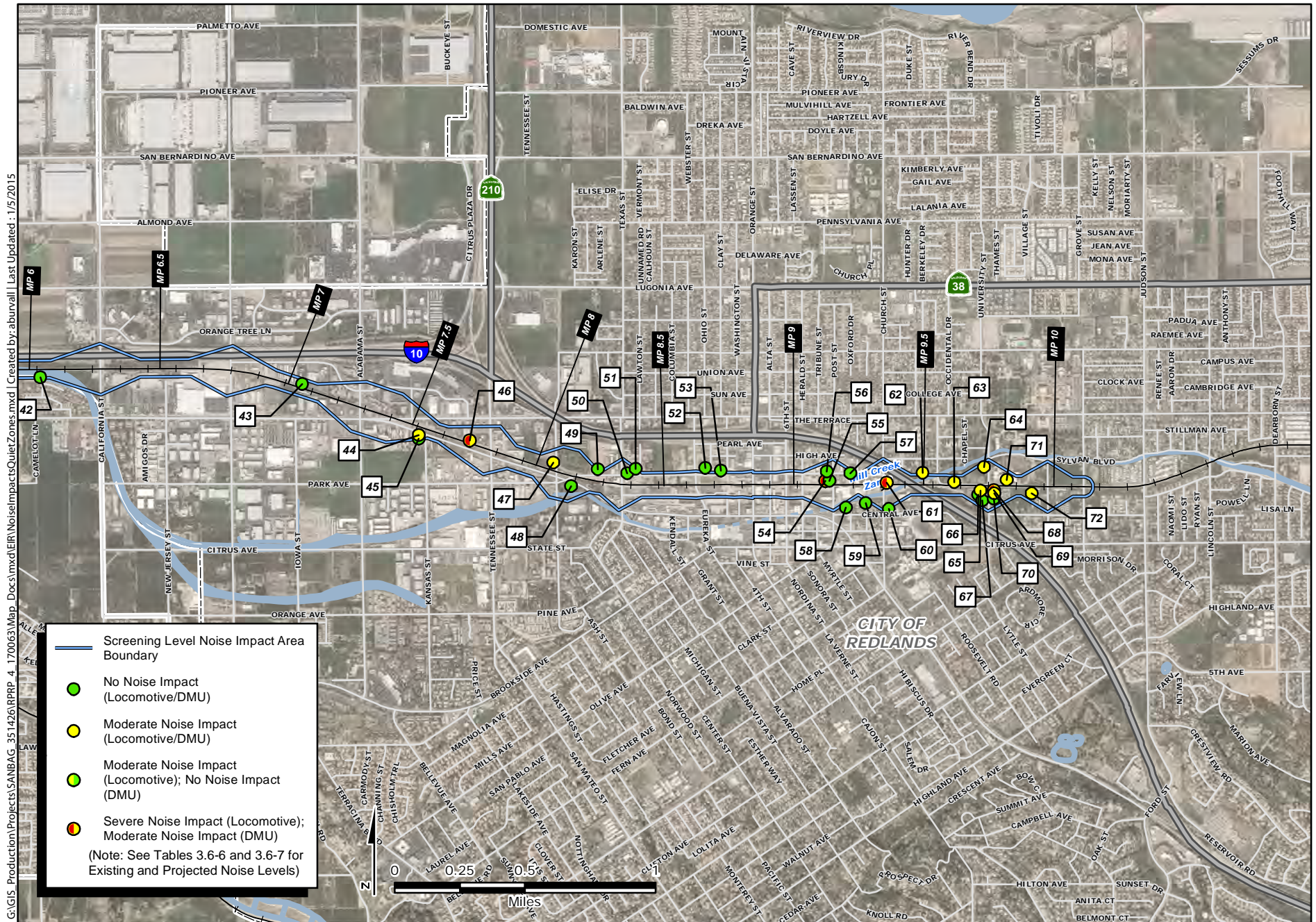
- 70 CNEL Contour
- 65 CNEL Contour
- 60 CNEL Contour
- Freeway/Major Highway
- Major Roads
- Local Roads
- Railroad
- River
- City of Redlands
- Sphere of Influence
- City Parks
- County Boundary

Data Source: LSA, 2017; City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

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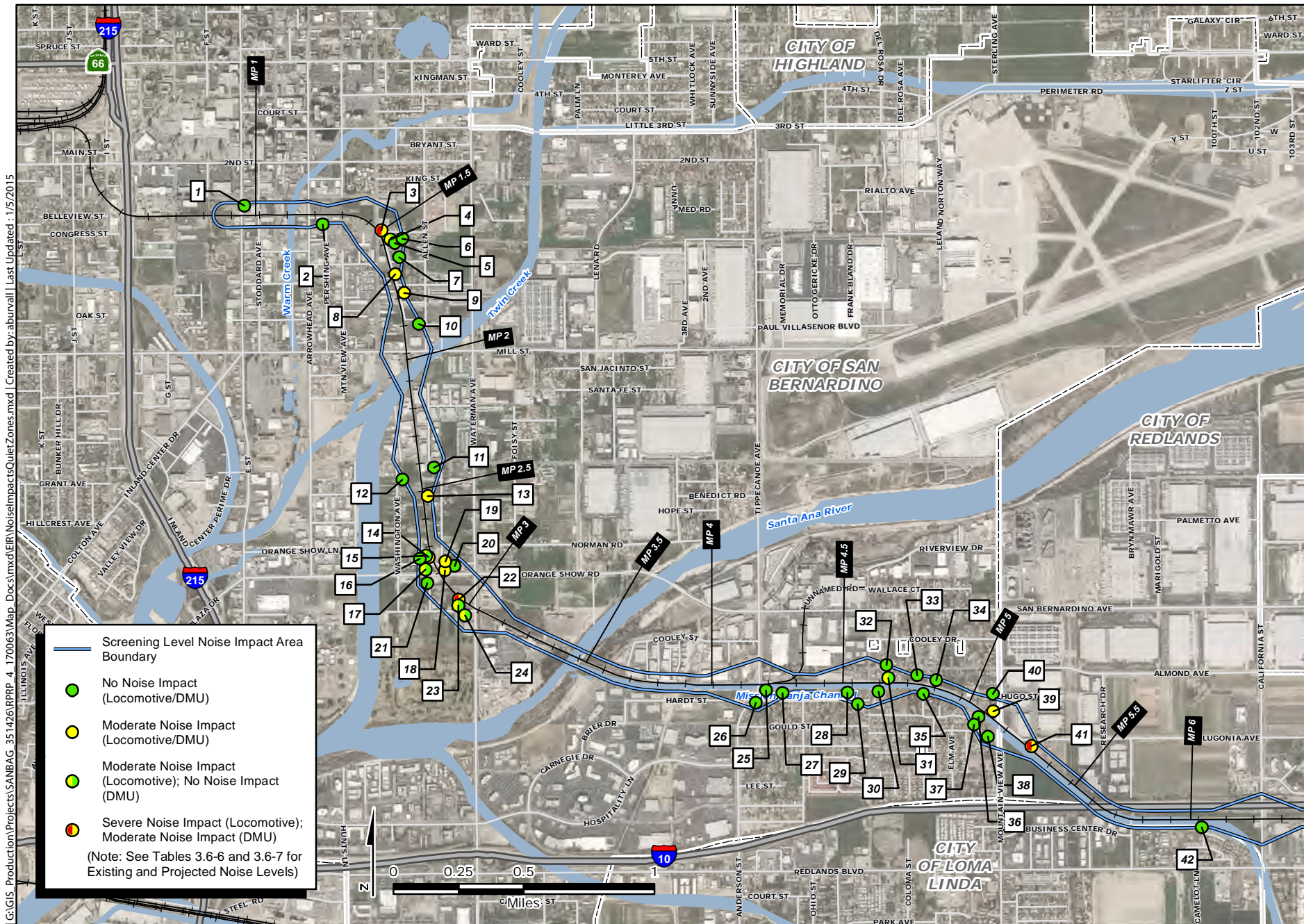


Figure 3.12-2a: Redlands Passenger Rail Noise Impacts with Quiet Zones - Eastern Study Area



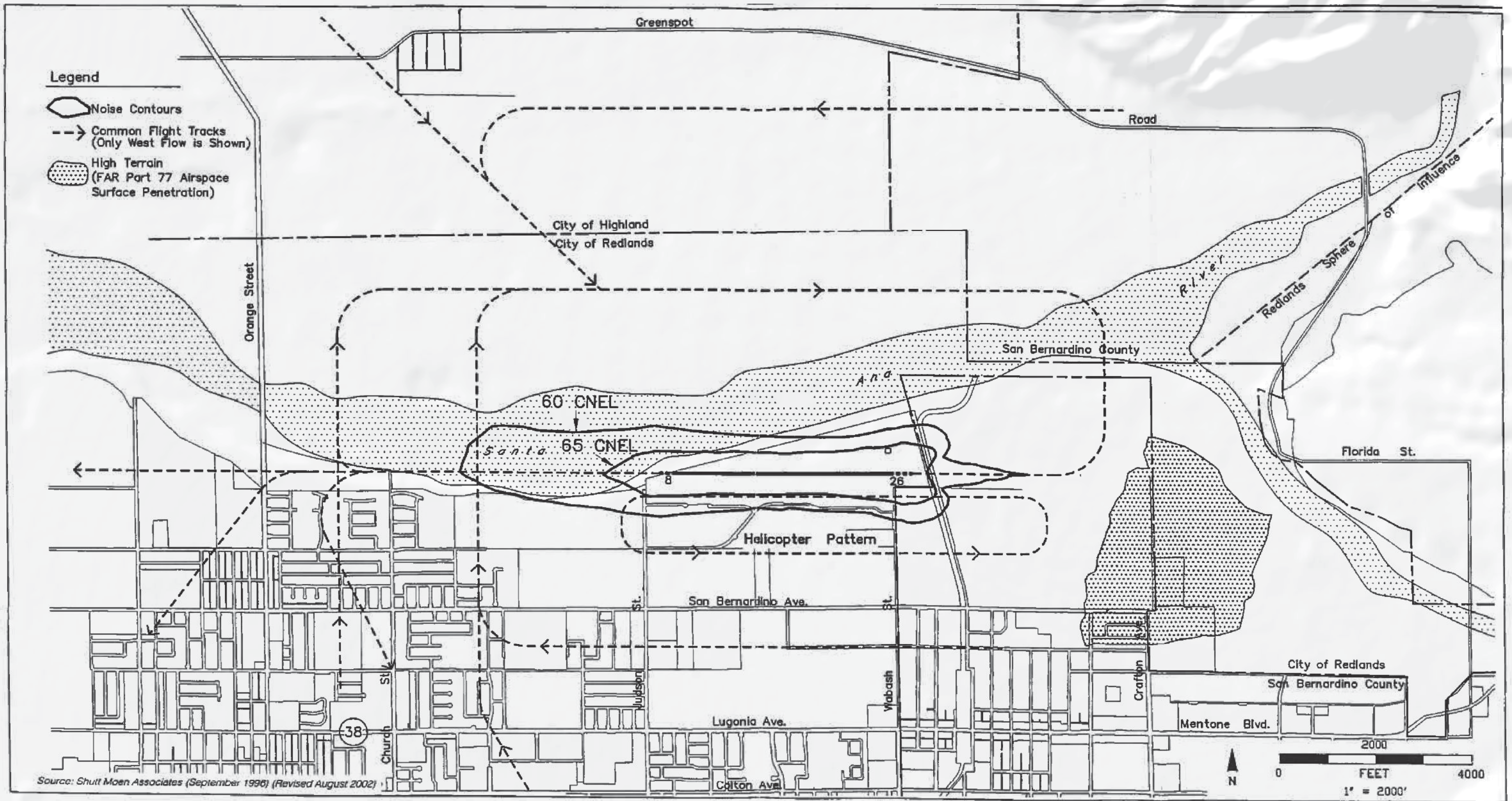
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Figure 3.12-2b: Redlands Passenger Rail Noise Impacts with Quiet Zones - Western Study Area



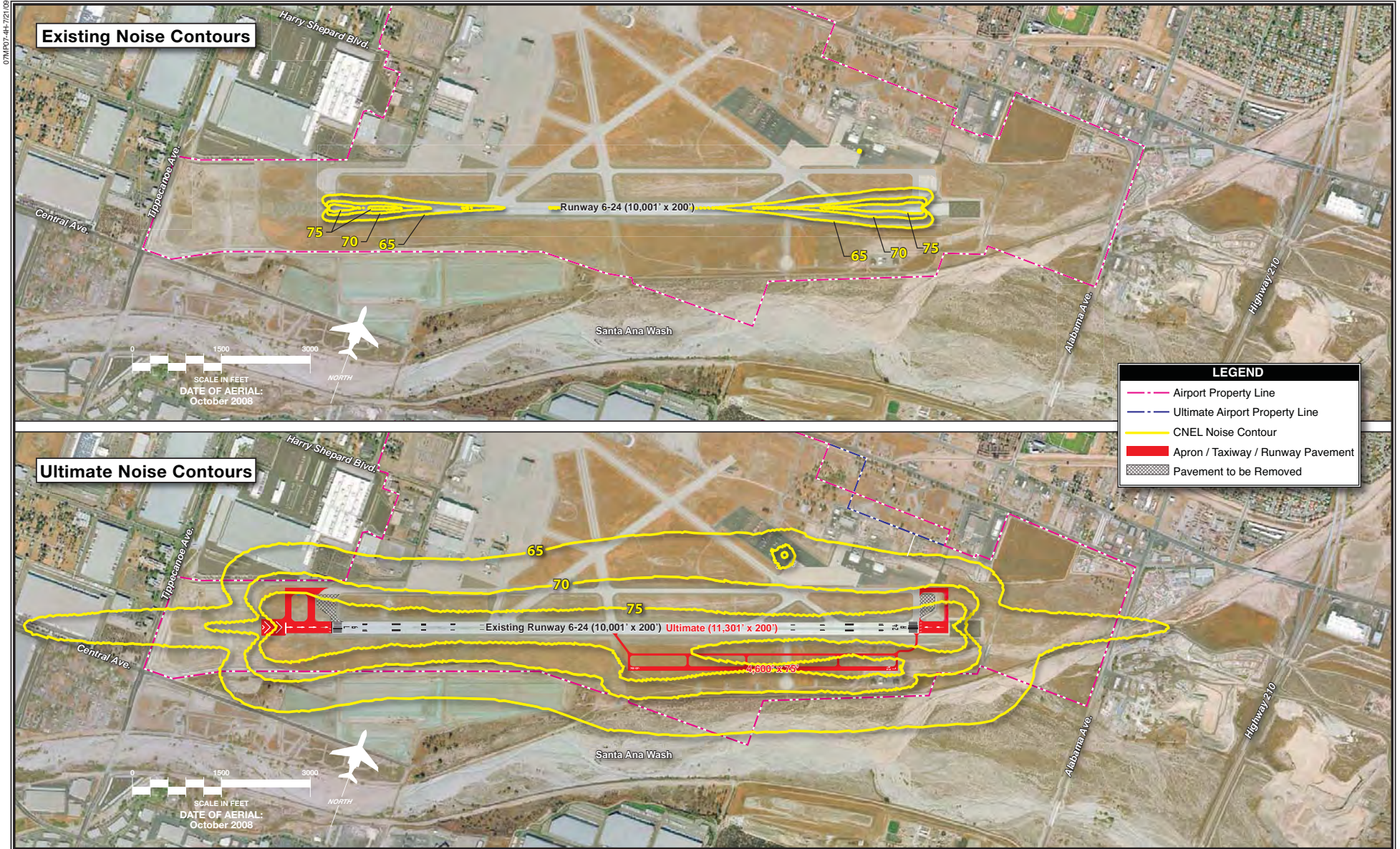
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Figure 3.12-3: Redlands Municipal Airport Noise Contours



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Figure 3.12-4: San Bernardino International Airport Noise Contours



Source: Coffman Associates, Inc., 2010

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### **Stationary Noise Sources**

A stationary noise source is a land use, building, or activity in a relatively fixed location that emits noise. They may be temporary, intermittent, or continuous. Stationary noise sources are common in many noise-sensitive areas. Motors, appliances, air conditioners, lawn and garden equipment, power tools, and generators, and amplified sounds are often found in residential neighborhoods, as well as on or near the properties of schools, hospitals, and parks. Industrial, commercial, and manufacturing facilities can also generate stationary noise that may affect sensitive land uses. Another local source of nuisance noise reported during public meetings on the General Plan is diesel trucks idling in residential neighborhoods, especially late at night or in the early morning, and to a lesser degree diesel truck noise from commercial and industrial areas that are close to residential areas. The emitted noise can usually be reduced to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, block walls, acoustically-rated windows, dense landscaping, or by changing the location of the noise producer. Maximum noise exposure levels from stationary sources for noise-sensitive uses are regulated by the Section 8.06.070, Exterior Noise Limits, and Section 8.06.080, Interior Noise Standards, of the City's Municipal Code.

Many infrequent sources of noise, such as amplified music from bars and private parties, diesel engines idling from commercial trucks, dogs barking, and illegal firework use, are another type of stationary source noise. The effects or significance of nuisance noise can be compounded by the time of day, volume, and proximity to sensitive receptors. For instance, a loud party might be tolerated by neighbors in the early evening hours but be considered a nuisance after 10:00 p.m. The City's Noise Ordinance contains regulations limiting the allowable noise generated by private parties and other events.

Commercial-industrial and light industrial land uses in the Planning Area 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. The City's Noise Ordinance contains regulations limiting the allowable noise generated by infrequent noise.

## **REGULATORY SETTING**

### **Federal Regulations**

#### ***Department of Housing and Urban Development***

The U.S. Department of Housing and Urban Development's environmental criteria and standards are presented in 24 Code of Federal Regulations (CFR) Part 51. New construction proposed in high noise areas (exceeding 65 dBA day-night average sound level ( $L_{dn}$ ) must incorporate noise attenuation features to maintain acceptable interior noise levels. A goal of 45 dBA  $L_{dn}$  is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction, any building will provide sufficient attenuation to achieve an interior level of 45 dBA  $L_{dn}$  or less if the exterior level is 65 dBA  $L_{dn}$  or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 decibels, but not exceeding 75 dB) require a minimum of 5 dB of additional noise attenuation for buildings having noise sensitive uses if the  $L_{dn}$

is greater than 65 decibels, but does not exceed 70 dB, or a minimum of 10 dB of additional noise attenuation if the day-night average is greater than 70 dB, but does not exceed 75 dB.

### **Federal Highway Administration**

An assessment of noise and consideration of noise abatement per Title 23 of the CFR, Part 772, “Procedures for Abatement of Highway Traffic Noise and Construction Noise,” is required for proposed federal or federal-aid highway construction projects on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. The FHWA considers noise abatement for sensitive receivers, such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals when “worst-hour” noise levels approach or exceed 67 dBA  $L_{eq}$ . The California Department of Transportation (Caltrans) has further defined “approach” as meaning to be within 1 dB of the Noise Abatement Criteria (NAC).

### **Federal Transit Administration**

This analysis uses the Federal Transit Administration’s vibration impact criteria for sensitive buildings, residences, and institutional land uses near railroads. The thresholds for residences and buildings where people normally sleep are 72 vibration decibels (VdB) for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day). As the threshold of perception is usually taken to be approximately 65 VdB, vibration from train pass-bys may be felt even if the requirements are met.

### **Federal Aviation Administration Standards**

Enforced by the Federal Aviation Administration (FAA), Title 14 of the CFR, Part 150 describes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs. Title 14 also identifies the land uses that are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that sound levels up to 45 dBA CNEL are acceptable within residential buildings.

### **Federal Railroad Noise Emissions Compliance Regulation**

The Federal Railroad Administration’s Office of Safety is responsible for enforcing the Railroad Noise Emissions Compliance Regulation that sets maximum sound levels from railroad equipment and for regulating locomotive horns.

## **State Regulations**

### **California Noise Control Act of 1973**

The California Noise Control Act of 1973 is in Sections 46000 through 46080 of the California Health and Safety Code. The act finds that excessive noise can result in physiological, psychological, and economic damage. This act states that it is the policy of the State of California to provide an environment for all Californians free from noise that jeopardizes their health or welfare and they are entitled to a peaceful and quiet environment without the intrusion of noise that may be hazardous to their health or welfare.



### **California Health and Safety Code Section 118825–118830**

This law addresses noise pollution regarding supersonic transport aircraft and prohibits the service of private or commercial aircraft landings or take offs within the state that do not comply with federal certification limits for subsonic jet transport aircraft.

### **State of California Building Code**

The State of California’s noise insulation standards are codified in the California Code of Regulations (CCR), Title 24. These noise standards are applied to new construction in California for the purpose of ensuring that the level of exterior noise transmitted to and received within the interior living spaces of buildings is compatible with their comfortable use. For new residential dwellings, hotels, motels, dormitories, and school classrooms, the acceptable interior noise limit for habitable rooms in new construction is 45 dBA CNEL or  $L_{dn}$ . Title 24 requires acoustical studies for residential development in areas exposed to more than 60 dBA CNEL to demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or  $L_{dn}$  at the facade of a building, a report must be submitted with the building plans that describe the noise control measures that have been incorporated into the design of the project to meet the 45-dBA noise limit.

### **California Code of Regulations Title 21- Airport Noise Standards**

Noise standards governing the operation of aircraft and aircraft engines for all airports are described in CCR Title 21, Division of Aeronautics, Subchapter 6 “Noise Standards.” The regulations are designed to cause the airport proprietor, aircraft operator, local governments, pilots, and the Department of Aeronautics to work cooperatively to diminish noise. The regulations are achieved by controlling and reducing noise that affects communities in the vicinity of airports.

### **State of California Land Use Compatibility Criteria**

The State of California adopts suggested land use noise compatibility levels as part of its General Plan Update Guidelines. These suggested guidelines are an integral tool to gauge the compatibility of land uses relative to existing and future noise levels. The guidelines identify normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated into the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.

### **Local Regulations**

#### **City of Redlands Noise Ordinance**

Section 8.06.070 of the Municipal Code limits exterior noise at residential properties to 60 dBA from 7:00 a.m. to 10:00 p.m. and 50 dBA from 10:00 p.m. to 7:00 a.m., commercial properties to 65 dBA from 7:00 a.m. to 10:00 p.m. and 60 dBA from 10:00 p.m. to 7:00 a.m., and industrial properties to 75 dBA at any time. It is unlawful for any person to create noise at noise-sensitive land uses that causes the sound level to exceed the following:

- The noise standard for a cumulative period of 30 minutes in any hour;

- The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour;
- The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour;
- The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- The noise standard plus 20 dBA for any period of time.

Table 3.12-5 lists the maximum exterior noise limits for each land use.

**Table 3.12-5: Maximum Exterior Noise Limits, LN (dBA)**

Receiving Land Use	Time Period	L <sub>50</sub>	L <sub>25</sub>	L <sub>8</sub>	L <sub>2</sub>	L <sub>max</sub>
Residential (single-family and multifamily)	Day: 7:00 a.m.–10:00 p.m.	60	65	70	75	80
	Night: 10:00 p.m.–7:00 a.m.	50	55	60	65	70
Commercial	Day: 7:00 a.m.–10:00 p.m.	65	70	75	80	85
	Night: 10:00 p.m.–7:00 a.m.	60	60	65	70	75
Industrial	Anytime	--	--	--	--	75

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

Source: City of Redlands Municipal Code, 2004.

Section 8.06.080 of the Municipal Code limits interior noise at residential properties to 45 dBA, commercial properties to 50 dBA, and industrial properties to 70 dBA at any time. It is unlawful for any person to create noise at noise-sensitive land uses that causes the sound level to exceed the following:

- The noise standard for a cumulative period of more than 5 minutes in any hour;
- The noise standard plus 5 dBA for a cumulative period of more than 1 minute in any hour;
- The noise standard plus 10 dBA for any period of time; or

Table 3.12-6 lists the maximum exterior noise limits for residential land uses.

**Table 3.12-6: Maximum Interior Noise Limits, LN (dBA)**

Receiving Land Use	Time Period	L <sub>8</sub>	L <sub>2</sub>	L <sub>max</sub>
Residential (single-family and multifamily), Institutional; Hotels	Any Time	45	50	55
Commercial	Any Time	50	55	60
Industrial	Any Time	60	65	70

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

Source: City of Redlands Municipal Code, 2004.

Section 8.06.090 of the City's Municipal Code identifies prohibited noise disturbances, including construction and demolition activities. Construction activity is limited to 7:00 a.m. to 6:00 p.m. on weekdays and Saturdays. Construction activities that create a noise disturbance across a residential or commercial real property line, except for emergency work by public service utilities, the City, or another government entity are prohibited. All mobile or stationary internal combustion engine-powered equipment or machinery shall be equipped with exhaust and air intake silencers in proper working order. All motorized equipment used in such an activity shall be equipped with functioning mufflers.

### **Measure U**

The City of Redlands certified Measure U in 1997 to address impacts from growth. The measure includes a provision for the establishment of noise standards in residential areas, to be incorporated into the City's General Plan. Implementing policies for the noise standards include requirements for a noise impact evaluation, consideration of a noise monitoring program, the minimization of transportation noise, and other requirements for noise mitigation and the administration of the standards.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purposes of this EIR, a significant impact would occur if the Proposed Project would:

- Criterion 1: Expose persons to or generate noise levels in excess of the noise standards established in the proposed General Plan Noise Element or applicable standards of other agencies;**
- Criterion 2: Expose people to or generate excessive groundborne vibration or groundborne noise levels;**
- Criterion 3: Result in a substantial permanent, temporary, or periodic increase in ambient noise levels above levels existing without the proposed General Plan; or**
- Criterion 4: Result in a project that exposes people residing or working in the project area to excessive noise levels due to the project's location within an airport land use plan noise impact area.**

### **METHODOLOGY AND ASSUMPTIONS**

#### **Construction Noise**

Potential short-term construction noise impacts were evaluated using the FHWA Roadway Construction Noise Model (FHWA 2006) and reference noise levels for each piece of construction equipment from the same model. Construction noise levels from a group of specific construction equipment that would operate together during the worst construction phase were calculated at a distance of 50 feet.

Potential short-term construction vibration impacts were evaluated using FTA methodology for construction vibration from FTA Transit Noise and Vibration Guidance Manual (FTA 2006). The distance within the construction vibration damage criteria was determined based on reference vibration levels for specific construction equipment.

### **Traffic Noise**

The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the City. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values.

### **Stationary Noise**

Potential long-term (operational) noise impacts from stationary non-transportation sources are regulated by the Section 8.06.070, Exterior Noise Limits, and Section 8.06.080, Interior Noise Standards, of the City's Municipal Code. The City exterior and interior maximum noise limits are shown Tables 3.12.7 and 3.12.8, respectively.

## **SUMMARY OF IMPACTS**

Implementation of the Proposed Project would potentially result in noise and vibration impacts. These impacts could occur due to future construction activities such as grading and excavation associated with development, and due to increased vehicular traffic associated with future growth within the Planning Area. The potential short-term and long-term noise and vibration impacts from the implementation of the Proposed Project would be considered less than significant. The implementation of the proposed General Plan principles and actions would further minimize short-term and long-term noise and vibration levels. The proposed Climate Action Plan (CAP) does not include any land use changes or other measures that would result in noise or vibration increases, and would therefore have no impact.

## **IMPACTS**

**Impact 3.12-1 Implementation of the Proposed Project would not expose persons to or generate noise levels in excess of the noise standards established in the proposed General Plan Noise Element or applicable standards of other agencies. (Less than Significant)**

Implementation of the proposed General Plan may result in both temporary and permanent increases in noise levels, but the increases associated with various noise sources would be less than significant, as discussed below. The proposed CAP does not include any land use changes or other measures that would result in noise increases, and would therefore not generate noise levels in excess of existing standards (no impact).

### **Construction Noise**

Future development associated with the implementation of the General Plan update would generate noise levels from construction activities. Two types of short-term noise impacts could occur during

construction. First, construction crew commutes and the transport of construction equipment and materials to construction sites would incrementally increase noise levels on access roads leading to the sites. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to 55 dBA  $L_{max}$ ), the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport would be less than significant.

The second type of short-term noise impact is related to noise generated during grading and building erection on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 3.12-7 lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

Typical noise levels range up to 88 dBA  $L_{max}$  at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of a project under implementation of the proposed General Plan is expected to require the use of scrapers, bulldozers, and water trucks/pickup trucks. Noise associated with the use of construction equipment is estimated to be between 55 and 85 dBA  $L_{max}$  at a distance of 50 feet from the active construction area for the grading phase. As seen in Table 3.12-7, the maximum noise level generated by each scraper is assumed to be approximately 85 dBA  $L_{max}$  at 50 feet from the scraper in operation. Each bulldozer would generate approximately 85 dBA  $L_{max}$  at 50 feet. The maximum noise level generated by water trucks/pickup trucks is approximately 55 dBA  $L_{max}$  at 50 feet from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 88 dBA  $L_{max}$  (at a distance of 50 feet from an active construction area).

**Table 3.12-7: Typical Construction Equipment Noise Levels**

<i>Equipment Description</i>	<i>Spec 721.560<sup>1</sup> L<sub>max</sub> at 50 ft.</i>	<i>Actual Measured<sup>2</sup> L<sub>max</sub> at 50 ft.</i>
Backhoes	80	78
Compactor (ground)	80	83
Cranes	85	81
Dozers	85	82
Dump Truck	84	76
Excavators	85	81
Flat Bed Trucks	84	74
Front-End Loaders	80	79
Graders	85	N/A <sup>3</sup>
Jackhammer	85	89
Pickup Truck	55	75
Pneumatic Tools	85	85
Pumps	77	81
Rock Drill	85	81
Roller	85	80
Scrapers	85	84
Tractors	84	N/A
Vibratory Pile Driver	95	101

Note: Noise levels reported in this table are rounded to the nearest whole number.

- 1 Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
- 2 The maximum noise level was developed based on the average noise level measured for each piece of equipment during the CA/T program in Boston, Massachusetts.
- 3 Since the maximum noise level based on the average noise level measured for this piece of equipment was not available, the maximum noise level developed based on Spec 721.560 was used.

L<sub>max</sub> = maximum instantaneous sound level

N/A = not applicable

Source: Federal Highway Administration Roadway Construction Noise Model, 2006.

The exact location of projects and construction activities that would be implemented under the proposed General Plan are not known at this time, though it is likely that construction activities would take place within the vicinity of sensitive receptors. The City regulates noise associated with construction equipment and activities through its Noise Control Ordinance in the Municipal Code. Thus, compliance with the City's Noise Control Ordinance in the Municipal Code in Section 8.06.090 would be required for any future construction. Therefore, the noise impact from construction activities associated with implementation of the proposed General Plan would be less than significant.

### **Traffic Noise**

The proposed General Plan update would generate traffic, which would increase traffic noise levels along existing and future roadways. The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the Planning Area. Future traffic volumes were those analyzed for Section 3.15: Transportation, and extrapolated traffic volumes from the SBTAM model were used to assess the potential traffic noise impacts along the street segments in the Planning Area. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels were weighted and summed over 24-hour periods to determine the CNEL values. Future traffic volumes were used to assess future traffic noise levels. Table 3.12-8 provides the traffic noise levels for the future without and with Proposed Project, respectively. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix F. Figure 3.12-5 shows noise level contours along local roadways and freeways within the City without the Proposed Project. Figure 3.12-6 shows noise level contours along local roadways and freeways within the Planning Area with the Proposed Project.

Table 3.12-8 show the 70, 65, and 60 dBA CNEL impact zones extend up to 156, 329, and 705 feet, respectively, from the roadway centerline along local roadways and the 70, 65, and 60 dBA CNEL impact zones extend up to 922, 1,983, and 4,270 feet, respectively, from the roadway centerline along freeways. Also, Table 3.12-8 shows that traffic noise would increase by up to 1.2 dBA, which is normally not perceptible by the human ear in an outdoor environment. Therefore, the potential traffic noise impacts associated with the Proposed Project would be less than significant.

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**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
5th Avenue between Ford Street and Dearborn Street	9,000	< 50	84	174	65.9	8,800	-200	< 50
5th Avenue between Dearborn Street and Wabash Avenue	9,000	< 50	84	174	65.9	8,800	-200	< 50
Alabama Street north of Palmetto Avenue	21,400	79	155	328	69.3	21,700	300	74
Alabama Street between Palmetto Avenue and Pioneer Avenue	19,200	75	145	305	68.8	19,500	300	70
Alabama Street between Pioneer Avenue and San Bernardino Avenue	19,000	74	144	303	68.8	19,300	300	69
Alabama Street between San Bernardino Avenue and Lugonia Avenue	40,200	113	233	497	72.0	40,800	600	113
Alabama Street between Lugonia Avenue and I-10	40,200	97	198	421	70.9	40,800	600	97
Alabama Street between I-10 and Redlands Boulevard	30,200	104	213	454	71.4	30,200	0	99
Alabama Street between Redlands Boulevard and Park Avenue	16,400	74	144	303	68.8	16,400	0	68
Alabama Street between Park Avenue and Citrus Avenue	16,400	84	167	352	69.8	16,400	0	78
Alabama Street between Citrus Avenue and Orange Avenue	14,900	79	157	330	69.4	14,900	0	74
Alabama Street between Orange Avenue and Barton Road	12,600	63	117	243	67.3	12,900	300	57
Alessandro Road between Crescent Avenue and Creekside Drive	5,200	< 50	62	134	65.7	5,200	0	< 50
Alessandro Road between Creekside Drive and San Timoteo Canyon Road	5,200	< 50	62	134	65.7	5,200	0	< 50
Barton Road between Nevada Street and Terracina Boulevard	28,700	98	205	440	72.0	28,900	200	98
Barton Road between Terracina Boulevard and Alabama Street	28,700	98	205	440	72.0	28,900	200	98
Barton Road between Alabama Street and Bellevue Avenue	13,300	< 50	107	225	67.6	13,400	100	< 50
Barton Road between Bellevue Avenue and San Mateo Street	13,300	< 50	107	225	67.6	13,400	100	< 50
Beaumont Avenue east of Nevada Street	2,900	< 50	< 50	< 50	58.8	2,900	0	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Cajon Street between Citrus Avenue and Vine Street	10,400	< 50	< 50	85	61.0	10,500	100	< 50
Cajon Street between Vine Street and Olive Avenue	10,400	< 50	< 50	82	61.9	10,500	100	< 50
Cajon Street between Olive Avenue and Fern Avenue	10,400	< 50	< 50	82	62.5	10,500	100	< 50
Cajon Street between Fern Avenue and Cypress Avenue	10,400	< 50	< 50	105	64.1	10,500	100	< 50
Cajon Street between Cypress Avenue and Palm Avenue	10,400	< 50	< 50	105	64.1	10,500	100	< 50
Cajon Street between Palm Avenue and Highland Avenue	10,400	< 50	< 50	105	64.1	10,500	100	< 50
Cajon Street south of Highland Avenue	4,100	< 50	< 50	57	60.1	4,100	0	< 50
California Street north of San Bernardino Avenue	6,000	< 50	66	123	62.7	6,000	0	< 50
California Street between San Bernardino Avenue and I-10	19,600	67	126	262	67.8	19,600	0	60
California Street between I-10 and Redland Boulevard	39,800	97	197	418	70.9	39,800	0	92
Center Street between Brookside Avenue and Glenwood Drive	7,700	< 50	< 50	107	64.3	7,800	100	< 50
Center Street between Glenwood and Olive Avenue	7,700	< 50	< 50	107	64.3	7,800	100	< 50
Center Street between Olive Avenue and Fern Avenue	7,700	< 50	< 50	107	64.3	7,800	100	< 50
Center Street between Fern Avenue and Cypress Avenue	7,700	< 50	< 50	107	64.3	7,800	100	< 50
Center Street between Cypress Avenue and Highland Avenue	4,800	< 50	< 50	78	62.2	4,800	0	< 50
Center Street south of Highland Avenue	6,100	< 50	< 50	92	63.3	6,200	100	< 50
Church Street between San Bernardino Avenue and Lugonia Avenue	7,000	< 50	< 50	95	62.9	7,000	0	< 50
Church Street between Lugonia Avenue and Colton Avenue	7,300	< 50	< 50	97	63.6	7,300	0	< 50
Church Street between Colton Avenue and Stewart Avenue	7,300	< 50	< 50	97	63.6	7,300	0	< 50
Church Street between Stuart Avenue and Central Avenue	7,300	< 50	< 50	86	62.8	7,300	0	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Church Street between Central Avenue and Citrus Avenue	7,300	< 50	< 50	86	62.8	7,300	0	< 50
Church Street south of Citrus Avenue	7,300	< 50	< 50	86	62.8	7,300	0	< 50
Citrus Avenue between San Mateo Street and 6th Street	9,500	< 50	< 50	91	62.0	9,500	0	< 50
Citrus Avenue between 6th Street and Olive Avenue	9,500	< 50	< 50	91	62.0	9,500	0	< 50
Citrus Avenue between Olive Avenue and Redlands Boulevard	9,500	< 50	< 50	91	62.0	9,500	0	< 50
Citrus Avenue between Redlands Boulevard and University Street	7,100	< 50	< 50	76	60.7	7,100	0	< 50
Citrus Avenue between University Street and Cypress Avenue	7,100	< 50	67	139	64.9	7,100	0	< 50
Citrus Avenue between Cypress Avenue and Judson Street	12,100	< 50	93	198	67.2	12,100	0	< 50
Citrus Avenue between Judson Street and Dearborn Street	10,700	< 50	86	182	66.6	10,700	0	< 50
Citrus Avenue between Dearborn Street and La Salle Street	6,800	< 50	68	142	65.0	6,800	0	< 50
Colton Avenue between Alabama Street and Tennessee Street	5,500	< 50	< 50	101	62.2	5,600	100	< 50
Colton Avenue between Tennessee Street and Texas Street	5,500	< 50	< 50	101	62.2	5,600	100	< 50
Colton Avenue between Texas Street and Orange Street	5,500	< 50	< 50	98	63.7	5,600	100	< 50
Colton Avenue between Orange Street and Church Street	8,700	< 50	62	133	65.7	8,800	100	< 50
Colton Avenue between Church Street and University Street	14,000	< 50	69	149	66.4	14,200	200	< 50
Colton Avenue between University Street and Judson Street	14,000	< 50	70	149	65.8	14,200	200	< 50
Colton Avenue between Judson Street and Dearborn Street	9,700	< 50	67	143	66.1	9,800	100	< 50
Colton Avenue between Dearborn Street and Kensington Drive	6,200	< 50	59	127	65.4	6,300	100	< 50
Colton Avenue between Kensington Drive and	4,200	< 50	47	120	64.2	4,300	100	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Crafton Avenue between Mentone Boulevard and Nice Avenue	6,800	< 50	< 50	74	61.2	6,800	0	< 50
Crafton Avenue between Nice Avenue and Colton Avenue	9,500	< 50	< 50	91	63.2	9,500	0	< 50
Crafton Avenue between Colton Avenue and Citrus Avenue	11,800	< 50	< 50	105	64.2	11,800	0	< 50
Crafton Avenue between Citrus Avenue and Sand Canyon Road	11,800	< 50	< 50	105	64.2	11,800	0	< 50
Cypress Avenue between Citrus Avenue and I-10 Ramps	9,100	< 50	76	159	65.8	9,100	0	< 50
Cypress Avenue between I-10 Ramps and Lytle Street	9,100	< 50	76	159	65.8	9,100	0	< 50
Cypress Avenue between Lytle Street and Roosevelt Road	9,100	< 50	76	159	65.8	9,100	0	< 50
Cypress Avenue between Roosevelt Road and Redlands Boulevard	9,100	< 50	76	159	65.8	9,100	0	< 50
Cypress Avenue between Redlands Boulevard and Cajon Street	10,600	< 50	83	176	66.4	10,500	-100	< 50
Cypress Avenue between Cajon Street and Buena Vista	10,600	< 50	83	176	66.4	10,500	-100	< 50
Cypress Avenue between Buena Vista and Center Street	7,600	< 50	72	151	65.4	7,500	-100	< 50
Cypress Avenue between Center Street and San Mateo Street	8,000	< 50	74	156	65.6	7,900	-100	< 50
Cypress Avenue south of San Mateo Street	8,000	< 50	74	156	65.6	7,900	-100	< 50
Eureka Street north of Redlands Boulevard	15,400	67	137	291	69.3	15,400	0	67
Fern Avenue between Redlands Boulevard and Myrtle Street	5,200	< 50	< 50	100	63.2	5,200	0	< 50
Fern Avenue between Myrtle Street and Cajon Street	5,200	< 50	< 50	99	63.7	5,200	0	< 50
Fern Avenue between Cajon Street and Center Street	5,100	< 50	< 50	98	63.1	5,100	0	< 50
Fern Avenue between Center Street and San Mateo Street	8,300	< 50	64	136	65.2	8,300	0	< 50
Fern Avenue between San Mateo Street and Bellevue	8,300	< 50	64	136	65.2	8,300	0	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Fern Avenue between Bellevue Avenue and Terracina Boulevard	8,300	< 50	51	110	64.4	8,300	0	< 50
Ford Street between Citrus Avenue and Highland Avenue	7,200	< 50	60	128	64.8	7,200	0	< 50
Ford Street between Highland Avenue and I-10 Ramps	7,200	< 50	60	128	65.4	7,200	0	< 50
Ford Street between I-10 Ramps and Sunset Drive	13,600	< 50	97	203	66.9	13,600	0	< 50
Ford Street south of Sunset Drive	3,400	< 50	< 50	67	61.1	3,400	0	< 50
Highland Avenue between Ford Street and Redlands Boulevard	11,800	< 50	84	178	66.5	11,800	0	< 50
Highland Avenue between Redlands Boulevard and York Street	11,800	< 50	83	177	67.0	11,800	0	< 50
Highland Avenue between York Street and Cajon Street	11,800	< 50	83	177	67.0	11,800	0	< 50
Highland Avenue between Cajon Street and Center Street	13,500	< 50	74	160	66.9	13,500	0	< 50
Highland Avenue between Center Street and San Mateo Street	5,200	< 50	< 50	85	62.7	5,200	0	< 50
Highland Avenue south of San Mateo Street	650	< 50	< 50	< 50	50.7	650	0	< 50
Judson Street north of Pennsylvania Avenue	3,900	< 50	< 50	86	62.2	3,900	0	< 50
Judson Street between Pennsylvania Avenue and Lugonia Avenue	3,900	< 50	< 50	85	62.7	3,900	0	< 50
Judson Street between Lugonia Avenue and Colton Avenue	7,400	< 50	62	131	65.0	7,400	0	< 50
Judson Street between Colton Avenue and Citrus Avenue	10,900	< 50	79	169	66.6	10,900	0	< 50
Lugonia Avenue west of California Street	8,200	< 50	61	127	64.3	8,300	100	< 50
Lugonia Avenue between California Street and Alabama Street	7,000	< 50	54	114	64.1	6,900	-100	< 50
Lugonia Avenue between Alabama Street and Citrus Avenue	22,700	59	118	249	68.2	22,400	-300	58
Lugonia Avenue between Citrus Avenue and SR-210 Ramps	22,700	64	131	278	69.0	22,400	-300	64
Lugonia Avenue between SR-210 Ramps and Texas Street	35,000	83	173	370	70.8	34,600	-400	82

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Lugonia Avenue between Texas Street and Orange Street	26,200	68	143	305	70.0	25,800	-400	67
Lugonia Avenue between Orange Street and Herald Street	27,100	70	146	312	70.2	26,700	-400	69
Lugonia Avenue between Herald Street and Church Street	20,900	65	135	289	69.6	20,800	-100	64
Lugonia Avenue between Church Street and University Street	20,900	65	135	289	69.6	20,800	-100	64
Lugonia Avenue between University Street and Judson Street	23,300	69	145	310	70.1	23,400	100	69
Lugonia Avenue between Judson Street and Dearborn Street	23,300	69	145	310	70.1	23,400	100	69
Lugonia Avenue between Dearborn Street and Revelation (up to Wabash Avenue)	23,300	70	143	305	69.6	23,400	100	70
Mentone Boulevard between Wabash Avenue and Opal Avenue	18,800	61	122	260	68.5	18,900	100	61
Mentone Boulevard between Opal Avenue and Crafton Avenue	18,600	60	122	258	68.5	18,700	100	60
Mentone Boulevard between Crafton Avenue and Plumwood Lane	14,300	< 50	102	216	67.8	14,400	100	< 50
Nevada Street north of San Bernardino Avenue	4,800	< 50	< 50	80	62.3	4,800	0	< 50
Nevada Street between San Bernardino Avenue and Almond Avenue	4,800	< 50	< 50	80	62.3	4,800	0	< 50
Nevada Street between Almond Avenue and Lugonia Avenue	4,800	< 50	< 50	80	62.3	4,800	0	< 50
Nevada Street between Lugonia Avenue and Redlands Boulevard	4,800	< 50	< 50	80	62.3	4,800	0	< 50
Nevada Street south of Redlands Boulevard	4,800	< 50	< 50	80	62.3	4,800	0	< 50
Orange Street north of Pioneer Avenue	18,800	< 50	108	228	67.7	18,800	0	< 50
Orange Street between Pioneer Avenue and San Bernardino Avenue	18,800	< 50	108	228	67.7	18,800	0	< 50
Orange Street between San Bernardino Avenue and Lugonia Avenue	17,100	< 50	102	214	67.3	17,100	0	< 50
Orange Street between Lugonia Avenue and Colton Avenue	22,900	61	123	260	68.5	22,900	0	61

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Orange Street between Colton Avenue and I-10 Ramps	22,900	61	123	260	68.5	22,900	0	61
Orange Street between I-10 Ramps and Stuart Avenue	22,000	< 50	62	130	64.4	22,200	200	< 50
Orange Street between Stuart Avenue and Oriental Avenue	22,000	< 50	69	145	65.1	22,200	200	< 50
Orange Street between Oriental Avenue and Redlands Boulevard	22,000	< 50	69	145	65.1	22,200	200	< 50
Orange Street between Redlands Boulevard and Citrus Avenue	22,000	< 50	71	146	64.7	22,200	200	< 50
Palm Avenue north of Redlands Boulevard	8,700	< 50	59	127	65.3	8,700	0	< 50
Palm Avenue between Redlands Boulevard and Hibiscus Drive	4,500	< 50	< 50	82	62.5	4,500	0	< 50
Palm Avenue between Hibiscus Drive and Cajon Street	4,500	< 50	< 50	82	62.5	4,500	0	< 50
Palm Avenue between Cajon Street and Center Street	13,200	< 50	78	167	67.2	13,200	0	< 50
Palm Avenue between Center Street and San Mateo Street	13,200	< 50	78	167	67.2	13,200	0	< 50
Palm Avenue south San Mateo Street	13,200	< 50	< 50	108	64.3	13,200	0	< 50
Pioneer Avenue between Alabama Street and SR-210	2,000	< 50	< 50	52	59.5	2,000	0	< 50
Pioneer Avenue between SR-210 and Texas Street	2,000	< 50	< 50	53	58.9	2,000	0	< 50
Pioneer Avenue between Texas Street and Webster Street	10,500	< 50	73	156	66.7	10,300	-200	< 50
Pioneer Avenue between Webster Street and Orange Street	10,500	< 50	73	156	66.7	10,300	-200	< 50
Pioneer Avenue between Orange Street and Brookstone Street	8,800	< 50	65	139	65.9	8,800	0	< 50
Pioneer Avenue between Brookstone Street and Church Street	8,800	< 50	59	126	65.3	8,800	0	< 50
Pioneer Avenue between Church Street and Occidental Drive	9,700	< 50	63	135	65.8	9,700	0	< 50
Pioneer Avenue between Occidental Drive and Judson Street	8,800	< 50	59	126	65.3	8,800	0	< 50
Pioneer Avenue east of Judson Street	3,700	< 50	< 50	71	61.6	3,700	0	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Redlands Boulevard between Bryn Mawr Avenue and California Street	16,100	68	129	269	68.0	16,800	700	60
Redlands Boulevard between California Street and Iowa Street	22,000	79	156	330	69.3	22,400	400	70
Redlands Boulevard between Iowa Street and Alabama Street	22,000	69	133	278	68.2	22,400	400	62
Redlands Boulevard between Alabama Street and Tennessee Street	88,900	155	327	700	74.3	90,500	1,600	147
Redlands Boulevard between Tennessee Street and Center Street	89,800	156	329	705	74.3	91,500	1,700	148
Redlands Boulevard between Center Street and Eureka Street	35,600	77	150	316	69.1	36,300	700	69
Redlands Boulevard between Eureka Street and Orange Street	35,600	77	150	316	69.1	36,300	700	69
Redlands Boulevard between Orange Street and Citrus Avenue	13,800	< 50	72	140	63.6	13,900	100	< 50
Redlands Boulevard between Citrus Avenue and Fern Avenue	15,800	< 50	77	152	64.2	15,900	100	< 50
Redlands Boulevard between Fern Avenue and Cypress Avenue	15,800	< 50	92	186	65.5	15,900	100	< 50
Redlands Boulevard between Cypress Avenue and Palm Avenue	15,800	< 50	84	176	65.9	15,900	100	< 50
Redlands Boulevard between Palm Avenue and Highland Avenue	15,800	< 50	84	176	65.9	15,900	100	< 50
Redlands Boulevard south of Highland Avenue	28,400	97	203	435	71.9	28,600	200	97
San Bernardino Avenue between Mountain View Avenue and Marigold Avenue	17,900	68	130	272	68.1	18,000	100	68
San Bernardino Avenue between Marigold Avenue and California Street	8,900	< 50	86	173	65.0	8,900	0	< 50
San Bernardino Avenue between California Street and Nevada Street	12,300	< 50	102	212	66.8	12,300	0	< 50
San Bernardino Avenue between Nevada Street and Alabama Street	12,300	< 50	98	210	68.7	12,300	0	< 50
San Bernardino Avenue between Alabama Street and SR-210	10,300	< 50	108	221	66.7	10,400	100	< 50



**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
San Bernardino Avenue between SR-210 and Orange Street	12,500	< 50	100	213	67.7	12,600	100	< 50
San Bernardino Avenue between Orange Street and Church Street	8,600	< 50	56	116	63.6	8,600	0	< 50
San Bernardino Avenue between Church Street and Cheryl Street	8,600	< 50	56	116	63.6	8,600	0	< 50
San Bernardino Avenue between Cheryl Street and Judson Street	9,600	< 50	64	134	64.6	9,600	0	< 50
San Bernardino Avenue between Judson Street and Dearborn Street	14,900	58	119	255	68.8	14,900	0	55
San Bernardino Avenue between Dearborn Street and Wabash Avenue	7,700	< 50	78	165	66.0	7,700	0	< 50
San Bernardino Avenue east of Wabash Avenue	4,400	< 50	55	114	63.5	4,400	0	< 50
San Mateo Street between Brookside Avenue and Olive Avenue	10,000	< 50	65	135	64.6	10,100	100	< 50
San Mateo Street between Olive Avenue and Fern Avenue	10,000	< 50	65	135	64.6	10,100	100	< 50
San Mateo Street between Fern Avenue and Cypress Avenue	10,000	< 50	53	109	63.2	10,100	100	< 50
San Mateo Street south of Cypress Avenue	10,000	< 50	53	109	63.2	10,100	100	< 50
San Timoteo Canyon Road between Barton Road and Alessandro Road	7,700	< 50	92	199	68.3	7,700	0	< 50
San Timoteo Canyon Road east of Alessandro Road	10,000	< 50	64	136	65.8	10,100	100	< 50
Sand Canyon Road east of Crafton Avenue	11,900	< 50	109	232	68.2	11,900	0	53
Tennessee Street between San Bernardino Avenue and Lugonia Avenue	13,800	58	124	266	70.2	14,400	600	57
Tennessee Street between Lugonia Avenue and I-10	24,200	85	180	387	71.6	25,200	1,000	85
Tennessee Street between I-10 and Colton Avenue	24,200	87	181	387	71.1	25,200	1,000	86
Tennessee Street between Colton Avenue and Redlands Boulevard	25,400	88	186	400	71.8	26,500	1,100	88
Tennessee Street between Redlands Boulevard and State Street	13,900	60	125	268	69.2	14,400	500	60
Tennessee Street between State Street and Orange Avenue	12,800	< 50	92	195	67.1	12,800	0	< 50

**Table 3.12-8: Future Traffic Noise Levels Without and With Proposed General Plan**

Roadway Segment	Future without Proposed General Plan					ADT	Change in ADT	Centerline to 70 dBA CNEL (ft.)
	ADT	Centerline to 70 dBA CNEL (ft.)	Centerline to 65 dBA CNEL (ft.)	Centerline to 60 dBA CNEL (ft.)	CNEL (dBA) 50 ft. from Centerline of Outermost Lane			
Terracina Boulevard south Barton Road and Brookside Avenue	12,700	< 50	95	203	67.9	12,700	0	< 50
Texas Street between Pennsylvania Avenue and Lugonia Avenue	5,300	< 50	55	114	63.5	5,500	200	< 50
Texas Street between Lugonia Avenue and Colton Avenue	5,600	< 50	57	118	63.8	5,800	200	< 50
Texas Street south Colton Avenue	4,300	< 50	< 50	99	62.6	4,500	200	< 50
University Street between Pennsylvania Avenue and Lugonia Avenue	2,900	< 50	< 50	< 50	56.8	2,900	0	< 50
University Street between Lugonia Avenue and Colton Avenue	10,500	< 50	< 50	105	64.1	10,500	0	< 50
Wabash Avenue between San Bernardino Avenue and Lugonia Avenue	1,800	< 50	< 50	< 50	57.7	1,800	0	< 50
Wabash Avenue between Lugonia Avenue and Colton Avenue	4,100	< 50	< 50	75	61.2	4,100	0	< 50
Wabash Avenue between Colton Avenue and Citrus Avenue	5,000	< 50	< 50	103	62.9	5,000	0	< 50
Wabash Avenue between Citrus Avenue and Highland Avenue	5,000	< 50	56	121	65.0	5,000	0	< 50
Wabash Avenue between Highland Avenue and 5th Avenue	5,000	< 50	56	121	65.0	5,000	0	< 50
I-210 between 5th Street and Pioneer Avenue	96,100	521	1,120	2,412	82.3	97,000	900	526
I-210 between San Bernardino Avenue and Lugonia Avenue	124,600	671	1,443	3,106	83.7	125,100	500	675
I-10 between Mountain Avenue and California Street	187,000	849	1,823	3,925	84.0	188,500	1,500	848
I-10 between California Street and Alabama Street	147,500	724	1,556	3,349	83.4	148,300	800	724
I-10 between Tennessee Street and Orange Street	125,600	708	1,521	3,275	83.3	126,100	500	710
I-10 between 6th Street and University Street	181,500	922	1,982	4,267	85.0	181,900	400	922
I-10 between Cypress Avenue and Ford Street	165,200	895	1,923	4,141	84.8	165,600	400	895
I-10 between Wabash Avenue and Yucaipa Boulevard	169,500	906	1,949	4,197	85.4	169,700	200	906

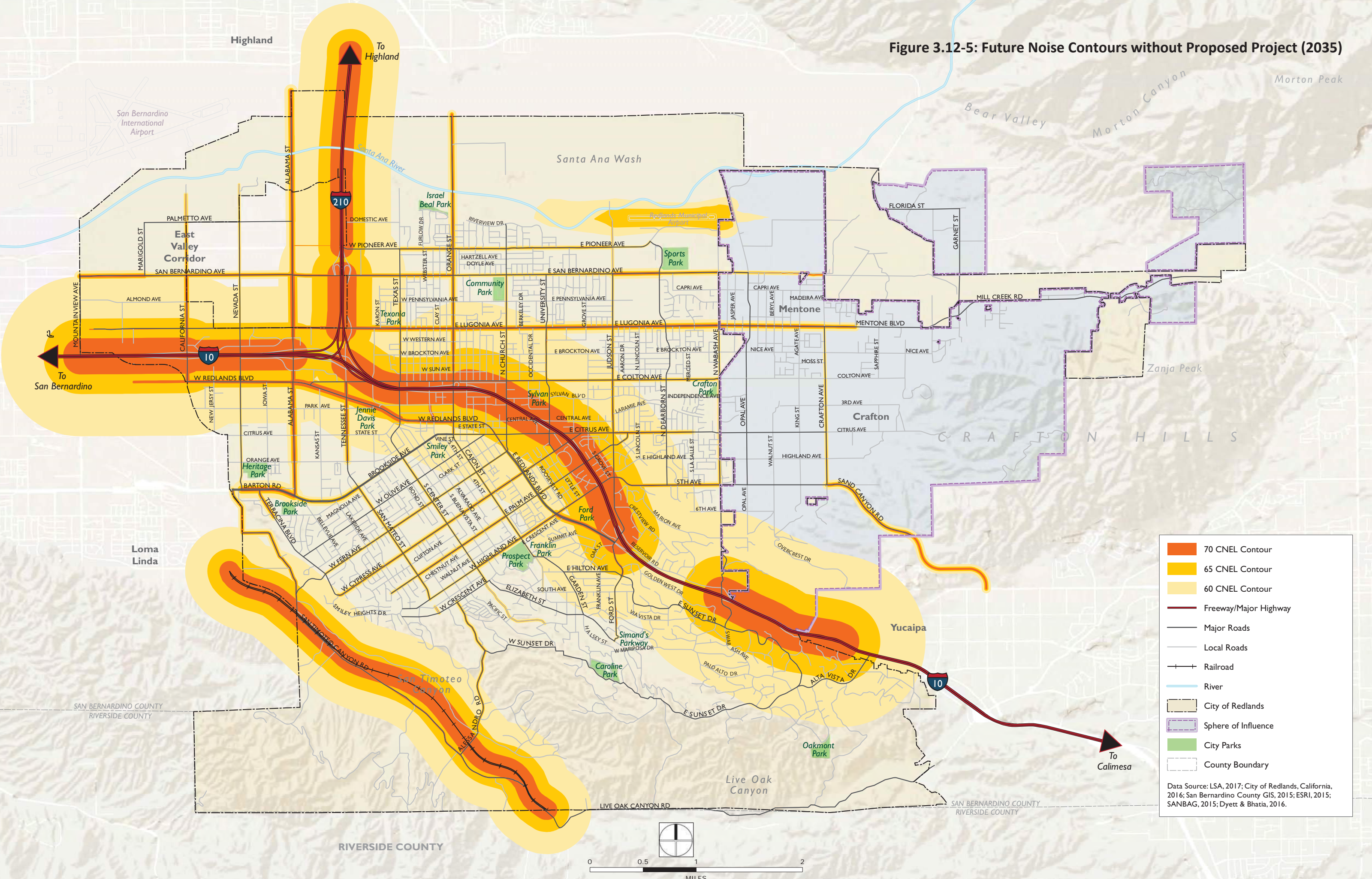
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

Figure 3.12-5: Future Noise Contours without Proposed Project (2035)

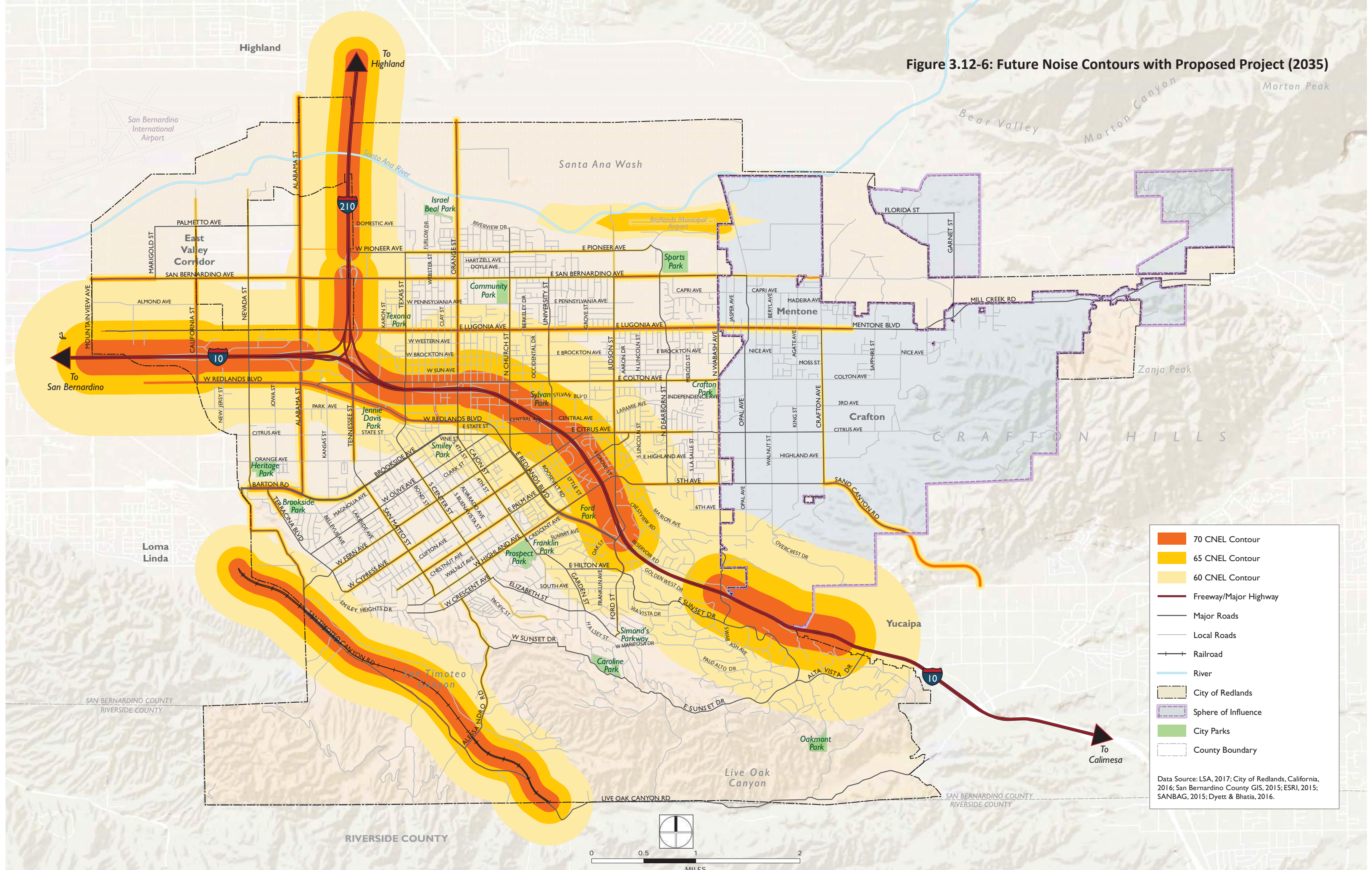


	70 CNEL Contour
	65 CNEL Contour
	60 CNEL Contour
	Freeway/Major Highway
	Major Roads
	Local Roads
	Railroad
	River
	City of Redlands
	Sphere of Influence
	City Parks
	County Boundary

Data Source: LSA, 2017; City of Redlands, California, 2016; San Bernardino County GIS, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.



Figure 3.12-6: Future Noise Contours with Proposed Project (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.



### **Rail Noise**

The Proposed Project proposes the establishment of Transit Villages at five locations along the Redlands Passenger Rail line that would allow for higher density residential and mixed uses in those areas, which could expose more people to noise from railway operations. However, as stated, the rail line will have quiet zones at its street crossings. For all future developments within the City that fall within the required noise screening distances as specified in the FTA Noise and Vibration Manual, a detailed noise analysis would be required. The screening distance for commuter rail is 750 feet with no obstruction between the rail line and receptor and 375 feet with intervening buildings. Figures 3.12-5 and 3.12-6 show future rail noise contour lines without and with the Proposed Project, respectively, though due to the nature of the railway data, there are no differences between the two scenarios. Impacts due to rail noise would be less than significant.

### **Stationary Noise**

New development associated with implementation of the proposed General Plan could expose existing and/or new sensitive uses to stationary noise sources, such as industrial and/or commercial uses. The development of new commercial and industrial uses pursuant to the proposed General Plan may generate noise levels that exceed the City's maximum exterior and interior limit due to the establishment of new stationary noise sources. Although vehicular noise is exempt from local regulation when operating on public streets, cities and counties can regulate vehicular noise while operating on private property. The use of heavy trucks on private properties (e.g., making deliveries to commercial and industrial uses) would result in noise levels of 73 dBA at 50 feet from the source of the noise (e.g., truck's engine, idling trucks). The use of multiple trucks on a site, such as might occur at a warehouse, would generate noise levels of about 80 dBA  $L_{eq}$  as measured at a distance of 50 feet. Industrial processing equipment and conducting outdoor industrial activities could also generate increased noise levels. New projects developed under the proposed General Plan would be subject to the City's noise ordinance. Compliance with the City's noise ordinance in the Municipal Code in Sections 8.06.070 and 8.06.080 would result in less than significant noise impact. Implementation of the proposed General Plan principals and actions would further reduce the impacts from stationary noise sources on sensitive land uses, and include mechanisms to ensure appropriate review and placement of noise reduction requirements on new development.

### **Proposed General Plan Principles and Actions that Reduce the Impact**

#### *Healthy Community Element*

#### **Noise 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.

### **Land Use and Noise Compatibility Actions**

- 7-A.135 Use the noise and land use compatibility matrix (Table 7-10) and Future Noise Contours map (Figures 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 Actions**

- 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.

### **Measure U Policies**

- 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 Table 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].
- 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 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 of 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.
- 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.
- 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.
- 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.
- 9.0w 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.

**Mitigation Measures**

None required.

**Impact 3.12-2 Implementation of the Proposed Project would not expose people to or generate excessive groundborne vibration or groundborne noise levels. (Less than Significant)**

Implementation of the proposed General Plan may result in groundborne vibration, but the increases associated with various sources would be less than significant, as discussed below. The proposed CAP does not include any land use changes or other measures that would result in vibration increases, and would therefore have no impact.

**Construction Vibration**

Future development under the proposed General Plan would generate excessive groundborne noise and vibration near construction sites, and if sensitive receptors or land uses are adjacent to these sites, there could be significant impacts from groundborne noise or vibration. Construction activities can produce vibration that may be felt by adjacent land uses. As long as construction of a particular development did not require the use of equipment, such as pile drivers, known to generate substantial construction vibration levels, the primary source of vibration during construction would likely be from bulldozer and truck operation.

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings situated on soil near the active construction area respond to these vibrations, which range from imperceptible to low rumbling sounds, with perceptible vibrations and slight damage at the highest vibration levels. Typically, construction-related vibrations do not reach vibration levels that would result in damage to nearby structures.

Table 3.12-9 shows the vibration damage threshold for modern structures, residential structures, and fragile structures. As shown in Table 3.12-9, potential vibration damage would occur at 0.12 peak particle velocity (PPV) in inches per second (in/sec) for fragile structures, 0.2 PPV in inches per second (in/sec) for residential structures, and 0.3 to 0.5 PPV in/sec for modern industrial/commercial structures.



The use of large bulldozers and trucks for the construction would generate the highest ground-borne vibration levels. Based on the FTA Transit Noise and Vibration Impact Assessment (FTA 2006), a large bulldozer and loaded trucks would generate vibration levels of 0.089 PPV in/sec and 0.076 PPV in/sec, respectively, when measured at 25 feet. Table 3.12-10 shows that fragile structures located within 19 feet, residential structures constructed with non-engineered timber located within 12 feet, and modern industrial/commercial structures constructed with engineered concrete and masonry located within 8 feet of construction activity with the use of a large bulldozer would potentially damage the structure. Construction activities with the use of a large bulldozer would not likely occur within the structure type and their corresponding distance mentioned above. Therefore, vibration levels generated during construction would be considered less than significant.

**Table 3.12-9: Construction Vibration Damage Criteria**

<i>Building Category</i>	<i>PPV (in/sec)</i>	<i>Approximate L<sub>v</sub><sup>1</sup></i>
Reinforced-concrete, steel or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Note:

1. RMS velocity in decibels (VdB) re 1 micro-inch/second.

Source: FTA, 2006.

**Table 3.12-10: Distance within Vibration Damage Criteria**

<i>Construction Equipment</i>	<i>Fragile Structures</i>	<i>Residential Structures</i>	<i>Modern Commercial Industrial Structures</i>
	<b>0.3 PPV (in/sec)</b>	<b>0.2 PPV (in/sec)</b>	<b>0.12 PPV (in/sec)</b>
Large Bulldozer	8 feet	12 feet	19 feet
Loaded Trucks	7 feet	10 feet	17 feet

Source: LSA Associates, Inc., 2017.

### **Traffic Vibration**

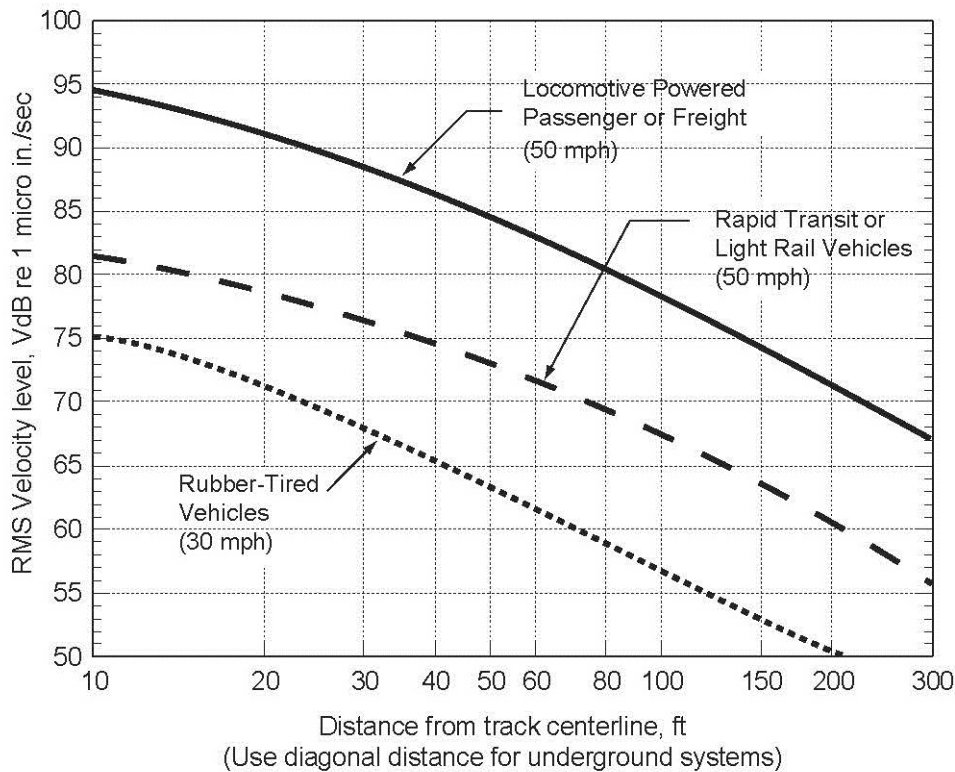
The proposed General Plan update would allow for future land development, which would not in and of itself generate any traffic vibration levels. Vehicular traffic would generate ground-borne vibration and are typically caused by poor road conditions, such as potholes, bumps, expansion joints, or other discontinuities in the road surface. Passenger vehicles and trucks would cause effects such as rattling of windows, and the source would almost always be airborne noise. For areas within the Planning Area where the proposed General Plan update would not improve roadways, vibration levels generated from vehicular traffic would not change. For areas within the Planning Area where the proposed General Plan would improve roadways, vibration levels generated from vehicular traffic would be reduced because potholes, bumps, or other discontinuities in the road surface would be addressed. Therefore, ground-borne vibration impacts generated by vehicles traveling within the Planning Area would be considered less than significant.

**Rail Vibration**

The operations of the Union Pacific Railroad (UPRR) currently generate vibration levels. Typical vibration levels generated from trains are described in Figure 3.12-7. As shown in Figure 3.12-7, locomotive powered passenger or freight trains would typically generate a vibration level of 90 VdB at a distance of 25 feet. Although existing train operations generate vibration levels, the proposed General Plan would not change vibration levels generated from trains.

In addition, all future developments within the City that fall within the required noise screening distances as specified in the FTA Noise and Vibration Manual, a detailed noise analysis would be required. The screening distance for commuter rail is 750 feet with no obstruction between the rail line and receptor and 375 feet with intervening buildings. Therefore, vibration levels generated from trains would be considered less than significant.

**Figure 3.12-7: Generalized Ground Surface Vibration Curves**



**Proposed General Plan Principles and Actions that Reduce the Impact**

None.

**Mitigation Measures**

None required

**Impact 3.12-3 The development of the Proposed Project would result in a permanent, temporary, or periodic increase in ambient noise levels above levels existing without the Proposed Project. (Less than Significant)**

Implementation of the proposed General Plan may result in both temporary and permanent increases in ambient noise levels, but the increases associated with various noise sources would be less than significant, as discussed below. The proposed CAP does not include any land use changes or other measures that would result in noise increases, and would therefore have no impact.

**Construction Noise**

Construction noise generated from development associated with the proposed General Plan would temporarily increase ambient noise levels above existing noise level without the proposed General Plan. As construction activities would comply with the City's Noise Control Ordinance in the Municipal Code in Section 8.06.090, substantial temporary increase in ambient noise levels from construction noise would be considered less than significant.

**Traffic Noise**

Table 3.12-8 shows that the proposed General Plan would increase traffic noise by up to 0.2 dBA. A noise level increase of 0.2 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, substantial permanent increase in ambient noise levels from traffic noise would be less than significant.

**Rail Noise**

The Proposed Project proposes the establishment of Transit Villages at five locations along the Redlands Passenger Rail line that would allow for higher density residential and mixed uses in those areas, which could expose more people to noise from railway operations. However, the Proposed Project itself would not affect the operation of the existing rail line in a manner that would result in a substantial permanent increase in ambient noise levels above noise levels that would exist without the proposed General Plan. Therefore, substantial permanent increase in ambient noise levels from rail noise would be less than significant.

**Stationary Noise**

New development associated with implementation of the proposed General Plan could expose existing and/or new sensitive uses to stationary noise sources, such as industrial and/or commercial uses. The development of new commercial and industrial uses pursuant to the proposed General Plan may increase noise levels in their vicinity due to the establishment of new stationary noise sources. Although vehicular noise is exempt from local regulation when operating on public streets, cities and counties can regulate vehicular noise while operating on private property. The use of heavy trucks on private properties (e.g., making deliveries to commercial and industrial uses) would result in noise levels of 73 dBA at 50 feet from the source of the noise (e.g., truck's engine, idling trucks). The use of multiple trucks on a site, such as might occur at a warehouse, would generate noise levels of about 80 dBA  $L_{eq}$  as measured at a distance of 50 feet. Industrial processing equipment and conducting outdoor industrial activities could also generate increased noise levels. New projects developed under the proposed General Plan would be subject to the City's noise ordinance. Compliance with the City's noise ordinance in the Municipal Code in Sections 8.06.070

and 8.06.080 would result in less than significant noise impact. Implementation of the proposed General Plan principals and actions would further reduce the impacts from stationary noise sources on sensitive land uses, and include mechanisms to ensure appropriate review and placement of noise reduction requirements on new development.

### **Proposed General Plan Principles and Actions that Reduce the Impact**

Principles and actions under Impact 3.12-1, as well as the following policy.

#### *Healthy Community Element*

#### **Measure U Policies**

- 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 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.

#### **Mitigation Measures**

None required.

### **Impact 3.12-4 The Proposed Project would not result in a project that exposes people residing or working in the project area to excessive noise levels due to the project’s location within an airport land use plan noise impact area. (Less than Significant)**

The Redlands Municipal Airport is located in the northeast part of the city. Figure 3.12-3 shows the 60 and 65 CNEL noise contour for the Redlands Municipal Airport. Residential uses and a school located south of the Redlands Municipal Airport would have the potential to be exposed to aircraft noise levels exceeding 60 dBA CNEL. However, the proposed General Plan would not change the land use of the existing residences and one school located within the 60 dBA CNEL contours for the Redlands Municipal Airport. Future residences would include noise attenuation consistent with the Noise Element of the proposed General Plan and the ALUCP for the Redlands Municipal Airport. Impacts due to aircraft noise would be less than significant. The proposed CAP does not include any land use changes or other measures that would affect airport noise, and would therefore have no impact.

### **Proposed Plan Principles and Actions that Reduce the Impact**

#### *Healthy Community Element*

#### **Noise Principles**

- 7-P.43 Ensure long-term compatibility between the Redlands Municipal Airport and surrounding land uses.

**Airport Noise Actions**

- 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 airport or upon a major change in airport flight patterns.

**Measure U Policies**

- 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.

**Mitigation Measures**

None required.

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## 3.13 Public Facilities and Services

This section provides an evaluation of potential impacts on public facilities and services as a result of the Proposed Project. Specifically, the following facilities and services are evaluated: recreational facilities, schools, libraries, public safety (fire and police protection), and city administrative facilities.

### ENVIRONMENTAL SETTING

The study area for this analysis is the Planning Area. The parks and recreation discussion considers parks, recreational facilities, and trails within the Planning Area. The public schools discussion considers the Redlands Unified School System, focusing on schools located within the Planning Area. The fire service discussion considers the Redlands Fire Department's service area within the Planning Area, as well as fire stations in neighboring jurisdictions that also serve the Planning Area.

### PHYSICAL SETTING

#### Parks

##### *Existing and Planned Facilities*

Existing parks, planned parks per the proposed General Plan, and recreational facilities in the Planning Area are shown in Figure 3.13-1. There are limited recreational facilities in the unincorporated portions of the Planning Area. These facilities are limited to a County-owned parcel in the Boulder Creek subdivision in Mentone containing a tennis court and playscape, and two private park areas in subdivisions near Crafton and Mentone avenues. As of 2015, with a city population of 68,049, the ratio of acres of parkland to 1,000 residents in Redlands was 6.0. City of Redlands parks are described below, organized by type. Parkland acreage is summarized in Table 3.13-1.

**Table 3.13-1: Existing Parks (City of Redlands)**

<i>Park</i>	<i>Acreage</i>
<b>Pocket Parks</b>	
Ed Hales Park	0.2
Franklin Park	0.7
Orange Street Alley	0.1
Simonds Parkway	0.8
<b>Neighborhood Parks</b>	
Brookside Park	9.5
Caroline Park	18.2
Crafton Park	6.8
Israel Beal Park	8.1
Jennie Davis Park	2.8
Oakmont Park	14.6
Smiley Park	8.3
Texonia Park	8.5
<b>Community Parks</b>	
Community Park	18.2
Ford Park	20.4
Heritage Park	18.4
Prospect Park	31.6
Redlands Sports Park	36.2
Sylvan Park	18.4
<b>Other Parks</b>	
Sunset Hills Park	40.0
Terrace Park	2.4
San Timoteo Nature Sanctuary	160.0
<b>Total Existing Parks</b>	<b>424.2</b>

Sources: *City of Redlands, 2014; City of Redlands, 2015; Dyett & Bhatia, 2015.*

### *Community Parks*

The 1995 Redlands General Plan states that community parks serve all ages and may include park-like landscaped areas, fields, courts, and large play areas. As of 2015, existing community parks range from 18 to 36 acres in size and total 143.2 acres in the city. Three community parks proposed by the 1995 General Plan were planned for 20 to 27 acres. Although these proposed parks—Zanja Detention Basin, Mentone, and Greenspot—have not been developed to date, the City has since constructed the Redlands Sports Park. The Sports Park also addresses a need identified in the General Plan for organized sports facilities in the vicinity of Wabash Avenue and San Bernardino Avenue. A large community park proposed in the southwest corner of Redlands at the border with Loma Linda was intended to be a shared park between the two cities.



### *Neighborhood Parks*

The 1995 Redlands General Plan describes neighborhood parks as designed primarily to meet the needs of elementary school-aged children living within a one-mile radius, and containing picnic and play areas. Parks in this category range from the 2.8-acre Jennie Davis Park to the 18.2-acre Caroline Park. The 1995 General Plan proposed three new neighborhood parks ranging from eight to 15 acres: West Redlands, Sand Canyon Area, and Live Oak Canyon. Since then, Oakmont Park has been constructed in Live Oak Canyon and Heritage Park has been constructed in West Redlands. No neighborhood park has been developed in the Sand Canyon area, which is located in the unincorporated portion of the Planning Area. Israel Beal Park has also been constructed since the adoption of the General Plan, and is part of a linear park proposed in the document.

### *Pocket Parks*

The Redlands General Plan does not contain a definition or standards for pocket parks, and categorizes them as “other” parks. For future parks, the 1995 General Plan proposed that mini or pocket parks should be located throughout the city for neighborhood convenience. Redlands currently has four pocket parks, all under one acre in size. Pocket parks are typically located in densely developed areas of the city, including Downtown Redlands.

### *Other Parks*

The Terrace Park is a 2.4-acre linear park that sits above grade between North 6th Street and Church Street on East Colton Avenue. The park features a landscaped tree-lined walkway. The park had historically been used as a thoroughfare for community members accessing public schools and the university, and in 2011 was dedicated with improvements to the landscaping, pavement of the trail, and amenities such as benches and a drinking fountain. In 2014, the Terrace Park was approved for the Redlands List of Historic Resources. The path through Terrace Park has also been identified as a Heritage Trail by the Redlands Conservancy. The other parks in this category include the San Timoteo Nature Sanctuary, a Redlands Conservancy-run reserve for natural species in the San Timoteo Canyon, and Sunset Hills Park, which is intended for passive recreation and equestrian uses.

## **Community Centers and Facilities**

Community centers and other public facilities are shown in Figure 3.13-2.

**Redlands Community Center.** The Redlands Community Center, at 111 West Lugonia Avenue, provides indoor racquetball courts, outdoor tennis courts, a gymnasium, a game room, a multi-purpose room, classrooms, and a conference room. The community center offers educational and recreational programs and services for all ages. The Redlands Community Center and Community Senior Center are located on the same site, together totaling 30,350 square feet.

**Community Senior Center.** The Community Senior Center serves adults 50 years and older with classes and activities, and a lending library. Facilities available for rent to the public include a multi-purpose room and commercial kitchen. It is located at 111 West Lugonia Avenue.

**Joslyn Senior Center.** The Joslyn Senior Center, located at 21 Grant Street, provides a computer lab, billiards tables, and multiple rooms for rent, including a multi-purpose room with kitchen access and a stage. The center serves seniors in the community through activities and programming. The senior center is about 9,000 square feet.

**Community Gardens.** The City of Redlands operates three community gardens: Clement Community Garden located at Clement Middle School; Smiley Community Garden at Smiley Elementary School; and Lugonia Community Garden located east of Texas Street between Lugonia and Pennsylvania avenues. The gardens are open to Redlands residents and may be used to grow vegetables, herbs, and flowers. The Clement Community Garden contains 9 plots on 4,464 square feet; the Smiley Community Garden has 22 plots on 8,800 square feet; and the Lugonia Community Garden has 55 plots on 38,500 square feet.

**Carriage House.** The Carriage House, located at Prospect Park, is available to the community for events and programs. The 5,100-square foot facility includes a multi-purpose room and a kitchen.

**Hillside Memorial Park.** The Hillside Memorial Park, a cemetery owned and operated by the City of Redlands, is located in the canyon lands along Alessandro Road. The Memorial Park provides walking paths through the landscaped cemetery grounds.

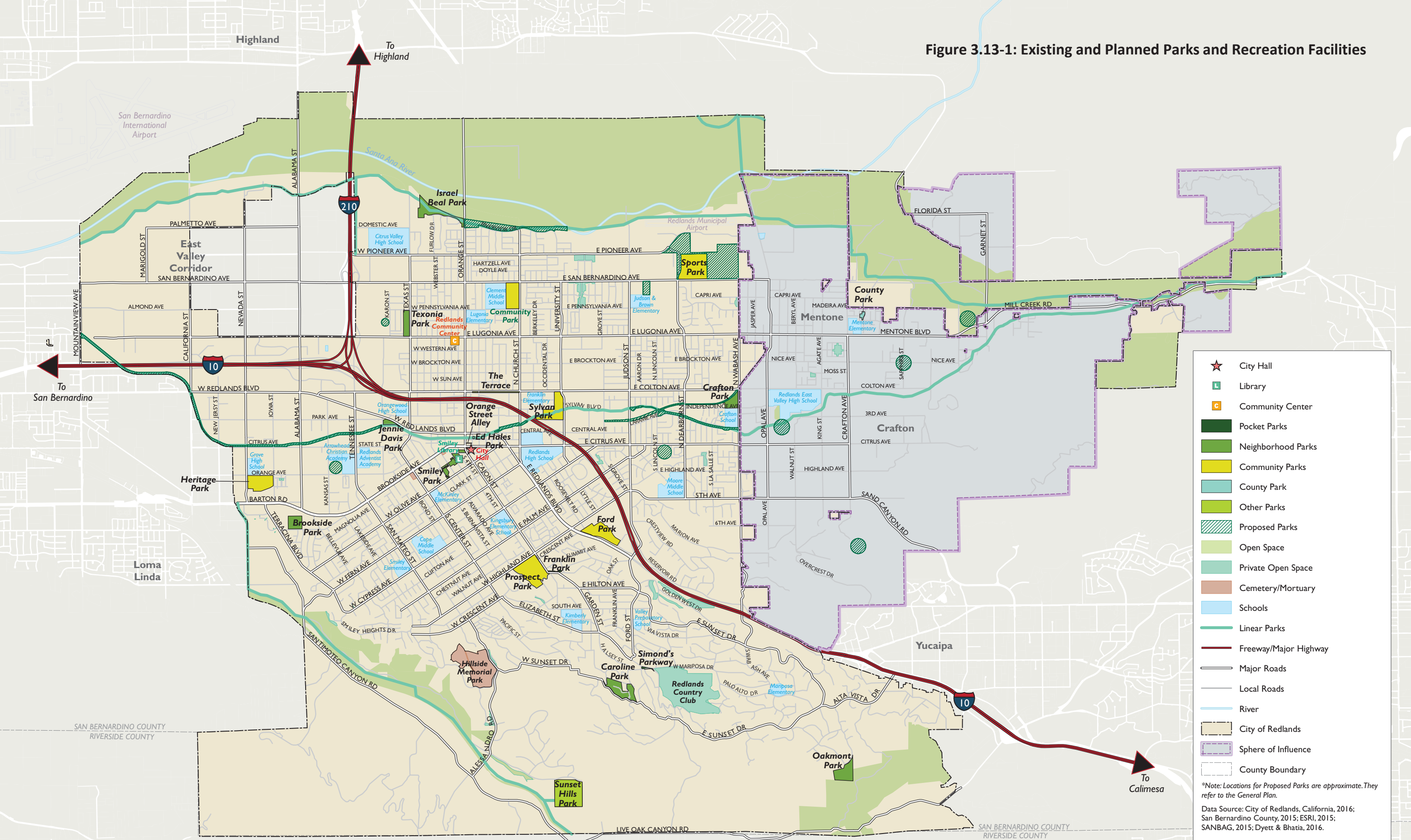
**Mentone Senior Center and Library.** The Mentone Senior Center and Library is part of a dual purpose facility with the Mentone branch of the San Bernardino County Library. It is located at 1331 Opal Avenue in Mentone, and offers services such as senior breakfasts, games, classes, and fitness opportunities. The dedicated area for the senior center is about 2,000 square feet, with an additional 1,600 square feet of shared and common space with the library.

### **Joint Use Agreements**

The City of Redlands 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 and adult and youth sports, as well as after school programs. Similarly, the agreement with the Grove School allows the City access to school grounds and facilities at scheduled times.

Additionally, the City may enter into facility use agreements with other organizations, allowing them use of City property such as fields in exchange for maintenance services.

Figure 3.13-1: Existing and Planned Parks and Recreation Facilities



- ★ 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.*

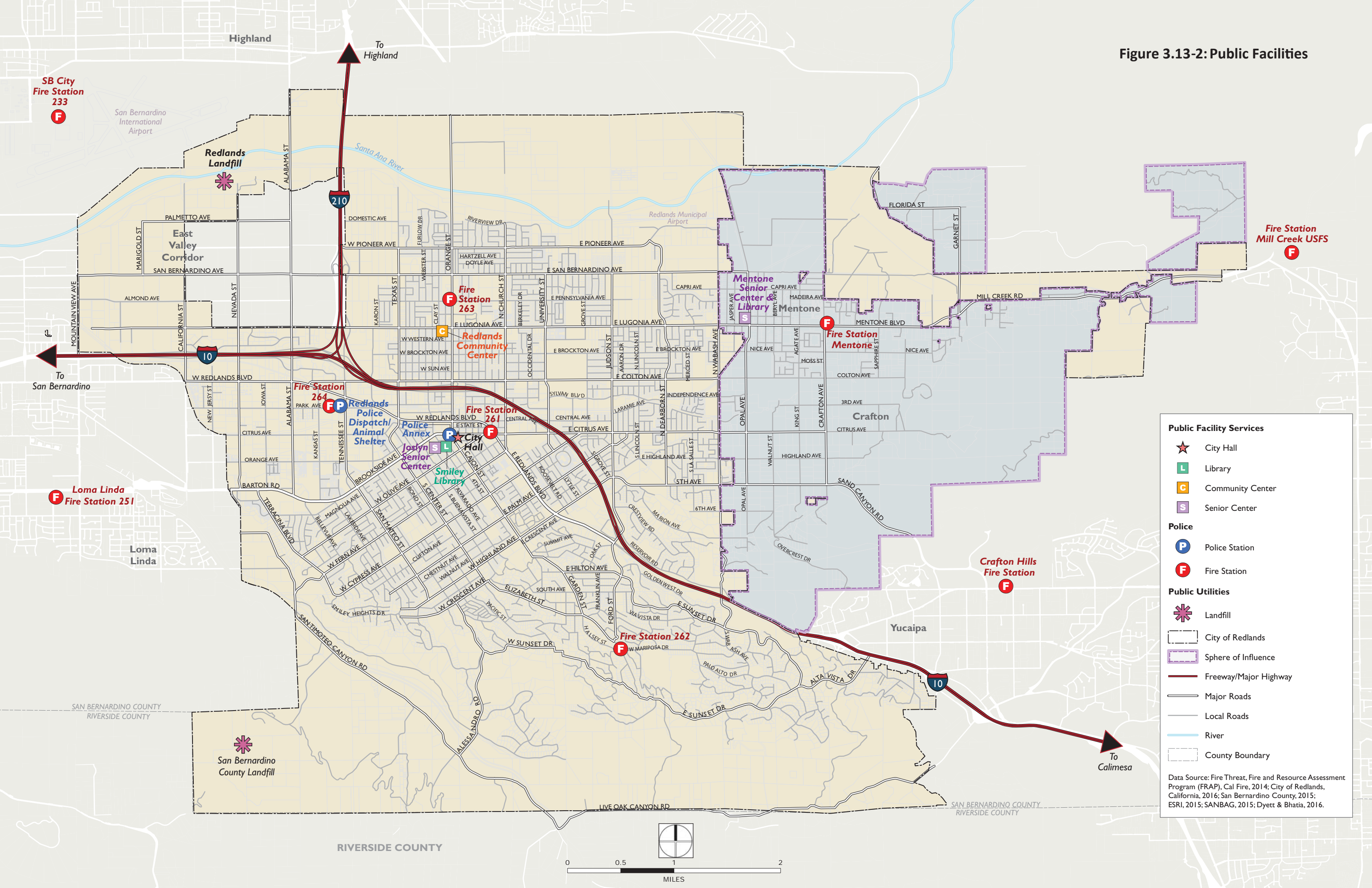
Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

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

RIVERSIDE COUNTY

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RIVERSIDE COUNTY

Figure 3.13-2: Public Facilities



## Recreational Open Space

There are numerous open space areas in the Planning Area that provide opportunities for recreation. In many cases, recreational use coincides with substantial non-recreational open space.

**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 by the Redlands Conservancy, a non-profit organization and land trust, which holds a conservation easement on the property. The nature sanctuary is home to riparian, grassland, and hillside chaparral habitats, as well as man-made trails, observation points, eucalyptus grove, amphitheater, and wetland. The Redlands Conservancy has restored and maintains the historic Old Carriage Trail for public use, and works with the San Bernardino County Flood District and the Inland Empire Resource Conservation District to maintain the sanctuary's habitats. The sanctuary is open during daylight hours to hikers, bicyclists, and equestrian visitors (Redlands Conservancy, 2015).

**Live Oak Canyon.** The City owns 338 acres of land in the Live Oak Canyon area adjacent to Oakmont Park named the Hergnt Aki (Rattlesnake House) Preserve, which it acquired between 2012 and 2015. Over 245 acres in this area have been set aside for conservation. In January 2015, the City entered into an interim management agreement with the Redlands Conservancy to maintain the property. 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 (Redlands Conservancy, 2015).

**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, as described below. The Crafton Hills Conservancy is active in acquiring and managing lands in this area along with San Bernardino County and Crafton Hills College.

## Recreational 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. The Planning Area's public trails are summarized in Table 3.13-2. The Planning Area's existing and proposed recreational trail network, per the proposed General Plan, is shown in Figure 3.13-3.

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, which would continue to be used as the primary resource for planning and implementing bikeway improvements in Redlands following the publication of the proposed General Plan.

**Table 3.13-2: Planning Area Trails**

<i>Trail Name</i>	<i>Length (mi)</i>
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, 2015.

**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.

**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.

### **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. 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.

### **Public Schools**

#### *Facilities*

The Planning Area is served by the Redlands Unified School District (RUSD). RUSD serves the communities of Redlands, Loma Linda, Mentone, Forest Falls, and portions of San Bernardino and Highland. Redlands Unified School District's 16 elementary schools serve kindergarten through fifth grade. Four middle schools—Beattie, Cope, Clement and Moore—serve grades six, seven and eight. Grades nine through 12 are served by three comprehensive high schools: Redlands High School, Redlands East Valley High School, and Citrus Valley High School. An alternative high school setting is offered at Orangetown High School. The Redlands Independent Study Program and the Home Education Learning Program are also on the Orangetown campus.

#### *Current Enrollment*

The Redlands Unified 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 seen in Table 3.13-3, according to the Redlands Unified School District, total enrollment as of 2016 in grades K-12 is about 20,300 (Morse, 2016). However, the enrollment for the nine elementary, three middle, and three high schools within the Planning Area is about 16,100.

**Table 3.13-3: Redlands Unified School District Enrollment**

School	Enrollment			Excess Room (Full Enrollment minus Enrollment (2016))
	Full Enrollment	Optimum Enrollment	Enrollment (2016)	
<b>Elementary Schools</b>	<b>10,155</b>	<b>9,248</b>	<b>9,059</b>	<b>1,096</b>
Arroyo Verde <sup>2</sup>	701	631	649	52
Bryn Mawr <sup>2</sup>	808	727	703	105
Crafton	784	706	668	116
Cram <sup>2</sup>	747	672	597	150
Franklin	749	674	704	45
Judson & Brown	594	535	553	41
Kimberly	677	609	618	59
Kingsbury	570	621	680	-110
Lugonia	773	696	720	53
Mariposa	594	535	493	101
McKinley	511	460	442	69
Mission <sup>2</sup>	568	511	550	18
Mentone	677	609	507	170
Smiley	760	684	640	120
Victoria <sup>2</sup>	642	578	535	107
<b>Middle Schools</b>	<b>5,272</b>	<b>5,858</b>	<b>4,638</b>	<b>634</b>
Beattie <sup>2</sup>	1,183	1,314	1,117	66
Clement	1,264	1,406	1,101	163
Cope	1,507	1,674	1,361	146
Moore	1,318	1,464	1,059	259
<b>High Schools</b>	<b>10,698</b>	<b>9,629</b>	<b>6,601</b>	<b>4,097</b>
Citrus Valley	2,940	2,646	2,150	790
Redlands East Valley	3,828	3,445	2,183	1,645
Redlands	3,930	3,538	2,268	1,662
<b>Total (Redlands Only)</b>	<b>21,476</b>	<b>20,302</b>	<b>16,147</b>	<b>5,329</b>
<b>Total</b>	<b>26,125</b>	<b>24,735</b>	<b>20,298</b>	<b>5,827</b>

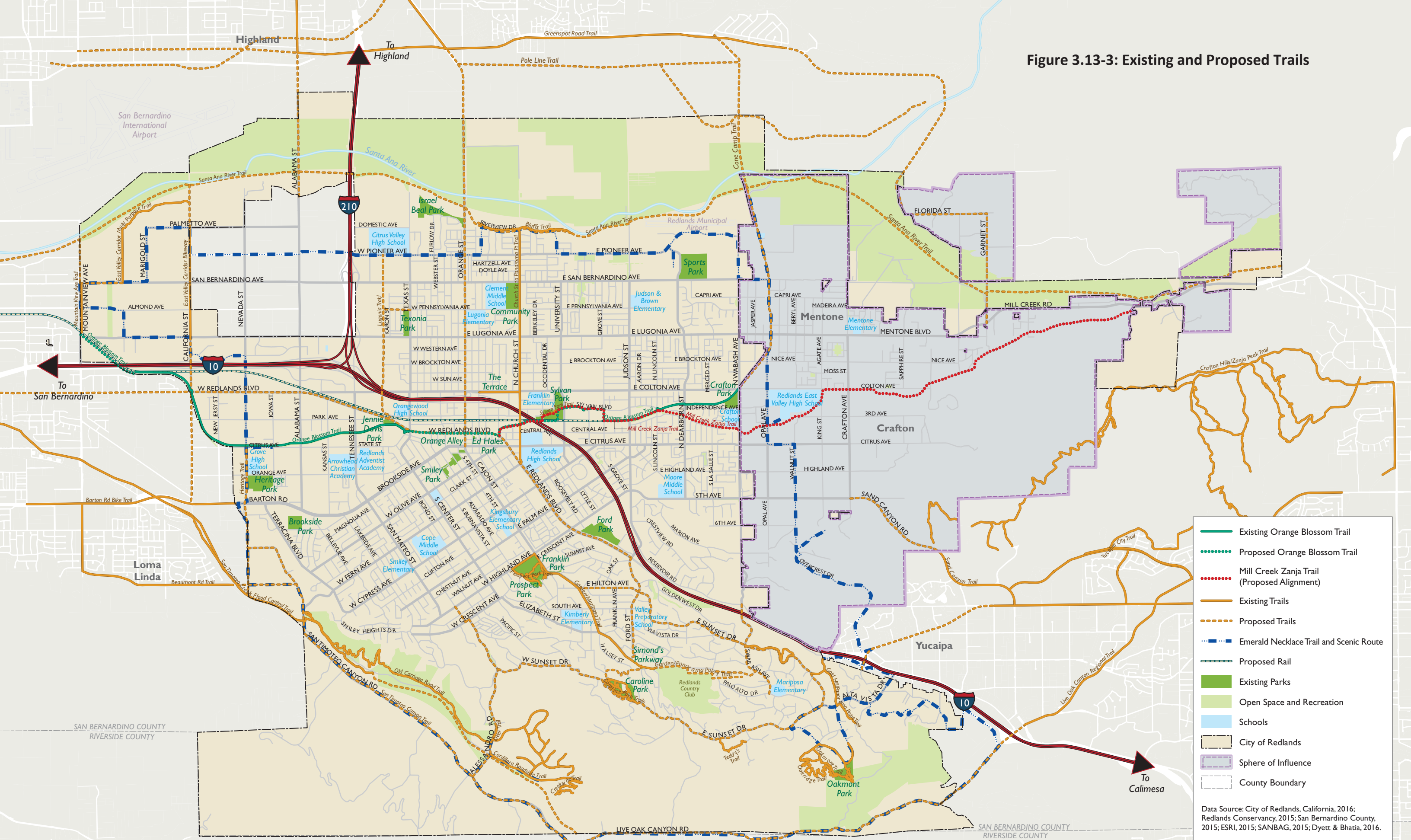
Note:

1. Table does not include Orangewood High School, the Redlands Independent Study Program, and the Home Education Learning Program.
2. School is not located in Planning Area.

Source: Redlands Unified School District, 2016.

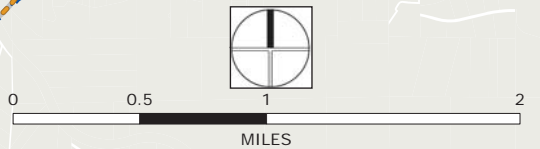


Figure 3.13-3: Existing and Proposed Trails



- 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.



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**Library Facilities**

**A.K. Smiley Public Library.** Redlands’ A.K. Smiley Public Library was established in 1894. The 34,000 square feet facility is located at 125 West Vine Street. In addition to its diverse collection of resource materials, the municipal library system offers services and programs for all ages, including an Adult Literacy Program. It also houses a museum, the Lincoln Memorial Shrine. According to library staff, the library is in need of additional meeting and storage space for the museums (McCue, 2016). Plans are currently underway for an adjunct building on Brookside Avenue for the Redlands Historical Museum.

**Mentone Library.** The Mentone branch of the San Bernardino County Library is part of a dual purpose facility with the Mentone Senior Center, located at 1331 Opal Avenue in Mentone. The Senior Center/Library building is about 7,400 square feet, with the library and senior center operating out of separate wings. The dedicated library area is about 3,600 square feet, with an additional 1,600 square feet of shared and common space with the senior center. The library’s materials have special emphasis on subjects relating to senior poluations in a variety of formats, and include computers for public use.

**Public Safety Services**

**Police Facilities and Service**

Public safety services in the Planning Area are provided by the Redlands Police Department, operating in the locations listed in Table 3.13-4 and mapped in Figure 3.13-2. The main police station is located at 1270 West Park Avenue, with other divisions housed throughout the city. According to the City of Redlands, the service ratio for the City is 1.1 officers per 1,000 residents. Though the City does not have a service ratio standard, the City recognizes that its ratio falls below the national average of 2.1, and that hiring additional officers would be optimal.

In 2015, the Department had an average response time of 6.5 minutes for police services. Although there are no industry standards for response time to emergency calls, according to the City of Redlands, a response time of 4.5 minutes is desirable in a city of Redlands’ size (Garcia, 2015).

The City has determined that there is a need for a new Safety Hall to replace the existing facilities housing Police and Fire administrative services, deeming current facilities 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.

**Table 3.13-4: Redlands Police Department Staff by Location**

<i>Location</i>	<i>Staffing Description</i>	<i>Primary Response Area</i>
1270 W. Park Avenue	Patrol, Custody, Dispatch, Records	Citywide
30 Cajon Street	Administration, Investigations, MET, Traffic/Special Events, Crime Analysis, Community Policing, Property/Evidence	Citywide
1150 Brookside Avenue	Records Processing	N/A
111 W. Lugonia Avenue	Community Policing Officer	Citywide
504 Kansas Street	Animal Control Office	Citywide

*Source: City of Redlands, 2015.*

**Fire Protection**

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.

The City of Redlands and most of the Planning Area 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. Fire station locations are shown in Table 3.13-5 and depicted on Figure 3.13-2. 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.

The Redlands Fire Department recognizes two response time standards. The first is a standard of the National Fire Protection Association (NFPA), which recommends that the first arriving unit arrive within four minutes 90 percent of the time. The second is a more lenient goal of seven minutes 90 percent of the time, as recommended by the the 2008 High-Level Fire Department Review for the Redlands Fire (Citygate Associates LLC, 2008). According to the City of Redlands, the current 90 percent response time is nine minutes, which is over twice the NFPA standard and two minutes slower than the more lenient guideline. The Fire Department contends it requires more stations and staff to meet minimum response times (Redlands Fire Department, 2016).

**Table 3.13-5: Fire Stations Serving the Planning Area**

<i>Station</i>	<i>Location</i>	<i>Service Provider</i>
Station 261	525 E. Citrus	Redlands Fire Department
Station 262	1690 Garden	Redlands Fire Department
Station 263	10 W. Pennsylvania	Redlands Fire Department
Station 264	1270 Park Ave.	Redlands Fire Department
Station 9 (Mentone)	1300 Crafton Ave.	San Bernardino County Fire Department
Station 552 (Crafton Hills)	32664 Yucaipa Blvd.	CAL FIRE (contracted to City of Yucaipa)
Station 233	602 S Tippecanoe Ave	San Bernardino Fire Department
Station 251	11325 Loma Linda Dr.	Loma Linda Fire Department
Mill Creek Station	34701 Mill Creek Rd.	US Forest Service

*Source: City of Redlands, 2015; San Bernardino County Fire Department, 2015; CAL FIRE, 2015.*

## **Administrative Facilities**

City Hall is located at 35 Cajon Avenue. It houses Redlands' administrative services, including City Council, Human Resources, Municipal Utilities, Quality of Life, and Development Services. This Civic Center is aging and a replacement could be developed in conjunction with a new Safety hall.

## **REGULATORY SETTING**

### **State Regulations**

#### **Quimby Act**

The 1975 Quimby Act (California Government Code section 66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Under the Quimby Act, fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services communitywide; however, revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. The act states that the dedication requirement of parkland can be a minimum of 3 acres per thousand residents or more, and equal to the existing parkland provision (up to 5 acres per thousand residents) if the existing ratio is greater than the minimum standard. In 1982, the act was substantially amended. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must show a reasonable relationship to a project's impacts as identified through studies required by CEQA.

### **Local Regulations**

#### **Chapter 3.32, Open Space and Park Fees**

The Redlands Municipal Code provides for open space and park fees to be imposed as a condition of approval of new residential, commercial, and office and industrial development (Chapter 3.32). The fees are intended to ensure that open space lands and active and passive parks are made available to the public concurrent with the need for such lands and parks caused by new development. They may be used to pay for costs incurred by the City for acquiring, developing, improving, and expanding open space areas, scenic drives, parks, playgrounds, and recreational facilities to meet the increased needs for those facilities resulting from the effects of new development.

In lieu of fees, the City Council may accept the dedication of land or the construction of improvements and development of parkland to satisfy all or part of the fee obligation. Adjustments to the fee amounts are made each year to offset the effects of inflation related construction cost increases or any deflation related decreases.

#### **Chapter 17.15, Subdivision Regulations**

The current General Plan establishes a park standard of five to six acres of neighborhood, community, and city park area for each 1,000 Planning Area residents (Policy 7.10j). The standard excludes specialized, low-use park acreage, and includes half of the area of school sites. A standard for parkland provision is established in Section 17.15.040(C) of the Municipal Code, which is part of Title 17: Subdivision Regulation, requiring that parkland dedication or in lieu fees be paid for five acres for every 1,000 residents. The Subdivision Regulations were established in 2002. The formula for

determining the amount of acreage to be dedicated assumes an average of 2.46 persons per household. This average household size is slightly lower than the 2010 Census estimate of 2.68 persons per household. The amount of an in-lieu fee is established in the Subdivision Regulations as an amount equal to the land value of the portion of the park or recreational facilities required to serve the needs of the residents of the proposed subdivision based on the estimated fair market value of the land being subdivided and the estimated fair market value of the land which would otherwise be required to be dedicated.

### **Chapter 15.20, City of Redlands Fire Code**

The Fire Code is Chapter 15.20 of the Redlands Municipal Code. It adopts an amended version of the California Fire Code. The Redlands Fire Code amends several provisions of the California Fire Code in order to address local needs pertaining to high fire hazard areas, water supplies, fire extinguishing and sprinkler systems, and flammable and combustible materials (City of Redlands Fire Prevention Bureau, 2012). Modifications to the California Fire Code include water supply and sprinkler requirements for areas without City water service; the delineation of a Local Responsibility Area for the city's wildland-urban interface area; vegetation management (fuel modification) requirements for buildings and structures in or adjoining hazardous fire areas; defensible space requirements for properties in the designated very high fire hazards severity zone; and requirements for a fire protection plan for new development in the wildland-urban interface area.

### **Development Impact Fees**

Development impact fees are charged by local governments to defray all or a portion of the cost of public facilities related to development projects. The requirements for enactment of a development impact fee program are set forth in Government Code Sections 66000-66025 (the "Mitigation Fee Act"). In Redlands, development impact fees are collected at the time a building permit is issued for the purpose of mitigating the impacts caused by new development on the City's infrastructure. Fees are used to finance the acquisition, construction, and improvement of public facilities needed as a result of this new development. A separate funding structure has been established to account for the impact of new development on each of the following types of public facilities: Open Space, Parks, Public Facilities (including public safety, library and general government facilities), Transportation, Water, Solid Waste, and Sewer.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purpose of this Program EIR, a significant impact would occur if the Proposed Project would:

- Criterion 1: Increase the use of or require the construction or expansion of neighborhood, community, or regional parks, or other recreational facility resulting in substantial physical deterioration of a park/facility or other adverse physical effect on the environment;**

- Criterion 2:** Result in substantial adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered school facilities in order to maintain acceptable service standards;
- Criterion 3:** Result in substantial adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered library facilities in order to maintain acceptable service standards;
- Criterion 4:** Result in substantial adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered police and fire facilities in order to maintain acceptable service standards; or
- Criterion 5:** Result in substantial adverse physical or environmental impacts associated with the provision of or need for construction of new physically altered city administrative facilities in order to maintain acceptable service standards.

## **METHODOLOGY AND ASSUMPTIONS**

### **Population**

This analysis uses a Planning Area buildout population estimate of 93,624 for the Proposed Project, derived from a projected dwelling unit capacity of 36,561 units.

### **Parks**

This analysis uses the standard of 5 acres per 1,000 population established by the 1995 General Plan and continued in the proposed General Plan. To project the amount of parkland required at buildout, the projected buildout population increase of 16,355 in the Planning Area was divided by 1,000 and multiplied by five acres. The difference between this number and the existing amount of park acreage equals the area of new parkland needed to satisfy City park standards at buildout. An increase in population without progress toward meeting the City's park standard would create a significant impact.

### **Schools**

Projected demand for school facilities is based on two principal factors—the increase in housing units resulting from buildout of the proposed General Plan and ongoing demographic changes that impact the average number of students in each household. California Department of Finance county-wide 2015 population and age estimates and 2040 projections were used to determine the percent change of the population represented by each student age group in the Redlands Unified School District. Each percent change was then used to adjust recently determined student generation rates obtained from the district.

To determine the number of new students resulting from proposed General Plan buildout, the adjusted student generation rates were applied to the number of new housing units in the Planning Area. For schools that enroll students from outside the Planning Area, it was assumed student enrollment would increase proportionally to that of other schools of the same grade levels in the district. Net change in enrollment was determined by adding the number of students resulting from

new development to the number of students from existing development as adjusted for demographic trends.

### **Public Safety Services**

The Redlands Police Department does not base service standards on an industry standard. Instead, the City aims for a response time of 4.5 minutes, a time that is desirable in a city of Redlands' size.

The Fire Department aims for NFPA standards, which recommend that the first arriving unit arrive within four minutes 90 percent of the time. A more lenient goal of arriving seven minutes 90 percent of the time, per 2008 High-Level Fire Department Review for the Redlands Fire Department, is a more realistic objective given the 2015 response time of nine minutes.

### **City Administrative Facilities**

The City does not have a standard for administrative facilities.

## **SUMMARY OF IMPACTS**

Implementation of the proposed General Plan could result in a population increase of up to 16,355 new residents in the Planning Area at buildout. This additional population will contribute to demand for park space, recreational facilities, public schools, public safety services, and administrative facilities. A surplus of proposed parkland and undeveloped land is anticipated to accommodate the buildout population in all areas without any resulting deterioration of existing parks. New schools will likely need to be constructed in order to accommodate the proposed General Plan's buildout student population. The project population growth will also increase the demand for library services. Additionally, fire and police services have stated needs for expansion in order to accommodate continued increases in population. For the other facilities, no significant environmental impacts would result, due to building and construction regulations and the environmental review process, which will ensure site-specific review and mitigation as individual projects are proposed. Additionally, proposed General Plan policies that seek to address park, recreation, and safety needs as development occurs, in combination with the City's development impact fees, would serve to ensure the maintenance of existing facilities and the timely provision of new facilities in order to prevent the deterioration of existing and new facilities. Proposed policies also require that future construction projects are conducted in a manner that limits negative impacts on the environment. The proposed Climate Action Plan (CAP) does not include any land use changes or any other measures that would affect public facilities or services, and would therefore have no impact. All impacts are considered less than significant.

## **IMPACTS**

**Impact 3.13-1 Implementation of the Proposed Project would have the potential to cause adverse environmental effects or the physical deterioration of**



**existing neighborhood, community, or regional parks, or other recreational facility as a result of increased use of or construction/expansion of such facilities. (Less than significant)**

At buildout, the proposed General Plan may generate an increase in population of up to 10,964 residents in the City of Redlands. Without the development of new parks, this increase would place additional physical demands on existing parks and facilities. An increase in the number of park users would cause parks to be in active use for longer periods of time and/or used more intensively over the course of a typical day. As a result, vital park elements such as vegetation, water resources, built structures, walking/biking paths, sport facilities, and others would face increased wear-and-tear over the course of the planning period and, without proper maintenance, their useful life could be shortened.

As seen in Table 3.13-6, given a 2015 population of 68,049 residents, the city currently has a ratio of six acres of parkland per 1,000 residents. In 2035, with the development of 140.9 acres of proposed parkland as designated in the proposed General Plan, and the addition of 10,355 residents, the ratio will be 6.9 acres per 1,000 residents, which would exceed the City's park standard of 5 acres per 1,000 people.

The Proposed Project plans for the addition of several parks in the Sphere of Influence (SOI) outside of city limits – an area that is underserved by parkland. This increase would improve the ratio of park acres per 1,000 residents in the SOI outside of city limits and the Planning Area as a whole. With about 16,355 new residents expected in the Planning Area in 2035, the 140.9 acres of proposed parkland in Redlands in addition to 55 acres of proposed parkland in the SOI outside of city limits would result in a ratio of 6.4 acres per 1,000 residents in the Planning Area as a whole, which would also exceed the City's park standard of 5 acres per 1,000 people.

The proposed General Plan provides for new parkland to serve the city's population as it expands. With the City's development impact fees, this would ensure that new parkland is distributed evenly throughout the Planning Area, thus preventing any existing neighborhood, community, or regional parks, or other recreational facilities from overuse that could result in the physical deterioration of those facilities. Additional policies requiring proper maintenance of existing and future recreational facilities also serve to ensure that the Planning Area's parks remain in good physical condition. The development of new recreational facilities would be subject to existing building and construction regulations that would ensure that construction activities have a minimal effect on the surrounding environment. These, along with proposed General Plan policies established to protect biological resources and air and water quality, ensure that the proposed General Plan would have a less than significant impact on the physical and environmental quality of Redlands' parks.

The proposed CAP does not include any land uses changes or other strategies that would affect parkland provision or usage in the Planning Area. Thus, it would have no impact on this issue.

**Table 3.13-6: Parkland Comparison (City of Redlands 2015 and 2035)**

	2015	2035
Parkland <sup>1</sup>	253.3	394.2
School Recreational Area <sup>2</sup>	71.5	71.5
San Timoteo Nature Sanctuary <sup>3</sup>	80.0	80.0
Total Applicable to Park Standard	405.0	545.7
Population	68,049	79,013
Park acres/1,000 residents.	6.0	6.9

Notes:

1. Does not include undeveloped parks, school grounds, citrus groves (including groves at Prospect Park), San Timoteo Canyon, 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 is owned by the City.

Sources: City of Redlands, 1995; California Department of Finance, 2007; California Department of Finance, 2015; City of Redlands, 2015; Dyett & Bhatia, 2017.

**Proposed General Plan Policies that Reduce the Impact**

*Livable Community Element*

**Public Facilities 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.

**Public Facilities Actions**

- 4-A.145 Coordinate future development with the City’s Capital Improvement Program to ensure adequate funding and planning for needed public services and facilities.
- 4-A.146 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.148 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.

*Vital Environment Element*

**Water Quality Actions**

- 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 biological features important to preventing erosion or sedimentation.

- 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.

*Healthy Community Element*

**Parks and Recreational Open Space 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.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.

**Parks and Recreational Open Space Actions**

- 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.
- 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.

- 7-A.23 Use the Multi-Use Trails Map ([proposed General Plan] 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.

**Air Quality Principles**

- 7-A.149 Ensure that construction and grading projects minimize short-term impacts to air quality.
  - a. Require grading projects to provide a storm water 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.

### *Sustainable Community Element*

#### **Energy Efficiency and Conservation Actions**

- 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.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.

#### **Green Building and Landscape 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.

#### **Mitigation Measures**

None required.

#### **Impact 3.13-2 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered school facilities in order to maintain acceptable service standards. (Less than significant)**

At buildout of the Proposed Project, the school-aged population is expected to increase, as shown in Table 3.13-7. This increase will impact enrollment totals in RUSD facilities in the Planning Area. Although ongoing demographic trends are causing reductions in the percentage of school-aged children compared to the total population, the projected population increase would result in the number of elementary school students exceeding school capacity.

According to the California Department of Finance projections, San Bernardino County's school-aged population as a percentage of the total population is likely to decline slightly over the planning horizon: the percentage of the population aged 5 to 17 is projected to decline by about 2 percent, from 19.79 percent of the population to 17.22 percent (California Department of Finance, 2014). Student generation ratios for RUSD in 2035 were calculated by multiplying generation ratios the district currently utilizes by the percent change of the school age residents between 2015 and 2035.

Table 3.13-7 summarizes the change in public school enrollment at buildout for the RUSD facilities in the Planning Area, and compares the changes in enrollment with capacity. The largest increase is projected to be high school enrollment, followed by elementary school enrollment. Middle school enrollment will decrease slightly. Existing middle and high schools will have the capacity to accommodate the projected number of 2035 students. However, existing elementary schools will not have enough room to accommodate the projected increase in elementary school students.

RUSD can utilize trailers and temporary classrooms to accommodate students in the interim, but a new school may be required for the long-run. The school district owns land north of Mission Road just outside the Planning Area in Loma Linda, which could be utilized to the construction of a new facility, if necessary. The policies below ensure that school facilities are expanded to meet demand as development occurs. Development of schools would require project-level environmental review and site-specific mitigation measures as appropriate, ensuring that adverse environmental effects are avoided or mitigated. This impact is considered less than significant.

**Table 3.13-7: Projected Changes in Enrollment and Capacity at Buildout**

Redlands Unified School District	Enrollment of Schools in Planning Area 2016	Change in Enrollment		Existing Capacity	Excess Capacity at Buildout
		New Enrollment	Net Change		
Elementary (K-5)	6,025	7,053	1,028	6,689	-364
Middle (6-8)	3,521	3,465	-56	4,544	1,079
High (9-12)	6,601	9,127	2526	10,698	1,571

Source: Redlands Unified School District 2016; Dyett & Bhatia 2016; American Fact Finder 2015; California Department of Finance 2014.

The proposed CAP does not include any land uses changes or other strategies that would affect schools or the student population in the Planning Area. Thus, it would have no impact on this issue.

**Proposed General Plan Policies that Reduce the Impact**

Principle 4-P.56 and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above; as well as the following policies.

*Livable Community Element*

**Education Principles**

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

**Education Actions**

4-A.156 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.157 Continue to assist Redlands Unified School District on enrollment projections.

4-A.158 Encourage joint use of school facilities for neighborhood recreation.

4-A.159 Plan for adjoining school/park sites where both facilities are needed to serve the same area and space is available.

**Mitigation Measures**

None required.

**Impact 3.13-3 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered library facilities in order to maintain acceptable service standards. (Less than significant)**

The projected increase of about 16,400 residents in the Planning Area by 2035 will likely increase demand for library and other community services. A portion of this increase in demand can be accommodated by extending the hours of operation of the Smiley Library. Owing to the gradual nature of this facilities need, the proposed General Plan policies for new development, and the continued assessment of existing library facilities and services would ensure that significant environmental impacts from the provision of additional library space would not occur. Development impact fees from new development would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing library facilities. The development of new library facilities would be subject to existing building and construction regulations that would ensure that construction activities have a minimal effect on the surrounding environment, while project-level environmental review and site-specific mitigation measures would help ensure that adverse environmental effects are avoided or mitigated. This impact is less than significant.

The proposed CAP does not include any land uses changes or other strategies that would affect library facilities in the Planning Area. Thus, it would have no impact on this issue.

**Proposed General Plan Policies that Reduce the Impact**

Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above.

**Mitigation Measures**

None required.

**Impact 3.13-4 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered police and fire facilities in order to maintain acceptable service standards. (Less than significant)**

**Fire Protection**

With a projected increase in population of about 16,400 additional residents in the Planning Area at proposed General Plan buildout, demand for fire protection services will increase. Population increases may result in increased alarms and call volumes that may negatively impact Fire Department response times unless adequate staffing and facilities are maintained.



The majority of new development under the projected buildout will be located in infill sites in urbanized areas of the city, most of which are in areas of low fire hazard severity. However, residential development near the Resource Preservation land use category in the canyons presents challenges for fire service. In this area, the lack of a fire station, coupled with the presence of dry grasses and brush, increases the susceptibility of this area to fire hazards. Drought conditions increase the likelihood of fires, particularly if water reduction practices are utilized by residences in this area. The Crafton Hills, another high fire threat area, is anticipated to see limited residential development under the Proposed Project due to the urban growth boundary. New residential and commercial development throughout the Planning Area may increase the likelihood of fire and the response time of fire services.

The Fire Department has determined that it would need to increase the number of fire stations in order to meet increased future service demands, though as of February 2017, there are no plans to do so (Redlands Fire Department, 2016). Policies of the Proposed Project would keep service demand increases to a minimum. Proposed policies encourage educating the public about fire prevention, providing weed abatement services in the High Fire Severity Areas, requiring adherence to State and local fire codes, and, ensuring development minimizes risk from fire hazard. Development impact fees from new development would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing facilities. Should the Fire Department require a new station, development of a new station would require project-level environmental review as appropriate, ensuring that adverse environmental effects are avoided or mitigated.

Due to the minimal effects that the development of new facilities would have on the environment, the concentration of most new development in areas already well-served by fire protection services, and the addition of policies to reduce fire hazards in the city, this impact is considered less than significant for fire protection.

The proposed CAP does not include any land uses changes or other strategies that would affect fire service in the Planning Area. Thus, it would have no impact on this issue.

### **Police Protection**

In order to accommodate increases in demand from a growing population and meet service standards in the future, the Redlands Police Department expects that it will also need to grow (Garcia, 2015). With the city population projected to potentially reach 79,000 residents in the 2035, the department anticipates the need for significant improvements in staffing and facility capacity (Garcia, 2015).

Meeting facilities needs for an expanded Police Department would likely require new construction or physically altering an existing facility. Development impact fees from new development would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing facilities. Like the Fire Department, should the Police Department require a new facility, development of a new facility would require project-level environmental review and site-specific mitigation measures as appropriate, ensuring that adverse environmental effects are avoided or mitigated.

Proposed General Plan policies aim to mitigate increases in demand for police services. Policies include those that encourage physical planning and community design practices that promote

safety, as well as policies that include residents in community safety efforts. Because meeting facilities needs for an expanded Police Department would not pose detrimental environmental impacts, and because policies promote improved public safety, this impact is considered less than significant for police services.

The proposed CAP does not include any land uses changes or other strategies that would affect police service in the Planning Area. Thus, it would have no impact on this issue.

**Proposed General Plan Policies that Reduce the Impact**

Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above; as well as the following policies.

*Livable Community Element*

**Public Safety 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.

**Public Safety Actions**

- 4-A.150    Ensure that the Police and Fire departments have modern facilities and equipment needed to perform their duties.
- 4-A.151    Support and expand neighborhood watch organizations to assist the police in deterring crime.
- 4-A.152    Continue to enact mutual aid agreements with neighboring police and fire jurisdictions as well as State agencies.
- 4-A.153    Encourage the use of police substations throughout the city to increase the police presence in the neighborhoods.
- 4-A.154    Include the Police and Fire Departments in the review of new developments to provide feedback on building and site design safety.

*Healthy Community Element*

**Public Health 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.

### **Public Health 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.

### **Safety Principles**

- 7-P.28 Work to prevent wildland and urban fire, and protect lives, property, and watersheds from fire dangers.

### Safety 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 buildings 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, emergency command centers, and emergency communications facilities. If locating such facilities outside of high fire risk areas is not feasible, identify construction methods and other mitigation 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 examples of appropriate vegetation management through activities such as updating and maintaining the City's fire safe landscape garden.*
- 7-A.93 Require that new development minimizes 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 Department's review should ensure compliance 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 provided 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 creates a significant fire hazard.
- 7-A.98 Devise alternative fire protection standards 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 Bernardino 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 agencies as well as nongovernmental organizations 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.

**Mitigation Measures**

None required.

**Impact 3.13-5 Implementation of the Proposed Project would have the potential to cause adverse physical or other environmental impacts associated with the provision of or need for construction of new or physically altered city administrative facilities in order to maintain acceptable service standards. (Less than significant)**

The projected addition of 16,400 residents in the Planning Area by the buildout year would likely increase demand for City administrative and other community facility services. The policies below ensure that within the city these public services are improved and expanded to meet this demand as development occurs. Both within the city and within the unincorporated county, development of new public facilities would require project-level environmental review and site-specific mitigation measures as appropriate, ensuring that adverse environmental effects are avoided or mitigated. Development impact fees from new development would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing facilities. This impact is less than significant.

**Proposed General Plan Policies that Reduce the Impact**

Principle 4-P.56 and 4-P.57, and actions 4-A.145, 4-A.146, 4-A.148, 6-A.36, 6-A.39, 7-A.149, 8-A.9, 8-A.17, 8-A.39, and 8-A.40, as listed under Impact 3.13-1 above.

**Mitigation Measures**

None required.

## 3.14 Public Utilities

This section describes the conditions of public utilities in the Planning Area—including water supply, wastewater treatment, stormwater, and solid waste—and discusses potential environmental impacts that could result from implementation of the Proposed Project.

### Environmental Setting

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#### PHYSICAL SETTING

##### Water System

##### *Water Supply*

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 unincorporated Donut Hole, 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 (about 3.7 percent of the Planning Area). Service areas are shown in Figure 3.14-1.

##### *City of Redlands*

Domestic water sources for the City of Redlands 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 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 stock ownership in the Crafton Water Company, which has established rights on the remainder of Mill Creek flows. Mill Creek water is treated at the Henry Tate Water Treatment Plant, which then flows by gravity to the City's distribution system. The City's entitlement to Santa Ana River flows has a basis in stock ownership in Bear Valley Mutual Water Company (BV) and other mutual water companies. Santa Ana River water is treated at the Horace Hinckley Surface Water Treatment Plant.

##### **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 per year (afy) 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.

SBVMWD is the agency responsible for delivering wholesale water to its customers and for groundwater recharge in an area extending from Fontana to Yucaipa. 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 4 percent of the water it delivers to its customers from SBVMWD; however, SWP water is often delivered to the City via its ownership in BV, which has not been quantified. SWP water is treated at the City's Hinckley Plant. SWP water is also delivered to the Tate treatment plant, however this is infrequent.

### **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. The City draws from the Bunker Hill and Yucaipa subbasins of the Upper Santa Ana Valley Groundwater Basin. The Bunker Hill Subbasin has a surface area of approximately 89,600 acres and a groundwater storage capacity of 5,976,000 acre feet (af). The Yucaipa Subbasin has a surface area of 25,300 acres and a groundwater storage capacity of 808,000 af. Based on a 10-year average, groundwater from the Bunker Hill Subbasin totals 51 percent of the City's annual water production. Water from the two City wells that are located in the Yucaipa Subbasin is primarily used for irrigation, and only in dry years due to high levels of nitrate and perchlorate in the area (Water Systems Consulting, Inc., 2016).

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.

Individual property owners in the Planning Area may also operate private wells for use on site. These wells are permitted through the County of San Bernardino.

### **Recycled Water**

Currently, the City is the only agency in the Planning Area that produces recycled water capable of being used for irrigation and industrial uses. The City's wastewater treatment plant (WWTP) has the capability of treating 7.2 million gallons of wastewater each day to a tertiary level. The City distributed 3,032 af of recycled water in 2015 (Water Systems Consulting, Inc., 2015). 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, 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.

### ***Western Heights Water Company***

The Western Heights Water Company sources water from five wells located within the company's service boundaries, which draw from the company's sub-basin aquifer. The company also receives 162 afy through a connection with the Yucaipa Valley Water District (YVWD) (Western Heights



Water Company, 2016). Water purchased from YVWD is from the SWP and is treated by YVWD, and is subject to availability (Western Heights Water Company, 2017).

### **Water Infrastructure**

#### *City of Redlands*

#### **Potable and Raw Water**

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. Redlands owns other facilities that are currently not in use due to age, contamination, or other factors.

The City's water treatment plants include the Henry Tate Water Treatment Plant and the Horace Hinckley Surface Water Treatment Plant. The Henry Tate Water Treatment Plant is a conventional water treatment plant built in 1967. The design capacity of the Tate plant is 20 million gallons per day (mgd). The City added enhancements to the Tate WTP to provide more water supply reliability by allowing State Water Project water to be mixed with Mill Creek water for treatment (MUED, 2015). The Horace Hinckley Surface Water Treatment Plant started operation in 1987 and has a permitted capacity of 14.5 mgd. The 10-year average flow (up to and including 2016) is 6,363 af at the Henry Tate Plant, and 6,697 af at the Horace Hinckley Plant.

Existing water transmission and distribution pipelines in the system range in size from 1 to 36 inches in diameter. There are approximately 21,500 metered connections that serve domestic water. The City of Redlands' service area varies in elevation from approximately 1,100 to 2,600 feet above sea level. This large range of elevations requires a total of seven major pressure zones and two sub-zones to adequately serve all consumers with reasonable water pressures. Water used in the service area is metered and billed bimonthly. Additionally, there are 30 miles of existing non-potable water pipeline and one non-potable reservoir planned for construction.

#### **Recycled Water**

The City currently has infrastructure to supply recycled water to a limited portion of the Planning Area, mainly in the northwestern area of the city near the wastewater treatment plant. To expand the recycled water system, additional facilities would be needed. Segments of recycled water pipeline would need to be constructed along Lugonia Avenue to the newly constructed recycled water reservoir at the Texas Reservoir site in order to fully utilize recycled water, and additional booster pumps would need to be constructed at the City-owned reservoir site to meet the flow requirements of distributing recycled water to other parts of the city. The City requires new commercial development to provide dual plumbing for irrigation systems to accommodate the use of recycled water as it becomes available.

#### *Western Heights Water Company*

Infrastructure operated by the Western Heights Water Company includes four reservoirs with 6.6 million gallons of capacity and three booster stations. The company serves 2,210 potable water connections in its 4.5-square mile service area (Western Heights Water Company, 2017).

## Water Usage

### City of Redlands

Historic water usage for the City of Redlands has ranged from roughly 20,000 to roughly 30,000 afy. In 2015, total usage was about 20,000 af of potable water, and an additional 1,760 af of recycled water. The vast majority of potable water demand originated from single-family residential uses (47 percent of the total), with the next-highest demand coming from multi-family residential uses (12 percent of the total). Reclaimed water usage was almost exclusively in the commercial/industrial sector (Water Systems Consulting, Inc., 2016). Water usage information for 2015 is summarized in Table 3.14-1. Historic and projected usage is shown in Table 3.14-2.

**Table 3.14-1: Water Usage (2015)**

<i>Land Use</i>	<i>Percentage of Total Water Accounts</i>	<i>Number of Accounts</i>	<i>Total Potable Usage (afy)</i>	<i>Total Reclaimed Usage (afy)</i>	<i>Total Usage (afy)</i>
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 3.14-2: City of Redlands Historic Potable Water Usage**

<i>Year</i>	<i>Average Total Usage (afy)</i>
2005	28,615
2010	26,107
2014	27,172
2015	20,005

Sources: City of Redlands MUED, 2016; Water Systems Consulting Inc., 2016.

### Western Heights Water Company

Historic water usage for Western Heights Water Company is shown in Table 3.14-3. Between 2005 and 2015, usage has hovered around 2,000 afy. This includes water provided to the entire Western Heights service area, including customers both in and outside of the Planning Area.

**Table 3.14-3: Western Heights Historic Potable Water Usage**

<i>Year</i>	<i>Average Total Usage (afy)</i>
2005	2,440
2010	2,489
2014	2,172
2015	1,713

*Source: Western Heights Water Company, 2017.*

### Wastewater System

Sewer service in the Planning Area is provided by the City of Redlands. The City’s wastewater treatment plant (WWTP) is located on the south side of the Santa Ana River Wash at Nevada Street. The WWTP has a secondary treatment capacity of 9.5 mgd and a tertiary treatment capacity of 7.2 mgd.<sup>1</sup> As of 2015, average flow to the WWTP was approximately 5.6 mgd. In 2015, 3,254 af of wastewater were treated to a secondary level and released to spreading basins east of the WWTP for percolation into the Bunker Hill groundwater basin, while 3,032 af were treated to a tertiary level and distributed as recycled water (Water Systems Consulting, Inc., 2016).

The system has one lift station that serves the western-most portion of the city south of Interstate 10 (I-10). The collections system consists of approximately 230 miles of pipelines. New developments are required to connect to the system when in proximity and are required to pay development impact fees based on the volume of their waste. There are no system-wide improvements or WWTP upgrades currently planned or underway.

The City regularly samples the WWTP’s influent and effluent to ensure compliance with state regulations. As conditions change, City staff makes recommendations and implements needed improvements to ensure compliance. MUED has determined that no improvements are needed at this time. The wastewater system is shown in Figure 3.14-2.

### Stormwater System

#### Stormwater Infrastructure and Drainage

The City of Redlands’ stormwater drainage system serves an area of approximately 37 square miles. The Downtown drainage system is composed of reinforced concrete pipe (RCP) and corrugated metal pipe (CMP) with diameters ranging from 8 inches to 96 inches, box culverts, covered rubble rock and concrete channels, and concrete and natural drains. The subdivision drainage systems are generally composed of RCP, CMP, high-density polyethylene (HDPE) and polyethylene pipe with

<sup>1</sup> Secondary treatment refers to the process of substantially reducing the biological content of sewage, and tertiary treatment refers to the process of improving effluent quality before it is discharged.

diameters ranging from 12 to 48 inches. Stormwater runoff from these systems flows by gravity into the Mission Channel, Morrey Arroyo Creek, and San Timoteo Canyon, and discharges to the Santa Ana River. The stormwater system is shown in Figure 3.14-3.

Drainage throughout the city is generally from east to west to one of two main existing major stormwater drainage facilities. The city is divided into five main watersheds: Mission Zanja, Reservoir Canyon, Downtown, North Redlands along the Santa Ana River, and South Redlands along the San Timoteo Channel. Downtown Redlands is located at the confluence of the historical Mission Zanja (Zanja) and the Reservoir Canyon Channel near the east end. Downstream, at the northwest side of Downtown, these flows combine with other local tributaries to form the Mission Channel. As a tributary to the Downtown area, the Zanja consists of approximately 6,000 acres of drainage area. The Reservoir Canyon Channel consists of about 4,000 acres of drainage area tributary to the confluence with the Zanja at Redlands Boulevard. Other tributaries that contribute to Downtown include the Oriental storm drain (1,000 acres of drainage area) and the Carrot storm drain (543 acres of drainage area). The City's existing storm drainage system lacks capacity as evidenced from the periodic flooding that occurs even during moderate storm events. Flood hazards are discussed in Section 3.7: Hydrology and Water Quality.

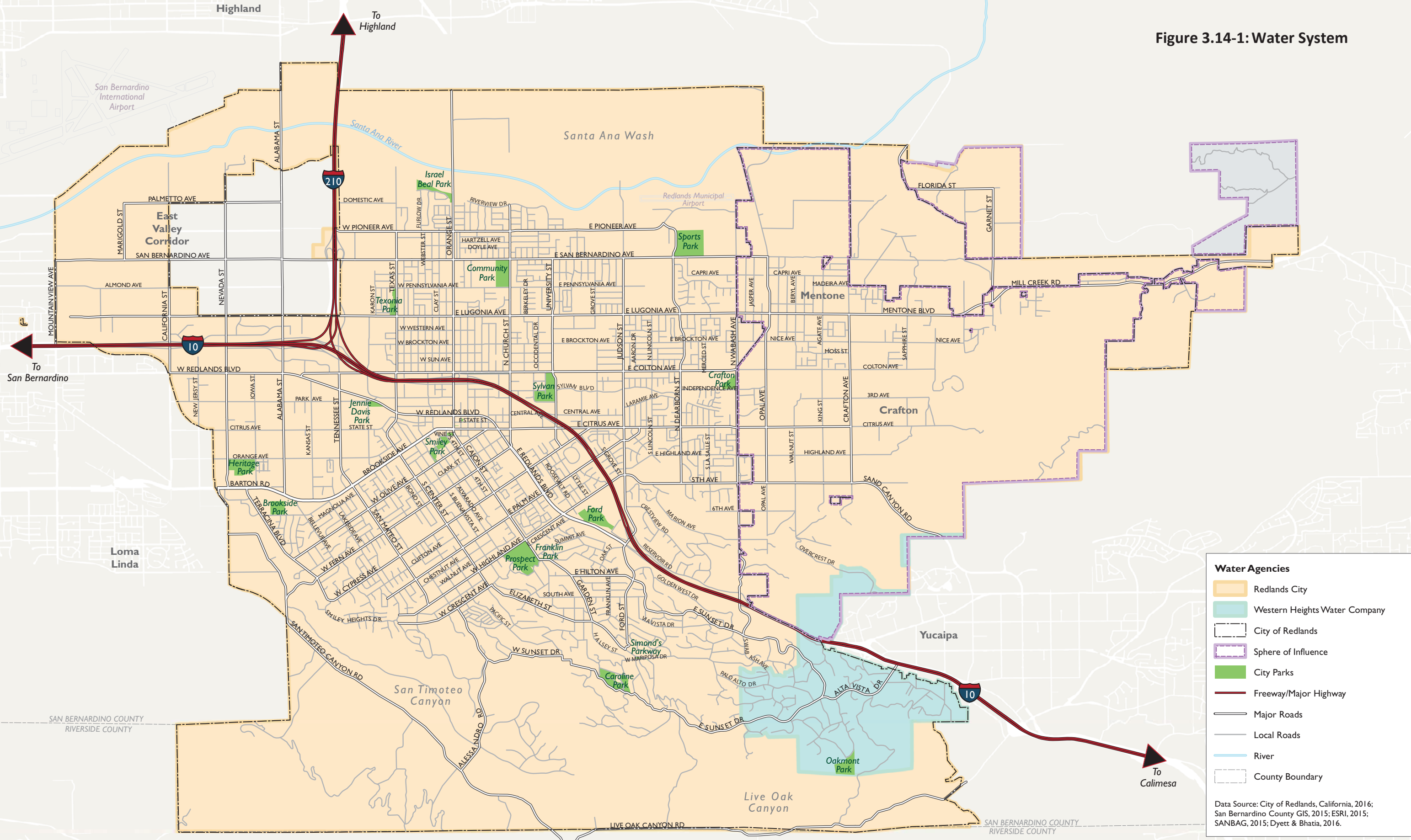
As rain falls onto the City streets and runs off, it carries with it pollutants such as pet waste, gasoline, oil, and heavy metals. Pesticides, herbicides, and fertilizers are washed from lawns and other green spaces. Sediments are eroded by wind and water from construction sites and vegetated landscape areas.

### **Planned Improvements**

#### ***Redlands Drainage Master Plan***

In June 2014, the City of Redlands adopted a Drainage Master Plan specifically devoted to its storm drain system. The master plan consolidates studies from multiple local and regional agencies, identifies infrastructure necessary to help protect the city from a major storm, provides long-range planning for the implementation and development of citywide drainage facilities, and determines the cost of implementing the facilities to add capacity to the existing stormwater drainage infrastructure. The plan proposes improvements for each of the city's drainage areas, including replacement of existing storm drainage facilities, and provides cost estimates for each. The plan also identifies 10 Green Initiative sites that may be appropriate for combined water quality/groundwater recharge facilities. As part of hydraulic analyses conducted for each of the city's drainage areas, the plan found that the system would require improvements to several storm drain locations in order to reduce Downtown flooding to an acceptable level. This finding included consideration of the Opal Basin project, a detention basin that has been identified by the City for flood control purposes (described below) and is also an improvement documented in the Drainage Master Plan (RBF Consulting, 2014).

Figure 3.14-1: Water System



**Water Agencies**

- Redlands City
- Western Heights Water Company
- 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.

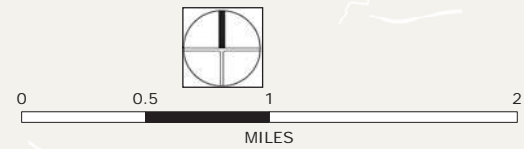
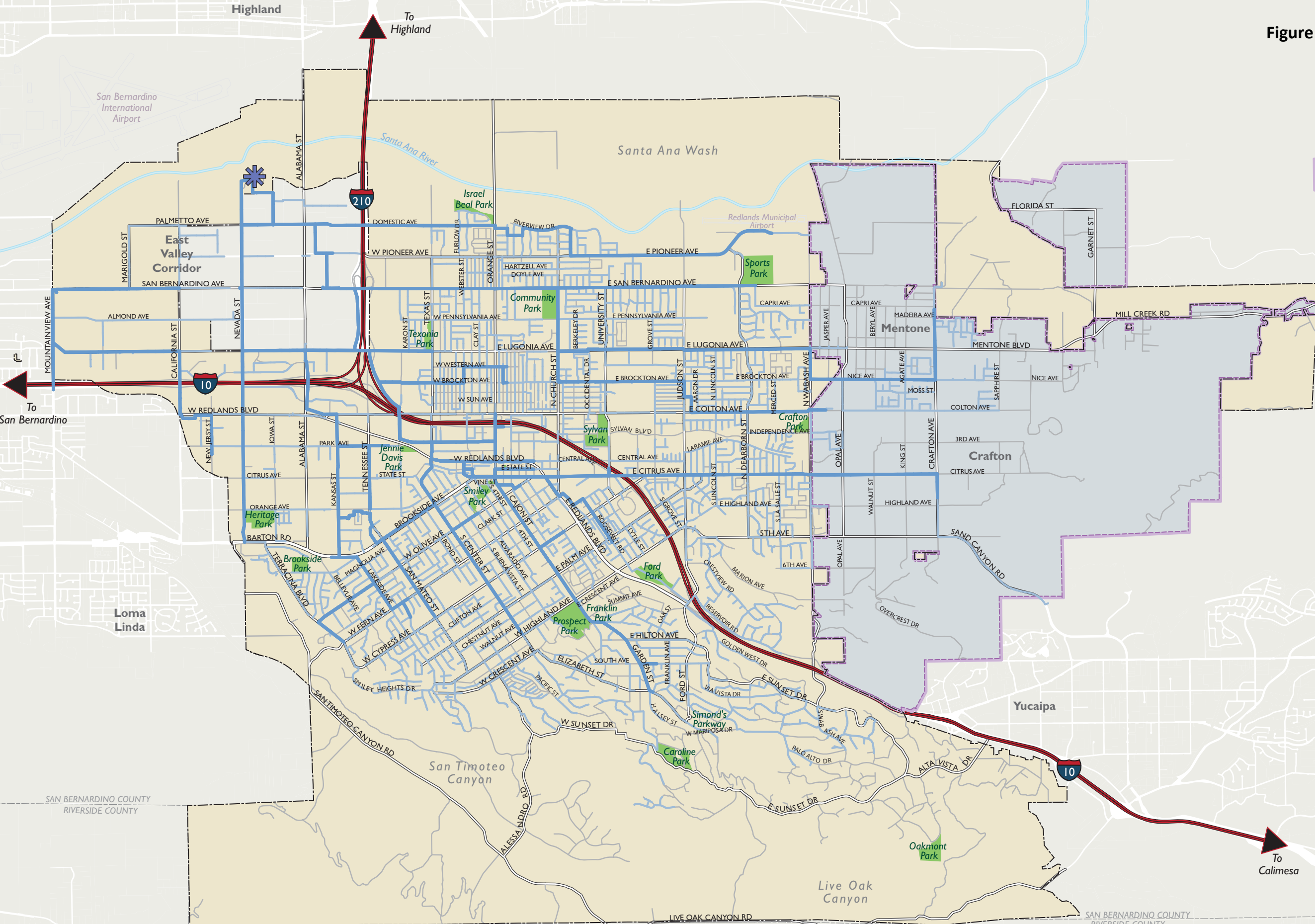













Figure 3.14-2: Wastewater System



-  Wastewater Treatment Facility
- Sewer Mains**
-  Primary sewer (trunk)
-  Collection sewer
-  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.

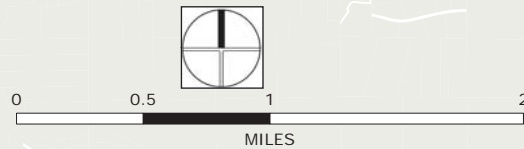
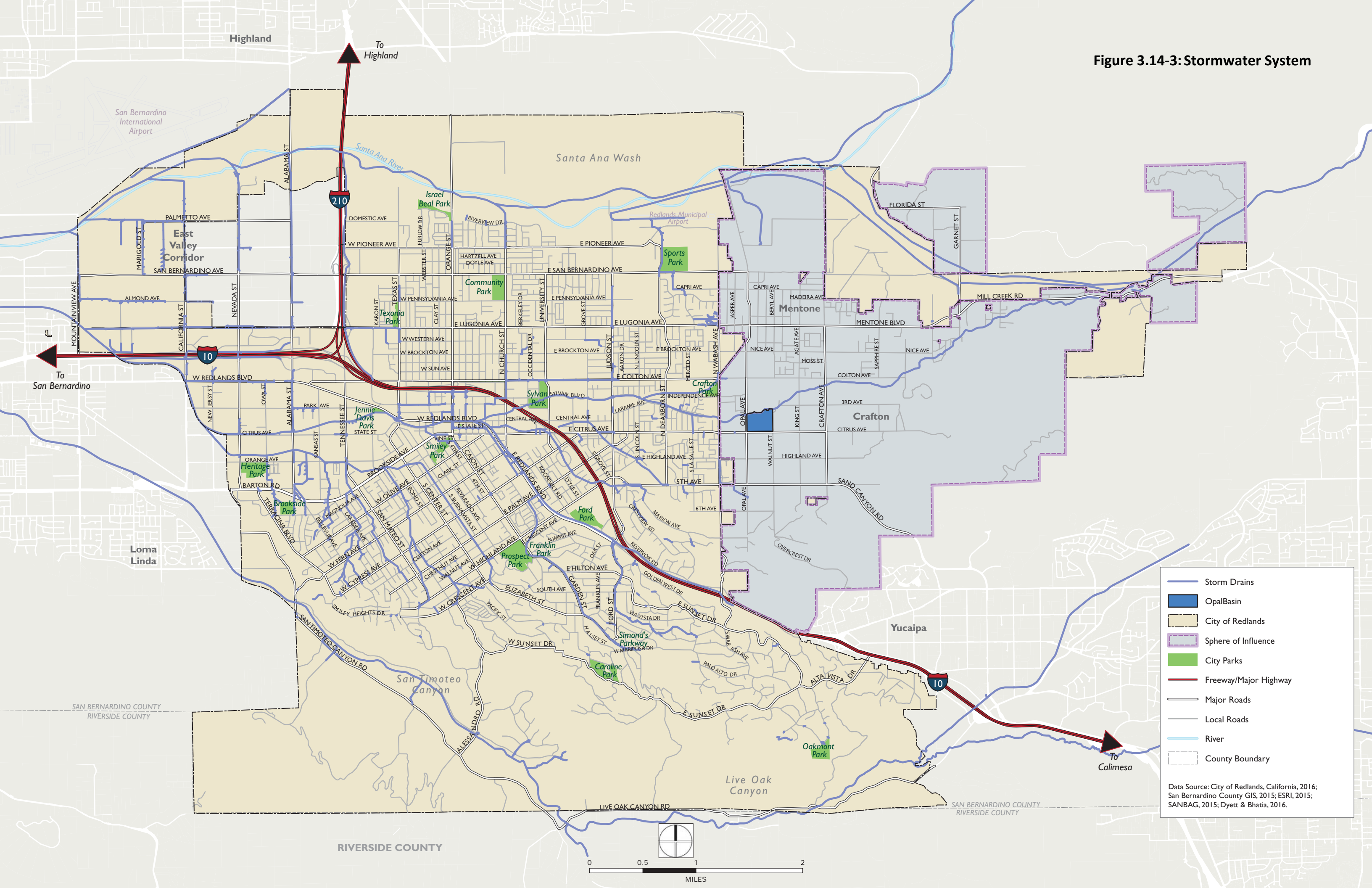
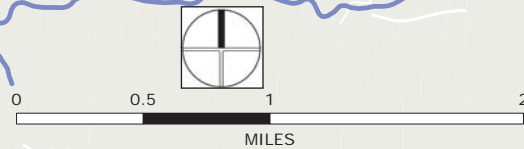


Figure 3.14-3: Stormwater System



	Storm Drains
	Opal Basin
	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.



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### **Opal Basin Project**

The Opal Basin project involves construction of a multi-purpose basin to provide for flood water detention and groundwater recharge capabilities. The proposed basin will be approximately 600 acre-feet in size, including 475 acre-feet of flood storage and over 130 acre-feet of groundwater recharge. The basin would be designed with an inlet system to intercept and divert flow from the Zanja Channel into the basin. These facilities include diversion structures, conveyance pipes, and energy dissipaters. Outlet facilities will release waters back to the existing channel through conveyance pipes and a structural spillway. The proposed basin would attenuate the anticipated 100-year peak flow of 3,200 cubic feet per second and release the water at a flow rate of 600 cubic feet per second back into the Zanja Channel via an outlet in the basin (though it will not completely eliminate flooding in the Downtown area).

### **Solid Waste Disposal**

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. 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 operated by the Quality of Life Department and the San Timoteo Sanitary Landfill operated by the County, both within the city limits. The California Street Landfill is located at 2151 Nevada Street and encompasses 115 acres. Its design capacity is 11.4 million cubic yards, and its maximum permitted capacity is 10 million cubic yards. It has a maximum permitted throughput of 829 tons per day. It has a remaining capacity of 6,800,000 cubic yards (CalRecycle Solid Waste Information System, 2017). The San Timoteo Sanitary Landfill is located on San Timoteo Canyon Road and is 366 acres in size. It has a permitted capacity of 20,400,000 cubic yards and a maximum permitted daily throughput of 2,000 tons. As of CalRecycle's 2012 estimate, the remaining capacity was 13,605,388 cubic yards (CalRecycle Solid Waste Information System, 2017).

## **REGULATORY SETTING**

### **Federal Regulations**

#### ***Federal Safe Drinking Water Act***

See Chapter 3.9: Hydrology and Water Quality.

#### ***United States Environmental Protection Agency***

The 1986 amendments to the Safe Drinking Water Act and the 1987 amendments to the Clean Water Act established the Environmental Protection Agency (EPA) as the primary authority for water programs. The EPA is the federal agency responsible for providing clean and safe surface water, groundwater, and drinking water, and protecting and restoring aquatic

ecosystems. Redlands is in EPA Region 9 (Pacific Southwest), which includes Arizona, California, Hawaii, Nevada, Pacific Islands, and Tribal Nations.

### **Federal Water Pollution Control Act of 1972 (Clean Water Act)**

See Chapter 3.9: Hydrology and Water Quality.

### **Senate Bills 610 and 221**

Enacted in 2002, SB 610, which was codified in the Water Code beginning with section 10910, requires the preparation of a water supply assessment (WSA) for projects within cities and counties that propose to construct 500 or more residential units or the equivalent. SB 610 stipulates that when environmental review of certain large development projects is required, the water agency that is to serve the development must complete a WSA to evaluate water supplies that are or will be available during normal, single-dry, and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with a Proposed Project.

Enacted in 2001, SB 221, which was codified in the Water Code beginning with section 10910, requires that the legislative body of a city or county, which is empowered to approve, disapprove, or conditionally approve a subdivision map, must condition such approval upon proof of sufficient water supply. The term “sufficient water supply” is defined in SB 221 as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the projected demand associated with the proposed subdivision. The definition of sufficient water supply also includes the requirement that sufficient water encompass not only the proposed subdivision, but also existing and planned future uses, including agricultural and industrial uses.

### **National Pollutant Discharge Elimination System**

The Clean Water Act was amended in 1987 to include urban and stormwater runoff, which required many cities to obtain an NPDES permit for stormwater conveyance system discharges. Section 402(p) of the Clean Water Act prohibits discharges of pollutants contained in stormwater runoff, except in compliance with a NPDES permit.

### **State Regulations**

#### **California Department of Public Health**

See Chapter 3.9: Hydrology and Water Quality.

#### **California State Water Resources Control Board**

The State Water Resources Control Board (SWRCB) and nine regional water quality control boards address water quality and rights regulation. Created by the California Legislature in 1967, the five-member SWRCB protects water quality by setting statewide policy, coordinating and supporting the Regional Water Quality Control Board (RWQCB) efforts, and reviewing petitions that contest RWQCB actions. The SWRCB is also solely responsible for allocating surface water rights. Each RWQCB makes critical water quality decisions for its region,

including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.

### **California Department of Water Resources**

The California Department of Water Resources (DWR) is responsible for the operation and maintenance of the California SWP. DWR is also responsible for overseeing the statewide process of developing and updating the California Water Plan (Bulletin 160 series); protecting and restoring the Sacramento–San Joaquin Delta; regulating dams, providing flood protection, and assisting in emergency management; educating the public about the importance of water and its proper use; and providing technical assistance to service local water needs.

### **California Urban Water Conservation Council**

The water districts serving Redlands are signatories to the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California. The CUWCC was created to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. The council’s goal is to integrate urban water conservation best management practices (BMPs) into the planning and management of California’s water resources. Those signing the MOU pledge to develop and implement 14 comprehensive conservation BMPs. These BMPs are designed to be phased in over about a 10-year period, but CMWD—which serves about 82 percent of the city—has only been a signatory since 2006.

### **California Porter–Cologne Water Quality Control Act**

See Chapter 3.9: Hydrology and Water Quality.

### **The Water Conservation Act of 2009 (SB X7-7)**

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 such as MUED reduce per-capita water use within their service areas by 20 percent relative to their use over the previous 10 to 15 years. The City of Redlands plans to comply with the SB X7-7 requirements through a combination of on-going water conservation measures and additional recycled water development. Calculations for the 2015 RUWMP determined that as of 2015, Redlands had met the obligations of SBX7-7 (see Local Regulations below) and surpassed the 2015 and 2020 water usage reduction targets.

### **State Updated Model Landscape Ordinance (Assembly Bill 1881 (2006))**

The State’s updated Model Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by Jan. 31, 2010. In 2009, the City of Redlands passed Ordinance No. 2724 adopting a Drought Response Plan and Water Conservation Program that has been implemented in the city’s Municipal Code Chapter 15.54 entitled Water Efficient Landscape Requirements, in response to Assembly Bill 1881.

### **California Urban Water Management Planning Act**

The California Legislature enacted the Urban Water Management Planning Act of 1983 (California Water Code Sections 10610 through 10656) is intended to support conservation and efficient use of urban water supplies at the local level. The act required that every urban water supplier that provides water to 3,000 or more customers, or over 3,000 af of water annually, to make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its customers during normal, dry, and multiple-dry years. The act requires that total projected water use be compared to water supply sources over the next 20 years in five-year increments, that planning occur for single- and multiple-dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses.

Applicable urban water suppliers within California are required by the Water Code to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. A UWMP is required in order for a water supplier to be eligible for the DWR-administered state grants, loans, and drought assistance. A UWMP provides information on water use, water resources, recycled water, water quality, reliability planning, demand management measures, BMPs, and water shortage contingency planning for a specified service area or territory.

### **California Emergency Graywater Regulations**

In 2009, as part of the Governor's declared State of Emergency, Chapter 16A "Nonpotable Water Reuse Systems" was incorporated into the 2007 California Plumbing Code. Chapter 16A establishes minimum requirements for the installation of graywater systems in residential occupancies regulated by the California Department of Housing and Community Development, providing guidance and flexibility designed to encourage the use of graywater. The standards allow small graywater systems to be installed in homes without a construction permit, substantially reducing the barriers to installing small residential graywater systems in California. The purpose of the regulations is to conserve water by facilitating greater reuse of laundry, shower, sink, and similar sources of discharge for irrigation and/or indoor use; to reduce the number of noncompliant graywater systems by making legal compliance easily achievable; to provide guidance for avoiding potentially unhealthful conditions; and to provide an alternative way to relieve stress on private sewage disposal systems.

### **State Water Resources Control Board**

On May 2, 2006, the SWRCB adopted a General Waste Discharge Requirement (WDR) (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a sewer system management plan. The City of Redlands Sewer System Management Plan (SSMP) was approved by City Council in 2009 and includes an overflow emergency response plan; operation and maintenance program; fats, oils, and grease plan; design and performance standards; system capacity plan; and communications program.

### **California's Department of Resources Recycling and Recovery**

California Department of Resources Recycling and Recovery (CalRecycle) is the State's leading authority on recycling, waste reduction, and product reuse. CalRecycle plays an important role in the stewardship of California's vast resources and promotes innovation in technology to encourage economic and environmental sustainability. CalRecycle brings together the State's recycling and waste management programs and continues a tradition of environmental stewardship. Mandated responsibilities of CalRecycle are to reduce waste, promote the management of all materials to their highest and best use, and protect public health and safety and the environment.

### **California Integrated Waste Management Act (AB 939)**

AB 939, California's Integrated Waste Management Act of 1989, mandates that 50 percent of solid waste be diverted by the year 2000 through source reduction, recycling, and composting. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity. This requires each region to prepare a source reduction and recycling element to be submitted to CalRecycle, which administers programs formerly managed by the state's Integrated Waste Management Board and Division of Recycling.

### **California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327)**

AB 1327 was established in 1991, which required CalRecycle to develop a model ordinance for the adoption of recyclable materials in development projects. Local agencies were then required to adopt the model, or an ordinance of their own, governing adequate areas for collection and loading of recyclable materials in development projects.

### **Disposal Measurement System Act of 2008 (SB 1016)**

SB 1016 maintains the 50 percent diversion rate requirement established by AB 939, while establishing revised calculations for those entities who did not meet the 50 percent diversion rate. SB 1016 also established a per capita disposal measurement system to make the process of goal measurement, as established by AB 939, simpler, timelier, and more accurate. The new disposal-based indicator—the per capita disposal rate—uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities.

### **Solid Waste Diversion (AB 341)**

Effective July 1, 2012, AB 341 requires that commercial enterprises that generate four cubic yards or more of solid waste weekly participate in recycling programs. This requirement also includes multifamily housing complexes of five units or more, regardless of the amount of solid waste generated each week.

### **Local Regulations**

#### **Upper Santa Ana River Watershed Integrated Regional Water Management Plan (IRWMP)**

See Chapter 3.9: Hydrology and Water Quality.

### **San Bernardino Valley Regional Urban Water Management Plan (RUWMP)**

The 2015 RUWMP is a document that provides a summary of anticipated supplies and demands for the years 2015 to 2040. The City of Redlands is one of 10 agencies included in the RUWMP. The RUWMP was prepared consistent with the California Urban Water Management Planning Act, SBX7-7, and the 2015 DWR Guidebook for Urban Water Suppliers.

### **City of Redlands Water Conservation Plan**

Chapter 13.06 of the Redlands Municipal code establishes the City's Water Conservation Plan to reduce the nonessential use of water in order to minimize the effect of a water supply shortage due to droughts or emergency conditions. The plan provides for mandatory cutbacks in water use so as not to endanger the health, safety, and welfare of citizens and property owners in the city. The plan is composed of four stages based on the severity of the water shortage: Stage I, Voluntary Conservation; Stage II, Mandatory Compliance (Water Alert); Stage III, Mandatory Compliance (Water Warning); and Stage IV, Mandatory Compliance (Water Emergency). The plan may be enacted by the City Council following a public hearing, or, if the City Council cannot meet in time, by the City Manager.

### **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 recycled water irrigation systems, and encourage stormwater best management practices to increase on-site retention and infiltration.

### **California Plumbing Code (2016)**

The City of Redlands has adopted the 2016 California Building Standards Code, including the California Plumbing Code (California Code of Regulations, Title 24, Part 5). The code includes provisions for the design, materials, and installation of water supply and distribution fixtures, sanitary drainage, indirect waste, storm drainage, and nonpotable water sources for individual projects.

### **City of Redlands Recycling Ordinance**

Chapter 13.66 of the Redlands Municipal Code establishes requirements for recycling by specified development activities to facilitate the City's compliance with State recycling mandates, remove architectural barriers to recycling, and ensure the recycling of construction and demolition debris. The ordinance applies to applicants for the demolition of any structure; construction, additions, or improvements to any building other than a single-family residential building; and reroofing activities. Applicants are required, as a condition of approval, to submit for review and approval a completed Site and Building Recycling Plan to the Quality of Life

Department. The submission should include the location and design of all existing and proposed recycling and trash enclosures, design of site access points for solid waste and recycling collection vehicles and a design of the grading of the site, operational criteria for the proposed use of the property and capacity requirements for the waste generation of the building. The ordinance also specifies requirements for Construction and Demolition Recycling Plans.

## Impact Analysis

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### **SIGNIFICANCE CRITERIA**

A significant impact would occur with implementation of the Proposed Project if it would:

- Criterion 1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;**
- Criterion 2: Require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects;**
- Criterion 3: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;**
- Criterion 4: Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements;**
- Criterion 5: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;**
- Criterion 6: Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or**
- Criterion 7: Violate federal, State, or local statutes and regulations related to solid waste.**

### **METHODOLOGY AND ASSUMPTIONS**

The analysis for this section addresses impacts on public utilities and city infrastructure due to projected growth arising from the Proposed Project. Subsequent California Environmental Quality Act (CEQA) review at the project level may be required to determine whether significant environmental effects would result from the construction of water distribution lines, wastewater collection system components, storm drainage conveyance pipes or facilities, and

any onsite storage or pumping facilities on development sites, or other utilities improvements. Project-level review will occur when proposed development plans are prepared. This analysis is based on a review of relevant local and regional plans and background information, consultation with relevant utilities, and spatial analysis using geographic information system (GIS) mapping.

## **SUMMARY OF IMPACTS**

Future development under the proposed General Plan would generate additional demand for water and wastewater, stormwater, and solid waste services; however, compliance with federal, State, and local regulations, as well as policies in the proposed General Plan would ensure that impacts of the Proposed Project would be less than significant. Compliance with federal, State, and local water and wastewater regulations and the proposed General Plan policies would reduce potential impacts on water and wastewater service needs and infrastructure needs to less than significant levels. Compliance with the City's current grading, drainage, and stormwater regulations would ensure any new facilities required to manage stormwater in the Planning Area would have a less than significant impact on the environment. Potential impacts on solid waste would be reduced through compliance with SB X7-7, which has been set by CalRecycle to provide 75 percent recycling, composting, or source reduction of solid waste by 2020. Implementation of the proposed General Plan policies would assist the City in complying with this new waste reduction goal. Therefore, implementation of the proposed General Plan would result in less than significant impacts on solid waste. The proposed Climate Action Plan (CAP) does not include any land uses changes or other strategies that would result in impacts to public utilities.

## **IMPACTS**

### **Impact 3.14-1 Development under the Proposed Project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (*Less than Significant*)**

Implementation of the proposed General Plan would result in future residential, commercial, office, and industrial uses in the planning area, causing increases in population that would generate additional wastewater. Therefore, wastewater treatment would be expected to increase over current levels.

The WWTP treatment plant meets all current regional, State, and federal requirements for secondary treatment. The City regularly samples the WWTP's influent and effluent to ensure compliance with State regulations. Current regulations require compliance with water quality standards and these measures would preclude development lacking adequate utility capacity, including wastewater treatment capacity. Individual developments would be reviewed by the City and the applicable wastewater providers to determine that sufficient sewer capacity exists to serve the additional population that would be generated by the future projects. The City would continue to coordinate with the wastewater service providers to ensure that new development would not exceed the capacity of wastewater conveyance and treatment facilities, and that new development would pay development fees to increase capacity of those facilities.



Implementation of these requirements would ensure that new wastewater facilities are constructed to meet performance standards and allow for future maintenance. Proposed General Plan impacts to wastewater treatment requirements would be less than significant. The proposed CAP does not include any land use changes or other measures that would affect wastewater treatment and would therefore have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

#### **Public Facilities Principles**

- 4-P.56 Ensure that public facilities and services are provided in a timely manner to adequately serve new and existing development.

#### **Public Facilities Actions**

- 4-A.145 Coordinate future development with the City's Capital Improvement Program to ensure adequate funding and planning for needed public services and facilities.
- 4-A.146 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.148 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.

#### **Mitigation Measures**

None required.

### **Impact 3.14-2 Development under the Proposed Project would not require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)**

Implementation of the proposed General Plan would allow for the development of future residential, commercial, and industrial land uses in the planning area. Additional population and businesses would generate additional demand for water and wastewater services, and therefore, a potential increased demand for water provision and wastewater collection, conveyance, and treatment services over currently established levels. As discussed below, existing facilities would be adequate to serve the projected buildout population, therefore impacts resulting from the proposed General Plan would be less than significant. The proposed CAP does not include any land use changes or other measures that would affect water or wastewater treatment and would therefore have no impact.

#### **Construction of Water Treatment Facilities**

Water treatment facilities in the Planning Area are provided by the City of Redlands and the Western Heights Water Company, though the majority of the Planning Area is served by the

City. The majority of land uses under the proposed General Plan would occur in the City of Redlands service area.

### City of Redlands

The City of Redlands projected future water supply and demand for the 2015 RUWMP based on existing water system infrastructure. For the proposed General Plan buildout year of 2035, the City assumed a service population of 95,000, which is greater than the 2035 Planning Area population of 93,624 projected for the proposed General Plan. Projected supply and demand for water provided by the City of Redlands is shown in Table 3.14-4.

**Table 3.14-4: Projected Water Demand**

Year	Demand (af)		Total
	Potable and Raw Water	Recycled Water	
2020	27,986	5,152	33,138
2025	28,762	5,402	34,164
2030	29,538	5,402	34,940
2035	30,313	5,402	35,715

Source: Water Systems Consulting, Inc., 2016.

In 2035, demand for potable and raw water is projected to be 30,313 af, or an average of 27 mgd. This amount can be sufficiently accommodated by the City's existing treatment plants and infrastructure, which have capacity for 35 mgd. Projected recycled water demand in 2035 is 5,402 af, or an average of 4.8 mgd, a volume that can be accommodated by the 7.2-mgd tertiary treatment capacity of the WWTP. These projections are conservative, as they are made for a larger buildout population than what is anticipated for the proposed General Plan. Therefore, additional water storage and treatment facilities are not anticipated to be required to accommodate buildout under the proposed General Plan.

Additionally, goals and policies in the proposed General Plan aim to conserve water by curbing demand for domestic and agricultural purposes, ensure coordinated planning for the provision of public facilities including water infrastructure, and ensure that utilities be designed and constructed to preserve the natural character of an area. Such policies would help to reduce the demand on existing treatment infrastructure and allow for meaningful consideration of potential impacts of any future decisions regarding the provision of new infrastructure. Therefore, through compliance with State and local regulations, and implementation of the proposed General Plan policies, impacts would be less than significant.

### Western Heights Water Company

The Western Heights Water Company service area includes about 3.7 percent of the Planning Area. Supply and demand projections have not been completed for the portion of the company's service area within the Planning Area. However, the 2010 RUWMP prepared for the San Bernardino Valley determined that the water company's service area had limited potential for growth. The proposed General Plan designates the following land uses within the

water company's service area: Resource Preservation, Open Space, Parks/Golf Courses, Hillside Conservation, Very Low Density Residential, and Low Density Residential. The Resource Preservation and Open Space land use designations are intended for conservation purposes, and generally would not permit significant future development. The Very Low Density Residential areas in the canyonslands are already mostly developed.

The water company does not currently operate any treatment facilities. Groundwater supplies for the company do not require treatment and water purchased through the SWP are treated by the YVWD. Any future development in the water company's portion of the Planning Area would likely be served from these same sources. In the case that new facilities would be required, they would be subject to State and local regulations regarding environmental review and the minimization of impacts from construction related activities such as grading, as well as policies in the proposed General Plan that require that new utilities preserve the natural character of an area and be planned in a coordinated manner. Proposed policies would also serve to reduce water demand through conservation measures and seek to coordinate the planning and provision of utilities. Therefore, through compliance with State and local regulations, and implementation of the proposed General Plan policies, impacts would be less than significant.

### **Construction of Wastewater Treatment Facilities**

Implementation of the Proposed Project would allow for the future development of residential, commercial, office, and industrial uses in Redlands. Therefore, wastewater collection, conveyance, and treatment services are likely to increase over current levels. The City of Redlands has projected average wastewater flows of 6.75 mgd at buildout of the proposed General Plan. This projection was based on current flow per customer, scaled to the projected number of customers at buildout. As the projected flow is within the 9.5-mgd secondary treatment capacity and 7.2-mgd tertiary treatment capacity, no new or expanded treatment facilities would be needed to serve the population at buildout. Impacts from the proposed General Plan would therefore be less than significant.

### **Proposed General Plan Policies that Reduce the Impact**

Policy 4-P.56 and Actions 4-A.145, 4-A.146, and 4-A.148, listed above under Impact 3.14-1 above, as well as the following policies.

#### *Livable Community Element*

#### **Agriculture, Open Space, and Hillside Actions**

4-A.39 Encourage the use of soil and water conservation techniques in agricultural operations.

#### *Vital Environment Element*

#### **Water Quality Actions**

6-A.40 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.

*Healthy Community Element*

**Air Quality Principles**

- 7-A.149 Ensure that construction and grading projects minimize short-term impacts to air quality.
  - a. Require grading projects to provide a storm water 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.

*Sustainable Community Element*

**Water Conservation 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 groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.

**Water Conservation 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 groundwater 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.
  - 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.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.

**Mitigation Measures**

None required.

**Impact 3.14-3 Development under the Proposed Project could result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)**

Development under the proposed General Plan would allow for the redevelopment of existing developed areas that would generate increased stormwater volumes in portions of Redlands. Increased flows could in turn create a need for new infrastructure in order to accommodate infiltration of stormwater or to convey stormwater to detention basins to prevent flooding, particularly where there are already stormwater capacity problems, such as the Downtown area, or where new development is planned near conservation areas, such as in Mentone. Construction of new stormwater infrastructure could have adverse effects on the physical environment.

Land use designations in the proposed General Plan would generally focus new development within the developed footprint of the city, allowing infill projects to take advantage of existing stormwater infrastructure. In many cases, sites that may be developed or redeveloped in the future are already disturbed or built with impervious surfaces, and development on smaller lots surrounded by existing development would be unlikely to significantly increase runoff in those areas. However, some vacant sites in the East Valley Corridor planning area could accommodate larger developments with the potential for larger areas of impervious surface that could affect the volume of stormwater runoff in the North City and South City drainage basins. Vacant sites in the South City drainage basin are located within the 100-year floodplain. Similarly, some vacant sites in the western portion of the Downtown area have the potential to add impervious surfaces in an area located within the 100-year floodplain. In undeveloped areas around the periphery of the Planning Area, proposed land use designations seek to maintain open space uses and very low densities, limiting the amount of impervious surfaces contributing to stormwater volumes as well as the demand for additional facilities.

Policies in the proposed General Plan seek to minimize the volume of stormwater entering the stormwater system, reduce the need for large system expansions, and limit the impacts system expansion could have on the environment. Proposed policies require that new development provide landscaping, maximize pervious surfaces, promote on-site stormwater management solutions such as low-impact development utilizing BMPs, promote stormwater capture and reuse, and ensure that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate. New development or redevelopment is subject to the MS-4 permitting process must design for the two-year, one-hour storm, the most frequent and the most impactful. Proposed policies would also reduce the amount of debris that could be picked up by runoff in a manner that can decrease effectiveness of the stormwater system. Additionally, because the proposed General Plan seeks to locate new development near existing infrastructure, it reduces the potential for environmental impacts associated with extensive infrastructure improvements over long tracts of land.

The City of Redlands' stormwater management program is regulated by NPDES permit requirements, as well as with applicable State and federal laws. Additionally, the 2014 City of Redlands Drainage Master Plan provides long-range drainage planning to prepare for and

minimize the impact of storm events. The largest improvement project is the Opal Basin project which would involve the construction of a multi-purpose basin to provide for flood water detention and water recharge. The project would also involve developing an inlet system to divert flow from the Zanja into the Basin. As discussed in the Environmental Setting section, the existing Redlands Drainage Master Plan anticipates that additional improvements would still be needed to reduce Downtown flooding. Policies in the proposed General Plan to reduce stormwater flows and improve drainage conditions would support the reduction of flooding in the Downtown area.

Any future stormwater drainage projects in the city would be subject to State and local regulations and proposed General Plan policies that would reduce any environmental impacts. Future projects would be subject to CEQA, which would require projects with potential impacts to assess and identify any feasible mitigation measures for those impacts. While CEQA compliance would allow for the consideration of potential impacts and mitigation, it would not necessarily guarantee that significant impacts would not take place. Construction projects would also be subject to City regulations related to grading and earthwork and water pollution prevention intended to minimize impacts on the environment and proposed General Plan policies that seek to limit impacts from construction and the development of utilities as well as implement low impact development (LID) strategies as part of the stormwater system.

Thus, any impacts related to the construction of new stormwater drainage facilities resulting from development under the proposed General Plan would be less than significant through compliance with State and local regulations, as well as implementation of proposed General Plan policies.

As the proposed CAP does not include any land use changes or other measures that would affect stormwater infrastructure, it would have no impact.

### **Proposed General Plan Policies that Reduce the Impact**

Proposed General Plan principles and actions listed in Impact 3.14-1 above, as well as the following policies.

#### *Vital Environment Element*

#### **Water Quality 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.

#### **Water Quality 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 of 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 clean-ups 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.

**Mitigation Measures**

None required.



**Impact 3.14-4 Development under the Proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements. (Less than Significant)**

As discussed in Impact 3.14-2, demand for potable and raw water at buildout for a population of 95,000 in 2035 is projected to be 30,313 af, and demand for recycled water is projected to be 5,402 af. Total demand would equal 35,715 af in 2035 (Table 3.14-4). In the 2015 RUWMP, the City of Redlands projected water supplies for 2035 of 64,098 af from existing sources and entitlements. Projected water sources are described in Table 3.14-5.

**Table 3.14-5: Projected Water Supplies (af)**

<i>Water Supply Sources</i>	<i>2020</i>	<i>2025</i>	<i>2030</i>	<i>2035</i>
Surface Water	14,000	14,000	14,000	14,000
Groundwater-Potable (Bunker Hill Subbasin)	40,000	40,000	40,000	40,000
Groundwater-Raw Water	1,496	1,564	1,632	1,696
Recycled water	5,152	5,402	5,402	5,402
Purchased or Imported Water	1,500	2,000	2,500	3,000
<b>Total</b>	<b>62,148</b>	<b>62,966</b>	<b>63,534</b>	<b>64,098</b>

Source: Water Systems Consulting, Inc., 2016.

Table 3.14-6 compares projected demand to projected supplies.

**Table 3.14-6: Projected Water Demand and Supply**

<i>Year</i>	<i>Demand (af)</i>			<i>Normal Year Supply (af)</i>		
	<i>Potable and Raw Water</i>	<i>Recycled Water</i>	<i>Total</i>	<i>Potable and Raw Water</i>	<i>Recycled Water</i>	<i>Total</i>
2020	27,986	5,152	33,138	56,996	5,152	62,148
2025	28,762	5,402	34,164	57,564	5,402	62,966
2030	29,538	5,402	34,940	58,132	5,402	63,534
2035	30,313	5,402	35,715	58,696	5,402	64,098

Source: Water Systems Consulting, Inc., 2016

As shown, the City of Redlands has identified adequate supply from existing water sources and entitlements to meet demand through 2035. The 2015 RUWMP shows that in a normal year, demand for potable and raw water could be met through surface water diversions and groundwater extraction alone. Imported water, which is subject to availability from the SWP, would only account for about 5 percent of the total potential supply.

Potable and raw water diversions as projected in the 2015 RUWMP would be in line with projections made for the 2015 IRWMP, which considered each service provider's demands in terms of a regional water budget. The 2015 IWRMP projected that surface water diversions and groundwater extractions from the San Bernardino Basin Area (Bunker Hill Subbasin) by the

City of Redlands in 2035 would be 34,549 af for a population of 101,644 people. The IRWMP found that this volume, in addition to the requirements of other agencies relying on the basin area, could be accommodated as long as extractions over safe yield are recharged to the basin. The IRWMP also showed projected extractions from the Yucaipa Subbasin by the City of Redlands of 1,816 af in 2035, which, even combined with demands from other agencies, would be within the safe yield amount for that subbasin. These projections are associated with larger projected 2035 populations than what would be anticipated under the proposed General Plan; actual extraction and diversion levels may be lower. The IRWMP did anticipate that groundwater supplies would need to be supplemented by about 62,000 af of SWP water per year in order to meet the region’s water needs. This amount is less than the 102,600 af entitlement that SBVMWD has for SWP water, and could be accommodated by the SWP water supply at least 60 percent reliability or greater.

The 2015 RUWMP also includes projections showing adequate supply for multiple dry years, as shown in Table 3.14-7. In the event of a water shortage, the City of Redlands would rely on its Water Conservation Plan. While a series of dry years would reduce supply, the City has the potential to utilize multiple sources and offset normal supplies with additional groundwater and conservation efforts without seeking additional entitlements or water sources.

**Table 3.14-7: Multiple Dry Years Supply and Demand Comparison (af)**

		2020	2025	2030	2035
First Year	Supply Totals	58,936	59,754	60,322	60,886
	Demand Totals	26,155	26,880	27,605	28,330
	Difference	32,781	32,874	32,717	32,556
Second Year	Supply Totals	56,861	57,676	58,240	58,801
	Demand Totals	28,944	29,747	30,549	31,351
	Difference	27,917	27,929	27,691	27,450
Third Year	Supply Totals	53,831	54,645	55,208	55,767
	Demand Totals	30,142	30,978	31,813	32,649
	Difference	23,689	23,667	23,394	23,118

Source: Water Systems Consulting, 2016.

The Western Heights Water Company service area includes about 3.7 percent of the Planning Area. Supply and demand projections have not been completed for the portion of the company’s service area within the Planning Area. However, the 2010 RUWMP prepared for the San Bernardino Valley determined that the water company’s service area had limited potential for growth. The proposed General Plan designates the following land uses within the water company’s service area: Resource Preservation, Open Space, Parks/Golf Courses, Hillside Conservation, Very Low Density Residential, and Low Density Residential. The Resource Preservation and Open Space land use designations are intended for conservation purposes, and generally would not permit future development. The Very Low Density Residential areas in the canyonlands are already mostly developed. Future development on vacant land in the company’s service area would be limited by the low density standards of the proposed General

Plan land use designations and site conditions such as slope and access. To ensure adequate supply within the company's system, Western Heights Water Company conducts a review of proposed projects in order to estimate the amount of water needed to serve the proposed development. If the company's engineer determines that adequate supply could not be provided, it would not agree to serve the development. It would then be the developer's responsibility to establish another source of water should the developer choose to continue with the project as proposed (Western Heights Water Company, 2017). As development could not occur in the portion of the Planning Area served by the Western Heights Water Company without first finding that adequate water could be supplied, new entitlements or expanded entitlements would not be required, and the impact would be less than significant.

Implementation of policies in the proposed General Plan would reduce the overall water usage in the Planning Area by curbing demand for domestic and commercial purposes and promoting water conservation strategies. Proposed policies also seek to ensure the long-term quality and maintenance of surface waters and groundwater supplies, while exploring new options for the capture and utilization of stormwater. The proposed CAP does not include any land use changes or any measures that would require the use of water resources. As future development under the proposed General Plan has been projected to be accommodated by existing water sources and entitlements, compliance with local and regional water management plans, as well as further compliance with SBx7-7 and implementation of proposed General Plan policies, would reduce the impact to less than significant.

#### **Proposed General Plan Policies that Reduce the Impact**

Action 4-A.39; Principles 8-P.4, 8-P.5, and 8-P.6; and Actions 8-A.22 through 8-A.29 as listed under impact 3.14-2 above.

Principles 6-P.20 and 6-P.21, and Actions 6-A.37, 6-A.38, and 6-A.39 as listed under impact 3.14-3 above, as well as the following policies.

#### *Livable Community Element*

##### **Agriculture, Open Space, and Hillside Principles**

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.

#### *Safety Element*

##### **Hydrological Hazards**

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.

*Sustainable Community Element*

**Energy Efficiency and Conservation Actions**

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.

**Mitigation Measures**

None required.

**Impact 3.14-5 Development under the Proposed Project would not result in a determination by the wastewater treatment provider which serves or may serve Redlands that it has inadequate capacity to serve the proposed General Plan's projected demand in addition to the provider's existing commitments. (Less than Significant)**

Implementation of the proposed General Plan would result in future residential and commercial uses in Redlands that could generate additional wastewater. Therefore, wastewater collection, conveyance, and treatment needs would increase over current levels. As discussed under Impact 3.14-2, existing wastewater treatment capacity would be adequate to serve the 6.75-mgd flows projected for 2035, and new or expanded treatment facilities would therefore not be required.

Additionally, goals and policies in the proposed General Plan aim to conserve water by curbing demand for domestic and commercial purposes, ensure coordinated planning for the provision of public facilities including water infrastructure, and ensure that utilities be designed and constructed to preserve the natural character of an area. Such policies would help to reduce the demand on existing treatment infrastructure and allow for meaningful consideration of potential impacts of any future decisions regarding the provision of new infrastructure.

In addition, current regulations require compliance with water quality standards and would not allow development without adequate utility capacity, including wastewater treatment capacity. Future development projects allowed under the proposed General Plan would be reviewed by the City and the applicable wastewater providers to determine that sufficient capacity exists to serve the development. Therefore, through compliance with State and local regulations, and implementation of the proposed General Plan policies, impacts would be less than significant.

The proposed CAP does not include any land use changes or other measures that would affect wastewater capacity, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

Principle 4-P.56; Actions 4-A.145, 4-A.146, and 4-A.148, as listed under impact 3.14-1 above.

Action 4-A.39; Principles 8-P.4, 8-P.5, and 8-P.6; and Actions 8-A.22 through 8-A.29, as listed under impact 3.14-2 above.

**Mitigation Measures**

None required.

**Impact 3.14-6 Development under the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs. (Less than Significant)**

Waste collection services are provided by the City of Redlands for areas within city limits. 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. The California Street Landfill has a maximum permitted throughput of 829 tons per day. Its maximum permitted capacity is 10 million cubic yards, of which 4,800,000 cubic yards remain. The San Timoteo Sanitary Landfill has a permitted capacity of 20,400,000 cubic yards and a maximum daily throughput of 2,000 tons. Its remaining capacity is 13,605,388 cubic yards.

Table 3.14-8 shows Redlands disposal tonnage trends. Between 2010 and 2015, disposal vacillated between about 50,000 and 60,000 tons per year. The two landfills combined have capacity to accommodate about 1,300,000 and 3,700,000 additional tons respectively, for a combined total of 5 million tons. If Redlands produces 60,000 tons of disposal per year for the next 20 years, it will only fill about 25 percent of the remaining space in landfills. Table 3.14-9 shows disposal rates for waste management in Redlands. Disposal targets were met for both residential and employment disposal from the years 2010 through 2015.

**Table 3.14-8: Redlands Disposal Tonnage Trend**

<i>Year</i>	<i>Tons of Disposal</i>
2010	55,049
2011	59,853
2012	50,302
2013	55,970
2014	58,602
2015	57,932

Source: Calrecycle, 2016.

**Table 3.14-9: Redlands Per Capita Disposal Rates Compared to Target Rates**

Year	Population Disposal (PPD) <sup>1,2</sup>		Employment Disposal (PPD)	
	Target	Annual	Target	Annual
2010	5.9	4.4	14.6	11.5
2011	5.9	4.6	14.6	11.5
2012	5.9	3.8	14.6	9.4
2013	5.9	4.3	14.6	10.1
2014	5.9	4.5	14.6	10.2
2015	5.9	4.5	14.6	9.8

Notes

1. In 2007, California Department of Resources Recycling and Recovery (CalRecycle) introduced a new system of measuring diversion rates based on a per capita disposal measurement system equivalent to the 50 percent diversion requirement. The previous system is no longer used. The new per capita disposal measurement system is one of several "factors" in determining a jurisdiction's compliance with the intent of AB 939, and allows CalRecycle and jurisdictions to set their primary focus on successful implementation of diversion programs.
2. PPD = Pound per person per day.

Source: CalRecycle Disposal Reporting System, 2016.

Given the City's ability to meet its disposal targets, as well as the remaining capacity in area landfills, meeting the collection, transfer, recycling, and disposal needs of the projected population of the Redlands General Plan would not result in adverse impacts on landfill facilities. It is also likely that changes in regulations will occur that will decrease the need for landfill capacity through new recycling measures. Therefore, impacts would be less than significant. Compliance with solid waste regulations and implementation of General Plan policies would further reduce the potential impact. The proposed CAP does not include any land use changes or other measures that would affect solid waste disposal, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

*Sustainable Community Element*

**Waste Reduction and Recycling 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.

**Waste Reduction and Recycling 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, drainage 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.

#### **Green Building and Landscapes Policies**

- 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.

#### **Mitigation Measures**

None required.

#### **Impact 3.14-7 Development under the Proposed Project would comply with federal, State, and local statutes and regulations related to solid waste. (No Impact)**

AB 939 mandated that California generate a 25 percent diversion rate by 1995 and a 50 percent diversion rate by 2000. In 2005, California diverted 52 percent of its waste from landfills; therefore, the State, including the City of Redlands, reached this goal and is in compliance with this law.

As described in Impact 3.14-7, waste collection services are provided by the City of Redlands for areas within city limits. The Redlands 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. Waste collection for the Mentone and Crafton areas is carried out by private haulers contracted with San Bernardino



County. Chapter 13.66 of the City of Redlands Municipal Code establishes requirements for recycling to facilitate compliance with State recycling mandates. It establishes mandates related to solid waste, including access points for solid waste and recycling collection vehicles, as well as capacity requirements for waste generation of buildings.

Development of future land uses, as designated in the proposed General Plan, would be required to comply with federal, State, and local statutes and regulations related to solid waste. Furthermore, the policies provided in the proposed General Plan regarding solid waste disposal, recycling, etc., would further ensure compliance with applicable regulations. Therefore, there would be no impact. The proposed CAP does not contain any land use changes or other measures that would affect solid waste disposal, and would therefore have no impact.

***Proposed General Plan Policies that Reduce the Impact***

Principle 8-P.7; Actions 8-A.30 through 8-A.38; and Action 8-A.42 as listed under Impact 3.14-6 above.

***Mitigation Measures***

None required.

## 3.15 Transportation

This section describes the Planning Area's transportation system and analyzes potential impacts related to the implementation of the Proposed Project. Topics addressed include roadway and intersection level of service, transit, bicycle and pedestrian circulation, and airport facilities.

### Environmental Setting

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#### PHYSICAL SETTING

The study area for this analysis consists of the Planning Area. The circulation network serving the Planning Area consists of roadways, bicycle, pedestrian, and transit facilities. Key transportation facility characteristics in Redlands are described below.

#### Motor Vehicle Circulation

##### *Motor Vehicle Facilities*

Motor vehicles in the Planning Area are accommodated by a number of facilities, due in part to its location at the confluence of two major regional freeway facilities, Interstate 10 (I-10) and Interstate 210 (I-210). Types of motor vehicle facilities in the Planning Area are described below. The existing roadway system is shown in Figure 3.15-1.

##### *Freeways*

Freeways are high-speed facilities that serve intercity or regional traffic, with access generally limited to grade-separated interchanges. Highways are also higher-speed, regional facilities, but access is provided at-grade in most cases. The freeways through Redlands are I-10 and I-210.

##### *Arterial Roadways*

Arterial streets provide accessibility between major activity centers and residential areas, as well as connectivity to freeways. Most arterials also serve as truck routes. State Route 38 (SR-38) (Lugonia Avenue, Mill Creek Road), Alabama Street, Redlands Boulevard, California Street, and Brookside Avenue are arterial roadways within the Planning Area.

Major arterial roadways typically provide four to six travel lanes. They usually provide service for the highest volumes and the longest trips, and are reasonably higher-speed routes. They may provide service to abutting land, but access is secondary to through-travel needs. Minor arterial roadways enhance the major arterial network and are typically two to four travel lanes. They provide service to trips of moderate lengths.

### *Collector Streets*

Collector streets link residential and commercial areas to each other and to the arterial street system. Two travel lanes are typically provided on collector streets, and the maximum acceptable volumes may be based on neighborhood concerns rather than traffic capacity.

### *Local Streets*

Local streets accommodate low volumes of local traffic and primarily provide access to individual parcels. Local streets typically have two travel lanes (one in each direction) and allow parking on both sides. Through traffic is generally discouraged.

### *Signalized Intersections*

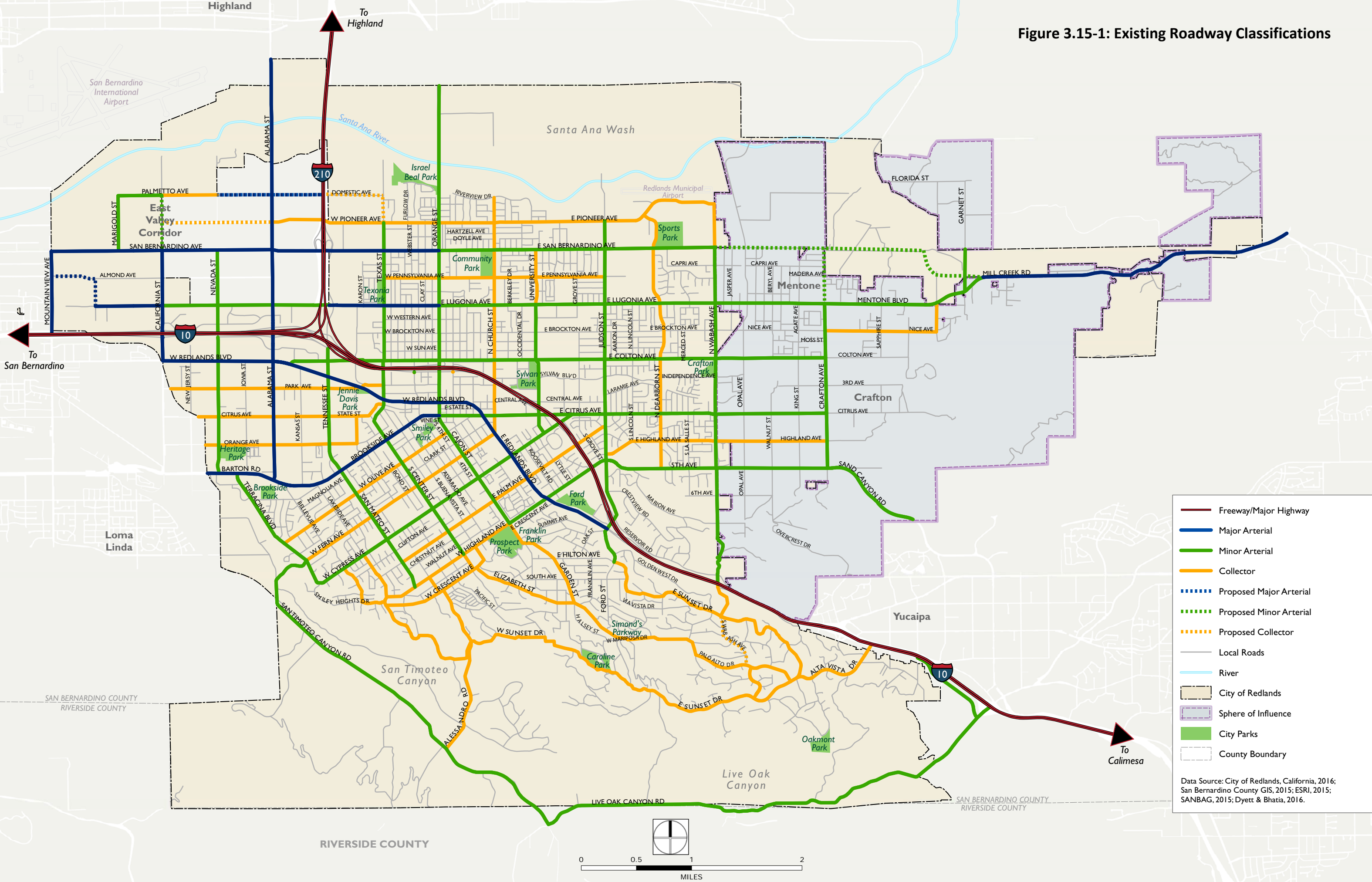
There are 93 signalized intersections within Redlands city limits, and are shown on Figure 3.15-2. The City of Redlands operates and maintains 68 of the traffic signals and the remainder are owned by either Caltrans or the County. There is one other traffic signal within the Sphere of Influence along Mentone Boulevard that is operated by Caltrans.

## **Motor Vehicle Level of Service**

### *Methodology*

Existing operations were examined at 25 intersections, 49 roadway segments and eight freeway segments, as illustrated on Figures 3.15-3 and 3.15-4. These locations were chosen in conjunction with City staff based on the preliminary existing condition assessment and knowledge of the study area. Of these locations, one intersection and four roadway segments are within the County of San Bernardino, one intersection and one roadway segment are within the City of Loma Linda, one intersection is shared between the City of San Bernardino and the City of Redlands and one intersection is shared between the County of San Bernardino and the City of Redlands. Six of the intersections are facilities included in the San Bernardino County Congestion Management Plan (CMP), and are shown as such in Figure 3.15-3.

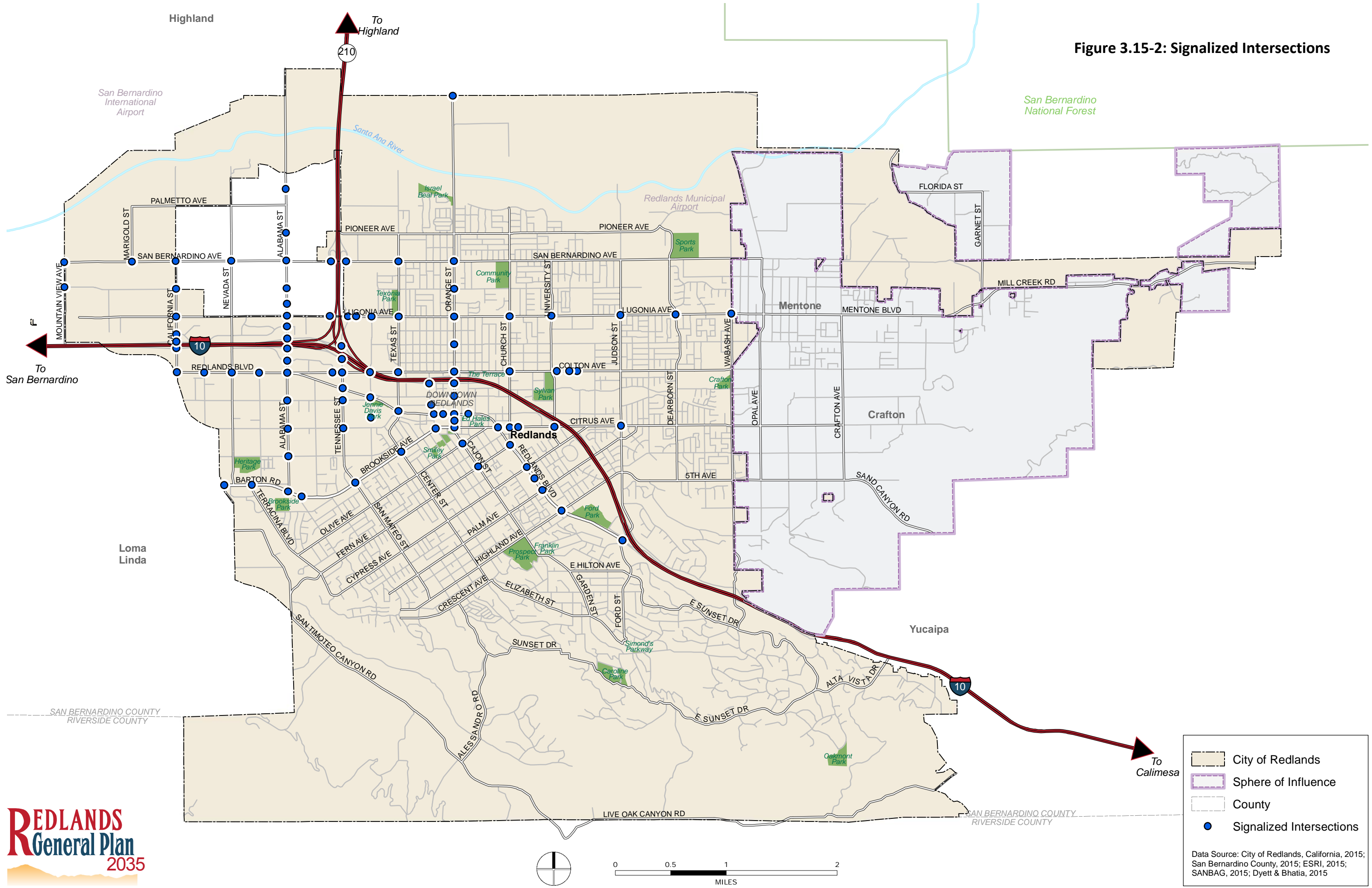
Figure 3.15-1: Existing Roadway Classifications



- Freeway/Major Highway
- Major Arterial
- Minor Arterial
- Collector
- Proposed Major Arterial
- Proposed Minor Arterial
- Proposed Collector
- Local Roads
- River
- City of Redlands
- Sphere of Influence
- City Parks
- County Boundary

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

Figure 3.15-2: Signalized Intersections



Roadway and highway segments in the study area have been evaluated using the daily capacities described in the 6th Edition of the Highway Capacity Manual (HCM) (Transportation Research Board, 2016), as shown in Table 3.15-1:

**Table 3.15-1: Roadway/Highway Segment Level of Service and Capacity Values**

Roadway/Highway Segment	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.

Signalized intersections in the study area are analyzed based on the methodology developed in the 2010 and 6th editions of the HCM. This methodology calculates average total vehicle delay of all movements through an intersection. LOS criteria are stated in terms of average delay per vehicle during a specified time period. The criteria used for signalized intersections is shown in Table 3.15-2.

**Table 3.15-2: Signalized Intersection Level of Service Definitions**

Level of Service	Average Control Delay (secs.)	Definition
A	< 10	Free Flow
B	> 10 - 20	Stable Flow (slight delays)
C	> 20 - 35	Stable flow (acceptable delays)
D	> 35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	> 55 - 80	Unstable flow (intolerable delay)
F	> 80	Forced flow (jammed)

Sources: Highway Capacity Manual, Transportation Research Board, 6th Edition; Highway Capacity Manual, Transportation Research Board, 2010.

Synchro 9, the modeling and signal timing optimization software package, was used to analyze all signalized intersections. The program is based on the signalized intersection capacity analysis as specified in the HCM. For signalized intersections, the intersection LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in the table above.

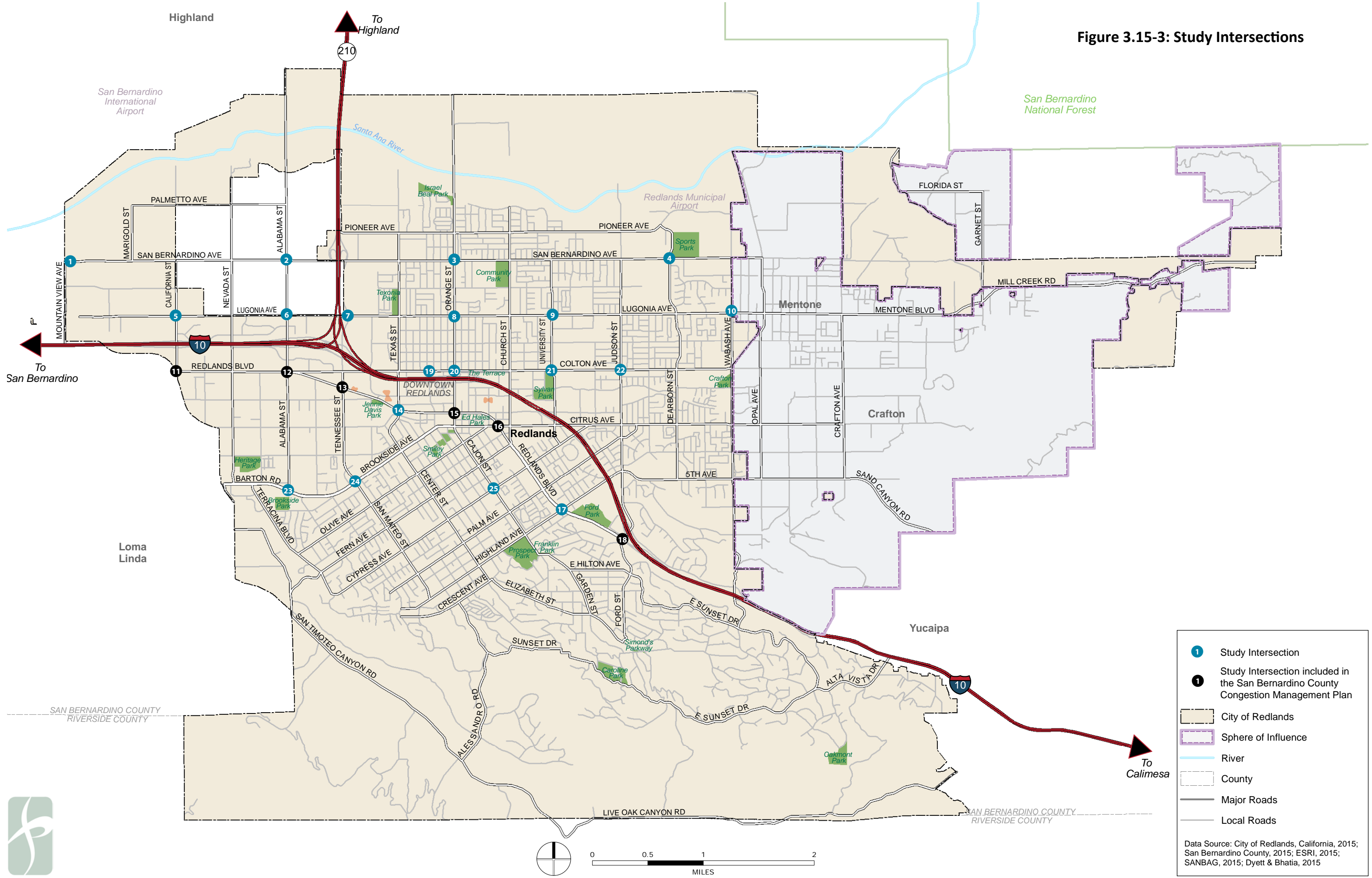
Unsignalized intersections in the study area have also been evaluated using the methodology described in the HCM 6th Edition. The LOS grade is based on the weighted average control delay expressed in seconds per vehicle as seen in the table below. There are two unsignalized intersection types: all-way stop-controlled and two-way stop-controlled. All-way stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements (similar to a signalized intersection), while two-way stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). Synchro 9 software was utilized for all unsignalized intersection analysis in the Planning Area.

**Table 3.15-3: Unsignalized Intersection  
Level of Service Delay**

<i>Level of Service</i>	<i>Average Control Delay (secs.)</i>
A	< 10
B	>10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

*Sources: Highway Capacity Manual, Transportation Research Board, 6th Edition; Highway Capacity Manual, Transportation Research Board, 2010.*

Figure 3.15-3: Study Intersections



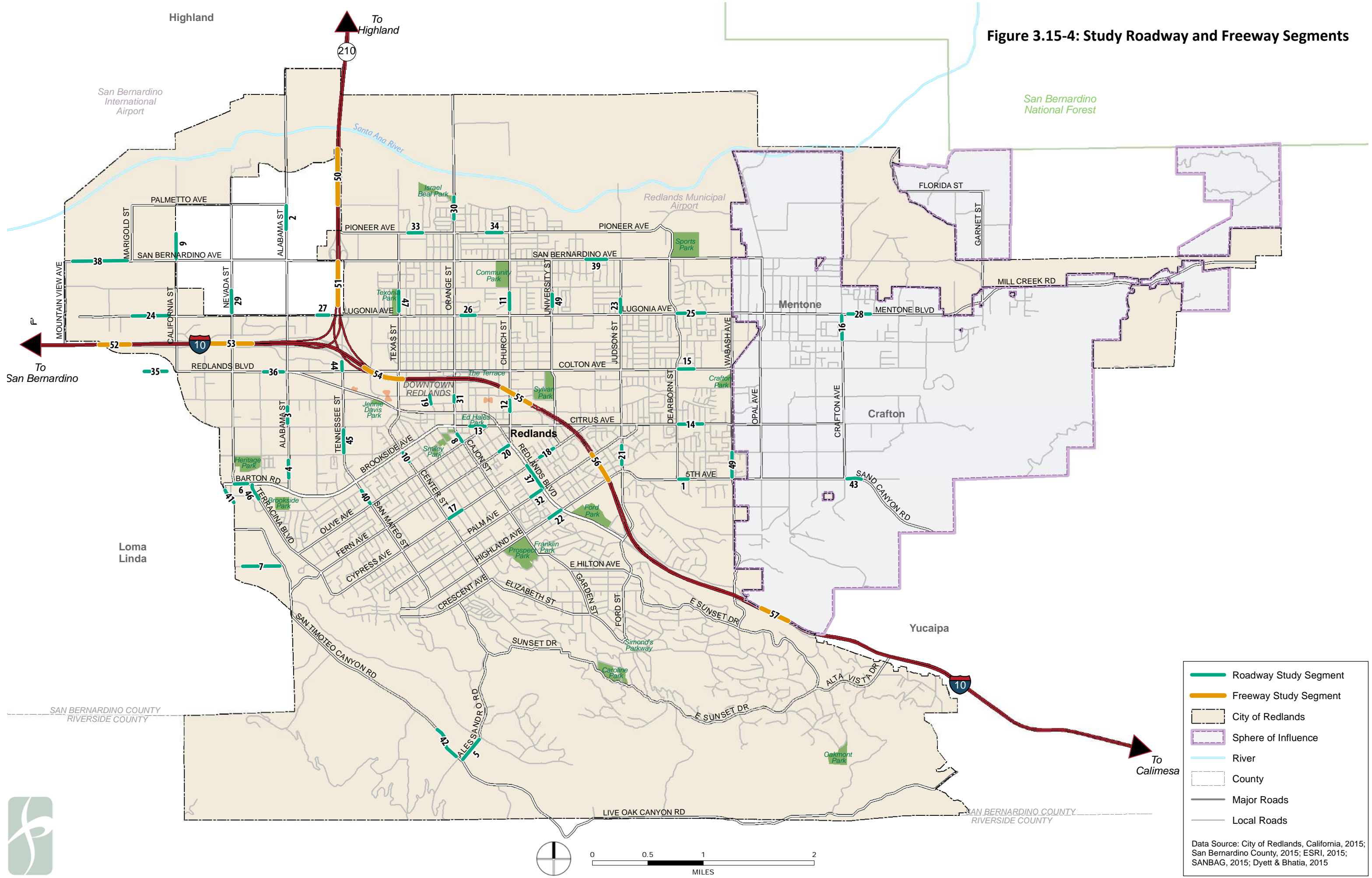
- 1 Study Intersection
- 1 Study Intersection included in the San Bernardino County Congestion Management Plan
- City of Redlands
- Sphere of Influence
- River
- County
- Major Roads
- Local Roads

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





Figure 3.15-4: Study Roadway and Freeway Segments



- Roadway Study Segment
  - Freeway Study Segment
  - City of Redlands
  - Sphere of Influence
  - River
  - County
  - Major Roads
  - Local Roads
- Data Source: City of Redlands, California, 2015; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2015

*Existing Intersection Operations*

The existing traffic volumes were taken from counts collected between December 6 and 8, 2016. These existing volumes were then analyzed to determine the delay and LOS for the study intersections. As shown in Table 3.15-4, nine of the study intersections operate at unacceptable LOS D or below during either the weekday AM peak hour and/or during the weekday PM peak hour. Existing traffic count data is provided in Appendix G and detailed LOS calculations are provided in Appendix H. Existing (2016) peak hour intersection volumes and geometries are shown on Figure 3.15-5.

**Table 3.15-4: Existing Intersection Level of Service (2016)**

#	North/South Street	East/West Street	Control	Jurisdiction	AM Peak Hour		PM Peak Hour	
					Delay	LOS	Delay	LOS
1	Mountain View Ave.	San Bernardino Ave.	Signal	City of Redlands & City of San Bernardino <sup>1</sup>	18.2	B	31.3	C
2	Alabama St.	San Bernardino Ave.	Signal	County of San Bernardino <sup>1</sup>	27.0	C	<b>35.6</b>	<b>D</b>
3	Orange St.	San Bernardino Ave.	Signal	City of Redlands	15.0	B	13.6	B
4	Dearborn St.	San Bernardino Ave.	AWSC	City of Redlands	9.3	A	12.3	B
5	California St.	Lugonia Ave.	Signal	City of Redlands <sup>1</sup>	12.9	B	18.6	B
6	Alabama St.	Lugonia Ave.	Signal	City of Redlands & County of San Bernardino <sup>1</sup>	17.7	B	<b>56.0</b>	<b>E</b>
7	Tennessee St.	Lugonia Ave.	Signal	Caltrans <sup>1</sup>	22.6	C	<b>36.8</b>	<b>D</b>
8	Orange St.	Lugonia Ave.	Signal	Caltrans	33.0	C	<b>38.6</b>	<b>D</b>
9	University St.	Lugonia Ave.	Signal	Caltrans	13.4	B	14.9	B
10	Wabash Ave.	Lugonia Ave.	Signal	Caltrans	26.2	C	23.7	C
11	California St.	Redlands Blvd.	Signal	City of Loma Linda & CMP	<b>73.6</b>	<b>E</b>	<b>73.6</b>	<b>E</b>
12	Alabama St.	Redlands Blvd.	Signal	City of Redlands & CMP	21.6	C	29.8	C
13	Tennessee St.	Redlands Blvd.	Signal	City of Redlands & CMP	22.3	C	32.0	C
14	Texas St.	Redlands Blvd.	Signal	City of Redlands	13.9	B	21.1	C
15	Orange St.	Redlands Blvd.	Signal	City of Redlands & CMP	17.5	B	25.3	C
16	Redlands Blvd.	Citrus St.	Signal	City of Redlands & CMP	26.7	C	21.9	C
17	Redlands Blvd.	Highlands Ave.	Signal	City of Redlands	17.4	B	18.3	B
18	Redlands Blvd.	Ford St.	Signal	City of Redlands & CMP	13.0	B	12.8	B
19	Eureka St.	Colton Ave.	TWSC	City of Redlands	9.9	A	<b>43.8</b>	<b>E</b>

**Table 3.15-4: Existing Intersection Level of Service (2016)**

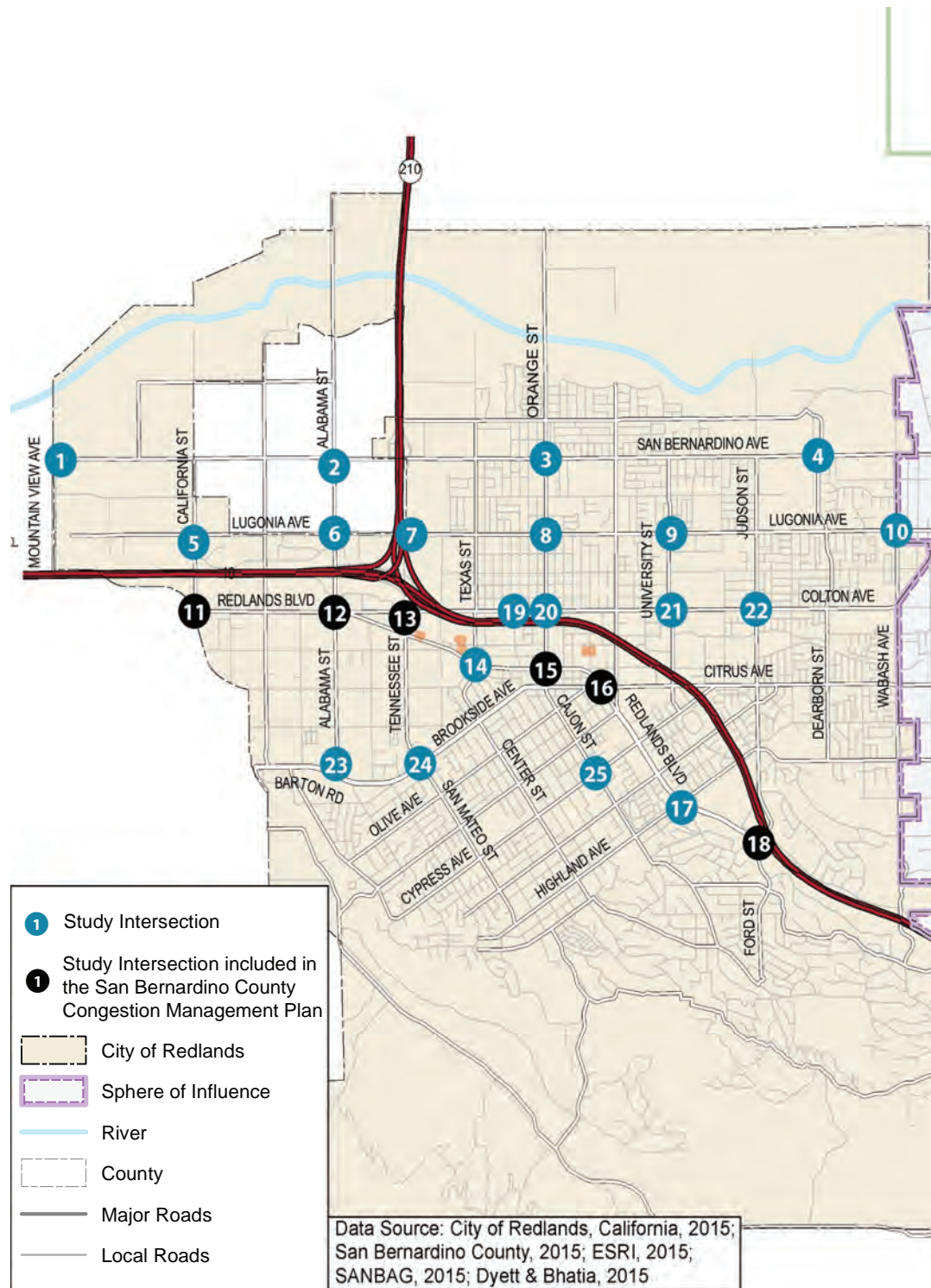
#	North/South Street	East/West Street	Control	Jurisdiction	AM Peak Hour		PM Peak Hour	
					Delay	LOS	Delay	LOS
20	Orange St.	Colton Ave.	Signal	City of Redlands	9.5	A	14.8	B
21	University St.	Colton Ave.	AWSC	City of Redlands	<b>&gt;50</b>	<b>F</b>	<b>&gt;50</b>	<b>F</b>
22	Judson St.	Colton Ave.	AWSC	City of Redlands	<b>37.9</b>	<b>E</b>	15.9	C
23	Alabama St.	Barton Rd.	Signal	City of Redlands	24.1	C	21.6	C
24	San Mateo St.	Brookside Ave.	Signal	City of Redlands	<b>46.3</b>	<b>D</b>	17.8	B
25	Cajon St.	Cypress Ave.	AWSC	City of Redlands	<b>28.8</b>	<b>D</b>	<b>36.8</b>	<b>E</b>

Notes:

1. Intersection is within the Donut Hole.
2. **Bold** indicates unacceptable LOS.
3. CMP = San Bernardino County Congestion Management Plan.

Source: Fehr & Peers, 2017.

Figure 3.15-5: Existing Peak Hour Traffic Volumes and Lane Configurations (2016)



1. Mountain View Ave/San Bernardino Ave	2. Alabama St/San Bernardino Ave	3. Orange St/San Bernardino Ave	1. Mountain View Ave/San Bernardino Ave	2. Alabama St/San Bernardino Ave	3. Orange St/San Bernardino Ave																																																																																				
<table border="1"> <tr><td>32 (67)</td><td>178 (117)</td><td>89 (190)</td></tr> <tr><td>119 (233)</td><td>335 (349)</td><td>352 (200)</td></tr> <tr><td>67 (153)</td><td>70 (90)</td><td>143 (123)</td></tr> <tr><td>66 (61)</td><td>59 (149)</td><td>108 (49)</td></tr> <tr><td>202 (872)</td><td>356 (192)</td><td>162 (432)</td></tr> <tr><td>54 (87)</td><td>111 (141)</td><td>64 (328)</td></tr> </table>	32 (67)	178 (117)	89 (190)	119 (233)	335 (349)	352 (200)	67 (153)	70 (90)	143 (123)	66 (61)	59 (149)	108 (49)	202 (872)	356 (192)	162 (432)	54 (87)	111 (141)	64 (328)	<table border="1"> <tr><td>119 (62)</td><td>89 (190)</td></tr> <tr><td>321 (480)</td><td>352 (200)</td></tr> <tr><td>61 (163)</td><td>143 (123)</td></tr> <tr><td>63 (146)</td><td>108 (49)</td></tr> <tr><td>148 (725)</td><td>162 (432)</td></tr> <tr><td>31 (106)</td><td>64 (328)</td></tr> </table>	119 (62)	89 (190)	321 (480)	352 (200)	61 (163)	143 (123)	63 (146)	108 (49)	148 (725)	162 (432)	31 (106)	64 (328)	<table border="1"> <tr><td>111 (60)</td><td>100 (102)</td></tr> <tr><td>349 (409)</td><td>499 (292)</td></tr> <tr><td>121 (173)</td><td>53 (28)</td></tr> <tr><td>33 (142)</td><td>108 (82)</td></tr> <tr><td>207 (711)</td><td>193 (347)</td></tr> <tr><td>57 (118)</td><td>27 (48)</td></tr> </table>	111 (60)	100 (102)	349 (409)	499 (292)	121 (173)	53 (28)	33 (142)	108 (82)	207 (711)	193 (347)	57 (118)	27 (48)	<table border="1"> <tr><td>32 (67)</td><td>178 (117)</td><td>89 (190)</td></tr> <tr><td>119 (233)</td><td>335 (349)</td><td>352 (200)</td></tr> <tr><td>67 (153)</td><td>70 (90)</td><td>143 (123)</td></tr> <tr><td>66 (61)</td><td>59 (149)</td><td>108 (49)</td></tr> <tr><td>202 (872)</td><td>356 (192)</td><td>162 (432)</td></tr> <tr><td>54 (87)</td><td>111 (141)</td><td>64 (328)</td></tr> </table>	32 (67)	178 (117)	89 (190)	119 (233)	335 (349)	352 (200)	67 (153)	70 (90)	143 (123)	66 (61)	59 (149)	108 (49)	202 (872)	356 (192)	162 (432)	54 (87)	111 (141)	64 (328)	<table border="1"> <tr><td>119 (62)</td><td>89 (190)</td></tr> <tr><td>321 (480)</td><td>352 (200)</td></tr> <tr><td>61 (163)</td><td>143 (123)</td></tr> <tr><td>63 (146)</td><td>108 (49)</td></tr> <tr><td>148 (725)</td><td>162 (432)</td></tr> <tr><td>31 (106)</td><td>64 (328)</td></tr> </table>	119 (62)	89 (190)	321 (480)	352 (200)	61 (163)	143 (123)	63 (146)	108 (49)	148 (725)	162 (432)	31 (106)	64 (328)	<table border="1"> <tr><td>111 (60)</td><td>100 (102)</td></tr> <tr><td>349 (409)</td><td>499 (292)</td></tr> <tr><td>121 (173)</td><td>53 (28)</td></tr> <tr><td>33 (142)</td><td>108 (82)</td></tr> <tr><td>207 (711)</td><td>193 (347)</td></tr> <tr><td>57 (118)</td><td>27 (48)</td></tr> </table>	111 (60)	100 (102)	349 (409)	499 (292)	121 (173)	53 (28)	33 (142)	108 (82)	207 (711)	193 (347)	57 (118)	27 (48)
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*Existing Roadway Segment Operations*

Existing roadway segment operations are shown in Table 3.15-5. Two of the study roadway segments operate at unacceptable LOS D or below.

**Table 3.15-5: Existing Roadway Segment Level of Service (2016)**

#	Roadway	Extent	Jurisdiction	Classification	Capacity	ADT	LOS
1	5th St.	Dearborn St. and Silvertree Ln.	City of Redlands	2-Lane Minor Arterial	16,500	8,603	C or Better
2	Alabama St.	Palmetto Ave. and Pioneer Ave.	County of San Bernardino & CMP <sup>1</sup>	2-Lane Major Arterial	16,500	<b>16,930</b>	<b>F</b>
3	Alabama St.	Park Ave. and Citrus Ave.	City of Redlands & CMP	4-Lane Major Arterial	33,100	16,340	C or Better
4	Alabama St.	Orange St. and Barton Rd.	City of Redlands & CMP	4-Lane Major Arterial	33,100	12,274	C or Better
5	Alessandro Rd.	Creekside Dr. and San Timoteo Canyon Rd.	City of Redlands	2-Lane Collector	16,100	4,659	C or Better
6	Barton Rd.	Nevada St. and Terracina Blvd.	City of Redlands	4-Lane Major Arterial	33,100	25,130	C or Better
7	Beaumont Ave.	East of Nevada St.	City of Redlands	2-Lane Local Road	16,100	2,566	C or Better
8	Cajon St.	Vine St. and Olive St.	City of Redlands	2-Lane Minor Arterial	16,500	10,110	C or Better
9	California St.	North of San Bernardino Ave.	City of Redlands & CMP <sup>1</sup>	4-Lane Minor Arterial	33,100	5,928	C or Better
10	Center St.	Brookside Ave. and Glenwood Dr.	City of Redlands	2-Lane Minor Arterial	16,500	7,545	C or Better
11	Church St.	Pennsylvania Ave. and Lugonia Ave.	City of Redlands	2-Lane Collector	16,100	6,964	C or Better
12	Church St.	Stuart Ave. and Central Ave.	City of Redlands	2-Lane Collector	16,100	7,222	C or Better
13	Citrus Ave.	6th St. and Olive St.	City of Redlands & CMP	2-Lane Minor Arterial	16,500	9,262	C or Better
14	Citrus Ave.	Dearborn St. and La Salle St.	City of Redlands & CMP	2-Lane Minor Arterial	16,500	6,785	C or Better
15	Colton Ave.	Dearborn St. and Kensington Dr.	City of Redlands	2-Lane Minor Arterial	16,500	5,960	C or Better
16	Crafton Ave.	Mentone Ave. and Nice Ave.	County of San Bernardino	2-Lane Minor Arterial	16,500	6,284	C or Better
17	Cypress St.	Center St. and Buena Vista St.	City of Redlands	4-Lane Minor Arterial	33,100	7,305	C or Better
18	Cypress St.	Roosevelt Rd. and Lytle St.	City of Redlands	2-Lane Minor Arterial	16,500	9,068	C or Better
19	Eureka St.	North of Redlands St.	City of Redlands	4-Lane Minor Arterial	33,100	14,844	C or Better

**Table 3.15-5: Existing Roadway Segment Level of Service (2016)**

#	Roadway	Extent	Jurisdiction	Classification	Capacity	ADT	LOS
20	Fern Ave.	Myrtle St. and Redlands St.	City of Redlands	2-Lane Collector	16,100	5,162	C or Better
21	Ford St.	Palm Ave. and Highland Ave.	City of Redlands	2-Lane Minor Arterial	16,500	5,147	C or Better
22	Highland Ave.	York St. and Redlands St.	City of Redlands	3-Lane Minor Arterial	24,800	7,776	C or Better
23	Judson St.	Pennsylvania Ave. and Lugonia Ave.	City of Redlands	2-Lane Collector	16,100	3,541	C or Better
24	Lugonia Ave.	West of California St.	City of Redlands <sup>1</sup>	4-Lane Major Arterial	33,100	4,920	C or Better
25	Lugonia Ave.	Dearborn St. and Revelation Wy.	Caltrans & CMP	4-Lane Minor Arterial	33,100	22,016	C or Better
26	Lugonia Ave.	Herald St. and Church St.	Caltrans & CMP	3-Lane Minor Arterial	24,800	18,202	C or Better
27	Lugonia Ave.	Citrus Ave. and SR-210	City of Redlands <sup>1</sup>	4-Lane Minor Arterial	33,100	17,804	C or Better
28	Mentone Ave.	Crafton Ave. and Plumwood St.	Caltrans	2-Lane Minor Arterial	16,500	11,855	C or Better
29	Nevada St.	Almond Ave. and Lugonia Ave.	County of San Bernardino <sup>1</sup>	2-Lane Minor Arterial	16,500	4,799	C or Better
30	Orange St.	North of Pioneer Ave.	City of Redlands/CMP	2-Lane Minor Arterial	16,500	<b>14,276</b>	<b>D</b>
31	Orange St.	Stuart Ave. and Oriental Ave.	City of Redlands & CMP	4-Lane Boulevard	33,100	18,560	C or Better
32	Palm Ave.	Hibiscus Dr. and Redlands St.	City of Redlands	2-Lane Collector	16,100	4,409	C or Better
33	Pioneer Ave.	Texas St. and Webster St.	City of Redlands	2-Lane Collector	16,100	6,438	C or Better
34	Pioneer Ave.	Brookstone St. and Church St.	City of Redlands	2-Lane Collector	16,100	4,897	C or Better
35	Redlands Blvd.	Bryn Mawr Ave. and California St.	City of Loma Linda & CMP	4-Lane Major Arterial	33,100	15,174	C or Better
36	Redlands Blvd.	Iowa St. and Alabama St.	City of Redlands & CMP <sup>1</sup>	4-Lane Boulevard	33,100	21,138	C or Better
37	Redlands Blvd.	Cypress St. and Palm Ave.	City of Redlands & CMP	4-Lane Major Arterial	33,100	12,834	C or Better
38	San Bernardino Ave.	Mountain View Ave. and Marigold Ave.	City of Redlands & CMP <sup>1</sup>	6-Lane Major Arterial	49,700	15,732	C or Better
39	San Bernardino Ave.	Cheryl St. and Judson St.	City of Redlands	2-Lane Minor Arterial	16,500	7,371	C or Better
40	San Mateo St.	Brookside Ave. and Olive St.	City of Redlands	4-Lane Minor Arterial	33,100	9,734	C or Better

**Table 3.15-5: Existing Roadway Segment Level of Service (2016)**

#	Roadway	Extent	Jurisdiction	Classification	Capacity	ADT	LOS
41	San Timoteo Canyon Rd.	South of Barton Rd.	City of Redlands	2-Lane Local Road	16,100	7,696	C or Better
42	San Timoteo Canyon Rd.	West of Alessandro Rd.	City of Redlands	2-Lane Rural Arterial	16,100	8,854	C or Better
43	Sand Canyon Rd.	East of Crafton Ave.	County of San Bernardino	2-Lane Minor Arterial	16,500	11,149	C or Better
44	Tennessee St.	I-10 and Colton Ave.	City of Redlands <sup>1</sup>	4-Lane Minor Arterial	33,100	22,322	C or Better
45	Tennessee St.	State St. and Orange St.	City of Redlands	4-Lane Minor Arterial	33,100	12,725	C or Better
46	Terracina Blvd.	Barton Rd. and Brookside Ave.	City of Redlands	2-Lane Minor Arterial	16,500	11,936	C or Better
47	Texas St.	Pennsylvania Ave. and Lugonia Ave.	City of Redlands	2-Lane Minor Arterial	16,500	5,246	C or Better
48	University St.	Pennsylvania Ave. and Lugonia Ave.	City of Redlands	2-Lane Collector	16,100	2,875	C or Better
49	Wabash Ave.	Highland Ave. and 5th St.	City of Redlands	2-Lane Minor Arterial	16,500	4,383	C or Better

Notes:

1. Roadway segment is within the Donut Hole.
2. **Bold** indicates unacceptable LOS.
3. CMP = San Bernardino County Congestion Management Plan.

Source: Fehr & Peers, 2017.



### Existing Freeway Segment Operations

Existing freeway segment operations are shown in Table 3.15-6. Six of the study freeway segments operate at unacceptable LOS D or below.

**Table 3.15-6: Existing Freeway Segment Level of Service (2016)**

Segment Number	Freeway	Extent	Classification	Capacity	ADT	LOS
50	I-210	5th St. to Pioneer Ave.	4-Lane Freeway	80,600	<b>79,800</b>	<b>E</b>
51	I-210	San Bernardino Ave. to Lugonia Ave.	7-Lane Freeway	141,000	112,000	C or Better
52	I-10	Mountain View Ave. to California St.	8-Lane Freeway	161,100	<b>164,000</b>	<b>F</b>
53	I-10	California St. to Alabama St.	8-Lane Freeway	161,100	<b>130,600</b>	<b>D</b>
54	I-10	Tennessee St. to Orange St.	8-Lane Freeway	161,100	104,000	C or Better
55	I-10	6th St. to University St.	8-Lane Freeway	161,100	<b>157,000</b>	<b>E</b>
56	I-10	Cypress Ave. to Ford St.	8-Lane Freeway	161,100	<b>138,000</b>	<b>D</b>
57	I-10	Wabash Ave. to Yucaipa Blvd.	8-Lane Freeway	161,100	<b>138,000</b>	<b>D</b>

Note: **Bold** indicates unacceptable LOS.

Source: Fehr & Peers, 2017.

### Bicycle Network

A bicycle network is made up of different classes of bikeways. The City of Redlands has a bicycle network composed of Class I, II, and III bikeways. The different classes and their statuses in the Planning Area are as follows:

- **Class I.** Class I Bikeways are completely separate facilities designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings. Currently, Redlands has a discontinuous Class I bikeway near West Redlands Boulevard known as the Orange Blossom Trail. The Bicycle Master Plan would connect all portions of this bikeway and extend the route to provide regional access to Loma Linda.

The other Class I bikeway is located along the Santa Ana River. The Santa Ana River Trail currently follows the Santa Ana River and spans Orange, Riverside, and San Bernardino Counties. The Bicycle Master Plan shows plans to complete the Santa Ana River Trail within Redlands.

- **Class II.** 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. The Bicycle Master Plan shows plans to restripe many of the existing arterial roadways to add Class II bikeways.

- **Class III.** Class III Bikeways are routes designated by signs or pavement markings (typically “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 miles of Class III bikeways within the City and provide appropriate signage and striping.
- **Class IV.** Class IV Bicycle facilities are referred to as Separated Bikeways or Cycle Tracks. These facilities provide delineated right-of-way assigned to bicyclists that have a physical separation between them and a vehicle. This separation can include parked vehicles, bollards, curbs, or any other physical devise that provides this separation. This “new” bicycle classification was defined in AB 1193, amended the streets and highways code to allow for this treatment, and directed Caltrans to update Chapter 1000 of the Highway Design Manual to include this facility. There are no Class IV facilities proposed in the City’s Bicycle Master Plan.
- **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.”

Table 3.15-7 summarizes existing lane miles of bike infrastructure in the city, and Figure 3.15-6 shows existing bicycle facilities as well as those proposed by the Proposed Project. For discussion of multipurpose trails that are part of the Planning Area’s recreation system, see Section 3.13: Public Facilities and Services.

**Table 3.15-7: Existing Bicycle Infrastructure**

<i>Class</i>	<i>Lane Miles</i>
I	4.16
II	14.96
III	17.44
<b>Total</b>	<b>36.56</b>

Source: City of Redlands Bicycle Master Plan, 2015.

### **Pedestrian Network**

The pedestrian network in the Planning Area consists of sidewalks and multi-purpose trails. Citywide, sidewalks are generally provided on both sides of the street. The 2015 Citywide Sidewalk Repair project has been programmed to install, repair, remove, and replace sidewalks in the city. Additionally, the Community Development Block Grant (CDBG) 13/14 Sidewalk/ADA Ramps

project increased sidewalk facilities and upgraded ramps to comply with Americans with Disabilities Act (ADA) standards.

Numerous multi-purpose trails—trails that can accommodate pedestrians, those using mobility devices (wheel chairs and scooters), as well as bicyclists— are proposed or under construction throughout the city, including the Orange Blossom Trail and the Zanja Trail. In some more rural areas of the city such as San Timoteo and Live Oak Canyon, multi-purpose trails are also available for equestrian riders. Figure 3.15-7 shows existing trails and multi-use paths, as well as those proposed in the proposed General Plan.

### **Transit Network**

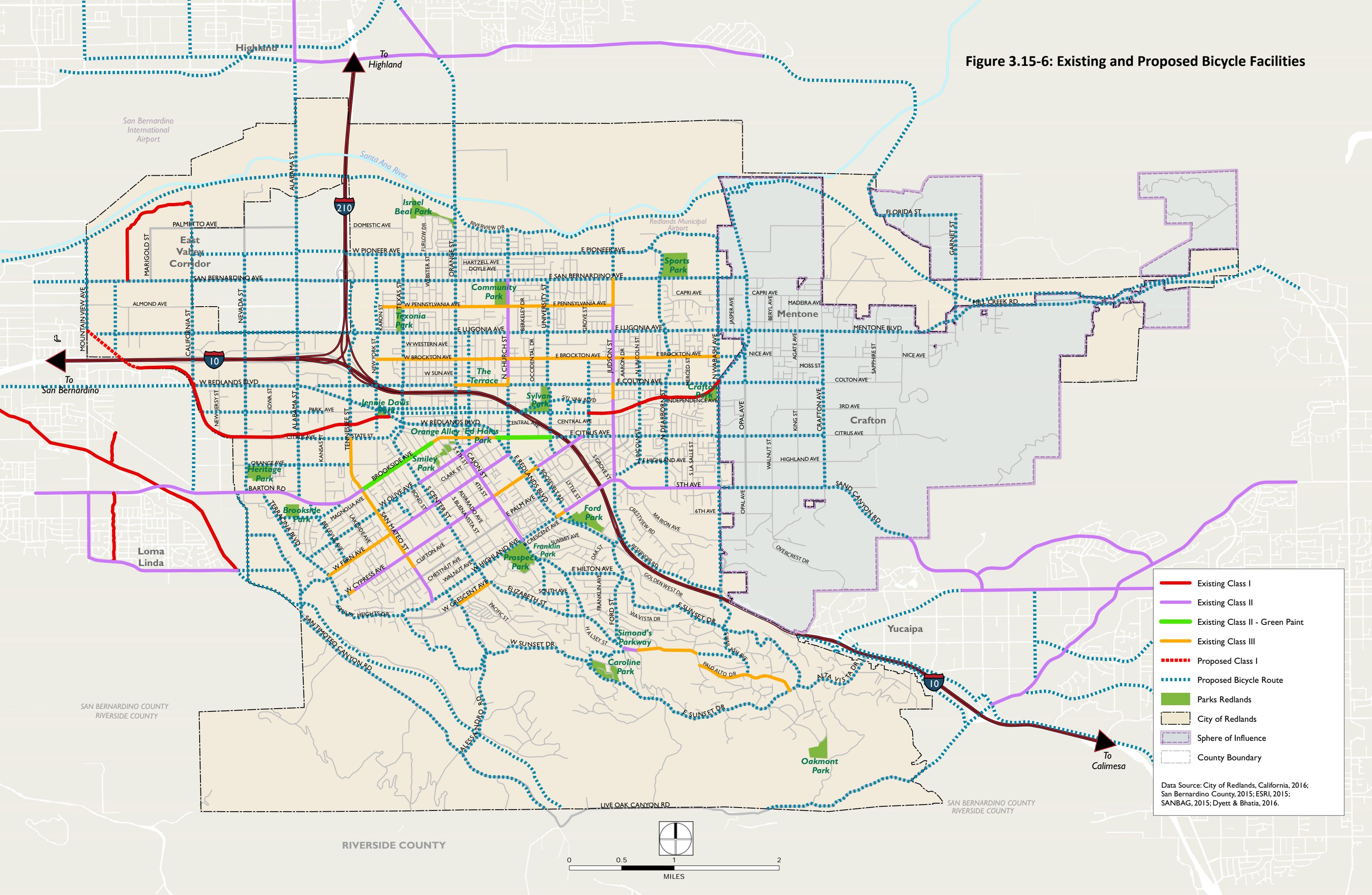
Redlands is served by Omnitrans bus routes 8, 9, 15, and 19. Routes 8 and 9 provide access to San Bernardino International Airport, Loma Linda, and Mentone. Route 15 provides access to the Fontana Metrolink station, San Bernardino, and Highland. Route 19 provides access to Yucaipa, Colton, and Fontana. Routes 8 and 9 operate with 1-hour headways, while routes 15 and 19 operate with 30-minute headways. Omnitrans also provides Redlands with ADA accessible buses. These ADA accessible buses operate the same hours as the regular fixed-route bus service. Bus routes are shown on Figure 3.15-8.

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 via 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. This project is scheduled to be completed and in operation by 2020, providing commuter passenger service to San Bernardino. San Bernardino Associated Governments (SANBAG) estimates that between 720 and 820 daily riders will use the Redlands route in 2018 and between 1,120 and 1,340 will utilize the route by 2038. The five proposed stations within the City are shown on Figure 3.15-8, with the New York, Downtown, and University of Redlands stations being built in the first phase.

### **Air Transportation**

The Planning Area is served by three airports: Redlands Municipal Airport, San Bernardino International Airport, and Ontario International Airport. Redlands Municipal Airport is located in the north of the Planning Area along the Santa Ana River. It is a general aviation airport owned and operated by the City, serving approximately 20,500 itinerant flights and 61,500 local flights in 2008. The airport's 2008 Master Plan estimated 149,000 flights by 2028. San Bernardino International Airport is located along the city's northwestern boundary. The airport supports over 35,000 annual charter, corporate, and general aviation flights. Ontario International Airport is located approximately 20 miles west of the Planning Area and is a major hub for passengers and cargo. Due to increased aviation demand, SCAG forecasts 11 to 19 million annual passengers at this airport by 2040.

Figure 3.15-6: Existing and Proposed 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.

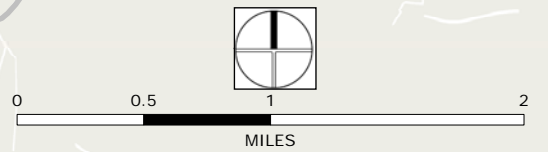
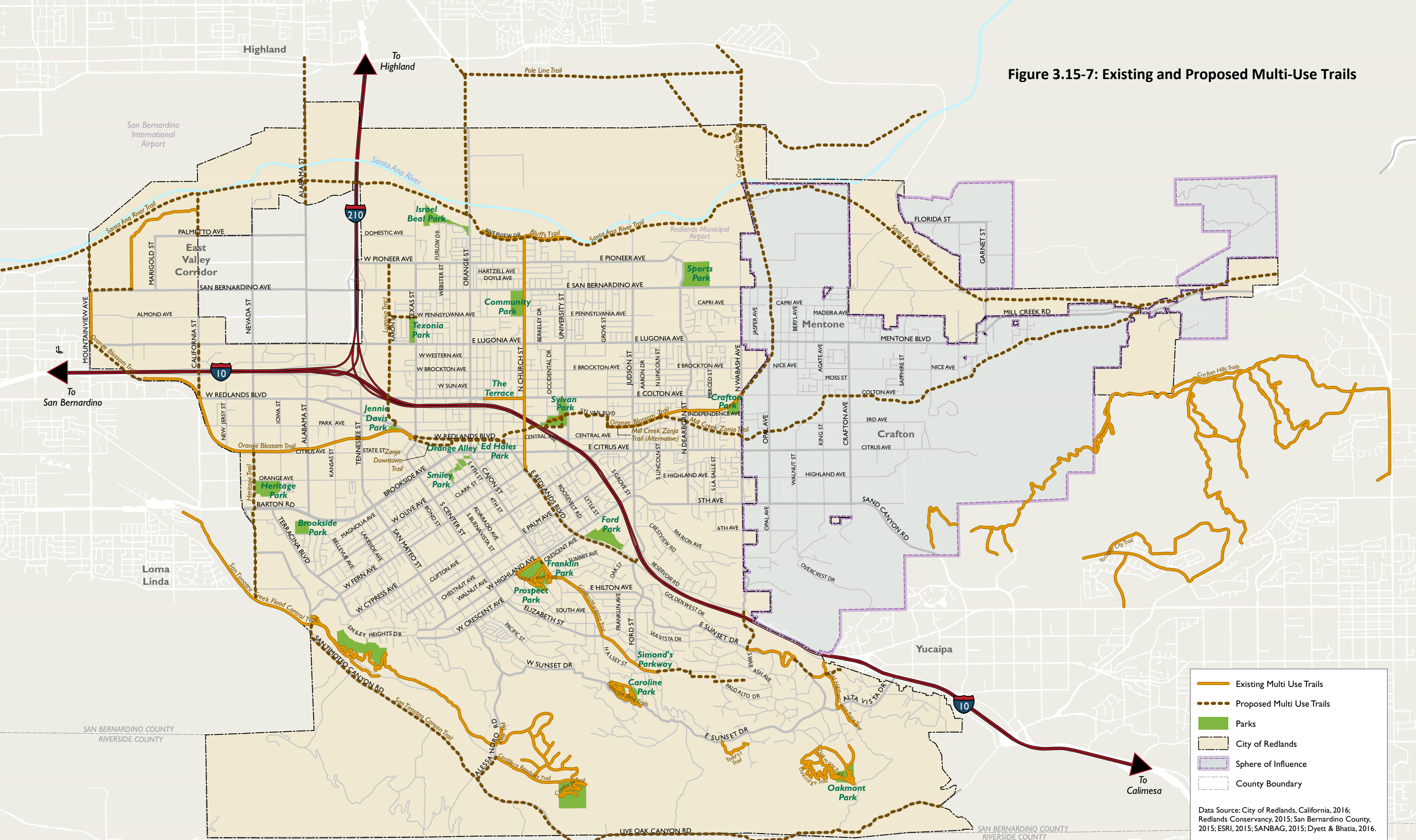


Figure 3.15-7: Existing and Proposed Multi-Use Trails



	Existing Multi Use Trails
	Proposed Multi Use Trails
	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.

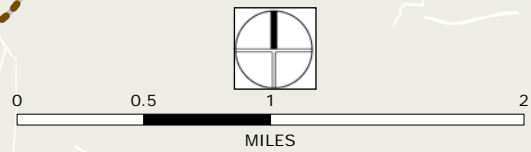
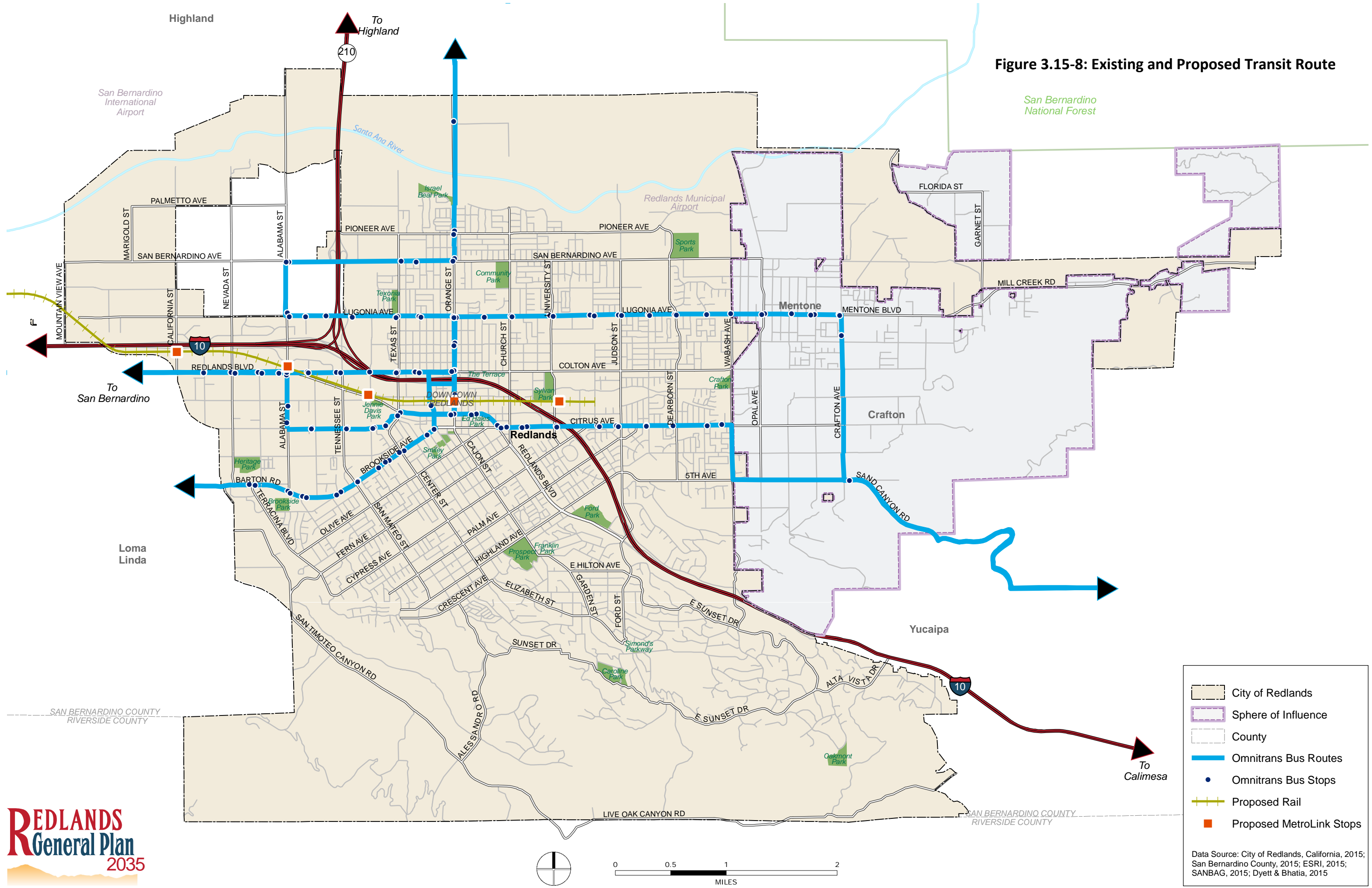


Figure 3.15-8: Existing and Proposed Transit Route



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## **REGULATORY SETTING**

This section summarizes key federal, State and local regulations, plans, and programs related to transportation.

### **Federal Regulations**

#### ***Department of Transportation Act of 1966***

Section 4(f) of the Department of Transportation Act of 1966 specifies that a transportation project requiring the use of publicly owned parks, recreation areas, historic sites (including those owned privately), wildlife and waterfowl refuges, and many other types of resources can be approved only if there is no feasible and prudent alternate to using that land and if the project is planned to minimize harm to the property.

General procedures are as follows:

A specific finding is required. Section 4(f) lands may be used for federal aid highways only if:

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Each project proposal must include a Section 4(f) avoidance alternative (Caltrans 2011).

#### ***Surface Transportation Assistance Act (STAA)***

In 1982, the federal government passed the STAA. This act requires states to allow larger trucks on the “national network,” which is compared of the interstate system plus the non-interstate federal-aid primary system. “Larger trucks” includes (1) doubles with 28.5 foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle distance, (3) unlimited length for both vehicle combinations, and (4) widths up to 102 inches. I-5 and SR-78 are defined as STAA routes.

### **State Regulations**

#### ***California Department of Transportation (Caltrans)***

Caltrans is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans has established standards for street traffic flow and has developed procedures to determine if intersections require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities, but may influence traffic flow and levels of services at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects.

#### ***California Transportation Commission (CTC)***

The CTC consists of nine members appointed by the California Governor. CTC is responsible for the programming and allocating of funds for the construction of highway, passenger rail, and



transit improvements throughout the state. CTC is responsible for adopting the State Transportation Improvement Program and the State Highway Operation and Protection Program.

### **Assembly Bill (AB) 32**

With AB 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32.

In 2007, CARB adopted a list of early action programs that could be put in place by January 1, 2010. In 2008, CARB defined its 1990 baseline level of emissions, and by 2011 it completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, took effect in 2012.

On December 11, 2008, CARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of Senate Bill (SB) 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

### **California Complete Streets Act**

The California Complete Streets Act (Assembly Bill [AB] 1358) of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 requires circulation element updates to address the transportation system from a multi-modal perspective. The act states that streets, roads, and highways must “meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the general plan.” The act requires a circulation element to plan for all modes of transportation where appropriate, including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. AB 1358 tasks the Governor’s Office of Planning and Research to release guidelines for compliance which are so far undeveloped.

### **Sustainable Communities and Climate Protection Act**

The Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal is to reduce the number and length of automobile commuting trips, helping to meet the statewide targets for reducing greenhouse gas emissions set by AB 32.

SB 375 requires each Metropolitan Planning Organization to add a broader vision for growth, called a Sustainable Communities Strategy (SCS), to its transportation plan. The SCS must lay out a plan to meet the region’s transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS should integrate transportation, land use, and housing policies to plan for achievement of the emissions target for their region. The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and SCS were adopted in 2016.

### **Senate Bill (SB) 743**

This bill creates a new process for analyzing transportation impacts under the California Environmental Quality Act (CEQA). Although Office of Planning and Research (OPR) has not finalized the proposed guidelines, impacts will likely be measured in terms of vehicle miles traveled (VMT) rather than vehicle delay.

### **Local Regulations**

#### **Measure U**

Redlands voters passed Measure U in 1997. Principle 6 of the measure provides:

(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 (LOS) 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 LOS is below 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.

Certain categories of development are exempt from the requirements of Measure U as listed in Section 2, B. For the non-exempt categories of development, there is little flexibility in modifications to the existing LOS policy.

#### **City of Redlands Bicycle Master Plan**

The Redlands City Bicycle Master Plan, adopted in 2015, outlines an extensive network with over one hundred additional miles of bicycle facilities (over two hundred lane miles). The City of Redlands Bicycle Master Plan provides a vision for improving the bicycling environment by providing direction for the expansion of the existing bikeway network, connection of gaps, recommendations for bicycle support facilities, and education and awareness programs. The implementation of facilities and programs identified in the Bicycle Master Plan will create a bicycle friendly environment, and thereby encourage residents and visitors to bike more frequently, which will subsequently lower greenhouse gases (GHG) and create a healthier environment for residents and visitors.

## **San Bernardino Congestion Management Plan**

The CMP was enacted by Proposition 111, passed by voters in 1990, to address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California. The intent of the CMP is to provide the analytical basis for transportation decisions through the Statewide Transportation Improvement Program (STIP) process, a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

The CMP for San Bernardino County, published and periodically updated by SANBAG, defines a network of state highways and arterials in the county and provides guidelines regarding level of service standards, impact criteria, and a process for mitigation of impacts on CMP facilities in the county. The minimum acceptable level of service (LOS) for CMP facilities is LOS E, with certain exceptions. The 2016 Congestion Management Program was updated in June 2016.

## **Impact Analysis**

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### **SIGNIFICANCE CRITERIA**

For the purposes of this EIR, a significant adverse impact on agricultural resources would occur if the Proposed Project would:

- Criterion 1:** Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Criterion 2:** Conflict with an applicable congestion management program (CMP) including, but not limited to level of service standards and travel demand measures, or standards established by the county congestion management agency for designated roads or highways;
- Criterion 3:** Result in a change in air traffic patterns including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Criterion 4:** Result in inadequate emergency access; or
- Criterion 5:** Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

### **Performance Criteria**

The following performance criteria for the City of Redlands, Caltrans freeway facilities, San Bernardino County, the City of Loma Linda, and the City of San Bernardino were used to assess Criterion 1.

The City of Redlands has established specific performance criteria for intersection operations. These performance criteria include standards related to determining the significance of project impacts on the roadway system. The criteria are below:

- The City of Redlands has established LOS C as the minimum level of service for its intersections.
- Any signalized intersection operating at LOS D or worse will be considered deficient.
- Any unsignalized intersections operating at LOS D or worse that also meet peak hour traffic signal warrant will be considered deficient.
- Projects that reduce the LOS to below level C are required to mitigate to acceptable conditions. If the facility is already operating unacceptably, it is the responsibility of the Project to improve the facility to the pre-project conditions.
- Within the unincorporated County and surrounding area designated 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.

The performance criteria for Caltrans freeway facilities are outlined below:

- Caltrans has established LOS C as the minimum level of service for its facilities.
- Any freeway segment operating at LOS D or worse will be considered deficient.
- A project that reduces LOS to below C or worsens conditions on a facility operating unacceptably will result in a significant impact.

The performance criteria used for facilities in the County of San Bernardino are:

- LOS D is the minimum acceptable level of service.
- Projects that degrade LOS D to LOS E, or F, or worsen conditions at facilities already operating at LOS E, or F will result in a significant impact.

The performance criteria used for facilities in the City of Loma Linda are:

- LOS C is the minimum acceptable level of service.
- Projects that degrade LOS C to LOS D, E, or F, or worsen conditions at facilities already operating at LOS D, E, or F will result in a significant impact.

The performance criteria used for facilities in the City of San Bernardino are:

- LOS D is the minimum acceptable level of service.
- Projects that degrade LOS D to LOS E, or F, or worsen conditions at facilities already operating at LOS E, or F will result in a significant impact when any of the following changes to volume to capacity (V/C) ratios occur between the “without project” and “with project” conditions:

<u>LOS without Project</u>	<u>V/C Difference</u>
C	> 0.0400
D	> 0.0200
E, F	> 0.0100

The following performance criteria used for facilities in the SANBAG San Bernardino Congestion CMP facilities were used to assess Criterion 2:

- LOS E is the minimum acceptable level of service.
- Projects that degrade LOS E to LOS F, or worsen conditions at facilities already operating at LOS F will result in a significant impact.

## **METHODOLOGY AND ASSUMPTIONS**

### **Forecasting Methodology**

#### **Study Scope**

The forecasting study evaluated the potential for project-generated traffic impacts on the street system in Redlands. Peak hour traffic impacts for the project were evaluated during typical weekday morning (7:00 to 9:00 AM) and weekday evening (5:00 PM to 7:00 PM) peak periods. The following traffic scenarios were analyzed in the study:

- Existing (Year 2016) Conditions – The analysis of existing weekday AM and PM peak hour traffic conditions provided a basis for the assessment of future traffic conditions. Existing project traffic volumes were taken from counts collected between December 6 and 8, 2016.
- Future (Year 2035) plus Project Conditions – This scenario projected the future traffic growth and intersection operating conditions assuming buildout under the proposed General Plan Update plus regional traffic growth from outside the City.

The study examined 25 intersections, 49 roadway segments and eight freeway segments under each of the above scenarios.

#### **Modeling**

Traffic volume forecasts were developed using the San Bernardino Transportation Analysis Model (SBTAM), a subregional model based on the SCAG Regional Travel Demand Model. SBTAM is based on the traditional 4-step sequential modeling methodology with “feedback loop” procedures to ensure internal modeling consistency. These transportation models use socioeconomic data to

estimate trip generation, mode choice, as well as several submodels to address complex travel behavior and multi-modal transportation issues. The model responds to changes in land use types, household characteristics, transportation infrastructure, and travel costs such as transit fares, parking costs, tolls, and auto operating costs.

Two model scenarios were utilized in the forecasting process, as described below:

- **Base Year Model.** This scenario contains the base year (2015) land use and roadway network assumptions.
- **Future Year Model (2035) plus Project.** This scenario contains the land uses assuming buildout of the proposed General Plan within the Planning Area plus regional traffic growth from outside the Planning Area, including the Donut Hole.

To develop Future (Year 2035) No Project scenario forecasts, the Future Year Model No Project outputs were compared to the Existing Conditions/Base Year Model outputs using the difference method. The difference method was employed using standard techniques consistent with National Cooperative Highway Research Program (NCHRP) Report 255. The arithmetic difference was taken between the future year and base year model outputs and that difference was used to determine the growth in traffic volumes. That growth was then added to the existing 2016 volumes to produce a cumulative year of 2035. This method was applied for both turning movement volumes and roadway segment ADT volumes. The difference method was also applied to the Base Year Model and Future Year plus Model plus Project outputs to forecast Future (Year 2035) plus Project scenario forecasts.

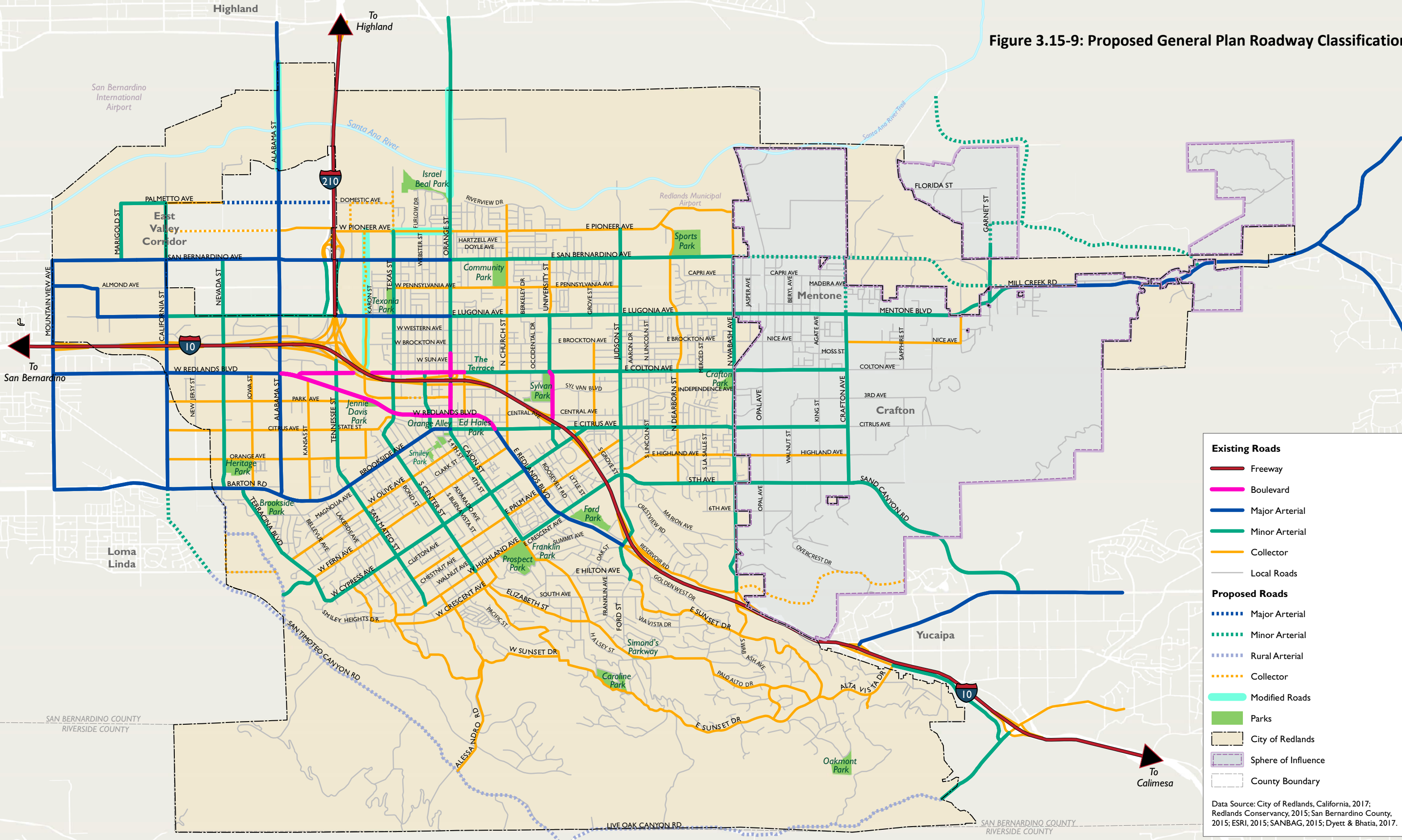
### **Roadway Classifications and Network Assumptions**

The roadway classifications from the current and proposed General Plan circulation elements (called the Connected City chapter in the proposed General Plan) were assumed to be fully implemented in the future analysis. The proposed General Plan roadway classifications are shown on Figure 3.15-9. Future roadway network improvements/modifications that are identified in the proposed circulation element and assumed to be implemented as part of the proposed General Plan are shown on Figure 3.15-10 and described below with the corresponding map numbers:

1. Installation of a traffic signal at Eureka Street and Colton Avenue.
2. Realignment of California Street at Redlands Boulevard to a typical 4-legged intersection.
3. I-10 Corridor Express Lane Widening: 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; and 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.
4. I-210 Lane Addition: Add one mixed-flow lane in each direction from Highland Avenue to San Bernardino Avenue; auxiliary lanes between Baseline and 5th Streets; an acceleration lane at 5th Street eastbound on-ramp; and a 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.

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.
6. The following road closures with the implementation of Redlands Rail:
  - 9<sup>th</sup> Street (full crossing closure);
  - West Stuart Avenue (full crossing closure); and
  - Wyatt’s Auto Body Private Crossing (full crossing closure),
7. Implementation of an adaptive traffic control system citywide on the following major corridors:
  - Redlands Boulevard;
  - Barton Road/Brookside Avenue/Citrus Avenue;
  - Alabama Street;
  - Tennessee Street;
  - Colton Avenue; and
  - Orange Street/Cajon Street.
8. A dedicated southbound right-turn lane at the intersection of Alabama Street and Redlands Boulevard.
9. Installation of a traffic signal at University Street & Colton Avenue.
10. Installation of a traffic signal at Judson Street & Colton Avenue.
11. A dedicated eastbound right-turn lane and a second westbound left-turn lane at the intersection of Mountain View Avenue and San Bernardino Avenue.
12. A dedicated northbound right-turn lane and a second westbound left-turn lane at the intersection of Alabama Street and Lugonia Avenue.
13. A third eastbound through lane, dedicated eastbound right-turn lane, and a second westbound left-turn lane at the intersection of Alabama Street and San Bernardino Avenue.
14. A second northbound through lane, a second dedicated northbound right-turn lane, and a southbound shared through-left lane at the intersection of Tennessee Street and Lugonia Avenue.
15. A dedicated eastbound right-turn lane, a second southbound left turn lane, and a second northbound and southbound through lane at the intersection of Orange Street and Lugonia Avenue.
16. Widening of Alabama Street to four lanes from Pioneer Avenue to Palmetto Avenue.
17. Widening of Lugonia Avenue to four lanes from Tribune Avenue to Church Street.

Figure 3.15-9: Proposed General Plan Roadway Classifications



**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.

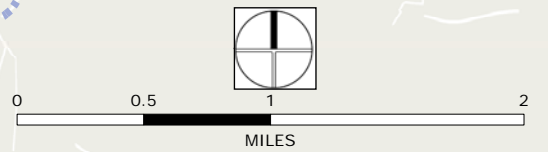
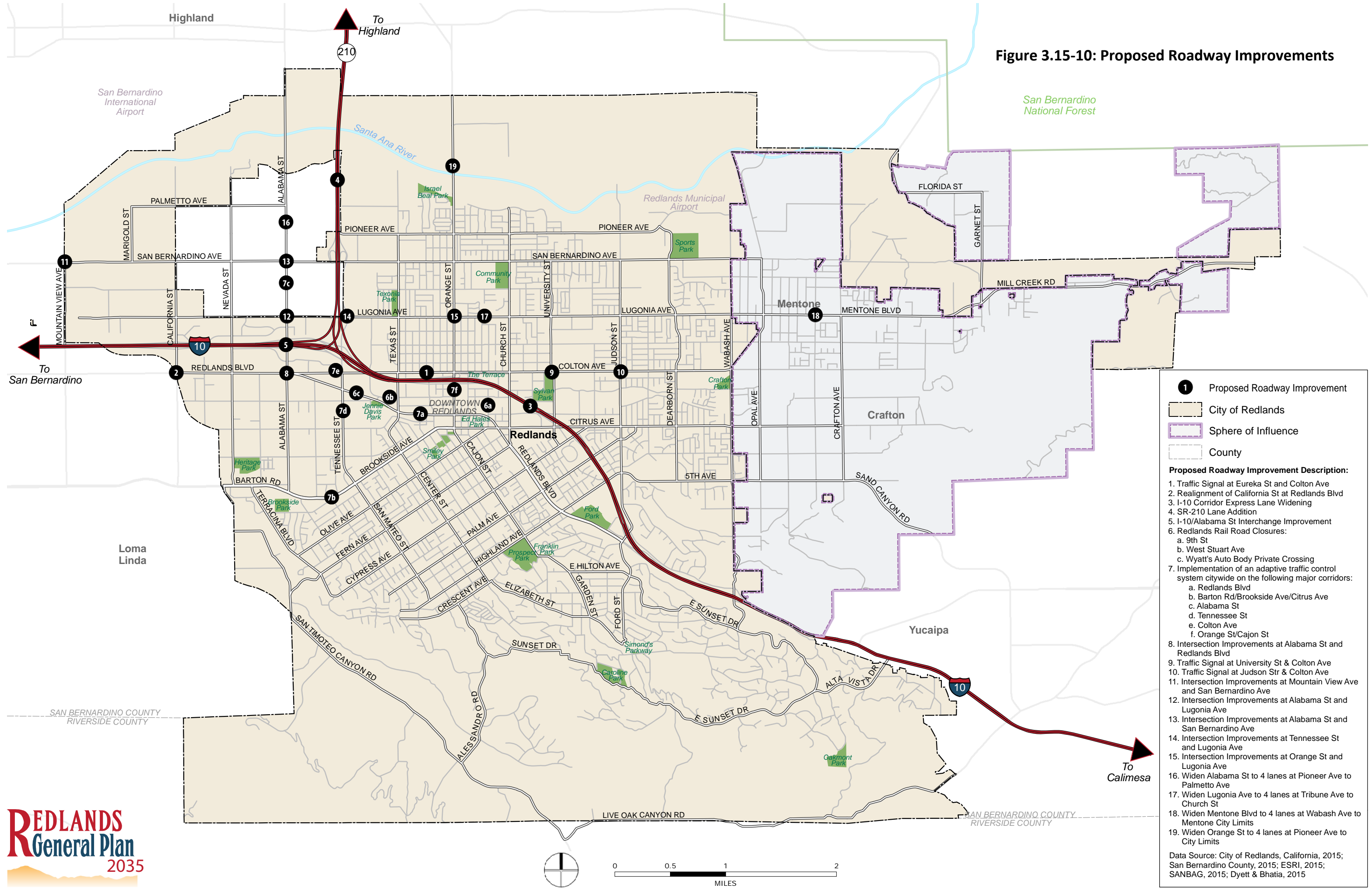




Figure 3.15-10: Proposed Roadway Improvements



**1** Proposed Roadway Improvement

City of Redlands

Sphere of Influence

County

**Proposed Roadway Improvement Description:**

- Traffic Signal at Eureka St and Colton Ave
- Realignment of California St at Redlands Blvd
- I-10 Corridor Express Lane Widening
- SR-210 Lane Addition
- I-10/Alabama St Interchange Improvement
- Redlands Rail Road Closures:
  - 9th St
  - West Stuart Ave
  - Wyatt's Auto Body Private Crossing
- Implementation of an adaptive traffic control system citywide on the following major corridors:
  - Redlands Blvd
  - Barton Rd/Brookside Ave/Citrus Ave
  - Alabama St
  - Tennessee St
  - Colton Ave
  - Orange St/Cajon St
- Intersection Improvements at Alabama St and Redlands Blvd
- Traffic Signal at University St & Colton Ave
- Traffic Signal at Judson Str & Colton Ave
- Intersection Improvements at Mountain View Ave and San Bernardino Ave
- Intersection Improvements at Alabama St and Lugonia Ave
- Intersection Improvements at Alabama St and San Bernardino Ave
- Intersection Improvements at Tennessee St and Lugonia Ave
- Intersection Improvements at Orange St and Lugonia Ave
- Widen Alabama St to 4 lanes at Pioneer Ave to Palmetto Ave
- Widen Lugonia Ave to 4 lanes at Tribune Ave to Church St
- Widen Mentone Blvd to 4 lanes at Wabash Ave to Mentone City Limits
- Widen Orange St to 4 lanes at Pioneer Ave to City Limits

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

18. Widening of Mentone Boulevard to four lanes from Wabash Avenue to eastern Planning Area limits.
19. Widening of Orange Street to four lanes from Pioneer Avenue to City Limits.

## **SUMMARY OF IMPACTS**

Implementation of the proposed General Plan is anticipated to increase traffic volumes on the study intersections, roadway segments and freeway segments. For purposes of determining the significance of impacts, this impact analysis compares the Proposed Project in year 2035 to existing conditions in year 2015.

As described in detail below and summarized in Table 3.15-8, three of the thresholds used as performance criteria for Criterion 1 were projected to result in significant and unavoidable impacts. Within the cities of Redlands and Loma Linda, none of the study intersection or roadway segment levels of service are forecast to degrade from acceptable LOS C or worsen at a facility currently operating unacceptably. Based on Caltrans significance criteria, the proposed General Plan would result in a significant and unavoidable impact by adding traffic to deficient facilities at two intersections, two roadway segments, and four freeway segments. Based on County of San Bernardino significance criteria, the proposed General Plan would result in a significant and unavoidable impact by worsening LOS at deficient facilities at two intersections and one roadway segment. Based on City of San Bernardino significance criteria, the Proposed Project would result in a significant and unavoidable impact by worsening LOS at deficient facilities at one intersection.

For Criterion 2, without the implementation of the roadway improvement policies of the Proposed Project, one of the CMP study roadway segment's LOS worsens at a facility already operating at LOS F, which results in a significant and unavoidable impact.

The proposed General Plan would result in less than significant impacts according to Criteria 3, 4 and 5. For Criterion 3, the proposed General Plan would not result in a change in air traffic patterns. For Criterion 4, the proposed General Plan would not result in inadequate emergency access. Lastly, for Criterion 5, the proposed General Plan would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

The proposed Climate Action Plan (CAP) does not include any land use changes or other measures that would affect the transportation system, and would therefore have no impacts.

**Table 3.15-8: Impact Summary**

<i>Threshold</i>	<i>Impact</i>	<i>Determination</i>
Degrade operations on a City of Redlands facility from an acceptable LOS C, or lowers the LOS grade of a City of Redlands facility currently operating unacceptably.	3.15-1	Significant and Unavoidable
Degrades operations on a Caltrans facility from an acceptable LOS C, or worsens conditions on a Caltrans facility currently operating unacceptably.	3.15-1	Significant and Unavoidable
Degrades operations from acceptable LOS or worsens facilities currently operating unacceptably in the County of San Bernardino.	3.15-1	Significant and Unavoidable
Degrades operations from acceptable LOS or worsens facilities currently operating unacceptably in the City of San Bernardino.	3.15-1	Significant and Unavoidable
Degrades operations from acceptable LOS or worsens facilities currently operating unacceptably in the City of Loma Linda.	3.15-1	Less Than Significant
Degrades operations on a CMP facility from an acceptable LOS E, or worsens conditions on a CMP facility currently operating unacceptably.	3.15-2	Significant and Unavoidable
Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks	3.15-3	Less Than Significant
Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses	3.15-4	Less Than Significant
Result in inadequate emergency access	3.15-5	Less Than Significant
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	3.15-6	Less Than Significant

## IMPACTS

**Impact 3.15-1 Implementation of the Proposed Project could result in conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. (Significant and Unavoidable)**

Impacts from the proposed General Plan on the vehicular network were forecasted for intersection, roadway, and freeway analysis. Projected LOS were compared to the performance criteria for the applicable jurisdictions to determine whether a significant impact would occur. For intersections and roadway segments, if all roadway improvements in the proposed General Plan were implemented, impacts would be less than significant. However, because eight of the proposed improvements would be located on facilities partially or fully controlled by other jurisdictions, the City of Redlands could not guarantee implementation. Therefore, some impacts could occur that would be significant and unavoidable. In addition, four freeway segments were determined to

experience significant and unavoidable impacts. The impacts on the freeway system are not in the City’s control as these would occur due to regional growth and would occur with or without the implementation of the General Plan. Overall, the Proposed Project would have a significant and unavoidable impact. These impacts are discussed in more detail below.

The proposed General Plan includes a series of policies to address changes in vehicle LOS resulting from buildout. Proposed policies include roadway and intersection improvements as well as strategies to reduce congestion, particularly on local roads, through the layered network, transportation demand management, and promoting the use of alternative transportation modes. The proposed land use strategy overall would also serve to minimize vehicular traffic by promoting walking, bicycling, and transit use. The proposed Climate Action Plan (CAP) does not include any land use changes or other measures that would affect the transportation network, and would therefore have no impact.

The Proposed Project establishes policies that strengthen and expand the non-motorized transportation system and would not conflict with any established plans, ordinances, or policies establishing measures of effectiveness for these forms of circulation, as noted in detail below.

**Intersections**

Intersection operations using Future (Year 2035) plus Project forecasts are shown in Table 3.15-9. Future (Year 2035) plus Project volumes were analyzed to determine change in delay and LOS for the study intersections. As shown in Table 3.15-9, five study intersections operate at unacceptable levels of service during weekday peak periods. Using the relevant impact criteria, and assuming the implementation of improvements in the proposed General Plan, none of the intersections would expect significant impacts with the full proposed General Plan buildout. Detailed LOS calculations are provided in Appendix I. Future (Year 2035) plus Project peak hour intersection volumes are shown on Figure 3.15-11.

**Table 3.15-9: Future (Year 2035) plus Project Intersection Level of Service**

#	North/South Street	East/West Street	Control	Jurisdiction	Peak Hour	Existing		Future plus Project	
						Delay	LOS	Delay	LOS
1	Mountain View Ave.	San Bernardino Ave.	Signal	City of Redlands & City of San Bernardino <sup>1,3</sup>	AM	18.2	B	27.0	C
					PM	31.3	C	35.0	C
2	Alabama St.	San Bernardino Ave.	Signal	County of San Bernardino <sup>1,3</sup>	AM	27.0	C	31.6	C
					PM	35.6	D	34.5	C
3	Orange St.	San Bernardino Ave.	Signal	City of Redlands	AM	15.0	B	19.5	B
					PM	13.6	B	19.0	B
4	Dearborn St.	San Bernardino Ave.	AWSC	City of Redlands	AM	9.3	A	10.8	B
					PM	12.3	B	13.7	B
5	California St.	Lugonia Ave.	Signal	City of Redlands <sup>1</sup>	AM	12.9	B	13.8	B
					PM	18.6	B	28.3	C

**Table 3.15-9: Future (Year 2035) plus Project Intersection Level of Service**

#	North/South Street	East/West Street	Control	Jurisdiction	Peak Hour	Existing		Future plus Project	
						Delay	LOS	Delay	LOS
6	Alabama St.	Lugonia Ave.	Signal	City of Redlands & County of San Bernardino <sup>1,3</sup>	AM	17.7	B	30.0	C
					PM	<b>56.0</b>	<b>E</b>	<b>43.7</b>	<b>D</b>
7	Tennessee St.	Lugonia Ave.	Signal	Caltrans <sup>1,3</sup>	AM	22.6	C	20.8	C
					PM	<b>36.8</b>	<b>D</b>	32.6	C
8	Orange St.	Lugonia Ave.	Signal	Caltrans <sup>3</sup>	AM	33.0	C	27.5	C
					PM	<b>38.6</b>	<b>D</b>	<b>55.0</b>	<b>D</b>
9	University St.	Lugonia Ave.	Signal	Caltrans	AM	13.4	B	10.2	B
					PM	14.9	B	14.6	B
10	Wabash Ave.	Lugonia Ave.	Signal	Caltrans	AM	26.2	C	23.4	C
					PM	23.7	C	27.2	C
11	California St.	Redlands Blvd.	Signal	City of Loma Linda/CMP	AM	<b>73.6</b>	<b>E</b>	<b>38.0</b>	<b>D</b>
					PM	<b>73.6</b>	<b>E</b>	<b>57.9</b>	<b>E</b>
12	Alabama St.	Redlands Blvd.	Signal	City of Redlands & CMP	AM	21.6	C	21.1	C
					PM	29.8	C	29.4	C
13	Tennessee St.	Redlands Blvd.	Signal	City of Redlands & CMP	AM	22.3	C	25.7	C
					PM	32.0	C	32.8	C
14	Texas St.	Redlands Blvd.	Signal	City of Redlands	AM	13.9	B	29.2	C
					PM	21.1	C	21.9	C
15	Orange St.	Redlands Blvd.	Signal	City of Redlands & CMP	AM	17.5	B	33.6	C
					PM	25.3	C	25.4	C
16	Redlands Blvd.	Citrus St.	Signal	City of Redlands & CMP	AM	26.7	C	17.8	B
					PM	21.9	C	22.2	C
17	Redlands Blvd.	Highlands Ave.	Signal	City of Redlands	AM	17.4	B	21.9	C
					PM	18.3	B	18.9	B
18	Redlands Blvd.	Ford St.	Signal	City of Redlands & CMP	AM	13.0	B	14.5	B
					PM	12.8	B	15.7	B
19	Eureka St.	Colton Ave.	Signal <sup>4</sup>	City of Redlands	AM	9.9	A	6.4	A
					PM	<b>43.8</b>	<b>E</b>	11.6	B
20	Orange St.	Colton Ave.	Signal	City of Redlands	AM	9.5	A	10.4	B
					PM	14.8	B	17.5	B
21	University St.	Colton Ave.	AWSC	City of Redlands	AM	<b>&gt;50</b>	<b>F</b>	12.8	B
					PM	<b>&gt;50</b>	<b>F</b>	10.6	B
22	Judson St.	Colton Ave.	AWSC	City of Redlands	AM	<b>37.9</b>	<b>E</b>	7.9	A

**Table 3.15-9: Future (Year 2035) plus Project Intersection Level of Service**

#	North/South Street	East/West Street	Control	Jurisdiction	Peak Hour	Existing		Future plus Project	
						Delay	LOS	Delay	LOS
23	Alabama St.	Barton Rd.	Signal	City of Redlands	PM	15.9	C	7.0	A
					AM	24.1	C	30.8	C
					PM	21.6	C	24.6	C
24	San Mateo St.	Brookside Ave.	Signal	City of Redlands	AM	<b>46.3</b>	<b>D</b>	<b>42.6</b>	<b>D</b>
					PM	17.8	B	18.4	B
25	Cajon St.	Cypress Ave.	AWSC	City of Redlands	AM	<b>28.8</b>	<b>D</b>	<b>28.8</b>	<b>D</b>
					PM	<b>36.8</b>	<b>E</b>	<b>32.7</b>	<b>D</b>

Notes:

1. Intersection is within the “donut hole.”
2. **Bold** indicates unacceptable LOS.
3. . The reported LOS assumes the implementation of General Plan Policies that City cannot guarantee. The LOS without the improvement is provided in Table 3.15-120.
- 4This intersection is assumed to be signalized in future scenarios.
5. CMP = San Bernardino County Congestion Management Plan.

Source: Fehr & Peers, 2017.

The traffic analysis shown in Table 3.15-8 assumes the implementation of policies in the proposed General Plan to complete improvements at certain intersections and roadway segments. However, eight of these intersections and roadway segments are partially or fully under the control of jurisdictions other than the City of Redlands (Caltrans, San Bernardino County, and the City of San Bernardino). Thus, the implementation of the proposed improvements for those segments could not be guaranteed by the City of Redlands. Without the proposed improvements, the LOS at five intersections would degrade below acceptable standards, resulting in a potentially significant and unavoidable impact. Table 3.15-10 shows the five significantly impacted intersections.

**Table 3.15-10: Future (Year 2035) plus Project Intersection Level of Service Without and With Improvements for Significantly Impacted Intersections**

#	North/South Street	East/West Street	Control	Jurisdiction	Peak Hour	Existing		Future plus Project without Improvements		Future plus Project (with Improvements)	
						Delay	LOS	Delay	LOS	Delay	LOS
1	Mountain View Ave.	San Bernardino Ave.	Signal	City of Redlands & City of San Bernardino <sup>1</sup>	AM	18.2	B	33.5	C	27.0	C
					PM	31.3	C	<b>&gt;80</b>	<b>F</b>	35.0	C
2	Alabama St.	San Bernardino Ave.	Signal	County of San Bernardino <sup>1</sup>	AM	27.0	C	47.2	D	33.2	C
					PM	35.6	D	<b>73.4</b>	<b>E</b>	34.5	C
6	Alabama St.	Lugonia Ave.	Signal	City of Redlands & County of San Bernardino <sup>1</sup>	AM	17.7	B	27.3	C	30.0	C
					PM	<b>56.0</b>	<b>E</b>	<b>&gt;80</b>	<b>F</b>	<b>50.9</b>	<b>D</b>
7	Tennessee St.	Lugonia Ave.	Signal	Caltrans <sup>1</sup>	AM	22.6	C	24.5	C	16.9	B
					PM	<b>36.8</b>	<b>D</b>	<b>&gt;80</b>	<b>F</b>	32.6	C
8	Orange St.	Lugonia Ave.	Signal	Caltrans	AM	33.0	C	<b>41.4</b>	<b>D</b>	27.5	C
					PM	<b>38.6</b>	<b>D</b>	<b>&gt;80</b>	<b>F</b>	<b>55.0</b>	<b>D</b>

Notes:

1. Intersection is within the Donut hole.
2. **Bold** indicates unacceptable LOS.
3. Delays and LOS grades highlighted in grey indicate significant impacts.

Source: Fehr & Peers, 2017

**Roadway Segments**

Roadway segment level of service using Future (Year 2035) plus Project forecasts are shown in Table 3.15-11. To account for the implementation of an adaptive traffic control system, a 10-percent increase in roadway segment capacity was assumed along coordinated corridors, consistent with OCTA Smart Street methodology. Future (Year 2035) plus Project volumes were analyzed to determine change in V/C for the study roadway segments. As shown in Table 3.15-11, none of the study roadway segments would operate at unacceptable levels of service. Please note that two roadway segments that are operating below acceptable LOS in Existing Conditions operate at LOS C or better with implementation of General Plan roadway improvement policies. Using the City's significance criteria, none of the roadway segments are projected to be significantly impacted in the Future (Year 2035) plus Project scenario assuming full implementation of the General Plan improvements.

Figure 3.15-11: Future (2035) Plus Project Conditions Peak Hour Traffic Volumes and Lane Configurations



<p><b>1. Mountain View Ave/San Bernardino Ave</b></p>	<p><b>2. Alabama St/San Bernardino Ave</b></p>	<p><b>3. Orange St/San Bernardino Ave</b></p>	<p><b>16. Redlands Blvd/Citrus Ave</b></p>	<p><b>17. Redlands Blvd/Highland Ave</b></p>	<p><b>18. Redlands Blvd/Ford St</b></p>
<p><b>4. Dearborn St/San Bernardino Ave</b></p>	<p><b>5. California Ave/Lugonia Ave</b></p>	<p><b>6. Alabama St/Lugonia Ave</b></p>	<p><b>19. Eureka St/Colton Ave</b></p>	<p><b>20. Orange St/Colton Ave</b></p>	<p><b>21. University St/Colton Ave</b></p>
<p><b>7. Tennessee St/Lugonia Ave</b></p>	<p><b>8. Orange St/Lugonia Ave</b></p>	<p><b>9. University Ave/Lugonia Ave</b></p>	<p><b>22. Judson St/Colton Ave</b></p>	<p><b>23. Alabama St/Barton Rd</b></p>	<p><b>24. San Mateo St/Brookside Ave</b></p>
<p><b>10. Wabash Ave/Lugonia Ave</b></p>	<p><b>11. California St/Redlands Blvd</b></p>	<p><b>12. Alabama St/Redlands Blvd</b></p>	<p><b>25. Cajon St/Cypress Ave</b></p>		
<p><b>13. Tennessee St/Redlands Blvd</b></p>	<p><b>14. Texas St/Redlands Blvd</b></p>	<p><b>15. Orange St/Redlands Blvd</b></p>			



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**Table 3.15-11: Future (Year 2035) plus Project Roadway Segment Level of Service**

#	Roadway	Extent	Classification	Jurisdiction	Capacity	Existing		Future plus Project	
						ADT	LOS	ADT	LOS
1	5th St.	Dearborn St. and Silvertree Ln.	2-Lane Minor Arterial	City of Redlands	16,500	8,603	C or Better	8,800	C or Better
2	Alabama St.	Palmetto Ave. and Pioneer Ave.	4-Lane Major Arterial	County of San Bernardino & CMP <sup>1</sup>	16,500/ 36,4003	16,930	F	19,500	C or Better
3	Alabama St.	Park Ave. and Citrus Ave.	4-Lane Major Arterial	City of Redlands & CMP	33,100/ 36,4003	16,340	C or Better	16,400	C or Better
4	Alabama St.	Orange St. and Barton Rd.	4-Lane Major Arterial	City of Redlands & CMP	33,100/ 36,4003	12,274	C or Better	12,900	C or Better
5	Alessandro Rd.	Creekside Dr. and San Timoteo Canyon Rd.	2-Lane Collector	City of Redlands	16,100	4,659	C or Better	5,200	C or Better
6	Barton Rd.	Nevada St. and Terracina Blvd.	4-Lane Major Arterial	City of Redlands	33,100/ 36,4003	25,130	C or Better	28,900	C or Better
7	Beaumont Ave.	East of Nevada St.	2-Lane Local Road	City of Redlands	16,100	2,566	C or Better	2,900	C or Better
8	Cajon St.	Vine St. and Olive St.	2-Lane Minor Arterial	City of Redlands	16,500/ 18,1003	10,110	C or Better	10,500	C or Better
9	California St.	North of San Bernardino Ave.	4-Lane Minor Arterial	City of Redlands & CMP <sup>1</sup>	33,100	5,928	C or Better	6,000	C or Better
10	Center St.	Brookside Ave. and Glenwood Dr.	2-Lane Minor Arterial	City of Redlands	16,500	7,545	C or Better	7,800	C or Better
11	Church St.	Pennsylvania Ave. and Lugonia Ave.	2-Lane Collector	City of Redlands	16,100	6,964	C or Better	7,000	C or Better
12	Church St.	Stuart Ave. and Central Ave.	2-Lane Collector	City of Redlands	16,100	7,222	C or Better	7,300	C or Better
13	Citrus Ave.	6th St. and Olive St.	2-Lane Minor Arterial	City of Redlands & CMP	16,500/ 18,1003	9,262	C or Better	9,500	C or Better

**Table 3.15-11: Future (Year 2035) plus Project Roadway Segment Level of Service**

#	Roadway	Extent	Classification	Jurisdiction	Capacity	Existing		Future plus Project	
						ADT	LOS	ADT	LOS
14	Citrus Ave.	Dearborn St. and La Salle St.	2-Lane Minor Arterial	City of Redlands & CMP	16,500	6,785	C or Better	6,800	C or Better
15	Colton Ave.	Dearborn St. and Kensington Dr.	2-Lane Minor Arterial	City of Redlands	16,500	5,960	C or Better	6,300	C or Better
16	Crafton Ave.	Mentone Ave. and Nice Ave.	2-Lane Minor Arterial	County of San Bernardino	16,500	6,284	C or Better	6,800	C or Better
17	Cypress St.	Center St. and Buena Vista St.	4-Lane Minor Arterial	City of Redlands	33,100	7,305	C or Better	7,500	C or Better
18	Cypress St.	Roosevelt Rd. and Lytle St.	2-Lane Minor Arterial	City of Redlands	16,500	9,068	C or Better	9,100	C or Better
19	Eureka St.	North of Redlands St.	4-Lane Minor Arterial	City of Redlands	33,100	14,844	C or Better	15,400	C or Better
20	Fern Ave.	Myrtle St. and Redlands St.	2-Lane Collector	City of Redlands	16,100	5,162	C or Better	5,200	C or Better
21	Ford St.	Palm Ave. and Highland Ave.	2-Lane Minor Arterial	City of Redlands	16,500	5,147	C or Better	5,900	C or Better
22	Highland Ave.	York St. and Redlands St.	3-Lane Minor Arterial	City of Redlands	24,800	7,776	C or Better	11,800	C or Better
23	Judson St.	Pennsylvania Ave. and Lugonia Ave.	2-Lane Collector	City of Redlands	16,100	3,541	C or Better	3,900	C or Better
24	Lugonia Ave.	West of California St.	4-Lane Major Arterial	City of Redlands <sup>1</sup>	33,100	4,920	C or Better	8,300	C or Better
25	Lugonia Ave.	Dearborn St. and Revelation Wy.	4-Lane Minor Arterial	Caltrans & CMP	33,100	22,016	C or Better	23,400	C or Better
26	Lugonia Ave.	Herald St. and Church St.	4-Lane Minor Arterial	Caltrans & CMP	24,800/ 33,100	18,202	C or Better	20,800	C or Better

**Table 3.15-11: Future (Year 2035) plus Project Roadway Segment Level of Service**

#	Roadway	Extent	Classification	Jurisdiction	Capacity	Existing		Future plus Project	
						ADT	LOS	ADT	LOS
27	Lugonia Ave.	Citrus Ave. and SR-210	4-Lane Minor Arterial	City of Redlands <sup>1</sup>	33,100	17,804	C or Better	22,400	C or Better
28	Mentone Ave.	Crafton Ave. and Plumwood St.	4-Lane Minor Arterial	Caltrans	16,500/ 33,100	11,855	C or Better	14,400	C or Better
29	Nevada St.	Almond Ave. and Lugonia Ave.	2-Lane Minor Arterial	County of San Bernardino <sup>1</sup>	16,500	4,799	C or Better	4,800	C or Better
30	Orange St.	North of Pioneer Ave.	4-Lane Minor Arterial	City of Redlands & CMP	16,500/ 33,100	<b>14,276</b>	<b>D</b>	18,800	C or Better
31	Orange St.	Stuart Ave. and Oriental Ave.	4-Lane Boulevard	City of Redlands & CMP	33,100/ 36,4003	18,560	C or Better	22,200	C or Better
32	Palm Ave.	Hibiscus Dr. and Redlands St.	2-Lane Collector	City of Redlands	16,100	4,409	C or Better	4,500	C or Better
33	Pioneer Ave.	Texas St. and Webster St.	2-Lane Collector	City of Redlands	16,100	6,438	C or Better	10,300	C or Better
34	Pioneer Ave.	Brookstone St. and Church St.	2-Lane Collector	City of Redlands	16,100	4,897	C or Better	8,800	C or Better
35	Redlands Blvd.	Bryn Mawr Ave. and California St.	4-Lane Major Arterial	City of Loma Linda & CMP	33,100	15,174	C or Better	16,800	C or Better
36	Redlands Blvd.	Iowa St. and Alabama St.	4-Lane Boulevard	City of Redlands & CMP <sup>1</sup>	33,100/ 36,4003	21,138	C or Better	22,400	C or Better
37	Redlands Blvd.	Cypress St. and Palm Ave.	4-Lane Major Arterial	City of Redlands & CMP	33,100/ 36,4003	12,834	C or Better	15,900	C or Better
38	San Bernardino Ave.	Mountain View Ave. and Marigold Ave.	6-Lane Major Arterial	City of Redlands & CMP <sup>1</sup>	49,700	15,732	C or Better	18,000	C or Better
39	San Bernardino Ave.	Cheryl St. and Judson St.	2-Lane Minor Arterial	City of Redlands	16,500	7,371	C or Better	9,600	C or Better

**Table 3.15-11: Future (Year 2035) plus Project Roadway Segment Level of Service**

#	Roadway	Extent	Classification	Jurisdiction	Capacity	Existing		Future plus Project	
						ADT	LOS	ADT	LOS
40	San Mateo St.	Brookside Ave. and Olive St.	4-Lane Minor Arterial	City of Redlands	33,100	9,734	C or Better	10,100	C or Better
41	San Timoteo Canyon Rd.	South of Barton Rd.	2-Lane Local Road	City of Redlands	16,100	7,696	C or Better	7,700	C or Better
42	San Timoteo Canyon Rd.	West of Alessandro Rd.	2-Lane Rural Arterial	City of Redlands	16,100	8,854	C or Better	10,100	C or Better
43	Sand Canyon Rd.	East of Crafton Ave.	2-Lane Minor Arterial	County of San Bernardino	16,500	11,149	C or Better	11,900	C or Better
44	Tennessee St.	I-10 and Colton Ave.	4-Lane Minor Arterial	City of Redlands <sup>1</sup>	33,100/ 36,400 <sup>3</sup>	22,322	C or Better	25,200	C or Better
45	Tennessee St.	State St. and Orange St.	4-Lane Minor Arterial	City of Redlands	33,100/ 36,400 <sup>3</sup>	12,725	C or Better	12,800	C or Better
46	Terracina Blvd.	Barton Rd. and Brookside Ave.	2-Lane Minor Arterial	City of Redlands	16,500	11,936	C or Better	12,700	C or Better
47	Texas St.	Pennsylvania Ave. and Lugonia Ave.	2-Lane Minor Arterial	City of Redlands	16,500	5,246	C or Better	5,500	C or Better
48	University St.	Pennsylvania Ave. and Lugonia Ave.	2-Lane Collector	City of Redlands	16,100	2,875	C or Better	2,900	C or Better
49	Wabash Ave.	Highland Ave. and 5th St.	2-Lane Minor Arterial	City of Redlands	16,500	4,383	C or Better	5,000	C or Better

Notes:

1. Roadway segment is within the “donut hole.”
2. **Bold** indicates unacceptable LOS. Shading indicates significant impact.
3. A 10-percent increase in capacity was assumed at this segment to account for the adaptive traffic control system and coordination along this corridor.
4. CMP = San Bernardino County Congestion Management Plan.

Source: Fehr & Peers, 2017

As with the intersection analysis, some improvements that are part of the proposed General Plan, and which are assumed in the roadway analysis, are partially or fully within the control of other jurisdictions and thus cannot be guaranteed by the City of Redlands. Without the proposed improvements, the LOS at three intersections would degrade below acceptable standards, resulting in a potentially significant and unavoidable impact. With the proposed improvements, all three intersections would operate at LOS C or better. Table 3.15-12 shows the three significantly impacted roadway segments.

**Table 3.15-12: Future (Year 2035) plus Project Roadway Segment Level of Service with and without Improvements for Significantly Impacted Roadway Segments**

#	Roadway	Extent	Classifica- tion	Jurisdiction	Capacity	Existing		Future plus Project (without improvements)		Future plus Project (with improvements)	
						ADT	LOS	ADT	LOS	ADT	LOS
2	Alabama St.	Palmetto Ave. and Pioneer Ave.	2-Lane Major Arterial	County of San Bernardino & CMP <sup>1</sup>	16,500/ 36,400 <sup>3</sup>	16,930	F	<b>19,500</b>	<b>F</b>	19,500	C or Better
26	Lugonia Ave.	Herald St. and Church St.	3-Lane Minor Arterial	Caltrans & CMP	24,800/ 33,100	18,202	C or Better	<b>20,800</b>	<b>D</b>	20,800	C or Better
28	Mentone Ave.	Crafton Ave. and Plumwood St.	2-Lane Minor Arterial	Caltrans	16,500/ 33,100	11,855	C or Better	<b>14,400</b>	<b>D</b>	14,400	C or Better

Notes:

1. Roadway segment is within the Donut Hole.
2. **Bold** indicates unacceptable LOS. Shading indicates significant impact.
3. A 10-percent increase in capacity was assumed at this segment to account for the adaptive traffic control system and coordination along this corridor.

Source: Fehr & Peers, 2017

### Freeway Segments

Freeway segment level of service using Future (Year 2035) plus Project forecasts are shown in Table 3.15-13. Future (Year 2035) plus Project volumes were analyzed to determine change in V/C for the study freeway segments. As shown in Table 3.15-13, five study freeway segments would operate at unacceptable levels of service (below LOS C) at buildout of the proposed General Plan. Using Caltrans' impact criteria, four freeway segments would expect significant and unavoidable impacts with the full proposed General Plan buildout, including the following:

- **I-210 (San Bernardino Avenue to Lugonia Avenue)**. Operations would degrade from an acceptable LOS C or better to LOS D.
- **I-10 (6th Street to University Street)**. Traffic would increase on a segment already operating at LOS E.

- **I-10 (Cypress Avenue to Ford Street).** Traffic would increase on a segment already operating at LOS D.
- **I-10 (Wabash Avenue to Yucaipa Boulevard).** Operations would degrade from an unacceptable LOS D to an unacceptable LOS F.

Please note that the segment of I-210 from 5th Street to Pioneer Avenue was not identified as an impacted location since the LOS improves from Existing Conditions with freeway widening project.

**Table 3.15-13: Future (Year 2035) plus Project Freeway Segment Level of Service**

#	Freeway	Extent	Classification	Capacity	Existing		Future plus Project	
					ADT	LOS	ADT	LOS
50	I-210	5th St. to Pioneer Ave.	6-Lane Freeway	80,600/120,900	<b>79,800</b>	<b>E</b>	<b>97,000</b>	<b>D</b>
51	I-210	San Bernardino Ave. to Lugonia Ave.	7-Lane Freeway	141,000	112,000	C or Better	<b>125,100</b>	<b>D</b>
52	I-10	Mountain View Ave. to California St.	12-Lane Freeway	161,100/241,700	<b>164,000</b>	<b>F</b>	188,500	C or Better
53	I-10	California St. to Alabama St.	10-Lane Freeway	161,100/201,400	<b>130,600</b>	<b>D</b>	148,300	C or Better
54	I-10	Tennessee St. to Orange St.	10-Lane Freeway	161,100/201,400	104,000	C or Better	126,100	C or Better
55	I-10	6th St. to University St.	10-Lane Freeway	161,100/201,400	<b>157,000</b>	<b>E</b>	<b>181,900</b>	<b>E</b>
56	I-10	Cypress Ave. to Ford St.	10-Lane Freeway	161,100/201,400	<b>138,000</b>	<b>D</b>	<b>165,600</b>	<b>D</b>
57	I-10	Wabash Ave. to Yucaipa Blvd.	8-Lane Freeway	161,100	<b>138,000</b>	<b>D</b>	<b>169,700</b>	<b>F</b>

Note: **Bold** indicates unacceptable LOS. Shading indicates significant impact.

Source: Fehr & Peers, 2017

**Proposed General Plan Policies that Reduce the Impact**

*Livable Community Element*

**Measure U Policies**

- 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.

### *Connected City Element*

#### **Layered, Multi-Modal Network Principles**

- 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.5 Manage the city's transportation system to minimize traffic congestion, improve flow, and improve air quality.
- 5-P.10 Require developers to construct or pay their fair share toward improvements for all travel modes consistent with the layered network.

#### **Measure U Policies**

- 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.

#### **Vehicular Movement Principles**

- 5-P.21 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 Discourage the use of City streets as alternatives to congested regional highways.
- 5-P.24 Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.



### **Vehicular Movement and Standards for Traffic Service Actions**

- 5-A.30 Monitor traffic service levels and strive to implement roadway improvements prior to deterioration in levels of service below the stated standard.
- 5-A.32 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.34 Encourage the use of car share and car hire services within Redlands to provide vehicular transportation alternatives.
- 5-A.38 Work with San Bernardino County, the City of San Bernardino, and Caltrans, where appropriate, to implement all intersection and roadway improvements as shown in Table 5-5 and Figure 5-4.

### **Freeways Actions**

- 5-A.39 Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.
- 5-A.40 Support improvements to I-10 and I-210 that improve capacity and flow.

### **Boulevards and Arterials Actions**

- 5-A.42 Provide adequate capacity on boulevards and arterials to meet LOS standards, and to avoid traffic diversion to local streets or freeways.
- 5-A.43 Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials or boulevards.
- 5-A.44 Maximize the carrying capacity of arterials and boulevards by controlling the number of driveways and intersections, limiting residential access where applicable, 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 Actions**

- 5-A.45 Discourage through-traffic on local streets.
- 5-A.46 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.48 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.

### **Mitigation Measures**

No mitigation is available beyond the implementation of proposed General Plan Action 5-A.38. Although these policies require the City to coordinate with adjacent jurisdictions to implement the improvements, the ultimate decision to implement the improvements resides with another jurisdiction. Since the City cannot guarantee that the needed improvements will be implemented, the impact is deemed significant and unavoidable.

**Impact 3.15-2      Adoption of the General Plan would conflict with an applicable congestion management program (CMP) including, but not limited to level of service standards and travel demand measures, or standards established by the county congestion management agency for designated roads or highways. (Significant and Unavoidable)**

The performance criteria used for facilities in the SANBAG San Bernardino County CMP facilities are as follows:

- LOS E is the minimum acceptable level of service.
- Projects that degrade LOS E to LOS F, or worsen conditions at facilities already operating at LOS F will result in a significant impact.

At the six CMP intersections and 14 CMP roadway segments within the Planning Area, implementation of the Proposed Project would not degrade existing levels of service below acceptable levels or further degrade existing unacceptable level of service, if all proposed General Plan improvements would be implemented.

However, as with the intersection and roadway segment analysis, some improvements that are part of the proposed General Plan, and which are assumed in the roadway analysis, are partially or fully within the control of other jurisdictions and thus cannot be guaranteed by the City of Redlands. Without the proposed improvements, the LOS would worsen at a roadway segment already operating at LOS F, resulting in a potentially significant and unavoidable impact. Table 3.15-14 shows the significantly impacted CMP roadway segment.

**Table 3.15-14: Future (Year 2035) plus Project Roadway Segment Level of Service Without Improvements for Significantly Impacted CMP Roadway Segments**

#	Roadway	Extent	Classification	Jurisdiction	Capacity	Existing		Future plus Project (without improvements)		Future plus Project (with improvements)	
						ADT	LOS	ADT	LOS	ADT	LOS
2	Alabama St.	Palmetto Ave. and Pioneer Ave.	2-Lane Major Arterial	County of San Bernardino & CMP <sup>1</sup>	16,500/ 36,400 <sup>2</sup>	16,930	F	<b>19,500</b>	<b>F</b>	19,500	C or Better

Notes:

1. **Bold** indicates unacceptable LOS. Shading indicates significant impact.
2. A 10-percent increase in capacity was assumed at this segment to account for the adaptive traffic control system and coordination along this corridor.
3. CMP = San Bernardino County Congestion Management Plan.

Source: Fehr & Peers, 2017

The proposed CAP does not include any land use changes or other measures that would conflict with the CMP, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

The proposed General Plan principles and actions as listed in Impact 3.15-1 above.

**Mitigation Measures**

No mitigation is available beyond the implementation of proposed General Plan Action 5-A.38, specifically the widening of Alabama Street between Palmetto Avenue and Pioneer Avenue from one lane in each direction to two lanes in each direction. Implementation of this improvements would improve the operation of this street from LOS F presently and without improvements in 2035 to LOS C or better with the improvements. Although this policy requires the City to coordinate with San Bernardino County to implement the improvement, the ultimate decision to implement the improvements resides with another jurisdiction. Since the City cannot guarantee that the needed improvements will be implemented, the impact is deemed significant and unavoidable.

**Impact 3.15-3 Adoption and implementation of the Proposed Project would not modify the planning or operations of Redlands Municipal Airport, San Bernardino International Airport, or Ontario International Airport, or introduce land use patterns that may cause substantial safety risks to or from air operations. (Less than Significant Impact)**

Redlands Municipal Airport is located in the north of the city along the Santa Ana River, San Bernardino International Airport is located along the northwestern boundary of the City, and Ontario International Airport is located approximately 20 miles east of the city. The proposed General Plan policies and programs related to land use, mobility, and structural heights would not influence air traffic patterns by creating either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed CAP does not contain any land use changes or

other measures that would impact airport operations. Therefore, the impact is considered less than significant.

For a discussion of impacts related to airport hazards, see Section 3.7: Hazards and Hazardous Materials.

### **Proposed General Plan Policies that Reduce the Impact**

#### *Livable Community Element*

##### **Office, Commercial, and Industrial Actions**

- 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.

##### **Redlands Airport Principles**

- 4-P.55 Maintain compatibility of development with airport operations in the area surrounding the airport.

##### **Redlands Airport Actions**

- 4-A.140 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 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.*

#### *Healthy Community Element*

##### **Airport/Aviation Safety 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 of the San Bernardino International Airport.

##### **Airport/Aviation Safety Actions**

- 7-A.124 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.
- 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.

##### **Mitigation Measures**

None required.

**Impact 3.15-4 Adoption and implementation of the Proposed Project would not substantially increase hazards due to design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment). (Less than Significant)**

The proposed General Plan provides for safety and compatibility in the transportation network. Proposed policies ensure that the design of roadway facilities considers the needs of users of all modes to promote safe street designs that are appropriate for adjacent land uses. The layered network approach in the proposed General Plan is intended to reduce conflicts from incompatible modes while incorporating facilities that can safely accommodate a range of users. For example, the proposed General Plan seeks to use the layered network to identify routes that are more appropriate for goods movement, which would allow truck traffic to avoid local roads and residential neighborhoods. The roadway classification system in the proposed General Plan supports this by requiring up-to-date design standards tailored for the users and conditions likely for each classification.

Thus, transportation policies in the proposed General Plan would reduce design hazards and conflicts between incompatible land uses and between all transportation network users. The proposed CAP does not include any land use changes or other measures that would affect roadway design. The impact from the Proposed Project would therefore be less than significant.

**Proposed General Plan Policies that Reduce the Impact**

*Connected City Element*

**Layered, Multi-Modal Network 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.4 Support transportation infrastructure improvements such as safer street crossings and attractive streetscapes to encourage bicyclists, walkers, and users of mobility devices.

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.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.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.*

### **Layered, Multi-Modal Network 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.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.12 Engage the community and neighborhoods in street design and re-design. Consult with the Traffic and Parking Commission on major street design projects.

### **Pedestrian Movement Principles**

- 5-P.16 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.

### **Pedestrian Movement Actions**

- 5-A.17 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.18 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.

### **Bicycle Movement Actions**

- 5-A.25 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.

### **Vehicular Movement and Standards for Traffic Service Actions**

- 5-A.36 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.

### **Collector and Local Streets Actions**

- 5-A.49 Adopt design standards for hillside and rural streets.
- 5-A.50 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.51 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.52 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.

### **Goods Movement Principles**

- 5-P.29 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.30 Work to improve the efficiency and safety of rail freight through the city.

### **Goods Movement Actions**

- 5-A.76 Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.

- 5-A.77 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.78 Create easily understood truck route maps, potentially through on-line applications, to be distributed by the goods movement industry.
- 5-A.79 Conduct education programs for the goods movement industry on designated truck routes through the city.
- 5-A.80 Discourage truck traffic from parking, idling, or traveling through local streets in residential neighborhoods.
- 5-A.81 Seek to improve rail crossings in the San Timoteo Canyon area, exploring the potential for grade separation of all crossings in the canyon area.

**Mitigation Measures**

None required.

**Impact 3.15-5 Adoption and implementation of policies in the Proposed Project would not result in inadequate emergency access. (Less than Significant)**

Emergency vehicles take the fastest and most expedient routes to access an emergency. In the event of an evacuation, the primary routes include, if available: Redlands Boulevard, Fern Avenue, Terracina Boulevard, and Barton Road. The proposed General Plan includes policies and actions aimed at ensuring that adequate emergency access is provided for existing and future development.

Implementation of current State and federal regulations, combined with proposed General Plan policies and actions, would reduce the potential impacts on study intersection and roadway segments along emergency access routes in the Planning Area. The proposed CAP does not include any land use changes or measures that would affect emergency access. Therefore, the impact of the Proposed Project would be less than significant.

**Proposed General Plan Policies that Reduce the Impact**

Action 5-A.3 as listed under Impact 3.15-4, as well as the following.

*Livable Community Element*

**Southern Hills and Canyons Principles**

- 4-P.31 Ensure the provision of public safety services and access for emergency responders for development in the Highland-Canyons Planning Area.

**Southern Hills and Canyons Actions**

- 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.

### **Southeast Area Actions**

- 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.

### *Connected City Element*

### **Layered, Multi-Modal Network Principles**

- 5-P.7 Minimize emergency vehicle response time and improve emergency access.

### **Layered, Multi-Modal Network Actions**

- 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.

### **Open Space for Conservation Principles**

- 7-P.12 Create and maintain a system of trails serving both recreational and emergency access needs.

### **Fire Hazards Actions**

- 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.96 Ensure that all-weather access is provided 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.101 Work cooperatively with the San Bernardino 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.

### **Mitigation Measures**

None required.

**Impact 3.15-6 Adoption and implementation of the Proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)**

One of the goals of the proposed General Plan is to promote an efficient and integrated circulation system by enhancing the vehicular, biking, walking, and transit networks. The multi-modal approach of the proposed General Plan's policies seeks to further enhance accessibility, convenience, and safety for all modes of transportation, including public transit, bicycle, and pedestrian facilities. The proposed General Plan would not conflict with the Redlands Bicycle Master Plan and would instead use the master plan as the primary resource for planning and implementing bikeway improvements. Proposed bicycle facility improvements in the proposed General Plan are also consistent with the Bicycle Master Plan. Additionally, the proposed General Plan's bicycle facility expansions would support regional connections to existing and planned bikeways in neighboring jurisdictions.

Several proposed General Plan policies and actions are intended to reduce transportation impacts on bicyclists, pedestrians, and transit users and provide multimodal transportation choices to Redlands residents, visitors, and employees. Proposed policies emphasize safety improvements and measures to reduce conflict between modes; pedestrian amenities and walkable urban design, and transit connections and amenities to facilitate the use of both bus and rail options. The policies also provide for cooperative efforts between the City and other jurisdictions, such as the County, neighboring cities, and Omnitrans, to implement improvements and ensure planning consistency. Therefore, with the General Plan's proposed circulation network and policies, impacts to pedestrian, bicycle, and transit facilities would be less than significant.

The proposed CAP does not include any transportation network proposals or other measures that would affect public transit, bicycle, or pedestrian facilities, and would therefore have no impact.

**Proposed General Plan Policies that Reduce the Impact**

Principle 5-P.10 as listed under Impact 3.15-1.

Principle 5-P.1, 5-P.4, 5-P.8, 5-P.11, 5-P.14, and 5-A.16, and action 5-A.2, 5-A.3, 5-A.4, 5-A.5, 5-A.9, 5-A.17, 5-A.18, 5-A.25, as listed under Impact 3.15-4 above, as well as the following.

**Connected City Element**

**Layered, Multi-Modal Network Principles**

- 5-P.6 Support public health by promoting active living and supporting safe walking and biking throughout the city.
- 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.
- 5-P.15 Strengthen active transportation circulation routes within Downtown and the Transit Villages, and to/ from adjacent neighborhoods.

### **Layered, Multi-Modal Network Actions**

- 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.14 Close the gaps in the sidewalk network where streets are built out but sidewalks are not complete.
- 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.

### **Pedestrian Movement Principles**

- 5-P.18 Enhance street lighting for pedestrians where current lighting is inadequate.

### **Pedestrian Movement Actions**

- 5-A.19 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.20 Strengthen trail connections to Downtown (such as Orange Blossom Trail, Lugonia Trail, Citrus Avenue, and Church Street).
- 5-A.21 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.

### **Bicycle Movement Principles**

- 5-P.19 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.20 Develop bike routes that provide access to rail stations, Downtown, schools, parks, the University, employment, and shopping destinations.

### **Bicycle Movement Actions**

- 5-A.22 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.23 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, and the San Timoteo Canyon Trail.
- 5-A.24 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, and Wabash Avenue.
- 5-A.26 Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.
- 5-A.27 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.28 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.29 Work with neighboring jurisdictions, the University of Redlands, and major employers to implement bike sharing programs.

### **Transit Principles**

- 5-P.25 Improve public transit as a viable form of transportation in Redlands.
- 5-P.26 Support passenger rail as an alternative mode of regional transit.

### **Transit Actions**

- 5-A.54 Work with Omnitrans to accommodate and adjust transfer centers and bus service as necessary to support future rail service.
- 5-A.55 Work with Omnitrans to expand bus service to additional areas of the city and improving north-south connections.
- 5-A.56 Work with Omnitrans to plan for bus shelters, boarding areas, transfer centers, bus pads in the right-of-way, and bus turnouts.
- 5-A.57 Incorporate real-time information systems so that passengers will know when their bus or train is expected to arrive.
- 5-A.58 Support investments in passenger rail by providing effective on-site circulation and multi-modal connections to transit stations.
- 5-A.59 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.60 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.61 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.62 Develop strategies to maximize off-peak use of transit.
- 5-A.63 Coordinate with other agencies and private entities to investigate methods of improving service and enhancing safety along the passenger rail corridor.
- 5-A.64 Encourage convenient and safe pedestrian linkages to and from transit service to provide better first-mile and last-mile connectivity.
- 5-A.65 Provide for direct pedestrian paths and access from new developments to the nearest public transportation stop.

**Mitigation Measures**

None required.

## 3.16 Impacts Not Potentially Significant

Some of the detailed analysis of the environmental issues normally required by CEQA is excluded from this EIR because only those environmental issues that were potentially impacted by the Proposed Project are analyzed. CEQA requires that an EIR provide a statement indicating why environmental issues normally requiring analysis by CEQA were determined to be not significant and therefore not discussed in detail. Forestry is the only issue area not addressed in detail in the setting and impacts sections.

### Forestry

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A significant impact would occur if implementation of the Proposed Project would result in one or more of the following:

- Criterion 1:** Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); or
- Criterion 2:** Result in the loss of forest land or conversion of forest land to non-forest use; or
- Criterion 3:** Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

The Planning Area does not have forest resources or land zoned for forest use. Therefore, the Proposed Project would have no impact on forest resources.

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## **4 Analysis of Alternatives**

The California Environmental Quality Act (CEQA) mandates consideration and analysis of alternatives to the Proposed Project. According to CEQA Guidelines, the range of alternatives “shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant impacts” (CEQA Guidelines Section 15126.6 (d) (2)). The discussion must also include an evaluation of the No Project Alternative to allow decision-makers to compare the impacts of approving the Proposed Project against the impacts of not approving it.

Case law suggests that the discussion of alternatives need not be exhaustive and that alternatives be subject to a construction of reasonableness. The impacts of the alternatives may be discussed “in less detail than the significant effects of the project proposed” (CEQA Guidelines Section 15126.6 (d)). Additionally, the CEQA Guidelines permit analysis of alternatives at a less detailed level for general plans and other program EIRs than what is required for project EIRs. The CEQA Guidelines do not specify what constitutes an adequate level of detail, though they require that an EIR provide sufficient information to allow meaningful evaluation, analysis, and comparison of each alternative. CEQA Guidelines require that this analysis identify the environmentally superior alternative among those analyzed. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

### **4.1 Background on Development of Alternatives**

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The No Project Alternative keeps the 1995 General Plan unchanged and in effect, while the Suburban Expansion Alternative was based on feedback received from some community members during the development of the Proposed Project. The City received most of this feedback at Steering Committee meetings and two community workshops, as well as from an online survey. Comments received from several community members favored low-density, single-family suburban growth over high-density infill development. Given the limited amount of undeveloped land within Redlands that is relatively flat and can accommodate low-density residential growth, the Suburban Expansion Alternative emphasizes suburban growth and encourages annexations in the Sphere of Influence (SOI) outside of city limits.



## 4.2 Description of Alternatives

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The two alternatives differ in their visions for the form and location of future development within the Planning Area. While the No Project Alternative assumes development will continue to occur according to the 1995 General Plan, the Suburban Expansion Alternative emphasizes development on the periphery of the city. Table 4.2-1 compares key characteristics of the No Project Alternative, Suburban Expansion Alternative, the Proposed Project, and existing conditions within the Planning Area.

### **SUBURBAN EXPANSION ALTERNATIVE**

The Suburban Expansion Alternative extends low-density residential patterns into the periphery of the Planning Area, rather than promoting density in areas closer to the city's core. The alternative would designate Low Density Residential uses in the eastern portion of the Planning Area as far as at the base of the Crafton Hills where slopes are less than 15 percent, as well as in the Redlands SOI west of the proposed Harmony Project in Highland. The alternative would provide for three Transit Villages rather than five, at the three planned transit stations: Downtown, the University of Redlands, and New York Street, since these areas are mostly presently designated for high-density residential. Most of the other land use changes included in the proposed General Plan would also be included in the Suburban Expansion Alternative. One difference is that the alternative would designate much of Crafton from Rural Living to Low Density Residential, thus no longer preserving it as an agricultural community. Another difference is that some areas of proposed Open Space land use in the San Timoteo Canyon would remain as Resource Preservation in the Suburban Expansion Alternative. The Suburban Expansion Alternative would include the proposed Climate Action Plan (CAP).

Table 4.2-1 presents a summary of the residential capacity and reasonably anticipated non-residential development on opportunity sites in the Suburban Expansion Alternative. Figure 4.2-1 shows the proposed land use map under this alternative.

### **NO PROJECT ALTERNATIVE**

The purpose of evaluating the No Project Alternative is to allow decision-makers to compare the potential impacts of approving the project with the potential impacts of not approving the project. The No Project analysis discusses both the existing conditions at the time the NOP was published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. The No Project Alternative is depicted in Figure 4.2-2.

The No Project Alternative leaves the 1995 General Plan unchanged and in effect. This alternative would keep all current land use designations and definitions from the 1995 General Plan. Policies concerning topics such as transportation, economic development, parks, open space, the environment, health, and housing would also remain unchanged.

This alternative does not address several current land use issues. For example, the site north and west of where Citrus Valley High School is located is designated as Light Industrial in the 1995 General Plan, yet this designation is no longer viable given the construction of the high school. Leaving the light industrial designation could enable warehouse development east of Interstate 210

(I-210) in the Lugonia subarea, though the community has indicated that it would like to limit such uses in that area. The preservation of Crafton as an agricultural community is not addressed in this alternative, nor are other open space preservation efforts that are part of the “Emerald Necklace” concept. Transitioning land uses in Downtown and west of Downtown that are currently designated as Light Industrial or Commercial/Industrial would remain as such. The only Transit Village included in this alternative is Downtown, as it is described in the current Housing Element. The Transit Village would not impact density in the Downtown area since high-density residential is already allowable there under the 1995 General Plan. Other issues and community concerns regarding public health, green development, and preserving citrus heritage, as well as focus areas such as the Colton Avenue/Orange Street commercial corridor would remain unaddressed. The proposed CAP would not be a part of this alternative.

Table 4.2-1 presents a summary of the residential capacity and reasonably anticipated non-residential development on the opportunity sites for the No Project Alternative. Figure 4.2-2 shows the proposed land use under this alternative.

## **PROPOSED PROJECT**

The description of the Proposed Project is located in Chapter 2 of this EIR.

**Table 4.2-1: Comparison of Key Characteristics; Existing, Alternatives, and Proposed General Plan**

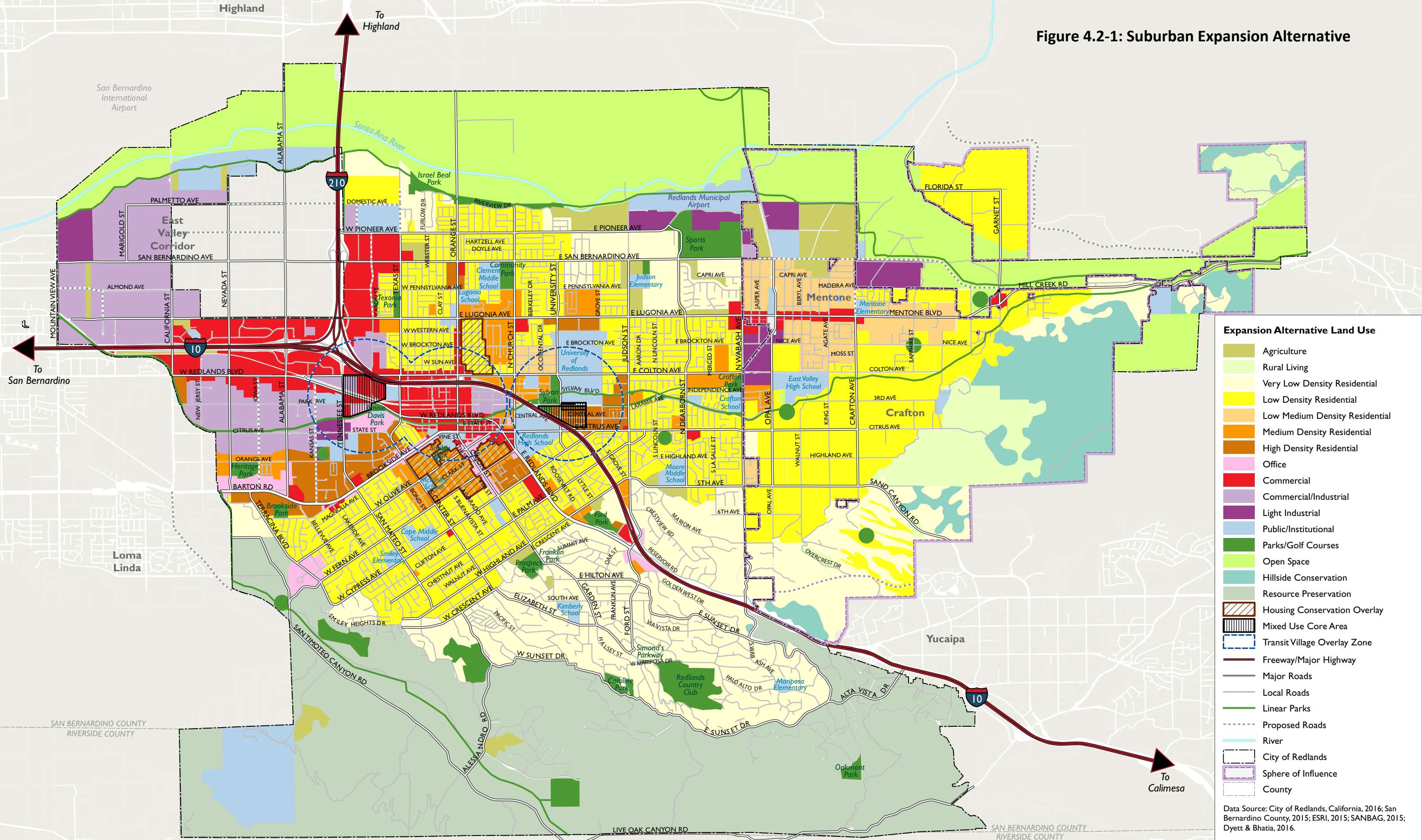
	Redlands			Sphere of Influence			Planning Area Total		
	Population <sup>3</sup>	Housing Units <sup>2</sup>	Jobs <sup>4</sup>	Population <sup>3</sup>	Housing Units <sup>2</sup>	Jobs <sup>4</sup>	Population <sup>3</sup>	Housing Units <sup>2</sup>	Jobs <sup>4</sup>
Existing (2016) <sup>1</sup>	68,049	26,749	27,248 <sup>5</sup>	9,220	3,430	1,276 <sup>6</sup>	77,269	30,179	28,524
Proposed Project (2035)	79,013	31,104	42,769	14,611	5,457	2,244	93,624	36,561	45,013
Suburban Expansion Alternative (2035)	78,681	30,972	42,686	18,722	7,002	2,244	97,403	37,974	44,930
No Project Alternative (2035)	76,778	30,216	42,674	14,923	5,574	2,244	91,701	35,790	44,918

Notes:

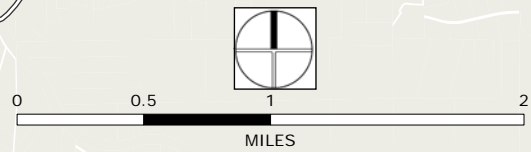
1. Data for existing residential housing units was derived from the City's GIS database as of March 2016.
2. Future buildout outside of the Transit Villages was estimated for the 20-year horizon of the General Plan. These figures were derived by analyzing the maximum number of potential units that can be built based on proposed land use designations considering historical density growth patterns. The No Project Alternative and the Proposed Project have composite reduction factors of about 60 and 68 percent in the City and Sphere of Influence respectively, while the Suburban Expansion Alternative has factors of approximately 64 and 68 percent (see Methodology in Chapter 2: Project Description). Housing estimates in the Transit Village areas were calculated separately from the rest of the Planning Area owing to their uniqueness 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 each side of the I-10 freeway. The process of calculating Transit Village buildout was similar to the process for future buildout outside of the Transit Villages (see Methodology in Chapter 2: Project Description).
3. Population was calculated assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 4% is assumed for existing housing units and 5% for future housing units.
4. Job totals do not include non-land use based jobs. Development potential was calculated for underutilized sites by multiplying parcel acreage by floor area ratio (FAR) allowances from proposed land use designations (or in the case of the No Project Alternative, 1995 General Plan land use designations), and converting this figure to square footage. Square footage of pipeline development was added to this total to arrive at total future non-residential buildout. The total number of future jobs was calculated based on jobs per square foot assumptions for both retail and non-retail jobs. The total number of future jobs was added to the total number of existing jobs (as of 2013).
5. 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).
6. Existing jobs in SOI includes only those for which data is available, which encompass the Mentone CDP, which includes Mentone and much (not all) of Crafton; jobs in Crafton outside of the Mentone CDP are relatively few.

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

Figure 4.2-1: Suburban Expansion Alternative

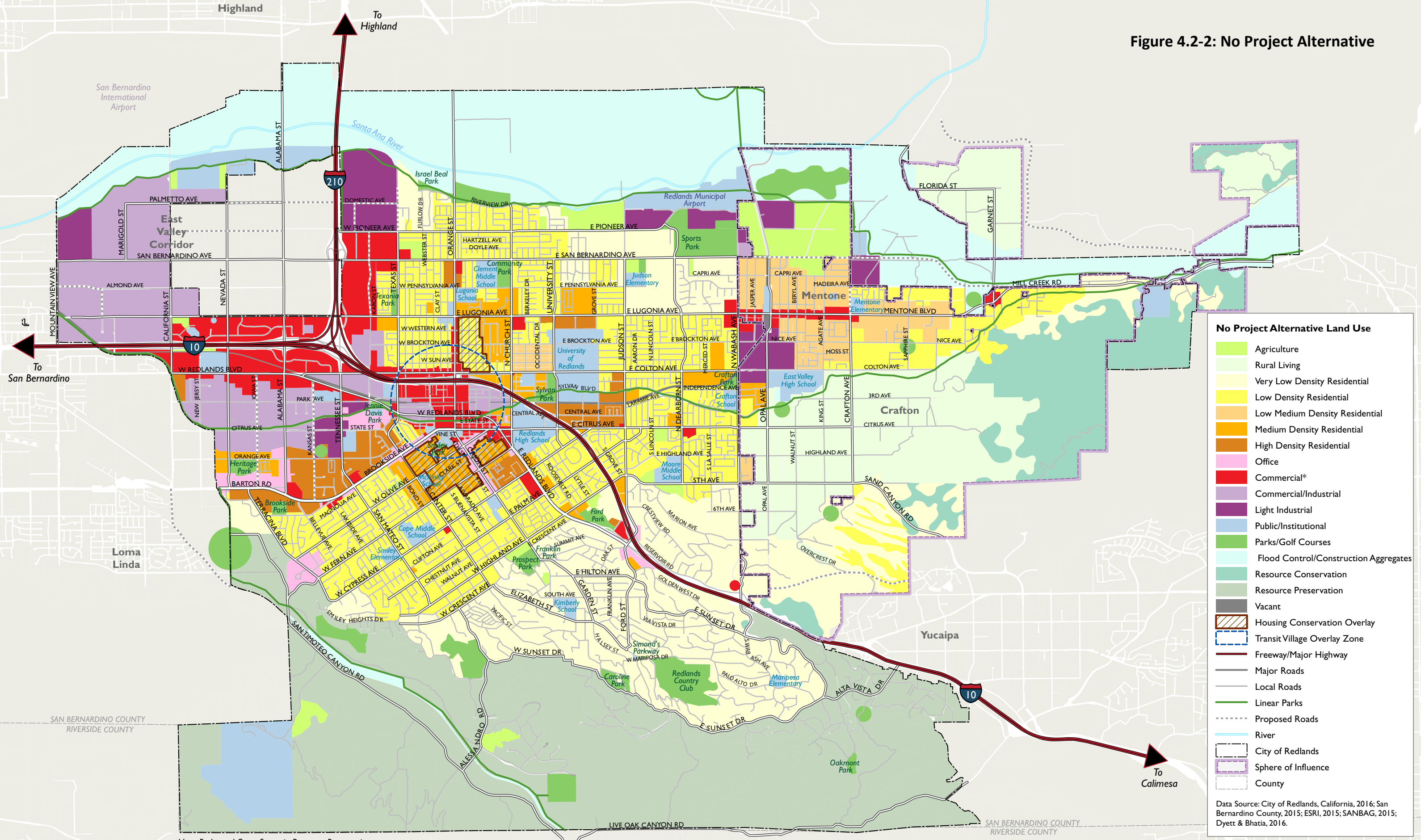


Note: Parks and Open Space in Resource Preservation area are part of the "Resource Preservation" designation.

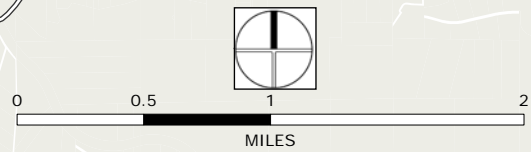


Data Source: City of Redlands, California, 2016; San Bernardino County, 2015; ESRI, 2015; SANBAG, 2015; Dyett & Bhatia, 2016.

Figure 4.2-2: No Project Alternative



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



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

## **4.3 Comparative Impact Analysis of Alternatives**

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This section compares the environmental impacts of each alternative and the Proposed Project, by resource topic. Alternatives are subject to the same significance criteria. It is assumed that the Suburban Expansion Alternative would generally include the same policies as those defined for the proposed General Plan, excluding site-specific policies that would not apply due to differences in planned land use.

### **AESTHETICS**

The Suburban Expansion Alternative would result in a larger geographic footprint of new development, by allowing new residential development in the Planning Area outside of city limits at higher densities than the Proposed Project, with fewer provisions for preserving open space in those areas. Thus, this alternative would have a greater potential to impact the scenic vistas and visual character in those areas, particularly Crafton, where it could result in replacement of the characteristic orchards and fields with residential development, and obstruct views of the open spaces and hills.

Most land in Crafton that is designated as Rural Living in the proposed General Plan would be designated as Low Density Residential in the Suburban Expansion Alternative. As of 2017, these areas are predominately occupied by agricultural land uses. Whereas future development in Crafton under the Proposed Project would generally be compatible with the existing rural, agricultural character of the area, future development under the Suburban Expansion Alternative could result in a significant change in character. Moreover, where the Proposed Project would relieve development pressures in the periphery of the Planning Area by providing higher density infill opportunities in the Transit Villages, the Suburban Expansion Alternative would not have as many opportunities, thus potentially driving more demand for development in peripheral areas. Within the City of Redlands, proposed General Plan policies that protect neighborhood character and promote excellence in design would have a similar effect under this alternative in reducing impacts to vistas or visual character.

The Suburban Expansion Alternative would have the same policies as the proposed General Plan that would serve to reduce the effect of light and glare through buffering and exterior lighting standards. However, unlike the proposed General Plan, the alternative could not preserve Crafton's existing visual character, and new residential development allowed in Crafton under the alternative would substantially increase the amount of light in currently rural areas. Adoption of a dark sky ordinance in Crafton, as recommended in the proposed General Plan, would not be feasible under this alternative. Impacts related to light and glare would be greater under the Suburban Expansion Alternative than under the Proposed Project.

The No Project Alternative includes land use designations that serve to preserve open space areas in the Santa Ana River Wash, canyons, and Crafton Hills that function similarly to those in the proposed General Plan. Thus, the scenic vistas that rely on the preservation of visual character in those areas would generally be protected, though with slightly higher densities allowed in the Rural Living and Resource Conservation designations than in the corresponding designations in the proposed General Plan, visual impact may be slightly more significant. The No Project Alternative would not include all of the policies of the proposed General Plan; thus, while it would include

many policies protecting visual character in the urbanized areas and southern canyons, it would not have the range of policies addressing the agricultural character of Crafton, the development of the Emerald Necklace concept, historical preservation, quality of design and materials, and strengthening neighborhood identities. Therefore, there would be a slightly more significant impact regarding existing visual character. Under the No Project Alternative, without these policies in place, there is a potential for more dense development in the Crafton area, resulting in urbanization and change in character of what is currently a rural area. The No Project Alternative would not include the proposed General Plan's policies to minimize light and glare through buffering, exterior lighting standards, and dark sky ordinance, and would have a more significant impact regarding light and glare than the Proposed Project.

## **AGRICULTURAL RESOURCES**

The Suburban Expansion Alternative would allow for the expansion of residential uses in the Planning Area outside of city limits, particularly in Crafton, where much of the land is currently under agricultural cultivation and where the Planning Area's largest portion of contiguous Prime Farmland is located, along with numerous parcels under Williamson Act contracts. Conversion of lands in Crafton from farmland to low-density residential uses as allowed under the Suburban Expansion Alternative would result in significant impacts in terms of the loss of important farmland. These impacts would be greater than those under the Proposed Project or the No Project Alternative, which would designate Crafton as Rural Living and Very Low Density Residential.

The Suburban Expansion Alternative would allow for the same conversions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland as the Proposed Project, with the addition of larger areas of contiguous important farmland in the Crafton area that would have been preserved under the Proposed Project. The Suburban Expansion Alternative would have a similar impact on Williamson Act contracts as the Proposed Project, as no specific developments would be proposed that would conflict with the provisions of an existing contract while it remains in force.

Many of the proposed General Plan policies to preserve agriculture in the Planning Area would not be feasible under the Suburban Expansion Alternative as agriculture would not be a priority in the Crafton area. The conversion of large tracts of agricultural land in Crafton could have indirect impacts on agricultural operations elsewhere in the Planning Area, such as isolation of farmland or causing the loss of businesses that support agricultural uses, which could in turn lead to more loss of farmland. Lower allowable densities in central areas could increase development pressure on the peripheries, further incentivizing the conversion of agricultural areas. These other changes that could result in the conversion of farmland to non-agricultural use would also represent a more significant impact than the Proposed Project or the No Project Alternative.

By designating the agricultural areas of Crafton as Rural Living, the No Project Alternative would have a less significant impact on agricultural resources than the Suburban Expansion Alternative; however, because it would not include the agricultural preservation policies or certain other land use designation changes of the proposed General Plan, it would have more significant impacts than the Proposed Project. The Rural Living land use designation is a very low-density designation intended to encourage agricultural uses. However, it is possible to develop residential uses in Rural Living areas. Without the protection of proposed General Plan policies that deter incompatible uses in agricultural areas, promote the cultivation of citrus, and allow for agricultural conservation

strategies such as transfer of development rights, an urban growth boundary, and agricultural mitigation, land in the Rural Living areas could be pressured to convert from agricultural use at a higher rate than they would under the Proposed Project. Lower densities in the central areas could also increase development pressures in peripheral areas where agriculture is currently taking place.

The Suburban Expansion Alternative would allow for the same conversions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland as the Proposed Project, with the addition of those lands that the proposed General Plan would have designated as Agriculture. Under the No Project Alternative, these sites would continue to allow residential development. The Suburban Expansion Alternative would have a similar impact on Williamson Act contracts as the Proposed Project, as no specific developments would be proposed that would conflict with the provisions of an existing contract while it remains in force.

## **AIR QUALITY**

Air quality impacts are evaluated on a Planning Area-wide basis due to the regional, cumulative characteristics of air quality and air pollution problems. The proposed General Plan policies protecting air quality would also apply under the Suburban Expansion Alternative, thus impacts are expected to be similar. Table 4.3-1 compares the rate of increase in VMT to the rate of increase in service population for the Proposed Project and the alternatives. For a discussion of VMT, see the Transportation section below. As noted in Impact 3.3-2, the Proposed Project would result in an increase in operational emissions of VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>, exceeding SCAQMD's operational emissions thresholds, resulting in a significant and unavoidable impact. Compared to the Proposed Project and the No Project Alternative, the Suburban Expansion Alternative would result in the second greatest increase in VMT and would result in the second highest air pollutant emissions from mobile sources; the Proposed Project would result in the greatest increase in VMT relative to baseline, resulting in the highest air pollutant emissions from mobile sources. Compared to the Proposed Project and the No Project Alternative, the Suburban Expansion Alternative would result in the greatest increase in service population and would result in the highest air pollutant emissions from natural gas use and area sources; the Proposed Project would result in the second greatest increase in service population relative to baseline, resulting in the highest air pollutant emissions from natural gas use and area sources.

As mentioned above, the proposed General Plan policies protecting air quality would apply to the Suburban Expansion Alternative. Therefore, like the Proposed Project, the Suburban Expansion Alternative would result in less than significant impacts to implementation of air quality plans, is not anticipated to expose sensitive receptors to substantial pollutant concentrations, and would not create objectionable odors affecting a substantial number of people.

The No Project Alternative would not include the air quality policies of the Proposed General Plan, though many of the No Project Alternative's policies would be similar to the proposed General Plan. The No Project Alternative would result in the least overall amount of VMT, and therefore the lowest emissions overall; however, as operational emissions from the Proposed Project would substantially exceed thresholds of VOC, NO<sub>x</sub>, CO, PM<sub>10</sub> and PM<sub>2.5</sub>, air quality impacts from the No Project Alternative would still be significant.



As mentioned above, many of the No Project Alternative’s policies would be similar to the proposed General Plan. Therefore, like the Proposed Project, the No Project Alternative would result in less than significant impacts to implementation of air quality plans, is not anticipated to expose sensitive receptors to substantial pollutant concentrations, and would not create objectionable odors affecting a substantial number of people.

**Table 4.3-1: Comparison of Change in VMT and Population under the Alternatives**

Year	Service Population	Service Population % Change from Baseline	Daily VMT <sup>1</sup>	VMT % Change from Baseline
Existing (2015 Baseline)	105,793	n/a	3,248,670	n/a
Proposed Project (2035)	143,905	36.0%	4,116,767	26.7%
Suburban Expansion Alternative (2035)	145,244	37.3%	4,054,955	24.8%
No Project Alternative (2035)	139,043	31.4%	3,992,940	22.9%

Notes:

1. For trips that originate or end in the Planning Area, VMT for the entire trip, not just for the miles traveled within the Planning Area, are included. Additionally, trips that only pass through the Planning Area, originating or ending outside of the Planning Area, are not included.

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

**BIOLOGICAL RESOURCES**

Biological resources in the Planning Area are found mainly in the peripheral parts of the Planning Area, in areas such as the Crafton Hills, San Timoteo and Live Oak canyons, and vacant land along the Santa Ana River Wash. Under the Proposed Project, the Suburban Expansion Alternative, and the No Project Alternative, Very Low Density and Open Space land use designations would serve to limit development in both the wash and canyon areas, therefore limiting the amount of potential disturbance to special status species and sensitive habitats in those areas. Whereas both the Proposed Project and the No Project Alternative propose Rural Living and the similar Hillside Conservation or Resource Conservation uses in Crafton, the Suburban Expansion Alternative would designate those areas as Low Density Residential. Although residential development in agricultural areas would be unlikely to have a major impact on native species or habitat, it could encroach upon the Crafton Hills, where impacts would be more significant. The Suburban Expansion Alternative would have the same policies as the proposed General Plan that would promote the protection of sensitive species, habitats, and corridors, and it would include policies to ensure consistency with the Upper Santa Ana Wash Land Management and Habitat Conservation Plan (Wash Plan) once completed, as well as support local ordinances protecting biological resources. However, due to potentially greater impacts from development in the Crafton Area, the Suburban Expansion Alternative would have a more significant impact than the Proposed Project on biological resources.

In the Rural Living areas and on slopes, the No Project Alternative would not limit development to the same degree as the proposed General Plan. Though the No Project Alternative would be consistent with local ordinances regarding the protection of biological resources, it would not contain the same breadth of policies as the proposed General Plan relating to the protection of sensitive species, habitats, or corridors; the Wash Plan. Therefore, the No Project Alternative may have a more significant impact on sensitive species and their habitats than the Proposed Project.

## **ENERGY, GREENHOUSE GASES, AND CLIMATE CHANGE**

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere and consist of, but are not limited to, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). These three gases are the most common GHGs that result from human activity. The global warming potential of GHGs is expressed in terms of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) and is typically quantified in metric tons (MT) or millions of metric tons (MMT).

The largest single source of GHG emissions in the Planning Area is the transportation sector, representing 39.5 percent of total emissions. The three alternatives were evaluated based on the GHG emissions resulting from travel operations within the Planning Area. Vehicle miles traveled (VMT) is used as a key factor to calculate GHG emissions in the transportation sector. Utilizing the total VMT for each alternative, CO<sub>2</sub> emissions from motor vehicle trips were quantified using the EMFAC2014 model, which is the Air Resources Board's tool for estimating emissions from on-road vehicles (CARB, 2015). The United States Environmental Protection Agency's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014* was used to find national CH<sub>4</sub> and N<sub>2</sub>O emission factors (EPA, 2016).

Table 4.3-2 shows the resulting transportation GHG emissions for each alternative. The effect of the proposed General Plan policies that reduce transportation emissions was included for the Proposed Project scenario, and would not apply to the Suburban Expansion Alternative or No Project Alternative. (See the Draft Climate Action Plan (CAP) for details on how the GHG reduction from the proposed General Plan was quantified.) Emissions were quantified for the City of Redlands in the CAP, but for the EIR, they are quantified for the whole Planning Area.

The Proposed Project would result in the least amount of transportation CO<sub>2</sub>e emissions, since it includes the effect of the proposed General Plan policies as well as circulation system changes. Among the alternatives, the No Project Alternative results in the lowest vehicle miles traveled (VMT), as explained below in Transportation, and the resulting GHG emissions are also the lowest. However, when comparing transportation GHG emissions per service population (population and jobs), the Suburban Expansion Alternative results in 0.88 MTCO<sub>2</sub>e, while the No Project Alternative results in a slightly higher CO<sub>2</sub>e per service population (0.89 MTCO<sub>2</sub>e). This means that the Suburban Expansion Alternative does a slightly better job at accommodating growth without as much GHG impact as the No Project Alternative. The Proposed Project best accommodates growth without as much GHG impact, resulting in emissions per service population of 0.83 MTCO<sub>2</sub>e. All three alternatives result in much lower emissions and emissions per service population due to increasingly stringent State policies regulating transportation emissions.

**Table 4.3-2: Transportation GHG Emission Estimates Comparison**

	Existing (2015 Baseline)	Proposed Project (2035)	Suburban Expansion Alternative (2035)	No Project Alternative (2035)
Annual VMT <sup>1</sup>	569,237,538	714,259,248	703,534,519	692,773,008
Total Yearly Transportation Emissions <sup>2</sup> (MTCO <sub>2</sub> e per year)	186,782	118,987	127,157	123,908
Service Population (Jobs + Population)	105,793	143,905	145,244	139,043
Yearly Transportation Emissions (MTCO <sub>2</sub> e) Per Service Population	1.8	0.83	0.88	0.89

Notes:

1. For trips that originate or end in the Planning Area, VMT for half of the entire trip, not just for the miles traveled within the Planning Area, are included. Additionally, trips that only pass through the Planning Area, originating or ending outside of the Planning Area, are not included.
2. Proposed General Plan policies that reduce transportation emissions are incorporated in Proposed Project but not the Suburban Expansion Alternative or the No Project Alternative. See the Draft Climate Action Plan for details on how General Plan policies reduce VMT.

Source: SANBAG and Fehr & Peers, 2017; Dyett and Bhatia, 2017

The proposed General Plan policies aimed at reducing GHG emissions, and the proposed CAP that would serve as the implementation tool for GHG monitoring and reporting, serve to implement several strategies and measures aimed at reducing GHG emissions. The proposed General Plan’s goals and policies related to sustainability and multi-modal transportation objectives would complement the goals and policies of the California Association of Governments Regional Transportation Plan/Sustainable Community Strategy, discussed in the Regulatory Setting section of Chapter 3.5. Some of these policies would not apply to the Suburban Expansion Alternative since it proposes fewer Transit Village Overlay Zones and more sprawled single-family housing further from high quality transit. The No Project Alternative does not contain provisions for land uses similar to the Transit Village Overlay Zones.

The Proposed Project and the Suburban Expansion Alternative promote greater development, as shown by their service populations being higher than the No Project Alternative, with the Suburban Expansion Alternative’s being the highest, as shown in Table 4.3-2. Therefore, the Proposed Project and the Suburban Expansion Alternative could lead to greater energy use than the No Project Alternative. However, all three alternatives would be subject to State and local regulations such as the California Building Code and the Low Carbon Fuel Standard. Furthermore, as discussed above, the Proposed Project’s policies would reduce transportation emissions (meaning less energy use) below emissions for the other alternatives. Additionally, the proposed CAP, which would not apply to the No Project Alternative, was designed to ensure that the City meets State targets for GHG emissions through monitoring and optional GHG reduction measures. As GHG emissions are often the result of energy consumption, the proposed CAP may help to promote energy efficiency by helping to maintain emissions below a certain level.

## **GEOLOGY, SOILS, AND SEISMICITY**

The Planning Area is located within a seismically active area where several faults and fault zones are considered active by the California Department of Conservation, Division of Mines and Geology. Alquist-Priolo Earthquake Fault Zones have been established for the majority of these faults and fault zones. However, the potential impacts of geological and seismic hazards are considered less than significant under the Proposed Project based on policies focusing on geology, soil, and seismic safety in the proposed General Plan. The Suburban Expansion Alternative has the potential to expose a greater number of people to seismic risks than the Proposed Project, as it proposes the greatest amount of new residential development, particularly in the hills, where emergency access may be difficult and where landslide hazards would be more severe. The No Project Alternative would expose fewer people to seismic risks by the virtue of it proposing the least amount of new residential development overall. However, like the Suburban Expansion Alternative, much of the new development would likely occur in the hillsides, where emergency access is more difficult and landslide hazards are more severe. Impacts to geology and soil resources would similarly be greater under the Suburban Expansion Alternative than the Proposed Project due to potential construction impacts from more development occurring over larger areas. Thus, the Suburban Expansion Alternative has the potential to expose a greater number of people to landslide and soil risks than the Proposed Project. The No Project would also have the potential to expose a greater number of people to landslide and soil risks than the Proposed Project, though to a lesser degree than the Suburban Expansion Alternative.

Though current State and federal regulations require specific engineering and design criteria to minimize impacts related to seismic and geologic hazards, the proposed General Plan contains additional policies to minimize harmful impacts of seismic and geological hazards, including policies specifically designed to address impacts such as the location of septic tanks. These regulations apply equally to development under the Proposed Project and the Suburban Expansion Alternative. Because the No Project Alternative would not have these additional policies in place, development under this scenario may be more prone to harmful seismic, soil, and geologic impacts than the other two scenarios.

## **HAZARDS AND HAZARDOUS MATERIALS**

Generally, the transport, use, disposal, and potential for upset of hazardous materials impacts may be evaluated by the level and nature of job growth in the Planning Area. Jobs in the industrial sector, for example, could indicate the presence of hazardous materials related to industrial uses. Office or retail jobs might be expected to generate less than those in the industrial sector, but more than residential homes. Redevelopment is another potential indicator, as the demolition of older buildings can expose people and the environment to asbestos and lead-based paint.

The greatest number of industrial jobs would occur under the Proposed Project (net 4,232 Commercial/Industrial job increase, net 1,600 Light Industrial job increase), followed by the Suburban Expansion Alternative (net 4,205 Commercial/Industrial job increase, net 1,600 Light Industrial job increase), and the No Project Alternative (net 4,190 Commercial/Industrial job increase, net 1,600 Light Industrial job increase), indicating that the largest number of industrial workers potentially exposed to hazardous materials would occur under the Proposed Project, followed by the Suburban Expansion Alternative and the No Project Alternative. However, since these numbers are fairly similar, the environmental effects are expected to be the same.

The Suburban Expansion Alternative includes the same policies as the proposed General Plan to avoid negative impacts from projects located on Cortese List sites and would have a similar impact to the Proposed Project. The No Project Alternative would not include all of these policies, and specifically would not include Action 7-A.123, which directly addresses this issue. Therefore, the impact would be slightly more significant for the No Project Alternative compared to the Proposed Project and Suburban Expansion Alternative.

Neither the Suburban Expansion Alternative nor the No Project Alternative would result in a safety hazard for people residing or working within the Redlands Municipal Airport land use plan area or within two miles of the San Bernardino Airport. As land use designations in both alternatives are similar to the proposed General Plan in terms of compatibility with the established airport compatibility zones, both alternatives would have a similar less than significant impact to the Proposed Project. The Suburban Expansion Alternative and the Proposed Project may do more to promote safety as they include more policies specifically promoting consistency with the airport compatibility zones and the avoidance of airport hazards.

The Suburban Expansion Alternative and the Proposed Project include an action that would reduce the possibility of development that would emit hazardous emission or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The effect of this would make this impact similarly less than significant in both the Suburban Expansion Alternative and the Proposed Project. The No Project Alternative does not have this policy, though there are other policies that would minimize the likelihood of this occurring. Because the No Project Alternative would not have this policy, this alternative could potentially have a greater impact than the other two scenarios.

Neither the Suburban Expansion Alternative nor the No Project Alternative would physically interfere with an adopted emergency response or evacuation plan. As with the Proposed Project, the Suburban Expansion Alternative would include policies promoting consistency with the Hazard Mitigation Plan and Emergency Operations Plan, as well as facilitating emergency access throughout the Planning Area. Because the No Project Alternative would not include all such policies, it could have a more significant impact than the Proposed Project and Suburban Expansion Alternative.

As with the proposed General Plan, the two alternatives would minimize exposure of people and structures to fire hazards by applying low-density and open space land use designations in areas of High to Extreme fire threat. The Suburban Expansion Alternative would have the same policies as the proposed General Plan that improve emergency access and response, promote practices and design to reduce wildland fire risk, and avoid locating development in high fire risk areas. However, the Suburban Expansion Alternative could increase the amount of wildland-urban interface exposed to fire hazard by allowing residential development adjacent to the Crafton Hills, which are designated as High and Very High threat. Therefore, it would have a more significant impact regarding wildfire hazards than the Proposed Project. The No Project Alternative may allow slightly higher densities in and adjacent to the Crafton Hills, where development would be more susceptible to wildfire risk. The No Project Alternative also would not include the range of updated wildland fire safety policies as the proposed General Plan and Suburban Expansion Alternative, and thus would also have a more significant impact than the Proposed Project.

## **HISTORIC, ARCHEOLOGICAL, AND PALEONTOLOGICAL RESOURCES**

The comparison of impacts to historic, archeological, and paleontological resources from the alternatives is based on the degree and location of new development proposed within each alternative. The Suburban Expansion Alternative mainly differs from the Proposed Project in that it would eliminate preservation of the Crafton agricultural community. The Crafton Hills area contains potential historic resources, such as structures related to past agricultural activities, and it is possible these structures would be lost in the event of a land use change to Low Density Residential. The Suburban Expansion Alternative may have impacts on potential historic resources owing to the loss of Crafton as an agricultural community, and therefore might cause substantial adverse changes in the significance of a historic resource to a greater extent than the Proposed Project. Impact 3.5-4 of the EIR determined that future private development and public works projects in the Planning Area, particularly in the San Timoteo Canyon, may have potentially significant impacts on paleontological resources if they are disturbed during grading or excavating activities. However, mitigating policies in the proposed General Plan that are also present in the Suburban Expansion Alternative would ensure that any potential impacts are similarly less than significant. The proposed General Plan does not include policies pertaining to disturbing human remains because State regulations are sufficient. Thus, because the Suburban Expansion Alternative would also be subject to these State regulations, the impact would be the same.

The No Project Alternative does not include the same measures to preserve Crafton as an agricultural community as the Proposed Project, and it would not protect historic and archeological resources to the same extent as the Proposed Project. Like the Suburban Expansion Alternative, the No Project Alternative may result in the loss of historic resources in Crafton owing to the lack of policies preserving it as an agricultural community. However, as the land use designation in Crafton in the No Project Alternative would remain Rural Living (as opposed to Low Density Residential in the Suburban Expansion Alternative), pressure to develop may be more intense in the Suburban Expansion Alternative, meaning that the No Project Alternative may have a less significant impact on preservation of historic resources than the Suburban Expansion Alternative. This Alternative may have a greater impact on archeological or paleontological resources because it would not have the proposed policies designed specifically to protect these resources that are in the General Plan and Suburban Expansion Alternative. The No Project Alternative, like the Suburban Expansion Alternative, would both be subject to State law regulating disturbing human remains, and thus would have the same impact on that resource. Overall, the No Project Alternative would have a more significant impact than the Proposed Project. However, because it would result in less development than the Suburban Expansion Alternative, it would have a lower probability of disturbing unknown cultural resources.

## **HYDROLOGY AND WATER QUALITY**

Urban development can bring about an increase in impervious surfaces that could lead to increased run-off rates and flooding in downstream areas, as well as a deterioration in water quality. As with the Proposed Project, development under both the Suburban Expansion Alternative and the No Project Alternative would have to comply with local plans, existing State and federal regulations, and the applicable NPDES permit requirements, and thus would not violate any federal, State, or local water quality standards or waste discharge requirements.

As with the Proposed Project, future urban development under the alternatives would introduce new impervious surface into the Planning Area that could contribute to increased runoff. Under the Suburban Expansion Alternative, a substantial area encompassing Crafton and its hills would be designated for Low Density Residential development, allowing for a more intensive system of roads, turf, and structures in a part of the watershed that is currently mostly rural. Thus, the Suburban Expansion Alternative could result in more significant stormwater runoff in a manner that could exacerbate flooding, water pollution, and stormwater management locally and downstream in the Planning Area. By building up the Crafton area, the Suburban Expansion Alternative could also reduce the amount of groundwater recharge in that part of the Planning Area. As with the Proposed Project, the Suburban Expansion Alternative would allow development within 100-year flood hazard areas, including in the Transit Village areas, but adherence to existing regulations and proposed policies would reduce the impact to less than significant. Overall, given potential impacts related to runoff and reduced groundwater recharge, this alternative would have a greater impact than the Proposed Project.

The No Project Alternative would have a similar footprint to the Proposed Project, though with fewer higher density infill opportunities in central areas and higher allowable densities in the periphery, more development may take place on undeveloped land outside of the existing footprint. Therefore, there may be a greater likelihood of impervious surface area causing runoff that affects drainage, water quality, and flooding locally and in other parts of the Planning Area. The No Project alternative would likely not have as significant of an impact on groundwater recharge as the Suburban Expansion Alternative, though it could introduce impervious surfaces in potentially more undeveloped areas than what might occur under the Proposed Project. The No Project Alternative also would not include the same breadth of policies protecting water quality and addressing hydrological issues as the proposed Project or Suburban Expansion Alternative. As with the Suburban Expansion Alternative and the proposed General Plan, the No Project Alternative would allow development within 100-year flood hazard areas, though at a lower density than under either the Proposed Project or the Suburban Expansion Alternative in the areas designated for the Transit Villages in those scenarios, with the exception of the Downtown Transit Village. However, adherence to existing regulations and proposed policies would reduce the impact to less than significant. Overall, the No Project Alternative would have greater impacts than the Proposed Project, but not to the extent of the Suburban Expansion Alternative.

## **LAND USE AND HOUSING**

Table 4.2-1 compares estimates of housing units and population growth at full buildout under the Proposed Project, Suburban Expansion Alternative, and No Project Alternative. The Suburban Expansion Alternative provides for the greatest increase in housing units, with an increase of about 7,800 units to be built in the Planning Area. The Proposed Project has the next greatest number of projected housing units, with about 6,400, followed by the No Project Alternative with about 5,600. Compared to the Proposed Project and the No Project Alternative, the Suburban Expansion Alternative projects a greater percentage and total number of housing units built in the Sphere of Influence. Under the Suburban Expansion Alternative, 46 percent of new housing units would be built in the SOI outside of city limits, compared with 38 percent in the No Project Alternative and 32 percent in the Proposed Project. Table 4.2-1 also shows a comparison of the citywide population at buildout under each development scenario. Population would be greatest under the Suburban Expansion Alternative with a projected 97,400 residents for the Planning Area, followed by the

Proposed Project population of about 93,600 for the Planning Area and 79,013 for the city. The No Project Alternative would have the lowest citywide population at 76,778, with a buildout population of about 91,700 for the Planning Area.

The Suburban Expansion Alternative is not expected to physically divide an established community. Policies in the Suburban Expansion Alternative, like the Proposed Project, would provide more linkages within the Planning Area and minimize the impacts of roadway infrastructure, such as I-10 and I-210, as physical barriers. The Suburban Expansion Alternative should therefore have roughly the same impact as the Proposed Project on physical barriers. The Suburban Expansion Alternative is not expected to conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over projects in the Planning Area adopted for the purpose of avoiding or mitigating an environmental effect. The Suburban Expansion Alternative, like the Proposed Project, would contain policies that would ensure compliance with local land use plans, policies, and regulations, and therefore should have the same impact. The Suburban Expansion Alternative is not expected to displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. Development under the Suburban Expansion Alternative would be directed both into infill areas, including three Transit Villages, and towards undeveloped areas in Crafton and Mentone, reducing the risk of displacement, though by not including measures to protect Crafton as an agricultural community, the alternative could lead to some displacement there. While it is possible that some homes may be lost in the event of redevelopment of sites where housing currently exists, the Suburban Expansion Alternative would result in the greatest overall number of dwelling units and provide housing to serve the diverse needs of the community.

The expected land use changes and housing growth projections under the No Project Alternative are not expected to produce substantial changes that would physically divide a community, and no major infrastructure projects are anticipated under this alternative. Though this alternative would probably not physically divide the community, it does not contain policies proposed in the proposed General Plan and Suburban Expansion Alternative that are specifically designed to better integrate different parts of the Planning Area by promoting multi-modal connections.

Because a General Plan establishes the umbrella policy structure and implementing policies, plans policies and regulations would be aligned with the General Plan, the alternatives and the Proposed Project would result in similar conflicts with local land use plans, policies, and regulations in the Planning Area.

Finally, the No Project Alternative is not anticipated to displace substantial numbers of existing housing or people. However, unlike the Proposed Project, the No Project Alternative would not take the same measures to protect Crafton as an agricultural community, resulting in pressures to develop that area and displace existing residents. Similarly, the No Project Alternative would not have the same policies in place as in the proposed General Plan and the Suburban Expansion Alternative to develop affordable housing, create higher density housing near transit, and preserve existing residential neighborhoods. Therefore, the No Project Alternative has the greatest risk of displacement compared to the Proposed Project and the Suburban Expansion Alternative.



## MINERAL RESOURCES

Both the Suburban Expansion Alternative and the No Project Alternative would designate the greater portion of land designated as containing regionally significant aggregate resources under as a conservation-related use. Under the Suburban Expansion Alternative, this area would be designated as Open Space, which would allow for mining activities and aggregate conservation. Land use changes in the regionally significant aggregate resource areas would be the same as those under the proposed General Plan, as would policies regarding mining activities and management, including the use of the Wash Plan to address land uses in the Santa Ana River Wash area. Impacts to mineral resource availability and recovery sites would therefore be the same under the Suburban Expansion Alternative and the Proposed Project.

Instead of the Open Space land use designation, the No Project Alternative would use Flood Control/Construction Aggregates Conservation/Habitat Preservation land use category to designate the area designated by the State Mining and Geology Board as containing regionally significant aggregate resources. In terms of mineral resource preservation and mining uses, this land use designation is identical to the Open Space designation, and would cover nearly the same area with the exception of a property that would be redesignated under the proposed General Plan and Suburban Expansion Alternative to reflect the current industrial park use. However, because it would not include proposed policies that more specifically address these issues, and requiring consistency with the Wash Plan as the proposed General Plan and the Suburban Expansion Alternative, the No Project Alternative may have a slightly more significant impact on mineral resource availability and recovery sites than the Proposed Project.

## NOISE

The Proposed Project would result in slightly higher traffic on local roadways compared to the Suburban Expansion Alternative and No Project Alternative, as shown in Table 4.3-3.

**Table 4.3-3: Comparison of Daily Vehicle Trips among Alternatives**

Area	Existing (2015 Baseline)	Proposed Project (2035)		Suburban Expansion Alternative (2035)		No Project Alternative (2035)	
	Daily Vehicle Trips	Daily Vehicle Trips	Percent Difference from Existing	Daily Vehicle Trips	Percent Difference from Existing	Daily Vehicle Trips	Percent Difference from Existing
City of Redlands	273,399	320,153	17.10%	312,471	14.29%	309,148	13.08%
Sphere of Influence	18,589	24,063	29.45%	25,892	39.29%	24,446	31.51%
Planning Area Total	291,988	344,216	17.89%	338,363	15.88%	333,593	14.25%

Sources: SBTAM 2035 Model, Dyett & Bhatia, Fehr & Peers, 2017.

Since the type, amount, and location of future development under Proposed Project is similar to the Suburban Expansion Alternative and No Project Alternative, noise and vibrational impacts would be expected to be similar, and any of the three scenarios would likely provide a similar level of protection for residents and sensitive receptors. Traffic volumes on major roadways would be incrementally higher for the Proposed Project compared to the Suburban Expansion Alternative and No Project Alternative, but that would not result in a substantial change in the level of noise impacts expected within the city. Since the type, amount, and location of future development under the alternatives are similar, the extent and duration of construction activities for future development would be similar under all three scenarios as well. Therefore, traffic and construction noise and vibrational impacts under the Suburban Expansion Alternative and No Project Alternative would be less than significant, similar to those of the Proposed Project.

The proposed General Plan proposes the establishment of Transit Villages at five locations along the Redlands Passenger Rail line that would allow for higher density residential and mixed uses in those areas, which could expose more people to noise from railway operations. The Suburban Expansion Alternative proposes Transit Villages at three locations, and the No Project Alternative would lead to no Transit Villages, though high-density residential would be permitted at three of the proposed Transit Village locations in the No Project Alternative. The establishment of Transit Villages would not affect the operation of the existing rail line in a manner that would result in a substantial permanent increase in ambient noise levels above levels that would exist without the Proposed Project. Moreover, for all future developments within the city that falls within the required noise screening distances as specified in the Federal Transit Administration Noise and Vibration Manual, a detailed noise analysis would be required. Although existing train operations generate vibration levels, the alternatives would not change vibration levels generated from trains.

Industrial processes could generate increased noise levels. However, the same square footage of Light Industrial land use is projected under all three scenarios, as shown in Figure 4.3-x. The square footage of Commercial/Industrial land use projected under the Proposed Project and the Suburban Expansion Alternative is slightly higher than under the No Project Alternative (22.71% of the baseline compared to 22.67%). This amount should not result in a substantial difference in noise generation from additional stationary sources from projected industrial land uses. Furthermore, new projects developed under any of the alternatives would be subject to the City's noise ordinance.

**Table 4.3-4: Comparison of Industrial Development among Alternatives**

Land Use	Existing Conditions (2016)	Proposed Project (2035)		Suburban Expansion Alternative (2035)		No Project Alternative (2035)	
	Building Area (1,000 square feet)	Building Area (1,000 square feet)	Percent Difference from Existing	Building Area (1,000 square feet)	Percent Difference from Existing	Building Area (1,000 square feet)	Percent Difference from Existing
Light Industrial	14,056.7	17,248.8	22.71%	17,248.8	22.71%	17,243.6	22.67%
Commercial/Industrial	2,944.1	4,543.6	54.33%	4,543.6	54.33%	4,543.6	54.33%

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

None of the scenarios would change the land use of the existing residences and one school located within the 60 dBA Community Noise Equivalent Level contours for the Redlands Municipal Airport. Under the Proposed Project and the Suburban Expansion Alternative, future residences would include noise attenuation consistent with the noise policies in the proposed General Plan and the Airport Land Use Compatibility Plan (ALUCP) for the Redlands Municipal Airport. The No Project Alternative would not include the noise policies of the proposed General Plan, though many of the No Project Alternative's noise policies would be similar to the proposed General Plan. Additionally, the ALUCP would also apply to the No Project Alternative. Impacts due to aircraft noise would be similar and less than significant under all three scenarios.

## **PUBLIC SERVICES AND FACILITIES**

Development under the Suburban Expansion Alternative would require the development of new or expanded public facilities, including schools, public service facilities, and parks. The amount of park space required under this alternative would be greater than both the Proposed Project and No Project Alternative because buildout population would be greatest under this scenario. The proposed and undeveloped parkland discussed in Section 3.13 would be enough to meet the City's ratio of 5 acres of parks per 1,000 residents. However, because the Suburban Expansion Alternative has the greatest population growth, this alternative would likely have a more negative impact on park services compared the Proposed Project due to the potential increased use of park space by the additional population. The Suburban Expansion Alternative, like the Proposed Project, would likely require a new elementary school to accommodate population growth. This would result in approximately the same impact as building a school under the Proposed Project because policies in both scenarios would ensure buildings are properly sited and developed in an environmentally-friendly manner. Similarly, the Suburban Expansion Alternative would likely require the growth of city facilities, libraries, and police and fire services. The impacts of the development of these facilities would be similar to the impacts of the General Plan due to policies limiting environmental impacts from construction.

The No Project Alternative has the smallest increase in population of the three scenarios, and therefore would require the least amount of park space compared to the Proposed Project and the Suburban Expansion Alternative. However, because not all the parks proposed in the Proposed Project would be proposed in this alternative, it could potentially result in fewer park acres being developed, and would therefore have a more significant impact than the Proposed Project and the Suburban Expansion Alternative. The No Project Alternative would likely require a new elementary school facility. However, the impact of the development of this new facility may have more significant environmental impact than the development of a school under Proposed Project and the Suburban Expansion Alternative because the facility would not be subject to the same policies regarding construction. Similarly, the No Project Alternative may have greater environmental impacts concerning development of city facilities, libraries, and police and fire services because the development of these facilities would not be required to adhere to the same building development and siting standards of the proposed General Plan.

## **PUBLIC UTILITIES**

The Suburban Expansion Alternative would result in higher levels of population growth than the Proposed Project. Like the Proposed Project, the Suburban Expansion Alternative can be expected to increase demand for water, wastewater, stormwater, and solid waste facilities. Assuming that the demand for public utilities scales with population growth, the greatest growth in utility and infrastructure demand would arise from the Suburban Expansion Alternative out of all three scenarios, even with the proposed General Plan policies promoting conservation. The Suburban Expansion Alternative would therefore have a greater impact on water or wastewater treatment facilities, stormwater drainage facilities, usage of water supplies, and landfill usage. The Suburban Expansion Alternative, like the Proposed Project, is anticipated to comply with federal, State, and local regulations pertaining to solid waste per the policies in the draft General Plan, as well as policies regarding the development of utilities and minimization of environmental impacts during construction. However, due to the relative increase in demand, the Suburban Expansion Alternative would have a more significant impact than either the Proposed Project or the No Project Alternative.

The No Project Alternative would have the smallest increase in demand out of all three development scenarios. Therefore, the No Project Alternative would have the smallest impact upon usage of water or wastewater treatment facilities, stormwater drainage facilities, usage of water supplies, and landfill usage. However, because policies in the proposed General Plan are put in place to minimize potential harmful environmental impacts associated with the use of and development of facilities related to these facilities, the No Project Alternative may have a greater impact than both the Suburban Expansion Alternative and the Proposed Project if new facilities are required in the future.

## **TRANSPORTATION**

In order to compare alternatives, the No Project and Suburban Expansion alternatives were converted into the format necessary for incorporation into the County of San Bernardino's sub-regional travel demand model based on the SCAG Regional Travel Demand Model, known as the San Bernardino Transportation Analysis Model (SBTAM). The transportation model uses socioeconomic data to estimate trip generation and mode choice, and several sub-models to address complex travel behavior and multi-modal transportation issues. The model responds to changes in land use types, household characteristics, transportation infrastructure, and travel costs such as transit fares, parking costs, tolls, and auto operating costs. Additional metrics, estimates developed by Fehr & Peers, and GIS mapping were used to assess transportation performance for the concepts. The purpose of this analysis was to conduct a comparative assessment and describe the overall transportation effects of the concepts, and to provide this information to decision-makers and the public as they consider the benefits and disadvantages of each alternative.

For each alternative, vehicle miles traveled were analyzed to evaluate how often people drive and how far they drive on average in each alternative scenario. Vehicle miles traveled (VMT) was calculated using the "boundary" method. This method multiplies the traffic volume on streets within the Planning Area by the length of the street to obtain VMT. VMT was calculated for the entire city and Sphere of Influence as the total VMT for alternatives utilizing SBTAM. The No Project Alternative represents buildout of the 1995 General Plan and any proposed regional

transportation network improvements, but it does not include any of the local improvements associated with the Proposed Project.

Table 4.3-3 under the Noise section above summarizes the vehicle trips associated with the alternatives. SBTAM was utilized for the alternatives to compare trip generation back to the existing conditions. The Proposed Project is forecast to generate the highest daily vehicle trips, at 17.9 percent more than the existing conditions. The Suburban Expansion Alternative is forecast to generate the second highest daily vehicle trips at 15.9 percent more than the existing conditions, while the No Project Alternative is forecast to generate the lowest daily vehicle trips at 14.3 percent more than the existing conditions.

There are several reasons for why the Proposed Project’s trip generation and VMT appear higher than that of the Suburban Expansion Alternative. First, the Proposed Project would result in a higher number of jobs than employed residents – the jobs to employed residents’ ratio would rise from 0.84 presently to 1.09 in 2035. While the number of jobs between the two alternatives are similar, the Suburban Alternative has 3,780 more population, resulting in a somewhat more balanced jobs-to-employed residents’ ratio of 1.05 (see Table 4-3.5). The transportation modeling tool utilized (SBTAM) forecasts that with greater population in the Planning Area, fewer jobs would need to be filled by people residing from outside the Planning Area, resulting in somewhat fewer external trips and lower VMT. Thus, it is not necessarily the growth pattern of the Suburban Expansion Alternative, but rather the greater population that the model projects would result in more jobs within the Planning Area being filled by Planning Area residents.

**Table 4-3.5: Jobs to Employed Residents' Ratio in Planning Area**

	Existing (2013) <sup>1</sup>	2035 Proposed Project	Suburban Expansion Alternative	No Project Alternative
Jobs	28,524	45,013	44,930	44,918
Population	77,269	93,624	97,403	91,701
Employed Residents <sup>1</sup>	33,998	41,195	42,857	40,348
Jobs/ Employed Residents	0.84	1.09	1.05	1.11

Note:

1. 2013 Jobs Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013), Primary Jobs 2013. 2013 Employed Residents Source: American Community Survey, 2013. 2013 Population Source: 2013 ACS

Source: American Community Survey, 2013; Dyett & Bhatia, 2017.

It is worth noting that, like elsewhere in the region, relatively few jobs within the Planning Area are filled by residents. Table 5.3-4: Inflow and Outflow Primary Job Counts in the Existing Conditions Report, using U.S. Census data, shows that more than 78 percent of jobs within the Planning Area are filled by outsiders, and more than 80 percent of Planning Area residents work outside of the Planning Area. Thus, travel between different communities is unavoidable regardless of the alternative. It is also worth noting that for all alternatives, the projected jobs to employed residents’ ratio is better than the SCAG projection of 1.40 for 2035 for Redlands (see Chapter 5: Demographics and Economics of the Existing Conditions Report for elaboration on SCAG projections).

While the current version of SBTAM is the most advanced regional model developed by regional agencies, it still has limitations—for example, while SBTAM is sensitive to the Redlands Rail project, it is not sensitive to other features of more compact neighborhoods in the Proposed Project—such as pedestrian improvements and connectivity, pedestrian-oriented street design, more walkable neighborhoods, and multi-modal transportation support. Thus, the modeling results do not reflect trip reductions as a result of these features, which are an integral part of the Proposed Project.

Table 4-3.6 summarizes the VMT generated by the Proposed Project, Suburban Expansion Alternative, and No Project Alternative. As shown in the tables and consistent with the trip generation estimates, the alternatives do not vary much; the Suburban Alternative produces 1.5 percent less VMT than the Proposed Project. Compared to existing conditions, the Proposed Project is forecast to generate the highest VMT at 26.7 percent more than the existing conditions. The Suburban Expansion Alternative is forecast to generate the second highest VMT at 24.8 percent more than the existing conditions. The No Project Alternative is forecast to generate the lowest VMT at 22.9 percent more than existing conditions.

**Table 4-3.6: Comparison of Daily Vehicle Miles Traveled (VMT) among Alternatives**

	Existing (2015 Baseline)	Proposed Project (2035)		Suburban Expansion Alternative (2035)		No Project Alternative (2035)	
	Daily VMT <sup>1</sup>	Daily VMT <sup>1</sup>	Percent Difference from Existing	Daily VMT <sup>1</sup>	Percent Difference from Existing	Daily VMT <sup>1</sup>	Percent Difference from Existing
City of Redlands	2,996,944	3,791,962	26.53%	3,706,082	23.66%	3,665,311	22.30%
Sphere of Influence	251,726	324,805	29.03%	348,872	38.59%	327,629	30.15%
Planning Area Total	3,248,670	4,116,767	26.72%	4,054,955	24.82%	3,992,940	22.91%

Notes:

1. For trips that originate or end in the Planning Area, VMT for the entire trip, not just for the miles traveled within the Planning Area, are included. Additionally, trips that only pass through the Planning Area, originating or ending outside of the Planning Area, are not included.

Sources: SBTAM 2035 Model, Dyett & Bhatia, Fehr & Peers, 2017

Section 3.15: Transportation uses traffic LOS rather than VMT or total number of trips as a significance criteria for impact assessment. While VMT and total number of trips provide a comparative assessment of traffic generated by the alternatives, these do not tell us locations in the Planning Area where significant traffic impacts may result. The analysis in Section 3.15 indicates that if all improvements in the Proposed Project were implemented, traffic impacts would be less than significant. For all locations entirely within City of Redlands’ control, traffic impacts would be less than significant; however, because eight of the proposed improvements would be located on facilities partially or fully controlled by other jurisdictions, the City of Redlands could not guarantee implementation, and resultantly impacts on these facilities are called out as significant and unavoidable. The actual locations of resultant significant transportation impacts of the Proposed Project and the two alternatives may differ, depending on where growth is located. Given that the Suburban Expansion Alternative would push more growth into Crafton, it may exacerbate significant and unavoidable impacts along Mentone Boulevard from Wabash Avenue to city limits,

which is under Caltrans jurisdiction. Conversely, some other impacted locations may be somewhat less impacted.

## 4.4 Environmentally Superior Alternative

CEQA Guidelines (Section 15126.6) require the identification of an environmentally superior alternative among the alternatives analyzed. Table 4-4.1 compares the alternatives' overall environmental impacts for each topic presented in Section 4.3. Of the 15 topics analyzed, the Proposed Project has the least impact for 13 topics: aesthetics; agricultural resources; biological resources; energy, GHG, and climate change; geology, soils, and seismicity; hazards and hazardous materials; historic, archaeological, and paleontological resources; hydrology and water quality; land use and housing; mineral resources; noise; public services and facilities; and public utilities. The Proposed Project is the environmentally superior alternative.

**Table 4.4-1: Alternatives Comparison**

<i>Topic</i>	<i>Greatest Impact</i>	<i>Second Greatest Impact</i>	<i>Least Impact</i>
Aesthetics	Suburban Expansion	No Project	Proposed Project
Agricultural Resources	Suburban Expansion	No Project	Proposed Project
Air Quality	Proposed Project/ Suburban Expansion <sup>1</sup>	Proposed Project/ Suburban Expansion <sup>1</sup>	No Project
Biological Resources	Suburban Expansion	No Project	Proposed Project
Energy, GHG, and Climate Change	Suburban Expansion	No Project	Proposed Project
Geology, Soils, and Seismicity	Suburban Expansion	No Project	Proposed Project
Hazards and Hazardous Materials	Suburban Expansion	No Project	Proposed Project
Historic, Archeological, and Paleontological Resources	Suburban Expansion	No Project	Proposed Project
Hydrology and Water Quality	Suburban Expansion	No Project	Proposed Project
Land Use and Housing	No Project	Suburban Expansion	Proposed Project
Mineral Resources	No Project	Proposed Project/ Suburban Expansion <sup>1</sup>	Proposed Project/ Suburban Expansion <sup>1</sup>
Noise	No Project	Suburban Expansion	Proposed Project
Public Services and Facilities	Suburban Expansion	No Project	Proposed Project
Public Utilities	Suburban Expansion	No Project	Proposed Project
Transportation	Proposed Project	Suburban Expansion	No Project

Note:

1. Alternatives would have similar levels of impact.

In addition to being environmentally superior, the Proposed Project also achieves the General Plan update's core values, vision, purpose, and objectives as described in Chapter 2—including enhancing Redlands's small-town feel, cultural character, prosperous economy, and sustainability initiatives—better than the other two alternatives.

The Proposed Project would accommodate the projected population and job growth in Redlands, and plans for orderly, sequential development that would balance Redlands' natural and built heritage with new infill and transit-oriented development. Allowing growth in Redlands through continuous responsible development relieves development pressures elsewhere in the region and ensures that Redlands will continue to play its part in accommodating San Bernardino County's growth in a sustainable urban form.

Of the two remaining alternatives, the No Project Alternative is superior to the Suburban Expansion Alternative, as shown in Table 4.4-1. The Suburban Expansion Alternative would produce new residential development in a spread-out pattern and associated impacts on resources and open spaces. Additionally, the loss of Crafton as an agricultural community would conflict with the community's vision of maintaining citrus heritage in the Planning Area. Because development in this alternative is not focused Downtown and in infill sites, there exists the greatest potential that development under this alternative would affect the environmentally sensitive parts of the Planning Area. This alternative is less desirable than either of the two other alternatives because it would require a greater expansion of utilities, services, and facilities, the development of which could cause secondary impacts; and it would cause a more significant reduction of visual quality, agricultural resources, historic resources, and biological resources.



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## 5 CEQA Required Conclusions

This section presents a summary of the impacts of the Proposed Project in several subject areas specifically required by the California Environmental Quality Act (CEQA), including growth-inducing impacts, cumulative impacts, significant and unavoidable impacts, significant irreversible environmental changes, and impacts found not to be significant. These findings are based, in part, on the analysis provided in Chapter 3: Settings, Impacts, and Mitigation Measures.

### 5.1 Growth-Inducing Impacts

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CEQA Guidelines require that an EIR “discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly” (CEQA Guidelines Section 15126.2(d)). This analysis must also consider the removal of obstacles to population growth, such as improvements in the regional transportation system.

Growth-inducing impacts, such as those associated with job increases that might affect housing and retail demand in other jurisdictions over an extended time period, are difficult to assess with precision, since future economic and population trends may be influenced by unforeseeable events, such as natural disasters and business development cycles. Moreover, long-term changes in economic and population growth are often regional in scope; they are not influenced solely by changes or policies related to a single city or development project. Business trends are influenced by economic conditions throughout the state and country, as well as around the world.

Another consideration is that the creation of growth-inducing potential does not automatically lead to growth. Growth occurs through capital investment in new economic opportunities by the private or public sector. These investment patterns reflect, in turn, the desires of investors to mobilize and allocate their resources to development in particular localities and regions. These and other pressures serve to create policy. These factors, combined with the regulatory authority of local governments, mediate the growth-inducing potential or pressure created by a proposed plan. Despite these limitations on the analysis, it is still possible to qualitatively assess the general potential growth-inducing impacts of the Proposed Project.

#### **PROJECTED GROWTH**

The Proposed Project allows for new residential and non-residential development which will result in an increase in population, housing, and jobs.

## Population

According to the California Department of Finance, the population of the City of Redlands was estimated to be about 68,000 as of 2015 (California Department of Finance), comprising about 3.2 percent of San Bernardino County’s total population of 2,121,088. Under the Proposed Project, as shown in Table 5.1-1, the Planning Area will accommodate a population of approximately 93,624 people at buildout, an increase of about 21 percent over the current population of 77,269. This represents an average annual growth rate of about 1 percent. The projected population total of the City of Redlands under the Proposed Project, 79,013, is less than Southern California Association of Governments’ (SCAG) 2035 population projection of 83,400 (Southern California Association of Governments), thus, the proposed General Plan would not be growth-inducing beyond regional forecasts.

**Table 5.1-1: Projected Residential Population (2035)**

	Redlands			Sphere of Influence			Planning Area Total		
	SFR <sup>1</sup>	MFR <sup>2</sup>	Total	SFR	MFR	Total	SFR	MFR	Total
<b>Residential Buildout (2015)</b>									
Housing Units <sup>3</sup>	19,877	6,872	26,749	2,981	449	3,430	22,858	7,321	30,179
Population <sup>4</sup>			68,049			9,220			77,269
<b>Residential Buildout (2035)</b>									
Housing Units	22,553	8,551	31,105	5,008	449	5,457	27,561	9,000	36,561
Population <sup>5</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. Existing population was calculated assuming 2.65 persons per household in the City of Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 4% is assumed.
5. Future population was calculated assuming 2.65 persons per household in the City of Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 5% is assumed.

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

## Growth Management

Beginning with Proposition R in 1978, the City of Redlands adopted growth management measures 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. Also, additional measures have been adopted to establish the City’s growth management system.

### 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, implemented restrictions on noise, 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 a 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, seeking to ensure that future growth can be adequately served by the transportation system. 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.

### **Public Facilities**

The Planning Area is mostly urbanized and is served by existing streets, utility infrastructure, and service systems. Water supply to the Planning Area is provided by the City of Redlands, which serves the majority of the city and Planning Area, and the Western Heights Water Company, which serves a small portion of the city and Planning Area near the border of Yucaipa. Water supplies for the City of Redlands include entitlements to surface water from Mill Creek and the Santa Ana River, groundwater, recycled water, and imported water from the State Water Project. Water supplies for Western Heights Water Company include groundwater and imported water from the State Water Project when available. The City of Redlands provides sewer and stormwater collection services. 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. Waste collection for the Mentone and Crafton areas is carried out by private haulers contracted with San Bernardino County. Solid waste from the Planning Area 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.

Future development under the Proposed Project could generate additional demand for water and wastewater, stormwater, and solid waste services; however, compliance with federal, State, and local regulations, as well as policies in the Proposed Project would reduce the impacts of the Proposed Project to less than significant levels. The City of Redlands has prepared an urban water management plan, sewer system master plan, and drainage master plan to assess the current and future demands of its service area. Compliance with the City's current grading, drainage, and stormwater regulations would ensure that impacts would be less than significant. Potential impacts on solid waste would be reduced through compliance with SB X7-7, which has been set by CalRecycle to provide 75 percent recycling, composting, or source reduction of solid waste by 2020. Implementation of the Proposed Project policies would assist the city in complying with this new waste reduction goal.

The Redlands Unified School District (RUSD) provides public schools in the Planning Area. At buildout of the Proposed Project, the school-aged population is expected to increase. This increase will impact enrollment totals in RUSD facilities in the Planning Area. The largest increase is projected to be high school enrollment, followed by elementary school enrollment. Middle school enrollment will decrease slightly. Existing middle and high schools would have the capacity to accommodate the projected number of 2035 students. However, existing elementary schools will not have enough room to accommodate the projected increase in elementary school students. RUSD can utilize trailers and temporary classrooms to accommodate students in the interim, but a new school may be required for the long-run. The school district owns land north of Mission Road just outside the Planning Area in Loma Linda, which could be utilized to construct a new facility, if necessary. Policies in the proposed General Plan ensure that school facilities are expanded to meet demand as development occurs. Development of schools would require project-level environmental review and site-specific mitigation measures as appropriate, ensuring that adverse environmental effects are avoided or mitigated.

The City provides parks and recreation facilities, and police and fire protection services. In 2035, with the development of 140.9 acres of proposed parkland as designated in the proposed General Plan, and the addition of 10,355 residents, the ratio would be 6.9 acres per 1,000 residents, which would exceed the City's park standard of 5 acres per 1,000 people. The proposed General Plan plans for the addition of several parks in the SOI outside of city limits – an area that is underserved by parkland. This increase would improve the ratio of park acres per 1,000 residents in the SOI and the Planning Area as a whole. With about 16,355 new residents expected in the Planning Area in 2035, the 140.9 acres of proposed parkland in Redlands in addition to 55 acres of proposed parkland in the Sphere of Influence outside of city limits would result in a ratio of 6.4 acres per 1,000 residents in the Planning Area as a whole, which would also exceed the City's park standard of 5 acres per 1,000 people.

Population increases may result in increased alarms and call volumes that may negatively impact Fire Department response times unless adequate staffing and facilities are maintained. The Fire Department has determined that it would need to increase the number of fire stations in order to meet increased future service demands, though as of February 2017, there are no plans to do so. Policies of the Proposed Project would keep service demand increases to a minimum. Proposed policies encourage educating the public about fire prevention, providing weed abatement services in the High Fire Severity Areas, requiring adherence to State and local fire codes, and ensuring development minimizes risk from fire hazard. Development impact fees from new development

would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing facilities.

In order to accommodate increases in demand from a growing population and meet service standards in the future, the Redlands Police Department expects that it will also need to grow. Meeting facilities needs for an expanded Police Department would likely require new construction or physically altering an existing facility. Development impact fees from new development would serve to ensure that improvements are made in a timely manner so as to avoid the deterioration of existing facilities. Proposed General Plan policies aim to mitigate increases in demand for police services. Policies include those that encourage physical planning and community design practices that promote safety, as well as policies that include residents in community safety efforts.

### **Increase in Regional Housing Demand**

As the employment base in the Planning Area continues to increase, due to proposed General Plan land uses and policies that foster employment, more people may be drawn to the Planning Area and surrounding areas. As a result, housing demand may increase in both the Planning Area and other adjacent areas that are within commuting distance.

The proposed General Plan is projected to result in the development of approximately 4,700 single-family housing units and about 1,700 multi-family housing units, for an increase of about 6,400 new dwelling units by the year 2035, resulting in a total of 36,600 units in the Planning Area when added to the existing housing stock. Within the City of Redlands, a projected total of 31,100 housing units would exist in 2035, an increase of about 4,400 units. The additional housing would help meet some of the increased housing need.

SCAG projected approximately 31,600 households in Redlands in 2035. Most of the housing needs of this projected population would be met by housing units provided in Redlands under the proposed General Plan. For those households in excess of the number of housing units projected, housing needs would likely be met in the SOI outside of Redlands' current city limits.

Dividing the proposed General Plan buildout population for Redlands of 79,013 by the assumed persons per household calculation of 2.65 results in 29,850 total projected households. Applying the same persons per household to SCAG's 2035 population projection for Redlands would result in an estimate of 31,500 households. Regional household projections were not available for the portion of the Planning Area outside of city limits.

To ensure that housing is available to meet the needs of future residents under the proposed General Plan, the City would continue to use its Housing Element, last updated in 2014, to assess its supply of housing and provide policies and programs to ensure that the community continues to meet its fair share of regional housing needs.

### **Jobs/Housing Ratio**

A city's jobs/employment ratio (jobs to employed residents) would be 1.0 if the number of jobs in the city equaled the number of employed residents. In theory, such a balance would eliminate the need for extensive commuting. More realistically, a balance means that in-commuting and out-commuting are matched, leading to efficient use of the transportation system, particularly during

peak hours. The current jobs/employment ratio in the City of Redlands is 0.89, which means that there are 0.89 jobs for every employed resident in the City. Based on development projected under the proposed General Plan, this ratio is expected to increase to 1.20. The jobs/employment ratio for the Planning Area is 0.82 and would be expected to increase to 1.07. Table 5.1-2 shows projected changes in the jobs-to-employed residents ratio between 2016 and 2035.

**Table 5.1-2: Jobs-to-Employed Residents Ratio in Redlands, 2016 -2035**

	Redlands		Sphere of Influence outside of City Limits		Planning Area	
	2016 <sup>1</sup>	2035 <sup>2</sup>	2016 <sup>3</sup>	2035 <sup>2</sup>	2016	2035
Jobs	27,248	42,769	1,276	2,244	28,524	45,013
Population	68,049	79,013	9,220	14,611	77,269	93,624
Employed Residents <sup>7</sup>	30,546	35,556	4,149	6,575	34,695	42,131
Jobs/ Employed Residents	0.89	1.20	0.31	0.34	0.82	1.07

Notes:

1. 2016 Jobs Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2013), Primary Jobs 2013. 2016 Employed Residents Source: American Community Survey, 2013. 2016 population was calculated assuming 2.65 persons per household in the City of Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 4% is assumed.
2. 2035 jobs based on application of land uses shown on the proposed land use map on vacant and underutilized sites, and the resultant jobs that would arise from the development of these sites. Population was calculated assuming 2.65 persons per household in Redlands and 2.80 persons per household in the Sphere of Influence. A vacancy rate of 5% is assumed for future housing units.
3. 2016 jobs in SOI includes only those quantified for the Mentone CDP, which includes Mentone and much (not all) of Crafton. 2016 population was calculated assuming 2.80 persons per household in the Sphere of Influence. A vacancy rate of 4% is assumed for existing housing units.
7. SCAG does not provide projection estimates of employed residents, but instead projects total number of residents. Therefore, the ratio of employed residents to the total number of residents in Redlands from 2013 – 0.45 – was applied to total population projections for 2035 to generate an estimate of employed residents. Additionally, because SCAG does not estimate the number of employed residents in the Sphere of Influence, this ratio of 0.45 was used to estimate the jobs/employed resident ratio.

Sources: American Community Survey, 2013; SCAG 2016 Draft RTP, 2015; Dyett & Bhatia, 2017.

As shown in Table 5.1-2 above, the 2016 jobs to employment balance in Redlands is 0.11 away from being perfectly balanced, while the projected 2035 jobs to employment balance is 0.20 away from being perfectly balanced. The 2016 total is more balanced than the 2035 total. The projected jobs-to-employment ratio of 1.20 suggests that there would be more jobs than employed residents in the City of Redlands at buildout, resulting in a relative inflow of people during the workday as well as a potential increase in pressure for housing for employees and their families. The Proposed Project seeks to create a balanced community, with retail uses, parks, transit-oriented-development, and other features to accommodate population growth. However, any increase in jobs in the Planning Area has the potential to induce growth or lead to growth pressure or pressure on services in surrounding communities.

## 5.2 Cumulative Impacts

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CEQA requires that an EIR examine cumulative impacts. As discussed in CEQA Guidelines Section 15130(a)(1), a cumulative impact “consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” Furthermore, the analysis of cumulative impacts need not provide the level of detail required of the analysis of impacts from the project itself, but shall “reflect the severity of the impacts and their likelihood of occurrence” (CEQA Guidelines Section 15130(b)).

In order to assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects or a summary of projections contained in an adopted general plan or related planning document. The Proposed Project represents the cumulative development scenario for the reasonably foreseeable future in the Planning Area. This future scenario incorporates the likely effects of surrounding regional growth.

### **CUMULATIVE ANALYSIS PROVIDED IN CHAPTER 3**

Several analyses presented in Chapter 3: Settings, Impacts, and Mitigation Measures represent cumulative analyses of issues over the proposed General Plan time horizon to 2035 because they combine the anticipated effects of the proposed General Plan with anticipated effects of regional growth and development. By their nature, the air quality; transportation; noise; and energy, greenhouse gas (GHG) emissions, and climate change analyses presented in Chapter 3 represent a cumulative analysis, because the effects specific to the Proposed Project cannot reasonably be differentiated from the broader effects of regional growth and development. Thus, analyses for these topics reflect not just growth in the Planning Area, but growth elsewhere in the region as well. The cumulative conclusions are summarized there, and where applicable, significant unavoidable impacts are listed in Section 5.3. Other cumulative impacts are identified below and within the relevant sections of Chapter 3.

### **OTHER CUMULATIVE IMPACTS**

For some issue areas evaluated as direct impacts in Chapter 3, concurrent implementation of the Proposed Project, specifically the proposed General Plan, along with regional growth and development, may result in cumulative impacts; however, due to various factors, the Proposed Project’s contribution would not be cumulatively considerable. These include:

- ***Cumulative Changes to Land Use Character.*** Land use changes that would alter the scale, density, and character of urban areas and neighborhoods could change the visual character of areas in the region. However, the proposed General Plan seeks to ensure that Redlands’ small-town character would be maintained through the scale of development and other components of visual compatibility, and promotes planning practices that foster greater connections between neighborhoods and uses. Various proposed policies emphasize the importance of neighborhood identities, promoting the area’s citrus and agricultural heritages, and preserving historic architecture. Given such policies, the Proposed Project’s contribution to this potentially significant cumulative impact is not cumulatively considerable.



- **Cumulative Effects on Water Quality.** The proposed General Plan, in combination with regional growth and development, could increase impervious surfaces resulting in a greater chance of flood and potential impacts to water quality. However, given the near built-out nature of Redlands, proposed low-density and open space land uses in undeveloped areas, and proposed General Plan policies designed to improve stormwater management and reduce stormwater pollution, the Proposed Project's contribution to this potentially significant cumulative impact is not cumulatively considerable.
- **Cumulative Effects on Biological Resources.** Increased noise, light, and habitat disturbance resulting from urban development both within the Planning Area as well as in adjacent jurisdictions could adversely affect biological resources such as migratory birds and other wildlife species. However, with applicable policies in place as described in the direct impact analysis in Chapter 3, the project's contribution to this potentially significant cumulative impact is not cumulatively considerable.
- **Cumulative Increases in Hazardous Materials.** The increase in local population and employment could result in the increased use of hazardous household, commercial, and industrial materials, as well as a cumulative increase in exposure to risk associated with accidental release of hazardous materials into the environment. However, city, State, and federal regulations, such as those that control the production, use, and transportation of hazardous materials, and proposed General Plan policies addressing potential risks from hazardous materials would apply to development countywide; therefore, the Proposed Project's contribution to this potentially significant cumulative impact is not cumulatively considerable.
- **Cumulative Effects on Historical Resources.** The accommodation of future growth also constitutes a very low likelihood that future development will encounter challenges associated with known and unknown historic resources. However, there is the possibility of cumulative impacts to historical resources in the future in the context of regional growth and development. The City of Redlands cannot be sure that all cumulative impacts on such historical resources can be mitigated to less than significant levels. Consequently, the proposed General Plan may have the potential to contribute to cumulative impacts to these historic resources. However, with implementation of proposed General Plan policies and State and federal law, the Proposed Project's contribution to this potentially significant cumulative impact is not cumulatively considerable.
- **Cumulative Effects on Geology and Soils.** The Planning Area is located in a seismically active region, and future development could expose additional people and structures to potentially adverse effects associated with earthquakes, including seismic ground shaking and seismic-related ground failure. However, site-specific geotechnical reports that would be required for future development projects would determine how each development could be designed to minimize exposure of people to these effects similar to how existing projects have been built. Given mandatory compliance with existing State and local building codes, ordinances and proposed General Plan policies, the cumulative impact resulting from future development of the Proposed Project combined with other past, present, or probable future projects, would be less than cumulatively considerable.

These types of impacts are not limited to the Planning Area but are characteristic of any area that is experiencing population and employment growth.

## 5.3 Significant and Unavoidable Impacts

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Significant unavoidable impacts are those that cannot be mitigated to a level that is less than significant. According to CEQA Guidelines 15126(b), an EIR must discuss any significant environmental impacts that cannot be avoided under full implementation of the proposed program. Chapter 3 identified the following significant unavoidable impacts when comparing the Proposed Project to existing conditions:

### **AGRICULTURAL RESOURCES**

Implementation of the Proposed Project, specifically the proposed General Plan, would allow for the conversion of Prime Farmland, Farmland of Statewide Importance, and Unique farmland to non-agricultural uses. Under the proposed General Plan, future development could impact about 200 acres of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (important farmland) designated by the Farmland Mapping and Monitoring Program (FMMP) program currently under cultivation throughout the Planning Area. The affected important farmland is mainly located where non-contiguous agricultural uses are interspersed with more intensive uses, such as in the East Valley Corridor Specific Plan area, along Mentone Boulevard, among residential development near the Redlands Municipal Airport, and among residential uses along Wabash Avenue and Marion Avenue. If a project proposes urban uses on these sites, it would result in conversion of agricultural lands, which would be considered significant. Additional Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is located throughout the Planning Area, but the remainder has either previously been developed, or would be protected or allowed to continue under Agriculture, Open Space, Rural Living, Hillside Conservation, Resource Conservation, or Very Low Density Residential land use designations under the proposed General Plan, and so would not be significantly impacted. In addition, as residential uses would not be permitted within the 500-foot Air Quality Management District buffer along Interstate 210 (I-210), the portion of farmland located within the buffer would be protected from development.

Although policies in the proposed General Plan seek to promote agricultural uses and preserve agricultural character throughout the Planning Area, the loss of Prime Farmland, Farmland of Statewide Importance, or Unique farmland due to conversion would be considered a significant impact. As no feasible mitigation measures have been identified, the impact would be significant and unavoidable.

### **AIR QUALITY**

Development under the Proposed Project, specifically the proposed General Plan, could violate air quality standards or contribute substantially to an existing or projected air quality violation. The South Coast Air Basin (SCAB) has been designated as a nonattainment area for the State ozone (O<sub>3</sub>) and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) standards. The SCAB is also designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> and is in attainment/maintenance for the federal PM<sub>10</sub>, carbon monoxide (CO), and nitrogen dioxide (NO<sub>2</sub>) standards.

Construction activities associated with the proposed General Plan would cause short-term emissions of criteria air pollutants. Due to the scale of development activity associated with buildout

of the proposed General Plan, construction emissions would likely exceed the South Coast Air Quality Management District (SCAQMD) regional significance thresholds. In accordance with the SCAQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SCAB. Emissions of VOC and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>. In addition, NO<sub>x</sub> is a precursor to the formation of particulate matter. Therefore, the proposed General Plan would cumulatively contribute to the nonattainment designations of the Basin for O<sub>3</sub> and particulate matter. Air quality related to construction must be addressed on a project-by-project basis.

For this EIR, it is not possible to determine whether the scale and phasing of individual projects would exceed the SCAQMD's short-term regional or localized construction emissions thresholds. In addition to regulatory measures (e.g., SCAQMD Rule 201 for a permit to operate, Rule 403 for fugitive dust control, Rule 1113 for architectural coatings, Rule 1403 for new source review, and the CARB's Airborne Toxic Control Measures), mitigation imposed at the project level may include extension of construction schedules and/or use of special equipment. Existing City policies and regulations and proposed General Plan principles and actions are intended to minimize impacts associated with nonattainment criteria pollutants. While these regulations and policies would reduce impacts associated with construction activities, there is no guarantee emissions would be mitigated below SCAQMD thresholds. Therefore, impacts would remain significant and unavoidable during construction.

Long-term air emission impacts are those associated with area sources and mobile sources involving any change related to the proposed General Plan. In addition to the short-term construction emissions, buildout of the proposed General Plan would also generate long-term air emissions. These long-term emissions are primarily mobile source emissions that would result from vehicle trips and VMT associated with buildout of the proposed General Plan. Area sources, such as natural gas heaters, landscape equipment, and use of consumer products, would also result in pollutant emissions. Operational emissions associated with the additional development that would occur under buildout conditions of the General Plan, would exceed the SCAQMD's significance threshold for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, impacts would be potentially significant. Future development under the Proposed Project would be required to comply with State and federal regulations, and the proposed General Plan principles and actions; however, there is no guarantee emissions would be mitigated below SCAQMD thresholds. Proposed General Plan principles and actions, would reduce impacts associated with long-term operational criteria pollutant emissions; however, impacts would remain significant and unavoidable during operation.

## **TRANSPORTATION**

Implementation of the Proposed Project, specifically the proposed General Plan, could result in conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

For intersections and roadway segments, if all roadway improvements in the proposed General Plan were implemented, impacts would be less than significant. However, because eight of the proposed improvements would be located on facilities partially or fully controlled by other jurisdictions, the

City of Redlands could not guarantee implementation. Therefore, some impacts could occur that would be significant and unavoidable. In addition, four freeway segments were determined to experience significant and unavoidable impacts. The impacts on the freeway system are not in the City's control as these would occur due to regional growth and would occur with or without the implementation of the General Plan. Overall, the Proposed Project would have a significant and unavoidable impact.

Implementation of the General Plan would also potentially conflict with an applicable congestion management program (CMP) including, but not limited to level of service standards and travel demand measures, or standards established by the county congestion management agency for designated roads or highways. Some improvements included the proposed General Plan to reduce this impact are partially or fully within the control of other jurisdictions and thus cannot be guaranteed by the City of Redlands. Without the proposed improvements, the LOS would worsen at a roadway segment already operating at LOS F, resulting in a potentially significant and unavoidable impact.

## **5.4 Significant Irreversible Environmental Change**

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CEQA Guidelines require an EIR to consider whether “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely” (CEQA Guidelines Section 15126.2(c)). “Nonrenewable resource” refers to the physical features of the natural environment, such as land or waterways. Irretrievable commitments of non-renewable resources associated with the proposed General Plan include:

### **WATER CONSUMPTION**

New development under the Proposed Project, specifically the proposed General Plan, would increase the demand for water supplies for residential, commercial, agricultural, and industrial uses. It would place a greater demand on the City of Redlands municipal water supply and the Western Heights Water Company, which derive water supply from local groundwater basins, surface waters from Mill Creek and the Santa Ana River, and the State Water Project watershed in Northern California, in addition to recycled water supplies. This increased demand for public water represents an irreversible environmental change.

### **ENERGY SOURCES**

New development under the Proposed Project, specifically the proposed General Plan, would result in increased energy use, in the form of new buildings and transportation. Both residential and nonresidential developments use electricity, natural gas, and petroleum products for power, lighting, heating, and other indoor and outdoor services, while cars use both oil and gas. Use of these types of energy for new development would result in the overall increased use of nonrenewable energy resources. This represents an irreversible environmental change.

## **CONSTRUCTION-RELATED IMPACTS**

Irreversible environmental changes could also occur during the course of constructing development projects allowed under the Proposed Project, specifically the proposed General Plan. New construction would result in the consumption of building materials, such as lumber, sand, and gravel for construction. Construction aggregate used in development projects may be extracted from within the Planning Area, where mineral resources have been designated as regionally significant. Depletion of non-renewable resources that supply building materials would represent an irreversible environmental change.

## **LOSS OF IMPORTANT FARMLAND**

Some new development allowed under the Proposed Project, specifically the proposed General Plan, may take place on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, as classified by the California Farmland Mapping and Monitoring Program. These designations identify high quality agricultural resources, and the loss of these resources due to conversion of designated land to non-agricultural uses may be considered an irreversible environmental change.

## **5.5 Impacts Found Not to Be Significant**

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CEQA requires that an EIR provide a brief statement indicating why various possible significant impacts were determined to be not significant. Chapter 3 of this EIR discusses all potential impacts, regardless of their magnitude. A similar level of analysis is provided for impacts found to be less than significant as impacts found to be significant and unavoidable. Significance of an impact is assessed in relation to the significance criteria provided in each section in Chapter 3. A summary of all impacts is provided in the Executive Summary of this EIR.

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