



# Santa Rosa General Plan 2050

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# 1

## Introduction



# 1. Introduction

Santa Rosa is the urban core and economic center of the northern Bay Area. The City of Santa Rosa is in central Sonoma County, approximately 55 miles north of San Francisco, as shown in **Figure 1-1**. Santa Rosa grew outward from the original downtown area oriented around the historic Northwestern Pacific Railroad line and Santa Rosa Creek. Historic resources and districts like the Railroad Square area offer a unique glimpse into Santa Rosa's early beginnings. Proximity to the ocean, open space, neighboring wine country, the Russian River, and accessibility to urban and rural Northern California offer a unique way of life for the Santa Rosa community and support a diverse economy that weathers regional and larger cycles. Santa Rosa consistently ranks high among the nation's top places to live and work.

This chapter offers background information about the city, general plans in California, and the process of developing General Plan 2050.

## Context and Background

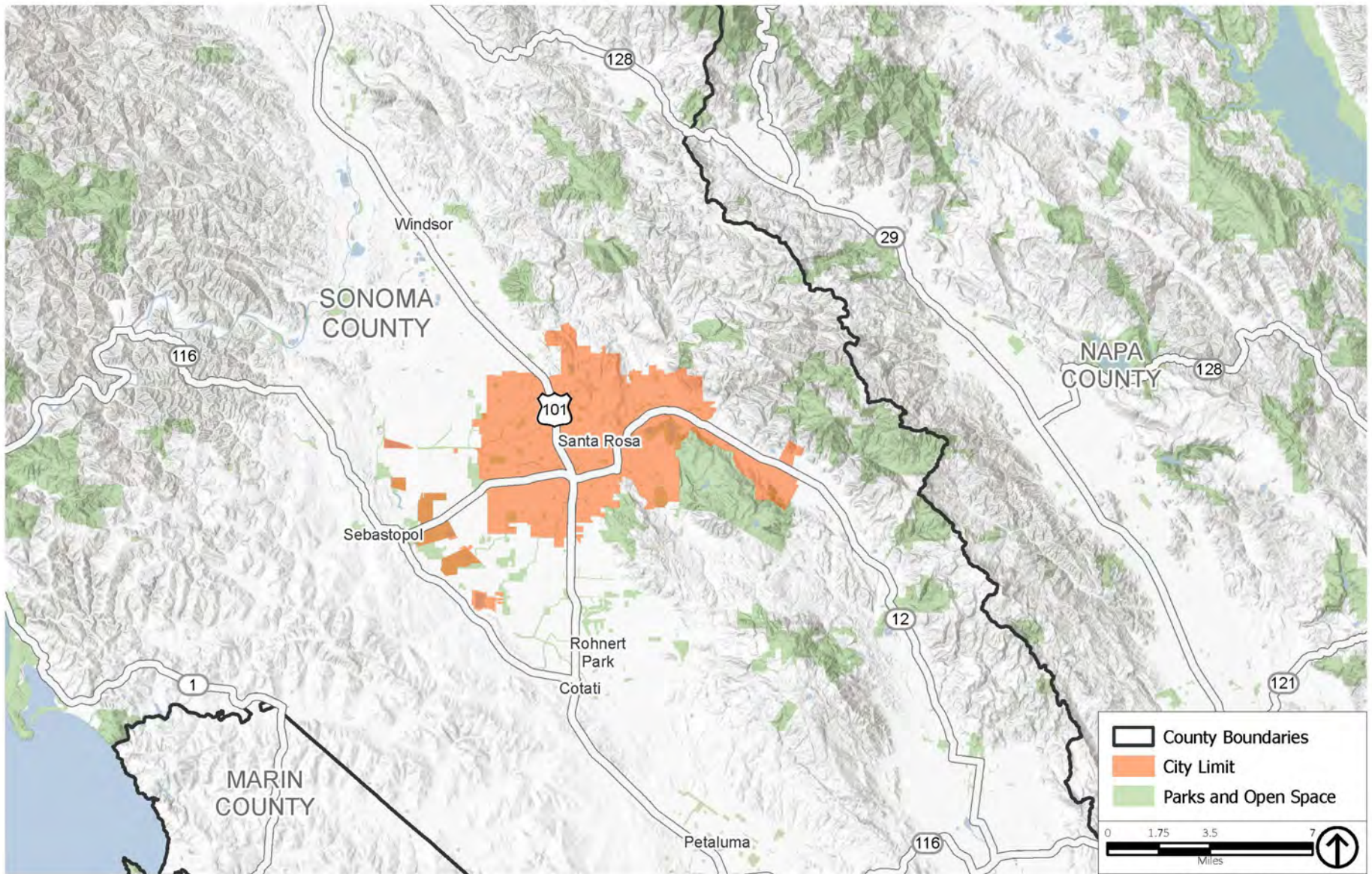
### Context

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The City initiated the General Plan update process in early 2020. Since adoption of the previous General Plan in 2009, State planning laws have changed significantly, as have the city and community because of the typical impacts of growth and change over time as well as

monumental events at the local, national, and global levels, including:

- **Wildfire.** The Tubbs Fire started in the late hours of October 8, 2017, and was not contained until three weeks later. Starting in Calistoga, the blaze quickly became the most destructive California wildfire at that time, burning portions of Napa, Sonoma, and Lake Counties. The Tubbs Fire inflicted approximately \$1.2 billion in damages in Santa Rosa alone. Residential neighborhoods in the city, including Coffey Park, Fountaingrove, and Hidden Valley, suffered the most damage from the fire, which destroyed about 5 percent of the city's housing stock. Low-density, single-family housing units were hit hardest by the fire, but it also destroyed medium-density, attached single-family and multifamily housing units, commercial and industrial uses, and schools in north Santa Rosa. Among the nonresidential units lost were the Hilton Sonoma Wine Country, the Fountaingrove Inn, the Kmart store, and multiple restaurants and wineries. The city again suffered from wildfire in 2018 and 2020. The 2018 Kincade Fire burned 77,758 acres and threatened Santa Rosa and many other communities, prompting the largest evacuation in the history of Sonoma County. The 2020 Glass Fire touched down in Santa Rosa's



Source: City of Santa Rosa, 2020; ESRI, 2022; PlaceWorks, 2023.



Figure 1-1  
Regional Location

Oakmont neighborhood, destroying 13 homes there. General Plan 2050 works strategically to mitigate the risk of wildfire and enhance evacuation capacity in addition to addressing long-term resilience in the face of climate change and all natural disasters.

- **Social Justice.** On October 22, 2013, Andy Lopez Cruz was shot by an on-duty Sonoma County Sheriff's Deputy and died at the scene. In the aftermath of the incident, significant civil unrest resulted in multiple protest marches and a Black Friday flash mob at the Santa Rosa Plaza. Protestors also convened at the Courthouse for weeks to speak out against Mr. Lopez Cruz's shooting and other officer-involved fatalities.

On May 25, 2020, George Floyd, a Black man, was murdered by a white Minneapolis police officer, who pinned Floyd down by the neck with his knee for nearly 10 minutes. In response to Floyd's death, protests erupted across the nation. On May 31, 2020, numerous protesters were injured at a rally in Santa Rosa during a confrontation with police. Floyd's death and its aftermath pointed a spotlight on systemic racism and police brutality and awakened Santa Rosa residents to the reality of these issues in their own community. Further, these events added to a larger narrative that we need meaningful action to address social and economic inequities that adversely impact communities of color and low-income households.

In consideration of these and other events and issues, the Santa Rosa City Council adopted Resolution 21-0980 in 2021 declaring racism a human rights and public health crisis in Santa Rosa. General Plan 2050 includes policies and actions to address environmental justice, equity, and community health with the

aim of improving quality of life for all community members.

- **Pandemic.** In early 2020, just after the Santa Rosa Forward project launched, the global COVID-19 pandemic hit California and Sonoma County. In March 2020, facing rising rates of infection and death, the State ordered nonessential businesses to close and issued a shelter-in-place order for residents that would be lifted and reinstated multiple times through the end of the year and into 2021. Businesses and employees without remote work options, like those in the restaurant industry, faced lost income, businesses closed, and many individuals lost their jobs.

In August 2021, the Food and Drug Administration (FDA) approved the first COVID-19 vaccine. Santa Rosa gradually "re-opened," and in-person work has resumed, but the disease remains a concern, particularly for higher-risk individuals, and its impacts to the community are still widely felt. By early 2023, over 1 million Americans, nearly 100,000 Californians, and almost 500 Sonoma County residents had died due to COVID-19. The death toll has not impacted all communities equally. A Sonoma County study revealed that a disproportionate share of those who died from COVID-19 were from the county's Latino population—12 percent of total deaths were Latino and 3 percent were White. Similarly, studies at the national level found that the pandemic contributed to significantly greater declines in life expectancy in 2020 for Latino and Black populations compared to Whites.

In May 2023, the Centers for Disease Control and Prevention declared the end of the Federal COVID-19 Public Health Emergency. Now Santa Rosa focuses on

recovery and rebounding stronger. Many businesses have instituted permanent remote working opportunities, changing commute patterns and housing needs for the foreseeable future. Some businesses remain closed, but those that survived or opened in the wake of the pandemic offer more outdoor dining opportunities and activate the streets with sidewalk dining in parklets. Santa Rosa's General Plan includes considerations for the impacts that the COVID-19 pandemic had on the Santa Rosa community and plans to support the city's economic and social recovery and revitalization. The Santa Rosa community has endured great hardships but has shown incredible resilience and emerged stronger, ready to surpass previous norms; with this updated General Plan, **Santa Rosa is moving forward.**

- Climate Change:** Human activity increases the levels of carbon dioxide and other greenhouse gases (GHGs) in the atmosphere. Many daily actions produce GHGs, such as using electricity and natural gas in our homes and businesses, driving a car, and throwing out the trash. Higher levels of atmospheric GHGs result in higher temperatures and other changes to the global climate system. These changes lead to more frequent and severe natural hazards in and around Santa Rosa. Scientists link many recent natural disasters in the region to climate change, including the 2017 Tubbs fire, the 2020-2023 statewide drought, and increased frequency and durations of extreme heat events. Many of the communities in Santa Rosa who already experience social and economic inequities are expected to suffer more than others from the effects of climate change.

To address the threat posed by climate change, Santa Rosa must take a multipronged approach to rapidly and significantly decrease the community's GHG emissions and to simultaneously make Santa Rosa more resilient to the harmful effects of climate change that have already happened and are expected to continue. The community will need to transition to clean sources of energy for buildings and transportation, reduce waste generation and water use, retrofit and rehabilitate vulnerable buildings and infrastructure, and improve emergency notification and evacuation practices, among many other actions, to decrease GHG emissions and achieve a more resilient future.

Numerous actions result in GHG emissions, and climate change affects almost everyone and everything in Santa Rosa. Though climate change is a significant problem and difficult to tackle, the benefits of addressing it are extensive—a more sustainable and resilient Santa Rosa, lower utility bills and other costs, less dependence on cars, improved air quality and other public health benefits, and a more equitable and just system. For these and many other reasons, addressing climate change is critical to Santa Rosa's future success and well-being.

General Plan 2050 reflects changed community needs and priorities in the wake of recent natural disasters; honors the lives lost, sacrifices made, and suffering endured by community members, particularly those who face structural barriers and inequities; and works to ensure the resilience of the community into the future.

## Tribal Acknowledgement

The City of Santa Rosa recognizes that we are on the ancestral lands of the Coast Miwok, Pomo, and Wappo, who are the original stewards of this

area. Santa Rosa is on the ancestral lands of Coast Miwok and Southern Pomo Tribal groups. The two Tribal groups now make up the Federated Indians of Graton Rancheria. The Federated Indians of Graton Rancheria is culturally affiliated, and its territory includes what is modern day Santa Rosa. We respectfully acknowledge the Indigenous peoples and Southern Pomo tribes: Federated Indians of Graton Rancheria, Dry Creek Rancheria, Lytton Rancheria, and Cloverdale Rancheria. Five federally recognized tribes in Sonoma County have been stewarding and maintaining relationship on this land as knowledge keepers for millennia. The City is dedicated to promoting understanding and educating the public about historical and ongoing connections between land conservation and social inequities. This includes the histories of genocide, forced removal and displacement, and broken promises with Indigenous peoples and Tribes as a part of United States American history. Indigenous and Tribal people are not just in our histories. We strive to empower Indigenous and Tribal voices to share their own history, as to not perpetuate another form of being silenced. While recognizing the past, we honor the resiliency of Indigenous people and California Native American Tribes still in their ancestral territories in relationship with their land and culture.

## History and Setting

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Before arrival of the Europeans, the Santa Rosa Plain was home to a rich history of Native American heritage. Archaeologists speculate that Native American habitation in the region began approximately 7,000 years ago. Remnants of Native American civilization have been discovered along Santa Rosa Creek and its tributaries, in the adjacent alluvial valleys and surrounding plains, in the hills, in the Annadel State Park area, in the Laguna de Santa Rosa, and in the Windsor area. The remains of entire settlements, including three former villages, have been found in northern Santa Rosa.

Santa Rosa, Spanish for “Saint Rose,” was founded in 1833 and named after Saint Rosa of Lima, Peru. The first non-native permanent settlers were the family of the widow Dona Maria Carrillo, mother-in-law of General Vallejo and aunt of the Mexican Governor Pio Pico. By the 1850s, a Wells Fargo post and general store were established in what is now downtown Santa Rosa. In 1867, the county recognized Santa Rosa as an incorporated city, and in 1868 the State officially confirmed the incorporation, making Santa Rosa officially the third incorporated city in Sonoma County.

The population of Santa Rosa remained relatively small until railroad services started in 1870 and linked the city to the greater Bay Area and the rest of the state. In 1949, construction on Highway 101 through Santa Rosa began, which resulted in bisecting the east and west sides of the city while connecting Santa Rosa to the north and south by car. In 1900, the city's population was 6,673. Santa Rosa has grown and evolved into a diverse metropolitan community that serves as the commercial, economic, civic, cultural, and educational center of the northern Bay Area region. By 2000, the population was 147,532, making Santa Rosa the largest city in Sonoma County and the fifth most populous city in the Bay Area. By 2019, the Santa Rosa population had climbed to 174,885 people. Today, the city has over 40 unique neighborhoods and commercial districts. **Figure 1-2** maps seven major areas referred to throughout the General Plan to orient the reader.

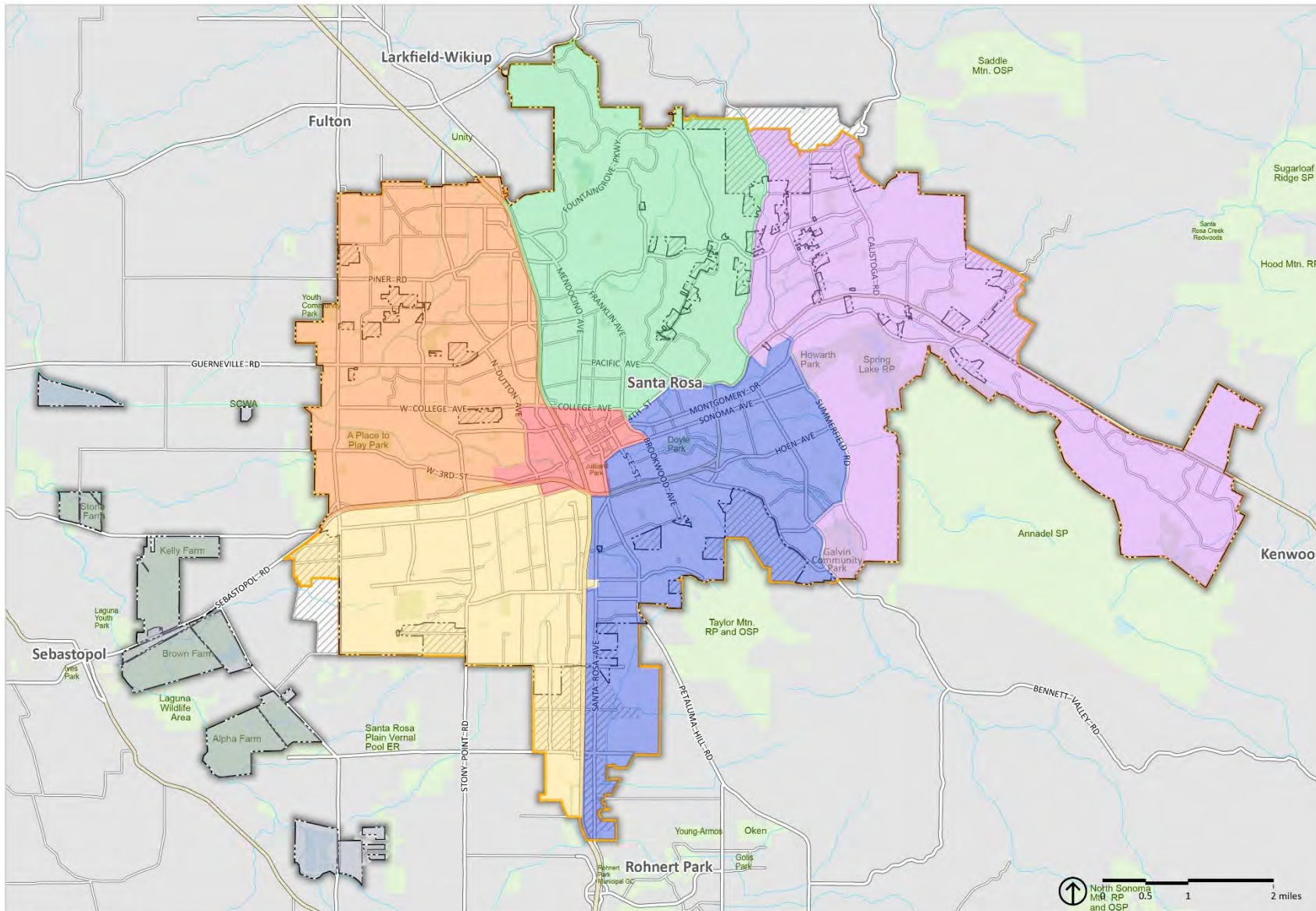


Figure 1-2  
Major Areas

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Outside of Planning Area

**Santa Rosa Neighborhoods**

- Downtown/Station Area
- Northwestern Santa Rosa
- Southwestern Santa Rosa
- Southeastern Santa Rosa
- Northeastern Santa Rosa
- Eastern Santa Rosa
- Western Lands

Source: City of Santa Rosa 2023





# General Plan Development

## What Is a General Plan?

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A general plan is a city's road map for the future. It describes a community's aspirations and identifies strategies for managing preservation and change. Sometimes referred to as the community's "constitution," the general plan is a comprehensive document that provides a policy framework to guide decision making related to land use, economic development, community design, historic preservation, art and culture, mobility, open space, conservation, greenhouse gas reduction, safety, adaptation to climate change, public service, community health, equity, environmental justice, parks, community services, housing, and more. California law requires every city and county to prepare and adopt a comprehensive and long-range general plan that addresses eight topics (or "elements"): land use, circulation (or mobility), open space, conservation, noise, safety, environmental justice, and housing. State law also allows optional elements to be added. Any optional element has the same policy weight as the required elements, and the elements can be presented in a variety of formats.

The general plan establishes the policy framework to be used by residents, businesses, developers, staff, council, and appointed boards and commissions. General plans typically include goals, policies, and implementing actions as well as maps and diagrams. These components together convey a long-term community vision and guide local decision making to achieve that vision. The general plan and its maps, diagrams, and development policies form the basis for zoning and subdivision ordinances and for prioritizing public works projects. Under California law, any specific plan, area plan, community plan, zoning regulation, subdivision map, and private development or public works project has to be consistent with the general

plan. Once a jurisdiction adopts, updates, or amends the general plan, it must amend the zoning, subdivision, and other land use regulation ordinances if needed to make them consistent with the general plan.

Santa Rosa's General Plan plays the foundational role in regulating land use in the city; it is the top-level planning document, providing direction for all zoning regulations, ordinances, guidelines, and area or specific plans. The goals and policies throughout the General Plan are interrelated and should be considered together when making decisions related to land use, mobility, growth, and development. City staff apply General Plan policies to give direction to development applicants and land use analysis for the City Council, Planning Commission, and other boards and commissions. In addition, the General Plan actions comprise a detailed implementation program to guide City department work programs and budgeting. Future land use decisions and infrastructure improvements made by the City must be consistent with the General Plan.

## Plan Process

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General Plan 2050 was developed in close collaboration with the community and with oversight and direction from the Planning Commission and City Council in a multiyear process called Santa Rosa Forward. The City formed two advisory bodies to help guide the planning process—a Community Advisory Committee (CAC) and Technical Advisory Committee (TAC). The CAC included representatives from a variety of organizations and perspectives, including neighborhood associations, transportation and advocacy groups, environmental organizations, and a diversity of community members. The primary role of the CAC was to act as project liaisons and to encourage participation from a diverse breadth of community members. The TAC was made up of technical experts from City departments and partner agencies that

provided feedback on the project to ensure the plan concepts could be achieved.

The process to update the General Plan and envision the future of Santa Rosa was divided into phases. Preparation of the plan included the required environmental analysis, adoption, and any necessary changes to the City's Zoning Code and other City policy and regulatory plans and documents. Each of the five phases to create the plan involved similar, robust community engagement efforts to guide development of the product for that phase and included the following steps:

- **Draft Product.** The project team developed an initial product (e.g., Community Involvement Strategy, Existing Conditions Analysis), guided by research, input from the TAC, and/or prior community input.
  - **Community Engagement.** The project team presented the draft product to the community to gather additional input. In each phase, the team used a range of parallel outreach strategies that were convenient to as many people as possible, such as pop-up events, informational videos, surveys, workshops, and open houses.
  - **Joint Study Session with Planning Commission and City Council.** The team presented the draft product and community insights to the Planning Commission and City Council. The Commission and Council provided additional input and direction for next steps.
  - **Revisions and Next Phase.** Based on direction from the Planning Commission and City Council, the project team made revisions to finalize the product and/or move on to the next phase of work.
- **Phase 1: Project Initiation and Community Involvement Strategy.** In Phase 1, the City of Santa Rosa and consultants launched the Santa Rosa General Plan 2050 update by publishing a project work plan and a community involvement strategy (CIS). The City held four community and small group conversations and issued a public survey to get input on the CIS and help refine the planned approach for engaging the community.
  - **Phase 2: Existing Conditions and Visioning.** Phase 2 involved the preparation and publication of a report detailing current conditions in the community. The team used this report to develop a briefing book with high-level takeaways that highlighted emerging opportunities and key topics. This work, combined with a climate change vulnerability assessment, led to the project visioning effort, which included two community surveys that together received 1,483 responses, and a series of 10 virtual workshops in summer 2021. Through this process, the community worked together to craft the Vision Statement that is the guide for the General Plan, as shown later in this chapter.
  - **Phase 3: Alternatives.** Phase 3 focused on three land use and circulation “Alternatives” for Santa Rosa’s future development, prepared with consideration of the existing conditions report, equity issues, and the community’s Vision Statement. The three alternatives provided options for community growth and change to address identified challenges and opportunities. Each alternative implemented the community vision and offered different approaches to distribute future housing and mobility. Engagement for the alternatives phase

Following are the eight stages of Santa Rosa Forward:

included nine pop-up events, meetings with 15 different community organizations, a series of five in-person workshops, and a virtual open house.

- **Phase 4: Preferred Alternative.** Phase 4 applied community feedback from the previous phase to draft a “Preferred” Alternative. Engagement activities in this phase included five informational pop-up events, two in-person open-house events, and a web-based survey with the same information and questions as the open house events. Community input supported refinements to the final Preferred Alternative (shown on **Figure 1-3**), which is the foundation of the General Plan. The Preferred Alternative diagram details the major circulation network changes (e.g., road diets and bike lane extensions) supported by the community and identifies 21 “Areas of Change” where the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods.
- **Phase 5: Draft 2050 General Plan.** In Phase 5 the project team prepared this General Plan 2050, including the introductory chapters and the goals, policies, and actions designed to achieve the community vision. [Additional details about the Draft General Plan outreach process will be added following completion of this phase].
- **Phase 6: Environmental Analysis.** All general plans in California are subject to environmental review under the California Environmental Quality Act and must analyze the environmental impacts that would result from implementation of the General Plan. [Additional details about the Environmental Analysis outreach process will be added following completion of this phase].

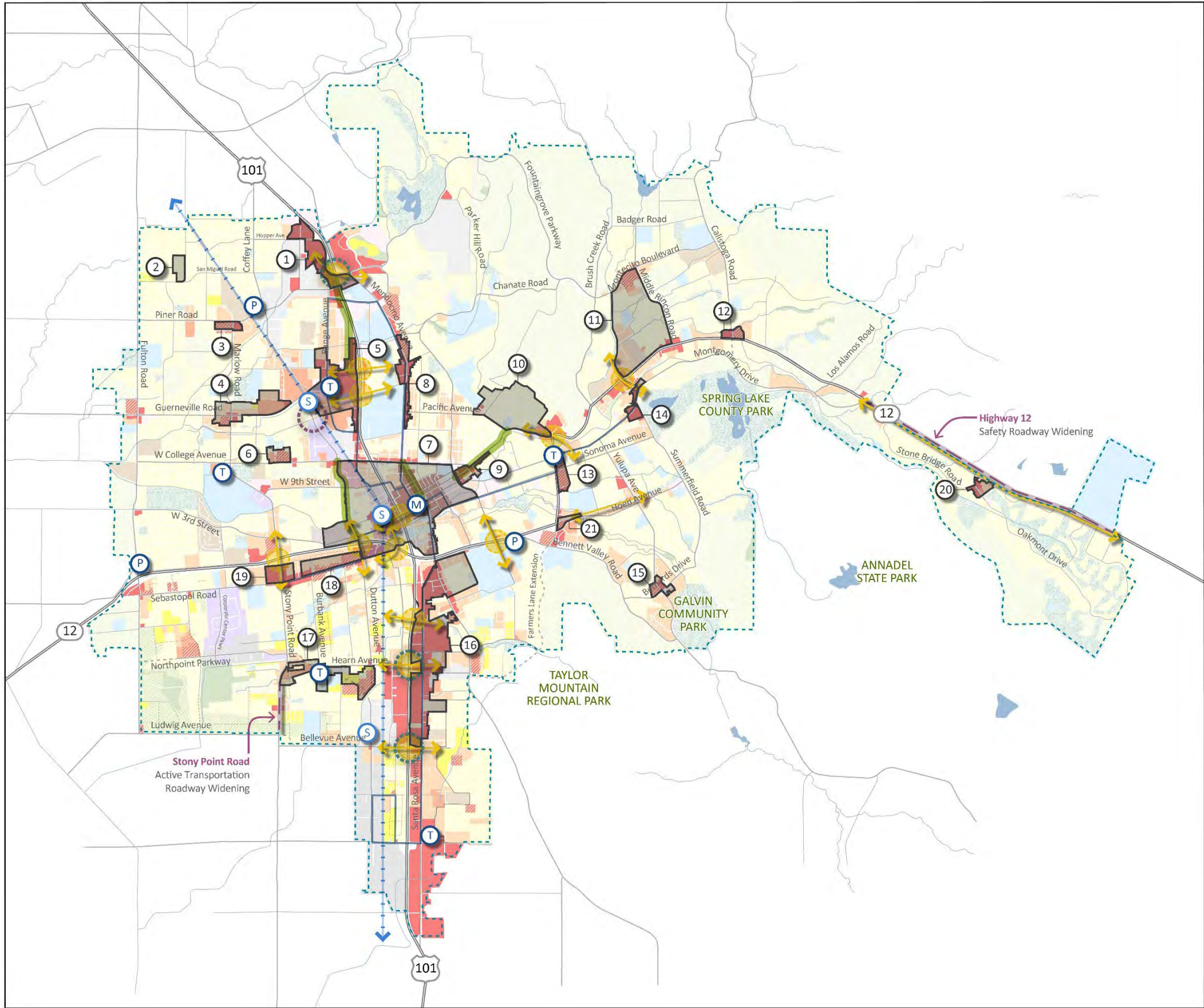
- **Phase 7: Public Review and Adoption.** [Additional details about the General Plan and Environmental Analysis Public Review and Adoption process will be added following completion of this phase].
- **Phase 8: Additional Amendments to City Documents.** The City’s zoning regulations and subdivision approvals must be consistent with the adopted General Plan. Therefore, this post-adoption phase includes the necessary amendments to ensure that the Santa Rosa Municipal Code and Zoning Code, the City’s Design Guidelines, Citywide Creek Master Plan, Bicycle and Pedestrian Master Plan, Specific Plans, and any other documents are consistent with the adopted General Plan.

## Community Vision

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- The community’s vision for the future, developed in Phase 2 of the project, helped to frame the Preferred Alternative (Phase 4); inform new and updated General Plan goals, policies, and actions; and ensure that the General Plan fully addresses the needs and desires of the community. The vision is made up of 13 complementary ideals, summarized as follows:
- Santa Rosa is a diverse, equitable, and sustainable community built on civic engagement that empowers everyone to provide and support equal and affordable opportunities to obtain good housing, education and jobs; to enjoy vibrant cultural events and arts; and to live healthy lives in resilient neighborhoods that adapt to social and environmental change.
- The full Vision Statement, with all 13 ideals, is presented here and depicted graphically on **Figure 1-4**.

Figure 1-3: Preferred Alternative



### Preferred Alternative Diagram

**LEGEND**

- Urban Growth Boundary
- Lakes/Creeks
- Highways
- Major Roads
- S SMART Transit Center
- T SMART Rail Line
- M Transit Hub
- P Transit Mall
- P Transit Park-and-Ride
- Areas of Change
- Roadway Widening
- Proposed Road Diets
- New Major Roads
- New Minor Roads
- Improved Pedestrian/Bicycle Connections
- New or Widened Auto Overpass including Pedestrian/Bicycle Enhancements
- New Pedestrian/Bicycle Rail Crossing
- High Frequency Bus Route (10-15 min. headways)

**General Plan Land Use**

- Country Residential (0.05-0.2 units per acre)
- Very Low Density Residential (0.2-2.0 units per acre)
- Low Density/Open Space (2.0-8.0 units per acre)
- Low Density Residential (2.0-8.0 units per acre)
- Medium Low Density Residential (8.0-13.0 units per acre)
- Medium Density Residential (8.0-18.0 units per acre)
- Medium High Density Residential (13.0-30.0 units per acre)
- Transit Village Medium (25.0-40.0 units per acre)
- Mobile Homes (4.0-18.0 units per acre)
- Transit Village Mixed Use
- Retail and Business Services
- Office
- Business Park
- Light Industrial
- General Industrial
- Public/Industrial
- Parks and Recreation
- Open Space
- Agriculture
- Parcel Lines
- Creeks

**Areas of Change**

Areas of Change are areas where the City will focus efforts on addressing housing, services, connectivity, and/or infrastructure needs to make these complete neighborhoods.

- 1 Fountain Grove/Mendocino Interchange
- 2 Franciso Avenue
- 3 Rosewood Village
- 4 Marlow Center and Lance Drive Annexation
- 5 Coddington
- 6 West College Neighborhood Center
- 7 Downtown Station Area
- 8 Mendocino Corridor
- 9 4th Street Corridor
- 10 Flamingo Center
- 11 Montecito
- 12 St. Francis Shopping Center
- 13 Montgomery Village
- 14 Howarth Commercial
- 15 Bennett Valley
- 16 Santa Rosa Marketplace/South Park
- 17 Hearn Corridor
- 18 Roseland
- 19 Stony Point Circle
- 20 Oakmont
- 21 Southeast Greenway

Santa Rosa is:

- **Just:** Social and environmental justice are achieved for everyone—all abilities, ages, ethnicities, gender identities, immigration status, income levels, language speakers, races, religions, and sexual orientations and identities—EVERYONE.
- **Sustainable:** Natural resources are restored, protected, and expanded to provide accessible green space for everyone in all neighborhoods, mitigate drought, and minimize greenhouse gas emissions.
- **Inclusive:** Everyone is welcome and actively encouraged to join in neighborhood and citywide decision making, and barriers to participation are identified and eliminated.
- **Healthy:** All neighborhoods have low pollution level and good air quality, are vibrant, connected, full-service communities, with the resources to be civically organized, and anchored by inclusive and accessible public outdoor spaces and buildings offering safe and welcoming places for everyone. Every person has the opportunity to attain their full health potential.
- **Resilient:** All facets of the community, including housing, infrastructure, and social services are sustainable and resilient to hazards and economic changes.
- **Prepared:** The health and safety of everyone is supported by neighborhood, City, and county-wide efforts to prepare for natural and human-caused hazards, and roadways are optimized to support efficient evacuations.
- **Sheltered:** A diverse mix of high-quality, safe, thoughtfully designed, efficiently planned, and well-served housing at all affordability levels is available throughout the community to accommodate everyone, including formerly homeless, immigrants, local workers, multigenerational households, seniors, students, and formerly incarcerated people.
- **Equitable:** Everyone has what they need to enjoy long, fulfilling, healthy lives, including affordable access to meet their daily needs—including healthy food, recreation, education, childcare, employment opportunities, reliable internet, and physical and mental health services.
- **Successful:** Top employers gravitate; Black-, Latino/Latina-, and other minority-owned businesses are in all corners of the community; equitable investments are made in all neighborhoods; local shops, food and beverage establishments and food trucks, and entertainment spaces support a vibrant city; and meaningful work in a thriving economy is available for people of all ages and backgrounds.
- **Connected:** High-quality, reliable, and safe transit service, bicycle and pedestrian facilities, and other forms of mobility connect all ages across the city and region at all times and support healthy lifestyles, clean air, equity, and resilience.
- **Safe:** Streets are safe; public safety services are provided by caring and thoughtful community members who are representative of and familiar with the neighborhoods, groups, and individuals they serve; and everyone, including immigrants and people of color, can safely access these services.
- **Educated:** Life-long education, enrichment, and supportive services and resources engage and empower young

people, strengthen families (of any family structure), connect and activate seniors, and foster the success and well-being of everyone.

- **Cultural:** Art, cultural resources, and activities, historic assets, and live music thrive in every neighborhood, are accessible to everyone, and work to celebrate our diverse community, bring people from all areas of the city together, and support the local economy.

**Figure 1-4: Santa Rosa Vision Diagram**



## Preferred Alternative

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The Preferred Alternative in **Figure 1-3** shows the foundational land use and circulation network priorities that guide the General Plan to implement the community's vision. The Preferred Alternative identifies 21 Areas of Change where the City will focus on housing, services, connectivity, and/or infrastructure needed to make these complete neighborhoods. Complementing the Areas of Change are major improvements to the transportation network, which focus on bridging east and west and enhancing multimodal connectivity and safety citywide. As appropriate, goals, policies, and actions prioritize the Areas of Change.

## Santa Rosa General Plan 2050

### Planning Area

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The Planning Area for the General Plan defines where the City has an interest in land use and includes land within the incorporated city, sphere of influence (SOI), and urban growth boundary (UGB). Under State law, a general plan must address all areas within the jurisdiction's Planning Area. **Figure 1-5** shows the boundaries of the Santa Rosa Planning Area, which covers about 49 square miles.

The Santa Rosa city limits encompass nearly 43 square miles, 67 percent of which is developable. An additional 13 percent of the city is made up of local, regional, and state parkland and open space, including creeks and waterways. The remaining 20 percent of the city is undevelopable because it is unusable due to topography such as steep terrain, right-of-way (roads and railroads), or similar.

The SOI is the unincorporated area adjacent to the city that receives services from the city or may in the future. As shown on **Figure 1-5**, the Sonoma County Local Agency Formation

Commission (LAFCO) identifies unincorporated neighborhoods north, northeast, south, and southwest of the city limits as within Santa Rosa's SOI. To be eligible for annexation by the City, land must be in the city's LAFCO-designated SOI.

As the name suggests, the UGB separates urban areas from the surrounding natural and agricultural lands, or greenbelts, and limits how far out a city can expand. In 1990, Santa Rosa voters approved a five-year UGB, followed by a two-decade UGB measure in 1996 and an extension in 2010 to ensure that the current UGB will not be significantly changed until at least 2035. The UGB, as shown on **Figure 1-5**, covers about 45.5 square miles and encompasses all incorporated city land plus some unincorporated land expected to be annexed at some point in the future. In most cases, but not all, the SOI and UGB coincide.

### General Plan 2050 Approach

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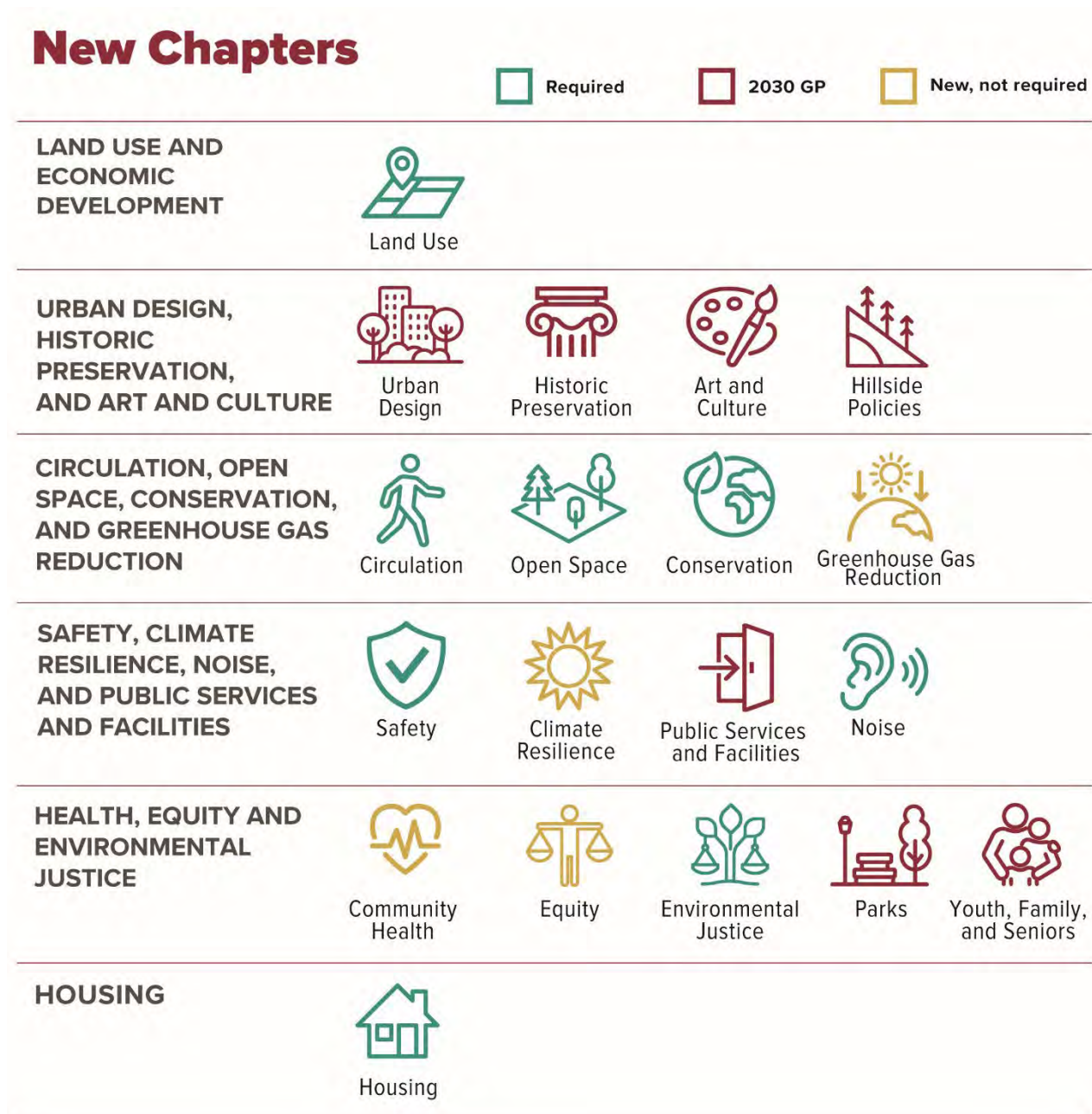
Santa Rosa General Plan 2050 consolidates the mandated elements into five chapters that address both required and optional General Plan topics. The General Plan includes new optional subjects and some optional topics that are carried over from the previous plan (General Plan 2035). **Figure 1-6** illustrates the organization of General Plan 2050, the distribution of State-mandated and optional elements, and which optional elements are carried forward from the prior General Plan.

Two key topics of the General Plan, **Greenhouse Gas (GHG) Reduction** and the interrelated subjects of **Health, Equity, and Environmental Justice** are discussed in detail in dedicated chapters (see **Figure 1-6**), but other aspects of the Plan touch on these issues as well, so there are goals, policies, and actions throughout the Plan chapters that address them. **Table 1-1** highlights where these goals, policies, and actions are in the Plan.

In addition to the five topical chapters in the General Plan, State law requires an update to the General Plan Housing Element every eight years. The most recent Santa Rosa Housing Element, which was adopted by the City Council on February 14, 2023, and certified by the California

Department of Housing and Community Development on April 7, 2023, covers the planning period through 2031. General Plan 2050 does not involve any amendments to the Housing Element.

Figure 1-6: Santa Rosa General Plan 2050 Contents





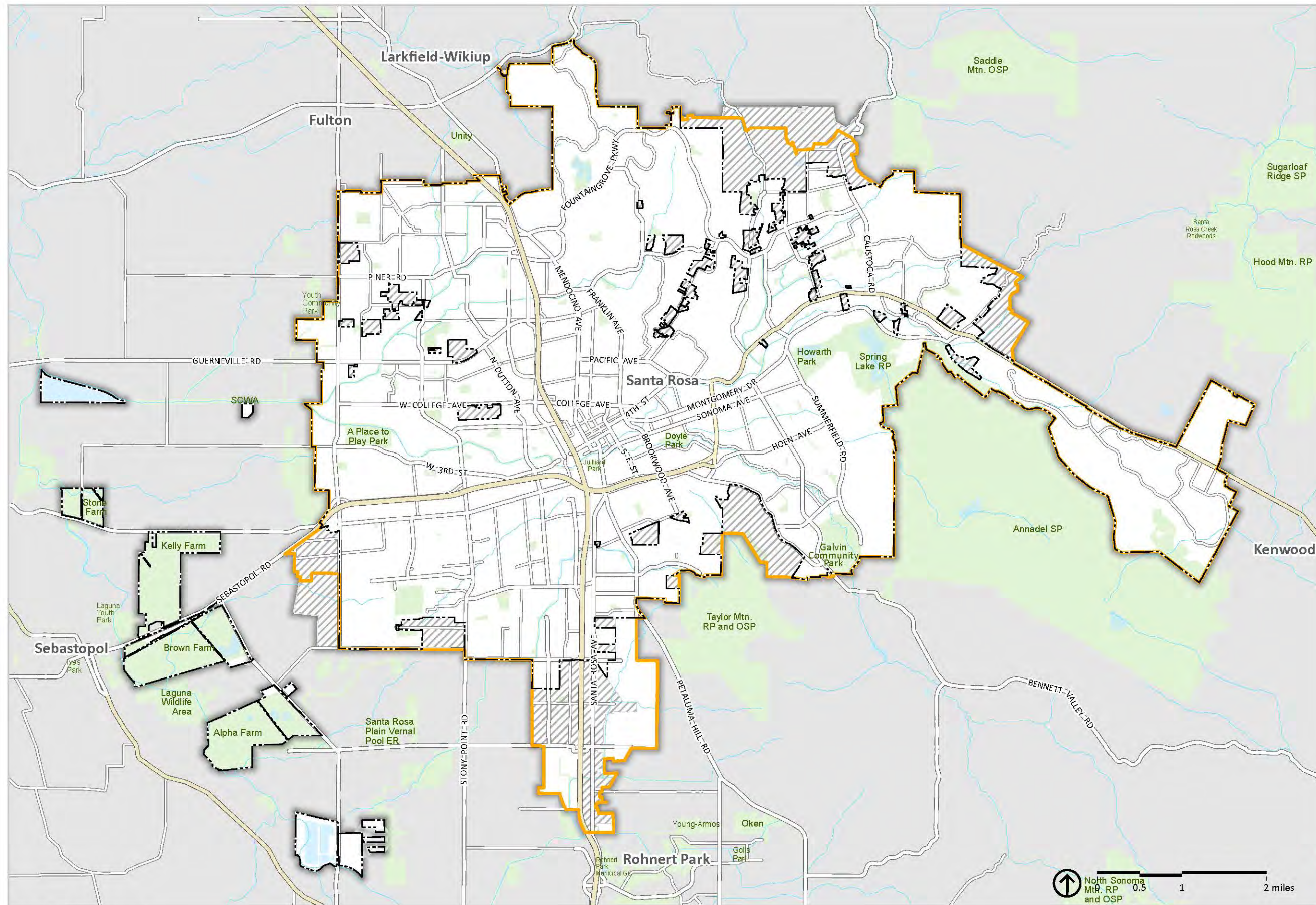


Figure 1-5  
Planning Area

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Outside of Planning Area



Source: City of Santa Rosa 2023

<b>Table 1-1</b> Greenhouse Gas Reduction and Environmental Justice in the General Plan		
Chapter/Subsection	GHG Reduction	Health, Equity, and Environmental Justice
<b>Land Use and Economic Development</b>		
General Plan Priority Areas	✓	
Land Use	✓	✓
Economic Development	✓	✓
<b>Circulation, Open Space, Conservation, and Greenhouse Gas Reduction</b>		
Circulation	✓	✓
Open Space and Conservation	✓	✓
Greenhouse Gas Reduction	✓	
<b>Urban Design, Historic Preservation, and Art and Culture</b>		
Urban Design		✓
Historic Preservation		
Arts and Culture		✓
<b>Safety, Climate Resilience, Noise, and Public Services and Facilities</b>		
Safety		✓
Climate Resilience	✓	✓
Noise		
Public Services and Facilities	✓	✓
<b>Health, Equity, and Environmental Justice</b>		
Relationship to Other Chapters		
Health for All Residents		✓
Food Access and Urban Agriculture	✓	✓
Violence Prevention and Equitable Policing		✓
Parks	✓	✓
Youth, Family, and Seniors		✓

## Plan Structure

---

The General Plan includes this introduction and five topical chapters. The chapters cover all elements required by California State Government Code Section 65302, as well as topics of particular interest to the Santa Rosa community. The General Plan structure follows:

- **1. Introduction:** Describes the context of the General Plan update and history of the city; provides an overview of general plans, outlines the process to develop General Plan 2050; highlights key foundational milestones; identifies the required elements of the General Plan and summarizes the approach, structure, and key components of General Plan 2050; and provides information on how the plan is used by the City; how it can be used by the community, and how and when future updates can be made.
- **2. Land Use and Economic Development:** Provides overall land use and economic development policies for the city. The State-mandated land use content addresses the connection between land use and transportation, utilities, and other infrastructure.
- **3. Circulation, Open Space, Conservation, and Greenhouse Gas Reduction:** Satisfies the State law requirement to address transportation (circulation) in the plan and provides the general location and extent of existing and proposed major streets and other transportation facilities. This chapter correlates with Chapter 2, Land Use and Economic Development, to provide adequate transportation to serve both new and existing land uses. Transportation improvements will support City and statewide greenhouse gas reduction targets, though this chapter goes further to include additional measures to reduce emissions across sectors. These measures correlate with the City's Greenhouse Gas Reduction Strategy. Finally, this chapter addresses the State law requirement for open space and conservation elements, relating to both the natural and built environment.
- **4. Urban Design, Historic Preservation, and Art and Culture:** Includes goals, policies, and actions related to urban design, historic preservation, art and culture, and hillside development. These are optional General Plan topics, but each is considered essential to the character and future growth of the Santa Rosa community.
- **5. Safety, Noise, and Public Services and Facilities:** Addresses State-required safety considerations. It provides information about risks in Santa Rosa due to natural and human-caused hazards, and its goals, policies, and actions are designed to protect populations, property, and critical facilities. It specifically addresses risks associated with flooding and storm drainage, geologic and seismic hazards, hazardous materials and waste, and fires. This chapter also includes goals, policies, and actions addressing public services and facilities and the legally required topic of noise.
- **6. Health, Equity, and Environmental Justice:** Addresses the newly required Environmental Justice element, along with optional element topics of community health, equity, parks, and youth and family. The optional elements complement the mandated element because each topic directly impacts environmental justice, and they all work to support more sustainable and positive community change.
- **7. Glossary:** Defines key terms used in General Plan 2050.

- Appendices:** The City’s Greenhouse Gas Reduction Strategy and Climate Change Vulnerability Assessment Report are included as appendices to the General Plan.

## Goals, Policies, and Actions

General Plan 2050 is made up of goals, policies, and actions that work together to achieve the community’s future vision. As summarized in **Figure 1-7**, General Plan goals are statements that describe the end-state the community wants to accomplish to resolve a particular issue or take advantage of an opportunity. General Plan policies and actions guide day-to-day decision making and continued progress toward the attainment of goals.

The goals, policies, and actions are a critical component of General Plan 2050. Goals determine what should be done and where. Policies and actions together establish who will do the work and how and when they will carry out the goals. Together, they describe the steps the City and the community must take to make the vision of the General Plan a reality. The General Plan is meant to be a useful, everyday guide for what to do and how to make decisions for the future. Where needed, explanatory text ties the goals and policies to the community vision, and every action is listed and numbered under a specific policy. As with other City policy documents, timing and priority for implementing the policies and actions are subject to the resources that the City and its partners have to carry them out.

**Figure 1-7: Goal, Policy, and Action Hierarchy**



## New to General Plan 2050

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General Plan 2050 introduces several changes from the previous General Plan 2035 to serve the community vision and enhance usability and implementation.

- General Plan 2050 presents an **integrated and cross-sector approach to reducing GHG emissions** in Santa Rosa. The General Plan includes goals, policies, and actions that support reductions from community-wide and municipal sources of emissions integrated throughout most chapters and is supported by a stand-alone GHG Reduction Strategy, which replaces the City's Community Climate Action Plan. The GHG Reduction Strategy consolidates the City's GHG reduction measures and presents detailed quantification and other details consistent with CEQA Guidelines Section 15183.5, to support ongoing reductions through 2050.
- Since adoption of General Plan 2035, the State Legislature passed SB 1000 requiring the inclusion of an **environmental justice element** in local general plans to address environmental health disparities experienced by many low-income communities and communities of color.
- As described under the Plan Structure section, General Plan 2050 includes goals, policies, and implementing **actions**, while General Plan 2035 included only goals and policies. These actions guide the City's implementation of the plan and will populate a work plan that will identify responsible department(s) and/or agency(ies) and the timeline for implementation—near-term, medium-term, long-term, or ongoing.

- General Plan 2050 is a **streamlined document** compared to the previous plan, designed to support ease of use by community members, City staff, and City leadership. Core content of General Plan 2035 that continues to serve the community well is carried forward to this General Plan, and **many goals and policies were omitted** if they were no longer relevant or were sufficiently addressed by other City documents. The **2035 Urban Growth Management Element is not included** in General Plan 2050; instead this General Plan clearly identifies Areas of Change where urban infill will occur and acknowledges that expansion of the city into surrounding lands is no longer a focus of City planning efforts. The resulting, simplified suite of goals, policies, and actions focus on feasibility and realization of the community's vision for the future.

## General Plan Application and Amendments

### How to Use This Plan

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Elected and appointed City officials and City staff use the General Plan as a point of reference, as do community members, business owners, individuals proposing new development projects, and others. The General Plan is useful when making decisions regarding topics such as subdivisions, new residential, commercial and industrial development, capital improvements, and neighborhood rehabilitation. The policies in this General Plan are intended to provide clear guidance and explanation about the City land use decision-making processes and how Santa Rosa may grow, change, or stay the same.

In general, actions that use "require," "prohibit," or "shall" are mandatory. Policies that use "encourage," "promote," "discourage," "consider," or "should" are not mandatory, and the City may

choose to modify its course of action in cases where a policy may not prove appropriate for a particular situation or if extenuating factors, such as competing priorities or budget limitations, would make it infeasible to follow policy direction verbatim.

As described in Chapter 2, Planning Framework, the General Plan update process involved a wide variety of stakeholders and interests. As a result, this General Plan addresses multiple and sometimes competing policy objectives, and the City may not be able to strictly adhere to every policy in every decision that it makes to implement the overall goals of this General Plan. The City Council will continue to have discretion over prioritizing overall policy objectives to implement this General Plan in instances when multiple policy objectives may affect a single decision.

Finally, the General Plan is intended to be understandable and easily available to the public, in part because policies will be carried out only if they continue to merit community support. If and as conditions in Santa Rosa change, the General Plan can and should be interpreted and modified as necessary to reflect and remain consistent with the City's and community's desires and priorities.

## Amending the Plan

The General Plan is intended to be as dynamic as needed by the Santa Rosa community. As such, it may be necessary to amend the General Plan over time to meet any shift in needs. Requested amendments in Santa Rosa tend to be proposed by landowners seeking to change the land use designation for specific properties. In addition, the City could amend the General Plan in response to changes in growth and market demand or for other policy reasons.

The General Plan Land Use Diagram or the text of any element may be amended up to four times per year, as mandated by State law.

General Plan Amendment applications may be filed by individual applicants or initiated by the City.

Applications for an amendment to the General Plan must address why an amendment is warranted, describe events which have rendered the General Plan inadequate or unattainable, and describe any studies that have brought policies or portions of the plan into question.

Applications for General Plan Amendment and/or City-initiated General Plan amendments should be grouped together as a single amendment package. The Planning Commission may conduct hearings regarding General Plan Amendment packages in the spring, summer, fall, and winter of each year, followed by City Council consideration and action.

The City is required to report annually to the State regarding progress toward achieving General Plan goals, and cities regularly review General Plan goals and policies to determine whether they still reflect the community's values and the city's physical and economic conditions. By statute, the General Plan is required to be updated periodically, but no requirement says how often, and the planning period has traditionally been 15 to 20 years. Some cities and counties update their General Plans as often as every 5 years, and others update in portions over time. The Housing Element must be updated and certified by the State Department of Housing and Community Development agency (HCD) every eight years. The City must also review and, if necessary, revise the safety element with each revision of the housing element or local hazard mitigation plan, but not less than once every eight years. No other elements of the plan have mandated update or review periods. State law requires the California Office of Planning and Research to publish the names of jurisdictions with general plans older than 10 years and to notify the respective decision-making bodies of these jurisdictions.

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# 2

## Land Use and Economic Development





## 2. Land Use and Economic Development

How land is used in Santa Rosa can make a big difference in how people feel about and interact in local neighborhoods and in how the local economy operates. A successful new business, residential development, or active community use where once was a vacant lot can begin transforming a whole neighborhood, improving everything from the safety of kids going to school to new landscaping along streets and supporting local pride and revitalization. Such positive change can also revitalize local commercial areas and bring critical jobs and community amenities to the city, increasing economic access and vitality. Identifying feasible locations for new and expanded educational, vocational, and employment opportunities can start the process to help local youth and adults develop meaningful careers close to home. Recognizing all this, General Plan 2050 seeks to reinforce local pride, increase local investment, and bolster the vitality of the city as a whole. This chapter supports thoughtful land use planning and economic development strategies to enhance and build on neighborhood assets, address current challenges, increase economic and environmental vitality, increase personal opportunity, and improve quality of life for everyone in Santa Rosa.

Santa Rosa's growth pattern over the past century and a half has heavily influenced the physical form of its neighborhoods. Santa Rosa began with the establishment of the downtown

area as a commerce center for the surrounding agricultural and timber region. The city developed from this central core along a series of commercial corridors into newer, more suburban neighborhoods.

The construction of Highway 101, which started in 1949, physically divided the east and west sides of the city. Though the highway facilitates connections between Santa Rosa and the rest of the region and state, it disrupts connections within the city. Policies and actions in this chapter and others are intended to bridge some of these gaps.

### Chapter Contents

- General Plan Priority Areas and Populations
- Land Use
- Economic Development

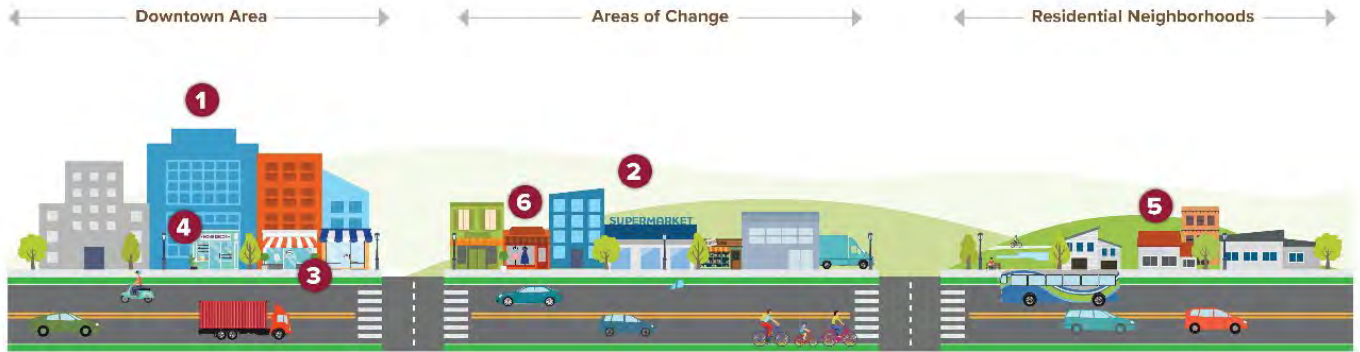
The goals in this chapter reflect Santa Rosa's priorities and implement the community's vision for the future. These goals, associated policies, and actions especially support the following statements from the Santa Rosa Vision (shown in full in Chapter 1, Introduction):

- **Just:** Social and environmental justice are achieved for everyone—all abilities, ages, ethnicities, gender identities, immigration status, income levels, language speakers, races, religions, sexual orientations and identities, EVERYONE.
- **Sheltered:** A diverse mix of high-quality, safe, thoughtfully designed, efficiently planned, and well-served housing at all affordability levels is available throughout the community to accommodate everyone, including formerly homeless, immigrants, local workers, multigenerational households, seniors, students, and formerly incarcerated people.
- **Successful:** Top employers gravitate; Black-, Latino/Latina-, and other minority-owned businesses are in all corners of the community; equitable investments are made in all neighborhoods; local shops, food and beverage establishments and food trucks, and entertainment spaces support a vibrant city; and meaningful work in a thriving economy is available for people of all ages and backgrounds.

**Figure 2-1** illustrates some of the key concepts addressed in this chapter.

Figure 2-1: Visualizing the Concepts

# ▶ **LAND USE AND ECONOMIC DEVELOPMENT**



**1**  
Mixed Use Downtown Neighborhood



**2**  
Mixed Use Corridor



**3**  
Street Dining/  
Retail Activities



**4**  
Jobs-Training Balance



**5**  
Neighborhood  
Entrepreneurship



**6**  
Resilient Economic  
Growth

## General Plan Priority Areas and Populations

A number of policies and actions in this General Plan give priority to specific areas or populations in Santa Rosa. Though a policy or action may apply broadly, this prioritization means that the City will first concentrate efforts on historically underserved communities and/or core neighborhoods to advance key aims of environmental justice, social equity, and complete communities. These priority areas and populations are Equity Priority Areas, Equity Priority Populations, and Areas of Change, described in the following sections.

### Equity Priority Areas

Low-income communities and communities of color often bear a disproportionate burden of pollution exposure and associated health risks. Environmental justice seeks to correct this inequity by reducing pollution exposure in these communities and ensuring that their input is considered in decisions that affect them. Senate Bill 1000, the Planning for Healthy Communities Act, requires general plans to identify the communities that suffer most from economic, health, and environmental burdens and address environmental justice for these communities. SB 1000 calls these “disadvantaged communities,” and the General Plan terms them “Equity Priority Areas” or “EPAs” to recognize the immediate importance of addressing these issues.

The California Communities Environmental Health Screening Tool (CalEnviroScreen) is the primary method for identifying EPAs. CalEnviroScreen quantifies a range of factors related to pollution burden and population characteristics (e.g., poverty, educational attainment, and age) to derive a composite score for each census tract compared to the rest of the state. In general, the higher the score, the more impacted a community is. Census tracts in

the highest quartile of scores (i.e., 75 to 100 percent) are considered EPAs, although the law (Senate Bill 535) encourages cities to work with community members and stakeholders to refine the boundaries of these communities and identify additional communities, if appropriate, to support planning efforts that improve environmental justice. CalEnviroScreen identifies two Santa Rosa census tracts as EPAs under SB 535: one at the southeast intersection of Highways 101 and 12 and another south of Hearn Avenue west of Highway 101, shown on **Figure 2-2**. The City of Santa Rosa has worked with the community to identify additional vulnerable areas with overlapping concentrations of people of color and people living in poverty, shown on **Figure 2-3**. Santa Rosa’s EPAs, shown on **Figure 2-4**, include the EPAs identified by SB 535 and the areas with overlapping concentrations of people of color and people living below the poverty line.

**Equity Priority Areas or EPAs** are areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. EPAs are identified following Guidance from the State tool, CalEnviroScreen 4.0, and additional input from community members and stakeholders. This General Plan addresses environmental justice needs pursuant to SB 1000 and health and equity considerations of EPAs with goals, policies, and actions in each chapter that prioritize EPAs, as appropriate. Chapter 6, “Health, Equity, and Environmental Justice,” has the highest concentration of these goals, policies, and actions.

**Environmental Justice** is the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

*Source: California Government Code, Section 65040.12(e)*

## Equity Priority Populations

Similar to the EPA designation, the City of Santa Rosa has identified 10 Equity Priority Populations based on characteristics that contribute to vulnerability and/or the likelihood of being underserved in a variety of areas, including environmental justice, equity, health, and safety. These populations are:

1. Low-income individuals and families
2. Racial or ethnic groups experiencing disparate health outcomes
3. Seniors, children, youth, and young adults
4. Individuals with disabilities
5. Immigrants and refugees
6. Outdoor workers and farmworkers
7. Individuals who have limited English proficiency
8. Unhoused people
9. Lesbian, gay, bisexual, transgender, queer, intersexual, asexual, and other LGBTQIA+ communities
10. Individuals who are incarcerated or who have been incarcerated

Though it is not a requirement under SB 1000, one or more Equity Priority Populations may be prioritized in General Plan goals, policies, and actions, as appropriate.

## Areas of Change

The creation of General Plan 2050 included extensive community engagement to identify a preferred land use and circulation diagram. Figure 1-4 in the Introduction details the major

circulation network and land use actions programmed in General Plan 2050. Community members favored an approach that did not result in any changes to land use designations from the previous general plan, and instead prioritized development in 21 specific “Areas of Change,” depicted on **Figure 2-5**. These are places where the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs and help provide complete neighborhoods with goods and services that are easily available. Accordingly, some policies and actions in this and other chapters focus on Areas of Change for implementing actions related to active transportation infrastructure, quality housing, healthy food options, opportunities for social connections, and access to parks and commercial services.

**Areas of Change** shown on **Figure 2-5** are places the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods.

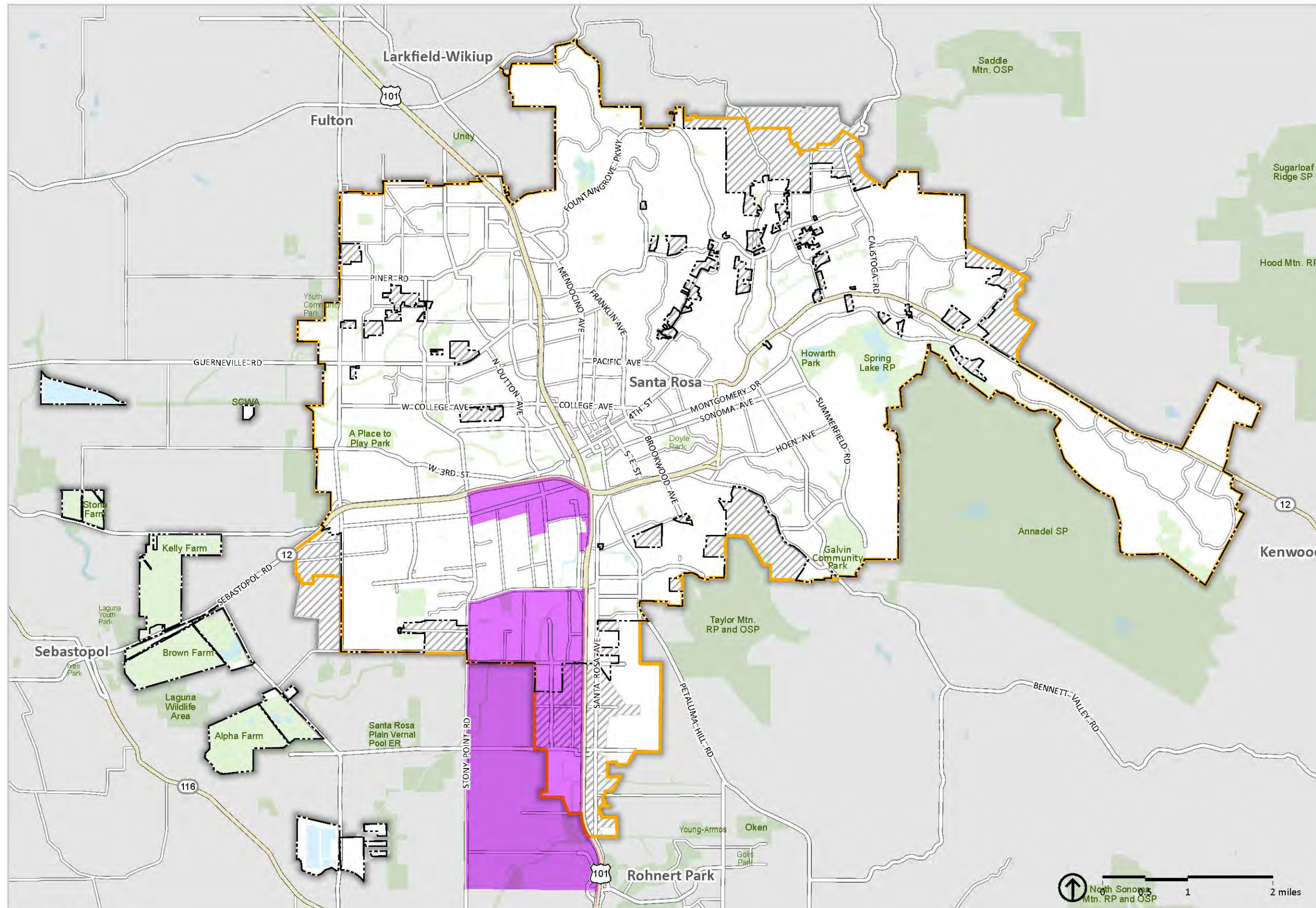


Figure 2-2  
Disadvantaged  
Communities  
Under SB 535

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Disadvantaged Communities Under SB 535

Source: City of Santa Rosa 2023



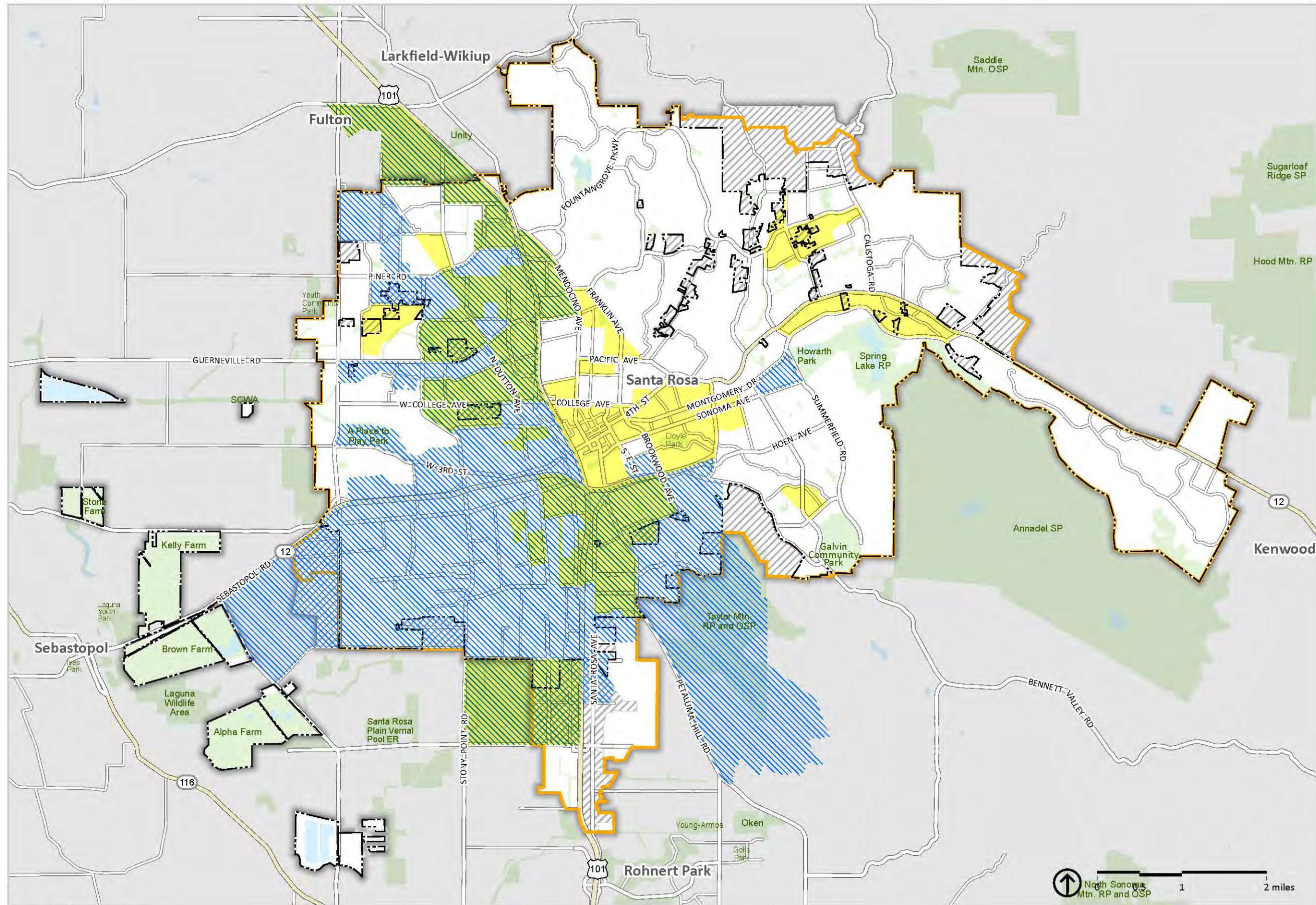


Figure 2-3  
Concentrations of People of Color and People Below the Poverty Line

- City Limits
- City Sphere of Influence
- Urban Growth Boundary
- Planning Area
- Poverty Top 25%
- Minority Top 25%

Source: City of Santa Rosa 2023

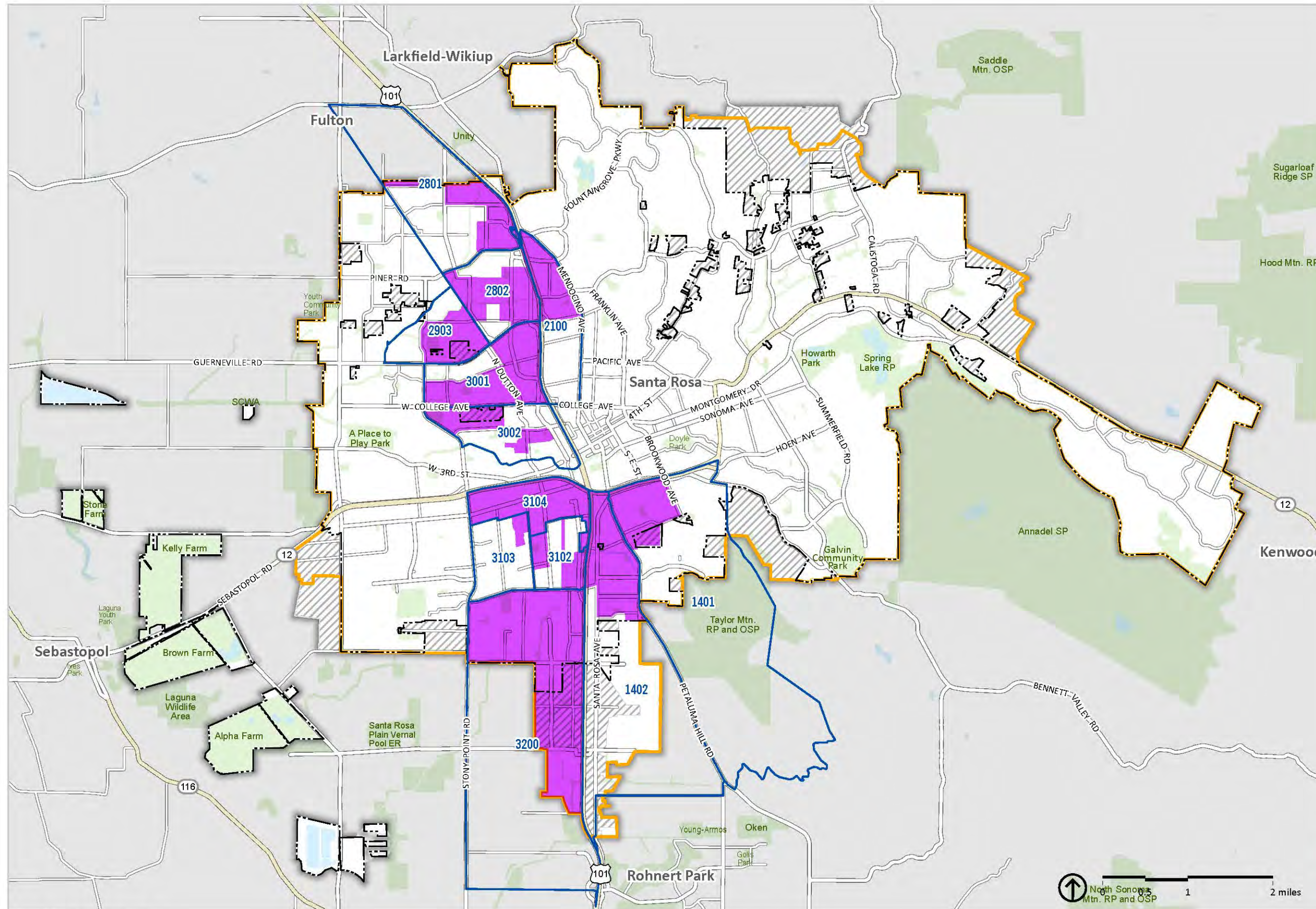


Figure 2-4  
Equity Priority Areas

- City Limits
- City Sphere of Influence
- Urban Growth Boundary
- Planning Area
- Equity Priority Areas
- Census Tracts Containing Equity Priority Areas

Source: City of Santa Rosa 2023





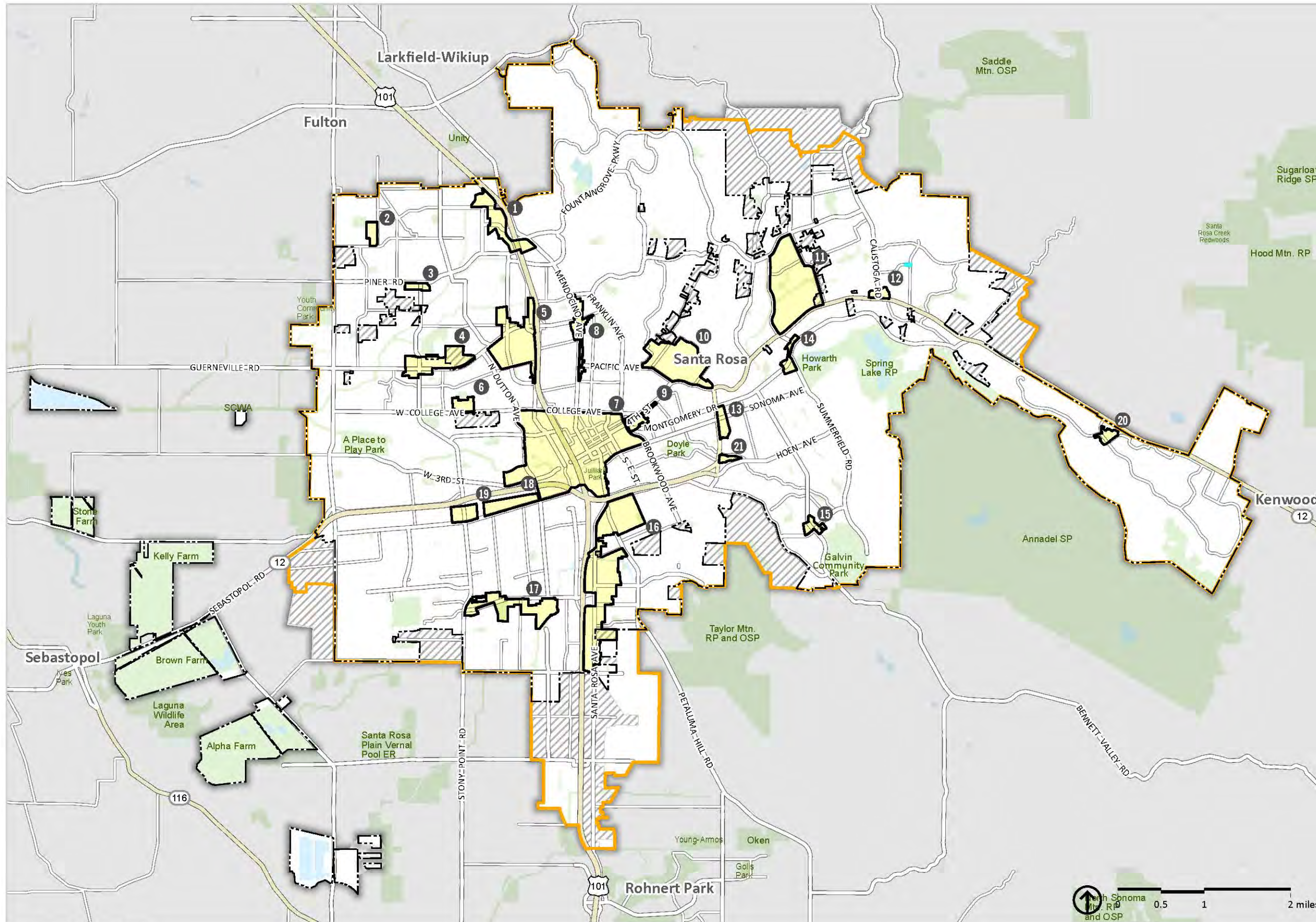


Figure 2-5  
Areas of Change

- City Limits
  - City Sphere of Influence
  - Urban Growth Boundary
  - Planning Area
  - Areas of Change
- 1 Fountain Grove/Mendocino Interchange
  - 2 Francisco Avenue
  - 3 Rosewood Village
  - 4 Marlow Center and Lance Drive Annexation
  - 5 Coddington
  - 6 West College Neighborhood Center
  - 7 Downtown Station Area
  - 8 Mendocino Corridor
  - 9 4th Street Corridor
  - 10 Flamingo Center
  - 11 Montecito
  - 12 St. Francis Shopping Center
  - 13 Montgomery Village
  - 14 Howarth Commercial
  - 15 Bennett Valley
  - 16 Santa Rosa Marketplace/South Park
  - 17 Hearn Corridor
  - 18 Roseland
  - 19 Stony Point Circle
  - 20 Oakmont
  - 21 Southeast Greenway

Source: City of Santa Rosa 2023



# Land Use

## General Plan Land Use

The citywide land use classifications, shown on **Figure 2-6** and described in this section, represent adopted City policy intended to achieve the community's vision. They are meant to be broad enough to give the city flexibility in implementation, and clear enough to provide sufficient direction to carry out the General Plan. The City's Zoning Code has more detailed provisions and standards. More than one zoning district may be consistent with a single General Plan land use classification. **Table 2-1** shows the allowed density and intensity of each land use classification and the zoning districts that correspond to each General Plan designation. Density and intensity in the Core Mixed Use, Station Mixed Use, Maker Mixed Use, and Neighborhood Mixed Use Areas are controlled by floor-area ratio (FAR), as shown on **Figure 2-7**, except for when density maximums are established in the Core Mixed Use land use designation, as shown in **Table 2-1**.

## Residential

Seven residential land use classifications provide for development of a full range of housing types. Densities are stated in housing units per gross acre of developable land, and at least one housing unit may be built on each existing legal parcel designated for residential use. Gross acreage includes the entire site (as opposed to net acreage, which excludes unbuildable areas). Development must fall within the density range stipulated in the classification.

Some residential use classifications include descriptions of housing types that are permitted. Mobile home developments, if within the stipulated density range of a residential classification, are permitted in all residential

categories. In addition to housing type and density standards in this chapter, the Zoning Code establishes development standards, parking, allowed uses, and other requirements.

Accessory Dwelling Units (ADUs) and Junior Accessory Dwelling Units (JADUs) are allowed in addition to densities otherwise permitted, in accordance with State regulations. Density bonuses may be approved for projects with affordable housing and housing for elderly residents with specific amenities designated for residents, provided the design and development standards are in conformance with those specified in the Zoning Code. The City also encourages the development of Missing Middle Housing per California Senate Bill 9, which generally allows any lot larger than 2,400 square feet to be divided into two lots if both can meet City standards. In Santa Rosa, Missing Middle Housing is compatible in medium intensity residential zones (R-2, R 3, TV), mixed use zones, and some planned development areas.<sup>1</sup>

**Missing Middle Housing** refers to house-scale buildings with multiple units in walkable neighborhoods. Missing Middle Housing adds what is often referred to as “gentle density” because it adds dwelling units without altering the character of neighborhoods. Buildings are generally not more than two and a half stories in height; have multiple units within one building; have amenities such as porches that contribute to the street scape; have limited off-street parking, generally at the rear of the structure, reached by a narrow (single-lane) driveway; and have some shared open space, often in the form of a courtyard or rear or side yard.

<sup>1</sup> Missing Middle Housing Initiative, Task 1 Analysis, Opticos Design, Inc., October 2021

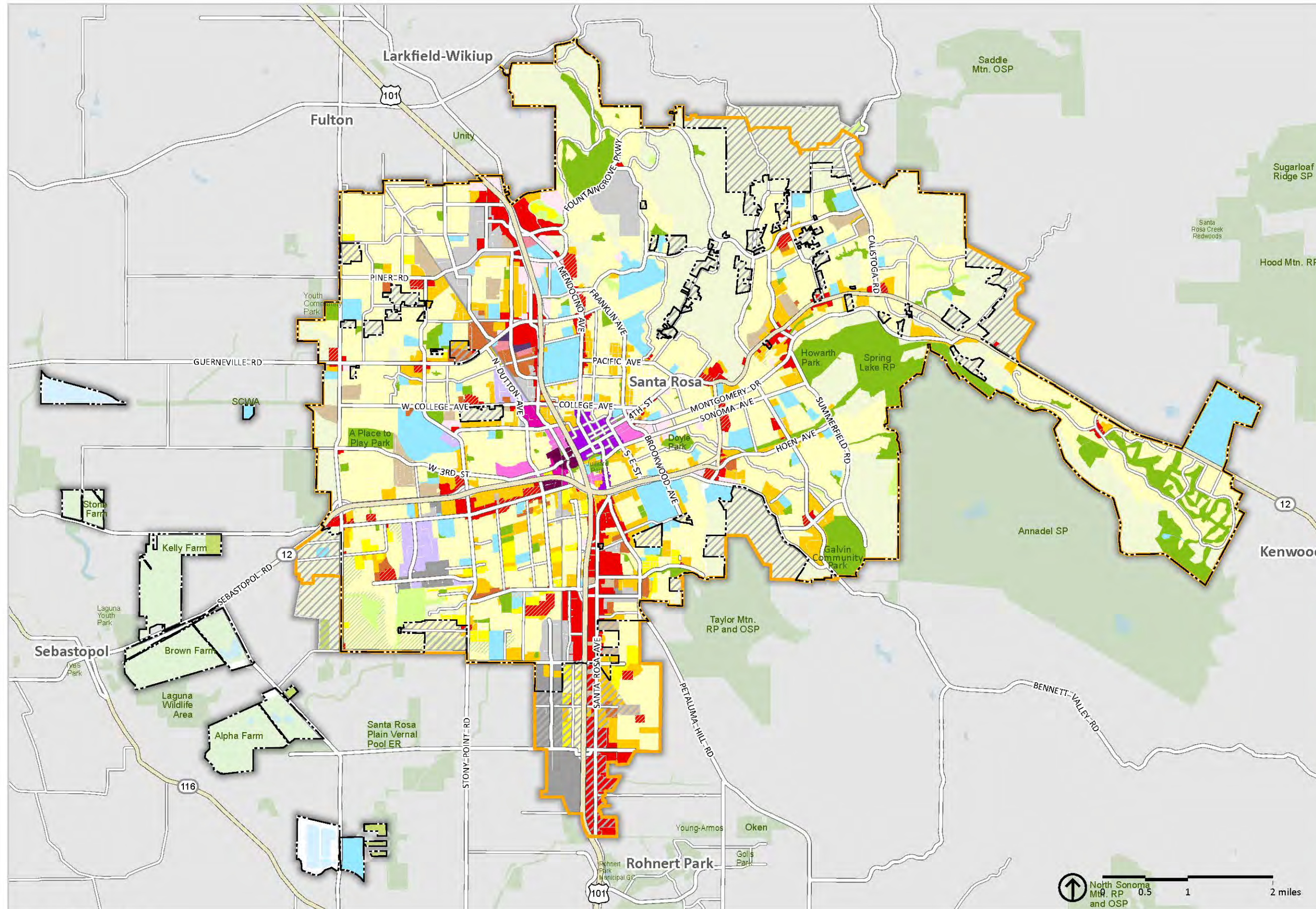
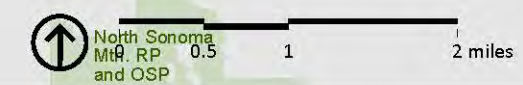


Figure 2-6  
General Plan  
Land Use

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Land Use Designation**
- Country Residential
- Very Low Density Residential
- Low Density/Open Space
- Low Density Residential
- Medium Low Density Res
- Medium Density Residential
- Medium High Density Res
- Mobile Homes
- Retail and Business Services
- Retail/Medium Res Mixed Use
- Office/High Res Mixed Use
- Office/Med Residential
- PubInst/Med Residential
- Office
- Transit Village Mixed Use
- Transit Village Medium
- Station Mixed Use
- Core Mixed Use
- Neighborhood Mixed Use
- Maker Mixed Use
- Business Park
- Light Industry
- General Industry
- Public/Institutional
- Parks and Recreation
- Open Space
- Agriculture



Source: City of Santa Rosa 2023

**Table 2-1**  
Permitted Densities/Intensities Under the General Plan

Land Use	Corresponding Zoning Districts	Residential Density (housing units/gross acre)	Residential Density Midpoint (housing units/gross acre)	Square Feet per Employee
<b>Residential</b>				
Very Low Density	Rural Residential (RR)	0.2–2.0	1.0	–
Low Density/Open Space	Single-Family Residential (R-1)	2.0–8.0	4.0	–
Low Density	R-1	2.0–8.0	5.0	–
Medium Low Density	R-1	8.0–13.0	10.0	–
Medium Density	Medium Density Multifamily Residential (R-2)	8.0–18.0	13.0	–
Medium High Density	Multifamily Residential (R-3)	18.0–30.0	24.0	–
Mobile Home Parks	Mobile Home Park (MH)	4.0–18.0	10.0	–
Neighborhood Mixed Use	Neighborhood Mixed Use (NMU)	25.0–40.0	–	–
<b>Transit Village Medium</b>	Transit Village-Residential (TV-R)	40.0 minimum	–	300
<b>Transit Village Mixed Use</b>	Transit Village-Mixed (TV-M)	No maximum	–	300
<b>Core Mixed Use</b>	Core Mixed Use (CMU)	–	–	–
<b>Station Mixed Use</b>	Station Mixed Use (SMU)	–	–	–
<b>Maker Mixed Use</b>	Maker Mixed Use (MMU)	–	–	–
<b>Commercial</b>		–	–	
Retail and Business Services	General Commercial (CG)	–	–	300
<b>Office</b>	Office Commercial (OC)	–	–	250
<b>Business Park</b>	Business Park (BP)	–	–	350
<b>Industrial</b>		–	–	
Light Industry	Light Industrial (IL)	–	–	400
General Industry	General Industrial (IG)	–	–	400
<b>Public/Institutional</b>	Public/Institutional (PI)	25.0–40.0	–	300
<b>Parks and Recreation</b>	OSC, OSR	–	–	–
<b>Open Space</b>	OSC, OSR	–	–	–
<b>Notes:</b> Density bonuses granted for provision of affordable housing or public amenities, up to 25 percent greater than maximum.				

In addition to the primary residential uses described in each land use, below, compatible accessory uses are also allowed, as identified by the City's Zoning Code. Some of these may require discretionary review by the City, and some are allowed by right. Such uses include, but are not limited to, certain recreation, education, and public assembly uses; certain medical, community care, and daycare facilities; supportive and transitional housing; and certain neighborhood-serving retail uses.

### **Very Low Density**

Residential development from 0.2 to 2 units per acre (i.e., 0.5 to 5 acres per unit) accommodates rural and hillside developments within the urban growth boundary (UGB) and is intended for single-family detached units, but clustered single-family attached and multifamily may be permitted.

### **Low Density/Open Space**

This single-family residential development is at a density of 2 to 8 units per acre and assumed at only 80 percent of each site due to wetlands and similar constraints. The classification is mainly intended for detached single-family dwellings but attached single-family and multiple-family units may be permitted.

### **Low Density**

Single-family residential development has a density of 2 to 8 units per acre. The classification is mainly intended for detached single-family dwellings but attached single-family and multiple-family units may be permitted.

### **Medium Low Density**

Housing has densities from 8 to 13 units per acre. The classification is intended for attached single-family residential development (such as townhomes), but single-family detached housing and multifamily development may be permitted. Development at the midpoint of the density range is encouraged but not required.

### **Medium Density**

Housing densities are from 8 to 18 units per acre. This designation permits a range of housing types, including single-family attached and multifamily developments and is intended for specific areas where higher density is appropriate. Missing Middle Housing types, including Duplex-Triplex, Fourplex, and Cottage Court, are also compatible within this zone. New single-family detached housing is not permitted except in historic preservation districts and historic neighborhoods where single-family detached units are allowed.

### **Medium High Density**

Residential development has densities ranging from 18 to 30 units per acre. This designation permits a range of housing types, including single-family attached and multifamily developments, and is intended for specific areas where higher density is appropriate. Missing Middle Housing types, including Multiplex (small and large), Courtyard buildings, Townhouses, and Live-Work units are also compatible within this zone. Single-family detached housing is not permitted.

### **Mobile Home Parks**

Residential mobile-home development of two or more mobile home units, and densities range from 4 to 18 units per acre. Mobile homes and manufactured homes are the only allowed housing type.

### **Mixed Use**

Mixed-use development is planned downtown and in specific neighborhood and community shopping centers. Transit Village Medium and Transit Village Mixed Use apply to areas around existing and proposed rail as well as bus transfer sites. Transit Village Medium is more residential in nature, but ground-floor retail is desirable. Several areas designated for multiple land uses are distinguished by a striped pattern on the Land Use Diagram. Single or multiple uses are

allowed in these areas, consistent with land use designations. Missing Middle Housing is also compatible within these areas.

The Downtown Station Area Specific Plan (DSASP), adopted in 2020, regulates FAR without establishing height and density standards (mixed-use development outside downtown is not subject to FAR, but instead is regulated by the combination of setbacks, height limits, and maximum lot coverage standards). FAR is a widely used planning tool that divides total building square footage by lot area. **Figure 2-7** offers examples of FAR and how it is calculated. **Figure 2-8**, from the 2020 DSASP, shows the maximum FAR allowable for DSASP sites. The allowed maximum FAR excludes parking areas, outdoor recreation spaces, and areas of any historic structure to be preserved on-site to maximize the building square footage that can be devoted to housing, employment, cultural, and entertainment uses. These downtown sites are the only areas of the city where FAR is applied; elsewhere, the amount of square footage allowed on a property is regulated by the combination of setbacks, height limits, and landscaping and lot coverage standards.

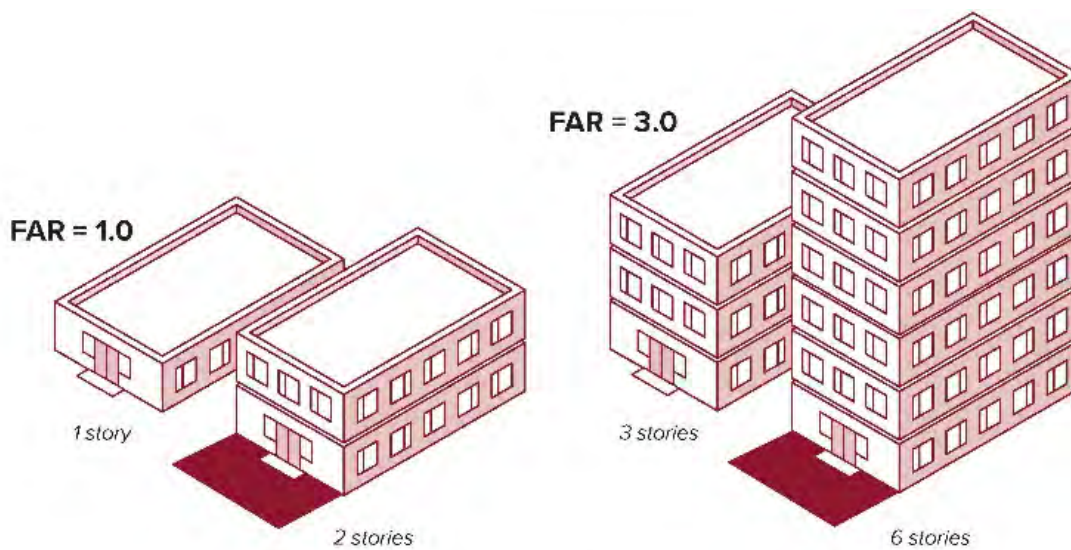
**Transit Village Medium**

This classification is intended to accommodate mixed-use development within approximately one-half mile of a transit facility. Development should transition from less intense uses at the outlying edges to higher-intensity uses near the transit facility. Residential uses are required, and ground-floor neighborhood-serving retail and Missing Middle Housing types are encouraged, including Live-Work uses. Housing densities range from 25 to 40 units per acre.

**Transit Village Mixed Use**

This classification is intended to accommodate a well-integrated mix of higher-intensity residential, including Missing Middle Housing, such as Multiplex (small and large), Courtyard buildings, Townhouses and Live-Work units, office, and commercial uses within one-quarter mile of a transit facility. Development is designed and oriented to create a central node of activity at or near the transit facility. The minimum housing density is 40 units per acre; there is no maximum density requirement.

**Figure 2-7: Examples of FAR**



*Floor Area Ratio does not directly limit the height or number of stories of a building.*

### **Core Mixed Use**

This classification is intended to foster a vital mix of residential, retail, office, governmental, entertainment, cultural, educational, and hotel uses to activate the greater Courthouse Square area and key transit corridors. The principal objectives of the CMU designation are to strengthen the role of this area as a business, governmental, retail, and entertainment hub for the region, and accommodate significant new residential development that will extend the hours of activity and create a built-in market for retail, service, and entertainment uses. High-rise development in all-residential or mixed-use buildings is envisioned in a walkable, bikeable environment with civic spaces such as plazas, courtyards, or parks and easy access to public transit. The Core Mixed Use designation has a maximum FAR range of 3.0 to 8.0 except for 12 contributor properties on B, 7th, and 10th Streets, to which height and density maximums apply.

### **Station Mixed Use**

This classification is intended to provide for a range of visitor-serving uses, including retail, restaurants, entertainment, cultural amenities, and hotels in proximity to the Downtown SMART station. Though commercial uses are emphasized, new multifamily housing will also be allowed to support daytime and evening vitality in the Downtown Station Area. New development will be required to respect the historic character of the Railroad Square area, adding to the mix of uses and enhancing the walkable, pedestrian-oriented streets and public spaces that attract community members, SMART train riders, and visitors from the wider region. The Station Mixed Use designation has a maximum FAR range of 3.0 to 6.0.

**Complete Streets** are streets designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are travelling as drivers, pedestrians, bicyclists, or public transportation riders.

*Source: U.S. Department of Transportation*

### **Community Shopping Center**

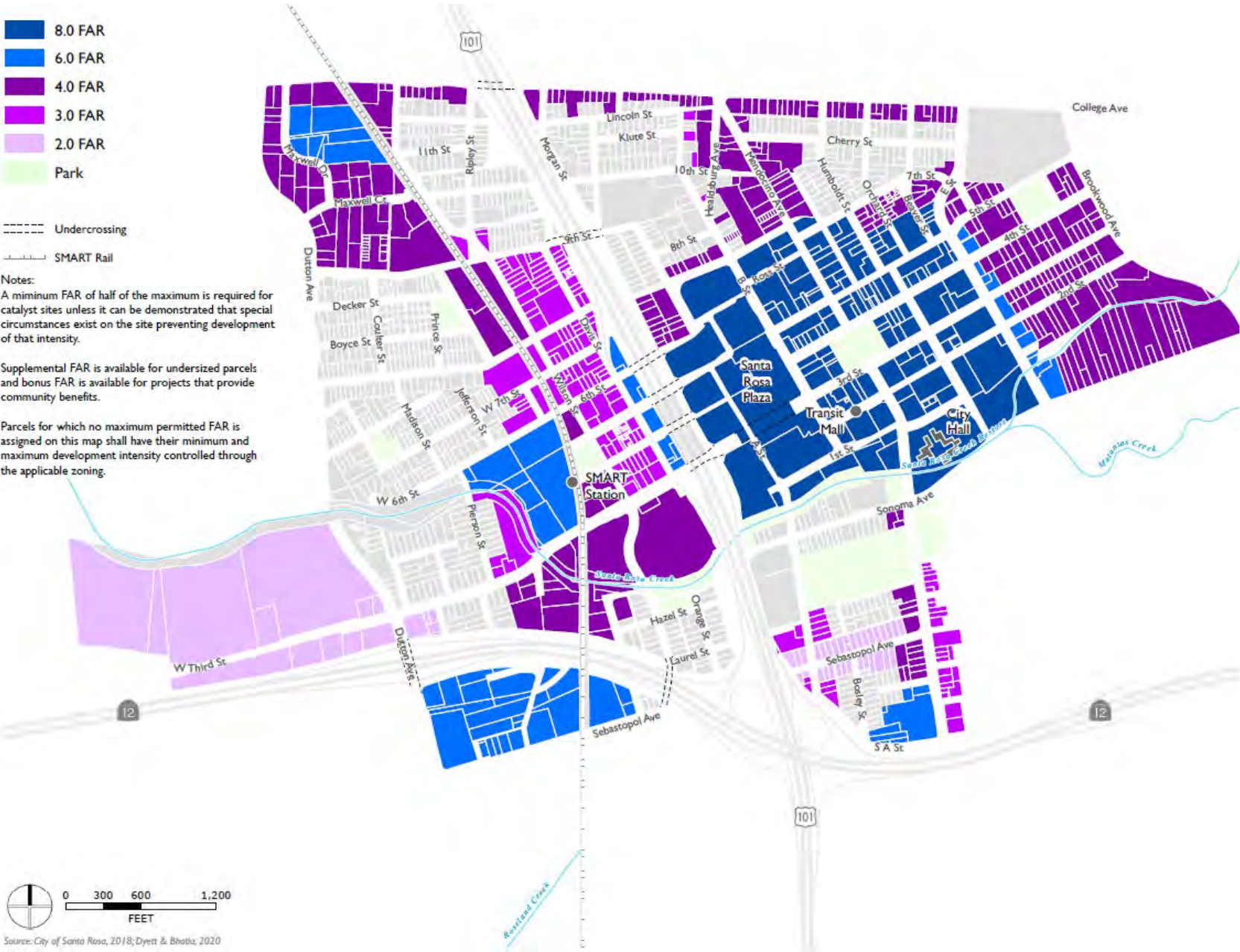
The vision for Community Shopping Centers is a complex of retail services and enterprises anchored by a large grocery store and serving a community clientele. Typical uses include restaurants and shops offering convenience goods. These sites are in areas surrounded by residential development and are intended to be walkable areas with a mix of uses that meet the shopping needs for surrounding neighborhoods and provide housing integrated with commercial development.

Residential uses shall be incorporated into the overall design but may be provided over time as part of a phased development. Existing community shopping centers are not required to include residential uses for minor alterations or re-occupancy but are required to evaluate and demonstrate through site planning that future residential would not be precluded when significant additions or reconstruction are proposed.

### **Neighborhood Shopping Center**

These are small groups of retail and service enterprises providing shopping and services to satisfy the day-to-day needs of local neighborhoods and workplaces. Typical neighborhood center uses include small grocery stores, restaurants, barber or beauty shops, cleaners, shoe repair, and shops offering convenience goods. Residential development is encouraged but not required. New neighborhood centers are allowed in any land use designation where they can be supported.

Figure 2-8: Downtown Maximum FAR





## Commercial

### ***Retail and Business Services***

This designation allows retail and service enterprises, offices, and restaurants. It includes regional centers, which are large complexes of retail and service enterprises anchored by one or more full line department stores, and destination centers, which are retail centers anchored by discount or warehouse stores. Large grocery stores are expressly permitted in Community Shopping Centers and downtown only, and they may be considered through a Conditional Use Permit process on other commercial sites.

### ***Office***

Sites for administrative, financial, business, professional, medical, and public offices are allowed under this designation.

### ***Business Park***

This category accommodates holistically planned, visually attractive centers for businesses that do not generate nuisances (noise, clutter, noxious emissions, etc.), in campus-like environments for corporate headquarters, research and development facilities, offices, light manufacturing and assembly, industrial processing, general service, incubator facilities, testing, repairing, packaging, and publishing and printing. Warehousing and distribution facilities, retail, hotels, and residential uses are permissible on an ancillary basis. Restaurants and other related services are permitted as accessory uses. Outdoor storage is not permitted.

## Industrial

### ***Light Industry***

This designation supports light industrial, warehousing, and some heavier commercial uses. Uses appropriate to this land use category include auto repair, bulk or warehoused goods, general warehousing, manufacturing/assembly,

home improvement and landscape materials retail, freight or bus terminals, research oriented industrial, accessory offices, employee-serving commercial uses, and services with large space needs, such as health clubs. Professional office buildings are not permitted.

### ***General Industry***

This category provides areas for manufacturing and distribution activities with potential for creating nuisances, along with accessory offices and retailing. Unrelated retail and service commercial uses (which can be appropriately located elsewhere in the city) are not permitted. Uses may generate truck traffic and operate 24 hours a day.

## Public/Institutional

These lands are set aside for governmental or semi-public facilities, such as hospitals, utilities, and government office centers; however, such facilities may also be allowed in areas with other land use designations, provided they comply with applicable zoning code standards.

## Parks and Recreation

The City's park system consists of neighborhood, community, trail and open space parks, special purpose parks and recreational facilities, and civic spaces. Existing parks are identified on Figure 2-6, General Plan Land Use Map. In 1978, the City established the parkland service standard of 6 acres per 1,000 residents. This standard and City Parks are discussed in more detail in Chapter 6.

### ***Community Parks***

Community parks are the largest areas in the Santa Rosa Park system and are intended to offer a variety of passive and active recreational opportunities that attract users of all ages, especially from within 1 mile or a 20-minute walk that is uninterrupted by barriers to access like highways, waterways, and railways. These parks are at least 10 acres (20 acres or more preferable)

and often include athletic fields and courts for organized sports; support programming with community-wide participation, such as summer camps and special events; and are venues for cultural and social gatherings such as concerts and farmers markets. Community parks also include areas for children's play and group picnicking. Access to nature and wildlife viewing, walking pathways, exercise equipment, bike and skate parks, off-leash dog areas, and other unique features that often require more space and attract larger segments of the community may also be included.

Community parks often accommodate stays of four or more hours, with amenities including parking, restrooms, and lighting for recreation and parking areas and pathways. Community parks also must consider bicycle and pedestrian access for nearby neighbors, and public transit access and links to local and regional trail systems for community members living farther away. Community parks contribute to the city parkland standard of 6 acres per 1,000 residents.

### ***Neighborhood Parks***

Neighborhood parks are the fundamental unit of the park system and should be equitably distributed across the city. They serve the daily recreational and social needs of people within a half mile or 10-minute walk by facilitating informal recreation, encouraging social interaction among neighbors, reflecting neighborhood identity, and improving the overall quality of life for community members. Neighborhood parks provide a mix of amenities such as picnic areas, community gardens, exercise equipment, and children's play areas. They generally have one signature amenity, such as a water play feature, a skate spot, sports court, or single athletic field.

Neighborhood parks generally support stays of one hour or less, usually with no restrooms (due to the intended proximity of the park to the neighborhood), lighting limited to security lights,

and often with no off-street parking because of limited space and to promote walkable communities. Neighborhood parks contribute to the city parkland standard of 6 acres per 1,000 residents.

### ***Special Purpose Parks and Recreation Facilities***

These facilities typically serve a single purpose or a specific user group and generally fall into one of three categories:

- Golf courses.
- Recreation facilities such as gymnasiums, aquatic centers, sports field complexes, community centers, or senior centers.
- Historic, cultural, or social sites such as museums, botanical gardens, amphitheaters, performing arts centers, and cemeteries.

### ***Trail and Open Space Parks***

These areas of varying size support both active and passive recreation, including walking, biking, hiking, jogging, and wildlife viewing and can also be used as a safe, active transportation network that connects people and places locally and regionally. Trail and Open Space parklands provide a variety of benefits, including visual enjoyment, natural resource conservation (e.g., plant and wildlife habitats, creek corridors, hillsides, and soils), water quality protection, recreational use, flood control, fire management, and transportation corridors.

Trail and Open Space parklands may contribute to the parkland standard of 6 acres per 1,000 residents if they provide multipurpose, ADA-compliant paved pathways and benches, trash and recycling receptacles, wayfinding and interpretive signage, and lighting.

### ***Southeast Greenway***

The Southeast Greenway is a continuous linear space in southeast Santa Rosa between Farmers Lane to the west and Spring Lake Regional Park

to the east. The majority of the Greenway is designated for Parks and Recreation, with smaller areas designated for Medium Density Residential and a mix of Retail and Business Services. Future plans for the Greenway include separated bicycle and pedestrian paths as well as bicycle and pedestrian connections to surrounding neighborhoods.

## Civic Spaces

Civic spaces are urban parks that provide flexible, publicly accessible space for a range of cultural and recreational activities, often in places without enough land for a neighborhood or community park. Civic spaces may be privately owned but must be publicly accessible year-round, at least during daylight hours; contain vegetation; be large enough for people to stop and stay; contain places to sit; be subject to a deed restriction to ensure the property is maintained; and contribute to an interconnected system of public spaces that meet the needs of the surrounding neighborhood.

Civic spaces are generally less than two acres and include multipurpose plazas for community gathering, events, or recreation; rooftop green spaces; pocket parks; paseos, pedestrian paths, stairs, or other connections; off-leash dog runs; or children's play areas.

## Open Space

These areas feature special environmental conditions or significance; may be subject to wildfire, flood, or geologic hazards; or contain watershed lands or important wildlife or biotic habitat. Where otherwise not excluded by noise, aircraft safety, or other environmental standards, residential development is generally permitted at a density of 1 unit per 40 acres.

## Growth and New Development Considerations

Santa Rosa is a well-established community with many unique assets to be maintained, though there is room for improvement to enhance equity and quality of life, particularly in areas that still have vacant land and/or have historically not received as much investment as other areas of the city. New development within the city limits will follow this General Plan and other applicable City codes and guides to ensure it complements and enhances the existing community. Growth and change in the city will be tailored to support maintenance and development of complete neighborhoods, particularly in Areas of Change. Development in the UGB beyond the city limits will need to demonstrate that it will not have a negative impact on the city's environmental resources or fiscal health to be eligible for annexation and development.

**Complete Neighborhoods** are areas with convenient, equitable access to goods and services needed to support daily life, such as grocery stores, recreation opportunities, community gathering places, active transportation infrastructure, and transit. The specific attributes of a complete neighborhood will vary, depending on the unique needs of the local community.

## Plan Bay Area and Priority Development Areas

Plan Bay Area is an integrated long-range transportation and land-use/housing plan for the San Francisco Bay Area, prepared by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). It includes the Bay Area's Sustainable Communities Strategy (SCS), in accordance with the California Sustainable Communities and Climate Protection Act of 2008 (SB 375), which

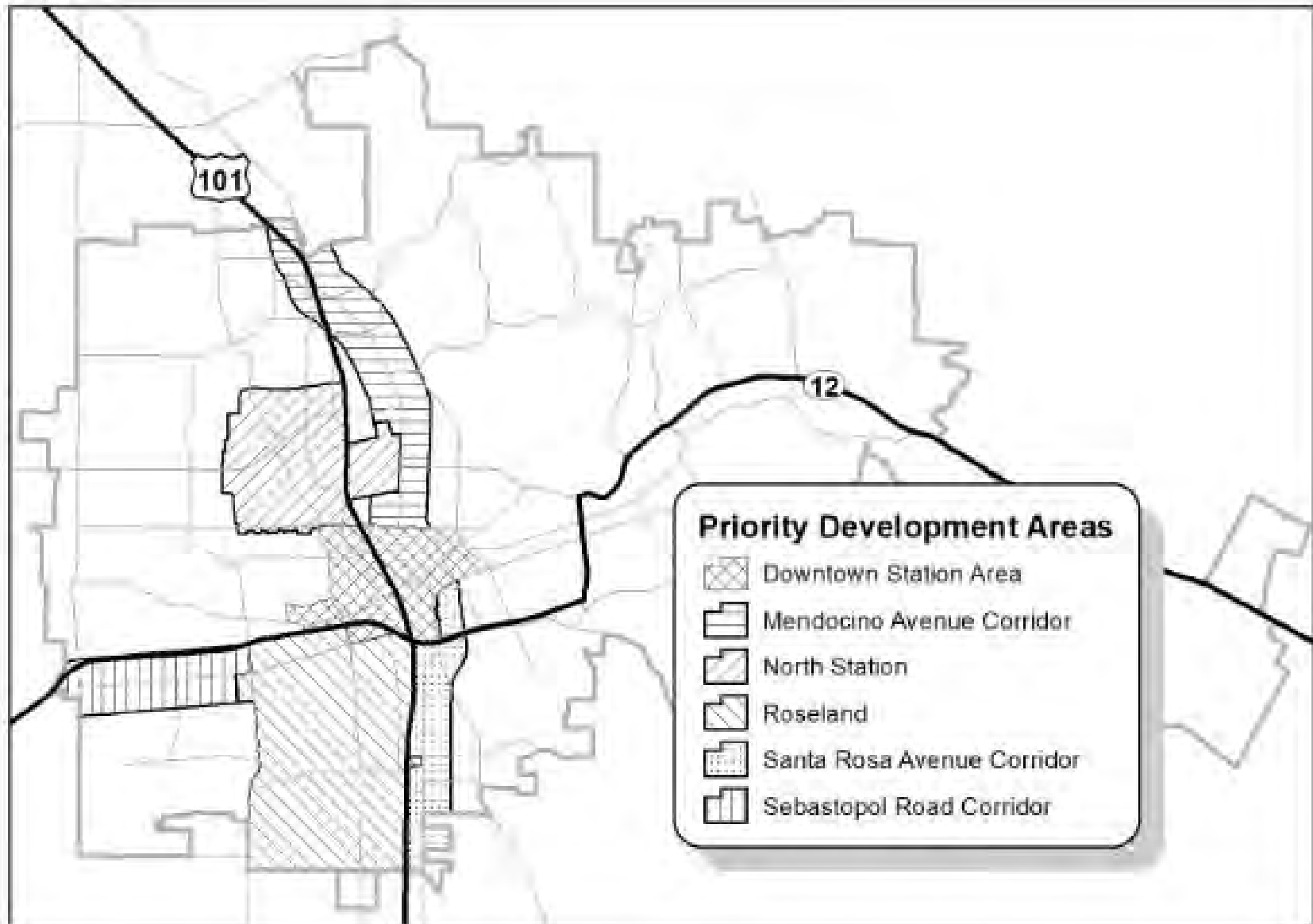
requires each of the state's metropolitan areas to prepare an SCS or similar plan to reduce GHG emissions from cars and light trucks.

The SCS provides for the coordination of land use, housing, and transportation to reduce GHG emissions for cars and light-duty trucks. Plan Bay Area directs the majority of housing growth to designated Priority Development Areas (PDA), with the aim of making more future development walkable, bikeable, and close to public transit, jobs, schools, shopping, parks, recreation, and other amenities. There are five PDAs in the Santa Rosa Planning Area, listed below and shown on **Figure 2-9**.

- 1. Downtown Station Area PDA**, in central Santa Rosa, primarily north of Highway 12 and extending east and west of Highway 101.
- 2. North Santa Rosa Station PDA**, in northwest Santa Rosa.
- 3. Roseland Area PDA** in southwest Santa Rosa.
- 4. Sebastopol Road Corridor PDA** in southwest Santa Rosa.
- 5. Mendocino Avenue/Santa Rosa Avenue PDA**, extending north and south along Highway 101.

PDAs are eligible for technical assistance from MTC and ABAG to help further the goals of Plan Bay Area.

Figure 2-9: Santa Rosa Priority Development Areas



## Specific Plans

Santa Rosa has adopted specific plans for three of the PDAs that establish unique zoning and development regulations:

- The **Downtown Station Area Specific Plan** guides future transit-supportive development around the Downtown SMART station. The plan intensifies uses within walking distance to SMART and invests in infrastructure and other public improvements. The plan establishes regulations for land use, development standards, densities, infrastructure improvements, implementation measures, and incentives to promote a diverse mix of uses. The land use designations of the Downtown Station Area Specific Plan establish seven subareas with unique characteristics that supplement the City's Zoning Code and design guidelines.
- The **North Santa Rosa Station Area Specific Plan** supports rail service transit at the North Santa Rosa SMART station by improving pedestrian, bicycle, transit, and auto connections; increasing residential density; promoting economic development; and enhancing aesthetics and quality of life within a half mile of the station.
- The **Roseland Area/Sebastopol Road Specific Plan** supports a unified, vital, and livable Roseland community with a focus on healthy and equitable development. The plan aims to improve connectivity, concentrate areas of activity, and enhance the physical environment.

## Disadvantaged Unincorporated Communities

Senate Bill 244 requires that general plans address the needs of disadvantaged unincorporated communities (DUC), which are areas of Sonoma County with an annual median household income less than 80 percent of the statewide annual median household income and: within the City's Sphere of Influence; an island within an incorporated jurisdiction's boundary; or geographically isolated and has existed for at least 50 years. DUCs often lack adequate infrastructure to sustain public health and safety, which can foster economic, social, and educational inequality. Therefore, the law requires that cities and counties identify their DUCs, analyze infrastructure and fire service needs and deficiencies, and assess potential funding mechanisms for expansions of services and facilities. With each update of its Housing Element, the City identifies DUCs, evaluates their infrastructure and service deficiencies, and assesses potential funding mechanisms to address those deficiencies. As required by State law, this chapter includes policies and actions to address infrastructure deficiencies in the DUCs, which are mapped on **Figure 2-10**.

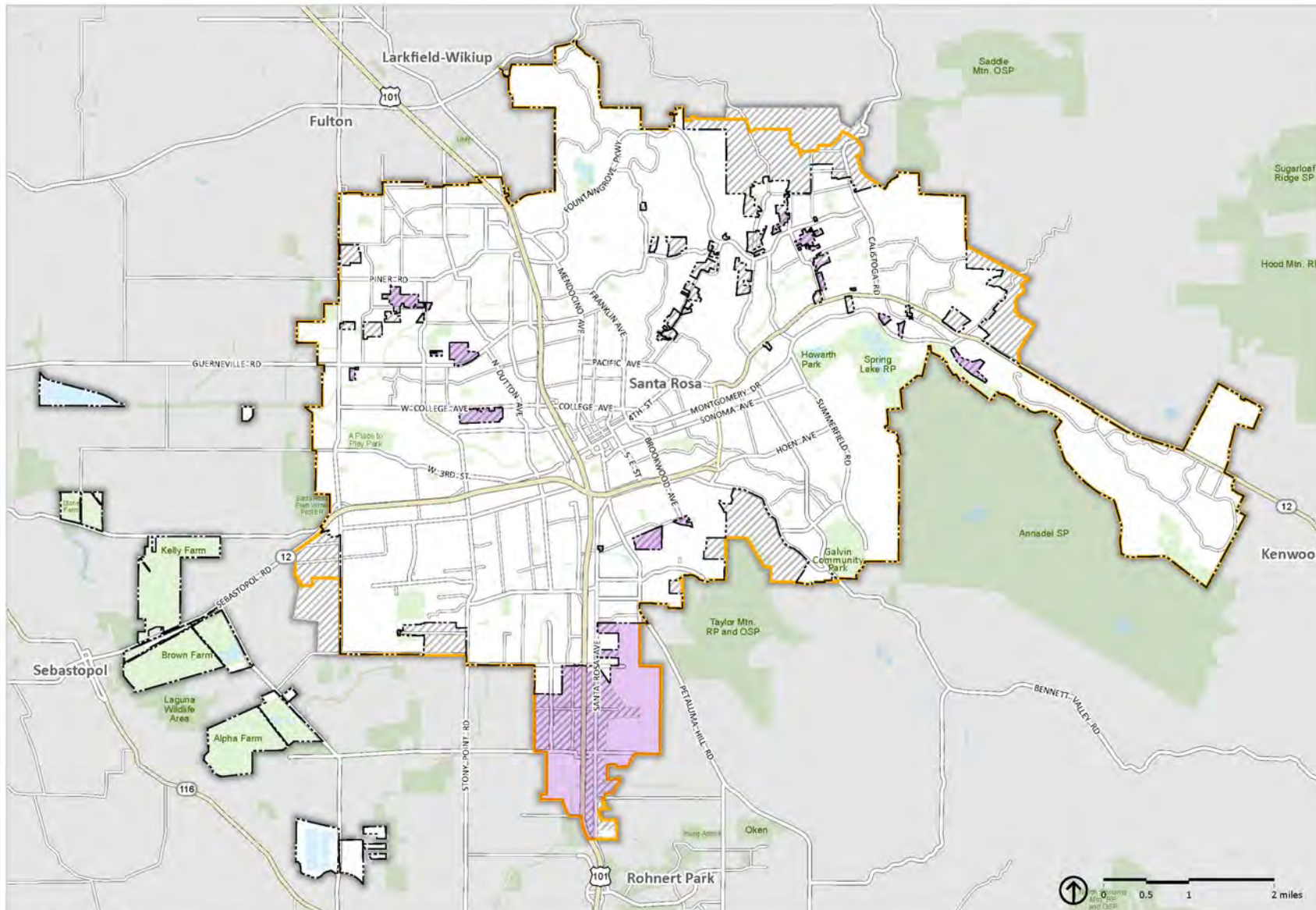


Figure 2-10  
Disadvantaged  
Unincorporated  
Communities

- City Limits
- City Sphere of Influence
- Urban Growth Boundary
- Planning Area
- Disadvantaged Unincorporated Communities

Source: City of Santa Rosa 2023

## Goals, Policies, and Actions

**Goal 2-1:** Ensure that growth and change serve community needs, protect the environment, improve fiscal stability, and enhance quality of life for all members of the community.

**Policy 2-1.1:** Encourage development that supports community health and quality of life and fosters complete neighborhoods in both established and emerging neighborhoods.

**Action 2-1.1:** Implement and update the following Specific Plans, as necessary to address changing economic and market conditions and/or changing community visions for these areas:

- Downtown Station Area Specific Plan
- North Santa Rosa Specific Plan
- Roseland Specific Plan

**Action 2-1.2:** Update the Zoning Code to require industrial development adjacent to residential areas to provide buffers, landscaping, and screening to minimize noise, light, glare, and other impacts.

**Action 2-1.3:** Require residential developments within 500 feet of U.S. Route 101 and California Route 12 to include construction measures that mitigate future resident exposures to ozone, particulate matter, and other toxic air contaminants (TAC) identified by CARB.

**Action 2-1.4:** Address the need for gathering places by providing amenities such as parks, community

centers, and cultural facilities for community members in all neighborhoods, prioritizing EPAs and Areas of Change.

**Action 2-1.5:** Address the need for access to outdoor activity/recreation in urban core areas by encouraging the creative integration of such spaces or uses in public and private development.

**Action 2-1.6:** Encourage retail and housing development in mixed-use developments along regional transportation routes and in areas that serve community members, with a focus on Areas of Change.

**Action 2-1.7:** Amend the Zoning Code regulations related to community care facilities, including updating the definition of community care facility; address neighborhood compatibility in the context of residential neighborhoods; and explore opportunities for streamlining.

**Action 2-1.8:** Address the infrastructure and service needs of disadvantaged unincorporated communities.

**Policy 2-1.2:** Facilitate future annexations with a thoughtfully designed and transparent strategy that ensures the City's ongoing fiscal health and supports a high quality of life for community members.

**Action 2-1.9:** Prepare a specific plan prior to annexation of land in south Santa Rosa, south from the current City boundary to the UGB, to identify and accommodate needs related to City services, such as Fire and Police, water, wastewater,



stormwater, transportation, and parks.

**Action 2-1.10:** *Require a fiscal impact analysis for proposed annexations that exceed 10 acres to ensure a full accounting of infrastructure and public service costs and confirm whether revenue enhancement mechanisms are necessary to ensure net fiscal balance.*

**Action 2-1.11:** *Only allow annexations or City utility connections if they are consistent with the General Plan and do not adversely impact the City’s fiscal viability, environmental resources, infrastructure and services, and quality of life.*

**Action 2-1.12:** *Limit annexations to land in the UGB with adequate services available, including unincorporated islands within the city limits.*

**Action 2-1.13:** *Work with LAFCO to require all proposed annexations within a County island to prepare a sentiment survey of all properties within the island to determine the ability of annexing the full County island.*

**Action 2-1.14:** *Prioritize the processing of proposed annexations when applicants provide funding for dedicated staff time.*

**Policy 2-1.3: Promote and participate in cooperative planning efforts with surrounding jurisdictions and the County, especially related to Countywide and subregional issues such as transportation, waste management, and affordable housing.**

**Action 2-1.15:** *Conduct regular meetings with County of Sonoma staff to coordinate land use issues of mutual concern within the UGB.*

**Policy 2-1.4: Ensure that City policy, codes, programming, and practices support a range of viable land uses that are consistent with the General Plan.**

**Action 2-1.16:** *Maintain an inventory of industrial lands and sites zoned appropriately for the retention and expansion of key manufacturing and industrial businesses/employers.*

**Action 2-1.17:** *Maintain sufficient land in areas zoned for industrial uses to accommodate a wide range of production, distribution, and repair-oriented light industrial uses, including research and development, manufacturing, and food processing.*

**Action 2-1.18:** *Consider updating the Zoning Code to allow for compatible residential and commercial uses in office parks, light industrial areas, and other similar areas. Such compatible uses could include Live-Work units, artisan studios/shops, brew pubs, coffee shops, tasting rooms, and event spaces.*

**Action 2-1.19:** *Identify necessary policy changes to enable the retention or conversion of sites with light industrial / light manufacturing uses located in appropriate areas, and implement changes as feasible and appropriate.*

**Action 2-1.20:** *Update the UGB so that it is coterminous with the city’s Sphere of Influence.*

**Action 2-1.21:** *Update the Zoning Code to:*

1. Rezone parcels to ensure consistency with the General Plan.
2. Create development standards for Missing-Middle Housing types.
3. Rezone Planned Development communities into appropriate zoning districts consistent with General Plan Land Use.

*back of parcels, with retail and office activities fronting the regional/arterial street. Site design with residential uses at the rear is intended to reduce potential for housing units to exceed maximum noise levels along a regional/arterial street.*

**Goal 2-2:** Promote city-centered growth and investment with a neighborhood-focused approach to create complete and connected communities that provide community members' daily needs within easy walking or biking distance.

**Action 2-2.3:** *Work with Sonoma County and potential developers to redevelop sites in the unincorporated stretch of Santa Rosa Avenue with mixed-use, limiting and discouraging the expansion of existing single-use, auto-oriented commercial establishments.*

**Action 2-2.4:** *Allow for regional and neighborhood shopping centers to integrate amenities, events, and programming that enhance the destination and its attractiveness as a shopping location and community gathering space.*

**Action 2-2.5:** *Allow farmers markets by right in shopping centers.*

**Action 2-2.6:** *Allow temporary, community-oriented / community-amenity uses on sites slated for redevelopment that activate those spaces prior to entitlement/construction.*

**Policy 2-2.2:** **Encourage a compact rather than a scattered development pattern for new development proposals, particularly in Areas of Change.**

**Action 2-2.7:** *Require compact development that includes services within one-half mile walking and biking distance of residential neighborhoods.*

**Action 2-2.8:** *For all private development, capital improvement projects,*

**Policy 2-2.1:** **Support development of complete neighborhoods in all Areas of Change, ensuring they offer convenient, equitable access to goods and services needed to support daily life, such as grocery stores, recreation opportunities, community gathering places, active transportation infrastructure, and transit.**

**Action 2-2.1:** *Consider development incentives and update the Zoning Code to require new developments in Areas of Change to include on-site and proximal access to goods and services that support daily life, including, but not limited to, fresh-food stores, recreation, community gathering, and infrastructure that supports active transportation and transit.*

**Action 2-2.2:** *Require design of mixed-use projects to focus residential uses in the upper stories or toward the*

and preparation of detailed area plans, require close land use/transportation relationships to promote use of alternative transportation modes and discourage travel by automobile.

**Action 2-2.9:** Encourage the creation of shared parking areas and shared driveways / vehicle access points in private development.

**Policy 2-2.3:** Ensure mixed use developments along regional/arterial streets are designed to reduce impacts to community members; encourage redevelopment with mixed use in areas that do not meet the community's vision.

**Action 2-2.10:** Maintain Priority Development Area designations in accordance with Plan Bay Area to maintain consistency with regional planning efforts.

**Goal 2-3:** Promote livability by creating a variety of housing types near transit to reduce greenhouse gas emissions.

**Policy 2-3.1:** Ensure that residential developments, including subdivisions and neighborhoods, are designed to foster livability and maintain a diversity of neighborhoods and varied housing stock to satisfy a wide range of needs and retain local character.

**Action 2-3.1:** Evaluate new development through the development review process to ensure neighborhood identities are maintained.

**Action 2-3.2:** Update the Zoning Code to allow residential and mixed-use development in the Retail and

Business Services and Office land use designations.

**Action 2-3.3:** Identify barriers and/or incentives to redevelopment with mixed use in areas that do not meet the community's vision, and mitigate/implement these, as feasible.

**Action 2-3.4:** Work with Sonoma County and potential developers to redevelop sites in the unincorporated stretch of Santa Rosa Avenue with mixed use, limiting and discouraging the expansion of existing single-use, auto-oriented commercial establishments.

**Policy 2-3.2:** Ensure that residential developments achieve the density potential of the project site and include a variety of housing types with a full range of affordability.

**Action 2-3.5:** Require development at the midpoint or higher of the density range in the Medium and Medium High Density Residential land use designations, unless topography, parcel configuration, heritage trees, historic preservation, or utility constraints make the midpoint impossible to achieve.

**Policy 2-3.3:** Ensure that mixed use developments along regional/arterial streets are designed to reduce impacts to future residents.

**Action 2-3.6:** Require design of mixed-use projects to focus residential uses in the upper stories or toward the back of parcels, with retail and office activities fronting the regional/arterial street. Site design with residential uses at the

*rear is intended to reduce potential for housing units to exceed maximum noise levels along a regional/arterial street.*

## Economic Development

### Existing Conditions and Market Outlook

#### Today's Market

Santa Rosa is the fifth largest city in the San Francisco Bay Area and is home to roughly one-third of Sonoma County residents and businesses. The city is the North Bay's largest concentration of office, industrial and retail space, making Santa Rosa the economic center of the region, the primary employment center, and the default destination for healthcare and government services. The city is also the region's primary retail destination, outperforming comparable sites throughout the county and serving both residents and visitors.

#### Economic Growth Potential

Over the next three decades, job growth and related demand for office, industrial, and retail space will be determined by the rate of local population growth and regional demand. The General Plan accommodates up to 24,000 new homes to house approximately 66,000 additional residents. Combined with regional demand factors, this additional population would support up to:

- 2 million square feet of new office development and 5,500 new office jobs.
- 1 million square feet of new industrial development and 1,500 new industrial jobs.
- 650,000 square feet of new community-serving retail space and 1,500 new retail jobs.

Long-term job growth opportunities are anticipated to be strongest in health care, advanced research and development, and dining and food/beverage businesses. Government and other office-based industry sectors are likely to grow at a moderate pace, and retail jobs may grow slowly or even decline with the rise of online shopping.

### Goals, Policies, and Actions

**Goal 2-4:** Ensure that new growth and development are resilient to economic cycles and forces.

**Policy 2-4.1:** Maintain a positive business climate in the community and encourage diverse job types in Santa Rosa.

**Action 2-4.1:** *Ensure the City's actions and communications convey an organizational culture and climate that support global business values (e.g., productivity, speed-to-market, flexibility, innovation), and that the City recognizes the value business brings to the city.*

**Action 2-4.2:** *Institute new policies and leverage partnerships to address the primary drivers of an inclusive and resilient economy, highlighting urgent economic challenges and improved livability across Santa Rosa.*

**Action 2-4.3:** *Maintain an economic development strategic plan to guide the City's economic development initiatives, periodically reviewing and funding updates to and special reports in support of the plan to keep current with market conditions and economic trends.*

**Policy 2-4.2: Develop and strengthen locational assets and business assistance programs that support innovation and create an entrepreneurial business climate attractive to technology and entrepreneurial businesses.**

**Action 2-4.4:** *Continue to promote Santa Rosa as the North Bay's premier location for clean/green technologies and entrepreneurial businesses that create new products and business models that will attract national and international interest.*

**Action 2-4.5:** *Develop and foster City-business connections and maintain a Business Visitation Program for a cross-section of City staff and officials to ensure that industry trends and opportunities are identified early, and City services are meeting the needs of business.*

**Action 2-4.6:** *Identify necessary policy changes and new program options to allow and support micro-entrepreneurialism and neighborhood-centered businesses/jobs creation and implement, as feasible and appropriate.*

**Policy 2-4.3: Develop strategies and work cross-departmentally on programs and initiatives to retain existing businesses; enable business expansion; and attract new employers that contribute to the city's economic vitality, use the area's existing labor pool, and leverage or expand upon the region's existing industry clusters.**

**Action 2-4.7:** *Monitor land use and development trends in the city to*

*ensure an adequate supply of land that offers diverse use designations and development intensities in support of anticipated demand for commercial and industrial growth; employ regulatory mechanisms and incentives to maintain sites and buildings in suitable locations to attract major employers.*

**Action 2-4.8:** *Identify sites suitable for flexible uses and micro-entrepreneurial opportunities in downtown, commercial districts, and neighborhood centers, and promote and market small business opportunities in these areas.*

**Policy 2-4.4: Leverage City and community-partner technical assistance and funding to support key-sector business development and growth.**

**Action 2-4.9:** *Conduct periodic, industry-specific cluster analyses to identify targets for retention, expansion, and innovation, with a focus on increasing business-to-business commerce in Santa Rosa.*

**Action 2-4.10:** *Work with property owners to encourage development projects that generate local jobs and that further inclusive economic development objectives.*

**Action 2-4.11:** *Consider public/private technology infrastructure projects that support business and municipal efficiency.*

**Action 2-4.12:** *Work with Santa Rosa Junior College, Sonoma State University, and private educators to provide job training that matches local*

*job opportunities, including housing construction.*

**Action 2-4.13:** *Work to attract professional, vocational, and technical institutions and engage employers in the development of education and training systems that equip residents with the skills and knowledge needed to succeed in an advanced economy.*

**Policy 2-4.5:** **Seek innovative ways to reduce the cost burden of infrastructure for industrial and commercial development, without transferring the burden to the residential sector.**

**Action 2-4.14:** *Use funds from the statewide Community Infrastructure Program and other tax increment and/or assessment-based financing tools to support local improvements.*

**Action 2-4.15:** *Identify opportunities to support innovation and growth by fostering business incubators, accelerators, shared working spaces, and networking organizations.*

**Action 2-4.16:** *Attract infill developers that build the facilities attractive to employers with new or alternative workplace needs.*

**Policy 2-4.6:** **Focus business attraction efforts on filling vacancies in commercial and industrial structures.**

**Action 2-4.17:** *Encourage occupancy of new businesses in vacant commercial and industrial buildings through efforts such as low-cost loans for tenant improvements, façade improvements, and new business incubation.*

**Policy 2-4.7:** **Maintain vibrant, convenient, and attractive commercial centers that provide a range of goods and services that satisfy the needs of community members.**

**Action 2-4.18:** *Identify and mitigate barriers to locate new local-serving retail in Plan Areas of Change.*

**Action 2-4.19:** *Locate any new region-serving, high-volume retail outlets within one-half mile of Highway 101 to minimize regional traffic on city streets.*

**Action 2-4.20:** *Work with business park owners to encourage new distribution and research uses in addition to office uses.*

**Goal 2-5:** Foster sustained, inclusive growth that generates long-term, shared value in the community and creates economic opportunities for all residents.

**Policy 2-5.1:** **Encourage retention and anti-displacement strategies aimed at retaining local businesses and residents.**

**Action 2-5.1:** *Continue to maintain and disseminate resources directing existing smaller businesses to training, financial assistance, and other supportive services.*

**Action 2-5.2:** *Identify and target economic development resources to businesses in areas undergoing rapid increases in commercial or industrial rents and property sales prices.*

**Action 2-5.3:** *Study potential adoption of policies and programs that would help prevent future displacement*

*of Santa Rosa's longstanding smaller businesses.*

**Policy 2-5.2: Support opportunities to expand economic opportunity to all segments of the community.**

**Action 2-5.4:** *Establish public-private partnerships and philanthropic initiatives to provide work opportunities for high-risk youth and young adults in Santa Rosa.*

**Action 2-5.5:** *Work with Santa Rosa City Schools, Sonoma County Office of Education, Santa Rosa Junior College, Sonoma State University, other educators, and the Workforce Investment Board to provide job training opportunities for all segments of the population, including high-risk youth and young adults and Equity Priority Populations.*

**Policy 2-5.3: Invest in neighborhood entrepreneurship.**

**Action 2-5.6:** *Update the Zoning Code to allow temporary or alternative incubator spaces on vacant or underutilized properties to facilitate trial uses that may be unique to the city.*

**Policy 2-5.4: Establish free citywide internet access at a speed appropriate for all types of businesses.**

**Action 2-5.7:** *Study the gaps in broadband access and create a plan to expand access where appropriate.*

**Policy 2-5.5: Encourage home businesses to support workforce participation, decrease worker vehicle miles traveled, and increase the provision of goods and services at the neighborhood scale.**

**Action 2-5.8:** *Allow and encourage home-occupancy businesses in most residential zones, especially EPAs, including for uses such as family childcare and microenterprise home kitchen operations.*

**Action 2-5.9:** *Update the Zoning Code to allow mobile food and crafts vendors, farmers markets, art and artisan pop-ups, and community gathering events in all nonresidential zoning districts.*

**Action 2-5.10:** *Update the Zoning Code to allow for micro-entrepreneurial uses in residential zones, as appropriate.*

**Policy 2-5.6: Expand economic opportunity in industrial zones.**

**Action 2-5.11:** *Update the zoning code to allow for more maker mixed-use, such as clothing producers and 3D printing in all industrial areas.*

**Action 2-5.12:** *Evaluate the public procurement process with an eye to stimulating small business development, targeting minority-/women-/veteran-owned businesses; foster more equitable procurement practices.*

**Goal 2-6:** Maintain vibrant, convenient, and attractive commercial centers.

**Policy 2-6.1: Provide a range of commercial services that are easily accessible and attractive, satisfy the needs of people who live and work in Santa Rosa, and attract a regional clientele.**

**Action 2-6.1:** *Encourage region-serving, high-volume retail outlets to locate near freeway access (generally within one-half mile of Highway 101) to minimize traffic on city*

streets. Do not allow regional-serving uses in residential neighborhoods.

**Action 2-6.2:** Allow neighborhood centers that include small grocery stores, cleaners, and similar establishments where they can be supported within walking and biking access of residential uses. Ensure that neighborhood centers do not create unacceptable traffic or nuisances for residents due to the hours and nature of their operation. Encourage residential developments that are not within walking distance of convenience shopping to provide small centers on-site.

**Action 2-6.3:** Require buildings in neighborhood centers and commercial corridors to actively engage and enhance the public realm through such techniques as location of parking, ground-floor transparency, building orientation, and build-to and setback lines.

**Action 2-6.4:** Allow large grocery stores on sites citywide and in the downtown. On sites outside of the downtown, proposed large grocery stores must demonstrate that the store will not impact the viability of a similar use on a downtown site.

**Policy 2-6.2: Maintain the economic vitality of business parks and offices and Santa Rosa's role as a regional employment center.**

**Action 2-6.5:** Require new commercial and industrial developments to maintain space in business parks for distribution and research uses, not primarily office uses. Avoid the intrusion of office uses that could

diminish the economic vitality of business parks.

**Action 2-6.6:** Allow limited support retail and business services—such as cafes, delis, and dry cleaners—where the land use classification is Office or Business Park.

**Policy 2-6.3: Protect industrial land supply and ensure compatibility between industrial development and surrounding neighborhoods.**

**Action 2-6.7:** Require industrial development adjacent to residential areas to provide buffers, and institute setback, landscaping, and screening requirements intended to minimize noise, light, glare, and other impacts.

**Action 2-6.8:** Update the Zoning Code to require outdoor storage areas to be screened from any public right-of-way.

**Action 2-6.9:** Require any proposal to change industrial-designated land to an alternate land use to provide a market analysis that supports such a change. The market analysis should include documentation of the need for such a change, the potential impacts to the City's industrial land inventory citywide, and potential mitigation.

**Action 2-6.10:** Preserve current industrial and business park employment centers by supporting the integrity of industrial zoning and/or allowing consideration of new manufacturing.

**Action 2-6.11:** Update the Zoning Code to create the allowance for creative mixes of land uses that accommodate non-noxious manufacturing and maker-type spaces.



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# 3

## Circulation, Open Space, Conservation, and Greenhouse Gas Reduction



### 3. Circulation, Open Space, Conservation, and Greenhouse Gas Reduction

Responsible management of the built and natural environments now and in the future is essential to ensure the well-being of current and future generations. This chapter focuses on the city's transportation system, along with open space, resource conservation, and greenhouse gas (GHG) emissions.

Mobility is the potential for movement and the ability to get from one place to another in our everyday lives. How we travel to jobs, schools, homes, shopping, and leisure affects our quality of life, and our mobility choices influence the time we spend commuting and how much air pollution we generate and breathe.

Like much of the United States, Santa Rosa's built environment caters to the automobile. Jobs and housing in Santa Rosa are balanced enough that more than one-third of employed community members live and work locally. The majority of destinations for community members are within five miles, yet driving alone is still the most common way to get around.

Over several decades, improvements to the transportation system have broadened the range of options for community members, including the Sonoma Marin Area Rail Transit (SMART) train, expanded bus routes, and new active transportation facilities (walking and

wheeling). This General Plan 2050 aims to expand transportation options further and support the mobility needs of everyone in Santa Rosa to reduce dependence on single-occupant vehicles and fossil fuels.

Open space in and around Santa Rosa offers multiple community benefits, including visual enjoyment, watershed protection, recreation use, and reduction of hazard risk. Local open space areas include undeveloped lands with significant wildlife habitat and other natural resources, plus more than 100 miles of creeks within the city limits. Conservation is the preservation and protection of resources. It is closely linked with GHG emissions reduction, and both affect every facet of community life.

General Plan Conservation Elements traditionally include agricultural lands, air quality, biological resources and habitat, energy, and open space. General Plan 2050 also integrates GHG emissions reductions in this chapter and throughout the Plan. The City's approach to GHG emissions reductions emphasizes conservation to reduce GHG emissions from transportation, solid waste, water, wastewater, and other services and meet State and local pollution-reduction targets. The separate Santa Rosa GHG Reduction Strategy, which replaces the prior Community Climate

Action Plan, provides an ongoing work program to meet those targets.

## Chapter Contents

- Circulation
- Open Space and Conservation
- GHG Emissions

The Vision for Santa Rosa is the foundation for the goals in this chapter and their associated policies and actions, especially these two statements from the Vision:

- **Connected:** High-quality, reliable, and safe transit service, bicycle and pedestrian facilities, and other forms of mobility connect all ages across the city and region at all times and support healthy lifestyles, clean air, equity, and resilience.
- **Sustainable:** Natural resources are restored, protected, and expanded to provide accessible green space for everyone in all neighborhoods, mitigate drought, and minimize greenhouse gas emissions.

**Figure 3-1** illustrates some of the key concepts in this chapter.

## Circulation

The circulation network significantly influences the lives of community members. It affects:

- **Public health** by how well it promotes active transportation and reduces auto travel, which impacts local air quality.
- **Equity** by how easily community members of all ages, abilities, and income levels can access their daily needs.

- **Individual and City economic health** by how well it supports access to employment, shopping, recreation, and entertainment.
- **Quality of life** by how easy, affordable, dependable, efficient, and enjoyable it is to move around the city.

Everyone in Santa Rosa needs an equitable and efficient transportation network to meet their needs locally and reduce their dependence on single-occupant vehicles. Some policies and actions in this chapter, as in the other chapters, elevate the needs of Equity Priority Areas, and some goals, policies, and actions focus on the Areas of Change identified through the General Plan update public input process.

**Equity Priority Areas or EPAs** are areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. The General Plan prioritizes the environmental justice needs and health and equity considerations of EPAs in the goals, policies, and actions of this and other chapters of the General Plan. EPAs are depicted on Figure 2-4 and discussed in more detail in Chapters 2 and 6, Land Use and Economic Development and Health, Equity, and Environmental Justice.

**Areas of Change** are places where the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods. Goals, policies, and actions throughout the General Plan prioritize Areas of Change for implementing actions that promote complete neighborhoods, such as active transportation infrastructure, quality housing, healthy food options, opportunities for social connections, and access to parks and commercial services.

Areas of Change are depicted on Figure 2-5 and discussed in more detail in Chapter 2, Land Use and Economic Development.

General Plan 2050 opens opportunities for the city to reduce vehicle miles (VMT) and GHG emissions. The General Plan combines land use changes and transportation improvements to achieve a projected reduction in VMT per “service population” (which encompasses all trip types—to work, school, shopping, etc.). **Figure 3-2** compares existing and projected VMT per service population in Santa Rosa and Sonoma County.

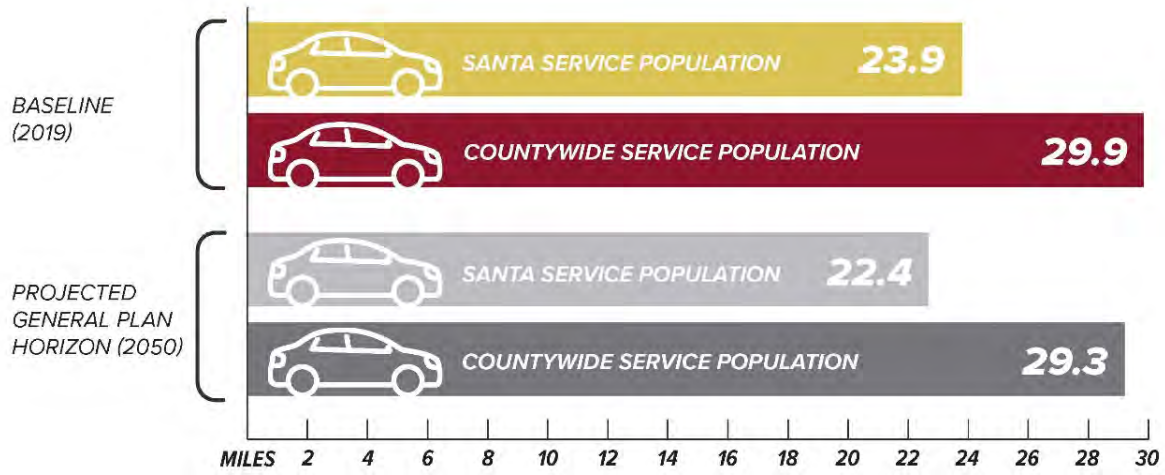
**Figure 3-3** depicts the city’s existing transportation network, and **Figure 3-4** shows the major circulation network improvements in General Plan 2050 that, together with its policies and actions, support more walking, wheeling, and transit use, as well as the comfort and safety of all modes of travel.

**Figure 3-1: Visualizing the Concepts**

**► CIRCULATION, OPEN SPACE, CONSERVATION, AND GREENHOUSE GAS REDUCTION**



**Figure 3-2: Existing and Projected VMT per Service Population**



VMT per Service Population is based on the **total** VMT, including all types of vehicular travel, such as travel to work, school, shopping, and recreation.

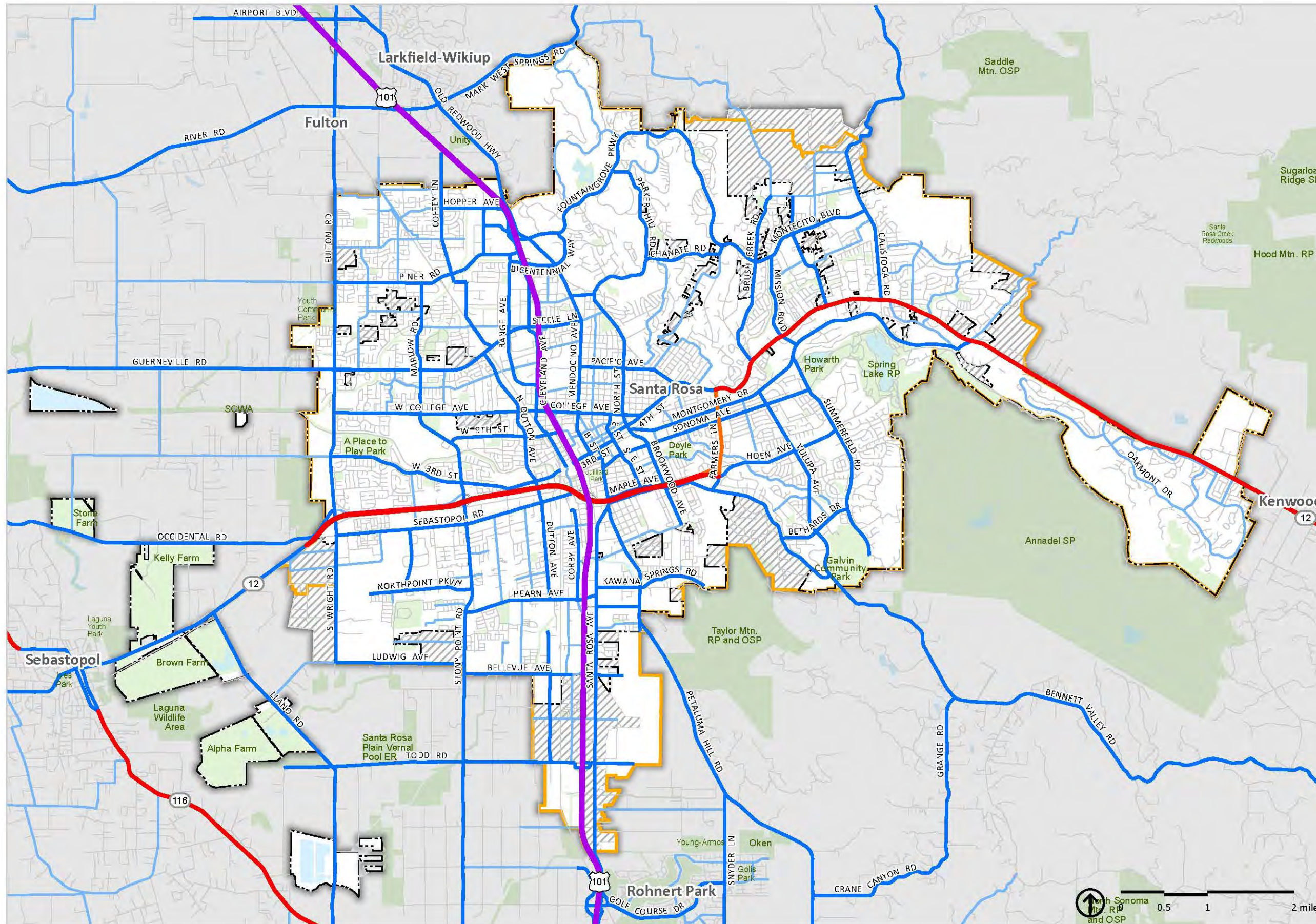


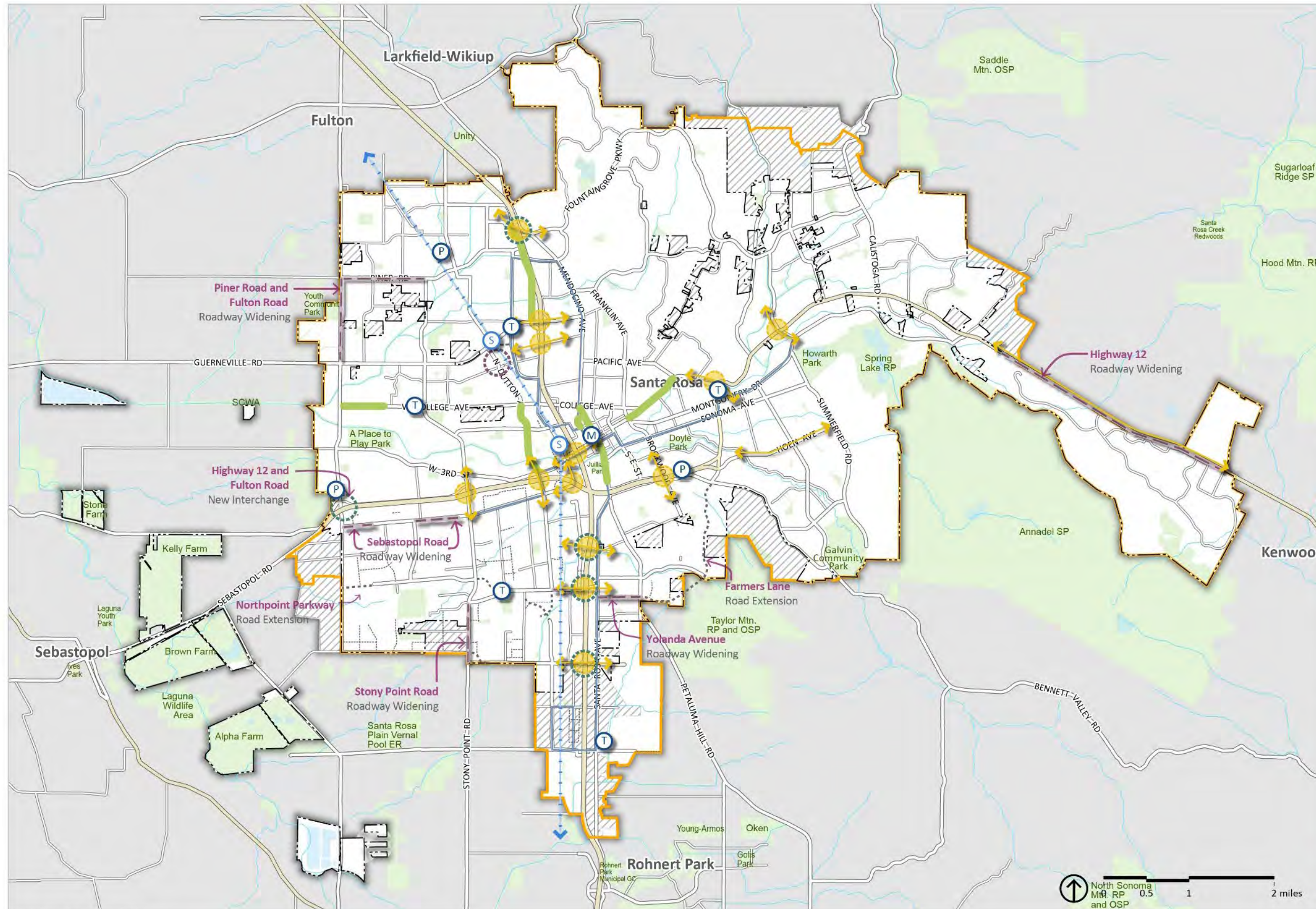
Figure 3-3  
Transportation Network

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Road Classification**
- US Highway
- State Highway
- Arterial/State Highway
- Arterial
- Collector
- Local Road
- On/Off Ramps

Source: City of Santa Rosa 2023



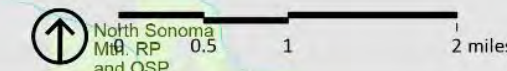
Figure 3-4  
Planned Transportation  
Network Improvements



- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Outside of Planning Area

**Transportation**

- Highways
- Major Roads
- SMART Transit Center
- SMART Rail Line
- Transit Hub
- Transit Mall
- Transit Park-and-Ride
- Roadway Widening
- Road Diets
- New Major Roads
- New Minor Roads
- Improved Pedestrian/Bicycle Connections
- New or Widened Auto Overpass including Pedestrian/Bicycle Enhancements
- New Pedestrian/Bicycle Rail Crossing
- High Frequency Bus Route (10-15 min. headways)



Source: City of Santa Rosa 2023



## Transit Network

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### CityBus and Regional Transit

Santa Rosa CityBus provides local fixed-route transit and paratransit, with regularly scheduled service to residential neighborhoods, educational facilities, and major job centers. CityBus covers areas of the city with the highest need for transit service, and its ridership levels are the highest in Sonoma County and in the top ten for transit providers in the Bay Area.

Regional transit operators that serve Santa Rosa include Sonoma County Transit, Golden Gate Transit, Mendocino Transit, Greyhound, and the Sonoma Marin Area Rail Transit (SMART) commuter rail system. These regional services connect Santa Rosa with Marin County, Mendocino County, San Francisco, Contra Costa County, and beyond. CityBus coordinates extensively with Sonoma County Transit, Petaluma Transit, Golden Gate Transit, and SMART at monthly meetings of the Sonoma County Transportation Authority (SCTA). CityBus, Golden Gate Transit, and Sonoma County Transit offer paratransit services through a next-day reservation system.

The Santa Rosa Transit Mall is the busiest transit hub in the North Bay, served by five operators. It provides affordable and accessible connections to regional jobs, education, shopping, and recreation.

SMART makes direct commuter rail connections between Santa Rosa and Larkspur and has two stations in Santa Rosa: the Downtown Station and the North Santa Rosa Station. The Downtown Station is within walking distance of the Santa Rosa Transit Mall and has fixed-route service on six CityBus routes. The North Station is near the Coddington Transit hub.

### Paratransit

The City of Santa Rosa offers next-day ADA paratransit service seven days a week to those who are unable (temporarily or permanently) to use Santa Rosa CityBus because of a disability or health condition. This service will pick up and drop off three-quarters of a mile from CityBus routes, in conformance with the Americans with Disabilities Act (ADA).

### Zero-Emissions Bus Rollout Plan

CityBus developed a Zero-Emission Bus (ZEB) Rollout Plan to meet California's Innovative Clean Transit (ICT) regulation (13 CCR § 2023.1). The ZEB Rollout plans for CityBus to reach full electrification of its 41-vehicle fleet by 2037, three years in advance of the ICT requirement.

### Coordinated Fare Payments Across Systems

Clipper is a regional fare payment system and the all-in-one transit card for the Bay Area. Passengers can add value to their card and ride any transit system in the Bay Area (seniors, youth, persons with disabilities and low-income riders receive discounts on all transit systems). Clipper riders receive a discount when transferring between SMART, CityBus, Golden Gate Transit, and Sonoma County transit.

### Fare Free Programs

CityBus has worked to remove barriers to transit by developing fare-free programs for veterans, youth 12th grade and younger, paratransit riders, and Santa Rosa Junior College students. These fare-free programs are also available to employers, residential projects, and any other group of 50 people or more who work under a single entity.

## CityBus Improvements

Between March 2015 and August 2016, the City completed a comprehensive redesign of the CityBus system, called Reimagining CityBus. It was the most significant change in Santa Rosa transit service since 1958, when transit service started. The redesign created a new transit system for Santa Rosa, with 15-minute service in high-ridership corridors, more direct routes, more two-way service to reduce transit travel time, and a more convenient and useful bus system. The new bus system is a roadmap for creating a modern transit system that meets the current and future needs of community members. The redesigned bus system is organized into two phases. The City launched Phase One in May 2017. Phase Two will improve rapid bus routes with transit signal priority corridors. The City will improve late night and weekend service as funding becomes available. The Short-Range Transit Plan (SRTP) updates and further develops this approach every 3 to 5 years, as required by the Metropolitan Transportation Commission.

## Active Transportation Network

Santa Rosa's comprehensive active transportation network is poised to grow and make the city a walking and bicycling destination. The city has a mild climate, is relatively flat, and has a large network of sidewalks and bicycle infrastructure. The League of American Bicyclists designated Santa Rosa as a silver-level Bicycle Friendly Community, which the City hopes to raise to platinum status. Ongoing updates to the Bicycle and Pedestrian Master Plan call for improvements to the active transportation network to adapt to community input and changes in bicycle technology.

The active transportation network provides access to transit, schools, open space, hospitals, other key destinations, and urban areas such as the downtown, with opportunities for walking and using wheeled devices—wheelchairs,

bicycles, scooters, and shared devices (e.g., bicycle and scooter rentals).

The pedestrian network forms the backbone of the city's transportation network. Almost all trips begin and end with walking or using a wheelchair or stroller, so an accessible pedestrian network is critical to get people where they need to go. Sidewalks, pathways, and crosswalks make up the pedestrian network and provide a comfortable walking environment separated from vehicle traffic. The pedestrian network is also essential for ADA compliance, ensuring access and mobility for users of all ages and abilities.

Currently, most streets have sidewalks or pathways on at least one side. In the city limits, property owners are responsible for sidewalk maintenance. Some parts of the city are not required to provide sidewalks, including rural hillside developments or areas built under County jurisdiction and later annexed into the city. **Figure 3-5** shows planned pedestrian network improvements.

The comprehensive and connected bicycle network strives to be safe, comfortable, and attractive for people of all ages and skill levels. Its design emphasizes direct and comfortable bicycling routes. The City's Bicycle and Pedestrian Master Plan calls for adding Class I and Class IV facilities (separated paths) and upgrading existing Class II and Class III on-road facilities to Class I or Class IV. These ongoing improvements are intended to ensure that the bicycle network offers comprehensive accessibility for all, with a goal of increasing the use of bicycles for all types of trips citywide and lowering transportation-related GHG emissions. Bicycles are more equitable than cars for moving around the city, and they increase health-promoting physical activity among community members.

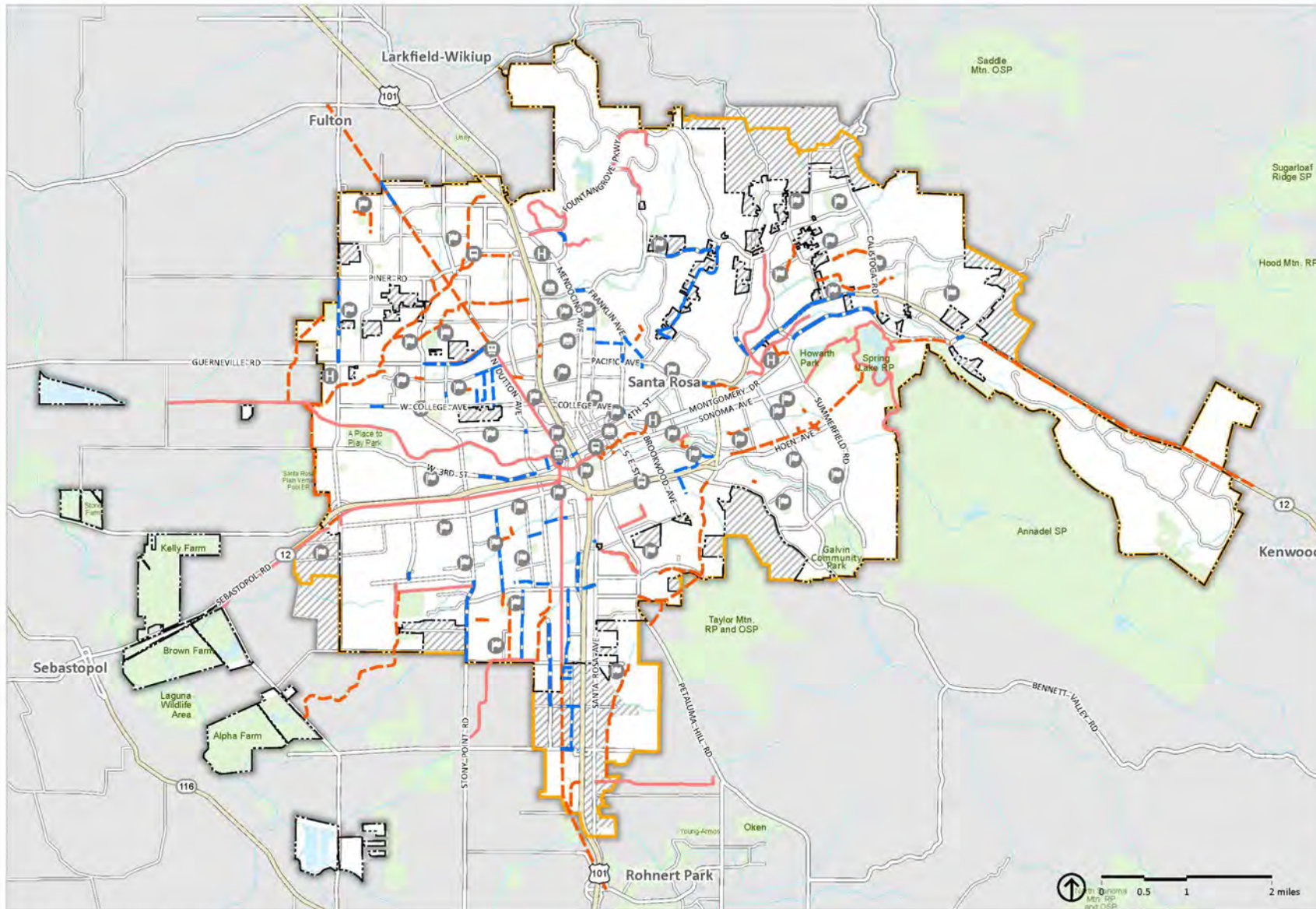


Figure 3-5  
Planned  
Pedestrian Network  
Improvements

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Existing Class I Shared-Use Path
- Proposed Class I Shared-Use Path
- Proposed Sidewalk
- Destinations**
  - School
  - SMART Station
  - Transit Hub
  - Hospital
  - Library

Adapted from the 2018 Bicycle and Pedestrian Master Plan.



The California Department of Transportation designates four classes of bicycle facilities:

**Class I shared use paths** are paved trails completely separated from the street. They allow two-way travel and are often considered the most comfortable for children and inexperienced riders.

**Class II bicycle lanes** are striped preferential lanes on the roadway for one-way bicycle travel.

**Class III bicycle routes** are signed routes where people bicycling share a travel lane with people driving.

**Class IV separated bikeways** are on-street bicycle facilities that are physically separated from motor vehicle traffic by a vertical element or barrier, such as a curb or vehicle parking aisle.

The City aims to replace vehicle trips of five miles or less with bicycling or walking by offering a network that is safe, convenient, comfortable, and continuous; that links neighborhoods with schools, parks, shopping areas, transit, and employment centers; and that people of all ages and abilities can use. This General Plan includes policies and actions that reinforce the shift away from single-occupant vehicles by increasing the mileage of the active transportation network, filling gaps between existing facilities, improving what is already on the ground, and other improvements. **Figure 3-6** depicts the existing and planned bicycle facilities network, as presented in the 2018 Bicycle and Pedestrian Master Plan.

## Roadway Classifications

The City Design Guidelines define roadways in Santa Rosa; require adequate egress for all travelers, including emergency vehicles; and call for visually attractive streetscapes that complement surrounding uses. Roadways in the city fall into four major categories: highways,

regional/arterial streets, transitional/connector streets, and local streets.

## Highways

Highways carry local and long-distance traffic at high speeds to, from, and through Santa Rosa. The highways (U.S. 101 and SR-12) are the responsibility of the State Department of Transportation. Regional transit operators Golden Gate Transit and Sonoma County Transit have services on some local highways.

## Regional/Arterial Streets

Regional or arterial streets are major points of connection with each other, neighborhoods, and the rest of region. They include Parkways and Boulevards.

## Parkways

Parkways bring people into the city or carry traffic through natural areas. Speeds may be 45 mph or higher. When parkways enter town, they become boulevards. Local transit operates on some parkways. Bicycle and pedestrian amenities may include:

- Bike lanes or separated bike lanes
- Sidewalks
- Planter strips and shade tree

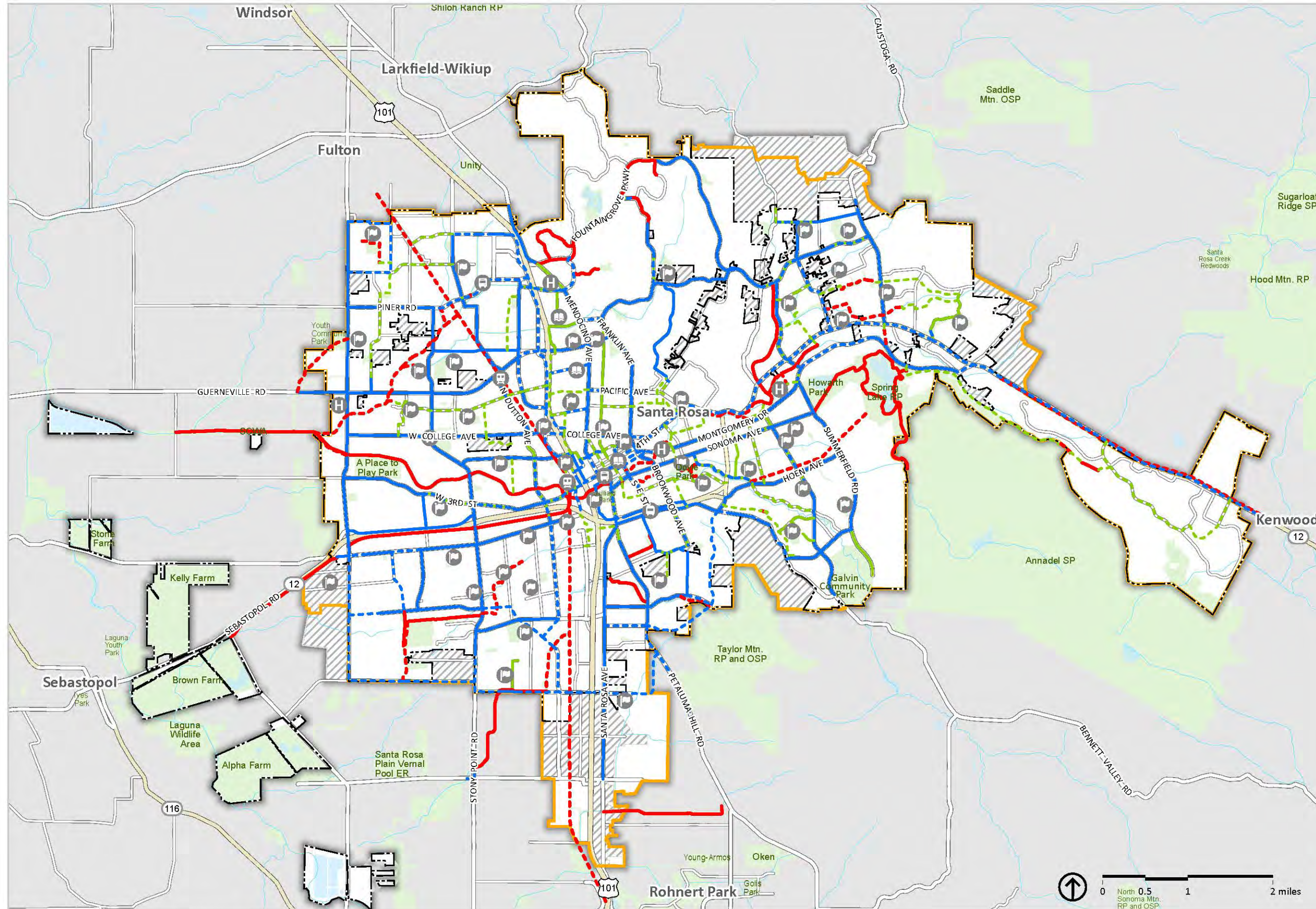


Figure 3-6  
Existing and  
Planned  
Bicycle Network

- City Limits
- City Sphere of Influence
- Urban Growth Boundary
- Planning Area
- Existing Bike Route**
  - Class 1
  - Class 2
  - Class 3
- Proposed Bike Route**
  - Class 1
  - Class 2
  - Class 3
- Destinations**
  - School
  - SMART Station
  - Transit Hub
  - Hospital
  - Library



Adapted from the 2018 Bicycle and Pedestrian Master Plan.

## ***Boulevards***

Boulevards provide multilane access to commercial and mixed-use areas and carry some regional traffic, with vehicle speeds of 30 to 40 mph. Local transit operates on some boulevards. Bicycle and pedestrian amenities may include:

- Bike lanes or separated bike lanes
- Sidewalks on both sides
- Neck-downs at intersections to support pedestrian crossings
- Planter strips and shade trees

## **Transitional/Collector Streets**

Transitional or collector streets connect residential neighborhoods to commercial centers and service commercial districts. Transitional streets include Avenues and Main Streets.

### ***Avenues***

Avenues connect neighborhoods to commercial centers and other neighborhoods and serve as major transit routes. Vehicle speeds are typically 35 mph. - Bicycle and pedestrian amenities may include:

- Bike lanes or separate bike lanes
- Sidewalks on both sides
- Neck-downs at intersections to support pedestrian crossings
- Planter strips and shade trees

### ***Main Streets***

Main streets provide access to neighborhood commercial and mixed-use areas. Vehicle speeds are typically 25 to 30 mph. Local transit operates on some main streets. Bicycle and pedestrian amenities may include:

- Bike lanes or separate bike lanes
- Sidewalks on both sides
- Bulb-outs at intersection and midblock to support pedestrian crossings
- Planter strips and shade trees

## **Local Streets**

Local streets primarily provide access to neighborhood destinations and make connections within neighborhoods for pedestrian, vehicular, and utility access. Traffic speeds are 10 to 25 mph. The local streets category includes Trails, Alleys, Lanes, Neighborhood Streets, and Minor Streets.

### ***Trails***

Trails are multiuse, linear pathways through neighborhoods or along creeks, not intended for motorized vehicles. They often follow their own rights-of-way or utility corridors. Trail use supports VMT reduction, community health, and other City goals. Amenities may include:

- Pedestrian and bicycle accessible
- Shade trees
- Lighting
- Wayfinding signage
- Benches
- Trash cans
- Bike repair stations

### ***Alleys***

Alleys are slow speed (10 mph), secondary access ways running behind and sometimes between rows of houses or commercial buildings. Alleys can give service workers easy access to utilities and sanitation and give residents access to garages, backyards, and accessory units.

## Lanes

Lanes are narrow, often single-lane, roads that access a small number of homes (typically 12 or fewer), usually near parks, nature preserves, or other locations conducive to limited access. Depending on length, lanes may have sidewalks.

## Neighborhood Streets

Neighborhood streets generally serve residential areas with 100 or fewer homes or up to 1,000 average daily trips (ADT). These streets usually extend from two to six blocks. Local transit operates on some neighborhood streets. Pedestrian amenities may include:

- Sidewalks on both sides
- Neck-downs at intersections to support pedestrian crossings
- Shade trees

## Minor Streets

Minor streets accommodate 1,000 or more ADT. Pedestrian amenities may include:

- Sidewalks on both sides
- Bulb-outs or neck-downs at intersections to support pedestrian crossings
- Shade trees

## Scenic Roads

Scenic roads carry vehicles through areas of notable beauty and/or with natural resources, landmarks, historic features, or cultural interest points. Regulations protect and enhance the aesthetic values of scenic routes by governing the development of property and placement of outdoor advertising. Local transit operates on some scenic roads. Santa Rosa’s scenic roads are:

1. Melita Road
2. Los Alamos Road

3. Calistoga Road (north of Badger Road)
4. Highway 12 (from Highway 101 west to Fulton Road)
5. Highway 12 (from Farmers Lane to Calistoga Road)
6. Highway 12 (from Calistoga Road to Oakmont)
7. Montecito Avenue (north of Norte Way to Chanate)
8. Brush Creek and Wallace Roads
9. Fountaingrove Parkway
10. Bennett Valley Road (south of Farmers Lane)
11. Montgomery Drive (from Mission Boulevard to Melita Road)
12. Chanate Road (from Mendocino Avenue to Fountaingrove Parkway)
13. Petaluma Hill Road (from Colgan Avenue to the Urban Growth Boundary)
14. Highway 101 (contiguous from northern to southern city limit)
15. Los Olivos Road
16. Manzanita Avenue
17. Newanga Avenue
18. Francisco Avenue
19. Channel Drive
20. Wright Road South
21. Ludwig Avenue
22. Burbank Avenue (from the northerly boundary of Roseland Creek Community Park to Hearn Avenue)

## Goals, Policies, and Actions

**Goal 3-1:** Provide an integrated land use and transportation system with safe and efficient movement of people and goods for all modes of travel that prioritizes reduction of transportation-related GHG emissions.

**Policy 3-1.1:** Work with MTC and applicable partner agencies to adopt VMT thresholds.

**Action 3-1.1:** Develop local guidelines for calculating the projected VMT of future development projects and transportation improvements.

**Action 3-1.2:** Require an analysis of projected VMT as part of the environmental review process for projects with the potential to increase VMT.

**Action 3-1.3:** Adopt and maintain screening criteria for different land uses and project types to determine when a VMT analysis will be required as part of the environmental review process.

**Action 3-1.4:** Adopt and maintain thresholds to determine when a VMT impact is “significant” under the California Environmental Quality Act (CEQA).

**Action 3-1.5:** Continue to work with SCTA and other local and regional partners to reduce VMT with existing techniques and explore feasibility of new techniques as they arise.

**Action 3-1.6:** Work with SCTA and other local and regional partners to develop a VMT mitigation bank alternative for eligible projects to fund VMT reduction efforts.

**Action 3-1.7:** Develop a process to prioritize projects and programs on the

capital improvement projects list, including multimodal components, that support VMT reduction, particularly those in EPAs.

**Policy 3-1.2:** Promote land use, transportation demand management (TDM), and street design practices that reduce VMT and dependence on single-occupancy vehicle trips.

**Action 3-1.8:** Use the Urban Streets Design Guide and the Urban Bikeways Design Guide to plan roadway improvements and new development.

**Action 3-1.9:** Continue to reduce or eliminate vehicle parking requirements and increase bicycle parking to prioritize a car-free environment in high density areas.

**Action 3-1.10:** Require developers of sites within a quarter mile of transit corridors to integrate transit-supportive components, such as unlimited pass programs, transit-serving pedestrian infrastructure, and/or transit subsidies, as appropriate.

**Action 3-1.11:** Work with local employers to expand transportation demand management (TDM) programs and other efforts to help meet employee transportation needs through alternative modes that reduce single-occupancy automobile trips, such as:

- Unlimited access to transit service.
- Paid incentives to bike commuters.
- Provision of bicycle facilities.
- Carpooling and vanpooling incentives.



- Trip reduction incentive programs.
- Car sharing programs.
- Staggered work shifts, flex time (e.g., 9/80 work schedule), and telecommuting.
- Paid-parking disincentives for single-occupant vehicles.

**Action 3-1.12:** *Continue to require TDM measures for applicable residential and commercial developments to reduce VMT generated by the development.*

**Action 3-1.13:** *Implement a TDM program for City employees—potentially in partnership with other local governments, public agencies, and transit providers—and promote the program as a model for local large employers.*

**Action 3-1.14:** *Establish a framework for City transportation investment and project decisions that prioritizes, in order:*

1. Active transportation modes, including walking, bicycling, and transit.
2. Other shared vehicles such as carpool, vanpool, and rideshare / transportation network companies.
3. Private vehicles.

**Action 3-1.15:** *Inventory and map the city's existing pedestrian network—including sidewalks, trails, and ADA accessibility features—to inform future pedestrian network improvements.*

**Action 3-1.16:** *Require multimodal and electric-vehicle infrastructure in new development.*

**Action 3-1.17:** *When necessary to help ensure safety, guide travelers using different modes to separate, parallel streets as part of multistreet corridors.*

**Action 3-1.18:** *Engage Santa Rosa community members, prioritizing those in EPAs and Areas of Change, in planning for transportation facilities and services.*

**Policy 3-1.3: Improve infrastructure, sidewalk and bicycle linkages, and access to transit and active modes of transportation to better meet daily commuting needs and minimize VMT, especially in EPAs and Areas of Change.**

**Action 3-1.19:** *Develop viable solutions for regional through-traffic on north-south corridors, such as by extending Farmers Lane, and travel on east-west corridors, such as by improving the Mendocino Avenue overcrossing of Highway 101, while remaining cognizant of the multimodal need on each corridor.*

**Action 3-1.20:** *Participate in discussions addressing regional through-traffic with SCTA, the County of Sonoma, MTC, and other municipalities.*

**Action 3-1.21:** *Support efforts to acquire local, regional, State, and federal funding for transportation improvements, including reconstruction of key interchanges to accommodate all modes of transportation, including active transportation.*

**Action 3-1.22:** Explore alternative circulation network improvements to accommodate regional through-traffic, focusing on regional/arterial street circulation and regional transportation routes.

**Action 3-1.23:** Identify and analyze high-commute-trip corridors and improve them by:

- Preparing and implementing corridor plans.
- Developing Park-n-Ride lots to encourage mixed-mode commuting.
- Designating and implementing mobility hubs as defined by MTC.

**Action 3-1.24:** Enhance pedestrian and public transportation routes to support safe access to retail food establishments.

**Policy 3-1.4: Reduce traffic volumes and speeds in neighborhoods.**

**Action 3-1.25:** Minimize through-traffic in residential neighborhoods and avoid traffic volumes greater than those dictated by street design and classification by providing attractive regional/arterial streets to accommodate cross-town traffic.

**Action 3-1.26:** Continue to require grid street patterns in new residential areas to disperse local neighborhood traffic and limit excessive volumes on any one street.

**Action 3-1.27:** Implement traffic-calming techniques on local streets that experience high-speed or cut-through traffic to improve neighborhood livability:

- Narrow streets.
- Add on-street parking.
- Add chicanes, chokers, or diverters.
- Rough-pave crosswalks.
- Add rumble strips.
- Add planted islands.

**Action 3-1.28:** Include traffic calming by default in regular paving and maintenance projects unless infeasible due to engineering or in cases where transit or emergency access may be blocked.

**Action 3-1.29:** Improve traffic flow and reduce neighborhood traffic impacts in all quadrants of the city by completing needed improvements on arterial and collector streets.

**Goal 3-2:** Provide a safe and accessible active and public transportation network that reduces dependence on single occupancy vehicles, prioritizing Equity Priority Areas and Areas of Change.

**Policy 3-2.1: Plan, build, and maintain a safe, complete, continuous, convenient, and attractive pedestrian, bicycle, and multiuse trail network in Santa Rosa that is equitably accessible for all ages and abilities.**

**Action 3-2.1:** Monitor the proportions of travel that use different transportation options to track progress in diversifying the city's mode split.

**Action 3-2.2:** Support active transportation by pursuing available grants and ensure that the active transportation network, especially approaches to schools, are safe

for cyclists and pedestrians, with needed amenities such as sidewalks, crosswalks, bike lanes, and traffic calming.

**Action 3-2.3:** *Implement and update the City's Bicycle and Pedestrian Master Plan, as appropriate.*

**Action 3-2.4:** *Identify and address active transportation deficiencies, prioritizing EPAs.*

**Action 3-2.5:** *Continue to implement the Sonoma County Vision Zero Action Plan and the City of Santa Rosa Vision Zero Implementation Plan to eliminate collisions and traffic fatalities.*

**Action 3-2.6:** *Upgrade streets throughout Santa Rosa for safe and convenient walking, including sufficient and continuous sidewalks and safe pedestrian crossings at reasonable distances to encourage access and mobility for seniors, children, and people with disabilities and strollers.*

**Action 3-2.7:** *If it is not feasible to provide a continuous pedestrian route, provide a safe alternate route that minimizes any extra distance.*

**Action 3-2.8:** *Prioritize pedestrian projects along transit corridors that provide access to transit stops.*

**Action 3-2.9:** *Link the various citywide pedestrian paths, where possible.*

**Action 3-2.10:** *Develop and implement standards and requirements for sidewalks in the auto mall area.*

**Action 3-2.11:** *Integrate multiuse trails along creek corridors, railroad rights-of-way, and in park designs.*

**Action 3-2.12:** *Continue to upgrade curb ramps in compliance with the Americans with Disabilities Act.*

**Action 3-2.13:** *Provide street lighting that is energy efficient, attractive, appropriate to the character and scale of the neighborhood or district, and that contributes to pedestrian, bicycle, and vehicular safety.*

**Action 3-2.14:** *Update the Zoning Code to require that building plans and pedestrian facilities allow for easy pedestrian access from sidewalks, transit stops, other pedestrian facilities, and parking lots.*

**Action 3-2.15:** *Update the Zoning Code to require construction of attractive pedestrian walkways and areas in new residential, commercial, office, and industrial developments.*

**Action 3-2.16:** *Update the Zoning Code to require any new developments with cul-de-sacs or other limited street connectivity layouts to provide enhanced connectivity for pedestrians and bicyclists.*

**Action 3-2.17:** *Allow sharing or parallel development of pedestrian walkways and bicycle paths where safe to maximize the use of public rights-of-way.*

**Action 3-2.18:** *Support pedestrian and bicyclist needs by incorporating them into regular planning activities for all City projects, and include pedestrian facility funding in all appropriate funding requests.*

**Action 3-2.19:** *Expand the citywide system of designated bikeways to better serve bicyclists of all ages and abilities and maximize bicycle use*

for commuting, recreation, and local transport.

**Action 3-2.20:** Develop street standards with separated and/or protected bicycle lanes.

**Action 3-2.21:** Provide bicycle lanes along all regional/arterial streets and high-volume transitional/collector streets, prioritizing protected bicycle lanes except where infeasible due to engineering or obstruction of access for transit or emergency access.

**Action 3-2.22:** Finish or bridge incomplete or disconnected bicycle routes.

**Action 3-2.23:** Maintain all roadways and bicycle facilities so they provide safe and comfortable conditions for bicyclists.

**Action 3-2.24:** As part of the City's Capital Improvement Program, or street and intersection projects constructed by private developers, install and construct bicycle facilities, including Class I paths, Class II and IIB lanes, Class III route signs and road paint, or Class IV separated paths.

**Action 3-2.25:** Improve intersections of bicycle and pedestrian multiuse trails with highly trafficked roads through improvements such as painted crosswalks, beacon lights, or other improvements as warranted to increase user ease and safety. Ensure that there are no physical barriers to bicyclists or pedestrians as they cross high traffic roadways at intersections with Class I or Class IV facilities.

**Action 3-2.26:** Update the Zoning Code to require the highest level of bicycle facility protection that is practicable, as part of the

development review and entitlement process, to encourage bicycle use and comfort.

**Action 3-2.27:** Work with local education providers to ensure that students have safe pedestrian access to school sites throughout the city.

**Action 3-2.28:** Support Safe Routes to School by pursuing available grants and ensuring that approaches to schools are safe for cyclists and pedestrians by providing needed amenities such as sidewalks, crosswalks, bike lanes, and traffic calming on streets near schools and community centers.

**Policy 3-2.2:** **Increase transit ridership to reduce GHG emissions and provide convenient and efficient public transportation to workplaces, shopping, and other destinations.**

**Action 3-2.29:** Identify first/last mile challenges citywide and work with transit and rideshare companies to provide solutions.

**Action 3-2.30:** Continue to require TDM measures for new development, including CityBus / Sonoma County Transit / SMART waivers or discounts for project occupants.

**Action 3-2.31:** Provide convenient, efficient routes to major employment, education, recreation, community, and shopping centers throughout the city, SMART stations, and shopping centers.

**Action 3-2.32:** Continue to implement and periodically update Transit Master Plans such as Reimagining CityBus and the Short-Range Transit Plan, and

*work with MTC and other agencies on regional transit-supporting initiatives.*

**Action 3-2.33:** *Establish standards that require new development to provide transit improvements to meet demand from the project, including but not limited to:*

- Direct, paved pedestrian access to transit stops.
- Bus turnouts and weather-protected shelters.
- Bus-ready travel lanes.

**Action 3-2.34:** *Improve the reliability, efficiency, frequency, and travel time of transit service to meet or exceed performance standards of the most recent Santa Rosa CityBus Short Range Transit Plan and improve transit service along corridors where increased densities are planned.*

**Action 3-2.35:** *Work with local and regional transportation agencies to coordinate multimodal connections throughout the city, including timed transfers connecting different transit routes and future rail service, bicycle parking and lockers at transit centers, and transit stops at park-and-ride lots.*

**Action 3-2.36:** *Identify and develop opportunities to improve pedestrian, bicycle, micromobility (such as bike or scooter share), and bus transit connections between existing transit stations, to SMART stations, and to future mobility hubs.*

**Action 3-2.37:** *Encourage ridership on public transit systems through*

*marketing and promotional efforts and incentives.*

**Action 3-2.38:** *Coordinate plans for transit system changes and expansions with local land use planning to ensure consistency with adopted transit service allocation, service design, and equity policies.*

**Action 3-2.39:** *Work with private and public sector partners on “safe ride home” transit programs and advertising campaigns targeting wine industry tourists or anyone under the influence of alcohol.*

**Action 3-2.40:** *Work with SCTA and MTC to promote Safe Routes to Transit projects and programs and submit applications for funding of local Safe Routes to Transit projects and programs.*

**Action 3-2.41:** *Expand the hours of transit service, including during nights and weekends.*

**Action 3-2.42:** *Invest resources to ensure that the Transit Mall, Downtown SMART Station, and North SMART Station are active, safe, and efficiently accessed by local transit.*

**Action 3-2.43:** *Support the integration of transit services in Sonoma County and the region for the benefit of the riding public, including but not limited to, integrating passenger information, real-time arrival, fare structures, and coordinating service planning.*

**Policy 3-2.3:** **Ensure that the transit system serves all members of the community equitably, especially in EPAs.**

**Action 3-2.44:** *Evaluate local transit services to identify and address any accessibility barriers, including for*

children, seniors, those with disabilities, and nonnative English speakers.

**Action 3-2.45:** Reduce the cost of transit, especially for low-income individuals and those residing in EPAs, by expanding the unlimited Pass Program that serves students through grade 12, SRJC students, City employees, paratransit users, and veterans.

**Action 3-2.46:** Develop an accumulator transit pass that reduces the cost burden for frequent riders.

**Action 3-2.47:** Work with SCTA and local transit operators to explore financial incentives, reduced fares for public transportation, and a subregional or countywide universal basic mobility program.

**Action 3-2.48:** Identify strategies to increase low-income residents' access to transit hubs, jobs, and areas with goods and services, such as by enhancing existing transit hubs, constructing new transit hubs, and/or providing new first/last mile services.

**Policy 3-2.4:** Continue to support SMART rail service.

**Action 3-2.49:** Support efforts to construct future SMART stations in Santa Rosa, including in south Santa Rosa.

**Action 3-2.50:** Preserve options for future SMART rail stations by zoning land in proximity to the potential station sites for higher residential densities and/or mixed-use development.

**Action 3-2.51:** Support SMART efforts to promote tourist rail excursions as well as rail service for commuting and other travel purposes.

**Action 3-2.52:** Support SMART efforts to provide multi-use trails adjacent to new rail lines creating a regional trail network for active transportation and recreation.

**Goal 3-3:** Ensure that traffic-related impacts of proposed land uses are evaluated and mitigated.

**Policy 3-3.1:** Make sure that new development does not impede efficient, safe, and free-flowing circulation.

**Action 3-3.1:** Require traffic studies for development projects that may have a substantial impact on the circulation system.

**Action 3-3.2:** Monitor level of service (LOS) at intersections to ensure that improvements or alterations to improve corridor LOS do not cause severe impacts at any single intersection.

**Action 3-3.3:** In areas other than the downtown, strive to meet intersection LOS D to maintain adequate operations of the street network and minimize cut through traffic on residential streets.

**Action 3-3.4:** Monitor regional/arterial street LOS at regular intervals to determine if local LOS goals are being met, and provide information needed to maintain a calibrated citywide traffic model.

**Action 3-3.5:** Coordinate transportation plans with those of Sonoma County, MTC, and the State of California.

**Action 3-3.6:** Revise the Zoning Code to require site design to focus through-traffic on regional/arterial streets,

and employ the following design techniques to increase driver safety and traffic efficiency:

- Reduce the number of driveways and intersections.
- Combine driveways to serve numerous small parcels.
- Avoid residential access.
- Install and facilitate timing of traffic signals.
- Ensure continuous sidewalks.

**Action 3-3.7:** *Construct or require roundabouts in lieu of stop/signal-controlled intersections, where appropriate, to improve safety, reduce delay and idling time, and lower vehicle emissions.*

**Action 3-3.8:** *Periodically update City impact fees to require that development projects pay a fair share of costs for multimodal transportation systems improvements and ensure the adequacy of funding for needed transportation system improvements.*

**Action 3-3.9:** *Favor transportation alternatives to reduce demand on existing facilities in lieu of widening roadways and further impacting the natural environment.*

**Policy 3-3.2: Identify, preserve, and enhance City-designated scenic roads throughout Santa Rosa in both rural and developed areas.**

**Action 3-3.10:** *Update the Zoning Code to develop standards for scenic roadways identified in the General Plan that do not have corresponding development standards in the Zoning Code, including:*

- Highway 12 (from Highway 101 west to Fulton Road)
- Highway 12 (from Farmers Lane to Calistoga Road)
- Fountaingrove Parkway
- Bennett Valley Road (south of Farmers Lane)
- Montgomery Drive (from Mission Boulevard to Melita Road)
- Chanate Road (from Mendocino Avenue to Fountaingrove Parkway)
- Petaluma Hill Road (from Colgan Avenue to the UGB)
- Highway 101 (contiguous from northern to southern City limit)
- Newanga Avenue
- Channel Drive
- Wright Road South
- Ludwig Avenue

**Action 3-3.11:** *Provide bikeways along scenic roads where right-of-way exists or where its acquisition will not jeopardize roadway character.*

**Action 3-3.12:** *Discourage on-street parking along scenic roads; bus stops or scenic overlooks may be provided at appropriate intervals.*

**Action 3-3.13:** *Ensure that the size, number, and placement of signage along scenic roads does not detract from the area’s scenic character as much as feasible.*

## Open Space and Conservation

### Open Space

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The benefits of open space include visual enjoyment, natural resource conservation (e.g., plant and wildlife habitats, creek corridors, hillsides, and soils), water quality protection, recreational use, and hazard reduction (e.g., flood control and fire management).

Open spaces in and around Santa Rosa include agriculture, greenbelts (community separators), natural resources, and parks and recreation areas. Preservation of open space for each of these uses is important to the quality of life and semirural character valued by community members. General Plan policies address public access to these areas and expansion of the regional open space network. A continuous network of open space land has more benefits for plant and habitat conservation than disconnected open spaces. Figure 2-6, General Plan Land Use, shows designated open space areas.

### Agricultural Resources

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Agricultural resources in the Santa Rosa planning area give community members a sense of rural character and access to fresh goods and produce. Conserving agricultural resources—including crop fields, grazing land, and vineyards—will help sustain the sense of nature for the greater Santa Rosa area and contribute to the region’s health and economic vitality.

### Biological Resources and Waterways

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Biological resources in the Santa Rosa area are concentrated on the Santa Rosa plain to the west and in the uplands to the east, with creeks forming critical connections. Sensitive resources

on the plain include numerous vernal pools and their associated species, as well as surrounding grasslands, and upland resources to the east include hillside open spaces, creeks, and woodlands. Biological resources within the city include sensitive plants and animals, creeks, and wetlands, including vernal pools.

Santa Rosa Creek originates in the headwaters of Mount Hood and runs roughly east to west through the city and into the Laguna de Santa Rosa. Other streams, including the lower reaches of Matanzas Creek, run through or near the city on their way to joining Santa Rosa Creek.

### Citywide Creek Master Plan

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The Citywide Creek Master Plan sets goals and policies for specific waterways in Santa Rosa. The plan details the creek environments in the city and designates areas for recreation, enhancement, or preservation. The City expects the Master Plan to improve wildlife habitats and increase recreational opportunities, drainage capacity, and flood control.

### Vegetation

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Vegetation types in Santa Rosa include grasslands, woodlands, riparian areas, and vernal pools. Small areas of discrete habitat, such as vernal pools, support distinct sets of plant and animal species, which are generally sensitive to human disturbance.

### Wildlife

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Different vegetation types provide habitat for different species of wildlife, and the mingling of different habitats is an advantage for species that use the “edges” between them. Open space areas support smaller species, including songbirds, rodents, and insects, and provide habitat for sensitive species, including nesting raptors.



The streams flowing through the city provide both instream and riparian habitat. Aquatic species need instream habitat, and Santa Rosa Creek and several of its tributaries carry aquatic species such as steelhead/rainbow trout. Riparian habitat supports its own community of plants and animals, including amphibians, and functions as a migration corridor between habitats separated by development. Both types of habitats support a variety of animal species, from streambed invertebrates to the larger fishes and animals such as herons and egrets that feed on them. Preserving wildlife habitat and restoring riparian corridors protects wildlife species and provides tranquil open spaces within the city's urban landscape.

## Air Quality

Reducing air pollutants benefits community health and quality of life. The City of Santa Rosa works with the Bay Area Air Quality Management District to address air quality in Santa Rosa, which has generally improved with cleaner motor vehicles, less agricultural and residential burning, and reformulated consumer products.

Efficient and sustainable development patterns, strong connections between different land uses, clean and renewable energy sources, alternative transportation modes, open space preservation, and construction dust abatement have all contributed to better air quality in Santa Rosa, but there is still room for improvement.

## Goals, Policies, and Actions

**Goal 3-4:** Protect, expand, maintain, and restore natural resources, open space, and agricultural land.

**Policy 3-4.1:** Maximize the benefits of open space, including by supporting

**recreation and conservation where possible.**

- Action 3-4.1:** Cooperate with public and private entities to create new multiuse trails and public access pathways to parks, open spaces, and drainage ways in and near the city.
- Action 3-4.2:** Monitor and support the progress of the Sonoma County Agricultural Preservation and Open Space District in acquiring Santa Rosa properties.
- Action 3-4.3:** Coordinate with public and private entities to link open spaces with a network of paths and trails, including Sonoma Water access roads and the Bay Area Ridge Trail.
- Action 3-4.4:** Collaborate with regional agencies and private landowners to link inaccessible open spaces where such linking would benefit the protection of special environments and life systems such as wetlands, plant communities, and wildlife habitats and corridors.
- Action 3-4.5:** Promote the use of properties unsuitable for development due to hazards or other safety constraints—as defined in Chapter 5, Safety, Noise, and Public Services and Facilities—for open space uses if they can be safely integrated and do not require infrastructure, such as fishing, wildlife observation uses.
- Action 3-4.6:** Preserve, enhance, and expand an integrated network of open space to support other uses and benefits, such as habitat, recreation, natural resources, historic and tribal resources,

*water management, nature-based climate resilience, and aesthetics.*

**Policy 3-4.2: Conserve agricultural land and soils.**

**Action 3-4.7:** *Ensure the City's Natural Resources Program prioritizes land management techniques and agricultural practices that reduce erosion and soil loss on City-owned properties.*

**Action 3-4.8:** *Conduct a carbon sequestration feasibility study of City-owned open space, parks, agricultural lands, and other conservation lands, and implement the recommendations as feasible. This study should assess carbon storage potential by land use type and identify strategies to facilitate carbon sequestration.*

**Action 3-4.9:** *Encourage the Sonoma County Agricultural Preservation and Open Space District to acquire open space in and surrounding Santa Rosa, including:*

- The Community Separator between Santa Rosa and Rohnert Park.
- Taylor Mountain.
- Areas west and north of the UGB.
- The Santa Rosa Creek corridor.

**Action 3-4.10:** *Support Sonoma County efforts to preserve unincorporated lands adjacent to and near the Santa Rosa UGB as viable agricultural resources and to support the agriculture economy and environmental quality.*

**Policy 3-4.3: Conserve creeks, wetlands, vernal pools, wildlife**

**ecosystems, rare plant habitats, and waterways.**

**Action 3-4.11:** *Use existing (and/or restore historical) natural features and ecosystem processes for conservation, preservation, or sustainable management of open space, including, but not limited to, aquatic or terrestrial vegetated open space, systems and practices that use or mimic natural processes, and other engineered systems to provide clean water, conserve ecosystem values and functions, and provide a wide array of benefits to people and wildlife.*

**Action 3-4.12:** *Continue to implement existing regulations and procedures, including subdivision guidelines, zoning, design review, and environmental law, to conserve wetlands and rare plants, riparian habitat and other sensitive natural communities, and essential habitat for special-status species; use the environmental review process and comply with the applicable regulations and standards, such as federal policy of no net loss of wetlands; use mitigation measures such as:*

- Avoidance of sensitive habitat.
- Clustered development.
- Transfer of development rights.
- Compensatory mitigation, such as restoration or creation.

**Action 3-4.13:** *Require a qualified biologist to conduct a biological resource assessment as part of environmental review for*

*proposed development on sites with natural habitat conditions that may support special-status species, sensitive natural communities, or regulated wetlands and waters. The biologist should determine the presence or absence of any sensitive resources that could be affected by proposed development, assess potential impacts, and define measures for protecting the resource and surrounding buffer habitat, in compliance with City policies and State and federal laws.*

**Action 3-4.14:** *Continue to require that potential significant impacts on special-status species, occurrences of sensitive natural communities, or regulated wetlands and waters be minimized during the environmental review process through adjustments and controls on the design, construction, and operations of a proposed project, or require appropriate compensatory mitigation where such impacts are unavoidable.*

**Action 3-4.15:** *Continue to require that development activities avoid nests of native birds when in active use to ensure compliance with the State Fish and Game Code and the federal Migratory Bird Treaty Act when construction is initiated on development sites. If initial vegetation removal and site disturbance cannot be restricted outside the nesting season (September 1 through January 31), require that a preconstruction survey for nesting birds be conducted by a qualified biologist during the bird-nesting*

*season (February 1 through August 31). Where an active nest is found on the site, an adequate setback should be established around any nest of a native bird species when it is in active use until the young have fledged and are no longer dependent on the nest. The nest setback distance should be defined by a qualified biological consultant with input from the California Department of Fish and Wildlife, with the setback zone fenced or flagged, and all construction disturbance restricted from this zone until the qualified biologist has confirmed the nest is no longer in use.*

**Action 3-4.16:** *Inventory wetlands, floodplains, marshlands, and adjacent lands that could potentially support climate adaptation (e.g., through flood management, filtration, or other beneficial ecosystem services) and mitigation (e.g., carbon sequestration).*

**Sequestration** is the natural removal of GHGs from the atmosphere by soils and plants. When previously undeveloped land is developed, it can release previously sequestered emissions.

**Action 3-4.17:** *Protect high quality wetlands and vernal pools from development or other activities.*

**Action 3-4.18:** *Implement the Citywide Creek Master Plan and promote a “one water” approach that teaches preservation and stewardship of local creeks and water resources.*

**Action 3-4.19:** *Establish and annually evaluate mitigation fees for environmentally sensitive resource lands and/or*

*endangered species habitat areas that are subject to development and apply mitigation fees, as appropriate.*

**Action 3-4.20:** *Periodically review the status of local creeks and plan for ongoing restoration, planning, and stewardship.*

**Action 3-4.21:** *Seek funding to maintain and restore citywide creeks, including for recreational opportunities linked to creeks as well as for flood control.*

**Action 3-4.22:** *Continue to consult with the California Department of Fish and Wildlife to identify significant environments and priorities for acquisition or maintenance of open space areas based on biological and environmental concerns and develop a strategy for maintaining areas that will preserve the populations of plants and animals currently found within the UGB.*

**Action 3-4.23:** *Implement storm water pollution prevention outreach to increase community awareness of pollution impacts to creeks and preserve waterways.*

**Action 3-4.24:** *Do not create additional channelized waterways unless no other alternative is available to protect human health, safety, and welfare.*

**Action 3-4.25:** *Restore channelized waterways to a more natural condition, as feasible, that allows for more natural hydraulic functioning, including connection with the stream channel and the natural water table; and development of meanders, pools, riffles, and other stream features, allowing for*

*growth of riparian vegetation that effectively stabilizes banks, screens pollutants from runoff entering the channel, enhances fisheries, and provides other opportunities for natural habitat restoration.*

**Action 3-4.26:** *Ensure that construction adjacent to creek channels is sensitive to the natural environment, preserves topography and vegetation along the creek, does not disrupt or pollute the waterway, and provides an adequate setback buffer.*

**Action 3-4.27:** *Encourage multiple use of waterways, including:*

- Flood mitigation and storage;
- Groundwater recharge;
- Opportunities for restoration and stewardship;
- Climate adaptation;
- Wildlife habitats;
- Passive recreational open space uses;
- Nature study;
- Pedestrian and bicycle circulation; and
- Other compatible outdoor uses.

**Policy 3-4.4:** **Orient development and buildings toward creeks while providing privacy, security, and an open transition between public and private open spaces.**

**Action 3-4.28:** *Require new development along channelized waterways to establish an ecological buffer zone between the waterway and*

development that also provides opportunities for multiuse trails and recreation.

**Action 3-4.29:** Require new development to maintain an adequate setback from channelized waterways to recognize the 100-year flood elevation, with setbacks in the Zoning Code as minimums and larger setbacks encouraged in accordance with Restoration Concept Plans to meet restoration and enhancement goals.

**Policy 3-4.5: Protect groundwater recharge areas, particularly creeks and riparian corridors.**

**Action 3-4.30:** Identify and map groundwater recharge areas and provide groundwater recharge area maps to local agencies to foster planning that protects groundwater supplies.

**Action 3-4.31:** Update the Municipal Code to require low-impact development measures to reduce pollutants and runoff flows from new development and redevelopment projects. Develop rain gardens and other low impact development features to improve water quality and biodiversity and enhance livability.

**Policy 3-4.6: Achieve and maintain ambient air quality standards.**

**Action 3-4.32:** Continue to review all new construction projects and require dust abatement actions from the CEQA Handbook of the Bay Area Air Quality Management District.

**Action 3-4.33:** Ensure all new development is electric vehicle charging ready at a minimum.

**Action 3-4.34:** Amend the Zoning Code to prohibit drive-through retail and drive-through service land uses in all Zoning Districts and provide incentives for legal nonconforming drive-through uses to discontinue their drive-throughs.

**Action 3-4.35:** Review and amend the City's Building Code and Zoning Code to facilitate the installation of electric vehicle charging infrastructure at existing development, prioritizing properties in EPAs.

**Action 3-4.36:** Support efforts to install and operate electric vehicle charging stations and clean fuel stations on private property throughout the city, including hydrogen and sustainably sourced biofuels, as supported by market conditions.

**Action 3-4.37:** Expand installation and operation of vehicle charging stations on City properties, including curbside in areas of the community where other options are limited.

**Action 3-4.38:** Budget for clean fuels and zero emission vehicles in the City's long-range capital expenditure plans to transition the existing fleet of gasoline- and diesel-powered vehicles, and work to make the City's fleet among the cleanest in the North Bay by:

- Purchasing zero-emission vehicles whenever possible that meet or exceed requirements under the California Advanced Clean Fleets Regulation. If zero-emission vehicles are not available, purchase plug-in

hybrids or other vehicle types to minimize emissions.

- Using biodiesel and pollution-reducing fuel additives in the City's diesel fuel vehicles.

**Action 3-4.39:** *Implement the City's Wood Burning Appliance code to reduce particulate matter emissions from wood-burning appliances.*

## Greenhouse Gas Reduction

The 2050 General Plan presents an integrated and cross-sector approach to reducing GHG emissions in Santa Rosa. The General Plan integrates goals, policies, and actions that support reductions from community and municipal sources of emissions, supported by a stand-alone GHG Reduction Strategy (**Appendix A**). The GHG Reduction Strategy presents all City GHG reduction measures and includes quantification and other details consistent with CEQA Guidelines Section 15183.5 to support ongoing reductions through 2050. For the first time, the General Plan incorporates the community's progressive GHG reduction goals, State goals, and community-wide GHG reductions. Like the previous Community-Wide Climate Action Plan (CCAP), the integrated Strategy includes GHG reduction measures and implementation programs based on the City's ongoing implementation of the CCAP, an updated GHG emissions inventory, and projections of future GHG emissions. The General Plan and GHG Reduction Strategy are consistent with State and Bay Area Air Quality Management District CEQA Guidelines. The GHG Reduction Strategy builds on a strong record of climate action stewardship in Santa Rosa and supports other, ongoing community efforts to reduce pollution and improve community health, such as those led by the Regional Climate Protection Authority.

On August 2, 2005, the Santa Rosa City Council adopted Resolution 26341, which established two targets:

- Reduce GHGs from City government operations to 20 percent below 2000 levels by 2010.
- Reduce community-wide GHGs to 25 percent below 1990 levels by 2015, a level estimated to be 37 percent below 2007 baseline levels.

In 2012, the City adopted the CCAP, which is now replaced by the goals, policies, and actions of this General Plan and the companion GHG Reduction Strategy. Similar to the CCAP, the City's Municipal Climate Action Plan (MCAP) includes GHG emissions inventories and reduction measures, but it focuses on the GHG emissions associated with municipal facilities and operations, such as City buildings, vehicles, and lighting.

In 2019, the City Council formed its Climate Action Subcommittee to provide guidance and oversight for implementation and update of the City's CCAP and MCAP.

On January 14, 2020, the Council adopted the Climate Emergency Resolution, setting a goal of achieving carbon neutrality by 2030 (15 years ahead of the recently established State goal). The resolution underscores the urgency of local climate action to address future hazards and enhance community resiliency. It commits the City to ongoing efforts related to climate change and GHG reductions by City departments and collaboration with the Regional Climate Protection Authority.

In December 2022, the California Air Resources Board adopted an update to the State's Climate Change Scoping Plan, which details the pathway to achieve carbon neutrality by 2045 consistent with adopted GHG emissions reduction targets. The State's adopted targets are:

- Reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Reduce GHG emissions to 85 percent below 1990 levels by 2045.
- Achieve statewide net carbon neutrality by 2045.

Many common activities of daily life generate GHG emissions. Some daily activities release GHG emissions in the location of the activity, such as natural gas combustion in homes or businesses. Other activities release GHG emissions elsewhere, such as power plants in other communities that generate electricity used in Santa Rosa. In a few cases, an activity generates emissions partially in Santa Rosa and partially elsewhere, such as vehicle trips between Santa Rosa and another community.

A community-wide GHG emissions inventory, included in **Appendix A**, identifies GHG emissions that result from activities of residents, employees, and other community members. The City prepared community-wide GHG inventories for calendar years 2000, 2007, and 2019 that assesses GHG emissions from the following sectors: transportation, residential energy, nonresidential energy, solid waste, off-road equipment, agriculture, water and wastewater, and land use and sequestration. In 2019, Santa Rosa’s community-wide GHG emissions totaled 949,310 MTCO<sub>2</sub>e (metric tons of carbon-dioxide equivalent). This is a 28 percent decrease in emissions since 2007. Transportation is the highest-emitting sector, representing 53 percent of emissions in 2019. The nonresidential energy, residential energy, and off-road equipment are the second-, third-, and fourth-highest emitting sectors, respectively, in 2019.

The City also prepared inventories of municipal GHG emissions, that is, GHG emissions from City operations, for the calendar years 2000, 2007, and 2010. In 2007, Santa Rosa’s municipal GHG emissions were 29,440 MTCO<sub>2</sub>e, approximately 3 percent of community-wide emissions. From

2000 to 2010, municipal GHG emissions decreased by 5 percent. The City prepared a Municipal Operations Climate Action Plan in 2010 that included GHG reduction targets for 2020, 2035, and 2050, with the ultimate goal to reduce municipal GHG emission to at least 83 percent below 2007 levels by 2050. The City has completed the most feasible GHG reduction measures in the MCAP.

## Energy

The City of Santa Rosa depends on energy to maintain a vital economy and desirable lifestyle. The city needs electricity and natural gas to light, heat, and cool structures and power office equipment, industrial machinery, public services, and home appliances. The community also uses petroleum products to move people and products along transportation corridors. Energy is vital to the continued functioning of housing, employment, transportation, and public services and facilities in Santa Rosa.

Reduced energy use and a shift to clean and renewable energy sources in housing, commercial structures, public facilities, and transportation can help support the local economic vitality, reduce costs, reduce GHG emissions, and enhance sustainability and reliability of the energy grid.

## Goals, Policies, and Actions

**Goal 3-5:** Achieve net carbon neutrality by 2030.

**Policy 3-5.1:** Significantly reduce community-wide and municipal GHG emissions, achieving at least an 85 percent reduction of GHG emissions from community sources no later than 2045 with a commitment to accelerate reductions, as feasible, in

**support of the City’s and State’s carbon neutrality goals.**

- Action 3-5.1:** Consider the effects of climate change in updating or amending the General Plan, disaster planning, City projects, infrastructure planning, future policies, and City investments.
- Action 3-5.2:** Eliminate the use of fossil fuels as an energy source in all new building construction.
- Action 3-5.3:** Reduce the use of fossil fuels as an energy source in the existing building stock at the time of building alteration through requirements for all-electric appliances.
- Action 3-5.4:** Evaluate and adopt reach codes and other policies to decarbonize the building stock.
- Action 3-5.5:** Implement the actions in the GHG Reduction Strategy to achieve the City’s GHG reduction goals.
- Action 3-5.6:** Continue regular inventories of community-wide and municipal GHG emissions, at least every five years, consistent with the GHG Reduction Strategy and this General Plan.
- Action 3-5.7:** Provide public information to educate residents and businesses on the GHG Reduction Strategy and to support individual changes in energy and water use, transportation mode choices, material use, and waste reduction.
- Policy 3-5.2: Reduce energy use and increase energy efficiency in existing and new commercial, industrial, and public structures.**
- Action 3-5.8:** Require regular energy audits of existing City-owned and operated

structures, identifying levels of existing energy use and potential conservation and efficiency measures.

- Action 3-5.9:** Develop a capital project list and funding strategy to complete energy efficiency projects, and adjust the list annually to add new programs as needed.
- Action 3-5.10:** Encourage energy audits and energy-efficient retrofits of buildings throughout the city.
- Action 3-5.11:** Guide project applicants toward site planning, solar orientation, cool roofs, and landscaping that decrease summer cooling and winter heating needs.
- Action 3-5.12:** Encourage new buildings to exceed State energy efficiency requirements and/or be certified by the U.S. Green Building Council’s LEED (Leadership in Energy and Environmental Design) Program or equivalent certification, where cost-effective and equitable.
- Action 3-5.13:** Require new City facilities to be zero net energy to the extent feasible.
- Action 3-5.14:** Consider updating the Zoning Code to require use of low carbon construction materials.
- Action 3-5.15:** Assess the effectiveness of the City’s environmentally sensitive preferred purchasing and green fleet conversion programs and update the programs, as needed, to support the City’s GHG reduction goals.
- Action 3-5.16:** Use education and incentives to promote and sustain energy-conserving design and practices.



**Policy 3-5.3:** Increase the use of renewable, carbon free, and distributed energy resources throughout the city.

**Action 3-5.17:** *Revise any existing codes and policies that constrain or prohibit the installation of environmentally acceptable forms of distributed energy generation.*

**Action 3-5.18:** *Encourage new and existing buildings to include battery energy storage systems, especially buildings with solar energy installations and municipal buildings that provide essential community services.*

**Action 3-5.19:** *Participate in State and local efforts to develop appropriate policies and review procedures for the installation of photovoltaic solar and other forms of distributed energy generation.*

**Action 3-5.20:** *Continue to participate in utility-sponsored renewable energy programs that allow the city to receive a significant portion of energy from renewable sources.*

**Action 3-5.21:** *Assist low-income homeowners and small business owners with identifying financing options for installation of rooftop solar energy systems, energy storage, and electrification of existing buildings.*

**Action 3-5.22:** *Support the development of local-serving renewable energy projects that expand the availability of local renewable energy, provide sustainable local jobs, and support local and regional housing, economic development, and sustainability goals and initiatives.*

**Action 3-5.23:** *Encourage the establishment of neighborhood renewable-energy microgrids to support resilience.*

**Action 3-5.24:** *Support State and utility efforts to improve grid resilience and capacity.*

**Policy 3-5.4:** Continue the City’s role as a leader in sustainability and climate action.

**Action 3-5.25:** *Integrate GHG emissions reduction and climate resilience into all municipal projects, policies, and procedures as feasible.*

**Action 3-5.26:** *Designate a Climate Action Coordinator to lead implementation of the City’s GHG Reduction Strategy and climate policies and actions in this General Plan.*

**Action 3-5.27:** *Designate and support a Climate Action Lead in each City department.*

**Action 3-5.28:** *Continue to support an Interdepartmental Climate Action Implementation Committee.*

**Action 3-5.29:** *Support the growth of green businesses in Santa Rosa that support a carbon neutral economy.*

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# 4

## Urban Design, Historic Preservation, and Art and Culture



## 4. Urban Design, Historic Preservation, and Art and Culture

Santa Rosa is made up of diverse neighborhoods, corridors, and districts, each with their own distinct character and identity. Pride in these communities and the city as a whole is a big part of what makes Santa Rosa a great place to be. Attractive design of buildings and outdoor spaces, historic preservation, and art in public spaces together support a high quality of life and esteem for Santa Rosa residents and businesses. Of course, although community character is celebrated across the city, some areas need more investment to reach their full potential.

This chapter considers the key characteristics that contribute to Santa Rosa's sense of place. Goals, policies, and actions in this chapter implement the community vision by supporting the preservation of historic and cultural assets and using design standards and public art to shape the form and feel of neighborhoods and gathering spaces. This chapter recognizes the power of art to connect people, promote cultural inclusion and diversity, create civic pride and a sense of community, stimulate the local economy, and inspire the creative spirit. Beyond its impact on the built environment, a successful Public Art Program also supports an empowered, thriving, and inclusive Santa Rosa community connected through the power of art.

In addition to visual character and image, the design of the city has important implications for adapting to climate change, reducing carbon emissions, improving public health, and promoting social equity. For example, community design policies can help Santa Rosa respond to risks from natural hazards such as wildfire with adaptations that increase public safety. Design-related policies can also support conservation through increased use of renewable energy and more efficient use of water, and by following sustainable building construction practices.

Some policies and actions in this chapter, as in others, prioritize the needs of Equity Priority Areas to support equitable outcomes. Similarly, some goals, policies, and actions prioritize implementation in Areas of Change to focus the City's resources and realize the community's vision for the General Plan.

**Equity Priority Areas or EPAs** are areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. The General Plan prioritizes the environmental justice needs and health and equity considerations of EPAs in the goals, policies, and actions of this and other chapters of the General Plan. EPAs are depicted on Figure 2-4 and discussed in more detail in chapters 2 and 6, Land Use and Economic Development and Health, Equity, and Environmental Justice.

**Areas of Change** are places where the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods. Goals, policies, and actions throughout the General Plan prioritize Areas of Change for implementing actions that promote complete neighborhoods, such as active transportation infrastructure, quality housing, healthy food options, opportunities for social connections, and access to parks and commercial services.

Areas of Change are depicted on Figure 2-5 and discussed in more detail in Chapter 2, Land Use and Economic Development.

## Chapter Contents

- Urban Design
- Historic Preservation
- Art and Culture

This chapter focuses on key goals that work to implement the vision for Santa Rosa. These goals and their associated policies and actions are especially pertinent to the following component of the Vision Statement (shown in full in Chapter 2, Policy Framework):

- **Cultural:** Art, cultural resources and activities, historic assets, and live music thrive in every neighborhood, are

accessible to everyone, and work to celebrate our diverse community, bring people from all areas of the city together, and support the local economy.

**Figure 4-1** illustrates some of the key concepts addressed in this chapter.

## Urban Design

Santa Rosa has a rich landscape of historical buildings, thoughtfully designed contemporary developments, and views of the local landscape. The physical form of each neighborhood, gathering or shopping area, corridor, and district can contribute to livability and quality of life. Appropriate urban design standards encourage development to highlight and not detract from the natural and historical features of established areas, create distinct architectural identities in emerging areas, and protect views of the natural, unbuilt areas surrounding Santa Rosa.

Figure 4-1: Visualizing the Concepts

# ► URBAN DESIGN, HISTORIC PRESERVATION, AND ART AND CULTURE



Attractive Gateways



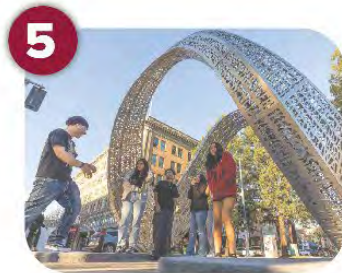
Hillside and Creek Preservation



Native American Heritage



Historic Preservation



Public Art



Placemaking

## Goals, Policies, and Actions

**Goal 4-1:** Improve health and well-being for all community members by emphasizing community health in all City policies, programs, actions, and activities.

**Policy 4-1.1:** Preserve and enhance the visual value of the city's natural waterways, hillsides, historic districts, structures, and landscapes.

**Action 4-1.1:** *Maintain view corridors to natural ridgelines and natural landmarks, such as Taylor Mountain and Bennett Mountain, by updating the Zoning Code hillside development standards.*

**Action 4-1.2:** *Maintain and restore the floodplain and riparian vegetation along the city's network of creeks and further develop trails along creeks to serve as an alternative transportation network.*

**Policy 4-1.2:** Strengthen and emphasize community focal points, visual landmarks, and features that contribute to the identity of Santa Rosa by applying the design concepts and standards of the Zoning Code, Design Guidelines, Preservation District Plans, Bicycle and Pedestrian Plan, and the Citywide Creek Master Plan, including, but not limited to, Old Courthouse Square, DeTurk Round Barn, Railroad Square Water Tower, St. Rose School, Hotel La Rose, Santa Rosa Creek, Luther Burbank Home and Gardens, Juilliard Park, and views to the hills.

**Action 4-1.3:** *Update the City's Design Guidelines, Objective Design Standards, and/or Zoning Code, as appropriate, to:*

- Expand objective standards for residential development in compliance with State requirements.
- Require landscape design to be related to the natural setting and graded areas in new development and revegetated with native plants as fire resistance allows.
- Require structures in new developments to step with the slope of the site and absorb site topography through use of split-level designs.

**Policy 4-1.3:** Enhance and strengthen the visual quality of major entry routes into the city and major corridors that link neighborhoods with downtown.

**Action 4-1.4:** *Develop and implement a strategy for gateways, depicted in **Figure 4-2**, that enhances their visual quality and supports placemaking, economic development, active transportation, and other, complementary City goals.*

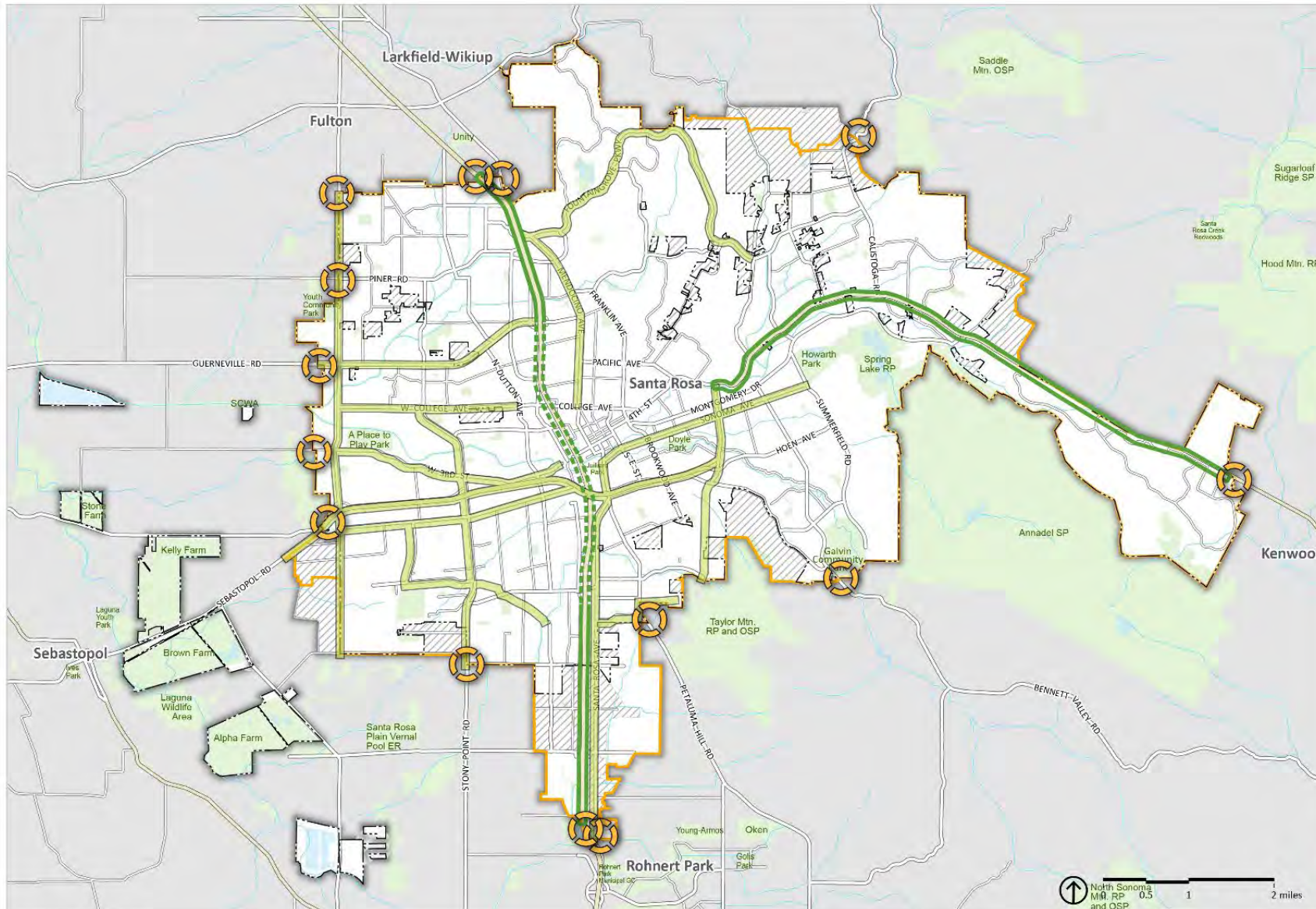
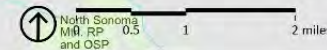


Figure 4-2  
Gateways and Corridors

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
  - Outside of Planning Area
- 
- Urban Form**
  - Gateway / City Entry
  - Landscape Buffer
  - Landscaping with Views of Downtown
  - Streets with Planted Medians

Source: City of Santa Rosa 2023





**Action 4-1.5:** *Where feasible and prioritizing EPAs and Areas of Change, provide planting strips with large canopy trees between the road and sidewalk to buffer pedestrians from traffic and help define the street space along commercial streets, and install pedestrian amenities such as:*

- Street lighting
- Seating
- Bus stop shelters
- Bicycle racks
- Mailboxes

**Action 4-1.6:** *Update the Zoning Code to require screening of development along Highway 101 with dense landscape.*

**Policy 4-1.4:** **Avoid strip patterns of commercial development and improve the appearance and operation of existing commercial strip corridors, especially in Areas of Change.**

**Action 4-1.7:** *Work with property owners to restructure existing strip developments to cluster commercial uses in neighborhood nodes, with higher-density housing included where possible and lower-density residential, office, or institutional uses that generate less traffic located between the nodes.*

**Policy 4-1.5:** **Create public/civic spaces at the neighborhood, city, and regional scale to serve residents of all areas of the city, prioritizing EPAs.**

**Action 4-1.8:** *Provide for new open space opportunities throughout the city, especially in neighborhoods that*

*have less access to open spaces, including creek corridors, bicycle and pedestrian connections, civic spaces, and publicly accessible conservation areas.*

**Action 4-1.9:** *Enhance pedestrian activity and safety by requiring that streets, buildings, pathways, and trails have lighting and wayfinding signage, and provide a visual connection with public spaces, such as parks and Santa Rosa Creek, where possible.*

## Historic Preservation

### Native American Heritage

Native American habitation in the Santa Rosa region began about 7,000 years ago, and the city contains almost 200 recorded Native American resources, according to the California Historical Resources Information System. Remnants of Native American civilization have been discovered along Santa Rosa Creek and its tributaries; in the adjacent alluvial valleys, surrounding plains, hills, the Trione-Annadel State Park area, and the Laguna de Santa Rosa. The Santa Rosa Basin encompasses the Planning Area and includes six major drainages (Santa Rosa, Matanzas, Piner, Rincon, Austin, and Brush Creeks), each of which may contain additional, undiscovered Native American archaeological sites.

Trione-Annadel State Park in the southeast corner of the Santa Rosa Planning Area was an important obsidian source for Native American tools. Resources there include chert and obsidian flakes, projectile points, mortars, pestles, shell and bone debris, and human remains. The remains of entire settlements, including three former villages, have been found in northern Santa Rosa. Given the archaeologically rich nature of the Santa Rosa area, and the fact that about half of the Planning

Area has not been surveyed for archaeological resources, there is a high potential for finding more Native American sites in Santa Rosa.

## Historic Resources

Historic resources include sites, structures, districts, landmarks, or other physical evidence of past human activity generally more than 50 years old. Santa Rosa has a rich architectural heritage spanning many periods—Mexican adobes, nineteenth-century Gothic structures, Greek Revival and Italianate houses, turn of the century Stick/Eastlake homes, early 20th-century Craftsman and California bungalows, 1920s Spanish Revival houses, and 1930s Art Deco buildings.

Numerous well-preserved structures represent the eclectic styles and periods that contribute to the city's character and identity. Some of the more notable historic resources are the Luther Burbank Home and Gardens, Rosenberg Department Store, Flamingo Resort Sign Tower, DeTurk Round Barn, Church of the One Tree, Carrillo Adobe, Fountaingrove Winery (the Fountaingrove Round Barn was lost in the 2017 Tubbs Fire), and Santa Rosa Rural Cemetery. Recognizing the value of Santa Rosa's historic resources, the City Council adopted a preservation ordinance in 1988 and created the Cultural Heritage Board to:

- Undertake and update historic inventories or surveys.
- Recommend designation of landmarks and preservation districts.
- Review proposed alterations to historic buildings.
- Promote public awareness of preservation issues.

With Cultural Heritage Board guidance, the City has prepared inventories to document historical buildings and neighborhoods. The resulting Cultural Heritage Survey is not just a list but also

a narrative and pictorial summary of the city's past that documents the architectural style of each structure and historical features by neighborhood. The Cultural Heritage Board has designated especially significant structures and sites that have a specific historical, archaeological, cultural, or architectural value as Landmarks, and key historic neighborhoods as Preservation Districts. The districts designation officially recognizes these places as key components of the city's heritage. Santa Rosa has 21 Landmarks and 8 designated historic Preservation Districts, which are Burbank Gardens, Cherry Street, McDonald, Olive Park, Railroad Square, Ridgway, Saint Rose, and West End.

## Goals, Policies, and Actions

**Goal 4-2:** Protect the historic and cultural resources of Santa Rosa and enrich the sense of place and understanding of the city's history and prehistory.

**Policy 4-2.1:** Protect Native American heritage and honor the early stewards of this land.

**Action 4-2.1:** Continue to review proposed developments in conjunction with the California Historical Resources Information System, Northwest Information Center, at Sonoma State University to determine whether project areas contain known archaeological resources, prehistoric and/or historic-era, or have the potential for such resources.

**Action 4-2.2:** Continue to require that project areas found to contain significant archaeological resources be examined by a qualified consulting archaeologist with recommendations for protection and preservation.

**Action 4-2.3:** *Work in good faith with interested communities to evaluate proposed development sites for the presence of subsurface historic, archaeological, and tribal cultural resources. These efforts may include:*

- Consideration of existing reports and studies.
- Consultation with Native American tribes as required by State law.
- Appropriate site-specific investigative actions.
- Onsite monitoring during excavation if appropriate.

**Policy 4-2.2: Treat Native American human remains with sensitivity and dignity and ensure compliance with the California Health and Safety Code and the California Public Resources Code. Collaborate with the most likely descendants, as identified by the Native American Heritage Commission.**

**Action 4-2.4:** *If cultural resources are encountered during development, halt work to avoid altering the materials and their context until a qualified consulting archaeologist and Native American representative (if appropriate) have evaluated the situation and recorded identified cultural resources—which may include animals, structures, landscapes, or plants—and determined suitable mitigation measures.*

**Policy 4-2.3: Preserve Santa Rosa’s historic structures and neighborhoods.**

**Action 4-2.5:** *Establish priorities for and pursue designating new landmarks and historic preservation districts, following study by the Cultural Heritage Board.*

**Action 4-2.6:** *Follow the Secretary of the Interior Standards for Preservation, Rehabilitation, Restoration, and Reconstruction for the treatment of historic properties.*

**Action 4-2.7:** *Integrate the common goals of the City’s green ordinances and historic preservation objectives when reviewing proposals related to historic structures or places.*

**Action 4-2.8:** *Provide building owners of older and historic structures clear and cost-effective options to measurably enhance energy efficiency while maintaining the structure’s historic integrity to the greatest degree possible.*

**Action 4-2.9:** *Pursue designation as a Certified Local Government Program by the National Parks Service to assist in funding local historic preservation.*

**Action 4-2.10:** *Seek funding and establish mechanisms, such as periodic flyers, to educate property owners in preservation districts about the steps required for changes to historic properties.*

**Action 4-2.11:** *Consider removing or simplifying obstacles for owners of historic properties to support preservation, including guides for repurposing facilities and concurrent review of entitlement and building permit applications.*

**Action 4-2.12:** *Update the building code to require the preservation of materials, such as historic*

*windows, doors, siding, and trim, when historic structures are demolished or renovated.*

**Action 4-2.13:** *Work with the local tourism industry, property owners, businesses, nonprofit organizations, and other public agencies to develop and promote Heritage Tourism opportunities, integrating efforts with ongoing initiatives for economic development and the creative economy.*

## Art and Culture

For several decades the City of Santa Rosa has collaborated with community partners to build a thriving Public Art Program, including the recent adoption of the 2021-2024 Public Art Program Strategic Plan. Recognizing the value of Santa Rosa’s public art and cultural resources, the City Council adopted the Public Art Policy in 1996 and created the Art in Public Places Committee (APPC) to oversee the Public Art Program in Santa Rosa. The Program:

- Develops projects that focus on issues and places that are important to Santa Rosa civic dialogue.
- Develops projects in collaboration with other public agencies, nonprofit cultural groups, and curators.
- Reviews projects, gifts, and loans proposed by others for City property.
- Reviews murals that are publicly funded or on City property.
- Facilitates community participation in the development of public art projects.
- Stimulates public awareness of public art.
- Reviews projects initiated by developers.
- Organizes exhibitions in City facilities.

- Manages the existing collection through assessment, maintenance, and conservation.

Public art and cultural facilities enhance the city’s identity, pride, and image. Gathering places contribute to community bonding and pride, support a positive business climate, and provide a draw for tourism. Public art and arts districts can help revitalize underserved areas, fulfill the need for affordable live-work space for artists, and bring increased tax revenue to the City. Art in educational programs can foster skills, develop creative and critical thinking needed for the contemporary workforce, and provide a vital outlet for youth to express themselves. The City’s art and culture programs celebrate and build on Santa Rosa’s rich cultural diversity.

The mission of the Public Art Program is to champion artistic expression and amplify community voices through a diverse array of public art experiences to support an empowered, thriving, and inclusive Santa Rosa community connected through the power of art.

**Public art** is art—in any media—that is created for the benefit of the general public. Public art is inherently expansive, needing only to be visually and/or physically accessible to the public. Public art is placemaking, meaning-making, and community-building, made by art makers of any discipline, practice, background, and vision.

## Goals, Policies, and Actions

**Goal 4-3:** Support an empowered, thriving, and inclusive Santa Rosa community connected through the power of art.

**Policy 4-3.1:** **Champion artistic expression and amplify community voices through a diverse array of public art experiences, especially in Areas of Change.**

**Action 4-3.1:** *Continue to implement current Public Art Master Plans and Strategic Plans and update as needed.*

**Action 4-3.2:** *Represent, include, and celebrate diverse voices in the programming, process, outreach, and infrastructure of the Public Art Program.*

**Action 4-3.3:** *Partner and build strong relationships with culturally diverse local and regional community organizations and associations.*

**Action 4-3.4:** *Infuse all neighborhoods with art and empower community leaders across the city to champion arts programming.*

**Action 4-3.5:** *Integrate public art in capital improvement projects, especially in streetscape design on major corridors and arterials and at gateways, where feasible.*

**Policy 4-3.2:** **Fund and maintain public art as a core component of placemaking and economic development, prioritizing public art in EPAs and Areas of Change.**

**Action 4-3.6:** *Better leverage public art to drive economic activity.*

**Action 4-3.7:** *Increase staff capacity and strategic collaborations for public art.*

**Action 4-3.8:** *Improve outreach and demystify APPC and Public Art Program processes.*

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# 5

## Safety, Climate Resilience, Noise, and Public Services and Facilities



## 5. Safety, Noise, and Public Services and Facilities

The beautiful environment that attracts people to Santa Rosa also creates potential risks from hazards such as fires, floods, droughts, earthquakes, and slope instability that can harm people and property and cause economic and social dislocation.

The climate crisis has severely impacted Santa Rosa. In recent years, the city has experienced deadly and damaging wildfires, which have destroyed parts of the built and natural environment and have caused extremely poor air quality. In addition, recent local and regional droughts have been among the most intense ever recorded. Temperatures are increasing, extreme heat events are expected to get worse, and precipitation patterns are changing, increasing the risk of both floods and drought. Wildfires across the region, state, and nation are becoming more frequent, severe, damaging, and deadly.

The City's General Plan must include a safety element that identifies and mitigates potential short- and long-term risks and hazards that affect the community. It also must include a climate change vulnerability assessment, measures to address identified vulnerabilities, and a comprehensive hazard mitigation and emergency response strategy.

This chapter focuses on ensuring that Santa Rosa is resilient to hazards and equipped to recover from future events through goals, policies, and actions for climate resilience, safety, public services and facilities, and noise.

To support equitable outcomes, some policies and actions in this chapter, as in others, prioritize the needs of Equity Priority Areas and Equity Priority Populations.

The Vision for Santa Rosa is the foundation for the goals in this chapter. The following components of the Vision are especially pertinent to these goals and their policies and actions:

- **Safe:** Streets are safe; public safety services are provided by caring and thoughtful community members who are representative of and familiar with the neighborhoods, groups, and individuals they serve; and everyone, including immigrants and people of color, can safely access these services.
- **Prepared:** The health and safety of everyone is supported by neighborhood, City, and county-wide efforts to prepare for natural and human-caused hazards, and roadways are optimized to support efficient evacuations.



- **Resilient:** All facets of the community, including housing, infrastructure, and social services are sustainable and resilient to hazards and economic changes.

**Figure 5-1** illustrates some of the key concepts that this chapter addresses.

## Chapter Contents

### → Safety:

- Geology and Seismicity
- Flooding and Dam Failure
- Wildland and Urban Fire
- Hazardous Materials
- Emergency Preparedness and Evacuation

### → Climate Resilience:

- Agricultural and Ecosystem Pests and Diseases
- Drought
- Extreme Heat and Warm Nights
- Other Climate-Sensitive Health Risks
- Severe Winds and Storms
- Wildfire

### → Noise

- Projected Noise Sources
- Noise Standards

### → Public Services and Facilities:

- Water, Wastewater, Recycled Water, Stormwater, and Solid Waste
- Education and Learning
- Police and Fire

**Equity Priority Areas or EPAs** are areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. The City has also identified 10 **Equity Priority Populations**, groups with characteristics understood to contribute to vulnerability and/or the likelihood of being underserved.

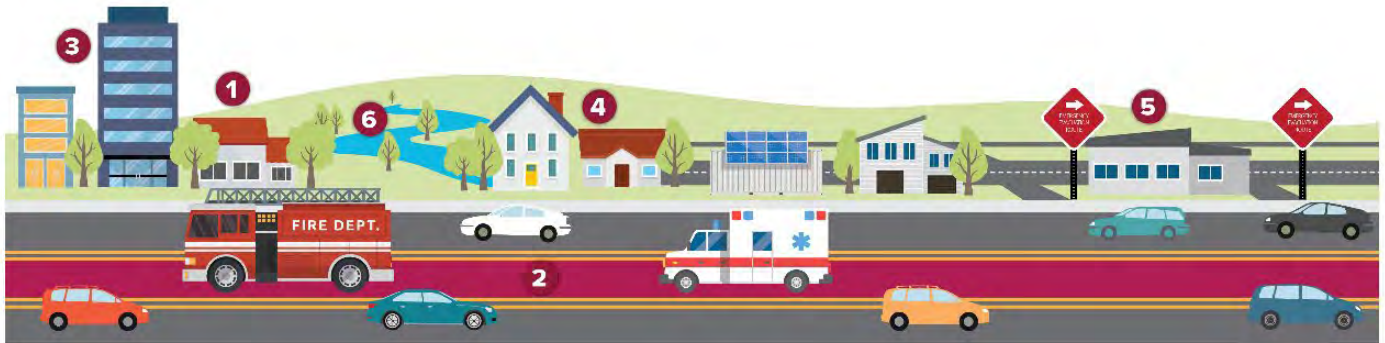
1. Low-income individuals and families
2. Racial or ethnic groups experiencing disparate health outcomes
3. Seniors, children, youth, and young adults
4. Individuals with disabilities
5. Immigrants and refugees
6. Outdoor workers and farmworkers
7. Individuals who have limited English proficiency
8. Unhoused people
9. Lesbian, gay, bisexual, transgender, queer, intersexual, asexual, and other LGBTQIA+ communities
10. Individuals who are incarcerated or who have been incarcerated

Environmental justice needs and health and equity considerations of EPAs and Equity Priority Populations have priority in some of the goals, policies, and actions in this and other chapters of the General Plan.

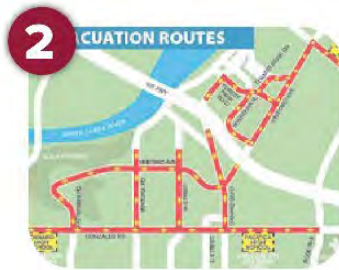
Figure 2-4 shows the locations of EPAs, chapters 2, Land Use and Economic Development, and 6, Health, Equity, and Environmental Justice, discuss EPAs in detail.

Figure 5-1: Visualizing the Concepts

# SAFETY, CLIMATE RESILIENCE, NOISE, AND PUBLIC SERVICES AND FACILITIES



Cooling Centers



Optimized Evacuation Routes



Earthquake Safe Buildings



Firesafe Home/Property



Resilience Centers



Sustainable Water Supply

# Safety

## Geology and Seismicity

The relatively flat valley floor adjacent to highland areas in and around Santa Rosa signifies the presence of active earthquake faults, as depicted on **Figure 5-2**, Regional Fault Lines. The primary seismic hazard to existing and new development is shaking and fault rupture from the Rodgers Creek-Healdsburg fault zone that transects the city. Other notable faults that could produce strong seismic shaking in Santa Rosa include the San Andreas, Hayward, Calaveras, Mayacamas, San Gregorio, Concord, Green Valley, and Greenville faults. These active faults are close enough that the city has a high probability of experiencing a magnitude 6.7 or greater earthquake by 2043, most likely along the San Andreas and Rodgers Creek-Hayward Fault systems. Secondary earthquake hazards of concern are landslides and liquefaction—when loosely packed, water-logged sediments at or near the ground surface lose their strength in response to strong ground shaking—as seen on **Figures 5-3**, Landslide Susceptibility Areas, and **5-4**, Liquefaction Zones.

## Goals, Policies, and Actions

**Goal 5-1:** Minimize community exposure to seismic and geologic hazards.

**Policy 5-1.1:** **Ensure that new development, redevelopment, and major remodels avoid or adequately mitigate seismic and geologic hazards as part of the City's project review process.**

**Action 5-1.1:** *Prior to development approval, ensure geologic studies and analyses are deemed acceptable by a California Certified Engineering Geologist and/or*

*Geotechnical Engineer for applicable hazard conditions.*

**Policy 5-1.2:** **Restrict development in areas where adverse impacts associated with known natural or human-caused geologic hazards cannot be effectively mitigated, as determined by a California Certified Engineering Geologist and/or Geotechnical Engineer.**

**Policy 5-1.3:** **Do not allow development of critical facilities—hospitals, fire stations, emergency management headquarters, broadcast services, sewage treatment plants, and places of large congregations—in high-risk geologic hazard zones (e.g., Rodgers Creek Fault zone, liquefiable soils, areas of slope instability).**

**Policy 5-1.4:** **Better understand and ultimately mitigate seismically vulnerable structures in the city.**

**Action 5-1.2:** *Develop and periodically update an inventory of seismically vulnerable structures that includes unreinforced masonry construction, soft-story construction, and nonductile concrete construction.*

**Action 5-1.3:** *Require retrofitting and abatement of structural hazards to levels of risk acceptable to the Building Official.*

**Action 5-1.4:** *Prioritize retrofitting and abatement of City-owned buildings in areas determined to experience strong ground shaking during an earthquake.*

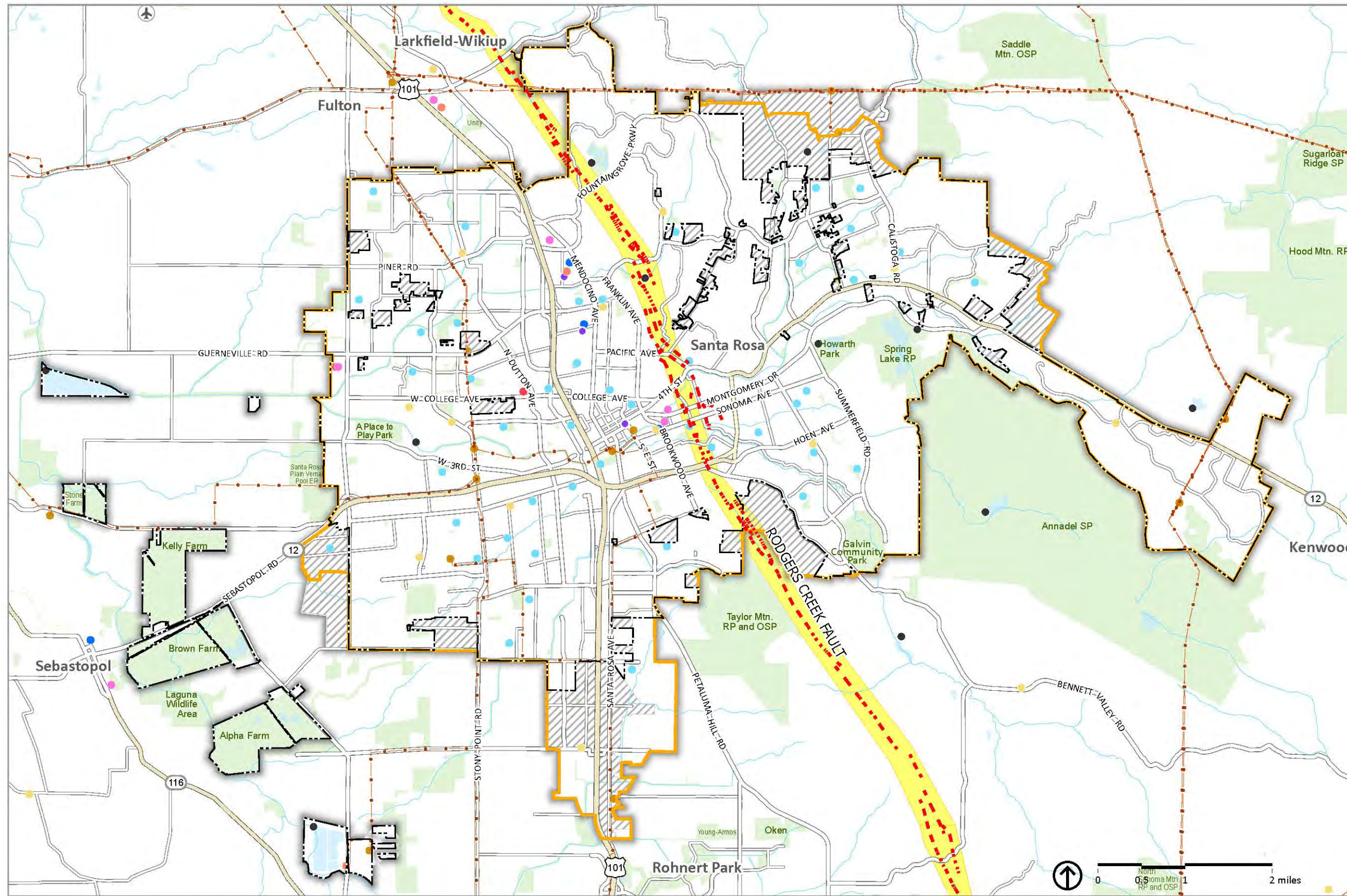


Figure 5-2  
Regional  
Fault Lines

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Critical Facilities**
- Transmission Lines
- Electric Power Plants
- Electric Sub Stations
- Fire Stations
- Hospitals
- Urgent Care Facility
- Libraries
- Schools
- Local Law Enforcement Office
- Dam Location
- Airports
- Alquist Priolo Fault Trace
- Alquist-Priolo Fault Zone



Source: USGS, 2020; CGS, 2018; CalOES, 2021.

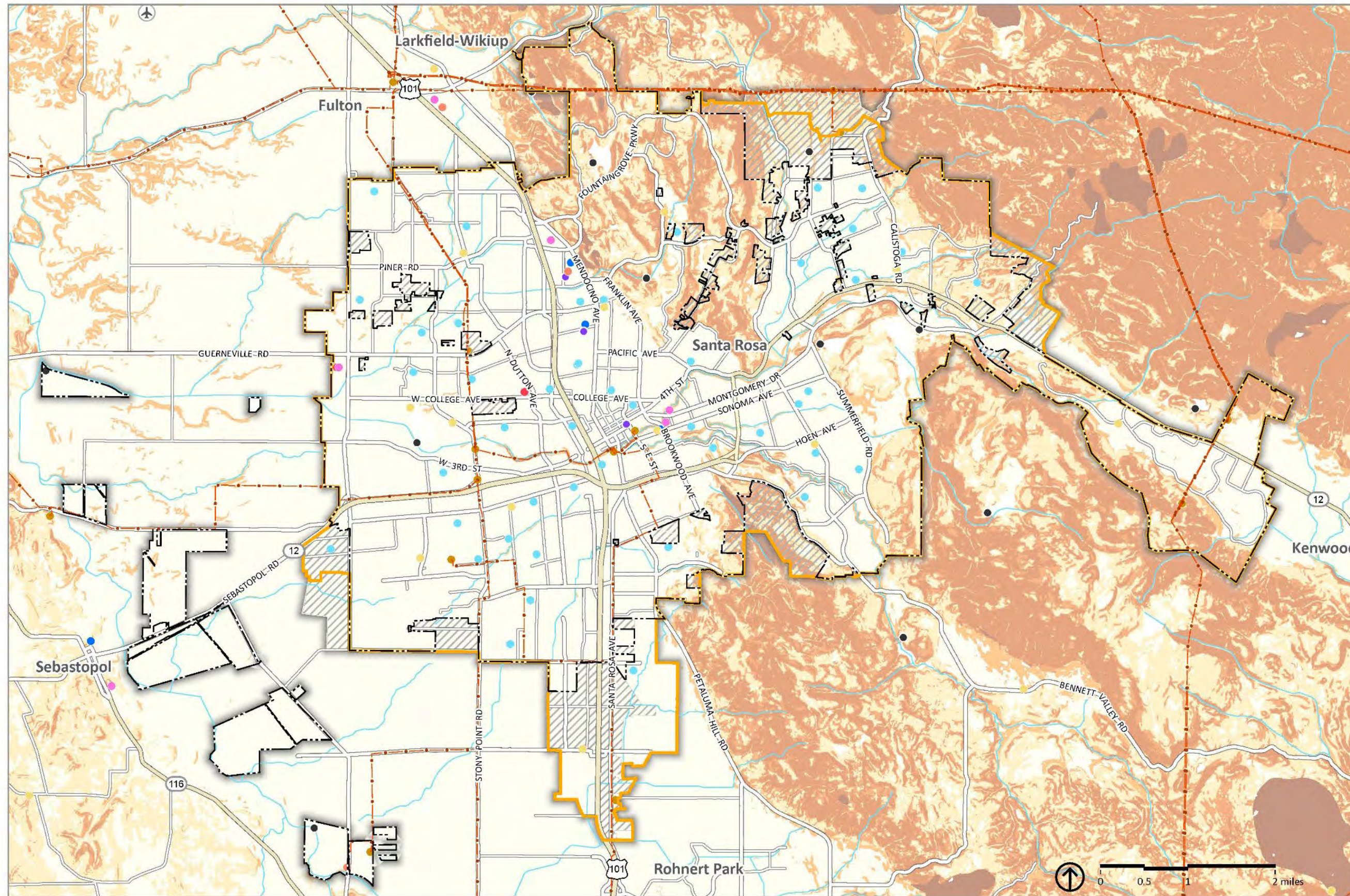


Figure 5-3  
Landslide  
Susceptibility  
Areas

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
- Landslide Susceptibility Classes**
- 0 (Less Susceptible)
  - 3
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10 (More Susceptible)



Source: CGS, 2018; CalOES, 2021.

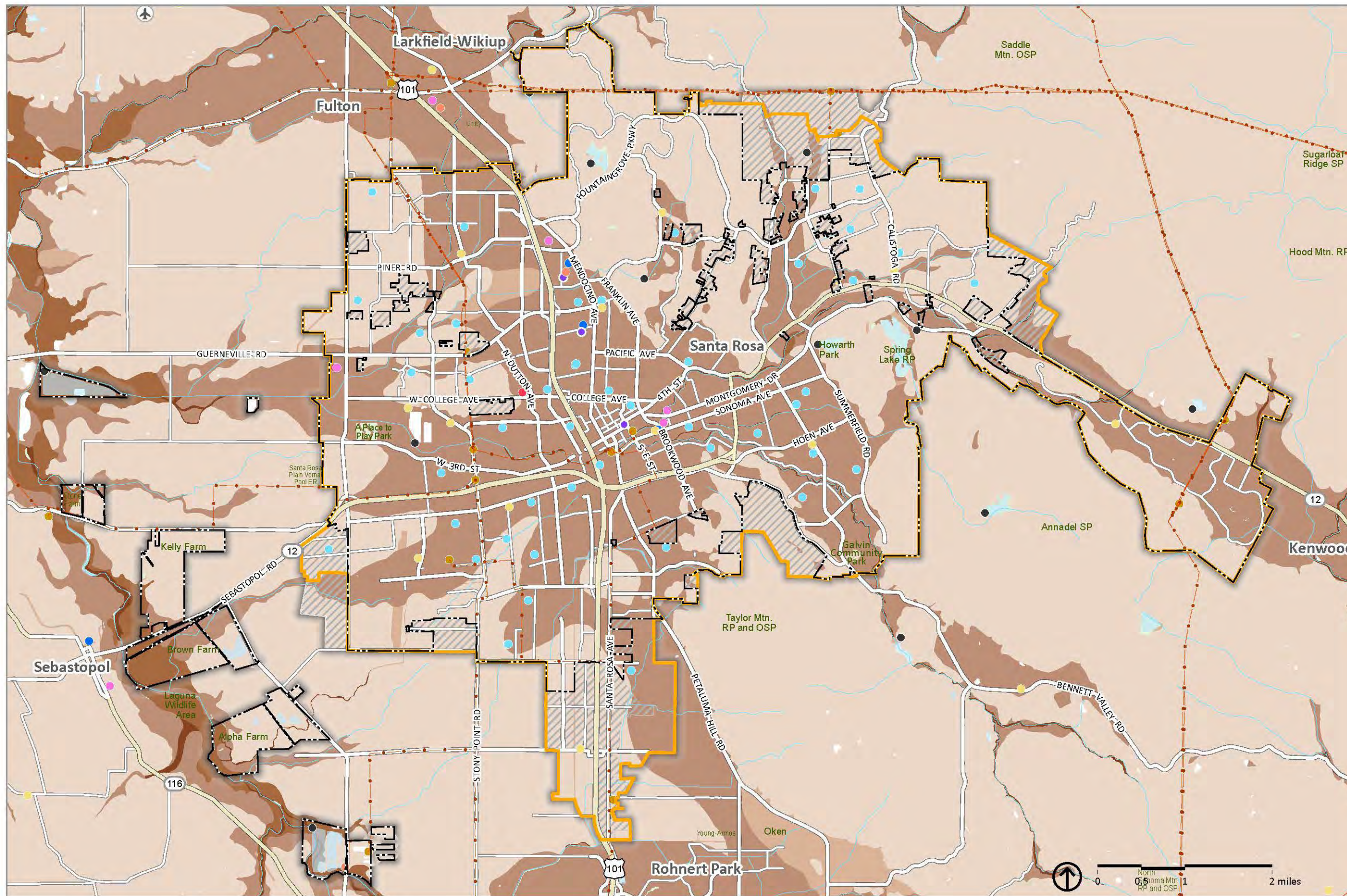


Figure 5-4  
Liquefaction  
Zones

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
- USGS Liquefaction Susceptibility**
- Very high
  - High
  - Moderate
  - Low
  - Very low



Source: CGS, 2018; CalOES, 2021.

- Action 5-1.5:** *Require owners of potentially vulnerable structures to report on the progress of seismic retrofitting.*
- Action 5-1.6:** *Ensure that seismic retrofitting of commercial, industrial, and public buildings meets the latest State requirements and industry best practices.*
- Action 5-1.7:** *Retrofit and harden water storage facilities, wastewater conveyance and treatment facilities, electricity transmission lines, roadways, water detention facilities, levees, and other utilities near the Rodgers Creek Fault.*
- Policy 5-1.5: Promote erosion-control strategies that reduce hazards to structures, properties, and drainages.**
- Action 5-1.8:** *Identify enhanced erosion-control measures for properties that exhibit high erosion potential, are in areas of steep slopes, or have experienced past erosion problems.*
- Action 5-1.9:** *Ensure the Community Wildfire Protection Plan is periodically updated to identify slope stability and wildfire hazard areas and mitigation strategies to reduce post-wildfire erosion.*

of the drainages in the city (Spring Creek, Matanzas Creek, Colgan Creek, Naval Creek, Roseland Creek, and Kawana Springs Creek) within 100-year and 500-year flood hazard zones. Santa Rosa Creek and key tributaries also can flood even though they are not currently delineated on FEMA maps.

Proximity to these creeks and drainages increases the risks of flooding. Many of these drainages are also susceptible to inundation from dam failure. The Department of Safety and Dams regulates 10 dams in or near the city that could inundate portions of Santa Rosa if they fail.

**Figure 5-6** depicts these dam inundation areas. The dams that pose the greatest risk to the city are Fountain Grove, Lake Ralphine, Matanzas Creek, Salinger, and Warm Springs

## Flooding and Dam Failure

Santa Rosa is in the Russian River watershed and has experienced flooding in the past. Rain events can overwhelm local drainages, especially the low-lying areas in the southwest part of the city, where critical sewer treatment facilities are located. When flooding occurs, creeks in the watershed can erode, which can lead to mudslides and landslides. As shown **on Figure 5-5**, Flood Hazard Zones, the Federal Emergency Management Agency (FEMA) has mapped many

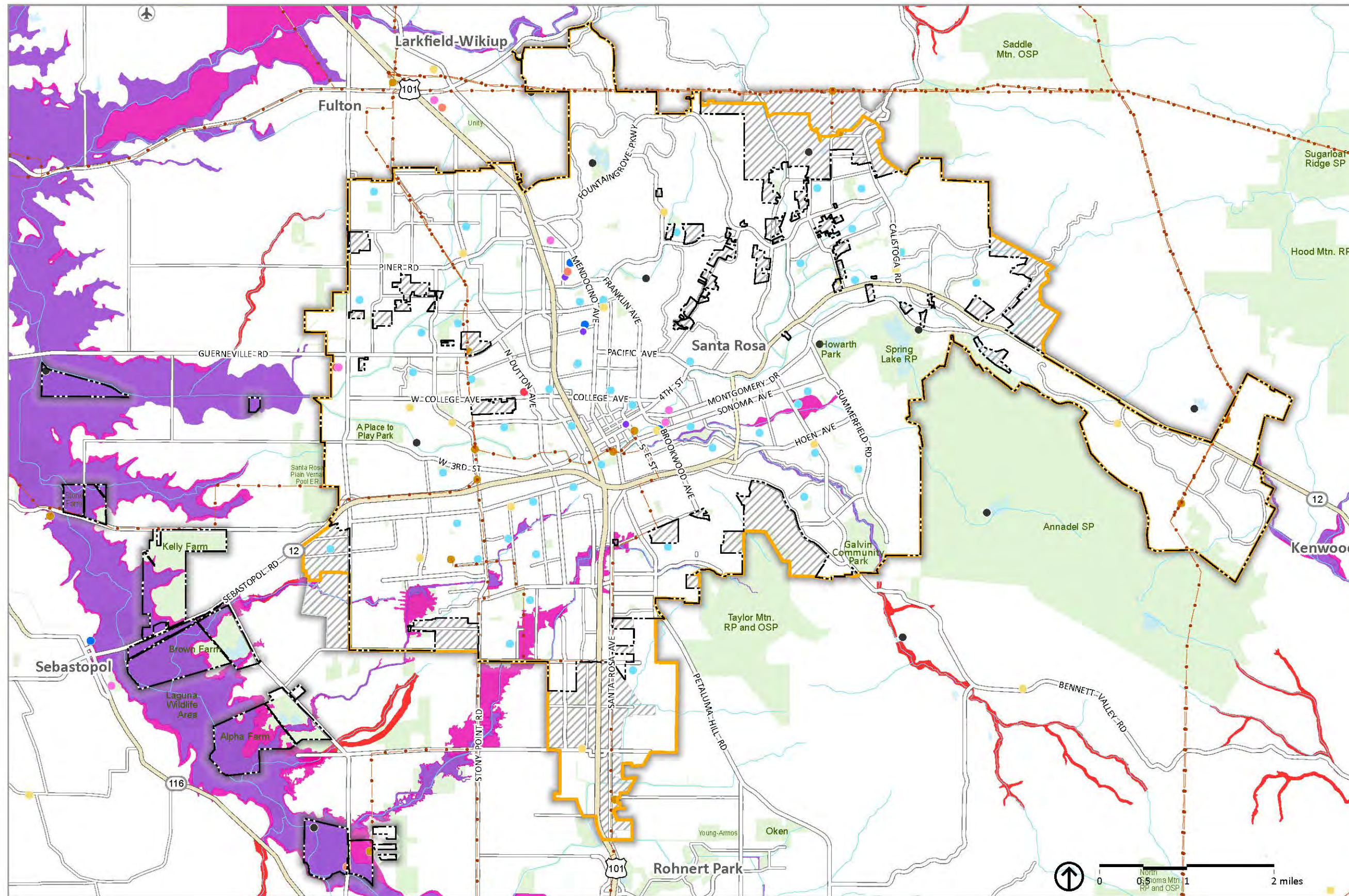


Figure 5-5  
Flood Hazard Zones

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
  - FEMA 100 Year Flood Zone
  - FEMA 500 Year Flood Zone
  - DWR Awareness 100 Year Flood Zone

Source: FEMA, 2021; CalOES, 2021.



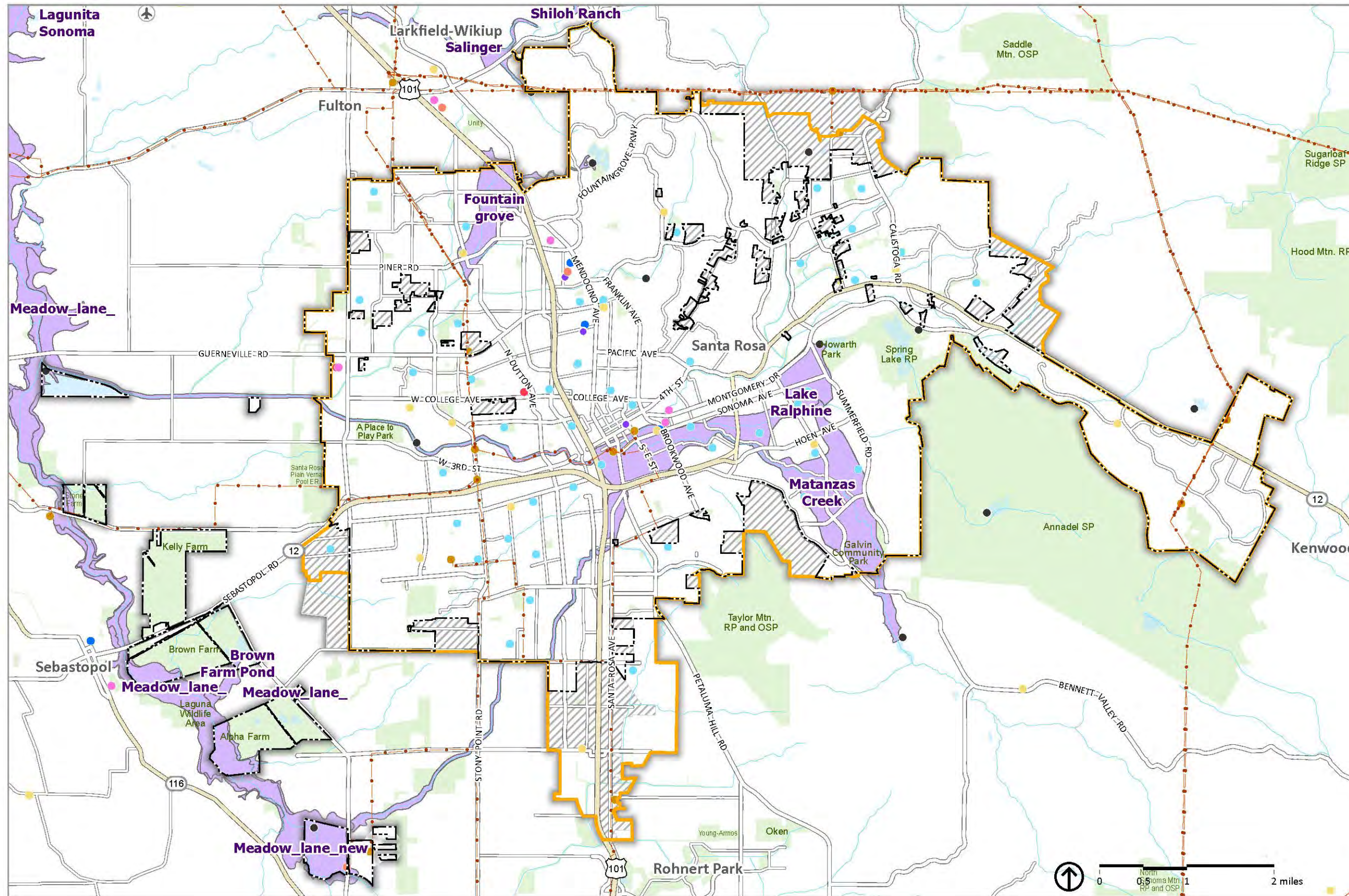


Figure 5-6  
Dam Inundation  
Areas

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Transmission Lines
- Electric Power Plants
- Transmission Lines
- Fire Stations
- Hospitals
- Urgent Care Facility
- Libraries
- Schools
- Local Law Enforcement Office
- Dam Location
- Airports
- Dam Inundation Areas**
- Dam Inundation Areas

Source: DSOD, 2021; CalOES, 2021.



## Goals, Policies, and Actions

**Goal 5-2:** Effectively manage the potential effects of flooding and dam failure.

**Policy 5-2.1:** Ensure land use strategies consider flood impacts and stormwater management tactics to reduce the effects of future inundation.

**Action 5-2.1:** Incorporate flood management strategies into land use analysis and development review.

**Action 5-2.2:** Complete and implement the Storm Drain Master Plan; prioritize discussions with Sonoma Water Flood Protection Zone Advisory Committee regarding flood zones and land use designations.

**Action 5-2.3:** Require flood mitigation strategies in all planning activities along creeks and waterways.

**Policy 5-2.2:** Promote the enhancement and expansion of areas of open space and, where appropriate and safe, recreation, to use for flood management.

**Action 5-2.4:** Protect floodplains by retaining and expanding, as feasible, open space areas that can retain stormwater, recharge groundwater/aquifer, and prevent/reduce flooding.

**Action 5-2.5:** Limit the use of areas designated for flood control to passive recreation activities (e.g., hiking, fishing, bike riding), consistent with requirements to maintain the integrity of these areas to protect public safety.

**Low-impact development** refers to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater to protect water quality and associated aquatic habitat.

Source: U.S. Environmental Protection Agency, 2023.

**Policy 5-2.3:** Comply with all applicable FEMA flood-management regulations and requirements.

**Action 5-2.6:** Continue to maintain and periodically update flood hazard data, and coordinate with federal, state, and local agencies responsible for flood hazard analysis and management activities.

**Action 5-2.7:** Continue to incorporate features and appropriate standards into public works projects that reduce flooding hazards, including daylighting culverts in urban areas such as downtown.

**Policy 5-2.4:** Ensure that the design of new development in a flood zone provides adequate flood protection without negatively impacting adjacent or downstream properties.

**Action 5-2.8:** Require an evaluation of flood hazards and appropriate on-site mitigation options by a qualified professional for any project within a FEMA- and Department of Water Resources (DWR)-designated flood zone during the development review process.

**Policy 5-2.5:** Protect public and private properties from dam inundation.

**Action 5-2.9:** *Coordinate with dam owners/operators to ensure that dam safety inspections are conducted annually, as required by the California Division of Safety of Dams (DSOD).*

**Action 5-2.10:** *Prioritize investment in flood-control mitigation that also reduces impacts associated with dam failure.*

**Policy 5-2.6: Manage, maintain, and improve stormwater drainage and capacity.**

**Action 5-2.11:** *Require dedication, improvement, and ongoing maintenance of stormwater management and retention areas as a condition of development approval.*

**Action 5-2.12:** *Identify the necessary development impact fees to pay for mitigation of stormwater management impacts for new development.*

**Action 5-2.13:** *Require stormwater management improvements that maintain and improve the storm drainage system citywide and prioritize areas needing significant investment, consistent with the Santa Rosa Citywide Creek Master Plan goals of preserving natural conditions of waterways and minimizing channelization of creeks.*

**Action 5-2.14:** *Ensure creek-side pathways, consistent with the Citywide Creek Master Plan and Bicycle and Pedestrian Master Plan, are incorporated as part of stormwater improvement projects along creek corridors.*

**Policy 5-2.7: Provide storm drainage facilities that accommodate increased**

**development and enhanced water quality.**

**Action 5-2.15:** *Cooperate with Sonoma Water and the Northern California Regional Water Quality Control Board on assessments of stormwater drainage facilities, to ensure adequate capacity to accommodate increases in residential and commercial development.*

**Action 5-2.16:** *Require implementation of best management practices for all new development to reduce discharges of nonpoint-source pollutants to the storm drain system.*

## Wildland and Urban Fire

Santa Rosa and Sonoma County are prone to wildfire. Wildfires in the region can be intense and uncontrollable—many large-scale fires have started in other locations and ended up in Santa Rosa. **Figure 5-7** identifies historic wildfire perimeters.

The California Department of Forestry and Fire Protection (CAL FIRE) has identified the areas of greatest risk in the city and surrounding county, shown on **Figure 5-8**, and the areas of wildland-urban interface, on **Figure 5-9**. The City has taken steps to regulate fire-prone areas, including properties in the very high fire hazard severity zone as well as the wildland-urban interface. These areas are considered the Wildland-Urban Interface Fire Area, defined in the municipal code as a geographical area that the City identifies as a “Fire Hazard Severity Zone.” These areas have a significant risk of wildfire and therefore must conform to higher standards for protection under the California Fire Safe Regulations.

**Figure 5-10** shows General Plan Land Uses in the Wildland-Urban Interface Fire Area. A key risk management strategy is to regulate the location

and intensity of uses in high-risk areas and ensure that new developments address wildfire risks during planning and development review. Ensuring access and evacuation potential for existing development in these areas is also essential to emergency response and can help reduce the need for recovery activities.

- Determine potential impacts of climate change on the local fire environment and how they could change wildfire hazard and risk in the mid-21st century.
- Establish a plan to track and monitor implementation of action items.

The **wildland-urban interface** is the zone of transition between unoccupied land and human development. It is the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. In the different zones, the **intermix zone** is land with at least one housing unit per 40 acres and 50 percent or more vegetation cover and the **interface zone** is land with at least one housing unit per 40 acres and less than 50 percent vegetation cover.

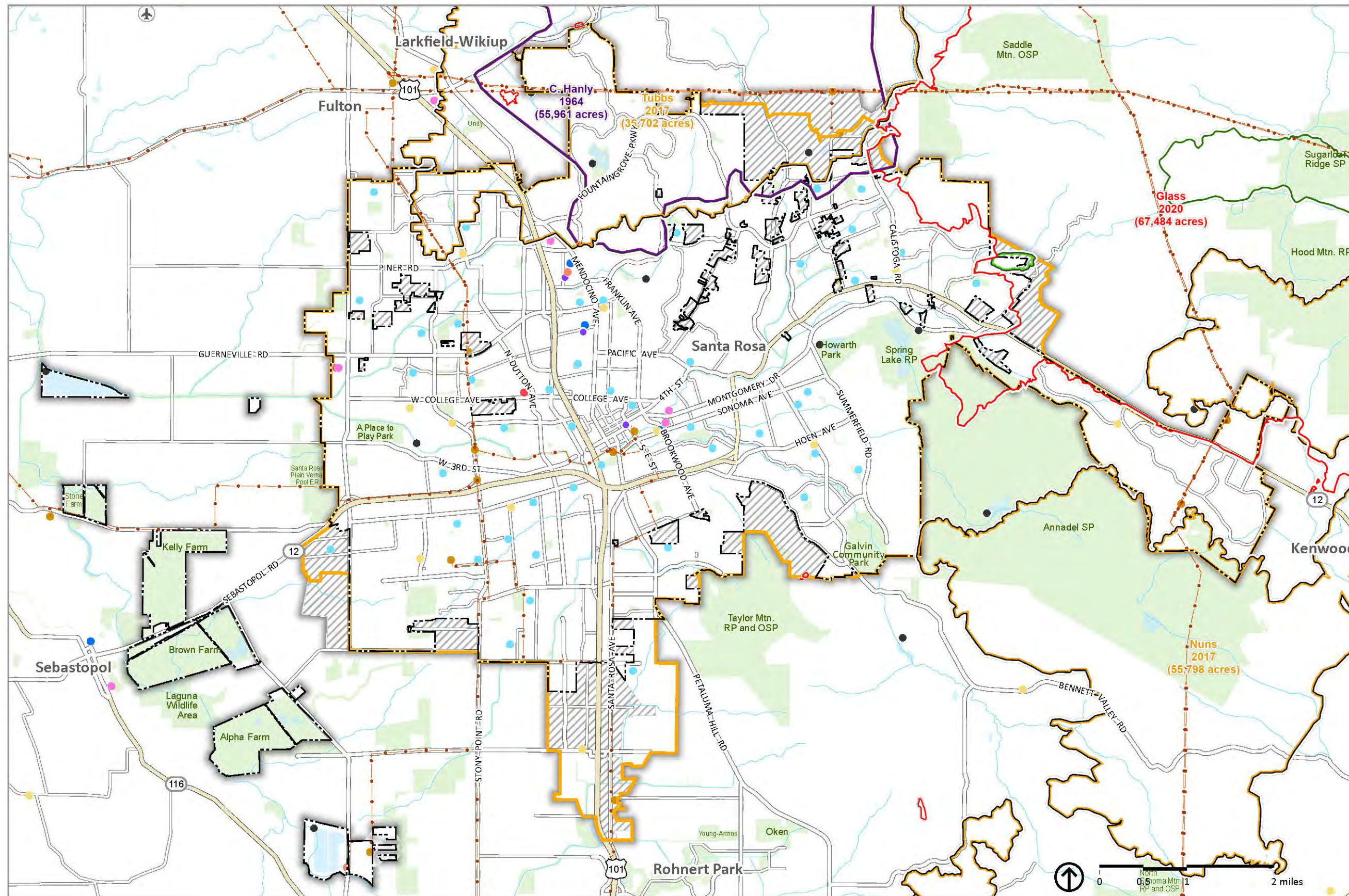
In Santa Rosa, the **wildland-urban interface fire area** is a geographical area identified by the City as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.

*Source: U.S. Fire Administration, 2023*

The Santa Rosa Community Wildfire Protection Plan (CWPP) was approved on September 18, 2020. The purpose of the plan is to enhance protection of human life and reduce the wildfire threat to community assets in the city. Key goals in this plan are:

- Minimize the wildfire threat to safety.
- Reduce the wildfire threat to at-risk assets.
- Develop priorities to mitigate risks and hazards.

Figure 5-7  
Historic Wildfire  
Perimeters



- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
- Historic Fire Perimeters**
- 2020s
  - 2010s
  - 2000s
  - 1990s
  - 1980s
  - 1970s
  - 1960s
  - 1950s



Source: Cal Fire, 2021; CalOES, 2021.

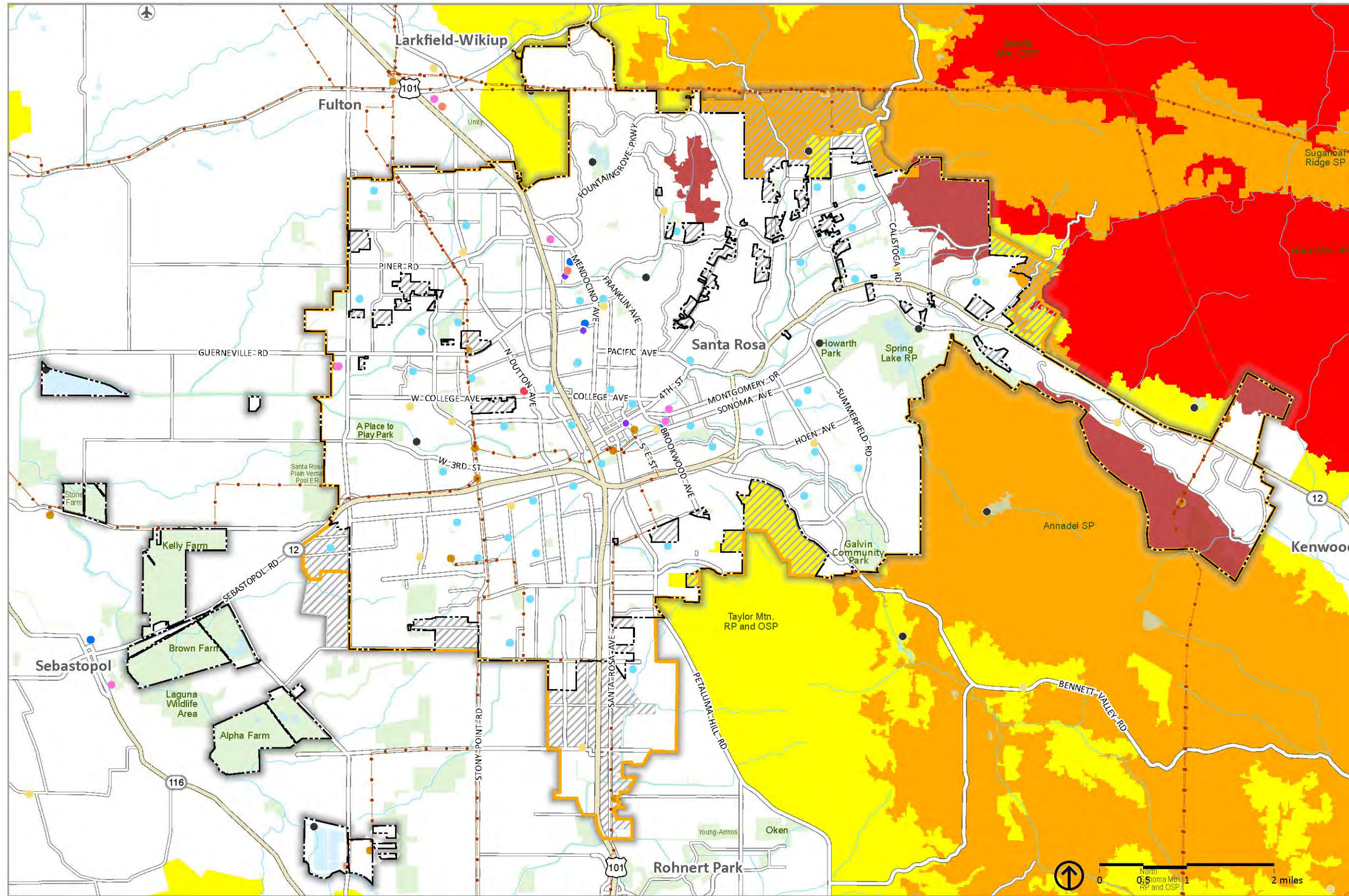
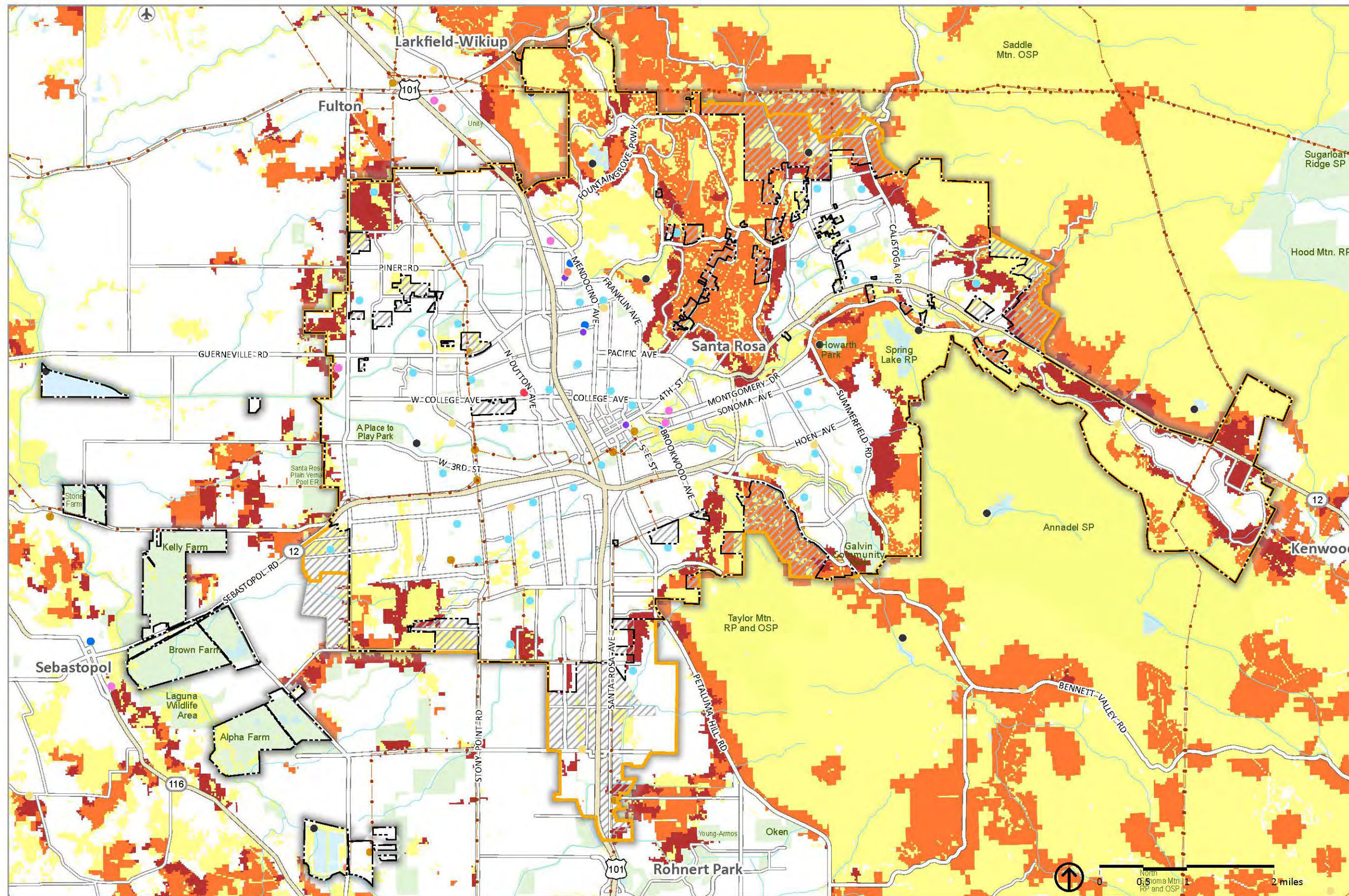


Figure 5-8  
Fire Hazard  
Severity Zones

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
- LRA Fire Hazard Severity**
- Very High Fire Hazard
- SRA Fire Hazard Severity**
- Very High
  - High
  - Moderate

Source: CalFire, 2020; CalOES, 2021.

Figure 5-9  
Wildland-Urban Interface Areas



- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Critical Facilities**
- Transmission Lines
- Electric Power Plants
- Electric Sub Stations
- Fire Stations
- Hospitals
- Urgent Care Facility
- Libraries
- Schools
- Local Law Enforcement Office
- Dam Location
- Airports
- Interface Zones**
- Not a WUI
- Influence Zone
- Intermix Zone
- WUI Zone

Source: FRAP, 2015; CalOES, 2021.



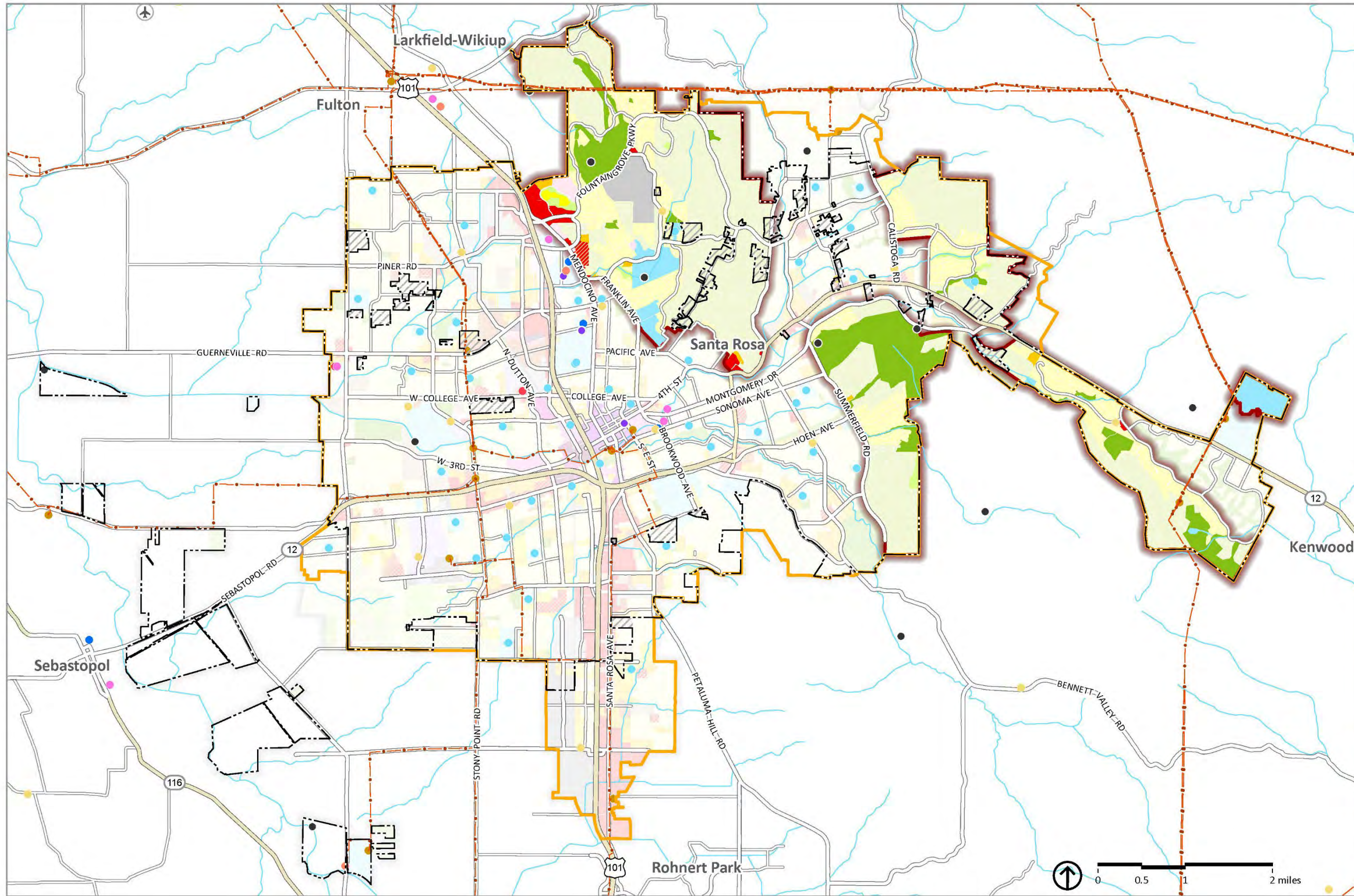


Figure 5-10  
General Plan  
Land Uses in  
Wildland Urban  
Interface Fire  
Areas

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Wildland Urban Interface Fire Areas (WUIFAs)
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
- General Plan Land Uses in the WUIFA**
- Country Residential
  - Light Industry
  - Low Density Residential
  - Medium Density Residential
  - Medium Low Density Res
  - Office
  - Open Space
  - Parks and Recreation
  - Public/Institutional
  - Retail and Business Services
  - Retail/Medium Res Mixed Use
  - Very Low Density Residential



Source: CalFire, 2023; CalOES, 2021, City of Santa Rosa, 2023.



## Goals, Policies, and Actions

**Goal 5-3:** Increase community resilience to future wildfire threats.

**Policy 5-3.1:** Adhere to State and local regulations and requirements of the Community Wildfire Preparedness Plan that address wildfire risk and vulnerabilities.

**Action 5-3.1:** Continue to require new developments and major remodels in the Wildland Urban Interface Fire Area to comply with Table 15, Mitigation Actions and City Codes, from the 2020 Santa Rosa CWPP as the equivalent of a Fire Protection Plan.

**Action 5-3.2:** Continue to require new development and redevelopment to incorporate fire-safe design and comply with the CWPP, local ordinances, and state requirements for fire hazard reduction around buildings and structures.

**Action 5-3.3:** Continue to require conformance with the California Fire Safe Regulations for existing nonconforming properties in the Wildland Urban Interface Fire Area (includes the very high fire hazard severity zone).

**Action 5-3.4:** Continue improving the City's previously developed post-wildfire recovery framework to assist with future post-wildfire redevelopment activities.

**Action 5-3.5:** Implement the fire mitigation projects in the CWPP.

**Action 5-3.6:** Establish a monitoring program to track the effectiveness of CWPP fuel-treatment activities.

**Policy 5-3.2:** Promote new development in areas of the community that have lower risk of wildfire hazards.

**Action 5-3.7:** Locate new essential public facilities outside of identified hazard areas (wildfire hazard zones, flood zones, fault rupture zones) whenever possible. Facilities that remain in hazard areas should be designed, located, and constructed to withstand the identified hazard(s).

**Action 5-3.8:** Develop siting criteria for essential public facilities, including potential mitigation strategies if the only feasible location is in a recognized hazard area.

**Action 5-3.9:** Consider updating the Zoning Code to prohibit land uses in the wildland-urban interface that serve mobility-limited persons, such as assisted care facilities.

**Action 5-3.10:** Explore the development of a managed retreat pilot program for areas in the wildland-urban interface fire area.

**Managed retreat** is the process of proactively moving people, structures, and infrastructure out of harm's way before disasters or other threats to avoid damage, maximize benefits, and minimize costs for communities and ecosystems.

Source: U.S. Climate Resilience Toolkit and the Georgetown Climate Center

**Action 5-3.11:** Create a transfer of development rights or managed retreat program in fire-prone areas (very high fire hazard severity zone and wildland-urban interface) to proactively relocate existing

*development out of high-risk areas.*

**Action 5-3.12:** *Explore the ability to prohibit increased densities or intensities of uses in fire-prone areas (very high fire hazard severity zone and wildland-urban interface fire area).*

**Policy 5-3.3: Implement the vegetation management strategies and enhanced roadway standards of the CWPP throughout fire-prone areas.**

**Action 5-3.13:** *Develop mitigation standards and thresholds for vegetation management and roadway standards to bring existing nonconforming developments into compliance with California Fire Safe Regulations (Title 14 of the California Code of Regulations) in the very high fire hazard severity zone and wildland-urban interface fire area.*

**Policy 5-3.4: Ensure all community members and businesses are informed and empowered to address hazard vulnerabilities, considering the specific needs of Equity Priority Populations.**

**Action 5-3.14:** *Continue to conduct multilingual and culturally appropriate education and outreach campaigns that assist property owners with defensible space, fire-safe landscaping, home hardening, and wildfire preparedness, as identified in the CWPP.*

**Action 5-3.15:** *Prioritize wildfire mitigation education and outreach efforts to vulnerable populations who may not receive typical outreach*

*materials/information; provide culturally appropriate education content and materials in multiple languages and formats appropriate for people with access and functional needs as outlined in the CWPP.*

**Action 5-3.16:** *Identify at-risk populations/developments in wildfire-prone areas and ensure emergency management planning and training include efforts to increase resilience in these areas.*

**Action 5-3.17:** *Develop a program that leverages California's Property Assessed Clean Energy financing through the Sonoma County Energy Independence Program to assist low-income households with maintaining defensible space around their homes and properties.*

**Action 5-3.18:** *Update the CWPP every five years to reflect the needs of the community and the changing risks in the wildland-urban interface fire area.*

## Hazardous Materials

The California Health and Safety Code defines a hazardous material as one that poses a significant present or potential hazard to human health and safety or the environment if released into the workplace or environment due to quantity, concentration, and/or physical or chemical characteristics. Substances that are flammable, corrosive, reactive, oxidizing, radioactive, combustible, or toxic are considered hazardous. Hazardous materials can be found throughout the community, and though their presence may not be a significant hazard, their release in an uncontrolled manner or in a certain location could harm plants, animals, and people. Uncontrolled releases can go unnoticed or cause

impacts that are not known or understood until years later.

The Santa Rosa Fire Department has regulatory oversight of hazardous materials in the city. It is the Certified Unified Program Agency (CUPA), which manages and monitors the use, transport, and disposal of these materials. If a release happens, the Department sends its Hazardous Materials Response Unit to ensure the safety of community members and businesses. Human error is the most common cause of hazardous materials releases, but events like earthquakes and floods can also cause a release. In addition, accidental releases on major transportation routes through the city can pose a risk to the community.

As a CUPA, the Fire Department must produce an Area Plan that local government agencies use to respond to and minimize impacts from a release or threatened release of a hazardous material. The CUPA establishes an Area Plan in coordination with local emergency response agencies to:

- Identify hazardous materials that pose a threat to the community.
- Develop procedures for emergency response.
- Provide for notification and coordination of emergency response personnel.
- Provide for public safety, including notification and evacuation.
- Establish training for emergency response personnel.
- Identify emergency response supplies and equipment.
- Provide for feedback and follow-up after a major incident.

## Goals, Policies, and Actions

**Goal 5-4:** Protect all community members and businesses from hazardous materials exposures and releases.

**Policy 5-4.1:** Reduce the potential for hazardous materials exposure to community members, visitors, and employees.

**Action 5-4.1:** Continue to require remediation, cleanup, and risk evaluation prior to changes in site use in areas where hazardous materials and petroleum products have impacted soil or groundwater.

**Action 5-4.2:** Continue to require that hazardous materials used in business and industry be transported, handled, and stored in accordance with federal, State, and local regulations.

**Action 5-4.3:** Continue to restrict future siting of businesses—including hazardous waste repositories, incinerators, or other hazardous waste disposal facilities—that use, store, process, or dispose large quantities of hazardous materials or wastes in areas subject to seismic fault rupture or significant ground shaking.

**Policy 5-4.2:** Ensure adequate capacity and safeguards on routes used to transport hazardous materials to prevent or minimize impacts from accidental release.

**Action 5-4.4:** Where applicable, ensure regional and local routes for transportation of hazardous materials and waste are adequately marked and unsafe

*conditions are adequately addressed, where feasible.*

**Action 5-4.5:** *Require that fire and emergency personnel can easily access routes needed for response to spill incidents.*

**Policy 5-4.3: Facilitate commercial and industrial compliance with the Sonoma County Hazardous Materials and Waste Management Plan.**

**Action 5-4.6:** *Support public awareness and participation in household waste management, control, and recycling through County programs, including the Sonoma County Household Hazardous Waste Management Plan.*

**Policy 5-4.4: Minimize risks to human health from hazardous materials.**

**Action 5-4.7:** *Inventory brownfield sites and identify necessary measures to remediate hazards.*

**Action 5-4.8:** *Work with landowners and support funding identification and cleanup of identified brownfield sites, particularly in EPAs.*

**Action 5-4.9:** *Seek funding and technical assistance to facilitate brownfield redevelopment, including federal Tax Incentives for brownfields sites, DTSC Revolving Loan Fund Program, Cleanup Loans and Environmental Assistance to Neighborhoods Loan Program, Brownfields Tax Incentives, and the U.S. Environmental Protection Agency brownfields grant and loan programs.*

## Emergency Preparedness and Evacuation

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A key City function is preparing for and responding to emergency events, and a central concern is being able to use identified routes during an evacuation, shown in **Figure 5-11**, including for locations with constrained access, shown in **Figure 5-12**. Since Santa Rosa is vulnerable to a variety of hazards (earthquakes, storms, floods, and wildfires), the City has developed a “Know Your Ways Out” online portal to make sure that City staff and community members know where these routes are and can prepare for future evacuation.

The Sonoma County Multi-jurisdictional Hazard Mitigation Plan (MJHMP) identifies hazard conditions, analyzes risk to people and facilities, and provides mitigation actions to reduce or eliminate hazard risks in the county. The MJHMP’s “City of Santa Rosa Annex” describes hazards, capabilities, and mitigation actions specific to Santa Rosa, in accordance with the federal Disaster Mitigation Act of 2000 and FEMA Local Hazard Mitigation Plan guidance. The mitigation actions in the MJHMP address similar issues as covered in the General Plan, but the Safety Element framework of goals, policies, and actions has broad application across the whole city over the next 20 years, while the MJHMP focuses on more-specific and short-term actions. The current MJHMP, adopted by FEMA, is incorporated into this chapter by reference according to California Government Code Section 65302.6; the MJHMP is on the City’s website at: <https://www.srcity.org/540/Local-Hazard-Mitigation-Plan>.

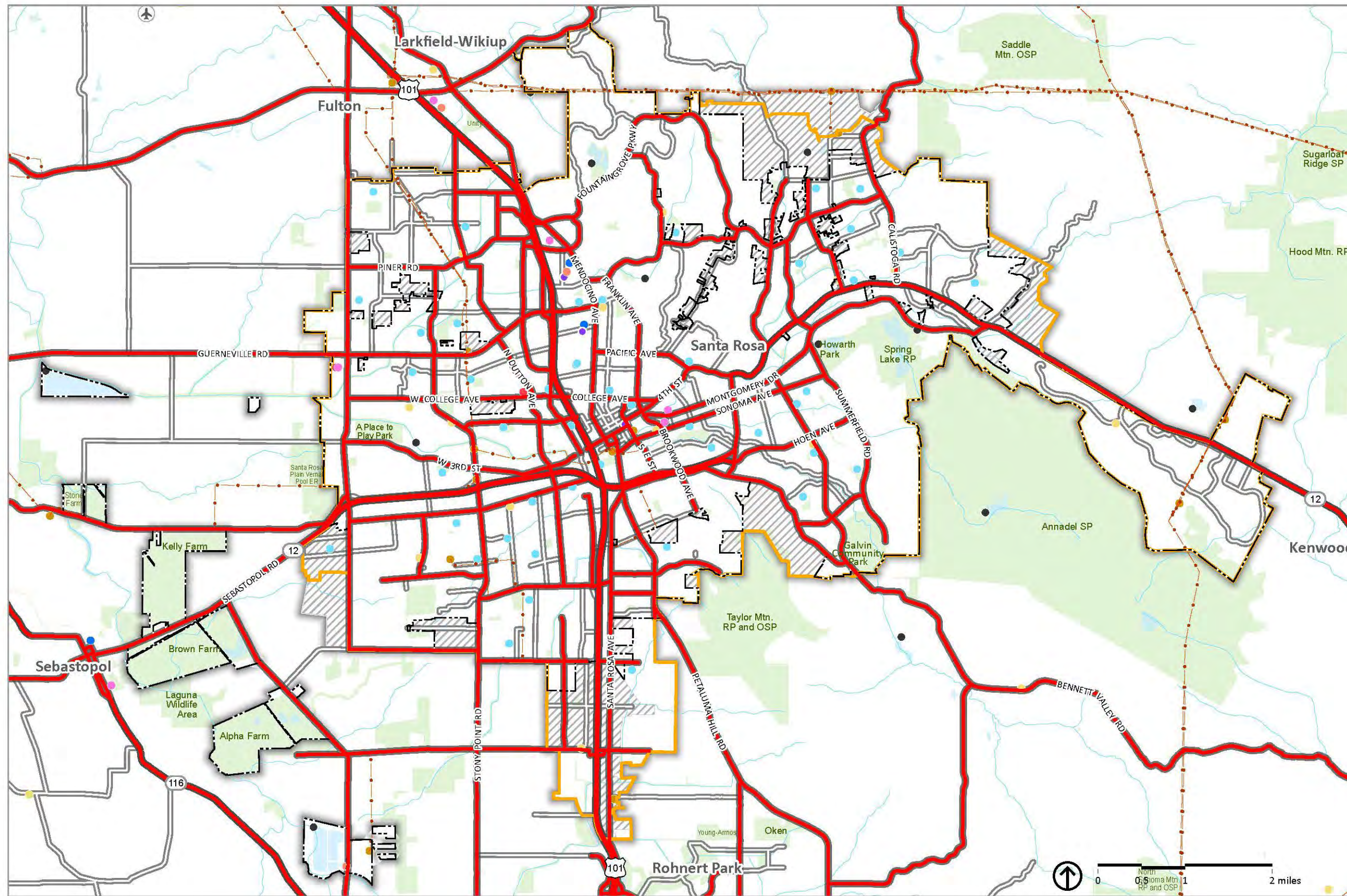


Figure 5-11  
Evacuation  
Routes

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
- Critical Facilities**
- Transmission Lines
  - Electric Power Plants
  - Electric Sub Stations
  - Fire Stations
  - Hospitals
  - Urgent Care Facility
  - Libraries
  - Schools
  - Local Law Enforcement Office
  - Dam Location
  - Airports
  - Evacuation Routes



Source: City of Santa Rosa, 2018; CalOES, 2021.

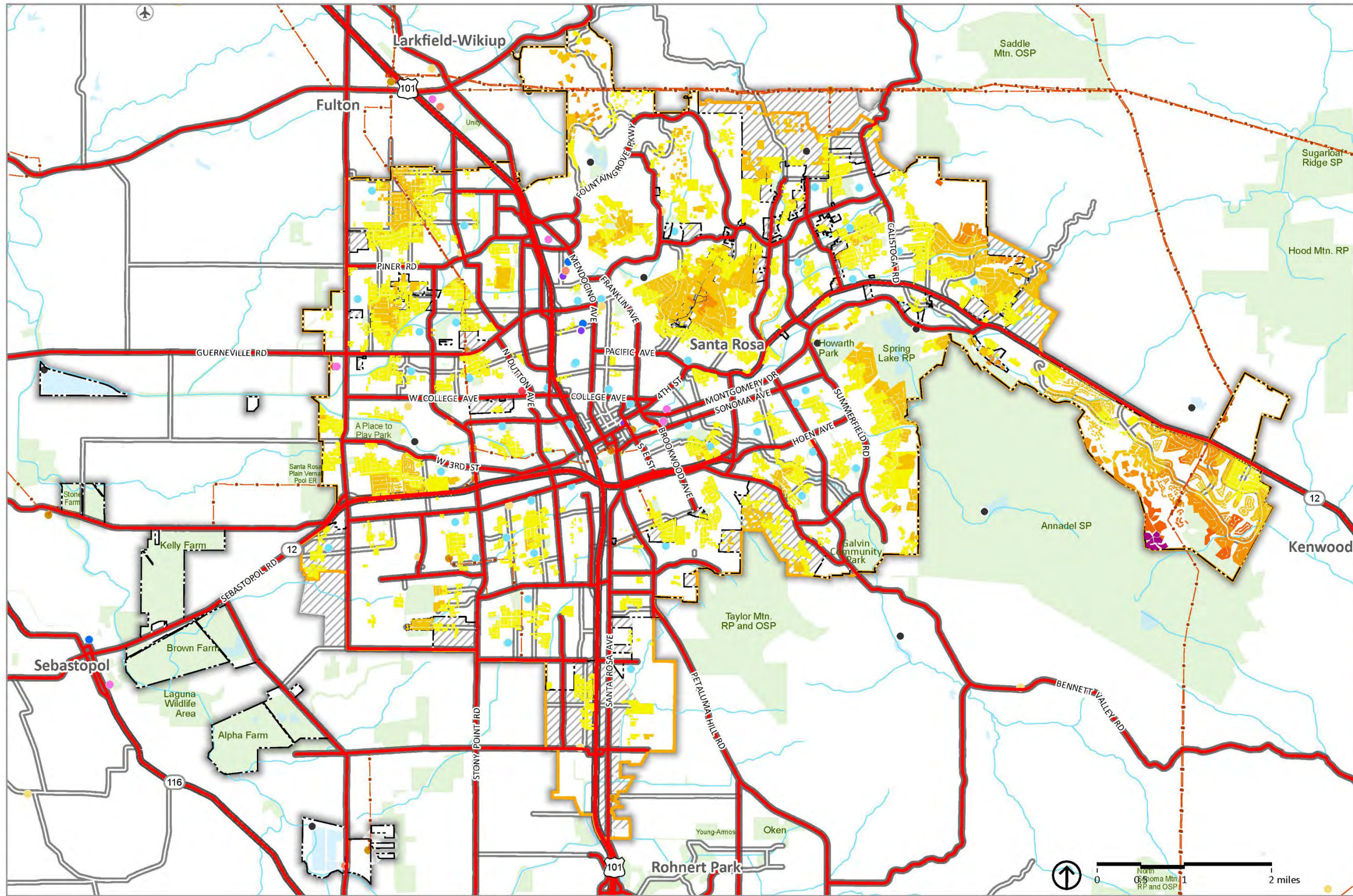


Figure 5-12  
Evacuation  
Constrained  
Residential  
Parcels

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Critical Facilities**
- Transmission Lines
- Electric Power Plants
- Electric Sub Stations
- Fire Stations
- Hospitals
- Urgent Care Facility
- Libraries
- Schools
- Local Law Enforcement Office
- Dam Location
- Airports
- Evacuation Routes
- Distance from nearest Major Primary Intersection**
- [<= 0.25mi not shown]
- 0.25 to 0.5mi
- 0.5 to 1mi
- 1 to 1.5mi
- 1.5 to 2mi
- 2+mi



Source: City of Santa Rosa, 2023; CalOES, 2021, PlaceWorks, 2023.

## Goals, Policies, and Actions

**Goal 5-5:** Santa Rosa is prepared for future emergencies.

**Policy 5-5.1:** Encourage City staff and community members to be prepared for and capable of responding to emergency events.

**Action 5-5.1:** Maintain and periodically update the City's Emergency Operations Plan.

**Action 5-5.2:** Coordinate with staff of the Sonoma County Operational Area (which consists of the cities, special districts, and unincorporated areas of the county) to update joint emergency response and disaster response plans, as needed.

**Action 5-5.3:** Promote public awareness of the natural hazards and potential effects of disasters in the Planning Area through the Citizens Organized to Prepare for Emergencies (COPE) volunteer organization.

**Policy 5-5.2:** Continue to ensure all community members and businesses are informed and empowered to address hazard vulnerabilities, considering the specific needs of EPAs and Equity Priority Populations.

**Action 5-5.4:** Provide multilingual and culturally appropriate educational materials to increase awareness of hazard risks/vulnerabilities and strategies that community members and businesses can employ to mitigate risks/vulnerabilities.

**Action 5-5.5:** Incorporate strategies from the Community Wildfire Protection Plan, Local Hazard Mitigation Plan, and other resilience-building plans into outreach and educational information.

**Policy 5-5.3:** Promote emergency response and preparedness training for City staff, community members, and businesses to increase community resilience.

**Action 5-5.6:** Participate in emergency response exercises in the Operational Area that involve key hazards of concern for the city.

**Policy 5-5.4:** Prioritize projects and strategies that mitigate hazards and increase community resilience.

**Action 5-5.7:** Implement the Local Hazard Mitigation Plan and update it every five years.

**Action 5-5.8:** Integrate mitigation actions and strategies into the City's Capital Improvements Program and annual budgeting process.

**Action 5-5.9:** Develop a tracking methodology for potential funding sources to support retrofitting publicly and privately owned structures.

**Policy 5-5.5:** Ensure coordination with the City and Operational Area continuously improves to meet the changing risks of the community.

**Action 5-5.10:** Continue to implement mutual aid, automatic aid, and California's Mutual Master Aid System to provide effective emergency response.

**Action 5-5.11:** Maintain effective mutual-aid agreements with neighboring cities and Sonoma County to

*support emergency management.*

**Action 5-5.12:** *Continue to execute mutual-aid agreements with public and private entities to support community emergency management.*

**Policy 5-5.6: Prioritize investments that expand and enhance evacuation capacity and capabilities.**

**Action 5-5.13:** *Require all new development projects to provide adequate access for fire and emergency response personnel.*

**Action 5-5.14:** *Prohibit the creation of new single ingress/egress roadway conditions in the city.*

**Action 5-5.15:** *Retrofit existing single-access residential neighborhoods to include additional access routes or other provisions to increase evacuation safety.*

**Action 5-5.16:** *Analyze the capacity, viability, and safety of evacuation routes for areas in wildfire-prone locations (wildland-urban interface fire area) and incorporate the results into the City's Emergency Operations Plan.*

## Climate Resilience

Scientists expect climate change to increase the frequency and intensity of natural hazards in the future. Santa Rosa has already experienced changes in precipitation patterns—severe storms and drought, urban flooding, extreme heat, and wildfires. According to California's

Fourth Climate Change Assessment,<sup>1</sup> these changes will continue, including in Santa Rosa.

In 2021 the City conducted a Climate Change Vulnerability Assessment (see **Appendix B**) to investigate how climate change may affect people, buildings, infrastructure, and other key community assets pursuant to California Government Code Section 65302(g)(4) and in accordance with the California Adaptation Planning Guide.

**Table 5-1** shows how the primary climate stressors—changes to precipitation patterns and higher average temperatures—will cause secondary climate stressors at the regional and local level. The assessment evaluates how climate change exacerbates eight natural hazards (agricultural and ecosystem pests and diseases, drought, extreme heat, climate sensitive health risks, landslides, severe wind, severe storms, and wildfire) and the effects on 65 different population groups and community assets. Each population or asset received a score ranging from low to high vulnerability for each relevant hazard. The Climate Change Vulnerability Assessment indicates that among all natural hazards exacerbated by climate change Santa Rosa populations and assets are most vulnerable to wildfire. Additional details on the method, population and assets evaluated, and results are in the General Plan **Appendix B**. The results of the Climate Change Vulnerability Assessment are integrated into the Safety and Climate Resilience sections of this element.

<sup>1</sup> Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja. (California Governor's Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission).

2018. Statewide Summary Report. California's Fourth Climate Change Assessment. Publication number: SUMCCCA4-2018-013.



**Table 5-1**  
Climate Stressors

Primary Climate Stressors	Secondary Climate Stressors	Climate Stressor Impacts
<b>Increase in Average Temperatures</b>	Increased frequency and intensity of extreme heat days and warm nights	<ul style="list-style-type: none"> <li>Increased heat-related illness and death, particularly among vulnerable populations.</li> <li>Greater demand for emergency services, public spaces that provide relief from extreme heat (e.g., libraries, community centers), and water-dependent recreation.</li> <li>Increased frequency of preemptive power outages for wildfire prevention, resulting in the loss of air conditioning, greater risk of food/medication spoilage, disruptions to public services, and other impacts.</li> </ul>
	Earlier snowpack melt and more precipitation falling as rain instead of snow	<ul style="list-style-type: none"> <li>Less water available later in the water-year for agricultural and domestic uses.</li> </ul>
	Increased evaporation and evapotranspiration rates	<ul style="list-style-type: none"> <li>Reduced growth and productivity of agricultural crops and native vegetation due to heat stress and increases in evapotranspiration.</li> <li>Decreased vegetation moisture leading to increased susceptibility of a wildfire.</li> </ul>
	Increased human and ecosystem pests and diseases	<ul style="list-style-type: none"> <li>Harm to agriculture, public health, and native plants and wildlife.</li> </ul>
<b>Changes in Precipitation Patterns</b>	Fewer, more intense precipitation events	<ul style="list-style-type: none"> <li>Increased risk of injuries/death and property damage or loss during extreme flooding and landslides.</li> </ul>
	Increased frequency and intensity of drought	<ul style="list-style-type: none"> <li>Reduced water availability due to declining surface water supplies and groundwater recharge combined with increased demand for agricultural and household use.</li> <li>Increased cost of food and water.</li> <li>Increased stress and mortality in agricultural crops and native vegetation.</li> <li>Economic losses due to crop failures and loss of tourism associated with water-dependent activities.</li> </ul>
	Increased frequency of flooding and landslides	<ul style="list-style-type: none"> <li>Increased runoff during heavy rainfall events that follow dry periods, resulting in greater risk of landslides and flash floods.</li> </ul>

<b>Table 5-1</b> Climate Stressors		
		<ul style="list-style-type: none"> <li>• Damage to roadways and/or temporary loss of access to isolated neighborhoods.</li> <li>• Interruption of public services and possible public health impacts following damage to utilities.</li> <li>• Economic impacts of damage to businesses and agricultural operations.</li> </ul>
	Decrease in wildfire fuel moisture	<ul style="list-style-type: none"> <li>• Increased potential for wildfire.</li> <li>• Increased risk of injuries and death due to burns and smoke inhalation, as well as longer-term health impacts related to eye and respiratory issues.</li> <li>• Damage and loss of homes, businesses, and other infrastructure, particularly within the wildland-urban interface (WUI).</li> <li>• Possible disruption of critical supply chains, access to public services, and other linkages.</li> <li>• Economic losses due to direct damages (i.e., to businesses) as well as declines in tourism and recreation following fire.</li> </ul>
<p><b>Source:</b> EcoAdapt, "Projected Climate Changes And Associated Impacts For Santa Rosa, CA," Workshop Handout, 2020.</p>		

## Agricultural and Ecosystem Pests and Diseases

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The 2021 Sonoma County Agricultural Commissioner Crop Report indicates that agriculture and livestock production had a value of \$811 million in 2021 and supported roughly 8,500 agricultural laborers. The largest-grossing crops include wine grapes and milk. Agricultural pests and diseases can affect crop plants, livestock, and nurseries, as measured in terms of pest and disease incidents, which are likely to increase because higher temperatures allow insects to reproduce more rapidly and lengthen the activity window for pests and diseases. Pests and diseases can slow the growth of and inflict damage on agricultural crops and ecosystems, harming economic drivers and people who depend on them.

## Droughts

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Emerging climate change projections show that Sonoma County, along with the rest of California, will experience an increase in the intensity and severity of extreme hazard events. We can expect longer, more severe droughts, which will likely strain agribusinesses, habitats, and water supplies. Droughts may be twice as frequent by 2050 than they were in the past, and precipitation will come in fewer, more intense storms with longer dry seasons. Although Santa Rosa will likely experience an increase in overall annual precipitation levels compared to historic averages, the wet season will be shorter because of climate change, which will cause droughts to last longer and be more intense.<sup>2</sup>

<sup>2</sup> EcoAdapt, 2021, "Climate Vulnerability and Adaptation Report for Santa Rosa".

<sup>3</sup> EcoAdapt, 2021, "Climate Vulnerability and Adaptation Report for Santa Rosa".

## Extreme Heat and Warm Nights

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Extreme heat happens when temperatures rise significantly above normal levels. The Sonoma County Office of Emergency Management defines extreme heat as an extended period of intense heat and humidity with temperatures above 90 degrees Fahrenheit. Maximum temperatures are projected to increase by 7.5 degrees Fahrenheit by 2100, causing an increase of 20 days per year of extreme heat and 29 additional frost-free nights.<sup>3</sup> Extreme heat poses a significant human health risk to Equity Priority Populations, especially to those without air conditioning, seniors, young children, pregnant women, persons with chronic diseases, outdoor workers, immigrant communities, and persons experiencing homelessness. Very high temperatures also can damage energy delivery and rail infrastructure and services, constraining their ability to meet community needs.

Extreme daytime temperatures intensify human health risks when there is a lack of cooling overnight. With warmer nighttime temperatures, heat stress continues to build and increases the risk of heat illnesses and death. Heat waves kill more people in the United States than any other natural disaster.<sup>4</sup>

## Other Climate-Sensitive Health Risks

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Climate influences the infection rates of various diseases, which are transmitted to humans and other animals by vectors—mosquitoes, flies, ticks, mice, rats, etc. Vectors carry bacteria and viruses that can pass from one host to another. Warmer temperatures and more precipitation often lead to larger populations of disease-carrying vectors and a greater risk of. This

<sup>4</sup> National Weather Service, 2022. "Weather Related Fatality and Injury Statistics." <https://www.weather.gov/hazstat/>

includes vector-borne diseases spread by ticks, such as Lyme disease and Rocky Mountain Spotted Fever; by mosquitos, such as West Nile Virus, Zika Virus, and Dengue Fever; and by rats and mice, such as hantavirus; and water-borne diseases.

## Severe Winds and Storms

Severe winds and storm events, such as thunderstorms, hail, heavy rainfall, and flooding, have become more frequent and intense as a result of climate change. In Santa Rosa, most severe storms are linked to “atmospheric rivers,” which are long, narrow storm systems that carry water vapor from the tropics to higher latitudes. When they reach land, they can quickly blanket the region in heavy precipitation. The storms are likely to become more extreme in the future because of warmer temperatures and changes in precipitation patterns.

Severe wind events have sustained winds of 40 miles per hour, or wind gusts of 58 or more miles per hour. Severe winds and storms can cause secondary hazards, such as Public Safety Power Shutoffs (PSPS), which especially affect people who rely on electrical medical devices. The types of dangers posed by severe winds and storms vary widely and include injuries or deaths, damage to buildings and structures, disrupted economic drivers, and roads blocked by debris or fallen trees.

**Public Safety Power Shutoffs or PSPS** are preemptive measures to reduce the risk of fire caused by electric infrastructure during extreme weather events because high winds can blow tree branches and debris into energized lines and cause fires.

## Wildfires

Warmer temperatures, an increase in drought conditions, and severe wind events are likely to

create faster-moving and hotter-burning wildfires, leading to a greater chance that a spark will grow into a dangerous blaze. Climate change is also expected to extend the fire season throughout much of the year, creating an overlap with high-velocity wind events. Because wildfires burn the trees and other vegetation that help stabilize hillsides and absorb water, more areas burned by fire could lead to an increase in landslides and debris flows during or after heavy precipitation events.

## Goals, Policies, and Actions

**Goal 5-6:** Santa Rosa is a resilient city able to adapt to, recover from, and thrive under changing climate conditions.

**Policy 5-6.1:** Support legislative and regulatory items that further climate resilience.

**Action 5-6.1:** Ensure all current and future City plans and updates include climate change considerations—include specific plans, Bicycle and Pedestrian Master Plan, Design Guidelines, Hazard Mitigation Plan, Citywide Creek Master Plan, Municipal Climate Action Plan, Urban Water Management Plan, Water Shortage Consistency Plan, “Our Water Future” Water Supply Alternatives Plan, Community Wildfire Protection Plan, and others.

**Action 5-6.2:** Update the City’s Climate Change Vulnerability Assessment with new climate projections and data during each Safety Element update.

**Action 5-6.3:** Evaluate a Zoning Code update that will include a Resilient City code to increase adaptation and resilience in the city.

**Policy 5-6.2: Support neighborhood resilience during extreme weather events.**

**Action 5-6.4:** *Invest in community predisaster planning efforts and exercises.*

**Policy 5-6.3: Elevate extreme heat to a major hazard of concern in Santa Rosa.**

**Action 5-6.5:** *Develop a plan, consistent with the California Extreme Heat Action Plan, that includes establishing community cooling centers, weatherizing City buildings, and planning cooling strategies for persons engaged in outdoor work and persons experiencing homelessness.*

**Action 5-6.6:** *Continue to build public awareness about extreme weather events through multilingual targeted communications campaigns focusing on EPAs and Equity Priority Populations.*

**Action 5-6.7:** *Coordinate with Sonoma County Transit, Santa Rosa Transit and CityBus, and SMART to increase shading and heat-mitigating materials on pedestrian walkways at transit centers, transit stops, and train stations.*

**Action 5-6.8:** *Increase the number of Santa Rosa Transit stops with shade cover and shelters to provide protection from extreme heat and severe storms, prioritizing stops in EPAs.*

**Action 5-6.9:** *Establish standardized temperature or air quality triggers for opening City-operated community resilience and cooling centers.*

**Policy 5-6.4: Encourage collaboration among departments and with nonprofit organizations to create a network of equitably located**

**resilience centers throughout the city.**

**Action 5-6.10:** *Partner with neighborhood groups and nonprofit organizations to establish a network of equitably located and universally accessible community resilience centers throughout Santa Rosa that are situated outside of areas at risk from hazard impacts to the extent possible.*

**Policy 5-6.5: Seek funding to upgrade existing warming and cooling centers to have the ability to offer refuge from extreme heat events and poor air quality due to regional wildfire smoke and be equipped with renewable energy generation and backup power supplies.**

**Action 5-6.11:** *Seek grant funding to identify and map existing community facilities, such as libraries, gymnasiums, community centers, and auditoriums, that can serve as community resilience centers and support people with access and functional needs during hazard events.*

**Action 5-6.12:** *Continue to provide backup power and emergency supplies at critical City facilities, emergency shelters, community resilience centers, and cooling centers in case of power and water outages.*

**Action 5-6.13:** *Coordinate with transit providers to identify and advertise ways for individuals with restricted mobility to reach resilience centers, cooling centers, and alternate care sites.*

**Action 5-6.14:** *Evaluate updating the Noise Ordinance to allow outdoor*

*workers to shift working hours to earlier or later in the day, or alternative days, between May and September to reduce heat-related illnesses.*

**Action 5-6.15:** *Update the City's Zoning Code and Public Improvement Standards to remove inconsistencies for promoting and expanding the use of drought-tolerant green infrastructure, including street trees and landscaped areas, as part of cooling strategies in public and private spaces.*

**Action 5-6.16:** *Conduct a community-wide tree canopy assessment to quantify how much of the City's land area is covered by trees, including the streets with street tree canopy cover; identify the location of those trees, and identify opportunities to plant trees.*

**Action 5-6.17:** *Update the Santa Rosa Street Tree list to include native, drought-tolerant, and low-water-use tree species that are appropriate for street landscaping.*

**Action 5-6.18:** *Create and regularly update an Urban Greening Plan, consistent with the Climate Resilient Tree List, to increase the urban tree canopy, green spaces, and green roofs to reduce the heat island effect in the most vulnerable areas of the city.*

**Policy 5-6.6:** **Reduce the spread of human health hazards, including pests, diseases, and viruses.**

**Action 5-6.19:** *Coordinate with the Marin/Sonoma Mosquito and Vector Control District to minimize mosquitos, ticks,*

*rodents, and other vectors that may carry or spread human health hazards.*

**Action 5-6.20:** *Work with local employers to provide resources to help protect employees from environmental hazards, including poor air quality and pests and diseases.*

**Policy 5-6.7:** **Strengthen the community's ability to respond to the risks and negative effects of power outages, including PSPS events, and other climate-related threats.**

**Action 5-6.21:** *Support efforts to underground electrical transmission infrastructure throughout the city, including substations, prioritizing high-voltage transmission lines and areas in the Wildland-Urban Interface Fire Area.*

**Action 5-6.22:** *Work with property owners to incorporate sustainable, energy-efficient, water-efficient, and environmentally regenerative features into facilities, landscapes, and structures.*

**Action 5-6.23:** *Collaborate with Pacific Gas & Electric, Sonoma Clean Power, and organizations such as the Disability Services and Legal Center to ensure that those who depend on electricity supply for medical devices and refrigerating medication have backup energy supplies during outages, including during extreme heat and extreme wind events.*

**Policy 5-6.8:** **Increase the resiliency of City-owned structures to severe weather events and support homeowners and business owners to increase the resilience of their buildings and properties**

**through retrofits, weatherization, and other improvements.**

**Action 5-6.24:** *Develop a database of information related to retrofits, weatherization, and other improvements.*

**Action 5-6.25:** *Install backup power, preferably from renewable energy sources, and water resources at emergency shelters, resilience centers, and cooling centers.*

## Noise

Noise is unwanted sound. In most of Santa Rosa, noise can be characterized as routine background sound and unusual or intermittent events. Cars, trucks, buses, trains, air conditioning systems, and aircraft generate background noise. Intermittent and sometimes excessive noise can come from leaf blowers, helicopters, train whistles at grade crossings, chain saws, unmuffled motor vehicles, and similar sources. Excessive noise can cause annoyance, health problems, economic loss, and even hearing impairment.

Sound waves traveling outward from a source exert a sound pressure level usually measured in decibels (dB). Environmental noise is usually measured in A-weighted decibels (dBA), a metric corrected for the human ear response to various frequencies (some animals can hear sounds outside the human range). Most people can detect a change in sound level of about 3 dBA, and an increase of 10 dBA is perceived by the human ear as a doubling of loudness.

### Projected Noise Sources

The major sources of noise in Santa Rosa throughout the General Plan time frame include:

**U.S. Highway 101 and State Highway 12.** Highways 101 and 12 generate significant noise

levels because of high traffic volumes and speeds. Tire interaction with the roadbed and truck engines create noise. In terms of sound energy, noise from one truck is equivalent to 20 autos.

**Regional/Arterial streets.** Major regional/arterial streets with high noise levels include Fulton Road, Guerneville Road, Bellevue Avenue, Stony Point Road, Mendocino Avenue, Fountaingrove Parkway, Calistoga Road, Summerfield Road, and College Avenue. In general, automobile traffic volumes will increase by 2050 along with noise levels.

**Railroad operations.** Railroad noise is most noticeable from horn soundings and at-grade crossings. The city has 14 at-grade crossings—Bellevue Avenue, Hearn Avenue, Barham Avenue, Sebastopol Avenue, W. 3rd Street, W. 6th Street, W. 7th Street, W. 9th Street, W. College Avenue, Guerneville Road, W. Steele Lane, Piner Road, and San Miguel—and one potential at-grade crossing at Jennings Avenue.

**Emergency medical helicopters** and vehicles. Emergency medical vehicles with sirens create intermittent but significant noise. Helicopter operations can affect a large population, and the City has received complaints regarding medical helicopter operations at Providence Santa Rosa Memorial hospital.

**Landscaping equipment.** Landscaping equipment, such as gasoline-powered leaf blowers, generate noise and are regulated by the City's Noise Ordinance.

**Charles M. Schulz-Sonoma County Airport.** Airport operation is addressed in the Sonoma County General Plan and the Comprehensive Airport Land Use Compatibility Plan (ALUC).

**Industrial and commercial facilities.** Industrial and commercial facilities are sometimes noise sources, particularly auto wrecking and commercial loading operations. The City receives

occasional complaints about noise generated by these types of businesses.

**Figure 5-13** shows land uses in the city with compatible noise levels. **Figure 5-13 A** offers comparative examples of dBA noise levels. **Figure 5-14** shows the existing traffic noise levels in the city. **Figures 5-15** and **5-16** show the projected traffic noise levels; **5-15** shows future noise levels assuming there are no changes in the city beyond those planned, and **5-16** accounts for changes anticipated outside of Santa Rosa through 2050.

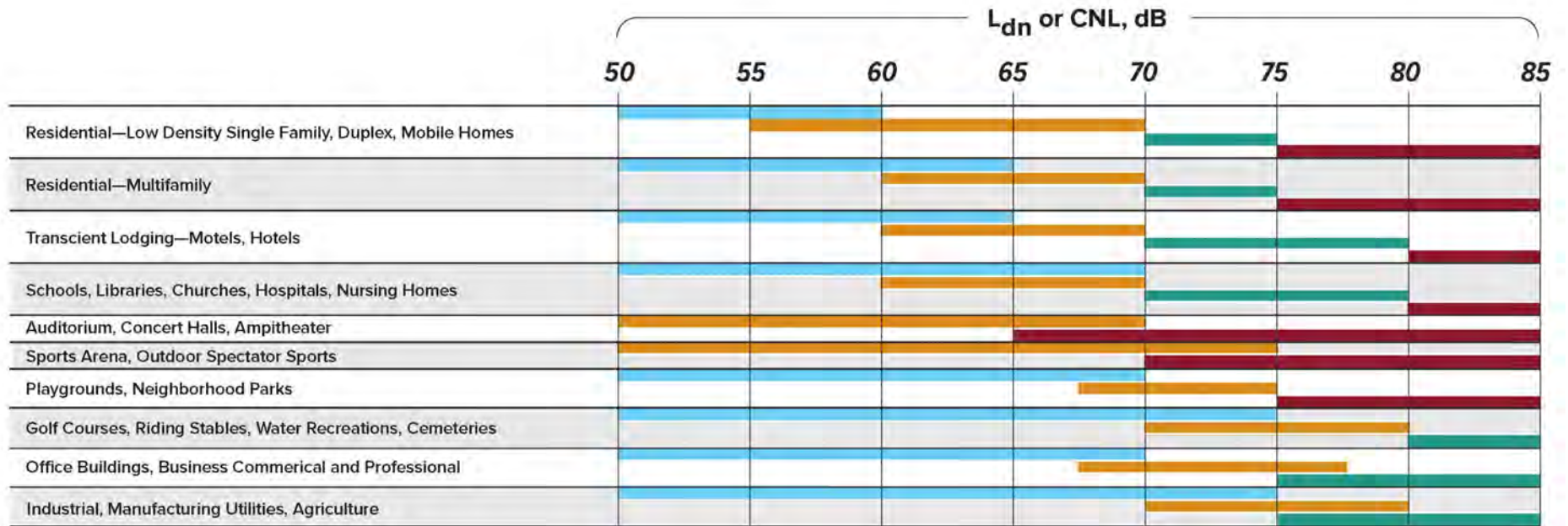
## Noise Standards

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State law requires general plans to use the Community Noise Equivalent Level (CNEL) or the Day/Night Average Sound Level (Ldn) to describe the community noise environment (in dBA) and its effects on the population; Santa Rosa uses Ldn. The noise standards used by the City include the Land Use Compatibility Standards for community noise environment, depicted in **Figure 5-13**, State of California Noise Insulation Standards (California Code of Regulations, Title 24, Part 2), and applicable standards in the City of Santa Rosa Noise Ordinance. General Plan policies and actions address noise attenuation along major regional/arterial streets through location of land uses, site design, architectural standards, barriers, and street materials.



Figure 5-13: Land Use Compatibility Standards



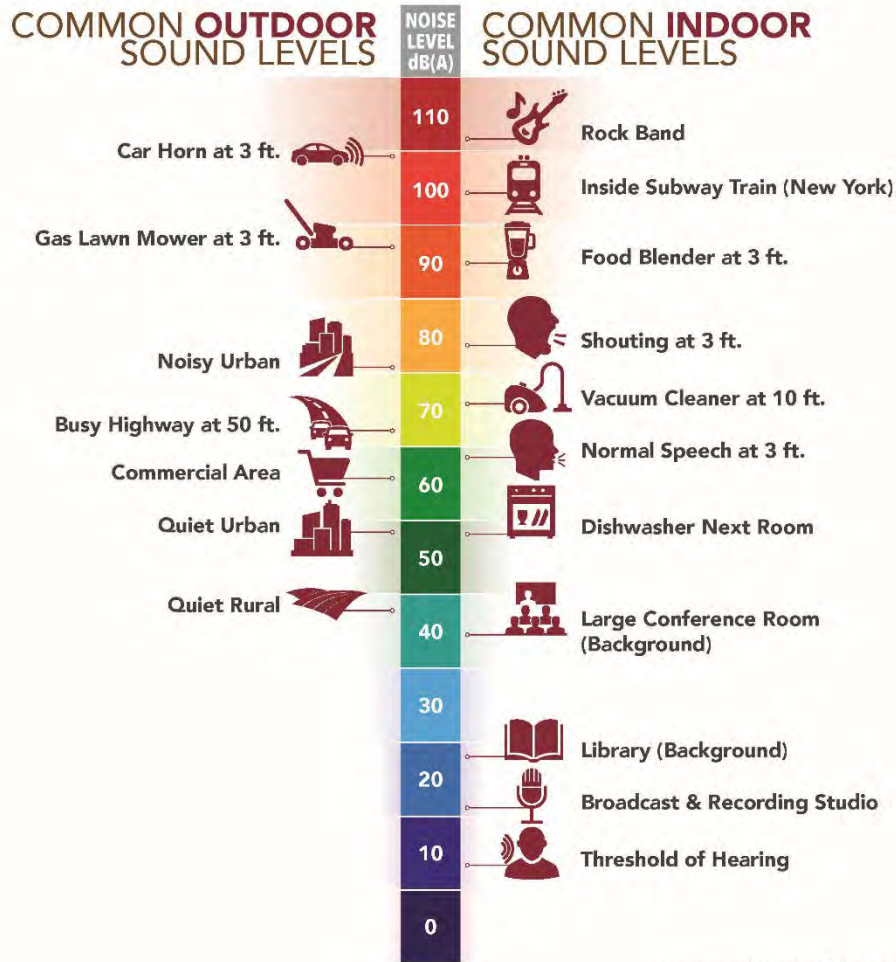
**NORMALLY ACCEPTABLE**  
 Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.

**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 included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

**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.

**CLEARLY UNACCEPTABLE**  
 New construction or development should generally not be undertaken.

Figure 5-13 A: Comparative Examples of dBa Noise Levels.



source: [www.faa.gov/regulations\\_policies/policy\\_guidance/noise/basics](http://www.faa.gov/regulations_policies/policy_guidance/noise/basics)

Figure 5-14: Existing Traffic Noise Levels, 2019

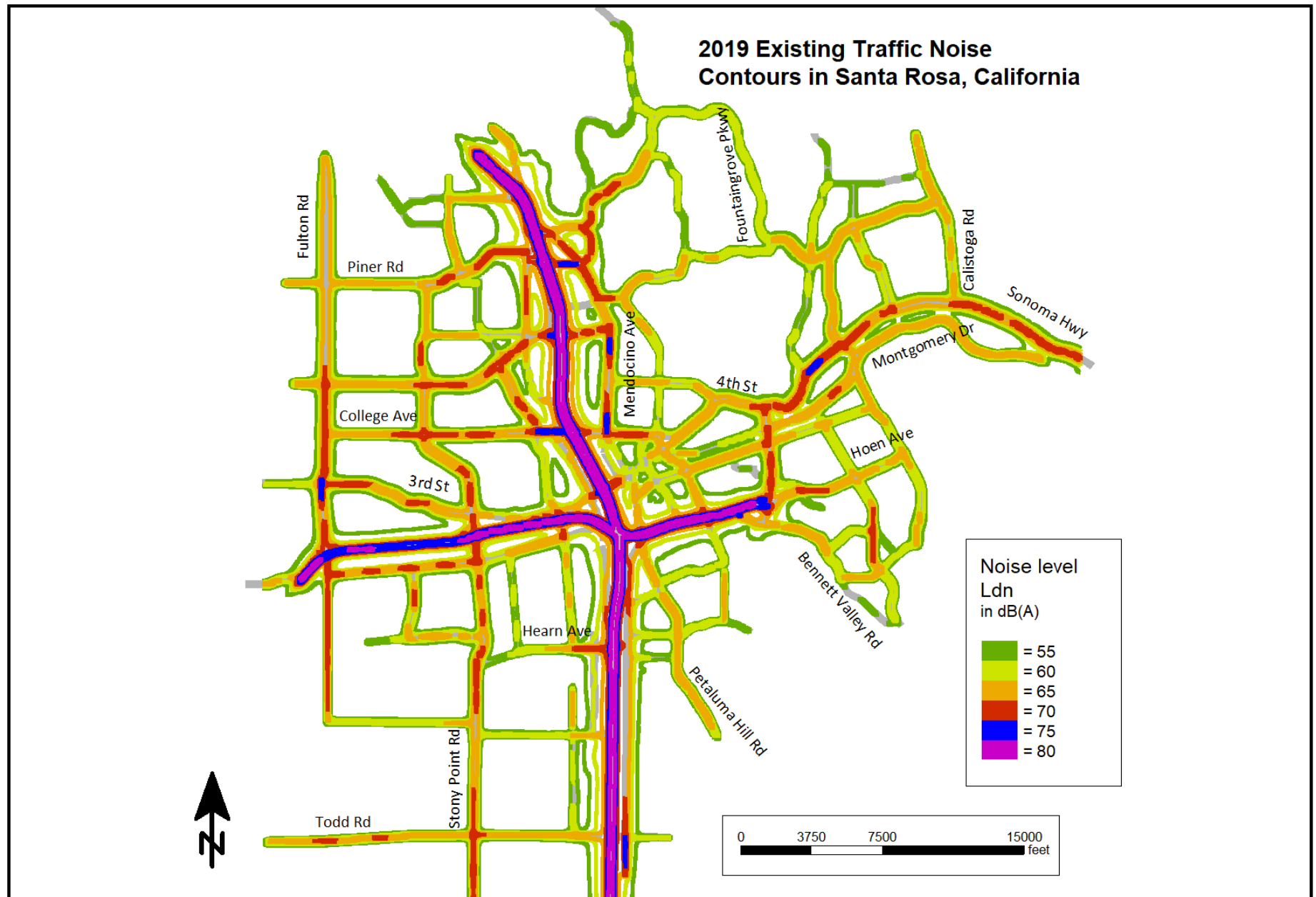


Figure 5-15: Existing Plus Project Traffic Noise Levels, 2050

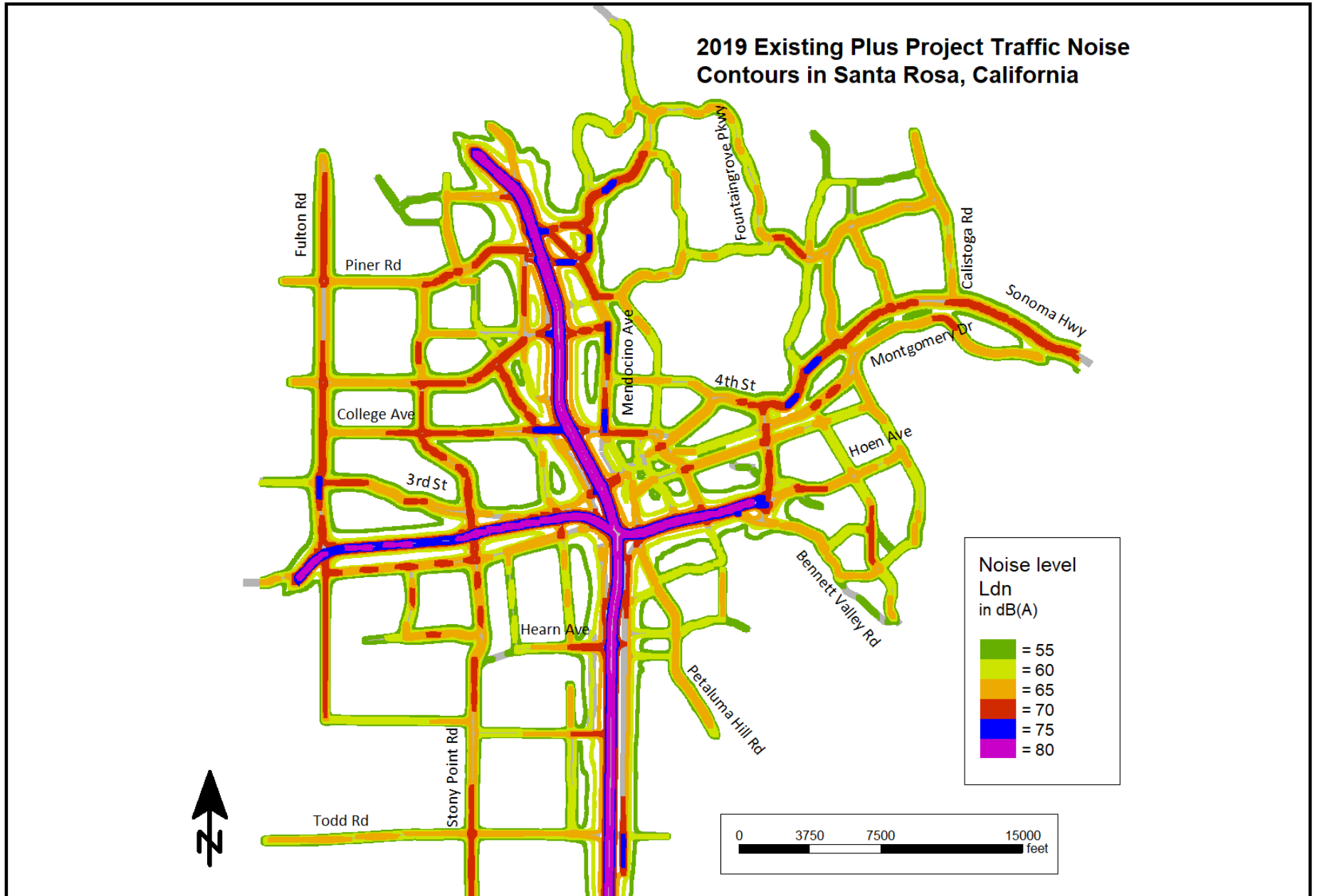
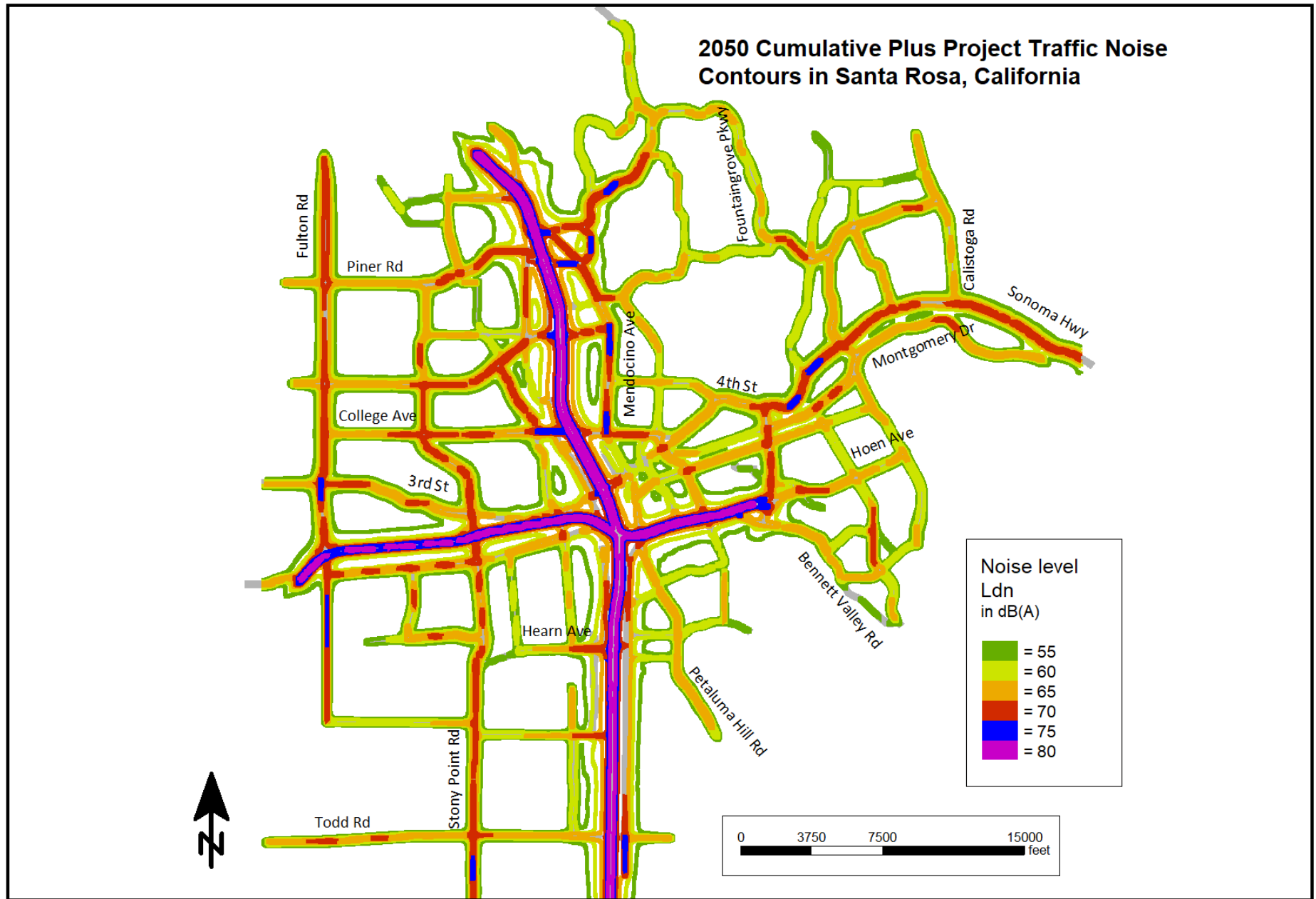


Figure 5-16: Cumulative Plus Project Traffic Noise Levels, 2050



## Goals, Policies, and Actions

**Goal 5-7:** Protect the community from adverse noise impacts that can decrease quality of life.

**Policy 5-7.1:** Maintain and enforce an acceptable community noise level to protect the health and comfort of people living, working, and visiting in Santa Rosa.

**Action 5-7.1:** Continue to prohibit noise-sensitive uses in proximity to major noise sources, with the exception of adequately buffered residential buildings near rail stations to promote transit ridership.

**Action 5-7.2:** Continue to require acoustical studies prepared by qualified acoustical consultants for:

- All new projects proposed for areas with existing ambient noise above 60 dBA Ldn, and mitigation shall be required to reduce noise levels below 45 dBA Ldn in habitable rooms and 60 dBA Ldn in private and shared recreational facilities (additions to existing housing units are exempt).
- All new projects that could generate noise greater than allowed by adopted City standards.

**Action 5-7.3:** Use the Federal Transportation Authority's construction noise and vibration thresholds to assess impact significance at receiving land uses surrounding new projects sites.

**Action 5-7.4:** Use the Federal Transportation Authority's train vibration thresholds to assess land use compatibility for new projects within 150 feet of train tracks.

**Action 5-7.5:** Require conditions of approval or mitigation for new projects that have the potential to create ambient noise levels more than 5 dBA  $L_{dn}$  above existing background, within 250 feet of sensitive receptors.

**Action 5-7.6:** Require conditions of approval or mitigation for existing uses to reduce new noises exceeding normally acceptable levels unless the activities are specifically exempted by the City Council on the basis of community health, safety, and welfare, such as emergency medical vehicles, helicopters, and sirens.

**Action 5-7.7:** Work with private parties to reduce or eliminate nuisance noise from industrial and commercial sources that impact nearby residential areas, and if progress is not made within a reasonable time, issue abatement orders or take other legal measures.

**Action 5-7.8:** Consider reduced speed limits, improved paving texture, and traffic controls to reduce roadway noise to normally acceptable levels in areas where noise standards may otherwise be exceeded (e.g., where homes front regional/arterial streets and in areas of mixed-use development).

**Action 5-7.9:** Use conditions of approval to achieve measures to reduce noise impacts primarily through site planning, and avoid engineering

*solutions for noise mitigation, such as sound walls, if possible.*

**Action 5-7.10:** *Update the Zoning Code to require residential developers to provide buffers other than sound walls and allow sound walls only when other techniques would not prevent projected noise levels from exceeding adopted land use compatibility standards.*

**Action 5-7.11:** *Work with Caltrans to assign a high priority to traffic noise mitigation programs and support construction of attractive sound walls, as necessary, along Highway 101 and Highway 12.*

**Action 5-7.12:** *Prohibit new helipads in developments of industrial, commercial, office, or business park uses, unless the helipad will provide a significant benefit for community health, safety, and welfare.*

**Policy 5-7.2: Promote opportunities for local music and entertainment venues without compromising acceptable noise levels.**

**Action 5-7.13:** *Identify noise mitigation measures and other strategies to allow the establishment, growth, and/or continuation of music and entertainment venues.*

## Public Services and Facilities

### Water, Wastewater, Recycled Water, Stormwater, and Solid Waste

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#### Water Supply

The Russian River watershed supplies the majority of the city's potable water supply, and the Sonoma County Water Agency (SCWA) delivers the water under contractual agreement. SCWA is the primary provider of potable water in Sonoma County and holds water rights to divert 92 million gallons of water per day (mgd) from the Russian River, with an annual maximum of 75,000 acre-feet per year. SCWA also has three groundwater wells in the Santa Rosa Plain that provide an additional supply averaging 3,870 acre-feet per year. SCWA uses its transmission and delivery system to serve eight major water contractors, of whom Santa Rosa is the largest. Under its current agreement with the SCWA, the city is entitled to receive 56.6 mgd (average day peak month) up to an annual volume of 29,100 acre-feet.

Santa Rosa also has two active production wells that together can pump up to 2,300 acre-feet per year to supplement the city's potable water supply. The City operates these wells for up to eight months per year, typically between April and October. These wells produce an average of 1,100 acre-feet of drinking water per year, which is about 6 percent of the city's total annual water supply. The City also owns and operates the Subregional Water Reuse System, which provides about 140 acre-feet per year of recycled water for nonpotable uses. Population and employment increases under the General Plan 2050 could result in a total water demand of 23,813 acre-feet per year (an average of 21.3 mgd) in the planning area. The 2020 Urban Water

Management Plan projects water supply (potable and recycled water), as far out as 2045, of 31,540 acre-feet per year for normal hydrological years (average rainfall), and projects water demand of 25,097 acre-feet per year by 2045, meaning that the projected demand will not surpass projected supply through buildout of the General Plan in normal hydrologic years.

## Water Distribution

The City's water distribution system includes 20 booster pump stations, 24 storage tanks, 624 miles of water mains, and more than 54,000 water service connections. The City evaluated this system in 2014 as part of the Water Master Plan (WMP) update for its ability to meet established water system service and performance standards under various existing water demand conditions. In general, the evaluation found deficiencies in meeting peak-hour and maximum-day demand flows to some higher-elevation service locations. Mitigation for these peak-hour and maximum-day demand deficiencies involves the installation of individual or localized booster pumps in the affected low-pressure areas. The WMP update also identified fire-flow deficiencies at some booster pump stations in high-elevation pressure zones, where mitigation would involve the replacement of the existing booster pumps. Pipeline capacity issues under fire-flow conditions were also noted at several locations on a court or other dead-end roadway.

## Wastewater

The City's sewer system collects sewage from residential, commercial, and industrial uses in the city and transports it to the Laguna Subregional Wastewater Treatment Plant (WTP) for treatment and disposal. The city sewer collection system includes approximately 610 miles of sewer mains and 17 sewer lift stations. The Laguna WTP is currently permitted to treat up to 21.34 mgd, and average dry weather flow of wastewater is 14.4 mgd per day. The WTP

existing and planned capacity is sufficient to meet the city's wastewater needs through 2050.

## Recycled Water

The City of Santa Rosa manages the Laguna WTP, which also receives wastewater from the cities of Cotati, Rohnert Park, and Sebastopol, plus portions of unincorporated Sonoma County. Depending on the amount of rainfall in any year, an average of 95 percent of the wastewater treated at the Laguna WTP is recycled for urban and agricultural irrigation and to replenish the geysers steam fields to produce clean, green energy.

## Stormwater

The City of Santa Rosa storm drain system consists of more than 340 miles of piped infrastructure and over 100 miles of open channels, ditches, and creeks. The system also has detention facilities that attenuate peak flows and allow sediment to settle before flows continue downstream.

Runoff from Santa Rosa ultimately drains westward via nine watershed areas into the Laguna de Santa Rosa. Santa Rosa Creek is a part of the city's largest drainage basin, draining the northern portion of the city as well as the downtown area. The eastern section of the city drains through watersheds consisting of Brush Creek, Oakmont Creek, Spring Creek, and Matanzas Creek, which are tributaries to Santa Rosa Creek. Piner Creek and Paulin Creek collect runoff from the western portion of the city and are also tributaries to Santa Rosa Creek. To the south, Colgan Creek and Roseland Creek accommodate drain system discharge and are direct tributaries to Laguna de Santa Rosa. Todd Creek also provides drainage for a southern portion of the city and is a tributary to Laguna de Santa Rosa via the Bellevue-Wilfred Channel.



## Solid Waste

Santa Rosa contracts with Recology Sonoma Marin to provide weekly solid and organic waste and recyclable material collection to Santa Rosa community members. The California Department of Resources Recycling and Recovery (CalRecycle) sets the target per-capita disposal rate for jurisdictions and reported a statewide average of 5.2 pounds of waste per person per day. In 2018, the city's disposal rate was 2.8 pounds of waste per person per day (well below the CalRecycle target).

Santa Rosa complies with the goals of the 2018 Santa Rosa Zero-Waste Plan to achieve at least 75 percent diversion of waste from landfill disposal by 2030 and decrease per-capita disposal of waste collected by Recology by 10 percent each year through 2030. By 2040, the City seeks to decrease the diversion rate to less than 1 pound of waste per-capita day by reducing the amount of waste created at the source and reusing materials already in the existing waste stream.

## Goals, Policies, and Actions

**Goal 5-8:** Provide adequate and high-quality city services for water, wastewater, recycled water, stormwater, and solid waste.

**Policy 5-8.1:** Ensure that a sufficient supply of water is available to serve existing and future needs of the city.

**Action 5-8.1:** Continue to use high-quality water from the Sonoma Water aqueduct system as the primary water supply.

**Action 5-8.2:** Continue to require that water supply capacity and infrastructure are in place prior to occupancy of new development.

**Action 5-8.3:** Maintain water, wastewater, and recycled water system integrity and capacity by seeking funding for maintenance, rehabilitation, and replacement of existing infrastructure.

**Action 5-8.4:** Decline requests for extension of water beyond the Urban Growth Boundary, except in cases of existing documented health hazards and in areas where the City has entered into prior contractual agreements to provide services, in collaboration with the County and LAFCO.

**Action 5-8.5:** Evaluate the City's long-term water supply strategies, including development of new sources of water supply, enhanced water efficiency programs, expanded use of recycled water, and implementation of appropriate growth control measures if deemed necessary by the City.

**Action 5-8.6:** Work with State agencies to identify water quality issues and apply for remediation funds as needed.

**Action 5-8.7:** Complete and implement the Water Supply Alternatives Plan to mitigate potential impacts of climate change, drought, and natural or human caused catastrophic events by enhancing water supply resiliency and reliability.

**Action 5-8.8:** Continue working with the Santa Rosa Plain Groundwater Sustainability Agency to implement the Groundwater Sustainability Plan and achieve sustainability of local groundwater resources.

**Policy 5-8.2: Conserve water and maintain water quality.**

**Action 5-8.9:** Regularly monitor water quality to maintain high levels of water quality for human consumption and for other life systems in the region.

**Action 5-8.10:** Require new development projects to provide water-efficient landscaping in accordance with the City’s Water Efficient Landscape Ordinance.

**Action 5-8.11:** Continue to educate community members about low-cost water efficiency improvements in homes and businesses.

**Action 5-8.12:** Continue to comply with statewide regulations for long-term urban water use efficiency.

**Action 5-8.13:** Promote water efficiency through public education, incentives, rebates, technical assistance, and information about indoor and outdoor water use efficiency measures.

**Action 5-8.14:** Encourage property owners to install rainwater catchment and greywater systems in new developments or major retrofits.

**Action 5-8.15:** Encourage property owners to install permeable paving, bioswales, and other green infrastructure components in new and significantly renovated hardscape projects.

**Policy 5-8.3: Ensure water distribution lines are adequate for existing and future populations.**

**Action 5-8.16:** Continue to require that developers improve water distribution infrastructure if needed to serve the demands of new development.

**Action 5-8.17:** Continue to identify funding sources for water infrastructure projects on the Capital Improvement Program list.

**Action 5-8.18:** Evaluate both the upfront (capital) and ongoing maintenance cost commitments of new projects and/or programs prior to approval.

**Action 5-8.19:** Evaluate costs and benefits of new and existing water projects before diverting funding/resources needed for proper management of existing infrastructure.

**Action 5-8.20:** Actively maintain an inventory of existing infrastructure and associated operations and maintenance requirements (staffing and budget) in addition to capital and operations and maintenance of planned infrastructure.

**Policy 5-8.4: Ensure that adequate sewer capacity is available to serve existing and future needs of the city.**

**Action 5-8.21:** Maintain existing levels of wastewater service by preserving and improving infrastructure, including replacing sewer mains, as necessary.

**Action 5-8.22:** Decline requests for extension of sewer services beyond the Urban Growth Boundary.

**Action 5-8.23:** Implement the Sewer Master Plan via projects identified in the Capital Improvement Program.

**Action 5-8.24:** Regularly review wastewater treatment and biosolids management strategies to accommodate growth.

**Action 5-8.25:** *Work with regional partners (notably Rohnert Park, Cotati, Sebastopol, Southpark County Sanitation District, and Sonoma Water) to build consensus on maintenance, rehabilitation, modernization, and resilience improvements at facilities that provide service to them, such as the Laguna Treatment Plant.*

**Action 5-8.26:** *Complete and implement the Storm Drain Master Plan.*

**Action 5-8.27:** *Improve stormwater management to increase infiltration, provide treatment, promote groundwater recharge, reduce flood risk, capture trash, and/or enhance the environment.*

**Action 5-8.28:** *Implement mitigation measures to mimic the pre-development water balance through infiltration, evapotranspiration, and capture and reuse of stormwater.*

**Action 5-8.29:** *Evaluate stormwater capture and reuse consistent with goals of the Santa Rosa Citywide Creek Master Plan and the MS4 NPDES permit to preserve natural conditions of waterways, minimize channelization of creeks, and protect water quality; identify, educate, label, and promote community awareness that storm drains flow untreated into creeks.*

**Action 5-8.30:** *Maintain an inventory of storm drain facilities and maintenance needs.*

**Policy 5-8.5: Meet the city’s solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.**

**Action 5-8.31:** *Continue public education programs about waste reduction, including recycling, composting, yard waste, wood waste, and household hazardous waste.*

**Action 5-8.32:** *Aim to achieve multibenefit projects for a “one-water” approach to include stormwater quality (low impact development features) on a large scale, flood mitigation, creek restoration, and increased groundwater recharge.*

**Policy 5-8.6: Identify and alleviate impacts from groundwater threats and solid waste.**

**Action 5-8.33:** *Consult with appropriate regional, State, and federal agencies to monitor water quality and address local sources of groundwater and soil contamination, including possible underground storage tanks, septic tanks, and industrial uses, as necessary, to achieve State and federal water quality standards.*

**Action 5-8.34:** *Monitor the Solid Waste Information System (SWIS) and Closed, Illegal, and Abandoned (CIA) Disposal Sites Program to identify solid waste sites and facilities that are illegal, abandoned, or have not met the standards for closure. Work with State agencies to investigate and enforce standards for sites, with prioritization of sites within and near EPAs.*

**Action 5-8.35:** *Identify solid waste and hazardous waste facilities that do not comply with standards for preventing contamination of air, water, and soil with hazardous waste. Work with owners of those facilities to upgrade those*

*facilities to meet those standards,  
prioritizing facilities in EPAs.*

## Education and Learning

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### Schools

As shown on **Figure 5-17**, the Planning Area is served by eight public school districts, a community college, and 27 private schools ranging from nursery/preschool to college. The public school districts cover the entire Planning Area, and private schools are sprinkled throughout the community offering alternative religious, special-needs, and other specialized programs. Santa Rosa Junior College also offers continuing education programs. The City is not responsible for administration of any schools but works cooperatively with each district and school to support student success.

### Libraries

The Sonoma County Library serves the Santa Rosa community and operates four branches in the Planning Area: Central Library, Northwest Santa Rosa Library, Rincon Valley Library, and Roseland Community Library, as shown on **Figure 5-17**.

These facilities are critical to supporting public education, supplementing local school library resources, and providing access to the internet for members of the public, including those who may lack those resources at home.

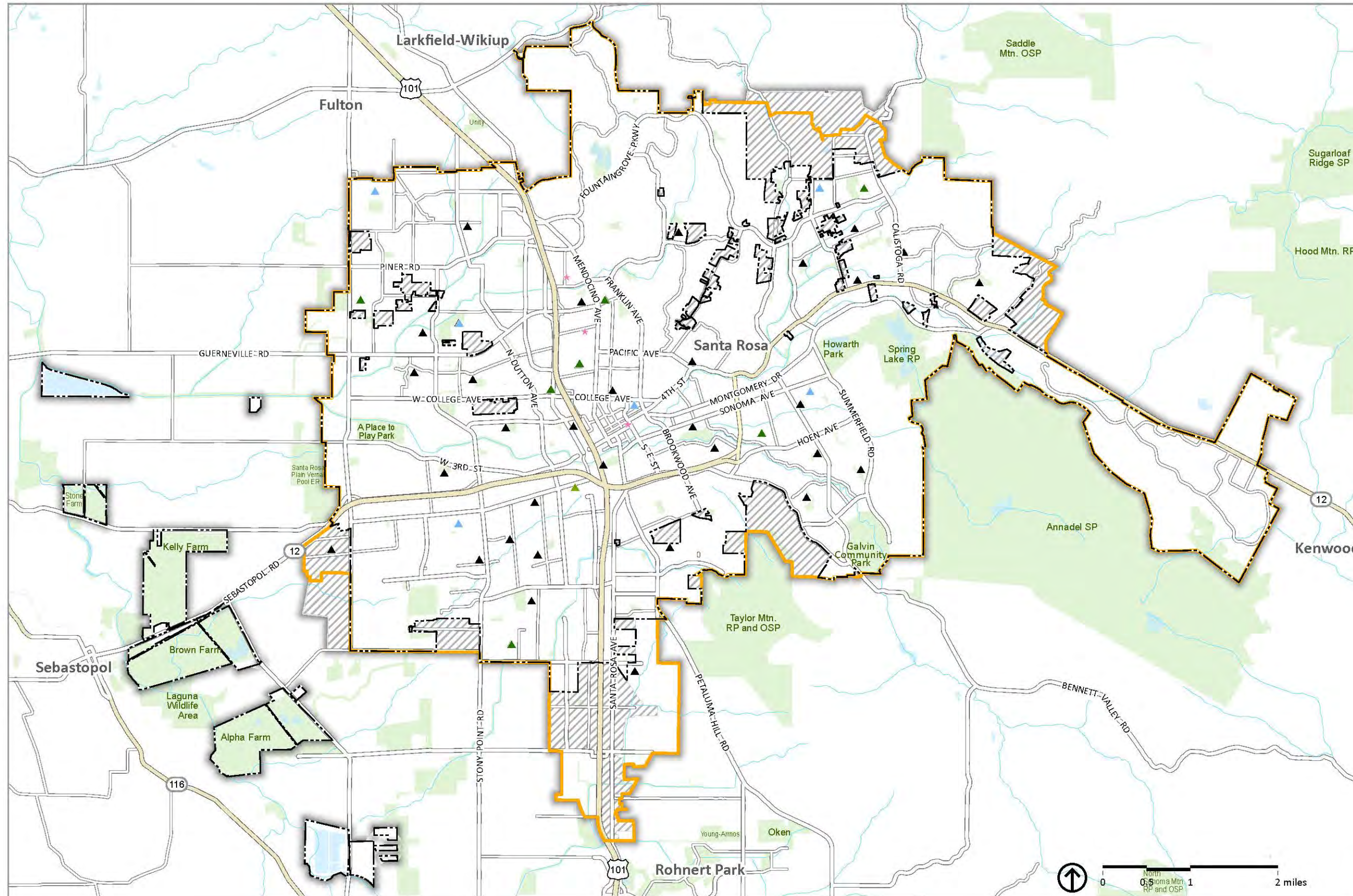


Figure 5-17  
Schools and  
Libraries

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Parks and Open Space
  - Creeks and Waterways
- Schools**
- ▲ Adult
  - ▲ Elementary
  - ▲ Elementary-High Combination
  - ▲ Elementary-Intermediate/Middle/Junior High
  - ▲ High School
  - ▲ Intermediate/Middle/Junior High
  - ▲ Middle-High Combination
  - ▲ Preschool
- Libraries**
- ★ Libraries



Source: CalOES, 2021.

## Goals, Policies, and Actions

**Goal 5-9:** Help provide superior and lifelong educational opportunities for all community members.

**Policy 5-9.1:** Provide high-quality educational opportunities for all members of the community, especially children, youth, and seniors.

**Action 5-9.1:** Work with schools to locate sites and facilities to serve all neighborhoods and the educational needs of all sectors of the population, including:

- Safe pedestrian and bicycle access and traffic-calming measures in the vicinity.
- Attractive design that contributes to neighborhood identity and pride.
- Partner with the Police Department to create a safe learning environment.

**Action 5-9.2:** Continue cooperation with Santa Rosa Junior College administration to improve accessibility and quality of local community college education.

**Policy 5-9.2:** Support the ability of physical library facilities and online platforms to meet the needs of the community.

**Action 5-9.3:** Continue to work with County library officials to provide a wide range of library services through a strong central facility plus local branches needed to equitably serve a growing and diverse population.

**Action 5-9.4:** Support the development of additional library facilities,

*especially where needed to serve Equity Priority Populations, and assist the library administration in its attempts to secure State and federal funds for facilities and services.*

**Action 5-9.5:** As feasible, require community shopping centers and other major developments to incorporate sites and/or building spaces for branch facilities, pursuant to the library administration's Master Plan.

## Police and Fire

### Police Services and Facilities

The Santa Rosa Police Department (SRPD), Sonoma County Sheriff's Office (Sheriff), California Highway Patrol, and on-campus Santa Rosa Junior College District Police provide law enforcement services in the Santa Rosa Planning Area. The SRPD has primary responsibility within the city limits, the Sheriff's Office provides services to unincorporated areas of the Planning Area, and the California Highway Patrol provides traffic enforcement on State and local freeways and unincorporated County roadways. Mutual-aid agreements between these agencies allow for joint responses to emergencies.

SRPD services include community-oriented patrol operations and traffic enforcement. The main Santa Rosa Police Department station (shown with other law enforcement offices on **Figure 5-18**) is next to Santa Rosa Fire Department Station 1. This complex is commonly referred to as the Public Safety Building. Although SRPD does not have plans to expand its facilities, the Public Safety Building is aging and in need of extensive repairs and updates. Based on current conditions and anticipated growth, SRPD has stated that it needs:

- A larger facility with an on-site training center within the next 10 years.

- Two additional substations, one in east Santa Rosa and one in the Roseland neighborhood.

To better serve the community, the City recently formed a new crisis response program— inRESPONSE: Mental Health Support Team—that works in partnership with SRPD to answer calls for service with a “mental health first” approach. The team consists of a licensed mental health clinician, a paramedic, and a homeless outreach specialist, with multiple supporting services providers available to assist.

## Fire Protection Services and Facilities

Santa Rosa Fire Department (SRFD) is responsible for protecting life, property, and the environment from fire, explosion, and hazardous materials incidents. SRFD responds to calls involving structure, wildland, and other fires; alarm responses; medical emergencies; hazardous materials incidents; automobile accidents; and citizen calls for assistance.

The City operates 10 fire stations throughout the city to expedite response times, as shown on **Figure 5-19**. In addition, the Fire Department has an automatic-aid agreement with the Sonoma County and Kenwood Fire Protection Districts, plus CAL FIRE in some areas of the City. To continue to provide high service levels in the future, SRFD has identified the need to develop one new fire station and relocate two existing stations.

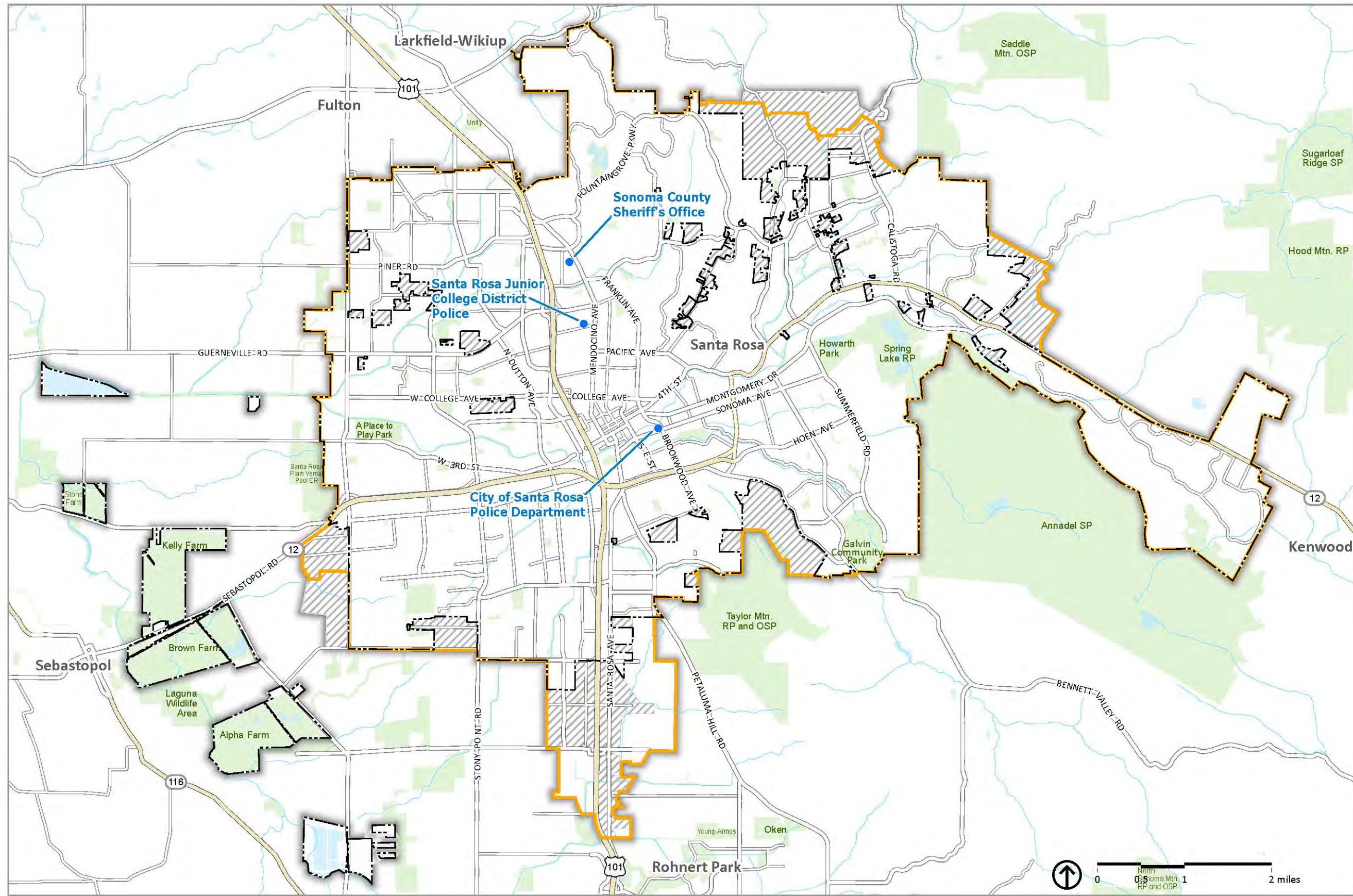


Figure 5-18  
Law Enforcement Stations

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Police Stations**
- Police Stations



Source: CalOES, 2021.



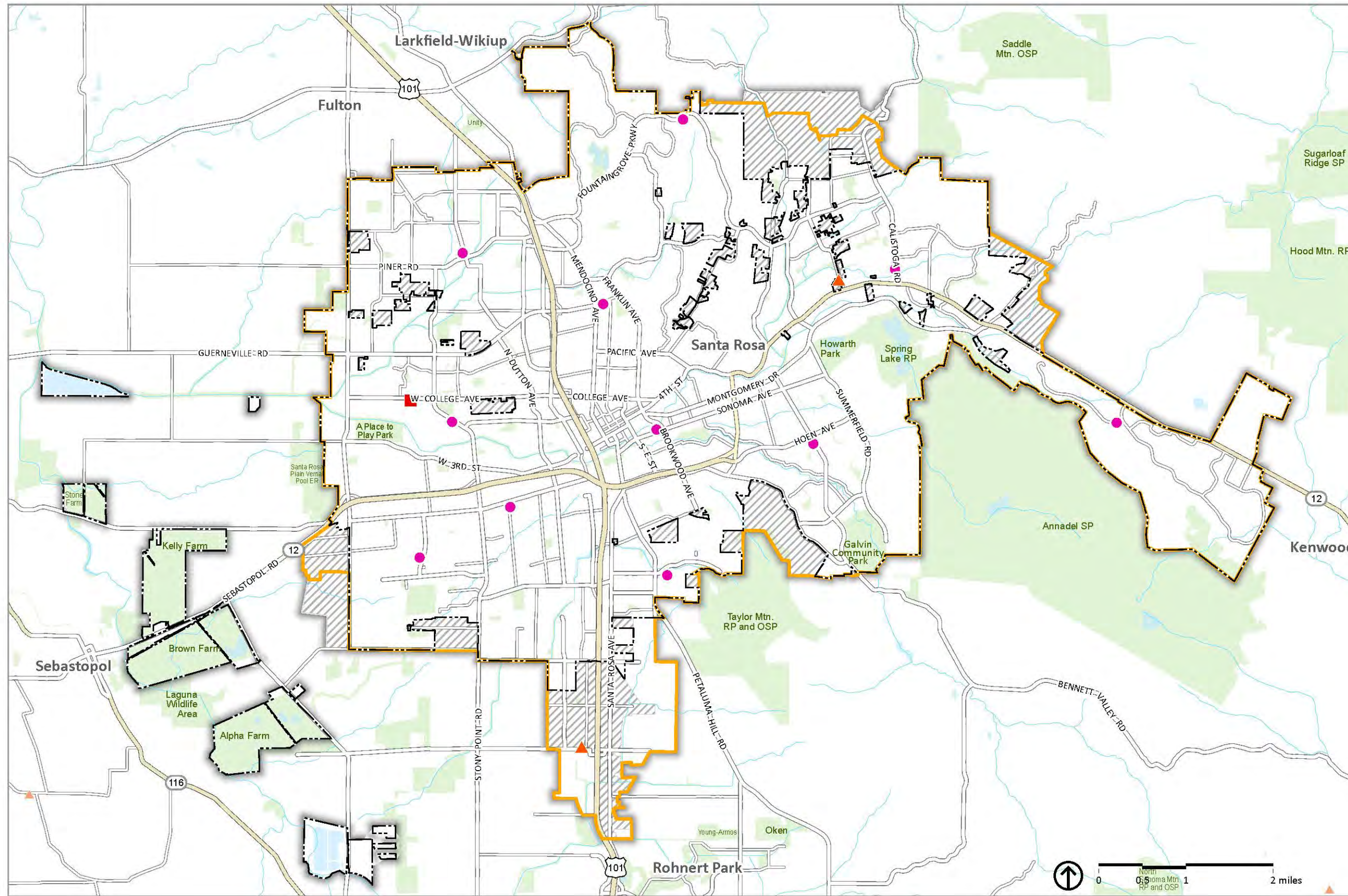


Figure 5-19  
Fire Districts  
and Stations

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Parks and Open Space
  - Creeks and Waterways
- AGENCY NAME**
- CAL FIRE
  - RINCON VALLEY FPD
  - SANTA ROSA FD
  - Other Fire Stations in Sonoma County

Source: CalOES, 2021.



## Goals, Policies, and Actions

**Goal 5-10:** Provide efficient and effective police and fire services for all members of the community.

**Policy 5-10.1: Increase investments in community safety.**

**Action 5-10.1:** *Maintain efficient, well-trained, and adequately equipped police and fire personnel.*

**Action 5-10.2:** *Periodically review and update the Santa Rosa Fire Department Strategic Plan and Standards of Coverage to address the following needs if necessary:*

- Staffing levels
- Station location/placement
- Changing equipment needs
- Training requirements
- Response time criteria
- Areas lacking adequate service
- Projection of future emergency service needs

**Action 5-10.3:** *Periodically update first responder training requirements to meet local, State, and federal standards.*

**Action 5-10.4:** *Enhance police department staffing to achieve a response time of under 6 minutes anywhere in the service area.*

**Action 5-10.5:** *Expand the equity and diversity of emergency personnel to better reflect the makeup of the city.*

**Action 5-10.6:** *Enhance employee wellness and mental health support to enable better service to the community by all emergency personnel.*

**Policy 5-10.2: Collaborate with neighboring communities to better serve community members and businesses.**

**Action 5-10.7:** *Coordinate with Sonoma County on police and fire services to achieve cost-effective improvements to service levels.*

**Policy 5-10.3: Focus policing efforts on community-based solutions.**

**Action 5-10.8:** *Assist neighborhoods and increase community contact through the Community Oriented Policing Program.*

**Action 5-10.9:** *Study and actively pursue infrastructure improvements as needed, including, but not limited to, constructing new police and fire stations (outside of high hazard risk areas) and acquiring new emergency vehicles and equipment.*

**Action 5-10.10:** *Study the opportunities and constraints of a community benefit fund compared to impact fees as part of the next Fee Study Update.*

**Action 5-10.11:** *Enhance and explore ways to expand the InRESPONSE model and continue to provide a high level of mental health support to the community.*

**Action 5-10.12:** *Enhance police services using innovative technology and an equitable approach for resource allocation.*

**Action 5-10.13:** *Prioritize violent crime reduction and traffic safety solutions through innovative strategies and partnerships with key stakeholders.*

**Action 5-10.14:** *Partner with other public and private organizations to create public awareness of the existence of various forms of racism and discrimination, explicit and implicit bias, and the health inequities they exacerbate.*

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# 6

## Health, Equity, and Environmental Justice



## 6. Health, Equity, and Environmental Justice

Like many communities, Santa Rosa faces long-standing inequities and health disparities between certain areas and groups in the city. The General Plan aims to name these issues and present meaningful solutions.

The focus of this chapter is on promoting physical and mental health; creating equity across all aspects of the built, economic, and social environments; and fostering environmental justice. Awareness about equity and environmental justice is increasingly common, with consensus building around definitions like the ones here.

**Equity** is the state, quality, or ideal of being just, impartial, and fair. It involves providing people what they need to enjoy full, healthy lives.

*Source: Annie E. Casey Foundation, 2023*

**Environmental Justice** is the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

*Source: California Government Code, Section 65040.12(e)*

Health, equity, and environmental justice are key priorities for the Santa Rosa community. With the passage in 2016 of California Senate Bill (SB) 1000, the Planning for Healthy Communities Act, Environmental Justice is now among the mandatory elements in a general plan, to advance environmental justice for the areas that suffer most from a combination of economic, health, and environmental burdens. As introduced in Chapter 2, Land Use and Economic Development, in Santa Rosa these are termed Equity Priority Areas (EPAs). Santa Rosa's EPAs are depicted on **Figure 2-4** (Chapter 2).

The City used the California Communities Environmental Health Screening Tool (CalEnviroScreen) to help identify significant community health factors impacting each EPA. CalEnviroScreen (discussed in detail in Chapter 2) scores a range of factors related to pollution burden and population characteristics. **Table 6-1** shows the scores for select factors for each census tract with an EPA. The factors in the table are those in which any of the identified EPA tracts has a score of 75 or greater (marked by an asterisk), indicating that it fares worse in that category than 75 percent or more of all census tracts in the state. Each tract with an EPA scores in the top quartile of several factors.

**Equity Priority Areas or EPAs** are areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. Environmental justice needs and health and equity considerations of EPAs have priority in some of the goals, policies, and actions in this and other chapters of the General Plan.

Goals, policies, and actions in all chapters of the General Plan address the top factors impacting environmental justice (see **Table 6-1**), health, and equity, prioritizing the needs of EPAs and selected Equity Priority Populations, as appropriate. Similarly, some goals, policies, and actions prioritize implementation in the Areas of Change that the community identified for focus of City resources.

**Areas of Change** are places the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods. Some goals, policies, and actions throughout the General Plan prioritize Areas of Change for activities that promote complete neighborhoods, such as active transportation infrastructure, quality housing, healthy food options, opportunities for social connections, and access to parks and commercial services.

Areas of Change are depicted on Figure 2-5 and discussed in more detail in Chapter 2, Land Use and Economic Development.

## Chapter Contents

- ➔ Health for All Residents
- ➔ Food Access and Urban Agriculture
- ➔ Violence Prevention, Safety, and Equitable Policing
- ➔ Parks
- ➔ Youth, Family, and Seniors

This chapter is organized around key goals intended to implement the community’s vision for Santa Rosa. These goals and their associated policies and actions are especially pertinent to the following components of the Santa Rosa Forward Vision Statement:

- **Just:** Social and environmental justice are achieved for everyone—all abilities, ages, ethnicities, gender identities, immigration status, income levels, language speakers, races, religions, sexual orientations and identities, EVERYONE.
- **Inclusive:** Everyone is welcome and actively encouraged to join in neighborhood and citywide decision making, and barriers to participation are identified and eliminated.
- **Healthy:** All neighborhoods have low pollution level and good air quality, are vibrant, connected, full-service communities, with the resources to be civically organized, and anchored by inclusive and accessible public outdoor spaces and buildings offering safe and welcoming places for everyone. Every person has the opportunity to attain their full health potential.
- **Equitable:** Everyone has what they need to enjoy long, fulfilling, healthy lives, including affordable access to meet their daily needs—including healthy food, recreation, education, childcare, employment opportunities, reliable internet, and physical and mental health services.
- **Safe:** Streets are safe; public safety services are provided by caring and thoughtful community members who are representative of and familiar with the neighborhoods, groups, and individuals they serve; and everyone, including immigrants and people of color, can safely access these services.

- **Educated:** Life-long education, enrichment, and supportive services and resources engage and empower young people, strengthen families (of any family structure), connect and activate seniors, and foster the success and well-being of everyone.

**Figure 6-1** illustrates some of the key concepts addressed in this chapter.

## Relationship to Other Chapters

In addition to the goals, policies, and actions in this chapter, other elements and chapters of the General Plan have goals, policies, and actions that are relevant to health, equity, and environmental justice:

- The Housing Element includes goals, policies, and programs to address the community's housing needs, including housing quality and affordability.
- Chapter 2, Land Use and Economic Development, and Chapter 3, Circulation, Open Space, Conservation, and Greenhouse Gas Reduction, have policies that support reduced exposure to GHG emissions from vehicular traffic and emissions reductions overall.
- Chapter 3, Circulation, Conservation, and GHG Reduction, also includes policies and actions supporting increased opportunities for physical activity with improvements to the city's active transportation network.
- Chapter 5, Climate Resilience, Safety, Noise, and Public Services, addresses safety from hazardous waste exposure and brownfield site cleanup.



**TABLE 6-1**  
CalEnviroScreen 4.0 Rankings of Santa Rosa's Census Tracts with EPAs

Equity Priority Area (by Census Tract)	3104	3200
<b>Overall Percentiles</b>		
CalEnviroScreen 4.0 Percentile	<b>75*</b>	73
<b>Exposures</b>		
Diesel Particulate Matter	<b>96*</b>	31
Traffic	<b>78*</b>	73
Lead from Housing	<b>87*</b>	47
<b>Environmental Effects</b>		
Groundwater Threats	<b>98*</b>	<b>89*</b>
Hazardous Waste	47	<b>76*</b>
Solid Waste	36	<b>98*</b>
<b>Sensitive Population</b>		
Asthma	<b>80*</b>	<b>80*</b>
Cardiovascular Disease	<b>89*</b>	<b>89*</b>
<b>Socioeconomic Factors</b>		
Education	<b>82*</b>	74
Linguistic Isolation	<b>81*</b>	56
Poverty	<b>78*</b>	62
Housing Burden	<b>88*</b>	<b>83*</b>
Source: CalEnviroScreen 4.0, 2023.		
* Top 75 percent of all census tracts in California.		

Equity Priority Area (by Census Tract)	2801	2802	2100	2903	3001
<b>Overall Percentiles</b>					
CalEnviroScreen 4.0 Percentile	44	46	47	34	51
<b>Exposures</b>					
Diesel Particulate Matter	66	57	<b>88*</b>	22	64
Traffic	74	<b>78*</b>	<b>85*</b>	33	<b>79*</b>
Lead from Housing	23	47	62	56	53
<b>Environmental Effects</b>					
Groundwater Threats	<b>78*</b>	<b>91*</b>	<b>96*</b>	72	<b>97*</b>
Hazardous Waste	<b>96*</b>	59	<b>88*</b>	56	65
Solid Waste	36	0	59	13	<b>91*</b>
<b>Sensitive Population</b>					
Asthma	64	66	42	66	48
Cardiovascular Disease	60	62	36	62	50
<b>Socioeconomic Factors</b>					
Education	54	<b>81*</b>	49	<b>80*</b>	54
Linguistic Isolation	N/A	<b>79*</b>	62	74	44
Poverty	37	73	45	70	63
Unemployment	N/A	41	65	47	<b>78*</b>
Housing Burden	32	62	61	47	64
Source: CalEnviroScreen 4.0, 2023.					
* Top 75 percent of all census tracts in California.					

Equity Priority Area (by Census Tract)	3002	3103	3102	1402	1401
<b>Overall Percentiles</b>					
CalEnviroScreen 4.0 Percentile	51	48	61	74	43
<b>Exposures</b>					
Diesel Particulate Matter	66	66	<b>83*</b>	<b>77*</b>	34
Traffic	<b>77*</b>	37	<b>86*</b>	<b>85*</b>	41
Lead from Housing	62	61	72	36	46
<b>Environmental Effects</b>					
Groundwater Threats	<b>98*</b>	<b>86*</b>	<b>92*</b>	<b>97*</b>	<b>82*</b>
Hazardous Waste	57	46	46	<b>76*</b>	54
Solid Waste	<b>91*</b>	51	12	<b>87*</b>	12
<b>Sensitive Population</b>					
Asthma	64	<b>80*</b>	<b>80*</b>	51	48
Cardiovascular Disease	71	<b>89*</b>	<b>89*</b>	56	53
<b>Socioeconomic Factors</b>					
Education	69	<b>83*</b>	<b>79*</b>	73	<b>77*</b>
Linguistic Isolation	56	<b>75*</b>	64	74	45
Poverty	51	68	69	<b>78*</b>	62
Unemployment	31	58	56	55	73
Housing Burden	40	26	41	68	46
Source: CalEnviroScreen 4.0, 2023.					
* Top 75 percent of all census tracts in California.					

Figure 6-1: Visualizing the Concepts

# HEALTH, EQUITY, AND ENVIRONMENTAL JUSTICE



Fresh Food Access



Affordable Housing



Language Accessible Goods and Services



Clean Air



Economic Opportunity



Park Amenities

## Health for All Residents

The City of Santa Rosa is committed to maintaining and enhancing the health and quality of life for the community by integrating “Health in All Policies,” a practice that incorporates community and individual well-being into decision-making across all City government sectors and policy areas. This philosophy recognizes that a variety of environmental, social, and socioeconomic factors impact health outcomes, which are collectively called “social determinants of health.”

**Social determinants of health** are the conditions in which we live, learn, work, and play. These conditions include a broad range of socioeconomic and environmental factors, such as air and water quality, the quality of the built environment (such as housing, land use, transportation access and availability; street, park, playground, and workplace safety), opportunities for employment, income, early childhood development and education, access to healthy foods, health insurance coverage and access to health care services, safety from crime and violence, culturally and linguistically appropriate services in all sectors, and protection against institutionalized forms of racism and discrimination.

*Source: Let's Get Healthy California*

Residents in Santa Rosa EPAs suffer from high rates of asthma and cardiovascular disease (as shown in **Table 6-1**). Leading causes of these diseases include environmental factors like air pollution, as well as factors such as poor diet and smoking. Many EPAs have lower life expectancies than other local communities, as shown on **Figure 6-2**. Once an individual has a health issue requiring medical assistance, addressing the issue necessitates access to affordable care, which is not currently available to all community members.

Social determinants of health impacting community outcomes in Santa Rosa are best understood and addressed by working in partnership with impacted community members, engaging EPAs and Equity Priority Populations in the planning and decision-making processes. Unfortunately, these processes have often overlooked or excluded low-income populations and people of color. To overcome this historical pattern and meaningfully address health, equity, and environmental justice, the City of Santa Rosa must take proactive measures to eliminate barriers to participation in these processes.

## Goals, Policies, and Actions

**Goal 6-1:** Improve health and well-being for all community members by emphasizing community health in all City policies, programs, actions, and activities.

**Policy 6-1.1:** Promote efforts to improve community health outcomes and ensure that City investments support community health goals whenever possible.

**Action 6-1.1:** Apply for grants to fund programs and projects to improve community health outcomes.

**Action 6-1.2:** Work with health service organizations, including Sonoma County Health and Human Services, to identify environmental risk factors for asthma, especially in EPAs and areas where more than 10 percent of adults have asthma.

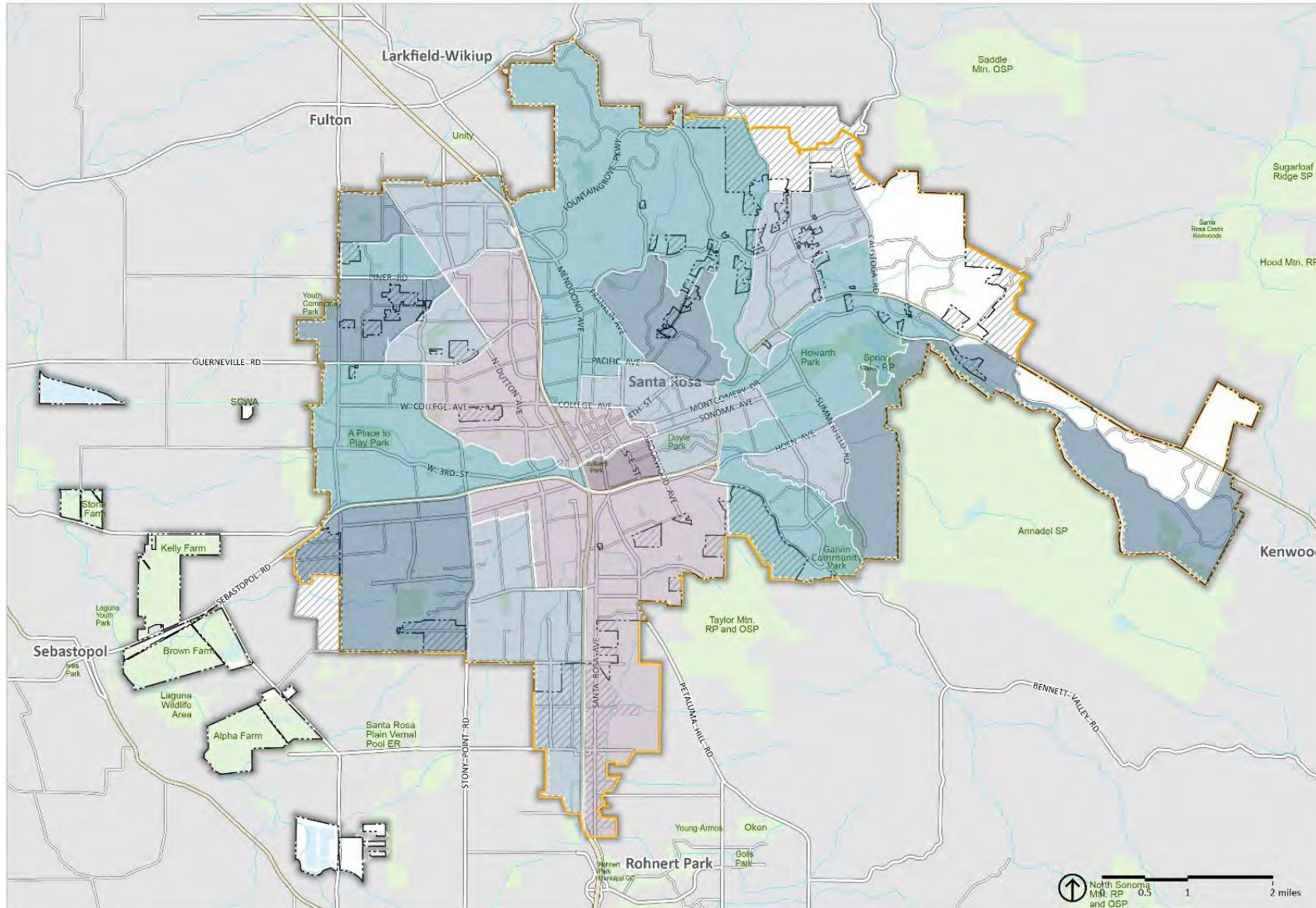


Figure 6-2  
Life Expectancy

- City Limits
  - Urban Growth Boundary
  - City Sphere of Influence
  - Planning Area
  - Creeks and Waterways
  - Parks and Open Space
  - Outside of Planning Area
- Life Expectancy by US Quantile**
- 56.9 - 75.1 Years
  - 75.2 - 77.5 Years
  - 77.6 - 79.5 Years
  - 79.6 - 81.6 Years
  - 81.7 - 97.5 Years

Source: City of Santa Rosa 2023



**Action 6-1.3:** *Adopt a Health in All Policies ordinance and strategy to institutionalize a collaborative approach to improving the health of Santa Rosa residents by incorporating health, sustainability, and equity considerations into City decision making across all sectors and policy areas.*

**Action 6-1.4:** *Apply Health in All Policies criteria to all capital projects to ensure that they promote health equity (e.g., supporting safe and active transportation).*

**Action 6-1.5:** *Develop a channel or protocol for Health in All Policies City inter-departmental collaboration, including task forces, training, and formal and ad hoc working groups to coordinate implementation of the General Plan and other City initiatives.*

**Action 6-1.6:** *Provide training for City staff and officials about how the built environment and transportation choices affect health equity, economic opportunity, well-being, and quality of life.*

**Action 6-1.7:** *Maintain at least one City staff position that bridges planning, transportation, health, and equity.*

**Action 6-1.8:** *Adopt healthy development guidelines or checklists to track and monitor how new developments are incorporating health-promoting features (such as opportunities for physical activity, healthy food, drinking water, urban farming, quality affordable housing, and sustainable design).*

**Action 6-1.9:** *Update the Zoning Code to require health impact*

*assessments for nonresidential developments of 100,000 square feet or more in EPAs to identify and mitigate any potential negative health implications of the project.*

**Health Impact Assessments** help evaluate the potential health effects of a plan, project, or policy before it is built or implemented. They provide practical recommendations to increase positive health effects and minimize negative health effects.

*Centers for Disease Control and Prevention, 2016*

**Action 6-1.10:** *In annual reports on General Plan implementation, include updates regarding community-wide health, such as changes in life expectancy and other relevant metrics related to social determinants.*

**Action 6-1.11:** *Distribute social and economic resources equitably throughout the city so EPAs enjoy equal benefits of the city and are not disproportionately burdened by environmental pollution or other hazards.*

**Action 6-1.12:** *Prioritize funding for services, amenities, and infrastructure in EPAs.*

**Policy 6-1.2: Ensure that all Santa Rosa residents can easily access primary and emergency health care facilities and medical services.**

**Action 6-1.13:** *Evaluate whether the circulation network or transit system needs changes to improve access to medical facilities, including by active transportation modes, for everyone in Santa Rosa, including transit-dependent people, low-*

*income community members, seniors, and people with disabilities.*

**Action 6-1.14:** *Explore incentives for the establishment of neighborhood-serving health clinics and facilities.*

**Action 6-1.15:** *Implement any necessary changes to the circulation network or transit system to ensure accessibility to medical facilities, prioritizing EPAs.*

**Action 6-1.16:** *Participate in collaborative efforts with Sonoma County, State agencies, and health organizations to provide information and outreach about options for accessing medical coverage and care, prioritizing EPAs and Equity Priority Populations likely to have trouble accessing care, including low-income individuals and families, racial or ethnic groups experiencing disparate health outcomes, individuals who have limited English proficiency, and people who are unhoused.*

**Goal 6-2:** Advance health equity by understanding and addressing key social determinants of health.

**Policy 6-2.1:** **Promote awareness and recognition of the role of social determinants of health and health inequities, and ensure that City policies, services, programs, and actions can improve the lives and well-being of everyone in the community, especially in EPAs and among Equity Priority Populations at a higher risk for health inequities, including low-income**

**individuals and families, racial or ethnic groups experiencing disparate health outcomes, individuals with limited English proficiency, and people who are unhoused.**

**Action 6-2.1:** *Evaluate and adjust City policies, programs, and services, including budget allocation, to ensure that they promote fairness, equity, and justice, including within EPAs.*

**Action 6-2.2:** *Modify City processes, programs, and materials, as needed, to address social determinants of health and support the needs of EPAs.*

**Action 6-2.3:** *Identify resource distribution gaps and provide and distribute internal and external City resources in ways that are equitable and transparent.*

**Action 6-2.4:** *Participate in Health Action Together, the nonprofit public-private partnership leading and supporting cross-sector efforts to reduce inequities across Sonoma County identified in the 2021 Portrait of Sonoma report on well-being and access to opportunity.*

**Action 6-2.5:** *Implement and update, as needed, the Santa Rosa Equity Workplan, to advance diversity, equity, inclusion, and belonging in the City as an employer and in the plans, policies, and practices that the City institutes for the benefit of all who live, learn, work, or play in Santa Rosa.*



The **Equity Work Plan** comprises 30 recommendations from City employees to improve equity, diversity, and belonging in City operations. These include better recruiting among underrepresented groups, promoting people equitably, decreasing workplace isolation, forming an employee task force, and hiring a Diversity, Equity, and Equal Employment Officer.

**Action 6-2.6:** *Coordinate with Sonoma County Health and Human Services and other health organizations to provide public outreach and education on how lifestyle changes can affect health through newsletters, the City website, and social media.*

**Policy 6-2.2:** **Encourage community, social, and emotional health—the ability to understand and manage emotions and to form social connections and relationships—for everyone in Santa Rosa, eliminating health inequities due to race and income.**

**Action 6-2.7:** *Develop and implement standards, policies, strategies, and practices that value and foster an internal culture of employee well-being, transformation, and belonging throughout the City organization, as well as wellness strategies and trauma care programs to support physical, mental, and emotional health.*

**Action 6-2.8:** *Implement policies, programs, and actions that increase social and emotional health and self-care for everyone in Santa Rosa.*

**Action 6-2.9:** *Partner with Sonoma County Health and Human Services and*

*criminal justice, school, faith-based, and other organizations to create public awareness and sensitivity to the needs of people with behavioral health challenges and provide support for those needing services, particularly in EPAs and among Equity Priority Populations.*

**Action 6-2.10:** *Develop and promote opportunities for Santa Rosa community members to experience or participate in arts, cultural, and related activities that can enhance mental health and connection with other community members.*

**Action 6-2.11:** *Implement regional, State, and national policies and best practices that promote racial equity.*

**Action 6-2.12:** *Continue to build organizational and institutional skills and commitment to advance racial equity and eliminate institutional and structural racism.*

**Action 6-2.13:** *Partner with other public and private organizations to create public awareness of the existence of various forms of racism and discrimination, explicit and implicit bias, and the health inequities they exacerbate.*

**Policy 6-2.3:** **Prevent, disincentivize, and reduce harmful addictive behaviors.**

**Action 6-2.14:** *Restrict tobacco and alcohol retailers near schools, youth-populated areas, and senior facilities, and in areas with a high density of existing tobacco retailers, particularly in EPAs.*

**Action 6-2.15:** *Partner with local, regional, and State organizations to promote*

*public awareness about the potential risks of opioid abuse, and the use of alcohol, tobacco, and other drugs that affect Santa Rosa community members.*

**Action 6-2.16:** *Update Zoning Code sections governing nonconforming uses to consider phasing out nonconforming uses over time.*

**Policy 6-2.4: Address conditions contributing to risk of asthma and adverse air quality.**

**Action 6-2.17:** *Work with Sonoma County Public Health Division to reduce risk of asthma through land use planning and programs across the city.*

**Action 6-2.18:** *Evaluate the efficacy of the City’s existing Breathe Easy program to minimize exposures to tobacco and consider program modifications, if appropriate.*

**Action 6-2.19:** *Work with Sonoma County, surrounding agricultural producers, and farmers to protect areas with sensitive populations from pesticide drift by restricting the use of pesticides in these areas. Promote alternatives such as integrated pest management and regenerative agriculture.*

**Action 6-2.20:** *Disseminate information to tenants and property owners about methods to reduce asthma and other health issues by improving indoor air quality, including by adding air conditioning and reducing and preventing indoor mold growth.*

**Goal 6-3:** Promote meaningful community engagement and empower residents through inclusive communication, outreach, and capacity-building to participate in City planning and decision making.

**Policy 6-3.1: Ensure meaningful public engagement processes and events that make it possible for everyone—especially EPAs, low-income populations, and limited-English proficient individuals—to participate and influence outcomes.**

**Action 6-3.1:** *Engage all community members—prioritizing EPAs, low-income populations, and individuals with limited English proficiency—in the planning and decision-making processes by using culturally appropriate and accessible channels, including:*

- Provide translation services relevant to the area.
- Provide childcare.
- Hold engagement opportunities in different locations throughout the community, at different times of the day and week, and use different channels (e.g., in person and online).
- Use participatory facilitation techniques.
- Provide healthy food and water for people who attend in person meetings.
- Meet in ADA-compliant locations.

**Action 6-3.2:** *Explore developing City guidelines and best practices to compensate low-income residents for engaging in City planning and decision making to eliminate barriers to participation.*

**Action 6-3.3:** *Identify, evaluate, and eliminate existing barriers—such as age, income, and voter registration*

status—for Santa Rosa residents to serve on and engage with City council, boards, committees, and commissions, and prioritize addressing barriers impacting EPAs.

**Action 6-3.4:** Establish a Communication and Public Participation Working Group that includes staff from all City departments to collaborate on how to engage community members to be part of planning or decision-making efforts, leverage resources, avoid duplication of efforts, and enhance effective and meaningful public participation, particularly EPAs.

**Action 6-3.5:** Develop City communication standards and style guidelines addressing writing style and translation protocols and including guidance for web, social media, and printed documents, so they are accessible to all residents.

**Action 6-3.6:** Create City of Santa Rosa community engagement standards, including guidance for different City departments, to engage with all residents considering the unique needs of districts, EPAs, and those most affected by a specific issue under consideration.

**Action 6-3.7:** Implement an engagement system/method to track issues and priorities identified at the neighborhood level to inform the development of policies, programs, projects, and services and to share information across departments.

**Action 6-3.8:** Consider establishing advisory committees and commissions

that consist of EPA community members to review policy considerations and advise the City Council. Consider creating ad hoc committees to study issues and report findings to the City Council.

**Action 6-3.9:** Identify and implement strategies to ensure that the composition of City committees, boards, and commissions reflect the diversity of the community, with particular attention to include EPA community members.

**Action 6-3.10:** Create an equity evaluation framework for the annual budget and all policies and programs considered by the City Council to ensure policy decisions respond to and are accountable to EPA residents and needs.

**Policy 6-3.2: Inform, engage, and collaborate with residents, organizations, the private sector, and public agencies to develop and implement plans and projects that improve community health.**

**Action 6-3.11:** Support the establishment of neighborhood associations in EPAs. Consider providing grants to neighborhood groups for block parties and other neighborhood events.

**Action 6-3.12:** Establish formal and ongoing relationships with individuals or organizations that represent and work with EPAs to build trust with and create reliable channels for community participation and input, including engagement outside of specific projects or policy processes.

**Action 6-3.13:** Partner with community-based organizations that have

*relationships, trust, and cultural competency with non-English-speaking and English-as-a-second-language EPAs and stakeholders to reach out on local initiatives and issues.*

**Policy 6-3.3: Empower every resident of Santa Rosa, prioritizing EPAs, to participate in local decision making and engage meaningfully in planning efforts.**

**Action 6-3.14:** *Develop bilingual educational content and provide training programs and workshops about civic involvement and processes for Santa Rosa residents, including how to participate in City Council, board, committee, and commission meeting, as well as how to apply for City jobs and become a City Council member.*

**Action 6-3.15:** *Support local organizations in collaborative engagement efforts and their specific missions by providing technical assistance, meeting spaces, funding, data, and other assistance, as resources allow.*

**Action 6-3.16:** *Seek opportunities to involve young people, meaningfully and authentically, particularly those in EPAs, to develop their confidence and leadership skills.*

**Action 6-3.17:** *Maintain and expand existing City internship programs and fellowships so younger community members can get exposure to careers in the public sector while gaining professional experience.*

**Policy 6-3.4: Ensure the City has the necessary resources to conduct equitable, inclusive, and meaningful community**

**engagement, including staff, technology, funding, and systems.**

**Action 6-3.18:** *Require each public-facing department of the City to maintain staff to engage with and empower residents to be part of planning and decision-making activities.*

**Action 6-3.19:** *Develop flexible but sustained infrastructure for two-way information sharing between City and partner agencies and community members.*

**Action 6-3.20:** *Require that all meetings, materials, and other engagement opportunities that use technology are accessible by mobile devices and support access for people with disabilities.*

**Action 6-3.21:** *Expand digital access and engagement opportunities by working with other public and private partners to invest in high-speed internet in communities that have low access to internet, prioritizing access for EPAs.*

**Action 6-3.22:** *Provide free internet access in public facilities, particularly those in EPAs.*

**Goal 6-4:** Maintain and enhance a culture of language access and justice in City communications and public participation in planning and decision-making processes.

**Policy 6-4.1: Ensure access to information by identifying language diversity gaps to continue engaging the community in City projects, programs, and services.**

**Action 6-4.1:** *Establish a Language Access and Justice Working Group that can identify barriers to language*

*access and justice in communications and public participation and define policies and practices for translation and interpretation for the City of Santa Rosa.*

**Action 6-4.2:** *Identify public documents, forms, and events that require translation and/or interpretation and develop yearly budgets, including staff time for in-house services.*

**Policy 6-4.2:** **Continue to provide interpretation and translation services as well as assistance to access community meetings, services, and programs, and direct engagement with EPAs, low-income individuals, limited English proficiency individuals, and other vulnerable populations that request additional support.**

**Action 6-4.3:** *Develop and implement a Language Access and Justice Plan to recognize and address the city's language diversity; define policies and practices for translation and interpretation for every department in the City that engages with the public.*

**Action 6-4.4:** *Implement language assistance measures for front desks or counters, meetings, telephone lines, services, events, documents, forms, materials, website, apps, and other points of contact with community members.*

**Goal 6-5:** Minimize risk of displacement and gentrification while ensuring housing is safe and sanitary for all residents.

**Policy 6-5.1: Minimize displacement and gentrification in Santa Rosa.**

**Action 6-5.1:** *Identify strategies to ensure that future improvements in EPAs will not result in a net loss of affordable housing or significant preventable displacement of residents.*

**Action 6-5.2:** *Identify opportunities to preserve the affordability of federal- and State-subsidized units at risk of conversion to market rate or other affordable housing resources.*

**Policy 6-5.2: Ensure that housing in Santa Rosa provides safe and sanitary environments for residents.**

**Action 6-5.3:** *Prompt property owners to repair and rehabilitate all substandard housing, especially in EPAs.*

**Action 6-5.4:** *Expand the focus areas addressed by the City's Neighborhood Revitalization Program to include EPAs, with the mission to improve living conditions and safety and increase property values.*

**Action 6-5.5:** *Seek grants and support current efforts to improve conditions in older homes that may have mold, mildew, and other contaminants.*

**Action 6-5.6:** *As the City's housing stock ages, pursue all available federal and State funds to assist with housing preservation and rehabilitation.*

**Action 6-5.7:** *Investigate and implement programs that incentivize landlords to maintain properties free of Municipal Code violations.*

**Action 6-5.8:** *Require applicants for residential remodel and rehabilitation projects to remediate environmental health hazards,*

*such as lead-based paint, mold, mildew, and asbestos, as a condition of approval.*

**Action 6-5.9:** *Seek funding for identifying and remediating lead and other environmental hazards for low-income residents of EPAs.*

## Food Access and Urban Agriculture

Access to fresh foods, whole grains, and other unprocessed or minimally processed foods is essential to people's health. In addition to retail stores, Santa Rosa currently features five active community gardens that help provide healthy food options to community members.

Community gardens play a critical role in the city, sometimes serving as the primary food source when costs of and/or access to retail stores are limiting factors.

The U.S. Department of Agriculture maps census tracts where a significant number or share of residents is more than a specified distance from the nearest supermarket. **Figure 6-3** shows the tracts in Santa Rosa where residents are low income and a half mile or more from the nearest supermarket. The City designates such areas "Healthy Food Priority Areas" to target efforts to meet the nutritional needs of these communities.

## Goals, Policies, and Actions

**Goal 6-6:** Ensure that all households and individuals have convenient, daily access to affordable healthy food, including fresh produce.

**Policy 6-6.1:** **Attract and support a range of healthy food retailers, prioritizing EPAs and Healthy Food Priority Areas, so that all residents live within one mile of a full-service grocery store, fresh produce market, or others offering fresh produce.**

**Action 6-6.1:** *Partner with Sonoma County Health and Human Services to encourage stores in Santa Rosa to participate in the Federal Food Assistance Program.*

**Action 6-6.2:** *Require convenience stores, supermarkets, liquor stores, and neighborhood and ethnic markets to carry fresh produce, especially in EPAs and Healthy Food Priority Areas.*

**Action 6-6.3:** *Update the Zoning Code to allow farmers markets in all nonresidential zoning districts by right with standards.*

**Action 6-6.4:** *Consult with the local hospitals, clinics, local school districts, Santa Rosa Community College, and the California State University Extension to produce and provide educational materials and programs aimed at promoting and facilitating healthier lifestyles.*

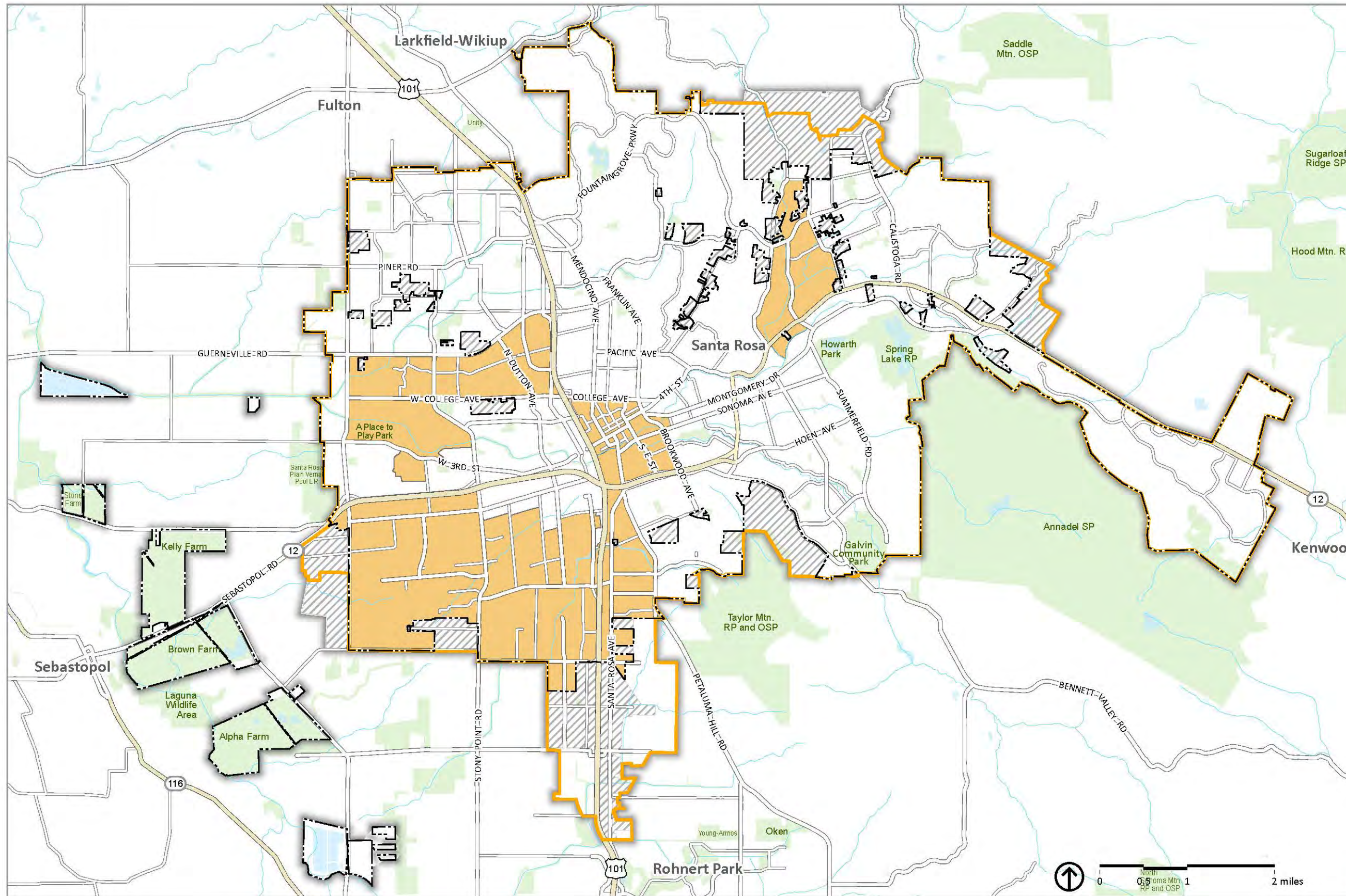


Figure 6-3  
Healthy Food  
Priority Areas

- City Limits
- Urban Growth Boundary
- City Sphere of Influence
- Planning Area
- Creeks and Waterways
- Parks and Open Space
- Low-income areas 1/2 mile or more from a supermarket



Source: USDA Food Access Atlas, 2023.

**Action 6-6.5:** *Explore programs with the Santa Rosa City School District, Sonoma County Public Health Division, community garden groups, and other advocates to provide healthy foods in schools and other public institutions.*

**Action 6-6.6:** *Distribute information and educate low-income families and people experiencing homelessness about food assistance programs.*

**Policy 6-6.2: Encourage the establishment of local restaurants and businesses that serve healthy food.**

**Action 6-6.7:** *Update the Zoning Code to require conditional-use-permit review for any chain restaurant with more than five outlets in the nine-county Bay Area.*

**Action 6-6.8:** *Require at least 300 feet between any two fast-food chain operations.*

**Action 6-6.9:** *Seek resources to facilitate establishment of “microenterprise home kitchen operations”—that is, restaurants operated out of a private residence—in EPAs, as allowed by Assembly Bill 686.*

**Action 6-6.10:** *Develop a program to provide fast-track permitting for healthy food and grocery stores in Healthy Food Priority Areas and underserved areas, as well as areas identified for increased residential development and mixed use.*

**Policy 6-6.3: Facilitate urban agriculture, farming, gardening, and local food production, especially in EPAs and Healthy Food Priority Areas.**

**Action 6-6.11:** *Provide the necessary resources to retain the city’s existing community gardens.*

**Action 6-6.12:** *Support the creation of additional community gardens or other urban agriculture opportunities, particularly in EPAs and Healthy Food Priority Areas.*

**Action 6-6.13:** *Consider updating the Zoning Code to allow all forms of urban agriculture by right in all zoning districts where appropriate, including community, yard, rooftop, indoor, and other gardens; community food production (as defined by the State); and on-site exchanges and sales.*

**Action 6-6.14:** *Develop an Urban Agriculture ordinance that includes strategies to increase access to healthy food—particularly in EPAs and Healthy Food Priority Areas—and standards for operation and soil mitigation.*

**Action 6-6.15:** *Explore the feasibility of enacting an Urban Agriculture Incentive Zone (per Assembly Bill 551) to allow landowners to receive tax incentives for putting land into agricultural use.*

**Action 6-6.16:** *Partner with the County, nonprofits, school districts, neighborhood organizations, faith-based organizations, and others to identify and develop sites for urban agriculture potential, and support all urban agriculture types in schools, parks, hospitals, correction facilities, and other public land and spaces suitable for urban agriculture development, including public easements and rights-of-way.*



**Action 6-6.17:** Evaluate the potential presence of contaminants that may be harmful to human health on land proposed for urban agriculture, including by performing site history assessments and soil testing.

**Action 6-6.18:** Identify financial resources for soil testing and remediation on identified sites for urban agriculture.

**Action 6-6.19:** Work with the County Agricultural Preservation and Open Space District to establish food hubs throughout the city where community members can meet and exchange excess home-grown produce.

**Action 6-6.20:** Partner with the County Department of Health Services, local schools, and nonprofit organizations to provide education about the nutritional, social, economic, and environmental benefits of urban farming and locally grown and ecologically sound foods; urban agriculture opportunities; food production safety; food literacy; cooking; and food waste reduction.

**Action 6-6.21:** In accordance with the Neighborhood Food Act (Assembly Bill 2561), educate landowners, apartment complexes, and homeowners associations (HOA) about the benefits of urban gardening and edible landscaping, and work with them to remove any barriers that renters and owners with an HOA face when trying to grow food for self-consumption, exchange, or sale.

**Action 6-6.22:** Establish incentives for private property owners and developers to provide opportunities for residential gardening and urban agriculture, and similar opportunities to food producers who are emerging, have limited resources, and/or are people of color.

**Action 6-6.23:** Require public development projects to provide access to sustainable food for residents.

**Action 6-6.24:** Work with the County to protect the agricultural land base in the Sphere of Influence, including urban gardens, farms, and ranches.

## Violence Prevention and Equitable Policing

Uncertainty or fear regarding personal and family safety is a significant negative health determinant. If people don't feel safe, they don't want to leave their home to congregate, exercise, or travel to appointments. Sometimes parents keep their children away from school because of their concern for the child's safety. Ensuring safety for the entire community is a major step toward achieving equity and promoting community health.

### Goals, Policies, and Actions

**Goal 6-7:** Ensure community safety and foster neighborhood environments that are welcoming to all ages, cultures, races, and ethnicities.

**Policy 6-7.1:** Increase neighborhood safety and promote neighborhood development, particularly in EPAs.

**Action 6-7.1:** *Engage community members and youth in communities most affected by crime and violence with planning through place-based strategies/solutions for their neighborhoods to address safety.*

**Action 6-7.2:** *Design safe walking and biking routes in neighborhoods and around schools with high crime and gang activity, using Crime Prevention Through Environmental Design, to ensure that all community members can live, work, and play without fear.*

**Crime Prevention Through Environmental Design** is a multidisciplinary approach that uses urban and architectural features to reduce victimization, deter offender decisions that precede criminal acts, and build a sense of community among inhabitants so they can gain territorial control of areas, reduce crime, and minimize fear of crime.

Source: The International Crime Prevention Through Environmental Design Association, 2023

**Action 6-7.3:** *Through collaboration between the Violence Prevention Partnership and the Police Department, create comprehensive community safety plans that include equitable resource allocation across the city and strategies to prevent violence.*

**Action 6-7.4:** *Proactively engage potential perpetrators through fellowships or conflict mediation facilitated by the Violence Prevention Partnership.*

**Action 6-7.5:** *Support community-based initiatives to reduce violence by*

*promoting local economic participation and success, such as neighborhood job and vocational training facilities, community benefit districts, community development councils, and business improvement districts.*

**Action 6-7.6:** *Collaborate with County of Sonoma to establish a re-entry system for formerly incarcerated individuals that promotes a safe and thriving community to ensure they experience healthy reintegration in Santa Rosa, particularly for 2011 Assembly Bill 109 populations (individuals sentenced to nonserious, nonviolent, nonsex offenses).*

**Action 6-7.7:** *Continue to train City staff to develop and implement trauma-informed models that are culturally relevant for Santa Rosa community members, like the City’s Green Spaces for All Faces program, which was designed with a trauma-informed lens and leverages partnerships to provide high-quality outdoor programming and community services opportunities for probation youth.*

## Parks

Santa Rosa features a wonderful network of parks offering a variety of recreation opportunities. Parkland in Santa Rosa is well distributed geographically, and a majority of community members have access to parks or open space areas within a half mile of their homes; however, some areas do not have easy access to park space, and the City has not yet met its established park service goal.

General Plan 2050 continues the City’s long-established goal to provide 6 acres of parkland

for every 1,000 residents—twice the State standard but below the national average of 8.9 acres of parkland for every 1,000 residents. This General Plan sets sub targets for how the City will meet its goal:

- A minimum of 3.5 acres per 1,000 residents of Community Park and/or Neighborhood Park space.
- The remaining 2.5 acres per 1,000 residents may be met through a combination of Community Park, Neighborhood Park, and/or Trail and Open Space parkland.

As of 2019 (the base year of this General Plan), Santa Rosa had approximately 4.3 acres of parkland for every 1,000 residents. This is a shortfall of approximately 370 acres to serve the existing population, and 740 acres to serve the total future population accommodated by this General Plan. **Figure 6-4** depicts existing parks and general locations where new community parks or neighborhood parks are desired to fill an existing or anticipated community need.

### Parkland Definitions

**Neighborhood parks** are intended to be accessible to community members within one-half mile or a 10-minute walk. Neighborhood parks provide a mix of amenities, such as picnic areas, community gardens, exercise equipment, and children’s play areas, and generally have one signature amenity, such as a water play feature, a skate spot, sports court, or a single athletic field.

**Community parks** are intended to be accessible to residents within one-mile or a 20-minute walk. They are at least 10 acres large and often include athletic fields and courts; event venues; programed activities and events, such as summer camps, concerts, and farmers markets; and areas for children’s play and group picnicking.

**Trail and Open Space parks** vary in size. They can support both active and passive recreation, including walking, biking, hiking, jogging, and wildlife viewing, and can also be used as a safe, active transportation network that connects people and places locally and regionally. To be counted toward the city’s progress in meeting its parkland acreage goals, trail and open space parks must provide multipurpose, Americans with Disability Act (ADA)-compliant paved pathways and benches, trash and recycling receptacles, wayfinding and interpretive signage, and lighting.

Additional details on City parkland classifications are in Chapter 2, Land Use and Economic Development.

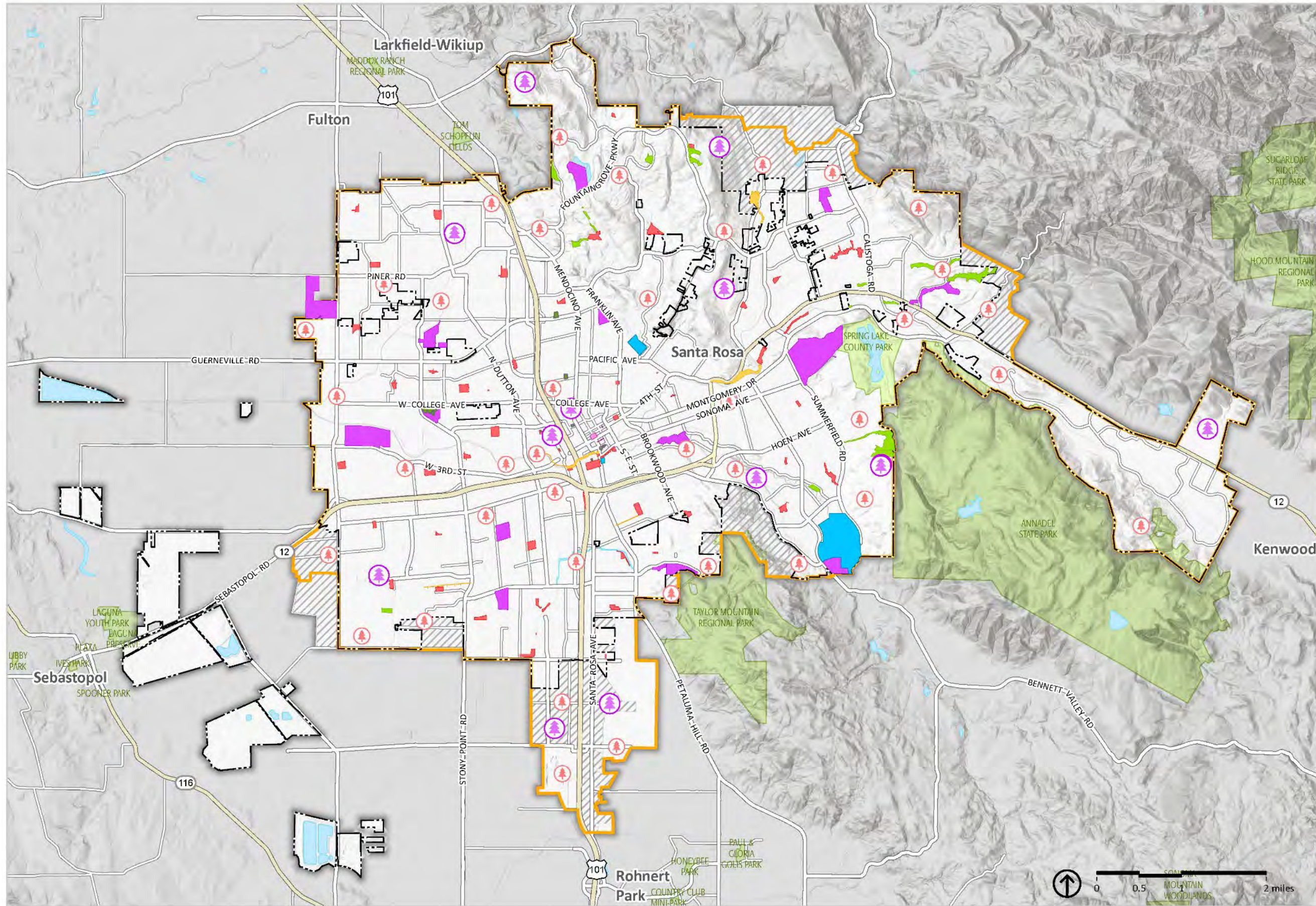


Figure 6-4  
Current and Potential Parks

- City Limits
- City Sphere of Influence
- Urban Growth Boundary
- Planning Area
- State and Regional Parks**
- State and Regional Parks
- Santa Rosa City Parks**
- Community Park
- Neighborhood Park
- Trail
- Civic Spaces
- Special Purpose Parks
- Recreation Facility
- Open Space
- Potential Park Locations**
- Potential Community Park
- Potential Neighborhood Park

Source: City of Santa Rosa 2023



## Goals, Policies, and Actions

**Goal 6-8:** Make parks the center for improving personal and community well-being.

**Policy 6-8.1:** Provide parklands with opportunities for physical activity, recreation, and relaxation, including those offering trauma-informed services (to address long-standing health issues for individuals), culturally appropriate programming, and safe spaces for everyone, especially in EPAs.

**Action 6-8.1:** Facilitate equitable, authentic community engagement in recreation and parks planning to identify the needs and priorities of all segments of the community, including individuals with special needs, EPAs, and those unable to attend public meetings.

**Action 6-8.2:** Acquire and develop new parkland to achieve a citywide standard of 6 acres of parkland per thousand residents, using Community Parks (CP), Neighborhood Parks (NP), and qualifying Trail and Open Space Parks.

**Action 6-8.3:** Prioritize new park acquisition and development in EPAs, Areas of Change, and redevelopment areas, including downtown.

**Action 6-8.4:** Design new parks with clear lines of sight from adjacent streets and neighborhoods to increase perceived safety.

**Action 6-8.5:** Where feasible, consider renovating and expanding existing parks to provide more

acreage, increased capacity of athletic fields for organized sports, and a greater range of recreation activities, while maintaining park standards.

**Action 6-8.6:** Seek land and partnership opportunities to develop large sports complexes and/or multiuse event venues to accommodate tournaments, concerts, athletics, and other community events and activities.

**Action 6-8.7:** Develop new athletic fields and retrofit existing fields to support year-round use; include lighting for night use; and accommodate the growing community need for organized sports and physical activities by expanding the hours and seasons of use.

**Action 6-8.8:** Pursue development of civic spaces where provision of a neighborhood park is not feasible, particularly where they can be connected to existing public spaces using pathways, trails, or other forms of connection.

**Action 6-8.9:** Develop special-purpose parks and recreation facilities throughout the city, including, but not limited to, multigenerational recreation centers, aquatic centers, education and community service centers, and other unique facilities, prioritizing facilities in EPAs, Areas of Change, and other high growth areas.

**Action 6-8.10:** Develop multiuse pathways and trail parks along creeks designated by the Santa Rosa Citywide Creek Master Plan.

**Action 6-8.11:** Create a system of interconnected linear parks that provide access to parks and open

*space and offer passive recreation opportunities, such as hiking and wildlife viewing.*

**Policy 6-8.2: Ensure adequate funding for parks and recreation facility improvements and maintenance.**

**Action 6-8.12:** *Annually evaluate the park development impact fees allowed under the Quimby Act to ensure sufficient funds to acquire, develop, and maintain parks, consistent with General Plan targets for park service.*

**Action 6-8.13:** *Annually evaluate park impact fees to ensure sufficient funds for park acquisition, development, and maintenance from proposals that do not meet Quimby guidelines.*

**Action 6-8.14:** *Develop a systemwide Park Master Plan for park and recreation facility maintenance that addresses core versus noncore services, appropriate levels of service, and factors that affect park maintenance practices.*

**Action 6-8.15:** *Encourage innovative approaches for maintenance of*

*parks and open space areas by maintaining and developing partnerships with schools, neighborhoods, and businesses.*

## Youth, Family, and Seniors

The health, safety, welfare, and support of youth, families, and seniors are high priorities for the City of Santa Rosa. The City aims to enhance opportunities for young people, families, and seniors to enjoy a high quality of life with age-appropriate services and the ability to age in place. Affordable childcare is fundamental to protecting the welfare of youth and families so that parents and caregivers are able to earn a living. The cost of childcare is a challenge for many families. Some may qualify for subsidies or other financial assistance, but they may sit on long waitlists before they can access care.

Though childcare services are generally offered by private and nonprofit organizations and may be funded in part or full by private grants and State programs like the California Work Opportunity and Responsibility to Kids (CalWORKs) Child Care Program, the General Plan offers policies and actions to enhance the availability of affordable childcare in the city. The built and social environments also affect the health and well-being of families and community members of all ages. Goals, policies, and actions in this section and throughout the General Plan are intended to foster a supportive community environment with amenities, services, and programs that serve the needs of youth, families, and seniors.

**Areas of Change**, identified through the General Plan community engagement process, are areas throughout the community where the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these **complete neighborhoods**—neighborhoods with convenient, equitable access to goods and services needed to support daily life, such as grocery stores, recreation opportunities, community gathering places, active transportation infrastructure, and transit.

## Goals, Policies, and Actions

**Goal 6-9:** Foster environments that support families and community members of all ages with high-quality, equitably accessible amenities, programs, and services.

**Policy 6-9.1:** **Create an environment where children can grow and develop in secure and supportive families and neighborhoods.**

**Action 6-9.1:** *Collaborate with parents, youth, schools, libraries, businesses, nonprofit agencies, religious organizations, law enforcement, and others to prioritize needs and establish programs and services for children and youth, especially in EPAs.*

**Action 6-9.2:** *Promote development of multiuse buildings/community centers that can be used for seniors, youth, and teen activities and childcare, including at parks, strip malls, and commercial centers.*

**Action 6-9.3:** *Coordinate with community-based organizations to promote the provision of educational and community services, including child care/early education, English as a second language courses, after-school programs, and recreational activities.*

**Policy 6-9.2:** **Expand childcare services to meet the existing and future needs of Santa Rosa.**

**Action 6-9.4:** *Update the Zoning Code to encourage new residential development to provide places for childcare and youth-oriented facilities and programs.*

**Action 6-9.5:** *Encourage school districts to continue and expand the provision of before- and after-school care on or near school sites.*

**Action 6-9.6:** *Endorse the development of new childcare facilities in all areas of the city, including residential neighborhoods, employment centers, and school sites.*

**Action 6-9.7:** *Promote development of new childcare facilities during review of new development projects.*

**Action 6-9.8:** *Across the park system, allow use of a portion of city parkland for a childcare center to be developed and maintained by an outside entity.*

**Action 6-9.9:** *Continue the City's permitting fee deferral and rebate program for provision of childcare facilities.*

**Action 6-9.10:** *Foster partnerships between the business community and the childcare community to provide information to employees about childcare options.*

**Action 6-9.11:** *Maintain the high-quality mix of recreation programs, classes, and current maintenance standards for city parks and recreational facilities.*

**Action 6-9.12:** *Work with local sport leagues that serve youth on facilities planning and needs to support increased participation in organized and alternative posts, especially among elementary-aged children and teens.*

**Action 6-9.13:** *Work with local organizations that serve the elder community, including the Council on Aging Sonoma County, on facilities planning and needs to support increased participation in*

*recreation programs, classes, and maintenance standards for parks and recreational activities.*

**Policy 6-9.3: Increase teen participation in organized activities.**

**Action 6-9.14:** *Continue to solicit direct involvement from teens in planning future community parks, recreational activities, and programs for teens to provide recreational programs geared toward modern interests.*

**Action 6-9.15:** *Cooperate with businesses, governmental agencies, nonprofit groups, and educational institutions to develop apprenticeship programs for teens and young adults.*

**Policy 6-9.4: Modernize senior services in all areas of Santa Rosa, especially EPAs.**

**Action 6-9.16:** *Continually monitor and analyze the needs of the city's senior population and expand services and programs to meet emerging and changing needs.*

**Action 6-9.17:** *Explore designation of an age- and dementia-friendly community.*



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# 7

## Glossary



## 7. Glossary

**Accessory dwelling unit (ADU):** A smaller, independent residential dwelling unit on the same lot as a stand-alone (i.e., detached) single-family home.<sup>1</sup>

**Action:** A measure, procedure, or technique intended to implement one or more policies to help reach a goal (see definition of “Goal”). An action may be ongoing or something that can be completed in a discrete timeline.

**Active transportation:** Any human-powered mode of transportation, such as walking or bicycling.

**Americans with Disabilities Act (ADA)** accessibility, compliance: Facilities, services, programs, and activities accessible to individuals with disabilities, consistent with ADA standards.

**Areas of Change:** Places the City will focus efforts to address housing, services, connectivity, and/or infrastructure needs to help make these complete neighborhoods. There are 21 designated Areas of Change in Santa Rosa, identified in the Preferred Alternative phase of the General Plan Update process.

**Atmospheric river:** Long, narrow storm systems that carry water vapor from the tropics to higher latitudes.

**Brownfield:** A property with the presence or potential presence of a hazardous substance, pollutant, or contaminant.

**Buildout:** The development of land to its full potential, or theoretical capacity, as permitted under current or proposed planning or zoning designations.

**California Environmental Quality Act (CEQA):** Legislation and corresponding procedural components established in 1970 by the State of California to require environmental review for projects anticipated to result in adverse impacts to the environment. (see “Environmental Impact Report”)

**Capital Improvement Program (CIP):** A program that schedules permanent improvements, usually for a minimum of five years in the future, that fits the projected fiscal capability of the local jurisdiction. The program generally is reviewed on an annual basis for conformance to and consistency with the General Plan.

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<sup>1</sup> American Planning Association, 2023, “Knowledgebase Collection: Accessory Dwelling Units,” accessed June 20, 2023,

<https://www.planning.org/knowledgebase/accessorydwelling/>.

**Carbon neutral:** Reducing greenhouse gas (GHG) emissions to zero, either by entirely eliminating all GHG emissions or by balancing out all remaining GHG emissions through carbon removal practices so that the “net” emissions are zero.

**Climate Change:** A change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. In the context of this plan, this term refers to changes brought on by human activities.

**Community members:** The individuals who make up a community, including residents, workers, business owners, and students.

**Complete neighborhoods:** Neighborhoods built at the walkable and bikeable human scale offering people of all ages and abilities safe and convenient access to the goods and services needed in daily life. This includes a variety of housing options, grocery stores, and other commercial services, quality public schools, public open spaces and recreational facilities, transit, and active transportation options.

**Complete street:** A transportation facility that is planned, designed, constructed, operated, and maintained to provide comfortable and convenient mobility, and improve accessibility and connectivity to essential community destinations for all users and abilities, regardless of whether they are travelling as pedestrians, bicyclists, public transportation riders, or drivers. Complete streets are especially attuned to the needs of people walking, using assistive mobility devices, rolling, biking, and riding transit.

**Critical facility:** A facility whose continued functioning is necessary to maintain public

health and safety following a disaster, and where damage or failure could pose hazards to life and property well beyond their immediate vicinity.

**Dam inundation zones:** The area downstream of the dam that would be flooded in the event of a failure (breach) or uncontrolled release of water, and is generally much larger than the area for the normal river or stream flood event.<sup>2</sup>

**Defensible space:** The buffer between a structure and the surrounding area. Adequate defensible space acts as a barrier to slow or halt the progress of fire that would otherwise engulf a property. Defensible space is the first line of defense for structures against wildfire.<sup>3</sup>

**Disadvantaged Unincorporated Community (DUC):** Areas with an annual median household income less than 80 percent of the statewide annual median household income and within the City’s Sphere of Influence (see definition for “Sphere of Influence,” an island within an incorporated jurisdiction’s boundary, or geographically isolated and has existed for at least 50 years.

**Environmental Impact Report:** A study required pursuant to the California Environmental Quality Act that assesses all the environmental characteristics of an area, determines what effects or impacts will result if the area is altered or disturbed by a proposed action, and identifies alternatives or other measures to avoid or reduce those impacts. (see “California Environmental Quality Act”)

**Environmental justice:** The fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins with respect to the development, adoption,

<sup>2</sup> Federal Emergency Management Agency, 2013, February, “Living with Dams: Know Your Risk,” [https://www.fema.gov/sites/default/files/2020-08/fema\\_living-with-dams\\_p-956.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_living-with-dams_p-956.pdf).

<sup>3</sup> CAL FIRE, 2023, “Defensible Space,” accessed June 27, 2023, <https://www.fire.ca.gov/dspace>.

implementation, and enforcement of environmental laws, regulations, and policies.<sup>4</sup>

**Equity Priority Area (EPA):** Areas in Santa Rosa where residents suffer most from economic, health, and environmental burdens. EPAs are Santa Rosa’s equivalent of “disadvantaged communities” under Senate Bill 1000, which requires the identification of disadvantaged communities to address their needs in the Environmental Justice Element.

**Equity Priority Populations:** Groups identified as having characteristics that contribute to vulnerability and/or the likelihood of being underserved in a variety of areas, including environmental justice, equity, health, and safety. Santa Rosa has identified 10 Equity Priority Populations:

1. Low-income individuals and families
2. Racial or ethnic groups experiencing disparate health outcomes
3. Seniors, children, youth, and young adults
4. Individuals with disabilities
5. Immigrants and refugees
6. Outdoor workers and farmworkers
7. Individuals who have limited English proficiency
8. Unhoused people
9. Lesbian, gay, bisexual, transgender, queer, intersexual, asexual, and other LGBTQIA+ communities
10. Individuals who are incarcerated or who have been incarcerated

**Equity:** The state in which each individual or group is allocated the resources needed to reach an equal outcome.

**Exposure:** The presence of people; infrastructure; natural systems; and economic, cultural, and social resources in areas that are subject to harm.

**Extreme weather:** Occurrences of unusually severe weather or climate conditions that can cause devastating impacts on communities and agricultural and natural ecosystems.<sup>5</sup>

**Farmers’ market:** Two or more local farm vendors or their representatives selling agricultural products directly to consumers at a common recurrent physical location in Santa Rosa.

**Fire Hazard Severity Zone:** An area of significant fire hazard based on fuels, terrain, weather, and other relevant hazards.

**Flood, 100-Year:** In any given year, a flood that has a 1 percent likelihood (a 1 in 100 chance) of occurring, and is recognized as a standard for acceptable risk. Also known as the “base flood.”

**Flood, 200-Year:** In any given year, a flood that has a 0.5 percent likelihood (a 1 in 200 chance) of occurring. Senate Bill 5 requires a 200-year level of flood protection for urban communities in the Central Valley.

**Flood, 500-Year:** In any given year, a flood that has a 0.2 percent likelihood (a 1 in 500 chance) of occurring.

**Goal:** An ideal future end related to the public health, safety, or general welfare. A goal is a general expression of community values and, therefore, may be abstract in nature.

<sup>4</sup> California Government Code, Section 65040.12(e)

<sup>5</sup> U.S. Department of Agriculture, 2023, “Extreme Weather,” accessed June 27, 2023,

<https://www.climatehubs.usda.gov/content/extreme-weather>.

Consequently, a goal is generally not quantifiable or time dependent.

**Greenhouse gas (GHG):** A gas that allows sunlight to pass through but reflect heat radiated from the earth’s surface, trapping heat in the lower atmosphere. Common GHGs include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). They may be emitted by natural or human processes.

**Hazard mitigation:** Sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects.

**Hazardous material, Hazardous waste:** A substance or waste that, because of its physical, chemical, or other characteristics, may pose a risk of endangering human health or safety or of degrading the environment. This does not include household hazardous waste, universal waste, or electronic waste, as they do not contain the quantity, concentration, and/or types of products significant enough to pose a substantial risk to human health and safety or to the environment.

**Junior accessory dwelling unit (JADU):** Units created by adding a small kitchen and exterior door to space in an existing single-family dwelling. A JADU may be up to 500 square feet in size.

**Land use designation:** One particular category in a classification series of appropriate use of properties established by the General Plan Land Use Element.

**Land use:** The occupation or use of an area of land for any human activity or purpose.

**Liquefaction:** A process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking.

**Missing Middle Housing:** Refers to house-scale buildings with multiple units in walkable neighborhoods.

**Mitigation:** Modification to avoid, reduce, minimize, or eliminate a negative impact. There are various types of mitigation, including environmental impact mitigation, hazard mitigation, GHG emissions mitigation, and more.

**Mode split:** The share of travel that is carried by each mode of transport, such as automobile, bus, walking, and biking.

**Neck-downs:** Raised curb extensions that narrow the travel lane at intersections or midblock locations intended to slow the flow of vehicular traffic.

**Noise-sensitive receptors:** A location where people reside or where the presence of unwanted sound could adversely affect the use of land, such as residences, schools, and hospitals.

**Particulate matter (PM):** The term for a mixture of solid particles and liquid droplets found in the air that are so small, they can be inhaled and cause serious health problems. Particles less than 2.5 micrometers in diameter, also known as fine particles or PM<sub>2.5</sub>, pose the greatest risk to health.<sup>6</sup>

**Policy:** A specific statement that regulates activities in the city, guides decision making, and directs implementing action to achieve a goal (see definition of “Goal”).

**Public safety power shutoff (PSPS) event:** Preemptive measures to reduce the risk of fire caused by electric infrastructure during extreme weather events because high winds can blow tree branches and debris into energized lines and cause fires.

<sup>6</sup> United States Environmental Protection Agency, 2023, “Particulate Matter (PM) Pollution,” accessed June 27, 2023,

<https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>.

**Resilience center:** A well-used community-serving facility with year-round programming that also provides local communities with shelter, water, and electricity during hazardous events or disasters.

**Resilience:** The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.

**Riparian area:** Lands that occur along the edges of rivers, streams, lakes, and other water bodies. Examples include streambanks, riverbanks, and floodplains. Riparian areas are different from the surrounding uplands because their soils and vegetation are shaped by the presence of water.<sup>7</sup>

**Special-status species:** Species that are considered sufficiently rare that they require special consideration and/or protection and should be, or have been, listed as rare, threatened, or endangered by the federal and/or State governments.<sup>8</sup>

**Sphere of influence (SOI):** The probable physical boundaries and service area of a municipality or special district, as determined by the Local Agency Formation Commission (LAFCO) of the county.

**Sustainability:** Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

**Traffic calming:** The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior,

and improve conditions for nonmotorized street users.<sup>9</sup>

**Transportation demand management (TDM):** A set of strategies aimed at maximizing travel choices.<sup>10</sup>

**Trauma informed:** An approach that reflects six key principles identified by the Department of Health and Human Services and Trauma-Informed Care Implementation Resource Center: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender issues.

**Urban agriculture:** The practice of growing and processing fresh food in an urban area.

**Urban growth boundary (UGB):** A community-established boundary that separates urban areas from the surrounding natural and agricultural lands, or greenbelts, and limits how far out a city can expand. In 1990, Santa Rosa voters approved a five-year UGB, followed by a two-decade UGB measure in 1996 and an extension in 2010 to ensure that the current UGB will not be significantly changed until at least 2035.

**Vulnerability assessment:** An analysis of how a changing climate may harm a community and which elements—people, buildings and structures, resources, and other assets—are most vulnerable to its effects based on an assessment of exposure, sensitivity, potential impact(s), and the community's adaptive capacity.

**Wildland-urban interface (WUI):** An area that includes both houses and wildland vegetation,

<sup>7</sup> National Park Service, 2023, "Riparian Zones: It's All About the Water," accessed June 28, 2023, [https://www.nps.gov/articles/000/nrca\\_glca\\_2021\\_riparian.htm#:~:text=What%20are%20riparian%20zones%3F,by%20the%20presence%20of%20water.](https://www.nps.gov/articles/000/nrca_glca_2021_riparian.htm#:~:text=What%20are%20riparian%20zones%3F,by%20the%20presence%20of%20water.)

<sup>8</sup> Sacramento County, 2023, "Special Status Species," accessed June 28, 2023, [https://planning.saccounty.gov/InterestedCitizens/Pages/ER\\_Speci](https://planning.saccounty.gov/InterestedCitizens/Pages/ER_Speci)

[alStatusSpecies.aspx#:~:text=%22Special%20Status%20Species%22%20is%20a,Federal%20and%20For%20State%20governments">alStatusSpecies.aspx#:~:text=%22Special%20Status%20Species%22%20is%20a,Federal%20and%20For%20State%20governments](#)

<sup>9</sup> Lockwood, Ian. ITE Traffic Calming Definition. ITE Journal, July 1997, pg. 22.

<sup>10</sup> Federal Highway Administration, 2023, "Transportation Demand Management," accessed June 28, 2023, [https://ops.fhwa.dot.gov/plan4ops/trans\\_demand.htm](https://ops.fhwa.dot.gov/plan4ops/trans_demand.htm).

creating a significant threat to human life or property from wildfires.

**Wildland-Urban Interface (WUI) Fire Area:** A geographical area identified by the City of Santa Rosa as a “Fire Hazard Severity Zone,” in accordance with the Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.

**Youth-populated areas:** Spaces where people under 24 years old gather or visit on a regular basis, including playgrounds, community centers, sports centers, gyms, museums, youth clubs, and malls.



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# Appendix A

An aerial photograph of a city, likely Berkeley, California, showing a dense urban area with numerous buildings and green spaces. The image is overlaid with a semi-transparent red filter. A yellow horizontal bar is positioned below the title 'Appendix A'.

## Greenhouse Gas Reduction Strategy

**The Greenhouse Gas Reduction Strategy is currently under development and will be available in Fall 2023.**

# Appendix B

An aerial photograph of a city, likely Berkeley, California, showing a dense urban area with numerous buildings and streets. The image is overlaid with a semi-transparent red filter. The city is situated in a valley, with hills visible in the background. The overall tone is professional and academic.

## Climate Change Vulnerability Assessment

June 2021 | General Plan Update

# CLIMATE CHANGE VULNERABILITY ASSESSMENT REPORT

City of Santa Rosa

*Prepared for:*

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## INTRODUCTION

The City of Santa Rosa (City) prepared this Climate Change Vulnerability Assessment Report in conformance with State of California requirements, as established in California Government Code Section 65302(g)(4), to assess climate change vulnerability and address climate change adaptation and resilience as part of Santa Rosa Forward, the City’s General Plan Update. The goal of the State’s requirement is to enable the community to prepare for, respond to, withstand, and recover from disruptions exacerbated or caused by climate change. This report discusses the regulatory framework and method for integrating adaptation and resilience into City policies, the climate change hazards affecting the resilience of Santa Rosa, specific populations and assets included in the assessment, and a summary of the climate change vulnerability assessment results. The Climate Change Vulnerability Assessment Report builds off the workshop series conducted by EcoAdapt in January 2021 and uses the *Climate Vulnerability and Adaptation Report for Santa Rosa* for climate change hazard projections, populations and assets, potential impacts, and adaptive capacity. A more detailed description of climate change hazard projections can be found in the EcoAdapt report. **Appendix A** provides a list of abbreviations and key terms used throughout the Climate Change Vulnerability Assessment Report.

## Community Profile

The City of Santa Rosa is in the central portion of Sonoma County, about 45 miles north of San Francisco. The Northern California Coast Ranges rise to a maximum height of 8,098 feet above sea level and the city sits in the southern portion of this mountain range at 164 feet above sea level. Santa Rosa has a Mediterranean climate, with rain in the winters and hot, dry summers. According to the General Plan Update’s Existing Conditions Report, Santa Rosa is home to approximately 181,000 residents.

Santa Rosa covers approximately 41.1 square miles and was originally home to the Graton Rancheria, Southern Pomo, and Wappo Tribal Nations. Approximately 90 percent of the city is developed; 64 percent is residential; 17 percent is commercial, industrial, public/institutional; and 9 percent is parks. The remaining land is agriculture, open space, or vacant land. Santa Rosa is also the regional hub of Sonoma County, offering a variety of services, job opportunities, and entertainment options for residents in nearby communities in Sonoma County.

State agencies divide California into several distinct climate zones, and Santa Rosa is part of Climate Zone 2. This climate zone covers the hilly Northern Coastal range and expands east to the Northern Central Valley and south to the San Francisco Bay Area.<sup>1</sup> In Santa Rosa, annual average high temperatures range from 55 degrees Fahrenheit in January to 84 degrees Fahrenheit in July. Low temperatures range from 37 degrees Fahrenheit in January to 52 degrees Fahrenheit in July and August. The city receives an average of approximately 38 inches of precipitation. Most precipitation falls between October and May, with rare occurrences of summer storms. The Mediterranean climate and cold, rainy winters make Santa Rosa a prime location for agricultural production and outdoor recreation activities.

Santa Rosa’s primary transportation access is from Highway 101, the primary highway in central Sonoma County, and State Route 12 (SR-12). SR-12 runs perpendicular to Highway 101, connecting Sebastopol to the City of Sonoma. Other major roadways include Fountaingrove Parkway, Montgomery Drive, Santa Rosa Avenue, and College Avenue. The Santa Rosa Transit Mall is the busiest transit hub north of the Bay Area. Local transit is provided by CityBus, while Sonoma County Transit, Golden Gate Transit, Mendocino Transit, and Greyhound provide regional bus services. Sonoma-Marin Area Rail Transit (SMART) provides commuter rail services to Santa Rosa and other communities in the region.



## Regulatory Framework

In 2015, the State of California adopted Senate Bill (SB) 379, establishing Section 65302(g)(4) of the California Government Code to require the Safety Element of the General Plan to include more information about wildfire hazards, flooding risks, and other short-term and long-term threats posed by climate change. SB 379 is the foundation for climate adaptation and resiliency in General Plan Safety Elements, as it requires local governments to conduct vulnerability assessments as part of their long-range public safety planning efforts and to prepare policies that will protect against harm caused by climate change.

Other important updates to Section 65302(g) of the California Government Code related to Safety Elements, climate change, and resiliency include SB 1035, SB 99, and Assembly Bill (AB) 747. SB 1035 amended Section 65302(g)(3) of the California Government Code to require local governments to review, and update as needed, their Safety Element during an update to their Housing Element or Local Hazard Mitigation Plan (LHMP) (or no less than every eight years). Any revisions to the Safety Element should include updated information related to flood hazards, fire hazards, and climate adaptation and resilience. SB 99 amended Section 65302(g) of the California Government Code and requires jurisdictions to review and update the Safety Element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes. AB 747 added Section 65302.15 to the California Government Code, which will go into effect in January 2022, and will require local governments to identify the capacity, safety, and viability of evacuation routes in the Safety Element or LHMP. The City's climate change vulnerability assessment, along with the update to the Safety Element, will help the City meet the State's requirements and support consistency with and integration of the General Plan and LHMP.

The State of California prepared a guidance document, the [California Adaptation Planning Guide](#) (APG), to assist communities in addressing climate adaptation and resilience, and complying with Section 65302(g)(4) of the California Government Code. This guide presents a step-by-step process for gathering the best available climate change science and projections of future conditions, completing a climate change vulnerability assessment, creating adaptation strategies, and integrating those strategies into General Plans and other policy documents. The City's climate change vulnerability assessment is consistent with the guidance and recommended methods provided in the APG.

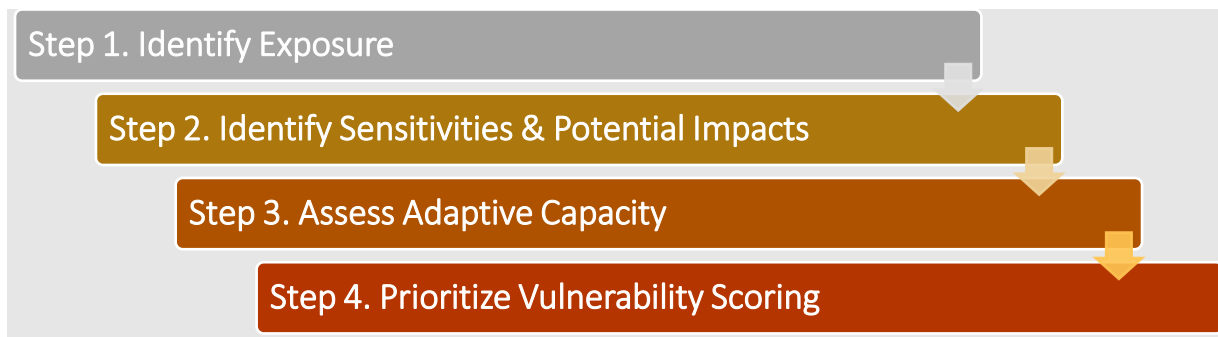
## Climate Science Overview

Climate change is a long-term change in the average meteorological conditions in an area. Currently, the global climate is changing due to an increase in greenhouse gas (GHG) emissions that trap heat near the Earth's surface. While some levels of these gases are necessary to maintain a comfortable temperature on Earth, an increased concentration of these gases due to human activity traps additional heat, changing Earth's climate system in several ways. These effects can lead to an increase in frequency and intensity of climate change hazards, which according to the APG, have the potential to cause fatalities, injuries, property and infrastructure damage, interruption of business, and other types of harm or loss. These hazards can include extreme heat, severe storms, wildfires, landslides, and drought conditions, among others. This Climate Change Vulnerability Assessment Report evaluates the impacts created by these hazards in and around Santa Rosa and the ability of Santa Rosa's populations and community to resist and recover from these hazards, to assess which aspects of the community are most vulnerable to climate change.

## Method

The Climate Change Vulnerability Assessment analyzes how a changing climate may harm the City of Santa Rosa, and which aspects of the community – including people, buildings and infrastructure, ecosystems and natural resources, services, and economic drivers – are most vulnerable to its effects. The vulnerability assessment primarily follows the recommended process published in the APG in 2020 by the California Governor’s Office of Emergency Services (Cal OES) and recommended by the Governor’s Office of Planning and Research. This includes a four-step process: (1) characterizing the community’s exposure to current and projected climate hazards; (2) identifying potential sensitivities and potential impacts to community populations and assets; (3) evaluating the current ability of the City, populations, and assets to cope with climate impacts, also referred to as its adaptive capacity; and (4) identifying priority vulnerabilities based on systematic scoring. These steps are shown in **Figure 1** and further described in this section.

**Figure 1. California Adaptation Planning Guide Vulnerability Assessment Method**



**Step 1: Identify Exposure.** The goal of this step is to characterize the community’s exposure to current and projected climate change hazards. Many projections of climate change hazards rely on multiple scenarios that reflect different levels of how global GHG emissions and atmospheric GHG concentrations may change over time. The Intergovernmental Panel on Climate Change (IPCC), an organization that represents the global scientific consensus about climate change, has identified four climate scenarios, also called Representative Concentration Pathways (RCPs), that can be used to project future conditions. RCPs are labeled with different numbers (e.g., RCP 2.6, RCP 6) that refer to the increase in the amount of energy that reaches each square meter of Earth’s surface under that scenario. The four RCPs are:

- **RCP 2.6:** Under this scenario, global GHG emissions peak around 2020 and then decline quickly.
- **RCP 4.5:** Under this scenario, global GHG emissions peak around 2040 and then decline.
- **RCP 6:** Global emissions continue to rise until the middle of the century.
- **RCP 8.5:** Global emissions continue to increase at least until the end of the century.

The Cal-Adapt database, which provides California-specific climate change hazard projections, uses RCP 4.5 for a low emissions scenario and RCP 8.5 for a high emissions scenario. The Governor’s Office of Planning and Research *Planning and Investing for a Resilient California* document and the APG recommend using RCP 8.5 for analyses considering impacts through 2050, as there are minimal differences between emission scenarios for the first half of the century. The APG also recommends using RCP 8.5 for late-century projections, for a more conservative and risk-adverse approach. The City used the RCP 8.5 GHG emission scenario results provided by the Cal-Adapt database and other resources for this assessment.

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The first step of this Climate Change Vulnerability Assessment was to confirm hazards expected to occur in the City of Santa Rosa. The City identified eight climate change hazards for this assessment, listed here and discussed in more detail in the Climate Change Hazards of Concern section and EcoAdapt's *Climate Vulnerability and Adaptation Report for Santa Rosa*.<sup>i</sup>

**Sensitivity:** The level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.

*Source: California Adaptation Planning Guide*

1. Agricultural and Ecosystem Pests and Diseases
2. Drought
3. Extreme Heat
4. Human Health Hazards
5. Landslides
6. Severe Wind
7. Severe Storms
8. Wildfire

The City derived the climate change hazard data from up-to-date information, including the Cal-Adapt database, the APG, the *California 4th Climate Change Assessment*, the California Geological Survey, the Federal Emergency Management Agency (FEMA), the California Department of Forestry and Fire Protection (CAL FIRE), the Santa Rosa 2016 LHMP and EcoAdapt's *Climate Vulnerability and Adaptation Report for Santa Rosa*.

**Step 2. Identify Sensitivities and Potential Impacts.** This step included evaluating past and potential future climate change impacts to community populations and assets. The City first identified a list of populations and assets to include in the assessment with the following five categories:

1. Populations: People that experience a heightened risk and increased sensitivity to climate change and have less capacity and fewer resources to adapt to or recover from climate impacts.
2. Buildings and Infrastructure: Structures that provide various services to Santa Rosa community members and visitors.
3. Economic Drivers: Economic sectors and activities that make significant contributions to the Santa Rosa economy.
4. Ecosystems and Natural Resources: Types of wild and natural lands within the city boundary.
5. Key Services: Important functions to community members provided by government agencies and private companies.

This list included 20 populations, 23 infrastructure and building types, 8 economic drivers, 6 ecosystems and natural resources, and 8 key services. (The Populations and Assets section presented later in this report describes these populations and assets.) The populations and assets for the Climate Change Vulnerability Assessment were derived from the results of the EcoAdapt Climate Change Adaptation Workshop series held in January 2021, which included participants from various City departments, Sonoma County, and community-based organizations. After confirmation of this list, the City looked at which hazards are likely to affect which populations and assets, because not all hazards will affect all populations or assets. For example, human health hazards are likely to impact most populations but are

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<sup>i</sup> Please refer to EcoAdapt's *Climate Vulnerability and Adaptation Report for Santa Rosa* report when reading through the Climate Change Hazards of Concern section and Critical Vulnerabilities section of this report.

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not likely to physically affect parks and open space or school buildings. The outcome of this step was an applicability matrix that identified whether a population or asset is likely to be exposed to a hazard. If a population or asset has the potential to be affected directly or indirectly by a hazard, a “yes” was indicated in the appropriate box. Direct impacts affect buildings and infrastructure, health or populations, or immediate operations of economic drivers or community services, and they can lead to indirect impacts on the broader system or community, including populations or asset types in a different category. For example, severe wind can *directly* damage electrical transmission lines causing power outages, which can *indirectly* impact persons with chronic illnesses who depend on the electricity for life support systems. Therefore, both electrical transmission lines and persons with chronic illnesses were marked as “yes” for being affected by severe wind and would be evaluated in the assessment.

**Exposure:** The presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.

**Impact:** The effects (especially the negative effects) of a hazard or other conditions associated with climate change.

*Source: California Adaptation Planning Guide*

After the applicability review, the City evaluated potential impacts to the applicable populations and community assets. To identify how great the impacts of each relevant hazard are on the populations and community assets, the City considered a number of different questions that helped ensure the assessment broadly covered a range of potential harm. Examples of these questions include:

- Could the hazard(s) cause injury or damage?
- Is there a risk of behavioral or mental harm, loss of economic activity, or other nonphysical effects?
- How many people or community assets could be harmed both directly and indirectly?
- How long would the impacts persist?
- Is there a substantial chance of death or widespread destruction?

Based on the results of the impact assessment, the City ranked each population and asset low, medium, or high for each relevant hazard. Impact is considered a negative quality, and therefore a higher impact score means that there is a higher potential for harm to a population or asset. A lower impact score means that there is a lower potential for harm to a population or asset. **Table 1** provides more detail about what each score means.

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**Table 1. Rubric for Impact Scoring**

Impact Score	Meaning (People and Ecosystems)	Meaning (Buildings and Infrastructure, Services, and Economic Drivers)
<b>Low Impact</b>	Community members may not notice any change. If noticed, effect would be minor with only occasional disruptions.	Damage, interruption in service, or impacts on the local economy is small or intermittent enough to mostly go unnoticed. If noticed, effects are only minor.
<b>Medium Impact</b>	There is a marked impact to the community. Quality of life may decline. Impacts may be chronic, and at times substantial.	Damage, service interruptions, and other impacts are clearly evident. Impacts may be chronic and occasionally substantial.
<b>High Impact</b>	The well-being of the community declines significantly. The community’s current lifestyle and behavior may no longer be possible. There is a severe risk of widespread injury or death to people, or of significant or total ecosystem loss.	Buildings, infrastructure, and services often or always cannot function as intended or needed to meet community demand. Large sections of the economy experience major hardships or are not feasible.

**Step 3. Assess Adaptive Capacity.** Adaptive capacity is the ability of populations and community assets to prepare for, respond to, and recover from the impacts of climate change. Each population and asset was evaluated for adaptive capacity by considering the following questions:

1. Are there existing programs, policies, or funding to provide assistance?
2. Are there barriers that limit response or recovery? Are these barriers created by financial limitations, political challenges, lack of access to technology or other resources, or other factors?
3. Do alternatives exist in or near Santa Rosa that community members can use?

**Adaptive Capacity:** The “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”

*Source: California Adaptation Planning Guide*

Based on the results of the adaptive capacity assessment, the City ranked the adaptive capacity of each population or asset as low, medium, or high. Adaptive capacity is considered a positive attribute, so a higher adaptive capacity score will mean that a population or asset may be more adaptable to the hazard. A lower adaptive capacity score means that a population or asset may have a harder time adjusting to the changing conditions. **Table 2** provides more detail about what each score means.

**Table 2. Rubric for Adaptive Capacity Scoring**

Adaptive Capacity Score	Meaning
<b>High Adaptive Capacity</b>	Adaptation solutions are feasible for most or all sensitivities. There may be occasional or small-scale challenges to implementing adaptation methods, but populations and assets can adapt with little or no effort. Many alternatives exist in the area that can provide similar services.
<b>Medium Adaptive Capacity</b>	Some adaptation methods are available, but not always feasible. Adapting may create significant challenges for some sensitivities. Some alternatives exist within the jurisdiction area that can provide similar services.
<b>Low Adaptive Capacity</b>	Adaptive solutions are available, but they are not used due to cost, technological or other resource constraints, and/or not supported by decision-makers or the community. Alternatives may not exist that can provide similar services. Some assets may not have feasible means to adapt.

**Step 4. Prioritize Vulnerability Scoring.** The City used the impact and adaptive capacity scores for each population and asset for each relevant hazard to determine the vulnerability score. The vulnerability score reflects how susceptible a population or asset is to harm from a particular hazard. Vulnerability is assessed on a scale of low, medium, and high. Low vulnerability does not mean that the population or asset will be unaffected by climate change, but that the effects are likely to be less substantial. The matrix in **Table 3** shows how impact and adaptive capacity scores combine and translate into a vulnerability score. For example, extreme heat would create a high impact on energy delivery services as mechanical failures, heat damage, and high demand for electricity from cooling equipment can disrupt this service. Adaptive capacity is low because many community members need to use more electricity on extreme heat days to keep cool and retrofitting electrical equipment can be expensive. Therefore, energy delivery services have a high vulnerability to extreme heat.

**Vulnerability:** The degree to which natural, built, and human systems are susceptible “...to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.”

*Source: California Adaptation Planning Guide*

**Table 3. Vulnerability Scoring Matrix**

Adaptive Capacity Score	Low Impact	Medium Impact	High Impact
Low Adaptive Capacity	Medium	High	High
Medium Adaptive Capacity	Low	Medium	High
High Adaptive Capacity	Low	Low	Medium

## CLIMATE CHANGE HAZARDS OF CONCERN

As described in the APG, hazards are events or physical conditions that have the potential to cause fatalities, injuries, property and infrastructure damage, interruption of business, and other types of harm or loss. Some natural hazards are not climate change related, such as earthquakes, which do not have a known connection with climate change. Climate change hazards are natural hazards that can change in frequency and intensity due to climate change. The Climate Change Vulnerability Assessment assessed the climate change hazards that are most relevant to the City of Santa Rosa. The following list generally describes the climate change hazards included in the Climate Change Vulnerability Assessment:

- **Agricultural and Ecosystem Pests and Diseases:** Pests and diseases that may affect crops, plants, vineyards, and wildlife.
- **Drought:** A drought is a period of drier than normal conditions that result in water-related problems for people, agriculture, and ecosystems.
- **Extreme Heat and Warm Nights:** Extreme heat conditions are defined as conditions that are much hotter than average for Santa Rosa. Extreme heat days in Santa Rosa are considered days with temperatures above 98.1 °F and warm nights in Santa Rosa are considered nights with temperatures above 56.3 °F.
- **Human Health Hazards:** Human health hazards are bacteria, viruses, parasites, and other organisms that can cause diseases in people. Climate-related human health hazards are usually diseases carried by animals that are considered pests, such as mice and rats, mosquitos, and ticks.
- **Landslides and Debris Flows:** A landslide happens when a slope, like the side of a hill or mountain, becomes unstable during heavy rainfall events, causing soil and rocks to slide down slope.
- **Severe Storms:** Severe storms result in heavy rainfall, hail, lightning, and flooding.
- **Severe Wind:** Severe wind occurs when sustained wind speeds exceed 40 miles per hour and last for 1 hour or longer, or winds of 58 miles per hour for any duration.
- **Wildfire:** Wildfires are defined as any unplanned fire in a wildland area or in the wildland-urban interface. Wildfire can spread into developed areas by crossing the wildland-urban interface (the zone where undeveloped wildland meets developed areas) and cause significant damage to people and property.

The climate change hazards data is based on projections provided by Cal-Adapt, the *California Fourth Climate Change Assessment*, the California Geological Survey, FEMA, and scholarly research. A more detailed description of specific climate projections for the City of Santa Rosa can be found in EcoAdapt's *Climate Vulnerability and Adaptation Report for Santa Rosa* (<http://ecoadapt.org/workshops/santa-rosa-adaptation-workshop>). The Critical Vulnerabilities section presents how these hazards are expected to affect the populations and assets included in the Climate Change Vulnerability Assessment.

## POPULATIONS AND ASSETS

Populations and assets are the people, infrastructure, services, economic drivers, and other community features in the City of Santa Rosa that can be affected by climate change. The Climate Change Vulnerability Assessment looks at how each population and community asset may be affected by each of the climate change hazards discussed above. The APG provides a general list of populations and assets, which the City refined and used to develop a list of 65 populations and assets that fall into five distinct asset categories: (1) populations, (2) buildings and infrastructure, (3) economic drivers, (4) ecosystems

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and natural resources, and (5) key services. The following sections describe the populations and assets included in each of the five categories.

## Populations

The Climate Change Vulnerability Assessment evaluated 20 populations. These populations have age, financial, health, mobility, or other characteristics that make them more likely to be directly affected by hazardous events. The City gathered data for many populations listed from the 2020 *Santa Rosa Forward Existing Conditions Report*, the Healthy Places Index,<sup>2</sup> EcoAdapt’s *Climate Vulnerability and Adaptation Report for Santa Rosa*, and the 2020 *Sonoma County Homeless Census Comprehensive Report*.<sup>3</sup> The Climate Change Vulnerability Assessment included the following populations:

- |                                       |  |
|---------------------------------------|--|
| 1. Children (under 18)                | 12. Persons living on single-access roads              |
| 2. Cost-burdened households           | 13. Persons with chronic illnesses and/or disabilities |
| 3. Households in poverty              | 14. Persons without a high school degree               |
| 4. Immigrant communities              | 15. Persons without access to lifelines                |
| 5. Linguistically isolated persons    | 16. Renters  |
| 6. Low-income households              | 17. Seniors (65+)                                      |
| 7. Low-resourced people of color      | 18. Seniors living alone                               |
| 8. Outdoor workers                    | 19. Students   |
| 9. Overcrowded households             | 20. Unemployed persons                                 |
| 10. Persons experiencing homelessness |  |
| 11. Persons living in mobile homes    |  |

## Buildings and Infrastructure

The Climate Change Vulnerability Assessment assessed the vulnerability of 23 different types of buildings and infrastructure systems in Santa Rosa. These infrastructure categories help daily activities, economic drivers, community services, and emergency response events. Several of these assets support the transportation network, energy delivery, water and wastewater services, and recreation and tourism activities. The infrastructure section of the Climate Change Vulnerability Assessment focuses on the physical effects of climate change hazards on infrastructure itself instead of the services or economic activity they provide. The City derived information on buildings and infrastructure from the 2020 *Santa Rosa Forward Existing Conditions Report*; EcoAdapt’s *Climate Vulnerability and Adaptation Report for Santa Rosa*; and other local, State, and federal sources. The Climate Change Vulnerability Assessment included the following building and infrastructure assets:

- |   |  |
|---|--|
| 1. Biking and pedestrian trails   | 10. Government administration facilities                           |
| 2. Bridges  | 11. Hazardous materials sites                                      |
| 3. Communication facilities   | 12. Homes and residential structures                               |
| 4. Community centers  | 13. Libraries  |
| 5. Dams   | 14. Major roads and highways                                       |
| 6. Electrical transmission infrastructure (substations and power lines) | 15. Natural gas pipelines: Pacific Gas and Electric Company (PG&E) |
| 7. Emergency operation buildings  | 16. Parks and open space   |
| 8. Evacuation and cooling centers                                       | 17. Public safety buildings  |
| 9. Flood-control infrastructure and storm drains                        | 18. Railway  |
|   | 19. Schools  |



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- 20. Single-access roads
- 21. Solid waste facilities

- 22. Transit facilities
- 23. Water and wastewater infrastructure

## **Economic Drivers**

The Climate Change Vulnerability Assessment evaluated the vulnerability of nine distinct economic drivers in the City of Santa Rosa. These economic assets include agriculture-related assets, major employment industries, and recreation and tourism within the city and on surrounding regional and state lands. The City obtained information on economic drivers from the 2020 *Comprehensive Annual Financial Report* and the 2020 *Santa Rosa Forward Existing Conditions Report*. The Climate Change Vulnerability Assessment included the following economic driver assets:

- 1. Agribusiness
- 2. Education
- 3. Healthcare
- 4. Major employers, including Public Administration
- 5. Outdoor recreation and tourism
- 6. Retail trade
- 7. Research, development, and manufacturing
- 8. State and regional parks

## **Ecosystems and Natural Resources**

There are six primary ecosystems in Santa Rosa, although many can be subdivided into specific habitats. The ecosystems and natural resources section of the vulnerability assessment focuses on how the plants and wildlife in ecosystems are likely to be affected by climate change hazards and the current ability of these systems to adapt to changing conditions. The primary resource for this analysis is the City of Santa Rosa General Plan 2035 Draft Environmental Impact Report, Biological Resources chapter. The Climate Change Vulnerability Assessment included the following ecosystems and natural resources:

- 1. Aquatic/Riverine
- 2. Douglas-Fir Forest
- 3. Grassland
- 4. Oak Woodland
- 5. Riparian Woodland
- 6. Wetlands

## **Key Services**

The Climate Change Vulnerability Assessment evaluated the vulnerability of eight different types of services in Santa Rosa. These key service categories provide essential goods, utilities, and services to residents and visitors in the city. These services are provided by public and private agencies, as well as volunteer organizations. The key services section of the vulnerability assessment focuses on the actions and services provided in these categories instead of the physical buildings and infrastructure that support the services. The Climate Change Vulnerability Assessment included the following key services:

- 1. Communication services
- 2. Emergency medical response
- 3. Energy delivery
- 4. Government administration & community services
- 5. Public safety services
- 6. Public transit services
- 7. Solid waste removal
- 8. Water and wastewater

## CRITICAL VULNERABILITIES

The vulnerability assessment evaluates the impact and adaptive capacity of each population and asset for each relevant hazard. Vulnerability scores were assigned on a scale of low, medium, and high (as shown in **Table 3**) to reflect how susceptible the population or asset is to harm posed by the hazard. In total, the Climate Change Vulnerability Assessment considered 360 different pairings for vulnerability. This section provides a summary of the key vulnerabilities within Santa Rosa. For a complete list of vulnerability scores for all populations and assets, refer to **Appendix B**.

### Populations

The Climate Change Vulnerability Assessment evaluated 20 populations that may be disproportionately harmed by climate change hazards. Of the 20 populations evaluated in the vulnerability assessment, 16 scored as having high vulnerability for at least one hazard type. Populations are generally most vulnerable to wildfire, extreme heat, and human health hazards. The most vulnerable populations include households in poverty, outdoor workers, low-resourced people of color, seniors living alone, and immigrant communities. The critical vulnerability descriptions below group populations together that may face similar vulnerabilities. **Table 4** shows how the 16 populations were grouped into 8 populations for these descriptions.

**Table 4. Population Groups for Critical Vulnerabilities**

Population Group	Populations Included
Households with limited financial resources	Households in poverty
	Cost-burdened households
	Low-income households
	Unemployed persons
Persons that spend a significant amount of time outdoors	Children
	Outdoor workers
Persons with health conditions or limited mobility	Persons with chronic illnesses and/or disabilities
	Persons without access to lifelines
	Seniors
	Seniors living alone
Low-resourced and immigrant communities	Immigrant communities
	Low-resourced people of color
Persons experiencing homelessness	Persons experiencing homelessness
Persons living in mobile homes	Persons living in mobile homes
Persons living on single-access roads	Persons living on single-access roads
Overcrowded households	Overcrowded households <sup>1</sup>
<p>1. Based on the Santa Rosa General Plan 2035 Housing Element and U.S. Census, overcrowded households are defined as households with more than one person per room (including all rooms except bathrooms). Persons living in households with more than 1.5 persons per room are considered severely overcrowded.</p>	

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**Households with limited financial resources** are highly vulnerable to nearly all hazards that will impact Santa Rosa, with the exception of agriculture and ecosystem pests and diseases. These persons, especially households in poverty, are more likely to live in homes with less insulation, less structural stability, or lack of air conditioning, increasing exposure to unsafe living conditions due to mold and mildew damage from severe storms, high indoor air temperatures from extreme heat, and poor indoor air quality from wildfire smoke. Households in poverty may lack the financial means to recover from property damage, increases in water and electricity bills, or illness caused by climate change hazards. Financial assistance programs and incentives, such as the Sonoma County Energy Independence Program’s property assessed clean energy (PACE) financing, rebates, and tax credits are available to assist with upgrades to some homes. However, households with financial instability may be unaware or unable to participate in these services.

**Persons that spend a significant amount of time outdoors**, such as children and outdoor workers, are highly vulnerable to extreme heat and wildfire. Outdoor workers are also highly vulnerable to agricultural pests and diseases, drought, human health hazards, severe wind, and severe storms.

Children tend to spend more time outdoors than many adults and may not be aware of the onset of heat-related illnesses, such as heat exhaustion or heat stroke. Reduced air quality from wildfire smoke can also decrease the ability of young children to adapt to warmer temperatures over time.

Outdoor workers are directly exposed to extreme heat, human health hazards, and the smokey air quality conditions due to the outdoor nature of their occupations. Outdoor work often involves physically intense work, which can increase the risk of medical complications. Outdoor work can be halted during hazardous conditions, such as severe storms, severe wind, and wildfire, creating economic hardships for outdoor workers. Drought, extreme heat, and agriculture pests and diseases may also harm the crops, vineyards, and livestock that outdoor workers in the agriculture industry rely on causing additional economic hardship for outdoor workers. This may limit the ability of outdoor workers to seek medical attention for heat or air quality-related illnesses. Some outdoor workers may be able to transfer industries through educational programs within the Sonoma County Adult Education Program; however, this may not be feasible for all individuals.

**Persons with existing health conditions or limited mobility**, such as persons with chronic health conditions and/or disabilities, persons without access to lifelines, seniors, and seniors living alone are highly vulnerable to nearly all hazards. These individuals may have compromised immune systems that make it more difficult for health professionals to treat heat, human health, or smoke-related illnesses. Seniors in particular are usually more susceptible to heat-related illnesses, pathogens, and smoke conditions because they are more likely to have medical conditions that can worsen with extreme heat, and often take medicine that makes it harder for them to stay cool. These individuals may not be able to maintain their homes or properties in defense of wildfire and severe wind, as well as have difficulty evacuating during emergencies cause by severe storms, wildfire, or landslides. Power outages from Public Safety Power Shutoff (PSPS) events due to extreme heat or severe wind can also isolate these persons and potentially cause life-support systems to fail.

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**Low-resourced and immigrant communities**, such as immigrant communities, linguistically isolated persons, and low-resourced people of color, are highly vulnerable to drought, extreme heat, human health hazards, severe wind, severe storms, and wildfire. These populations may be hesitant or unable to seek help due to language barriers, citizenship or immigration concerns, and racially based discrimination or profiling.<sup>4</sup> These individuals may live in low-lying areas or less resilient structures that can be damaged by severe storms, severe wind, and wildfires. Immigrant communities and low-resourced people of color may not have the financial means to pay for increased utility costs for water and electricity due to extreme heat and drought, or increased medical costs because of human health hazards, wildfire smoke, and extreme heat. Financial assistance programs, such as PACE, are available to assist with upgrades to some homes and FEMA assistance is available post-disaster; however, they may not be accessible for those with language barriers or for immigrant communities.

**Persons experiencing homelessness** lack permanent and often temporary shelter, which can leave them directly exposed to high temperatures, smoke from wildfires, severe wind, flooding from severe storms, and human health hazards. These persons may not have access to cool locations, water, sunscreen, or protective equipment to increase resiliency to extreme heat, human health hazards, and smoke conditions. High winds and heavy rainfall can damage or destroy temporary shelters and personal property of persons experiencing homelessness, and recovery can be difficult for these populations.

**Persons living in mobile homes** are highly vulnerable to extreme heat, landslides, severe wind, and wildfire. Mobile homes are generally less resilient than other housing types, making them more susceptible to damage from landslides, severe storms, and wildfire. People who live in mobile homes are more likely to suffer harm during a hazard event due to the methods and materials used for mobile home construction. Mobile homes may also lack sufficient insulation or air conditioning, which can increase indoor air temperatures for persons living in mobile homes during extreme heat conditions and exposure to wildfire smoke. Mobile home residents may be able to receive some financial relief from the California Department of Housing and Community Development if their home is damaged in a disaster; however, not all mobile homes may qualify for this assistance.

**Persons living on single-access roads** can become isolated from the community if their access routes or roadways become blocked or impassable due to landslides, wildfire, downed trees and debris from severe winds, severe storms that cause flooding, and other forms of severe weather. Blocked access routes can prevent evacuation during an emergency and access by emergency personnel and first responders. Residents and business owners who live on single-access roads may be unable to obtain medical care or vital goods such as food and medicine if their access routes or roadways become blocked or impassable.

**Overcrowded households** are highly vulnerable to human health hazards as overcrowding conditions facilitate the spread of contagious diseases, such as respiratory diseases including influenza, COVID-19, and pneumonia. Crowded housing conditions can increase interior moisture, providing a habitat for respiratory viruses, mites, roaches, and molds. While some households may be able to install improved air filtration and ventilation systems to reduce the spread of respiratory diseases, others may lack the financial means to make these retrofits.

## Buildings and Infrastructure

Buildings and infrastructure vulnerability include the structures that support the economic drivers and services in the City of Santa Rosa. These assets are most vulnerable to severe storms, landslides, and wildfire. Of the 23 different types of buildings and infrastructure, 10 scored as having a high vulnerability to at least one hazard. Transportation infrastructure, including major roads and highways, railways, and single-access roads have similar vulnerabilities, and are therefore combined herein.

**Electrical transmission infrastructure** is highly vulnerable to extreme heat, landslides, severe wind, severe storms, and wildfire. Electric transmission infrastructure is dependent on overhead power lines owned and operated by PG&E. Extreme heat can cause mechanical failure of electrical equipment, heat damage to the aboveground infrastructure, and a high demand for electricity due to air conditioning units. Increased electricity usage for air conditioning during heat waves can overtax electrical transmission lines and transformers, which may malfunction or fail, causing power outages. Severe winds can cause transmission lines to sway near each other, potentially leading to arcing. This can generate sparks, excessive heat, and line damage. Landslides can damage electrical transmission lines if their foundations are undermined or fail. Wildfires can also damage power lines and substations. PG&E is currently conducting a climate vulnerability assessment to assess the risk and vulnerability of the infrastructure they operate to climate change hazards, which includes identifying any necessary improvement. However, some measures can both be expensive and require yearly or seasonal management activities.

**Homes and residential structures** are highly vulnerable to landslides, severe wind, severe storms, and wildfire. Homes in northeastern, eastern, and southern Santa Rosa are located Santa Rosa's Wildland-Urban Interface Fire Area and contain some areas identified as CAL FIRE's Very High Fire Hazard Severity Zones and California Geological Survey's landslide potential areas. These hazards can damage or destroy homes. Homes in western Santa Rosa and along the creeks are in the 100-year or 500-year floodplains and can be damaged by heavy rainfall that causes flooding. If flooding does not destroy a home, it can lead to mold and mildew, making the structure uninhabitable. Homes, especially older homes, can also be damaged by downed trees and debris from severe winds and other forms of severe storms. Funding sources such as PACE programs and rebates for energy-efficiency upgrades can help homeowners, including low-income residents, retrofit their homes. Homes can also be hardened against severe wind, severe storms, and landslides, and defensible space can be created to minimize damage from wildfires. However, these adaptive options can be expensive and are not always feasible for residents.

**Transportation infrastructure**, including major roads and highways, railway, and single-access roads are highly vulnerable to extreme heat, landslides, severe wind, severe storms, and wildfire. Major roads, which are frequently used as evacuation routes, can be blocked or closed due to catastrophic events and natural disasters such as wildfires, landslides, or flooding from severe storms, disrupting commute patterns and preventing effective evacuations during emergencies. Railways, which provide both freight and passenger services, can deform and buckle under extreme heat conditions or be flooded by heavy rainfall during a severe storm. If one section of a railway is damaged and becomes unusable, there are no alternative railway routes that can be used until the railway is repaired. However, roadways can serve as alternative transportation routes if railways become unusable. Single-access roads are the most vulnerable transportation asset, as alternative routes may not be available if these roadways are damaged or become impassable due to landslides, heavy rainfall that causes flooding, downed trees from severe wind, and wildfire. This could trap or isolate residents and business owners who live and work on

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single-access roads, preventing them from evacuating, seeking medical care, or from obtaining vital goods such as food and medicine.

**Dams** are highly vulnerable to landslides and severe storms. Four dams in and surrounding the city are located within a landslide susceptibility area, which can cause instability of a dam or seepage within dam structures.<sup>5</sup> Heavy rainfall from severe storms may cause reservoirs to fill too quickly for the capacity of the spillway and dam structure. This can cause water to spill over the dam, damage spillways, and ultimately cause dam failure, resulting in major flooding downstream. The California Division of Dam Safety regulates dams in California. Upgrades or repairs to dams can be expensive and take many years to complete.

**Parks and open spaces** in the city are highly vulnerable to drought and landslides. Drought can cause unirrigated open spaces to lose plants and wildlife, reducing the available ecosystem services and quality of the open space.<sup>6</sup> Some parks and open space may function as intended during drought conditions, especially those managed with native and/or drought-tolerant landscaping and water and soil conservation and moisture retention techniques. Some public and private parks and green spaces, such as Nagasawa Community Park, Fountain Grove Golf Course, Howarth Memorial Park, Spring Lake Park, East Skyhawk Park, and others are in landslide susceptibility areas. Landslides can undermine walking and biking paths or damage park facilities in the city. Park facilities, trails, and paths can be retrofitted to prevent damage from landslides or rebuilt after landslides; however, this can become expensive for facilities that are repeatedly lost or damaged due to hazards.

**Communication facilities** are highly vulnerable to severe wind. Communication facilities can be damaged by debris carried by severe winds, causing them to malfunction and become unable to meet the demands of the community. In some cases, communication systems can be overloaded during a hazard event or a power outage, preventing the system from functioning as needed. Communication facilities can be retrofitted to prevent damage from severe wind or repaired after severe wind events to ensure reliable communication services. However, this can be expensive for facilities that are repeatedly lost or damaged due to hazards.

**Flood-control infrastructure**, such as flood-control channels, basins, and storm drain infrastructure, are highly vulnerable to severe storms that increase the risk of floodwaters overflowing banks during periods of heavy rainfall, as well as blockage of storm drain systems from landslides and wildfires. This can lead to the failure of flood-control systems or damage to infrastructure that drains stormwater away from both rural and urban areas, resulting in increased risks of flooding, damage to creek ecosystems, and degradation of water quality. Upgrades to flood-control infrastructure can be expensive and require coordination with multiple regional and state agencies, delaying the upgrade process.

**Water and wastewater infrastructure** are highly vulnerable to severe storms that cause flooding due to heavy rainfall. Although water infrastructure is likely to experience only minor effects, the Santa Rosa Laguna Treatment Plant is within the 100-year flood hazard zone.<sup>7</sup> During heavy rainfall, the wastewater infrastructure plant could be flooded and damaged, causing raw sewage to backup and flow into the water and soil surrounding the plant. The wastewater treatment plant currently has a temporary floodwall, but a permanent solution is needed. Furthermore, various aspects of the plant can be upgraded and retrofitted to prevent damage from flooding associated with severe storms. However, this can be expensive and take several years to complete once funding is available.

## Economic Drivers

Economic driver vulnerability includes the economic assets and activities that support the Santa Rosa economy. These assets are most vulnerable to extreme heat and wildfire. Of the eight different types of economic drivers evaluated, three scored high for at least one hazard. Due to similar impacts and adaptive capacity, outdoor recreation and state and regional parks have been combined into one critical vulnerability discussion.

**Agribusiness** is highly vulnerable to agriculture and ecosystem pests and diseases, drought, extreme heat, severe wind, severe storms, and wildfire. Agribusiness including agricultural services and processing is highly dependent on the region's thriving agricultural production, which is highly vulnerable to these hazards. Drought can reduce water supplies, making less water available for crop irrigation and reducing yields or forcing farmers to change crop patterns or even the crops themselves. Extreme heat can damage vineyards and crops that depend on long, cold winters which may become less frequent. For example, cold-hardy crops, such as lettuce and apples, may become less suitable as temperatures increase, and melons and sweet potatoes may become more common because they can withstand high temperatures. Severe storms can harm or kill crops and agricultural infrastructure, reducing yields and causing costly repairs. Smoke from wildfires can not only damage crops such as vineyards, but can also harm farmworkers, which can impact the ability to effectively manage and harvest the products that are processed in Santa Rosa. In some cases, farmers may be able to find crop varieties that are more resilient to these changes; however, the processing of these crops may be different due to growing constraints. Agriculture pests and diseases may become more common as temperatures rise and droughts become more frequent, and some farmers may not be able to adjust to an increase in pests, reducing the amount of agricultural goods being processed in the city. Improved drainage and other infrastructure, changes to pest management activities, and increased personal protective equipment at farming operations may help reduce damage from hazards and help maintain the agribusiness industry in Santa Rosa. However, many of these actions can be expensive and may not be appropriate for all types of farming operations.

**Outdoor recreation and tourism** within the city and in surrounding state and regional parks is highly vulnerable to agriculture and ecosystem pests and diseases, drought, extreme heat, landslides, and wildfire. Drought and ecosystem pests and diseases can harm the plants and wildlife in state and regional parks, reservoirs, or creeks within and surrounding the city. Outdoor recreation facilities may close or reduce hours during extreme heat, smoke, or wildfire conditions, and after landslides. People may be less willing to travel to the city for outdoor recreation activities. Smoke created by wildfires can also curtail outdoor recreation activities as poor air quality can be harmful to people participating in outdoor activities. Defensible space and slope stabilization can be created around some sites, and outdoor recreation activities can be relocated to areas with accessible roadways and away from poor air quality or high temperatures, but these areas may not be in the city or attract as much economic activity.

**Education** is highly vulnerable to wildfires as students, faculty, and staff may relocate after a wildfire has occurred in the city. In the aftermath of the Tubbs Fire in 2017, school enrollment dropped significantly, preventing the education system from fully recovering. This pattern may decrease the number of education sector employment opportunities within the city. Education as an economic driver is highly dependent on the number students in a school district or at a college, and therefore the industry may have a difficult time recovering.

## Ecosystems and Natural Resources

Ecosystem and natural resources, such as plants, trees, wildlife, and ecosystems in Santa Rosa, are most vulnerable to drought and extreme heat. Of the six different types of ecosystems and natural resources, four scored as having a high vulnerability to at least one hazard.

**Aquatic and riverine** ecosystems are highly vulnerable to drought, extreme heat, landslides, severe storms, and wildfire. Drought can lower water levels and water quality of aquatic and riverine ecosystems, contributing to algal blooms that lower the concentrations of dissolved oxygen, causing harm to fish and other aquatic species. Extreme heat can raise water temperatures in aquatic systems, also increasing dissolved oxygen content and decreasing overall water quality.<sup>8</sup> Landslides, heavy rainfall associated with severe storms, and fire retardants used to fight wildfires, can alter water courses and increase sediment, contaminants, and harmful nutrients in these systems. Sufficient precipitation, cooler temperatures, and improved water quality are necessary for recovery of fish and plant populations.

**Douglas-fir forests** are highly vulnerable to ecosystem pests and diseases, drought, extreme heat, and wildfire. Higher temperatures and drought can stress Douglas-fir trees and make them more susceptible to damage from pest infestation, such as the bark beetle, which prevents the flow of nutrients the forests need to survive. Bark beetle eggs typically will not survive a hard freeze<sup>2</sup> so warming temperatures have allowed the insects to flourish. Diseased or dying forests are more susceptible to wildfire and provide fuel for a fire to progress. Many Douglas-fir forests have reduced capacity to effectively recover from extreme heat events, prolonged drought, or pests and diseases. Seed longevity is projected to decrease, and fertility can decline slightly, making it harder for forests to reestablish themselves. This can create barriers to continuity (interconnected patches of a particular ecosystem) and dispersal (when seeds move from one site to a growing site) due to the rural and remote nature of the county.<sup>9</sup> These forests can also be managed to prevent or lessen the severity of wildfires; however, land management faces regulatory, financial, and personnel restrictions that limit the ability to effectively manage forests.<sup>10</sup>

**Oak woodlands** are highly vulnerable to ecosystem pests and diseases and severe wind. Sudden oak death and other pests and diseases can devastate oak woodlands, which may worsen with extreme heat and drought. Severe wind can cause sudden oak death to spread more rapidly within the ecosystem, harming oak trees and the wildlife that depend on these woodlands. Oak woodlands can typically recover from natural disturbance regimes, including pests and diseases. However, the spread of sudden oak death may not be manageable with increased drought conditions.<sup>11</sup>

**Wetlands** are highly vulnerable to drought and extreme heat. These ecosystems are largely dependent on precipitation for their water sources, and drought can reduce precipitation and soil moisture, leading to tree and shrub ecosystem encroachment.<sup>12</sup> Extreme heat can reduce the quantity and quality of water available for wetland habitats. Due to low connectivity and fragmented distribution of wetlands, these ecosystems may face difficulty adapting to extreme heat and drought conditions. This ecosystem is also highly dependent on water availability and may not be able to recover without an influx of water.<sup>13</sup> Ecosystem managers can restore wetland functions and create new wetlands; however, this can require coordination with land managers and can be expensive to complete.

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<sup>2</sup> A hard freeze occurs when air temperatures fall to 28 degrees Fahrenheit or lower and then stay below 32 degrees Fahrenheit for several hours or days.



## Key Services

Key services vulnerability includes the essential goods, utilities, and services to residents and visitors in the city. These assets are most vulnerable to wildfire. Of the eight different types of key services, four scored as highly vulnerable to at least one hazard.

**Energy delivery services** are highly vulnerable to extreme heat, landslides, severe wind, and wildfire. These services are dependent on overhead power lines and underground natural gas pipelines owned and operated by PG&E, which are susceptible to extreme heat, fallen trees from severe winds, landslides, and wildfire. Extreme heat can cause power outages due to mechanical failure of electrical equipment, heat damage to the aboveground infrastructure, and a high demand for electricity due to air conditioning units. Solar and hydroelectric energy production could decrease due to extreme heat. Solar photovoltaic panels experience a decrease in efficiency due to excessive heat of converting solar energy to electric energy by 10 to 25 percent as temperatures rise. Solar panels can also experience a decrease in energy output by as much as 20 percent due to smoke and ash conditions.<sup>14</sup> The reservoirs that produce hydroelectric energy may experience higher rates of evaporation, which reduces the amount of water available to generate electricity. Electrical lines that are close to forested areas could be damaged by falling trees that result from severe wind. These impacts could become chronic as forest ecosystems weaken due to extreme heat and drought. Landslides can damage electrical transmission lines if their foundations are undermined or fail. High winds can also cause PG&E to turn off electricity to prevent sparks, as part of a PSPS event, which disrupts energy delivery to Santa Rosa. Wildfires can also damage power lines, natural gas lines, and substations. PG&E is currently conducting a climate vulnerability assessment to assess the risk and vulnerability of the infrastructure they operate to climate change hazards, which includes identifying any necessary improvements. However, some of these measures can both be expensive and require yearly or seasonal management activities.

**Water and wastewater services** are highly vulnerable to drought, landslides, severe storms, and wildfire. Drought can reduce water available from the Russian River, which is the primary source of wholesale water supply provided by Sonoma Water. This can lead the City to use more groundwater to meet the demand of residents, government and other institutions, industries, and businesses and/or to declare a water shortage emergency and implement its Water Shortage Contingency Plan. Landslides can damage the pipelines carrying water to residents and wastewater to the wastewater treatment plant, and services could be suspended until repairs are made. Heavy rainfall caused by severe storms can cause flooding that can overwhelm the Santa Rosa Laguna Treatment Plant and untreated effluent could leak into the surrounding water and soil. Wildfires could degrade the surface water quality that Santa Rosa relies on due to ash content or fire retardants that contaminate surface water supplies. Increased water conservation measures, use of more recycled water, and more extensive treatment equipment can protect water services throughout the city. Wastewater services may have a more difficult time adapting due to the expensive nature of moving and retrofitting wastewater infrastructure.

**Public transit services** are highly vulnerable to severe wind, severe storms, and wildfire. These hazards can cause delays or rerouting of bus transit and may delay or block railway transit services. Transit services could be delayed for hours or days, depending on the severity of the event. Transit users may also be deterred from using transit if roadways and bus stops are flooded or during smoke conditions from wildfires. In some cases, buses can be rerouted if roads become impassable due to flooding or wildfire. However, this is not possible for rail-based transit services.

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**Emergency medical services** are highly vulnerable to human health hazards as an increase in vector-borne and other illnesses may cause the demand to outweigh the capacity of emergency medical response services. There may be shortages of healthcare facilities, equipment, pharmaceuticals, and personnel if healthcare workers become sick or if supply chains are disrupted. Local and regional medical centers and providers can strengthen medical supply chains and prepare emergency contingency plans for if or when human health hazards increase in frequency and intensity. However, this may take time and require extensive coordination.

### CONCLUSION

Out of the 65 populations and assets Santa Rosa analyzed, 40 are highly vulnerable to one or more hazard condition. Wildfire is responsible for the largest number of high vulnerability scores, followed by extreme heat and severe storms. The resilience of these populations and assets can increase through the implementation of adaptation and hazard mitigation goals, policies, implementation programs, and projects, such as those discussed in the 2016 *Santa Rosa Local Hazard Mitigation Plan* or EcoAdapt's *Climate Vulnerability and Adaptation Report for Santa Rosa*. Adaptation is the adjustment to natural and human systems in response to actual or expected changes in climate conditions to reduce the harmful effects of actual or expected changes.<sup>15</sup> The results of the Climate Change Vulnerability Assessment and the reports discussed above can be used to develop General Plan goals, policies, and actions to reduce the critical vulnerabilities and increase resilience throughout the City of Santa Rosa.

## APPENDIX A: ABBREVIATIONS AND GLOSSARY

### Abbreviations

**AB:** Assembly Bill

**APG:** Adaptation Planning Guide

**Cal OES:** California Governor’s Office of Emergency Services

**CAL FIRE:** California Department of Forestry and Fire Protection

**FEMA:** Federal Emergency Management Agency

**GHG:** greenhouse gas emissions

**IPCC:** Intergovernmental Panel on Climate Change

**LHMP:** local hazard mitigation plan

**PACE:** Property Assessed Clean Energy

**PG&E:** Pacific Gas and Electric Company

**PSPS:** Public Safety Power Shutoff

**RCP:** Representative Concentration Pathway

**SB:** Senate Bill

### Glossary

The Climate Change Vulnerability Assessment uses some terms specific to adaptation planning. The following identifies and defines key terms used throughout the vulnerability assessment. For a more comprehensive list of terms commonly used in adaptation planning, consult the California Adaptation Planning Guide (<https://www.caloes.ca.gov/climate>).

#### *List of Terms*<sup>16</sup>

**Adaptation:** Making changes in response to current or future conditions (such as the increased frequency and intensity of climate-related hazards), usually to reduce harm and to take advantage of new opportunities.<sup>17, 18</sup>

**Adaptive Capacity:** The “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”<sup>19</sup>

**Climate Change:** A change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.

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**Community Asset:** A valued feature of a community that may be harmed by climate change. Community assets may include buildings, infrastructure, community services, ecosystems, and economic drivers. See also *“Populations and Assets.”*

**Drought:** A drought is a period of drier than normal conditions that results in water-related problems including, but not limited to, water supply shortages that impact people, agriculture, and ecosystems.

**Economic Driver:** Economic assets in Santa Rosa, including three agricultural-based sectors, major employment industries, and recreation and tourism on regional, State, and federal lands.

**Exposure:** The presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.<sup>20</sup>

**Extreme Event:** When a weather or climate variable exceeds the upper or lower thresholds of its observed range.<sup>21, 22</sup>

**Extreme Heat:** When temperatures rise significantly above normal levels and is measured by the number of extreme heat events per year and heat wave duration. An extreme heat day in Santa Rosa is where temperatures reach at least 98.1 degrees Fahrenheit.

**Frontline Population:** Those disproportionately affected by climate change. See *“Vulnerable Populations.”*

**Hazard:** An event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural losses, damage to the environment, interruption of business, or other types of harm or loss.<sup>23</sup>

**Hazard Mitigation:** Sustained action taken to reduce or eliminate the long-term risk to human life and property through actions that reduce hazard, exposure, and vulnerability.<sup>24</sup>

**Impact:** The effects (especially the negative effects) of a hazard or other conditions associated with climate change.

**Populations and Assets:** Populations and assets are the people, infrastructure, services, and economic drivers in the City of Santa Rosa that can be affected by climate change.

**Resilience:** The capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience. Community resilience is the ability of communities to withstand, recover, and to learn from past disasters to strengthen future response and recovery efforts.

**Risk:** The potential for damage or loss created by the interaction of hazards with assets such as buildings, infrastructure, or natural and cultural resources.

**Sensitivity:** The level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.<sup>25</sup>

**Susceptibility:** A person or population’s potential for vulnerability due to demographic, socioeconomic, and geolocation characteristics.

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**Vulnerability:** Climate vulnerability describes the degree to which natural, built, and human systems are susceptible “...to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.”<sup>26</sup>

**Vulnerability Assessment:** An analysis of how a changing climate may harm a community and which elements—people, buildings and structures, resources, and other assets—are most vulnerable to its effects based on an assessment of exposure, sensitivity, the potential impact(s), and the community’s adaptive capacity.

**Vulnerable Populations:** Vulnerable populations include, but are not limited to, elderly, children, agricultural and outdoor workers, and those suffering from pre-existing cardiovascular or respiratory conditions.<sup>27, 28</sup>

## APPENDIX B: CLIMATE CHANGE VULNERABILITY ASSESSMENT RESULTS MATRIX

POPULATIONS AND ASSETS	AGRICULTURE & ECOSYSTEM PESTS & DISEASES	DROUGHT	EXTREME HEAT	HUMAN HEALTH HAZARDS	LANDSLIDES	SEVERE WIND	SEVERE STORMS	WILDFIRE
<b>Populations</b>								
Children (under 18)	-	-	High	Medium	Low	Medium	Medium	High
Cost-burdened households	-	Low	Medium	Medium	Medium	Low	Low	Medium
Households in poverty	-	High	High	High	High	High	High	High
Immigrant communities	Medium	Medium	High	High	Medium	High	High	High
Linguistically isolated persons	-	-	Medium	Medium	Medium	Medium	Medium	High
Low-income households	-	Low	Medium	Medium	Medium	Medium	Medium	High
Low-resourced ethnic minorities	Medium	High	High	High	Medium	High	High	High
Outdoor workers	High	High	High	High	Medium	High	High	High
Overcrowded households	-	-	Medium	High	Low	Low	Low	Medium
Persons experiencing homelessness	-	-	High	High	-	High	High	High
Persons living in mobile homes	-	-	High	Low	High	High	Medium	High
Persons living on single-access roads	Low	-	-	Low	High	Medium	Medium	High
Persons with chronic illnesses and/or disabilities	-	-	High	High	Medium	High	Medium	High

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Persons without a high school degree	-	-	Low	Low	Low	Low	Low	Medium
Persons without access to lifelines	-	-	Medium	Medium	Medium	Medium	Medium	High
Renters	-	-	Low	Low	Medium	Low	Medium	Medium
Seniors (65+)	-	-	High	High	High	Medium	High	High
Seniors living alone	-	-	High	High	High	High	High	High
Students	-	-	Low	Medium	Low	Low	Low	Low
Unemployed persons	-	Medium	Medium	Medium	Medium	Medium	Medium	High
<b>Buildings and Infrastructure</b>								
Biking and pedestrian trails	Medium	-	-	-	Low	Low	Low	Medium
Bridges	-	-	-	-	Medium	Medium	Medium	Medium
Communication facilities	-	-	Medium	-	Low	High	Low	Medium
Community centers	-	-	Low	-	-	Medium	Low	-
Dams	-	-	-	-	High	Low	High	Low
Electrical transmission infrastructure	-	-	High	-	High	High	High	High
Emergency operation buildings	-	-	Low	-	-	Low	Low	-

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POPULATIONS AND ASSETS	AGRICULTURE & ECOSYSTEM PESTS & DISEASES	DROUGHT	EXTREME HEAT	HUMAN HEALTH HAZARDS	LANDSLIDES	SEVERE WIND	SEVERE STORMS	WILDFIRE
Evacuation and cooling centers	-	-	Low	-	-	Medium	Low	-
Flood-control infrastructure	-	-	-	-	-	-	High	-
Government administration facilities	-	-	Low	-	-	Low	Low	Medium
Hazardous materials sites	-	-	-	-	Medium	-	Medium	Medium
Homes and residential structures	-	-	Medium	-	High	High	High	High
Libraries	-	-	Low	-	-	Medium	Low	-
Major roads and highways	-	-	Medium	-	Low	Low	Medium	High
Natural gas pipelines: PG&E	-	-	-	-	Medium	-	Low	Low
Parks and open space	Low	High	Medium	-	High	Low	Low	Medium
Public safety buildings	-	-	Low	-	-	Medium	Low	High
Railway	-	-	High	-	-	-	High	Low
Schools	-	-	Medium	-	Low	Medium	Medium	Medium
Single-access roads	Medium	-	Low	-	High	High	High	High
Solid waste facilities	-	-	-	-	-	Low	Medium	-
Transit facilities	-	-	-	-	Medium	Low	Medium	Medium



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POPULATIONS AND ASSETS	AGRICULTURE & ECOSYSTEM PESTS & DISEASES	DROUGHT	EXTREME HEAT	HUMAN HEALTH HAZARDS	LANDSLIDES	SEVERE WIND	SEVERE STORMS	WILDFIRE
Water and wastewater infrastructure	-	Low	-	-	Medium	-	High	Medium
<b>Economic Drivers</b>								
Agribusiness	High	High	High	Medium	Medium	High	High	High
Education	-	-	-	Medium	Low	-	Low	High
Healthcare	-	-	Low	Medium	Low	-	Low	Medium
Major employers, including Public Administration	-	-	-	Low	Medium	-	Low	Medium
Outdoor recreation and tourism	Medium	Medium	High	Medium	Low	Medium	Medium	High
Retail trade	-	-	Medium	Low	Low	-	Medium	Medium
Research, development, and manufacturing	-	-	-	Low	Low	-	Low	Low
State and regional parks	High	High	High	Medium	High	Medium	Medium	High
<b>Ecosystems and Natural Resources</b>								
Aquatic/Riverine	Low	High	High	-	High	Low	High	High
Douglas-Fir Forest	High	High	High	-	Low	Low	Low	High
Grassland	Medium	Medium	Low	-	Low	Low	Low	Medium
Oak Woodland	High	Low	Low	-	Medium	High	Low	Low

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POPULATIONS AND ASSETS	AGRICULTURE & ECOSYSTEM PESTS & DISEASES	DROUGHT	EXTREME HEAT	HUMAN HEALTH HAZARDS	LANDSLIDES	SEVERE WIND	SEVERE STORMS	WILDFIRE
Riparian Woodland	Medium	Medium	Medium	-	Medium	Medium	Medium	Medium
Wetlands	Low	High	High	-	-	Medium	Medium	Medium
<b>Key Services</b>								
Communication services	Low	-	Low	-	Low	Medium	Low	Medium
Emergency medical response	Low	-	Medium	High	Medium	Low	Medium	High
Energy delivery	Medium	Low	High	-	High	High	Medium	High
Government administration and community services	-	-	Low	Low	Low	Low	Low	Low
Public safety response	Medium	-	Low	Medium	Medium	Medium	Medium	High
Public transit access	Low	-	Medium	Low	Medium	High	High	High
Solid waste removal	Medium	-	Medium	Low	Medium	Medium	Low	Medium
Water and wastewater	-	High	Low	-	High	Low	High	High

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