

**ATTACHMENT G**

**REDLINED DRAFT 2045 GENERAL PLAN SHOWING STAFF RECOMMENDED EDITS**

# 1

## INTRODUCTION

### WHAT IS THE GENERAL PLAN?

The Contra Costa County 2045 General Plan is the County's primary policy tool to guide physical changes in the unincorporated areas of the county. This General Plan looks over 20 years into the future and establishes a vision for development of our communities and stewardship of our natural environment. It is aspirational and long-range, but also practical, providing a useful, everyday guide for community planning.

This General Plan references numerous public agencies, geographic areas, and political boundaries, which often share a common name. For example, the proper noun "Contra Costa County" can refer to either the public agency led by the Contra Costa County Board of Supervisors, or the geographic area defined by Contra Costa County's borders. To avoid confusion, this General Plan uses capital letters when referencing public agencies and lowercase letters when referencing political boundaries or geographic areas. Thus, "the County" (capitalized "C") means the governing body of Contra Costa County, while "the county" (lowercase "c") means the territory within Contra Costa County's borders. In instances where complete proper nouns are used, the meaning should be discernible from the context.

### Legal Authority

California Government Code Section 65301 ~~California law~~ requires every county and city in the state to adopt a general plan "for the physical development of the county or city, and of any land outside its boundaries which in the planning agency's judgement bears relation to its planning." Decades ago, local general plans were viewed as a set of broad policies that had small roles in development decisions. However, changes in State law since the original statutes were adopted in the 1950s have vastly increased

the importance and authority of general plans. Each jurisdiction's general plan acts as its "charter" or "constitution" governing development. State law requires local governments to implement their general plan once it has been adopted.

A general plan provides a comprehensive, long-range statement of the jurisdiction's land use policies for the coming decades. It must respond to existing conditions, anticipate emerging trends that will shape the community of tomorrow, and provide flexibility for balancing necessarily competing goals and policies.

General plans typically have four defining features:

- **Comprehensive.** A general plan covers a wide range of planning-related topics such as land use, housing, economic development, environmental justice, sustainability and resiliency, transportation and mobility, public health and safety, recreation, and natural resources.
- **General.** A general plan does not attempt to address every topic in detail; instead, it provides high-level policy guidance that will be used to direct future decisions.
- **Long-Range and Aspirational.** A community's general plan articulates a vision for how it will develop, normally over a timeframe of approximately 20 years.
- **Internally Consistent and Compatible.** While addressing a wide range of topics, the goals, policies, and actions in a general plan nevertheless establish a unified and coherent framework for decision-making.





Together with specific plans adopted for various communities, the Zoning Code and related sections of the County Ordinance Code, Climate Action and Adaptation Plan, and Objective Design Standards, the County's General Plan serves as the basis for planning- and infrastructure-related decisions made by County staff, the County Planning Commission and other County commissions and committees, and the Board of Supervisors.

## USER'S GUIDE

The Contra Costa County 2045 General Plan is for all members of the community and anyone interested in the future of the county. It was crafted with a constant eye toward keeping it clear, implementable, and useful as time passes, ~~implementable, and easy to understand~~ clear. The graphic on the following page explains the individual components found on a typical page of the Plan ~~that provides~~ that provides policy guidance.

## Words, Phrasing, and Interpretation

Great care was taken to ensure that this General Plan is relatable and easy to understand. Terms of art, jargon, and unnecessarily technical or abstract language have been avoided whenever possible. Unless context dictates otherwise, all words and phrases herein should be interpreted consistently with their most common usage and meaning.

The goals, policies, and actions in this General Plan include verbs, usually at or near the beginning, that provide direction and express varying degrees of obligation or applicability. Words such as “require,” “prohibit,” “approve,” and “deny” indicate mandatory directives. “Encourage,” “discourage,” “consider,”

“should,” “may,” and similar words provide less rigid direction. The flexibility inherent to such words must not be misinterpreted though; the guidance they provide must be followed absent compelling, conflicting considerations.

While every effort has been made to provide clear and comprehensive policy direction through this General Plan's text and graphics, unique or unusual situations will necessitate interpretation from time to time. The Department of Conservation and Development Director is ultimately responsible for interpreting this document, their decisions being appealable to the Board of Supervisors as provided in Title 1 of the County Ordinance Code.

## Overview of the Elements

State law requires that general plans contain eight mandatory chapters, or “elements.” The State allows considerable flexibility in how these elements are organized. They can be combined, split up, renamed, or otherwise modified so long as the required content is present. The State also allows for inclusion of any number of optional elements to address issues of local importance. All elements, mandatory or optional, have the same legal standing once adopted. No single element supersedes any other, and all elements must be internally consistent (i.e., the goals, policies, actions, maps, and diagrams must be in harmony with one another across topic areas and not conflict). **Table INT-1** lists the State-mandated elements and their counterparts in the Contra Costa County 2045 General Plan, as well as two optional elements that the community considers fundamental to maintaining the quality of life in the county. This General Plan addresses all topics required by State law, with their organization tailored to the local context.



Placeholder page for the How to Use This General Plan graphic – Will be inserted into PDF.



**TABLE INT-1 STATE-MANDATED AND CONTRA COSTA COUNTY 2045 GENERAL PLAN ELEMENTS**

| State-Mandated Element                                                                              | Contra Costa County 2045 General Plan Element                                |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Land Use                                                                                            | Land Use                                                                     |
| Circulation                                                                                         | Transportation                                                               |
| Housing                                                                                             | Housing                                                                      |
| Conservation                                                                                        | Conservation, Open Space, and Working Lands                                  |
| Open Space                                                                                          |                                                                              |
| Safety                                                                                              | Health and Safety                                                            |
| Noise                                                                                               |                                                                              |
| Environmental Justice                                                                               | Stronger Communities<br>Also incorporated throughout all most other Elements |
| <b>Optional Elements</b>                                                                            |                                                                              |
| Any element addressing a locally relevant topic relating to the jurisdiction's physical development | Public Facilities and Services                                               |
|                                                                                                     | Growth Management                                                            |

Each Element of this General Plan includes background information that provides context for the goals, policies, and actions that follow. The background information often includes maps, diagrams, and other graphic components to illustrate key data and concepts.

In addition to the background information and goals, policies, and actions that are included in each Element, the Stronger Communities Element contains 22 **Community Profiles**, which provide community-specific guidance that speaks to the unique needs of individual communities.



*Community members discuss their vision for the future of Crockett.*

## Goals, Policies, and Actions

The Contra Costa County 2045 General Plan is built around goals, policies, and actions that must be implemented to achieve the community's vision for the future. Goals, policies, and actions are found in every Element.

Placement of a goal, policy, or action in a specific Element does not limit its scope to only that Element's topic. For example, a policy in the Conservation, Open Space, and Working Lands Element can apply to topics beyond the realm of conservation, open space, and working lands. There also is not a one-to-one correspondence between policies and actions. An individual action can implement more than one policy and contribute to achieving multiple goals across different Elements.

## Other Components of the Plan

A **Glossary** and **List of Abbreviations** are provided for reference (Chapter 11).

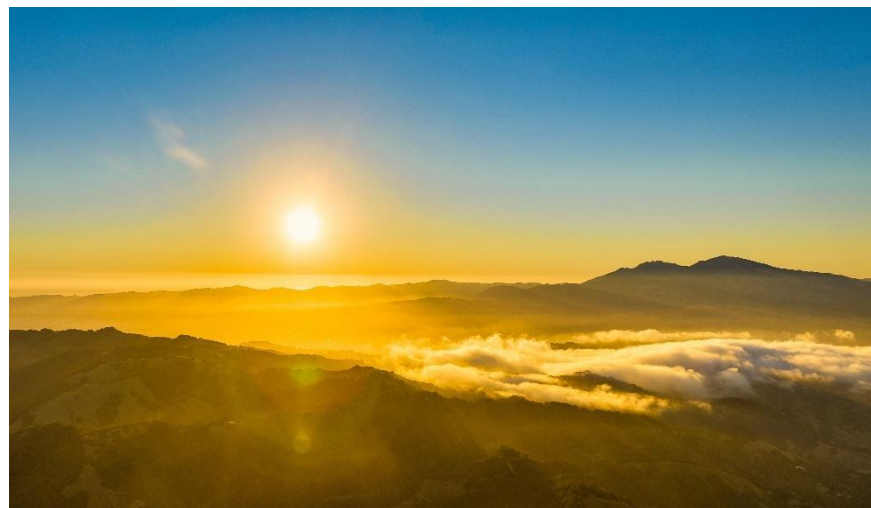
The **Appendices** include a compilation of the policies and actions that relate to each of the four themes described in the next section (**Appendix A**), as well as a technical appendix to provide additional detail on health and safety topics (**Appendix B**).

While not contained within the General Plan, an **Environmental Impact Report** (EIR) for the General Plan has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR evaluates the effects of the General Plan's policy guidance on Contra Costa County's environment and includes mitigation measures to lessen the General Plan's potential environmental impacts when possible. Policies and actions that mitigate potential impacts are identified in this General Plan with an asterisk. The EIR also identifies impacts that cannot be mitigated to acceptable levels (i.e., significant and unavoidable impacts) and areas where more detailed environmental analysis may be required as specific projects are proposed in the future.

## GENERAL PLAN OBJECTIVES AND THEMES


The Contra Costa County 2045 General Plan replaces the previous General Plan adopted in January 1991. While the 1991 General Plan was refreshed in 1996 and 2005, it remained rooted in planning concepts from the 1980s and earlier. The overarching objective of this comprehensive General Plan update has been the creation of a modern, visionary, and nimble policy document designed to address the opportunities and challenges of the 21<sup>st</sup> century. Because the county spans a wide geography with diverse communities that have different visions, goals, and opportunities for growth,

another important objective was to plan at a community scale, rather than relying on a one-size-fits-all policy approach throughout the county.



*Sunrise over Mount Diablo. (Credit: Hao Li)*

When it decided to update the General Plan, the Board of Supervisors directed County staff to incorporate four themes: environmental justice, community health, economic development, and sustainability. These themes are interrelated and woven throughout this General Plan. Policies and actions that relate to each theme are marked with a corresponding icon, as shown below and in the User's Guide above.


- **Environmental Justice.**  Environmental justice policies and actions intend to reduce the unique or compounded health risks in communities that experience the highest levels of pollution and negative health outcomes, such as asthma and low birth weight babies, and the greatest social and economic disadvantages, such as poverty and housing instability. This General Plan refers to these areas as "Impacted Communities" and focuses on improving environmental





justice for the people living there by promoting meaningful community engagement and prioritizing improvements that address their needs. Environmental justice is a new topic that was not discussed in the prior General Plan. State law now requires that general plans address environmental justice and it is a matter of great concern to many county residents. While this topic is addressed throughout the General Plan, the Stronger Communities Element provides detailed information about Impacted Communities and environmental justice.

- **Community Health.**  The physical and mental health of community members is inextricably linked to where and how communities are developed. Therefore, the community health policies and actions guide planning and development decisions to provide opportunities for community members to live healthy lifestyles, including by improving peoples' ability to walk or bike between destinations, providing multi-modal transportation connections, creating opportunities for social interaction, and promoting access to outdoor recreation, healthy food, and medical facilities. The community health policy guidance additionally aims to reduce exposure of all community members to pollutants that can adversely affect their health.
- **Economic Development.**  The economic development policies and actions aim to develop the county's workforce and attract and support sustainable businesses and industries that provide living-wage jobs, invest in hiring from the local workforce, and engage with communities. Investment in diversified industries, as supported in the economic development policy guidance, promotes innovation, builds the tax base, and allows residents to work in the county where they live.

- **Sustainability.**  Sustainability means meeting the needs of today's population while leaving viable resources to meet the needs of future generations. One important part of a sustainable future is resiliency, which is the ability to withstand, recover, and learn from a disruptive experience, such as a wildfire, flood, or pandemic. The sustainability policies and actions aim to conserve resources, improve resiliency (especially to the impacts of climate change), protect the environment, reduce pollution, and enhance overall quality of life.



*Community farms promote access to healthy food, supporting environmental justice and community health goals.*



## IMPLEMENTING THE GENERAL PLAN

Long-range planning in Contra Costa County ~~does not end~~ begins with adoption of the General Plan. To achieve the community's vision and objectives, decisions ~~about~~ on development projects, capital improvements, County programs and services, and other issues related to the physical environment must be consistent with the General Plan's policies. ~~In addition,~~ The implementing actions identified throughout the Plan must be carried out. Finally, the County ~~needs to~~ must monitor progress in achieving the major goals of the Plan, ~~periodically~~ adjusting policy guidance as needed to advance those goals ~~in response to contextual changes that may occur over the next 20 years~~ through the 2024-2045 planning period.

## County Decision-Making Structure

Decisions on matters addressed in this General Plan occur at various levels of County government.

- The **Board of Supervisors** is Contra Costa County's legislative body. The Board consists of five members, each representing a geographically-defined supervisorial district. Among its many responsibilities, the Board adopts the County's annual budget, adopts General Plan amendments and rezonings, acts on appeals of County Planning Commission decisions, and authorizes construction of capital projects.
- The **County Planning Commission (CPC)** consists of seven residents appointed by the Board of Supervisors. The CPC's responsibilities include making recommendations to the Board on General Plan amendments and rezonings, hearing and deciding on development applications for projects generating 100 or more peak hour vehicular trips, and acting on appeals of County Zoning Administrator decisions. The CPC also acts on applications referred by the Zoning Administrator.

- The Contra Costa County Planning Director is the **County Zoning Administrator**. The Zoning Administrator and their appointed Deputy Zoning Administrators render decisions on most development applications (i.e., projects generating fewer than 100 peak hour vehicular trips, certain subdivisions, land use permits, development plans, variances, sign permits, lot line adjustments, etc.).
- **Department of Conservation and Development (DCD)** staff is responsible for day-to-day implementation of the General Plan, Zoning Code, and other County planning documents. DCD staff reviews development applications for compliance with County planning policies and regulations, conducts environmental reviews, and makes recommendations to decision-makers on planning matters.

## Relationship of the General Plan to Other County Planning Documents

This General Plan establishes a vision and framework for land use planning and environmental stewardship in unincorporated Contra Costa County. To facilitate General Plan implementation, the Board of Supervisors has adopted additional documents regulating planning and development.

- **Specific Plans** focus on smaller geographic areas than general plans and address topics such as land use distribution, infrastructure, development standards (e.g., building heights and setbacks, parking ratios, and landscaping requirements), financing, and plan implementation in detail. The County has adopted specific plans for all or part of Alhambra Valley, Bay Point, Contra Costa Centre, El Sobrante, Montalvin Manor, North Richmond, Northgate, Rodeo, and Shell Ridge.
- Development activities in the unincorporated county are regulated primarily through four titles of the **County Ordinance Code**: Title 7 –



Building Regulations, Title 8 – Zoning, Title 9 – Subdivisions, and Title 10 – Public Works and Flood Control. These precise regulations address building construction, land uses, development standards, and design and construction of public improvements in greater detail than the General Plan.

- **Objective Design Standards (ODS)** facilitate expedited review of qualifying multiple-family residential and mixed-use development projects. The ODS address site design and layout, architecture, building massing, materials, lighting, and landscaping.
- The **Climate Action and Adaptation Plan (CAAP)** implements the General Plan's policy guidance to adapt to changing climate conditions and reduce greenhouse gas (GHG) emissions. The CAAP addresses behaviors, regulations, and investment decisions that directly reduce GHG emissions or promote climate resilience and lays out an implementation and monitoring program to ensure that the County reduces GHG emissions consistent with State emissions reduction targets.

State law requires consistency between the General Plan and its subordinate implementing documents. ~~Therefore,~~ Thus, when the General Plan is amended, the County must review its other planning documents and amend them as necessary to ensure consistency is maintained ~~consistency with the General Plan~~. Pursuant to State law, wherever a conflict or inconsistency exists between the General Plan and its subordinate documents, the General Plan controls and shall be followed.

## General Plan Action Program

The General Plan Action Program is the mechanism to track implementation of the General Plan's actions through 2045. The Action Program contains all

actions from the General Plan, organized by Element, and provides important details for how each action will be implemented, including:

- The goal that the action implements.
- County departments and partner agencies and organizations with primary and supporting responsibility to execute the action.
- The timeframe for achieving the action.
- General cost range estimates associated with implementing the action.

The Contra Costa County DCD is responsible for maintaining the Action Program and tracking ~~implementation~~ progress. The Action Program is maintained as an accompanying document to the General Plan so ~~that~~ it can be ~~regularly~~ updated as actions are accomplished without the need for a ~~formal~~ General Plan amendment.

~~As with other County policy documents,~~ The pace of implementation of the ~~Actions Plan~~ Program ultimately is subject to ~~dependent on~~ the resources that the County and its partners have ~~to carry them out~~ available and ~~need to~~ must remain consistent with the County's long-term financial plans, as reflected in its annual budget.

## ~~Tracking~~ Assessing Progress Toward Goals

Every five years over the lifetime of the General Plan, the County will ~~track~~ assess progress in achieving its major goals through a review of the performance measures listed at the end of each General Plan Element. Based on these reviews, the County will consider whether changes are needed to the policy framework or implementation approach to improve performance. The County will present this five-year review in a clear, concise report to the CPC and Board of Supervisors and post the report on the County's website.



## Amending the General Plan

The General Plan is not a static document; it is intended to be as dynamic as needed by the Contra Costa County community. Over time, the County will amend portions of the General Plan in response to new legislation, evolving community priorities and values, changes in the county's physical or economic conditions, and proposed development. It is also inevitable that refinements will be necessary to improve progress towards achieving the major goals of the General Plan.

General Plan amendments (GPAs) can be initiated by the County or requested by private entities. When the County receives a request for a GPA from a private entity, staff will forward the request to the Board of Supervisors with a recommendation on whether to consider the request further. If the Board authorizes the GPA process to proceed, staff will collect the required application materials and fees and prepare an environmental evaluation of the proposal as required under CEQA. After the environmental documentation is prepared, staff will submit a report to the CPC. The report will include an analysis of the request, a recommendation to approve or deny, and findings to support the recommendation. The CPC will then conduct a public hearing and forward a recommendation to the Board of Supervisors, which will conduct another hearing and render a decision. The process is similar for County-initiated GPAs.

To amend the General Plan, the Board of Supervisors must determine that the proposed GPA satisfies the following findings:

- (a) That adoption of the proposed General Plan amendment is in the public interest, as required under Government Code Section 65359(a).
- (b) That adoption of the proposed General Plan amendment will not exceed the annual limit on General Plan amendments specified in Government Code Section 65358(b).

- (c) That upon adoption of the proposed General Plan amendment, the General Plan will remain internally consistent and compatible, as required under Government Code Section 65300.5(a).
- (d) That adoption of the proposed General Plan amendment will not violate the provisions of the 65/35 Land Preservation Standard or Urban Limit Line, as outlined in Measure L-2006.
- (e) That adoption of the proposed General Plan amendment is compliant with the provisions of Measure J-2004, the Contra Costa Growth Management Program, and related Contra Costa Transportation Authority resolutions.
- (f) That adoption of the proposed General Plan amendment will not impede attainment of the County's goals related to environmental justice, community health, economic development, and sustainability.

If these findings can be satisfied, then the Board will adopt a resolution approving the GPA.





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# 2

## PLANNING CONTEXT

### PLANNING AREA

Contra Costa County encompasses 806 square miles, approximately 716 of which are land. About 40 percent of this area is under the planning jurisdiction of 19 incorporated cities and towns. The remainder, which is under the County's planning jurisdiction, is diverse and ranges from small agricultural communities like Byron in the county's southeast corner, with a quiet downtown and fewer than 1,200 residents, to Contra Costa Centre, a bustling mixed-use transit village with a population density of 8,400 people per square mile.

The landscape of Contra Costa County is governed and managed by a variety of agencies. The 19 incorporated cities and towns control land use and various other activities within their city/town limits. The County controls land use and development in the unincorporated areas outside of those city/town limits. Each city or town has a "sphere of influence" (SOI) that extends beyond the city/town limits and delineates unincorporated areas that the city or town may annex in the future. Once annexed, those areas become part of the incorporated city or town and are no longer regulated by this General Plan. Figure PC-1 displays the planning area boundaries in the county.

Other agencies that regulate and manage land, resources, facilities, and activities in the county include various elements of the federal and California governments and many different types of special districts, such as transit, school, park, utility, and fire districts. The jurisdictional areas of these agencies overlap with the incorporated areas governed by cities and towns and the unincorporated areas governed by the County.



*Rolling hills span large portions of Contra Costa County's vast landscape. (Community-submitted photo)*

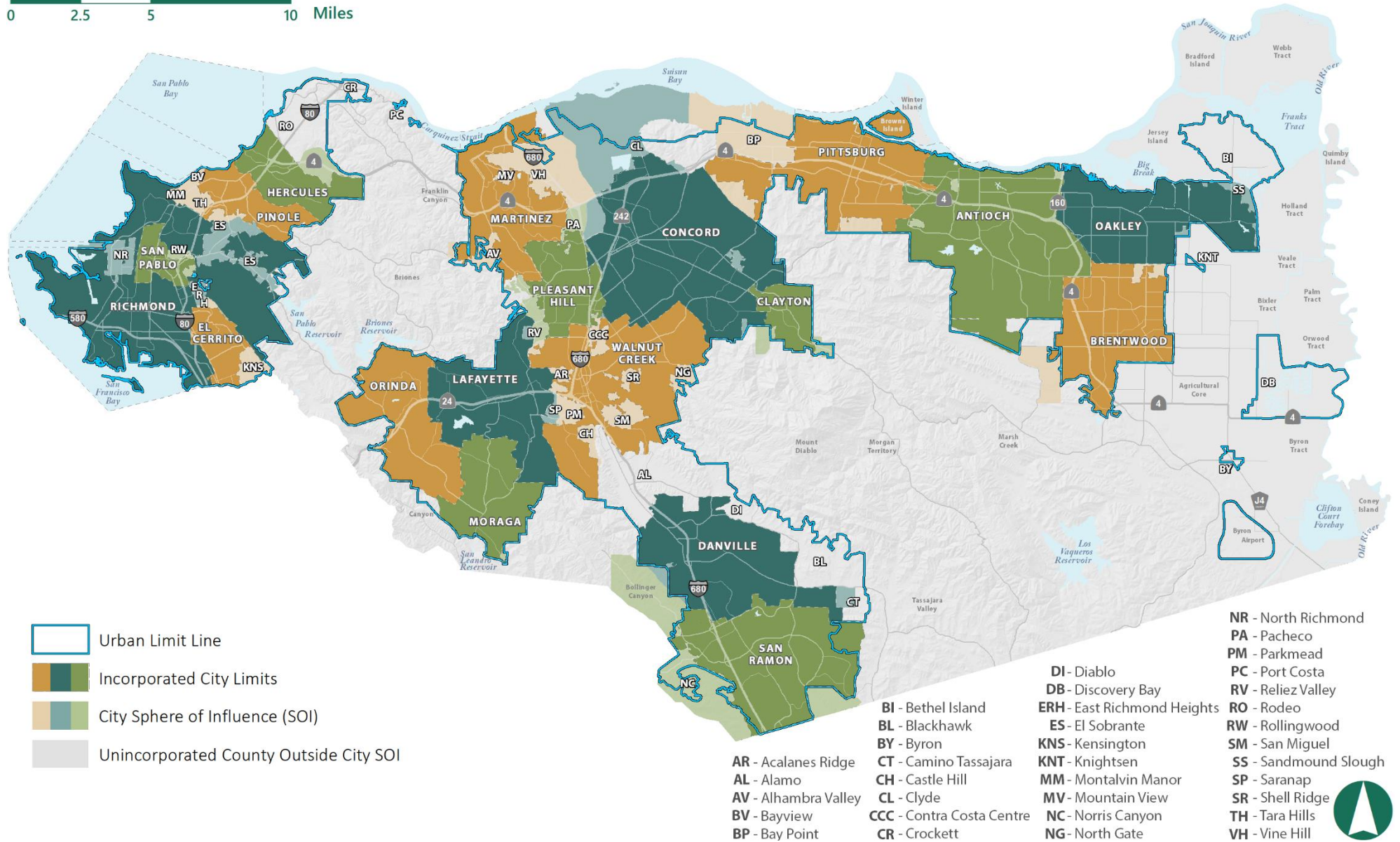
### GEOGRAPHIC SETTING

Contra Costa County is in the East Bay region of the San Francisco Bay Area. The county directly abuts San Francisco, San Pablo, and Suisun Bays; the Sacramento-San Joaquin Delta; and Alameda and San Joaquin Counties. Beyond the Bays and Delta are the counties of San Francisco, Marin, Napa, Solano, and Sacramento.



FIGURE PC-1 PLANNING JURISDICTIONS

0 2.5 5 10 Miles





There is a long history of people living in what is now Contra Costa County and using the land for a variety of purposes. Members of the Bay Miwok, Northern Valley Yokuts, and Ohlone Tribes were the first inhabitants (the county's native people are further discussed in the Conservation, Open Space, and Working Lands Element). Spanish colonization of what is now California began in 1769 (Contra Costa County's name is Spanish for "opposite coast" because of its location across from San Francisco). Spain controlled the area until Mexico won its independence in 1821. Under Mexican rule, much of the county was divided amongst 15 land grants, or ranchos. Acalanes, Pacheco, El Sobrante, and many other locations in the county derive their names from the ranchos or their owners. The county, along with the rest of California, was ceded to the United States in 1848 following the Mexican-American War. Contra Costa County was established in 1850 as one of California's original 27 counties, with Martinez as the county seat. Fewer than 5,000 people lived in the county at the time.

The current physical form and character of the county has largely been defined by the pattern of urban development sparked by rapid industrialization during World War II and the economic expansion and diversification that followed.

- West County was the first area to develop with urban and industrial uses. Several cities and unincorporated communities existed in the area prior to World War II, but they were relatively small (Richmond, by far the largest city in the county at the time, had a population of 23,093 in the 1940 Census). However, West County became a hub of industrial activity during the war (Kaiser Shipyards in Richmond produced nearly 750 ships, more than any other shipyard complex in the country), leading to fast and extensive urbanization. By 1950, Richmond's population approached 100,000.

- Central County experienced a wave of suburbanization during the prosperous post-World War II economy of the 1950s and 1960s. Rural agricultural communities were transformed into cities as middle- and upper-class residents, most of whom were White, were provided the opportunity to live in newly constructed housing tracts and commute via the expanding freeway network. Construction of the Bay Area Rapid Transit (BART) system in the 1960s and 1970s enhanced the area's desirability and facilitated additional development.



*Portions of Pleasant Hill and Concord in the late 1950s, including Interstate 680, which was under construction, and new subdivisions adjacent to the agriculture that existed at the time. (Credit: Contra Costa Historical Society)*

- The suburban development pattern began extending into the agricultural landscape of East County in the 1980s. Small cities such as Brentwood grew rapidly, and a new city, Oakley, was incorporated in 1999. Residents were attracted to East County by lower housing costs



and scenic open spaces, as well as the extension of BART to the Pittsburg/Bay Point Station in 1996.

## SOCIOECONOMIC SETTING

### Demographic Characteristics

Nearly 1.2 million people live in Contra Costa County. Approximately 175,000 reside in the unincorporated county, making it the most populous of Contra Costa County's 20 planning jurisdictions. Most of the county's population is consolidated along the major transportation corridors, including Interstates 80 and 680, State Routes 4 and 24, and the BART lines. Most job opportunities are within those same population centers, the majority of which are incorporated, though there are almost 40,000 jobs within the unincorporated county.

The median age of Contra Costa County residents is 40 years old. The population has been steadily aging since 1970, when the median age was about 28 years old. Since 2010, the fastest-growing age group has been seniors 65 and older as the Baby Boomer generation ages. The second-fastest growth occurred in the 55 to 64 age group, which includes younger Baby Boomers and older members of Generation X. In the unincorporated county, the majority of residents fall within the 45-64 and 5-19 age brackets. The youngest unincorporated communities are Bay Point and North Richmond, with respective median ages of 32 and 34, while the oldest unincorporated communities are Alamo and Diablo, where the median age is 51 and 56, respectively.

The median household income for a family of four in Contra Costa County is almost \$154,000. Median household incomes vary significantly across communities. The median household income for a family of four in North

Richmond is under \$60,000, while median incomes for a family of four in Alamo and Diablo are over \$250,000.

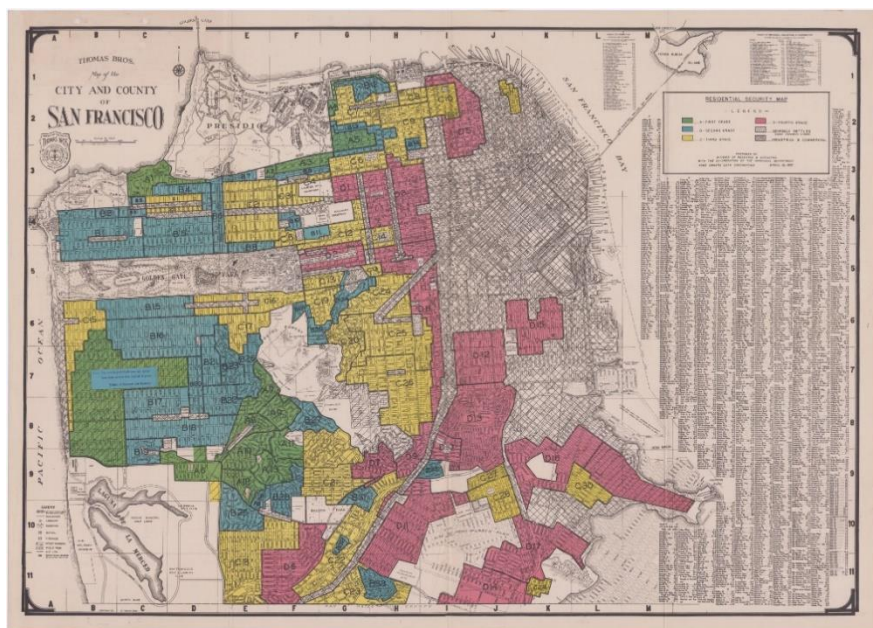
Overall, approximately 40 percent of Contra Costa County residents are non-Hispanic White, 9.5 percent are Black or African American, 27 percent are Hispanic or Latino, 20 percent are Asian, and 3.5 percent are Native American, Pacific Islander, or other races. The racial and ethnic makeup of communities also varies across the county, ranging from North Richmond, where 95 percent of residents are people of color, to Diablo, where 5 percent of residents are people of color.

### Relationship Between Land Use Practices and Socioeconomic Outcomes

Land use practices across much of the United States are rooted in a legacy of discrimination. In the late 1800s and early 1900s, large American cities, including New York, San Francisco, Los Angeles, and Boston, began experimenting with regulations similar to modern zoning. Laws were enacted to address overcrowding, the negative impacts of industrialization, and development of substantially taller buildings made possible by new technologies and construction methods. In 1916 New York adopted the first American zoning ordinance.

These early planning regulations and policies aimed to improve public health, but typically had racist or classist underpinnings as well. Those responsible for shaping these policies often sought to maintain, and in many cases create, segregated communities. Racially-motivated zoning plans kept communities of color in the inner city near industrial and other polluting land uses, particularly during the Great Migration when Black people were moving from rural communities in the South to larger cities in the North and West. White families, meanwhile, were encouraged to move toward urban outskirts and newly-constructed suburbs, away from the harmful aspects of city life.

These discriminatory zoning practices were initially deemed unconstitutional in *Buchanan v. Warley*, a landmark Supreme Court case from 1917, but they continued to be enforced and shaped the future of racially discriminatory housing policies. Harland Bartholomew, the first urban planner employed full-time by a major American city, stated that a goal of St. Louis' 1919 zoning plan was to, "preserve the more desirable residential neighborhoods" and prevent movement into "finer residential districts...by colored people." In 1926 another landmark Supreme Court case, *Euclid v. Ambler*, established that zoning itself is constitutional. This prompted zoning, and its ability to segregate communities, to spread rapidly throughout the country.



*This 1937 map illustrates the redlining of San Francisco based on Home Owners' Loan Corporation data. (Credit: University of Richmond Mapping Inequities Project)*

Redlining, a practice that emerged in the 1930s, further perpetuated community segregation as it hindered the ability for people of color to obtain

real estate loans. The Home Owners' Loan Corporation, established in 1933 as part of the New Deal, created maps to inform the risk level of a loan in a given area. Surveyors delineated and rated neighborhoods in numerous metropolitan areas; those with the lowest rating were outlined in red (hence the term "redlining"). These ratings were often based on the racial makeup of the neighborhood, with communities of color regularly ranking lowest. This practice denied people of color access to financial resources and associated opportunities, leading to disinvestment, low homeownership rates, and decreased property values. New Deal-era investments in the 1930s followed these trend lines by focusing investments in White neighborhoods.

New forms of housing-related discrimination appeared in the 1940s and 1950s. World War II veterans were entitled to benefits provided through the Servicemen's Readjustment Act of 1944, also known as the G.I. Bill, which among other things included access to low-cost mortgages and money to attend college. However, while these opportunities ostensibly were available to all who had served, they overwhelmingly benefited White veterans and facilitated "White flight" from cities to suburbs. Meanwhile, public infrastructure and redevelopment projects often displaced communities of color that remained in urban areas. Continuing through the 1950s and into the 1960s, urban renewal policies sought to eliminate blight by razing and reconstructing large sections of cities, dislocating residents and often destroying the fabric of minority communities in the process.

In the 1960s, legislation such as the Fair Housing Act and Civil Rights Act aimed to challenge exclusionary zoning and discrimination in housing. These laws prohibited discrimination based on race, color, religion, sex, national origin, disability, familial status, and age, and created a duty within all levels of government to promote fair housing and overcome segregation. Despite these efforts, the effects of exclusionary zoning practices and discriminatory housing policies still contribute to wealth disparities. Home ownership has been one of the most effective means of building family wealth in America.



Communities of color who were denied home ownership opportunities have not been able to build equity and wealth as effectively as others.

10. The real property above described, or any portion thereof, shall never be occupied, used or resided in by any person not of the white or Caucasian race, except in the capacity of a servant or domestic employed thereon as such by a white Caucasian owner, tenant or occupant.

*Restrictive covenants like this were included in the deeds to thousands of residential properties developed in Contra Costa County following World War II.*

In Contra Costa County, this wealth disparity is evident through demographic data showing that many of the unincorporated communities with low median household incomes also have a high proportion of residents that are Black, Asian, or Latino. State data also indicates that the same communities suffer from higher rates of health conditions like asthma and cardiovascular disease. Proximity to pollution, lack of access to adequate healthcare, and public and private disinvestment have all contributed to these conditions.

In 2022, the County established the Office of Racial Equity and Social Justice to address local racial inequality and social injustice issues. This General Plan aligns with that mission by confronting over 100 years of discriminatory planning practices in our country, explicitly working to eliminate wealth and health disparities and progressively improve quality of life and health outcomes in communities of color.

## THE GENERAL PLAN UPDATE PROCESS

The physical and socioeconomic settings of Contra Costa County are important in shaping the General Plan. Equally important are the voices of the people who shared their needs and ideas and helped the County articulate a vision for the future.

The process to update the General Plan began in December 2017 when the Board of Supervisors directed the Department of Conservation and Development (DCD) to oversee updates to the General Plan and Zoning Code, which itself had never been comprehensively overhauled since its original adoption in 1947. The Board subsequently directed DCD to concurrently update the County's 2015 Climate Action Plan. Substantive work on the updates began in September 2018, with public outreach kicking off in February 2019. Over the next ~~four~~<sup>five</sup> years, the County held or participated in over ~~425~~<sup>150</sup> public and community-organized meetings with residents, community advocates, stakeholders, and public officials, including:

- ~~Multiple~~<sup>44</sup> meetings of the Board of Supervisors, Planning Commission, Sustainability Commission, Library Commission, Hazardous Materials Commission, Arts and Culture Commission, Sustainability Committee, Transportation, Water, and Infrastructure Committee, Aviation Advisory Committee, Historic Landmarks Advisory Committee, ~~Aviation Advisory Committee~~, and all 13 Municipal Advisory Councils.
- ~~Almost~~<sup>Over</sup> 50 community meetings, workshops, and open houses held across the county.
- Stakeholder meetings on environmental justice, community health, sustainability, and economic development.
- Native American tribal consultations.
- Over ~~230~~ meetings with various community-based organizations representing a wide range of interests in the county.

In addition, throughout the process the Envision Contra Costa website provided information about upcoming meetings, access to draft documents, and online tools that community members used to share their thoughts. The online tools were especially important during the COVID-19 pandemic, as



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they allowed community members to remain engaged and even attend meetings virtually. Input and direction from the public and County officials were incorporated into each component of the General Plan.

The first phase of the process included research and documentation of baseline conditions in Contra Costa County. This effort resulted in an online Briefing Book that established a shared understanding of important characteristics of the county, and highlighted assets to build from and challenges to address as the General Plan was updated.

The Briefing Book was used during the initial phase of community outreach, which focused on individual unincorporated communities, to support conversations about community-specific challenges and opportunities. Input from this phase formed the basis for preparation of draft Community Profiles that provide a description of the community and its unique context and present a policy framework for a desired future. For communities with a robust set of concerns to address, the County held subsequent rounds of community meetings to present the draft Profiles for feedback and discussion, working to ensure the vision and policy guidance reflect each community's values and hopes.



*Community members in North Richmond shared their concerns and ideas for the North Richmond Community Profile and the countywide environmental justice policy guidance.*

This phase of outreach and engagement also supported preparation of goals, policies, and actions to address environmental justice throughout the county. While many issues raised during the community meetings were specific to a community and required community-specific policy guidance, as provided in the Community Profiles, some issues were common across communities, and lent themselves to the countywide policy framework. The County held three to four meetings in each community that is most impacted by environmental justice issues (i.e., Impacted Communities, which are defined and discussed in the Stronger Communities Element) to identify and understand the issues and consider policy approaches. These meetings were supplemented by two collaboration meetings with environmental justice stakeholders and about 15 meetings with community-based organizations who work with Impacted Communities to identify Impacted Communities, key environmental justice issues, and appropriate policy approaches. In addition, a three-part meeting series with environmental justice stakeholders was held to review and refine draft policy guidance, and





several meetings were scheduled with the Board of Supervisors Sustainability Committee and the County's Sustainability Commission and Hazardous Materials Commission to discuss draft policy guidance. The County also conducted a hard copy and online survey to solicit feedback on draft environmental justice policy guidance, working with community partners to distribute hard copies at strategic locations to reach people during the COVID-19 pandemic, including at schools, libraries, farmers markets, food banks, and soup kitchens.

Following refinement of the Community Profiles and preparation of draft environmental justice policy guidance, the County prepared draft goals, policies, and actions for all remaining topics that apply throughout the unincorporated area. The countywide policy framework is based on ~~a combination of guidance from the 1991 General Plan~~, input from community members and decision-makers throughout the process, State and local laws, ~~and best practices in the planning field, and to a lesser extent, guidance from the 1991 General Plan.~~ The County Planning Commission and other commissions and committees reviewed the draft policy guidance during study sessions in the first half of 2022, and an online survey was distributed to community members to gain additional feedback.

During the second half of 2022 and into 2023, the County refined the countywide goals, policies, and actions and prepared the remaining components of the General Plan (~~e.g., maps, context, and glossary, etc.~~). The ~~entire completed~~ draft General Plan, along with the draft Climate Action ~~and~~ Adaptation Plan (CAAP) and ~~their accompanying~~ draft Environmental Impact Report, were released for public review in ~~Fall~~ October 2023, ~~with the review period ending in April 2024. Nearly 300 individual comments and suggestions were submitted. The County reviewed these comments and presented revised drafts of the General Plan and CAAP to the Planning Commission and Board of Supervisors during study sessions in July 2024.~~

# 3

## STRONGER COMMUNITIES ELEMENT

A county is only as strong and healthy as its people. We all want the future to be safe, healthy, equitable, and sustainable for everyone, but these ideals may look different to individual people and communities. Most of the people in Contra Costa County live and work in incorporated cities and towns, but there are also a multitude of vibrant unincorporated communities that each contribute to a rich history and ongoing culture and identity of the people in the county.

This Stronger Communities Element aims for all of us to feel safe in our homes and neighborhoods; have access to healthy food, the outdoors, living wage jobs, and healthcare; have opportunities for self-expression through art and cultural celebration; benefit from business innovation and investment; and strengthen bonds with other community members. The focus of this Element is on promoting community resiliency and fostering a spirit of collaboration and opportunities for positive collective impact.

This Element presents policy guidance that applies to unincorporated communities throughout the county, followed by Community Profiles that address issues unique to each community. It is organized into eight sections that highlight the priorities of the broad Contra Costa County community:

- The **Environmental Justice** section includes policy guidance that works to counteract a history of discrimination, neglect, and disempowerment and improve the quality of life and health outcomes in low-income communities and communities of color.
- The **Community Health** section includes policy guidance to support the physical and mental health of community members through

improvements to the built environment and by providing services to bolster social support networks and promote physical wellbeing.

- The **Healthy Homes** section includes policy guidance aimed at providing safe and sanitary housing conditions for all residents.
- The **Arts and Culture** section includes policy guidance to promote civic art and cultural events that are accessible to every resident, celebrate the unique identity of individual communities, and strengthen the local economy.
- The **Economic Vitality and Empowerment** section includes policy guidance to develop and maintain a workforce that possesses the education and skills employers need, promote living wage job opportunities, and cultivate a thriving economy that contributes to the region's economic health.
- The **Community Engagement** section includes policy guidance to promote community involvement and ensure diverse viewpoints and values are represented in the decision-making process.
- The **Stronger Communities Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.
- The **Community Profiles** provide community-specific contextual information and policy guidance for individual communities to address their unique needs.



This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Environmental Justice



Economic Development



Sustainability



*Community gardens provide access to fresh produce and can serve as focal points for communities.*

## ENVIRONMENTAL JUSTICE

Throughout California, low-income communities and communities of color have experienced a combination of historical discrimination, neglect, and political and economic disempowerment. The result is that today they are impacted with a disproportionate burden of pollution and associated health conditions, as well as disproportionate social and economic disadvantages such as poverty or housing instability. Many low-income households and communities of color in Contra Costa County are concentrated in neighborhoods where they continue to face significant threats to their overall health and livelihood. In 2022, in response to these and other related concerns, the County established the Office of Racial Equity and Social Justice to address local racial inequality and social injustice issues. The Office of Racial Equity and Social Justice is envisioned to enact and sustain principles, policies, practices, and investments that are racially just and equitable across all the County's departments and divisions.

California Senate Bill (SB) 1000, enacted in 2016, requires that general plans address environmental justice and respond to inequity by alleviating pollution and health impacts and compelling cities and counties to include the voices of previously marginalized residents in planning decisions. Community members across Contra Costa County have confirmed the need to prioritize these strategies.

### What is Environmental Justice?

“ 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. ”

CALIFORNIA GOVERNMENT CODE §65040.12(E)

Figure SC-1 shows unincorporated communities in Contra Costa County that are disproportionately burdened by pollution or face disproportionate social or health vulnerabilities. These are called “Impacted Communities” throughout this General Plan. These areas were mapped using the California Communities Environmental Health Screening Tool (CalEnviroScreen), a tool advocated by community groups and developed by the State Office of Environmental Health Hazard Assessment on behalf of the California Environmental Protection Agency. CalEnviroScreen measures pollution and population characteristics using 21 indicators, such as air quality, hazardous waste sites, asthma rates, and poverty. It applies a formula to each census tract in the state to generate a score that ranks the level of cumulative impacts relative to the rest of the census tracts in the state. A census tract with a higher score is one that experiences higher pollution burdens and social or health vulnerabilities than census tracts with lower scores. The Impacted Communities shown in Figure SC-1 include census tracts with a cumulative score of 72 percent or higher. The CalEnviroScreen data is updated about every five years, so the Impacted Communities mapped in this General Plan may change over time. Accordingly, this General Plan includes policy guidance (see SC-A1.7) to regularly update the map of Impacted Communities with updated CalEnviroScreen data.

Contra Costa County is home to a high concentration of refineries and other large industrial facilities. While these industries contribute to pollution and contamination in Impacted Communities, ~~many community members also value the~~ they also provide jobs, tax benefits, revenue, community investments, and local energy production they provide. To mitigate the health and safety impacts of these industrial facilities, the County's Industrial Safety Ordinance requires additional safety measures that go beyond State requirements to protect public health and safety. However, Impacted Communities still experience detrimental health outcomes due to their proximity to heavy industry and other sources of pollution like Interstate 80, State Route 4, and railroads.



*Railroads transport toxic substances through Impacted Communities such as North Richmond, presenting health and safety concerns for residents.*

In addition to pollution burdens, Impacted Communities have suffered from a sustained lack of public and private investment that has generally resulted in inadequate infrastructure and services and unkempt vacant and underdeveloped areas, harming neighborhood vitality and limiting property values and wealth-building capacity.

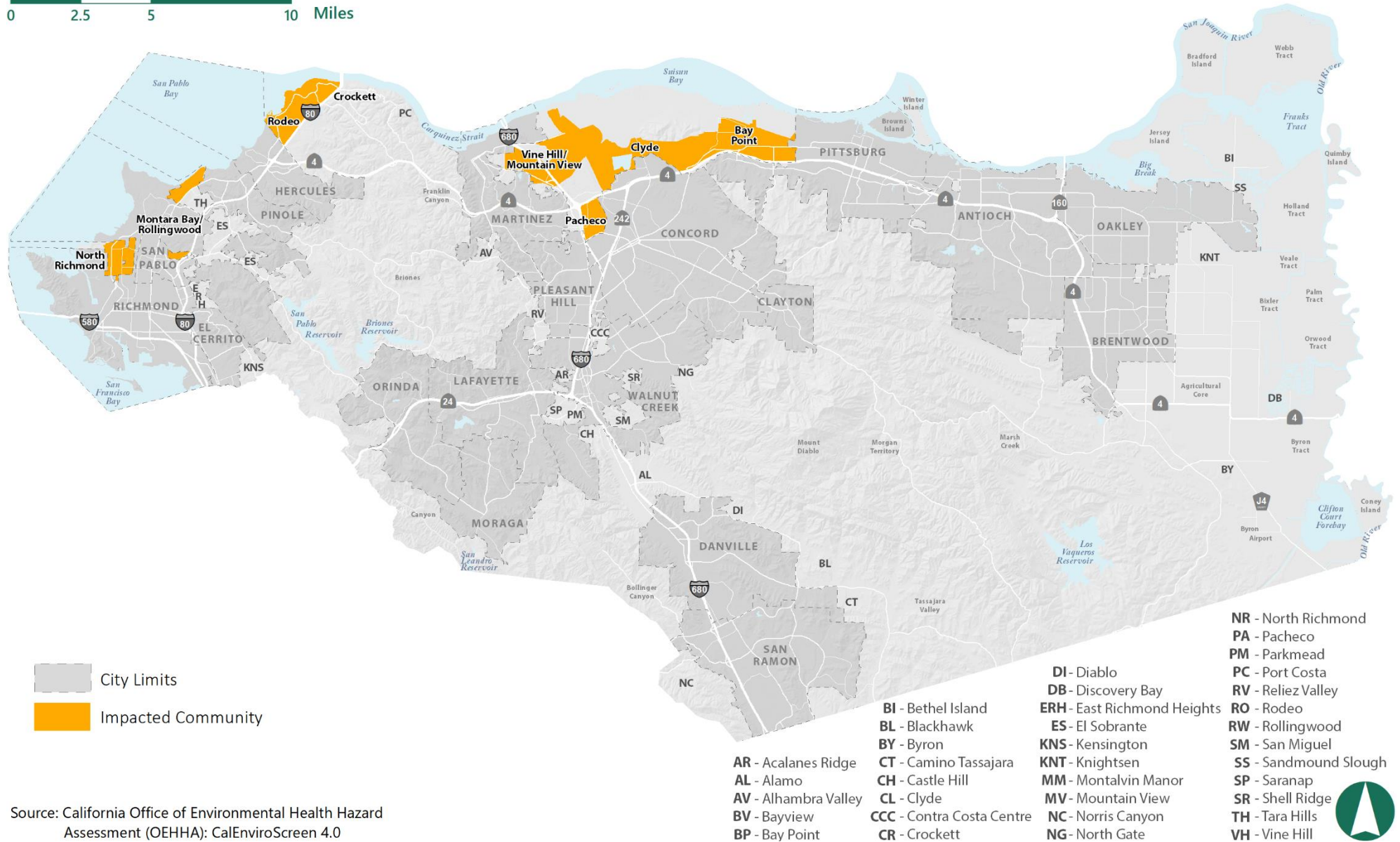
The goals, policies, and actions in this section are intended to reduce these and other disadvantages and burdens experienced by Impacted Communities in Contra Costa County. It is a priority of the County to protect Impacted Communities from additional harm and progressively improve the quality of life and health outcomes of residents.





FIGURE SC-1 IMPACTED COMMUNITIES

0 2.5 5 10 Miles



Source: California Office of Environmental Health Hazard Assessment (OEHHA): CalEnviroScreen 4.0

## Goal SC-1

Equitable distribution of social and economic resources among all communities in the county so that Impacted Communities are not disproportionately burdened by environmental pollution or other hazards.

## Policies

### SC-P1.1



In partnership with residents of Impacted Communities, affected workers, business/industry, environmental and environmental justice advocates, community colleges, workforce development and training entities, local government, and other involved agencies, support transition from ~~petroleum refining and other~~ highly polluting industries to a net-zero emission economy based on renewable and sustainable industries that provide living-wage jobs.

### SC-P1.2



Streamline ~~the permitting process~~ for new development, redevelopment, and rehabilitation projects that promotes community objectives in Impacted Communities, especially as identified in the Community Profiles.

### SC-P1.3



Support ~~development creation~~ of walkable districts by facilitating development of that provide a range of neighborhood-serving retail and service uses, public amenities, and ~~related essential~~ infrastructure (such as lighting) ~~to~~for residents of Impacted Communities within walking distance of their homes.

### SC-P1.4



Support cultural and community-driven events, such as art festivals, farmers' markets, and community service days, that support social connections, neighborhood identity, and environmental stewardship.

### SC-P1.5



Maintain a streamlined process to permit and facilitate partial and temporary street closures for community-~~driven sponsored~~ amenities and activities, such as parklets, farmers' markets, arts and cultural events, and outdoor dining, and assist applicants through the permit process.

### SC-P1.6



For projects with potential to negatively affecting an Impacted Community, support community benefits agreements (CBAs) negotiated with the project applicant to address the community's expressed needs. The primary objective of these CBAs is to mitigate project impacts to the greatest extent possible, which could include mitigations exceeding the requirements of the California Environmental Quality Act (CEQA). Secondly, to compensate for impacts that cannot be fully mitigated, these CBAs should secure community benefits that exceed inherent project benefits and support the



community's objectives, especially as identified in the Community Profile. Neighborhood-serving retail uses that fill critical needs are exempt from this policy.

### SC-P1.7



Should a community no longer meet the threshold for designation as an Impacted Community during the 5-year review called for in Action SC-A1.7, examine the factors that contributed to the redesignation and determine whether continued action is needed to support the community in retaining its non-Impacted Community status.

## Actions

### SC-A1.1



Partner with the stakeholders identified in Policy SC-P1.1 to develop and implement a plan to transition from ~~petroleum refining and other~~ highly polluting industries to renewable, sustainable, and clean industries that provide living-wage jobs. The plan should address site remediation responsibilities along with timelines and strategies to improve health, safety, infrastructure, job opportunities, and revenue opportunities during the transition toward a net-zero-emission economy, paying special attention to developing new opportunities for Impacted Communities to realize economic, health, educational, and other benefits, without placing a disproportionate economic burden on those with the least means.

### SC-A1.2



Amend County Ordinance Code Chapter 84-63, Land Use Permits for Development Projects Involving Hazardous

Waste or Hazardous Materials, to:

- (a) Increase the hazard scores for projects with potential to adversely affect Impacted Communities to ensure more projects are subject to discretionary review.
- (b) Address ambiguities and antiquated terminology that complicate administration of the ordinance.\*
- (c) ~~Require preparation of a plan to prevent and remediate any contaminant releases, along with bonds or other financial assurances that guarantee remediation plans are implemented, for projects in areas subject to sea level rise or tsunami inundation.\*~~

### SC-A1.3



With input from residents of Impacted Communities, amend County Ordinance Code Title 8 – Zoning to create an Impacted Communities Overlay Zone that applies to areas within and adjacent to Impacted Communities, ~~and establishes requirements for discretionary permits for nonresidential developments of~~ Heavy industrial projects and commercial and light industrial projects resulting in 25,000 square feet or more of gross habitable floor area within. ~~The overlay zone will include additional be required to satisfy additional discretionary permit project findings that promote environmental justice, health, and safety, and economic prosperity.~~ Projects able to satisfy the required findings will:

- (a) Provide benefits that support the community objectives, such as those identified in the Community Profile.
- (b) Provide economic benefits, including jobs, for residents of the community.

- (c) Avoid unwelcome permanent displacement of existing residents or businesses ~~in the community.~~
- (d) Support community resiliency, cohesion, and safety.
- (e) Positively impact health and quality of life within the community.

Create guidance for demonstrating consistency with these findings. ~~As part of the process to develop this ordinance, create guidance for demonstrating consistency with these findings.~~

#### SC-A1.4



Submit a report to the Board of Supervisors on the feasibility of creating or participating in a public bank, public-private partnerships, community land trusts, and other types of economic development and wealth-building tools to support local interests, community development, and long-term community ownership and housing affordability in Impacted Communities.

#### SC-A1.5



Establish a process for the County to assist community-based organizations and public-private partners with obtaining financing (e.g., grants) to implement physical improvements and beautification projects such as murals, vegetative buffers, and planting strips in Impacted Communities.

#### SC-A1.6



Dedicate staff in appropriate departments to assist applicants from Impacted Communities in navigating the project application and review process for projects in their communities.

#### SC-A1.7



Upon each 5-year review of the General Plan, review health outcomes data for Impacted Communities and assess any updated information related to the delineation of Impacted Communities in Contra Costa County. Update the map of Impacted Communities (Figure SC-1) and environmental justice-related goals, policies, and actions accordingly.

#### SC-A1.8



As part of the annual General Plan progress report to the Board of Supervisors, describe specific efforts to implement the General Plan policies and actions related to environmental justice, highlighting efforts in each Impacted Community. Post this report in a visible location on the County website.

*See the Public Facilities and Services Element for policies and actions related to infrastructure and service deficiencies in disadvantaged unincorporated communities pursuant to Senate Bill 244.*

## COMMUNITY HEALTH

### Healthy Neighborhoods

Promoting public health and achieving healthy communities through the built environment is a fundamental goal of this General Plan. We increasingly understand the connection between planning decisions and physical and mental health. The layout of our communities, the designs of buildings and public spaces, and the effectiveness of our transportation networks affect whether residents are able to make healthy food choices, walk or bike to a



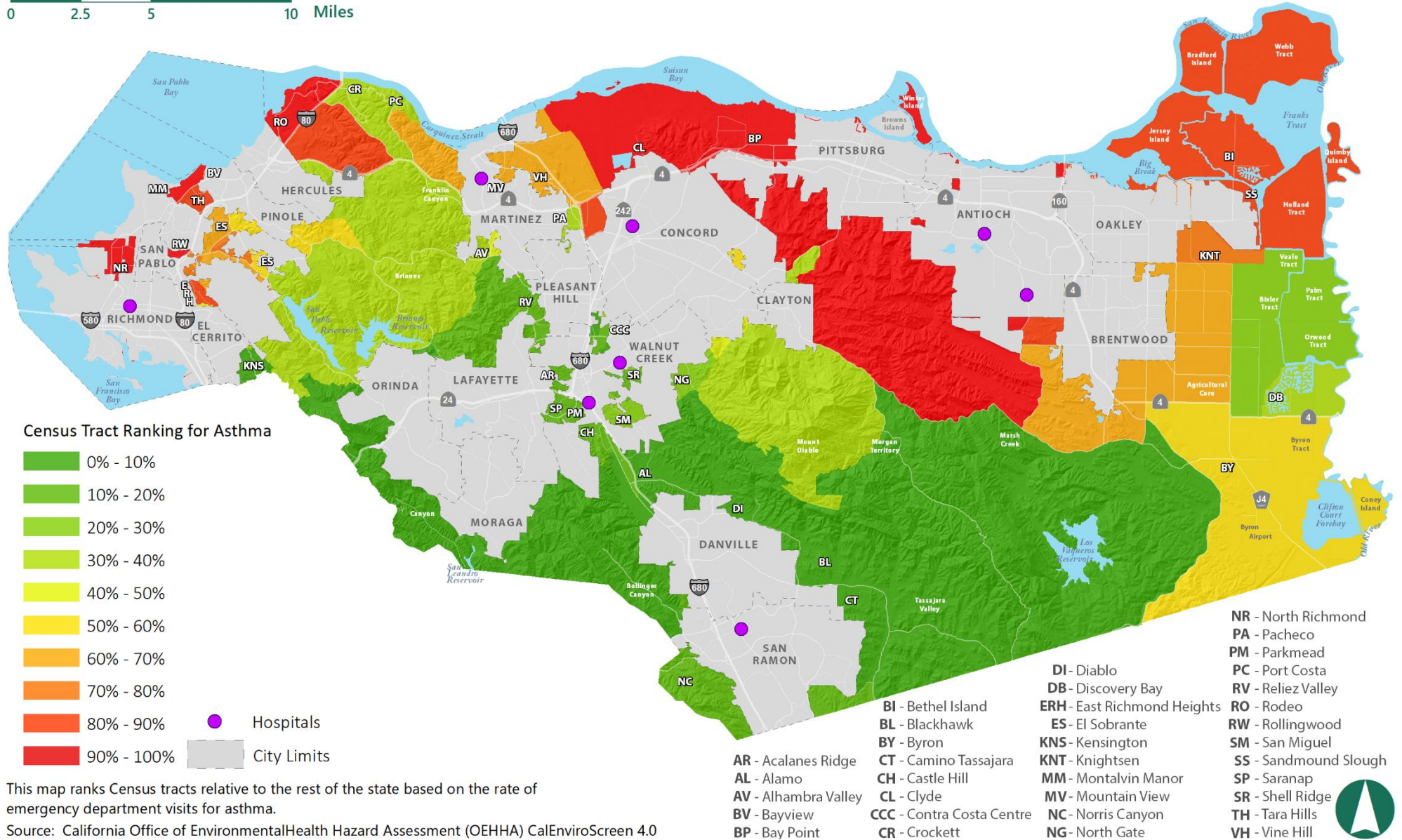


destination, play outside, and breathe clean air. The built environment also influences the level of community violence and overall social cohesion.

For many common health factors, residents in Contra Costa County generally fare better than others in California and the nation. However, asthma, cardiovascular disease, and low birth weight rates are higher in Contra Costa County than the rest of California (see Figures SC-2 through SC-4). There are many risk factors for these health conditions, including poor nutrition, lack of exercise, stress, smoking, and exposure to air pollution. Some of these factors are directly impacted by the built environment.

FIGURE SC-2 ASTHMA RANKINGS RELATIVE TO THE STATE

0 2.5 5 10 Miles



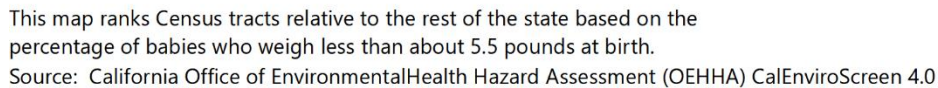
This map ranks Census tracts relative to the rest of the state based on the rate of emergency department visits for asthma.  
Source: California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0







0 2.5 5 10 Miles





This section also emphasizes strong social networks, which improve health by offering emotional support through hardships, preventing isolation, and buffering stress. There is a recognized relationship between strong social networks, physical and mental health, and well-designed spaces. The most livable communities have high-quality public spaces that enhance community character, offer opportunities for formal and informal social interaction, and promote active recreation. Through the policy guidance in this section, the County commits to reversing community deterioration and improving other conditions detrimental to health, healing, and personal and property safety within neighborhoods.



*Montalvin Park provides amenities for residents in West County.*

## Goal SC-2

Safe, welcoming neighborhoods that support physical activity and a healthy environment for all residents.

## Policies

### SC-P2.1



Welcome redevelopment and clean-up of undesirable uses and activities, such as highly polluting industries, and support uses that have a positive impact on community well-being.

### SC-P2.2




Encourage development, preservation, and reinvestment that strengthen the unique character of each unincorporated community and advance community and neighborhood resilience. Ensure that future private and public projects provide infrastructure, parks and playgrounds, complete streets, trees and landscaping, streetscapes, signage, and sustainable building design that reflect and improve the character of the community, along with long-term maintenance mechanisms to ensure continued benefit from the improvements into the future.

### SC-P2.3



Within established communities, complete construction of sidewalks and crosswalks and encourage neighborhood design and development that supports safe walking, biking, and other micro-mobility options, convenient





access to services and transit, and opportunities for local shopping.

#### SC-P2.4



Provide functional civic space and well-maintained public amenities near high-volume transit hubs. Each hub area should project a positive visual image, a strong and unique identity, and a safe, inviting environment for pedestrians and passengers.

#### SC-P2.5



Promote creation of community focal points and gathering places.

#### SC-P2.6



Leverage community-specific natural features, such as creeks, shorelines, and trails, to strengthen community identity and connect residents to nature.

#### SC-P2.7



Encourage land uses and activities that reflect and enrich the history and cultural heritage of each unincorporated community.

#### SC-P2.8



Stimulate investment in communities by using CEQA infill exemptions to expedite environmental review and reduce project costs.

#### SC-P2.9



Implement principles of universal and barrier-free design so that people of all physical abilities can enjoy mobility and accessibility in their communities.

#### SC-P2.10



Empower residents of all ages and abilities to volunteer toward improving conditions in Contra Costa County and maintain a culture within County government that supports and celebrates such volunteerism.

### Actions

#### SC-A2.1



Study the feasibility of implementing an amortization process to relocate or eliminate non-conforming land uses, with a focus on public nuisances and uses that pose threats to public health and safety.

*See the Land Use Element for additional policies and actions on community design that supports active transportation. See the Transportation Element for policies and actions on pedestrian and bicycle safety, Safe Routes to Schools, and access to public transit. See the Public Facilities and Services Element for policies and actions on equitable access to parks and recreation areas.*

### Access to Health Services

While genetics and lifestyle choices affect health, so does access to quality, affordable medical care and health services. The county is served by nine hospitals: one in West County, six in Central County, and two in East County. This discrepancy is felt especially by West County residents, who throughout



the General Plan update process expressed worry and frustration about long emergency response times and the lack of nearby medical facilities. Furthermore, even when these facilities are nearby, they can be especially difficult for seniors, people with disabilities, and other vulnerable populations to access due to gaps in the transit network. The policy guidance in this section responds to community concerns by promoting access to comprehensive health services throughout the county.

### Goal SC-3

Convenient access to comprehensive, co-located health services so all residents can access the physical and behavioral healthcare they need.

## Policies

### SC-P3.1



Provide all communities with sufficient and equitable access to adequate healthcare and behavioral health facilities and services.

### SC-P3.2



Pursue feasible opportunities to co-locate healthcare services with other County services within new or substantially renovated County facilities.

### SC-P3.3



Support and encourage provision of paratransit, public transit, and other transportation services to neighborhood and regional healthcare facilities to meet identified gaps in service.

### SC-P3.4



Welcome establishment of medical clinics, behavioral health facilities, and pharmacies in Impacted Communities.

## Actions

### SC-A3.1



~~Welcome establishment of medical clinics, behavioral health facilities, and pharmacies in Impacted Communities.~~

### SC-A3.2SC-A3.1



Streamline permitting processes for healthcare facilities to reduce barriers to their establishment in Impacted Communities.

### SC-A3.3SC-A3.2



Continue collaborating with neighboring jurisdictions to assess and address issues related to capacity and access to emergency, acute, and preventative/primary healthcare services, especially in the West County region.

## Access to Healthy Food

Healthy food is one of the best tools to combat obesity and chronic diseases like diabetes. Nutrition influences not only the incidence of these health conditions, but also school achievement, job attainment, and quality of life generally. When the only food options in a neighborhood are small convenience stores offering pre-packaged goods and restaurants sell fast food (i.e., what's known as a "food desert"), it can be difficult to eat healthy. This becomes even more challenging when residents lack easy access to transportation, which can be common for vulnerable populations like children, seniors, people with disabilities, and people with low incomes. Grocery stores and markets that carry fresh foods, farmers' markets, farm stands, and community gardens are all outlets that can increase neighborhood access to healthy food options.

Urban agriculture (i.e., urban land used to grow crops or raise animals for food) can be another way to provide healthier food options. Reclaiming vacant land for urban agriculture can provide even more community benefits by bringing life and activity back to neglected areas. Locating urban farms in areas lacking access to fresh, healthy foods can expand opportunities for residents to eat healthy and improve overall community well-being.



*Farmers markets provide access to fresh, seasonal produce.*





## Goal SC-4

Support and expand small-scale food production and urban agriculture in urban areas, including growing, processing, and distributing fresh food.

## Policies

### SC-P4.1



Encourage planting of home gardens and food-producing plants and trees on private property in urban areas. Encourage partnerships between property owners and gleaning and stewardship programs to harvest and maintain edible plantings. NZE

### SC-P4.2



Encourage all new residential development to incorporate community gardens into the project design and require incorporation of community gardens for projects that meet the criteria established through Action SC-A4.2.

### SC-P4.3



Encourage urban agriculture, including urban farms and community gardens with collectively shared and managed plots, and demonstration and educational gardens operated by community organizations and educational institutions. Allow associated, limited on-site sales, processing facilities of value-added products, and complementary agricultural activities when compatible with adjacent uses.

### SC-P4.4



Support programs administered by water or wastewater service providers that increase the availability of recycled water for urban agriculture and landscaping through self-fill stations and similar facilities.

## Actions

### SC-A4.1



Amend the urban agriculture provisions in County Ordinance Code Title 8 – Zoning to address the following:

- (a) Zoning districts where urban agriculture is allowed.
- (b) Permitting requirements.
- (c) Development and performance standards.
- (d) Environmentally safe and sustainable practices.
- (e) Sale of crops and value-added products.
- (f) Animal husbandry.
- (g) Disposal of food waste and agricultural byproducts.

### SC-A4.2



Amend County Ordinance Code Title 8 – Zoning to add a requirement for certain projects to incorporate community gardens into the project design. As part of this process, identify a threshold for triggering this requirement, considering project type, size, and location, and establish standards for garden size and design. Consider the unique needs of Impacted Communities when developing these regulations.

### SC-A4.3



Amend County Ordinance Code Title 4 – Health and Safety to allow food trucks within certain designated areas and on private property with special permits under Title 8.

## Goal SC-5

Convenient access to fresh, healthy, and affordable food in Impacted Communities.

## Policies

### SC-P5.1



Increase access to fresh food in Impacted Communities by encouraging grocery stores, and urban agriculture, farmers' markets, and neighborhood kitchens on vacant or underutilized lands. Treat such uses as community benefits in and of themselves.

### SC-P5.2



Maximize multimodal access to fresh food in Impacted Communities, prioritizing micro-mobility and pedestrian access, by encouraging grocery stores, healthy corner stores, community gardens, and outdoor markets at key transit nodes and within transit-oriented developments.

### SC-P5.3



Provide temporary, and possibly permanent, access to County facilities and land for farmers' markets and community gardens, especially in Impacted Communities.

## Actions

### SC-A5.1



Inventory and map food deserts in the county. As part of the inventory, account for walking, micro-mobility, and transit access.

### SC-A5.2



Amend the County Ordinance Code and/or procedures to streamline permitting processes for grocery stores and markets in Impacted Communities and food deserts.

### SC-A5.3



Develop incentives to attract grocery stores, markets, and establishments selling fresh produce, preferably locally grown, in areas with poor access to fresh food.

### SC-A5.4



Every five years beginning in 2025, review the Alcoholic Beverage Sales Commercial Activities Ordinance to ensure it protects Impacted Communities from experiencing disproportionate concentrations of, and impacts from, new bars and liquor stores. To support implementation of this ordinance, set up and maintain a shared data system between the Health Services and Conservation and Development departments that



identifies the location of current establishments, along with information about public safety and health.

### SC-A5.5

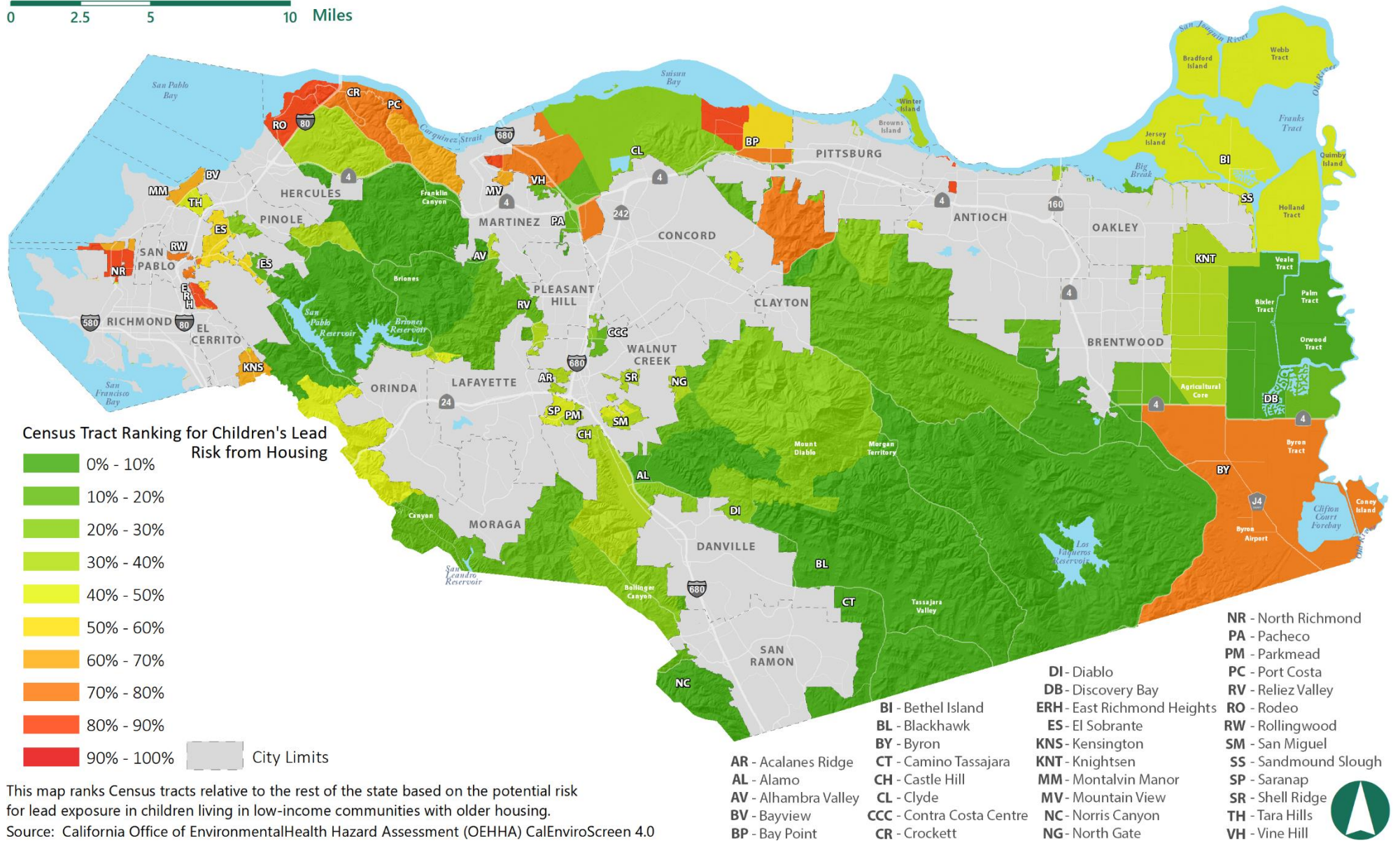


Study the feasibility of ~~restricting~~preventing fast-food restaurants ~~from locating~~ near schools, parks, and other places where children normally gather.

## HEALTHY HOMES

Access to safe, sanitary housing is a fundamental part of strong, healthy, and just communities. With many county residents struggling to afford housing, and often dependent on a landlord's willingness to make improvements, people end up living in unsanitary or substandard homes or not having a stable home at all. For example, while lead-based paint was banned federally in 1978, there are still older homes in Contra Costa County that pose lead risks to children, especially in Impacted Communities (see Figure SC-5). Poor home conditions can adversely impact a resident's health from things like toxic building materials, pests and vermin, water intrusion, mold, exposure to climate variations, and poor air quality. Homes that lack air conditioning and air filtration can expose residents to extreme heat, wildfire smoke, and other air pollution, especially if they need to keep windows open for temperature control. In addition, some households may be overcrowded as families double or triple up to minimize housing costs.

**FIGURE SC-5 CHILDREN'S LEAD RISK FROM HOUSING RANKINGS RELATIVE TO THE STATE**







*Aging houses may qualify for rehabilitation through the County's Neighborhood Preservation and Weatherization Programs.*

The County currently provides programs to support healthy homes, including the Weatherization Program, the Asthma Initiative, the Neighborhood Preservation Program, and the Mortgage Credit Certificate Program, and connects residents to other housing resources. In addition, the Contra Costa Housing Authority, a separate public agency in Contra Costa County, provides rental subsidies and manages and develops affordable housing for low-income families, seniors, and people with disabilities.

Contra Costa County's Housing Element, another Element of this General Plan, addresses a broader spectrum of housing issues and fulfills State housing law requirements for general plans.

## Goal SC-6

Universal access to safe and sanitary homes.

### Policies

#### SC-P6.1



Ensure that future improvements in Impacted Communities will not result in a net loss of affordable housing or significant preventable displacement of residents.

#### SC-P6.2



Prompt owners of substandard housing units in Impacted Communities to repair and rehabilitate their buildings.

#### SC-P6.3



Coordinate with residents of Impacted Communities, the Housing Authority of Contra Costa County, affordable housing developers, community land trusts, and housing advocates to transition vacant and underutilized land in Impacted Communities into affordable and transitional housing and shared equity models. This should include development of various types of innovative housing products and homeownership opportunities to help residents overcome past exclusionary practices and build intergenerational wealth.

#### SC-P6.4



Support voluntary replacement removal of natural gas infrastructure and appliances in from homes and replacement with electric appliances.

### Actions

#### SC-A6.1



Obtain additional funding for, and address barriers to participation in, the County's Weatherization Program and similar programs like the Contra Costa Asthma Initiative and Neighborhood Preservation Program for extremely low-, very low-, and low-income homeowners, seniors, landlords, and renters. Focus these efforts on homes in Impacted Communities, particularly rental and multiple-family housing.

#### SC-A6.2



Create a bulk buying program or revolving loan fund that allows people to purchase energy-efficient electric appliances (air conditioners, fans, air purifiers, heaters, stoves, ovens, etc.) and other items that increase building efficiency at wholesale prices or minimal cost, possibly with zero-percent interest financing, to increase energy efficiency and replace hazardous appliances. Work with volunteer groups that help people install and dispose of air conditioners and other electrical appliances if they are unable to do so themselves, focusing on Impacted Communities and other areas with high concentrations of vulnerable people. Consider augmenting energy-efficiency programs to reduce electricity use and help offset the cost of operating electrical appliances.

#### SC-A6.3



Partner with local solar energy providers to enact a solar group buy program to purchase solar panels and battery storage in bulk for installation in Impacted Communities, including establishment and subsidization of community solar programs that supply electricity to multiple consumers from a single photovoltaic solar location. The program should include an educational component to inform the community about the benefits and process of solar installation and give them the opportunity to enroll in the program at a discounted rate.

#### SC-A6.4



Expand the County's first-time homebuyer program to provide more information and assistance, prioritizing outreach in Impacted Communities to spread awareness of the program.

*See the Housing Element for a more comprehensive discussion of housing needs, homelessness, renter protection measures, and programs to affirmatively further fair housing.*

## ARTS AND CULTURE

Arts and culture play an integral role in Contra Costa County, as they enrich the lives of residents, visitors, and businesses alike. Artistic and cultural expression as present in historic buildings, residents' oral histories, and ongoing community traditions and celebrations contribute to an individual and collective sense of identity and pride. Every resident should have available easily accessible opportunities for cultural development, expression, and involvement. Art can be rooted in history and a catalyst for change in a culture. As a key driver of economic development and tourism,



arts and culture shape the community's creative workforce and future leaders by promoting skills such as creativity, innovation, and critical thinking. By working together to uphold and promote the value of engaging with arts and culture, we can strengthen local economies and create more vibrant, diverse, and resilient communities.

Contra Costa County supports art and culture through the Arts Council, a public-private partnership between the County and a nonprofit organization that also works in conjunction with the California Arts Council.



*A mural brings life and color to this North Richmond building.*

## Goal SC-7

Vibrant communities with strong identities reflected in public art and cultural events.

## Policies

### SC-P7.1



Support development of cultural facilities and programs that are physically and financially accessible to all, with emphasis on bringing these to Impacted Communities.

### SC-P7.2



Pursue arts and cultural investments as a tool for economic development, especially in Impacted Communities.

### SC-P7.3



Support artists, community groups, and volunteer organizations in implementing temporary and permanent public art programs, especially in Impacted Communities.

### SC-P7.4

Incorporate public art or artistic elements into County capital projects whenever feasible. Work with residents and the Arts Council to ensure works of public art are appropriate for the communities where they are installed.



## Actions

### SC-A7.1

Amend County Ordinance Code Title 8 – Zoning to establish a public art requirement for new development and funding mechanisms to create and maintain public art.



### SC-A7.2

Partner with recycling centers to establish artist-in-residence programs to support art education while encouraging residents to repurpose unwanted items and conserve natural resources.

Workforce development is especially critical in Impacted Communities, which have higher rates of poverty and higher percentages of the adult population without a high school degree, as shown in Figures SC-6 and SC-7. By partnering with educational institutions and programs, employers, unions, and trade associations to support job-skills training and recruitment from the local workforce, while also working to diversify the local economy, the County can help increase opportunities for residents in Impacted Communities to find local jobs that offer a living wage.

## ECONOMIC VITALITY AND EMPOWERMENT

### Workforce Development

To attract new businesses and retain those already here, the county must offer a workforce that possesses the education and skills employers need. The County supports economic and workforce development through the Workforce Development Board (WDB) staffed by the Employment and Human Services Department. WDB members are appointed by the County Board of Supervisors and include local business owners, economic development leaders, education professionals, labor advocates, community-based organization staff, and public agency representatives. The County leverages the WDB and other economic development agencies and advocates to ensure that Contra Costa County remains economically competitive within the greater San Francisco Bay Area.

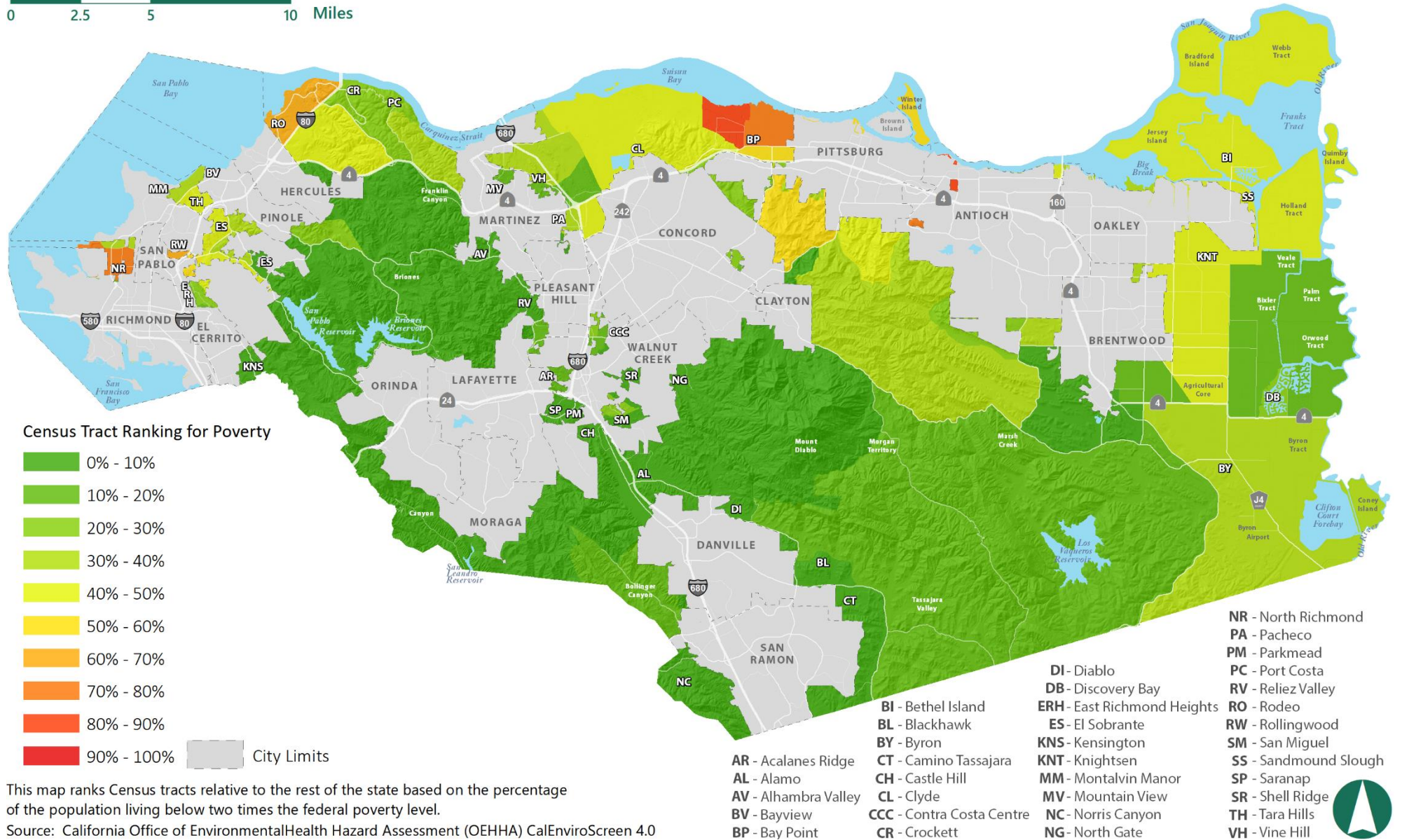




*The historic C&H Sugar Refinery provides local jobs and bolsters the Crockett economy.  
(Community-submitted photo)*

FIGURE SC-6 POVERTY RANKINGS RELATIVE TO THE STATE

0 2.5 5 10 Miles



This map ranks Census tracts relative to the rest of the state based on the percentage of the population living below two times the federal poverty level.  
Source: California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0





## Goal SC-8

Access to and expansion of high-quality job training, job opportunities, and economic resources so that residents in Impacted Communities can acquire safe jobs, earn a living wage to support their families, and build shared prosperity.

## Policies

### SC-P8.1



Support schools, training programs, the WDB, and other institutions whose mission is to develop and enhance local workforce skills, including training and apprenticeship programs.

### SC-P8.2



Leverage opportunities to pursue workforce development, job training and re-training programs, and public-private partnerships that support economic growth. Support career pathway programs hosted by various County departments and encourage County staff to participate as mentors.

### SC-P8.3



Welcome businesses, especially family-sustaining, locally hiring, sustainable businesses, that provide essential goods and services in Impacted Communities, including food stores with fresh produce, healthcare, childcare,

pharmacies, and other retailers, while discouraging predatory lenders, liquor stores, tobacco and cannabis retail stores, dollar stores, and fast-food restaurants.

### SC-P8.4



Promote entrepreneurship, innovation, and locally owned businesses and enterprises, especially ethnic, immigrant, and Black, Indigenous, and people of color (BIPOC) entrepreneurship, for the purpose of improving economic self-sufficiency and stability, including through outreach efforts to local small business owners while minimizing permitting barriers.

### SC-P8.5



Encourage more daycares, preschools, and early childhood development centers to make childcare more accessible and affordable for working families.

## Actions

### SC-A8.1



Establish a First Source Hiring Program ~~encouraging~~ requiring developers, contractors, and employers to make good-faith efforts toward employing the local ~~construction~~ workforce to construct and operate their facilities, with emphasis on residents of Impacted Communities and those who are economically disadvantaged.





### SC-A8.2



Partner with school districts, community colleges, community organizations, large employers, trade associations, unions, and job training centers to support enhanced job-skills training, recruitment programs and services, and childcare services to support the county's workforce, especially workers in Impacted Communities. Work with experienced groups to ensure that programs will be properly staffed and funded. Training and intervention strategies should reduce barriers to employment for youth, formerly incarcerated residents, and residents with limited English proficiency, and should support a just transition from a fossil-fuel reliant economy by re-training displaced workers with skills for living-wage jobs in new, environmentally sustainable industries.

### SC-A8.3



Explore the feasibility of establishing a revolving loan fund, grant program, or business incubator that supports small business formation and expansion in Impacted Communities. Connect to industries such as advanced manufacturing, biomedical/biotech, food, transportation technology, and clean technology that support an economic transition from fossil fuels.

### SC-A8.4



Develop and sufficiently fund a program to offer one-on-one support to small businesses in Impacted Communities. Through this program, provide guidance related to available grants and other forms of financing, access to innovation, access to emerging industries and markets, and mentorship.

### SC-A8.5




Explore use of existing federal and State government economic development programs, such as the "Opportunity Zone" program, "HUB Zone" program, and contracting designations, as a means to generate funding for transit, housing, and capital improvements, while attracting private investment.

## Business and Innovation

Enhancing Contra Costa County's success as an economic hub depends on retaining, supporting, and attracting a diverse range of businesses that will sustain the local economy despite changing market forces. Petroleum refineries have been some of the largest employers and strongest economic drivers in the unincorporated county have traditionally been in the petroleum refining industry, for over 100 years, but However While demand for refined products remains significant and will persist until replacement technologies exist for current uses, the long-term future of these large facilities is uncertain, and two of the four Contra Costa refineries have begun transitioning their operations as global and national energy trends shift toward carbon-free and renewable energy sources. Going forward, the county's economy should be centered on sustainable, clean, and green businesses and industries that provide living-wage jobs while protecting community health and the environment.

Less than 10 percent of the jobs in the county are in unincorporated areas, so coordination with incorporated cities is an important component of the County's economic development efforts. The Northern Waterfront Economic Development Initiative is a regional cluster-based economic development strategy, developed collaboratively between the County and seven partner cities. The Initiative intends to create 18,000 new jobs along Contra Costa County's Northern Waterfront, which extends along the shoreline from

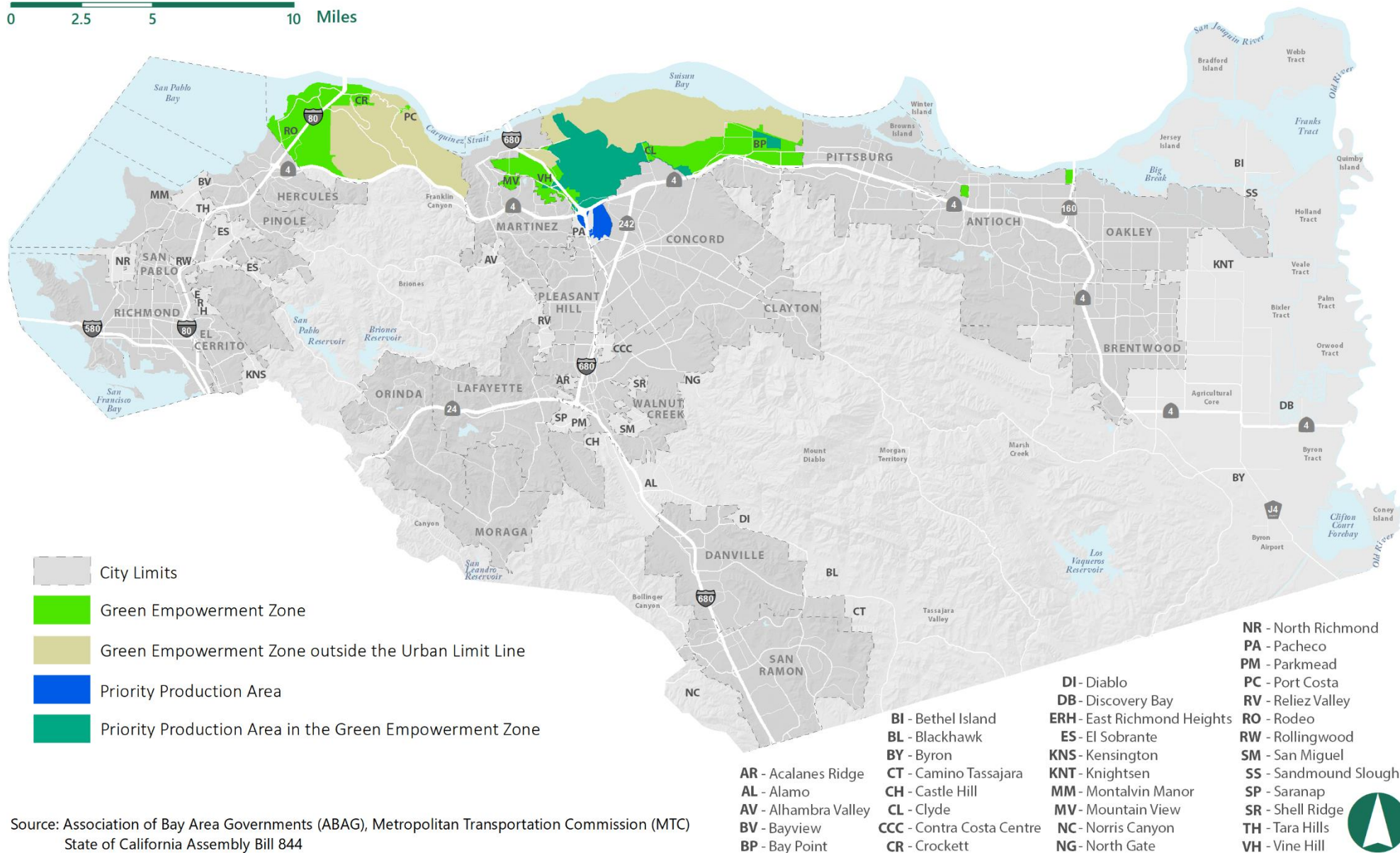


Hercules to Oakley and down to Brentwood, by 2035. The Initiative is focused on propelling the advanced manufacturing economic sector and investing in human capital to promote equitable economic growth. The State has designated the area as a Green Empowerment Zone, which will provide additional tools to implement the Initiative's goals. Additionally, the County worked with the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) to designate Priority Production Areas (PPAs) in Bay Point and the North Concord/Pacheco/Vine Hill area. PPAs identify clusters of industrial businesses and prioritize them for economic development investments and protection from competing land uses. The Green Empowerment Zone and PPAs are depicted in Figure SC-8.



FIGURE SC-8 GREEN EMPOWERMENT ZONE AND PRIORITY PRODUCTION AREAS

0 2.5 5 10 Miles



Source: Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC)  
State of California Assembly Bill 844



Shipping along the Northern Waterfront is an important part of the local economy. (Community-submitted photo)

## Goal SC-9

Sustain a resilient, diversified economy that supports existing businesses, attracts new businesses, and encourages investment and innovation while fostering economic opportunities for all residents.

## Policies

### SC-P9.1



Work collaboratively with cities and other local agencies to leverage Contra Costa County's competitive assets and elevate the county's role in the economic and cultural growth of the Bay Area and California.

### SC-P9.2



Position Contra Costa County to be a hub of production and employment for industries that spur economic growth and innovation in the transition toward a zero-emission economy.

### SC-P9.3



Support business retention, expansion, and attraction efforts that diversify and strengthen the economy with special emphasis on businesses and industries that provide living-wage jobs, invest in the community, hire from the local workforce, and embrace sustainability.

### SC-P9.4



Maintain a well-balanced regulatory environment that facilitates business investment and expansion while addressing community concerns about potential impacts.

### SC-P9.5



Continue to support and expand local tourism. Emphasize memorable experiences available in Contra Costa County, such as agritourism, and recreational opportunities offered by unique natural features such as the Delta and Mount Diablo.

### SC-P9.6



Recognize agriculture as an important part of the County's economy and maintain conditions that support its ongoing economic viability.





### SC-P9.7



Strengthen the viability of the Northern Waterfront as a dynamic economic asset and destination recreational area. Work with partner agencies to support beneficial, environmentally sustainable investment in this area.

### SC-P9.8



Support formation of the Green Empowerment Zone for the Northern Waterfront area and development of designated PPAs.

### SC-P9.9



Maximize Byron Airport's potential as a hub of aviation technology and innovation.

## Actions

### SC-A9.1



Adopt an Economic Development Strategy. The strategy should define a vision for the county's economy, identify and target suitable growth industries, and facilitate different types of economic development and employment growth in targeted areas.

### SC-A9.2



Implement the Northern Waterfront Economic Development Initiative, including business attraction efforts aimed at biomedical and life science businesses, food and beverage processing, advanced materials and diversified manufacturing, advanced transportation technology, and clean technology.

### SC-A9.3

#### NEW ACTION

Nominate the Phillips 66 San Francisco (Rodeo) Refinery and surrounding industrial areas, including the site of the former Phillips 66 Carbon Plant in Franklin Canyon, as a Priority Production Area.

### ~~SC-A9.3~~ SC-A9.4



Evaluate commercial and industrial regulations and permitting practices on an ongoing basis to ensure that they:

- (a) Address contemporary uses and activities.
- (b) Promote compatibility between new and ~~legacy~~existing uses.
- (c) Avoid creating unnecessary barriers that hinder economic ~~expansion~~prosperity, investment, and sustainable growth.

### ~~SC-A9.4~~ SC-A9.5



Expand the Small Business Assistance Program, working collaboratively with technical assistance service providers.

### ~~SC-A9.5~~ SC-A9.6



Explore the feasibility of establishing a small and micro-business fee-waiver program.

### ~~SC-A9.6~~ SC-A9.7



Expand the County's participation in the State's Green Business Program.

See the Open Space, Conservation, and Working Lands Element for policies about agritourism, solar and wind farms, and sustaining the agricultural economy.

## COMMUNITY ENGAGEMENT

Community involvement is key to achieving the goals presented throughout this General Plan. Participation in County planning efforts brings diverse viewpoints and values into the decision-making process and helps ensure that County actions benefit the broadest range of people possible. Inclusive, participatory processes lead to better-informed solutions and build mutual understanding and trust between local government officials and the public they serve.

Equitable and effective community engagement is also foundational to environmental justice. By elevating the voices of people who have traditionally been left out of the planning process, we can learn from their wisdom and experience and begin correcting past wrongs. The County aims to create strong, collaborative partnerships between government and community members, proactively addressing challenges and promoting inclusion as a core value.



Residents in ~~Byron Bay Point~~ share their vision for the future of their community.

### Sc-10

Effective decision making that seeks and incorporates the voices of county residents.

## Policies

### SC-P10.1

Strengthen public trust through transparency, accessibility, and accountability in applying and implementing this General Plan and associated planning documents, such as the County Zoning Code.



### SC-P10.2

Build positive relationships between residents, businesses, and County officials.

### SC-P10.3



Expand opportunities to engage with County government. Provide residents with convenient access to information in the predominant languages spoken in their community.

### SC-P10.4

Make appropriate County-owned facilities available to nonprofit civic organizations and neighborhood groups for meetings and events.

### SC-P10.5

Support community-driven/community-led initiatives that work toward achieving the community objectives identified in the Community Profiles.

## Actions

### SC-A10.1

Amend County Ordinance Code Title 8 – Zoning to improve accessibility by:

- (a) Using formatting tools and techniques, such as matrices and tables, that streamline the document.
- (b) Incorporating diagrams and other graphics to reduce reliance on text.
- (c) Using clear, unambiguous, and non-technical language whenever possible.

### SC-11

Residents empowered with strong voices to communicate needs and solutions.

## Policies

### SC-P11.1



Engage with residents of Impacted Communities in a genuine, meaningful, and respectful manner.

### SC-P11.2



Notify and engage community members, organizations, and leaders when County planning decisions on major projects are being considered in or near Impacted Communities. Conduct meaningful outreach and engagement with Impacted Communities as follows:

- (a) Notify Impacted Communities of the existence of major projects early in the planning process.
- (b) Prepare public notices in the predominant language(s) spoken in the community and provide interpretation services at meetings as needed.
- (c) Make public notices and other important documents easy to understand and available in print at local libraries, community centers, or other gathering places.
- (d) Use a wide array of methods to inform community members of opportunities to participate, such as the

County website, social media, texts, banners, mailers, and flyers.

- (e) Use supplemental outreach approaches that are appropriate for the participating community.
- (f) Schedule, format, and locate community workshops and meetings to be convenient for community members, both in person and online, whenever possible.
- (g) Use social media, virtual meeting platforms, recorded meetings, and other communication techniques to assist those without time or ability to attend public meetings.
- (h) Consider the economic, gender, age, and racial diversity of the affected population when developing outreach strategies.
- (i) Clearly explain potential adverse impacts of a proposed project in plain language that is easily understood by the participating community.

### SC-P11.3



Provide community engagement and information access options for people in Impacted Communities without access to computers or internet. Use facilities such as public libraries and community centers as a resource for making information and technology available.

### SC-P11.4



Strive for more diverse representation on County boards, commissions, committees, and similar bodies to better reflect the demographics and varying viewpoints of county residents, with greater efforts to engage under-represented populations.

### SC-P11.5

Overtly acknowledge public participation and input offered at hearings conducted by the County Zoning Administrator, County Planning Commission, and other bodies making land use decisions.

## Actions

### SC-A11.1



Designate staff in departments that routinely interact with residents of Impacted Communities, such as Conservation and Development, Public Works, and Health Services, as liaisons to each Impacted Community.

### SC-A11.2



Hold semi-annual public meetings in each Impacted Community, including the County Supervisor representing the community and representatives from the full spectrum of County departments, to hear from residents of these communities, and use that input to inform the County's annual budgeting process. Provide interpretation services at these meetings.

### SC-A11.3



Identify communities with a significant number of non-English-speaking households and develop resources and strategies for better engagement.





#### SC-A11.4



Develop centralized outreach services to support all County departments with language interpretation, translation services for written documents, and sign language services for public meetings.

#### SC-A11.5

Review procedures employed by the various County departments for collecting and disseminating data related to community health, safety, and economic vitality and study the feasibility of making additional data available to the public through accessible online tools.

#### SC-A11.6



Amend County Ordinance Code Title 2 – Administration to increase the public notification distance for hearings concerning refineries and other large stationary sources (i.e., any stationary source that emits, or has the potential to emit, 40 tons per year or more of nitrous oxides or sulfur dioxide; 15 tons per year of coarse particulate matter; 10 tons per year of fine particulate matter; and/or 200 tons per year of carbon dioxide) from 300 to 3,000 feet.

*See the Public Facilities and Services Element for policies that prioritize public investment in capital improvements in Impacted Communities.*

## STRONGER COMMUNITIES ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior

performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.


- Improved health outcomes of residents in Impacted Communities.
- Increased percentage of homes that are within a half-mile of a grocery store or other entity that offers fresh food.
- Reduced number of substandard homes that pose a health risk to residents in Impacted Communities.
- Increased amount of support provided to businesses in Impacted Communities through the County's small business assistance programs.
- Reduced rate of poverty in Impacted Communities.

## COMMUNITY PROFILES

Unincorporated communities in Contra Costa County are at different stages of development. For many, the residents' vision for the future looks much like the community is today, while residents in other communities are more interested in transformation and evolution. Given the diversity of people, built environments, social and economic conditions, and natural landscapes across the county, this General Plan includes community-scale policy guidance in individual Community Profiles.

The Community Profiles are intended to close gaps in countywide policies by addressing issues and opportunities that apply only to that specific community. Each Community Profile includes:

- Contextual information summarizing local character, setting, land use patterns, demographics, history, natural resources, natural hazards, community vulnerabilities, and other key data.

- 
- A summary of the planned land uses in the community, as mapped in Figure LU-1, the General Plan Land Use Map.
  - Guiding principles that formulate a vision for the future of the community, plus policies and actions to support that vision.

The Community Profiles for Impacted Communities have an additional section that highlights environmental justice issues through maps and charts. As explained in the section of this Element on environmental justice, the CalEnviroScreen data that identifies Impacted Communities will change over time, so the County will periodically update the map of Impacted Communities and associated community profiles and policy guidance, as called for in Action SC-A1.7.

There are 22 Community Profiles presented in this section. These communities were identified through public input and collaboration among County staff and include communities with an individual identity and local concerns that are unique to their residents and businesses. They include:

- Alamo/Castle Hill
- Alhambra Valley/Reliez Valley/Briones
- Bay Point
- Bethel Island
- Byron
- Canyon
- Clyde
- Contra Costa Centre
- Crockett
- Diablo

- Discovery Bay
- East Richmond Heights
- El Sobrante
- Kensington
- Knightsen
- Montara Bay/Rollingwood (i.e., Montalvin Manor, Tara Hills, Bayview, and Rollingwood)
- North Richmond
- Pacheco
- Port Costa
- Rodeo
- Saranap/Parkmead
- Vine Hill/Mountain View

The County met with residents of each of these communities at least once during the General Plan update process to ensure each profile articulates the shared values, priorities, and aspirations for their future.



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# 4

## LAND USE ELEMENT

Land use patterns in Contra Costa County play an important role in defining the county's character and that of its individual communities. Approximately 46 percent of the unincorporated land is set aside for conservation, recreation, and watershed protection purposes. Another 38 percent is devoted to rural and agricultural uses, such as grazing land, row crops, orchards, and vineyards. The remaining area includes public and institutional facilities, like schools, hospitals, fire stations, and airports; neighborhoods of condominiums, apartments, townhomes, mobile homes, and single-family residences; commercial development ranging from urban shopping centers to riverside restaurants; and industrial uses, such as refineries, small- and mid-size manufacturers, and distribution centers. Many of these land uses are expected to evolve over the coming decades as new housing types, business models, and energy sources emerge. As this occurs, the policy guidance in this Element will also evolve to build on community assets, address opportunities and challenges, and improve quality of life for everyone through thoughtful land use planning.

The Land Use Element is divided into the following four sections:

- The **Land Use Designations and Map** section establishes regulations and standards for development in each land use designation shown on the General Plan Land Use Map.
- The **Orderly, Well-Planned Growth** section includes policy guidance to balance development and conservation.
- The **Specific Land Uses** section includes policy guidance tailored to residential, commercial, mixed-use, industrial, rural, agricultural, and open space uses.

- The **Land Use Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.

This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Environmental Justice



Economic Development



Sustainability

### LAND USE DESIGNATIONS AND MAP

State planning law requires the Land Use Element to designate the general distribution, location, and extent of the various land uses covered by this General Plan. Table LU-1 lists the 22 land use designations the County uses in its land use planning. Each designation is generally described and the standards for allowed residential density and intensity of nonresidential use are stated. The land use designation descriptions are not intended to be exhaustive. Communities and uses evolve and it is not possible to anticipate every use that could be proposed over the life of this General Plan. The key factor in determining whether a particular land use is appropriate or





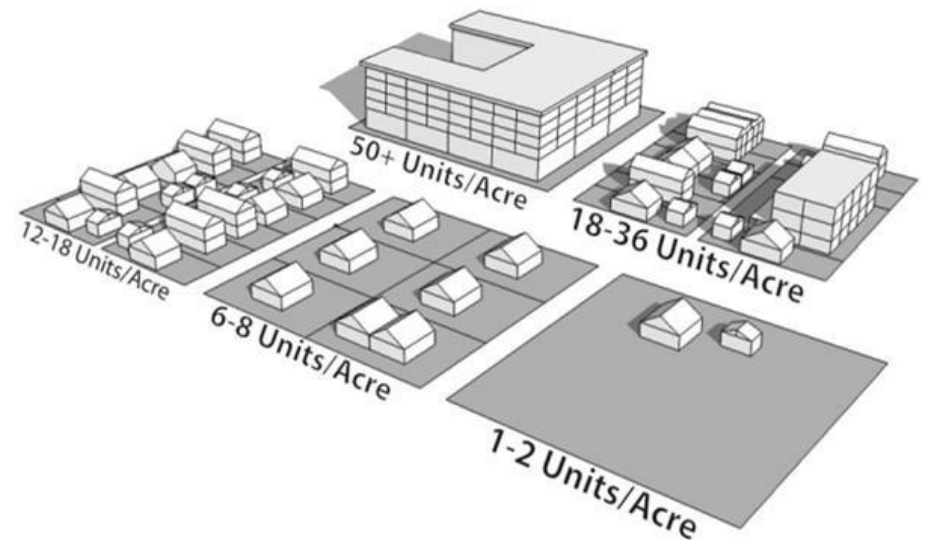
allowable in a particular designation is whether the use supports or conflicts with the designation's overarching intent.

Table LU-1 also defines the relationship between the land use designations in this General Plan and the zoning districts enumerated in the County Zoning Ordinance (County Ordinance Code Title 8). Each land use designation categorizes various zoning districts as "consistent" or "potentially consistent." Those categorized as "consistent" are presumed to be compatible with the land use designation because the permissible uses and development standards (lot sizes, height limitations, setbacks, parking ratios, landscaping requirements, etc.) align with the designation's intent and purpose. Zoning districts categorized as "potentially consistent" may be compatible with the General Plan designation depending on location, the nature of projects being proposed, and other considerations. Properties may only be zoned or rezoned to districts that are consistent or potentially consistent with the underlying land use designation.

Standards for allowed residential density and intensity of nonresidential uses are described below. These standards reference **gross acreage**, which is the acreage of the entire parcel designated for the use, and **net acreage**, which is the area remaining after land is dedicated for rights-of-way, easements, and other public or common uses.

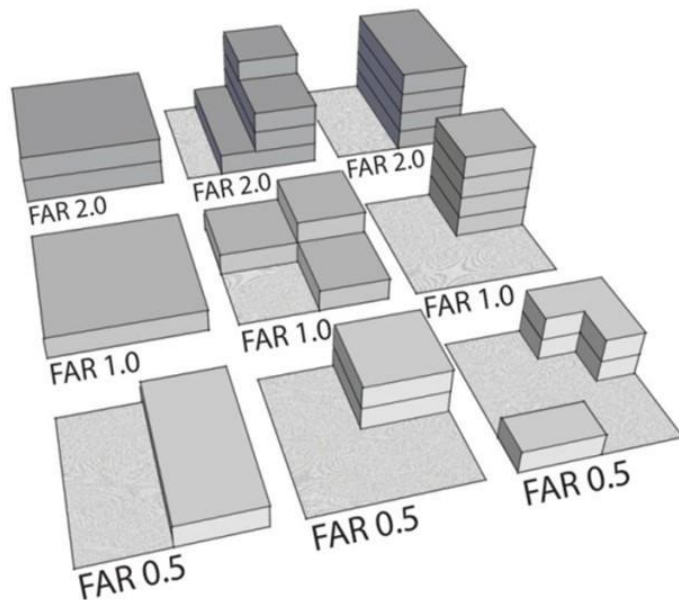
- **Residential densities** are expressed in terms of dwelling units per net acre, ~~which is the area remaining after land is dedicated for rights-of-way, easements, and other public or common uses.~~ As a rule of thumb, the County assumes net acreage to be 75 percent of the gross for single-family residential projects and 80 percent of the gross for multiple-family residential and mixed-use projects. A project's actual density is calculated during the development review process and must fall within the density range for the applicable land use designation

unless State laws, policies within this General Plan, or zoning regulations allow for higher or lower densities.



*This illustration shows different densities for residential development on similarly sized lots. This graphic is intended only to show the relative differences between residential developments at various densities and does not represent a density standard for this General Plan.*

- Development intensities for nonresidential uses are expressed in terms of **floor area ratio (FAR)**, which is the ratio of gross building floor square footage to gross land area, expressed as a decimal number. When a building's square footage is equal to the area of the parcel it occupies, the FAR is 1.0. FARs are lower in suburban areas, where buildings are shorter and often surrounded with parking and landscaping, than in urban areas, where buildings are taller and occupy more of their respective parcels. Nonresidential development cannot exceed the FAR for the applicable land use designation.



*This illustration shows how various building configurations represent different FARs on similarly sized lots. This graphic is intended only to show the relative differences in FAR and does not represent an intensity standard for this General Plan.*

The General Plan Land Use Map is presented in Figure LU-1. This map shows the distribution of the land use designations listed in Table LU-1. In most cases the designations reflect uses already in existence. However, in some places the designations are aspirational or intended to be catalysts for change. A prime example is the application of mixed-use designations to aging, single-use commercial areas. In these instances, the designation is intended to promote more efficient use of the land and encourage reinvestment by increasing residential density and expanding options for development. The land use map is not meant to be static; amendments are expected in response to evolving community priorities and needs, shifting economic trends, technological advances, and other societal changes affecting land use.

## ORDERLY, WELL-PLANNED GROWTH

### Balanced Development and Conservation

Contra Costa County was an early implementer of smart growth and compact development principles, embodied in the 65/35 Land Preservation Standard (65/35 Standard) and Urban Limit Line (ULL). These land use controls, which are integral to long-range planning in the county, were established by voter approval of Measure C-1990 and their necessity was reaffirmed through voter approval of Measure L-2006. Contra Costa residents continue to recognize the importance of balancing development to meet the community's housing, jobs, and service needs with protection of the county's natural environment and resources.


### 65/35 Land Preservation Standard

One of two fundamental components of Measures C-1990 and L-2006 is the 65/35 Standard, which limits the footprint of urban development by restricting urban land use designations to no more than 35 percent of the land in the county and requiring at least 65 percent of the land to be designated for non-urban uses. Table LU-2 indicates which County land use designations are urban and non-urban. The 65/35 Standard does not regulate land use intensity. All urban land use designations count equally against the 35 percent limit regardless of how, or even if, the land to which they are applied is developed. Likewise, all non-urban designations count equally toward the 65 percent requirement regardless of development. The 65/35 Standard operates on a countywide basis, accounting for urban and non-urban designations within the 19 cities as well as the unincorporated county. As of 2023<sup>34</sup>, approximately 28 percent of the land countywide has been designated for urban uses.



**TABLE LU-1 LAND USE DESIGNATIONS**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <p><b>RESIDENTIAL VERY-LOW DENSITY   RVL</b><br/> Appropriate for transitions between urban development and agricultural/rural areas. Also appropriate for constrained sites where reduced densities are justified. Typically includes detached single-family units on lots 1 acre or larger and small-scale agricultural activities.<br/> <i>Consistent Zoning: R-100, R-65, R-40      Potentially Consistent Zoning: All A- districts, P-1</i></p>                                                                 | <p><b>Density</b><br/> ≤1<br/> <b>FAR</b><br/> N/A</p>     |
| <p><b>RESIDENTIAL LOW DENSITY   RL</b><br/> Appropriate for low-density, predominantly single-family residential development. Typically includes detached single-family units on lots approximately 15,000 square feet to 1 acre in size and limited nonresidential uses that serve and support nearby homes. Small-scale agricultural activities may be compatible on larger lots.<br/> <i>Consistent Zoning: R-40, R-20, R-15, R-12      Potentially Consistent Zoning: P-1</i></p>                                | <p><b>Density</b><br/> 1-3<br/> <b>FAR</b><br/> N/A</p>    |
| <p><b>RESIDENTIAL LOW-MEDIUM DENSITY   RLM</b><br/> Appropriate for moderate-density, predominantly single-family residential development. Typically includes detached single-family units on lots approximately 6,000 to 15,000 square feet and limited nonresidential uses that serve and support nearby homes. Duplexes and triplexes may also be compatible.<br/> <i>Consistent Zoning: R-12, R-10, R-7, R-6      Potentially Consistent Zoning: P-1</i></p>                                                     | <p><b>Density</b><br/> 3-7<br/> <b>FAR</b><br/> N/A</p>    |
| <p><b>RESIDENTIAL MEDIUM DENSITY   RM</b><br/> Appropriate for higher-density single-family and low-density multiple-family residential development. Typically includes single-family units on lots approximately 2,500 to 6,000 square feet, duplexes, triplexes, townhouses, condominiums, apartments, and mobile home parks. Also includes limited nonresidential uses that serve and support nearby homes.<br/> <i>Consistent Zoning: R-6, D-1, M-6, M-9, M-17      Potentially Consistent Zoning: P-1</i></p>   | <p><b>Density</b><br/> 7-17<br/> <b>FAR</b><br/> N/A</p>   |
| <p><b>RESIDENTIAL MEDIUM-HIGH DENSITY   RMH</b><br/> Appropriate for the highest-density single-family and medium-density multiple-family residential development. Typically includes single-family units on lots smaller than 2,500 square feet, tiny homes, fourplexes, townhouses, condominiums, apartments, and assisted living facilities. Also includes limited nonresidential uses that serve and support nearby homes.<br/> <i>Consistent Zoning: M-17, M-29      Potentially Consistent Zoning: P-1</i></p> | <p><b>Density</b><br/> 17-30<br/> <b>FAR</b><br/> N/A</p>  |
| <p><b>RESIDENTIAL HIGH DENSITY   RH</b><br/> Appropriate for higher-density, multiple-family development. Typically includes condominiums, apartments, and assisted living facilities. Also includes limited nonresidential uses that serve and support nearby homes.<br/> <i>Consistent Zoning: None      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                | <p><b>Density</b><br/> 30-60<br/> <b>FAR</b><br/> N/A</p>  |
| <p><b>RESIDENTIAL VERY-HIGH DENSITY   RVH</b><br/> Appropriate near transit stations, employment centers, and other locations where providing exceptionally high density is a priority. Typically includes condominiums, apartments, and micro-units. Also includes limited nonresidential uses that serve and support nearby homes.<br/> <i>Consistent Zoning: None      Potentially Consistent Zoning: P-1</i></p>                                                                                                 | <p><b>Density</b><br/> 60-125<br/> <b>FAR</b><br/> N/A</p> |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p><b>RESIDENTIAL MAXIMUM DENSITY   RX</b><br/>Reserved for unique projects providing the highest densities in the unincorporated county. Typically includes condominiums, apartments, and micro-units. Density is determined on a project-by-project basis. Also includes limited nonresidential uses that serve and support nearby homes.</p> <p><i>Consistent Zoning: None      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>Density</b><br/>126≤</p> <p><b>FAR</b><br/>N/A</p>                                       |
| <p><b>COMMERCIAL and OFFICE   CO</b><br/>Allows for a full range of commercial and office uses. Typical uses include retail (neighborhood, community, and regional scale), personal and business services, lodging and hospitality services, entertainment venues, event spaces, shared co-workspaces, commercial kitchens, workforce training centers, and all kinds of medical, business, and professional offices.</p> <p><i>Consistent Zoning: C, C-B, N-B, R-B, A-O, O-1      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                                                                                                                                                            | <p><b>Density</b><br/>N/A</p> <p><b>FAR</b><br/>1.0 Commercial<br/>2.5 Office</p>              |
| <p><b>LIGHT INDUSTRY   LI</b><br/>Allows for a range of low- to moderate-intensity industrial uses that when properly designed and operated may be established in proximity to residences and other sensitive receptors without sacrificing human health and safety or resulting in significant environmental impacts. Typical uses include light manufacturing, fabrication/assembly, processing, machinery repair, warehousing and storage, distribution, research and development, laboratories, incubators, workforce training centers, and ancillary or supportive retail and office uses.</p> <p><i>Consistent Zoning: L-I, C-M      Potentially Consistent Zoning: A-O, P-1</i></p>                                                                                                                                                                               | <p><b>Density</b><br/>N/A</p> <p><b>FAR</b><br/>1.5</p>                                        |
| <p><b>HEAVY INDUSTRY   HI</b><br/>Allows for the most intense industrial land uses. Heavy industrial uses typically require significant acreage and direct access to deep water channels, rail lines, or freeways. Operations are often characterized by transport, storage, and use of large quantities of hazardous or noxious materials; significant emissions of pollutants, odors, noise, vibration, and light; and inherent risks to human health and safety and the environment. Typical uses include heavy manufacturing and processing (e.g., petroleum refining, chemical manufacturing, steel production), tank farms, marine terminals, rail yards, and fossil fuel-fired power plants. Light industrial uses are also allowed within this designation.</p> <p><i>Consistent Zoning: H-I, L-I, C-M, W-3      Potentially Consistent Zoning: A-O, P-1</i></p> | <p><b>Density</b><br/>N/A</p> <p><b>FAR</b><br/>0.67 Heavy Industry<br/>1.5 Light Industry</p> |
| <p><b>MIXED-USE LOW DENSITY   MUL</b><br/>Allows for various housing types, including tiny homes, townhouses, condominiums, apartments, studios, live-work units, and micro-units, along with a wide range of neighborhood-serving retail, personal service, office, entertainment, and public uses. This designation is applied where a modest level of mixed-use development is appropriate, such as pedestrian-scale corridors, neighborhood nodes, and individual or small groups of parcels generally encompassing less than 1 acre.</p> <p><i>Consistent Zoning: N-B, C-B, R-B, A-O, O-1, M-6, M-9, M-17, M-29      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                     | <p><b>Density</b><br/>10-30</p> <p><b>FAR</b><br/>1.0</p>                                      |
| <p><b>MIXED-USE MEDIUM DENSITY   MUM</b><br/>Allows for various housing types, including townhouses, condominiums, apartments, studios, live-work units, and micro-units, along with a wide range of retail, personal service, office, hospitality, entertainment, and public uses sized to serve nearby neighborhoods or the surrounding community. This designation is applied where moderate- to large-scale mixed-use development is appropriate, such as existing commercial or mixed-use cores of established communities, transitioning commercial areas (e.g., obsolete shopping centers), and individual or groups of parcels encompassing several acres.</p> <p><i>Consistent Zoning: N-B, C-B, R-B, A-O, O-1      Potentially Consistent Zoning: P-1</i></p>                                                                                                  | <p><b>Density</b><br/>30-75</p> <p><b>FAR</b><br/>2.0</p>                                      |





|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------|---------------------------------------|-------------------------------------------|--|-------------------------------------|-------------------------------------|--|------------------------------------------|----------------------------------|--|-----------------------------------------|-------------------------------------|--|-------------------------------------------------------------------|
| <p><b>MIXED-USE HIGH DENSITY   MUH</b></p> <p>Allows for high-density residential complexes of all types, office towers, large hotels, convention spaces, and accompanying retail, personal service, entertainment, and public uses. This designation is applied where intense, urban-scale mixed-use development is appropriate, such as transit villages and employment centers.</p> <p><i>Consistent Zoning: N-B, C-B, R-B, A-O, O-1      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Density</b><br/>75-125</p> <p><b>FAR</b><br/>4.0</p>                                         |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| <p><b>MIXED-USE COMMUNITY-SPECIFIC DENSITY   MUC</b></p> <p>Allows for various housing types, including tiny homes, townhouses, condominiums, apartments, studios, live-work units, and micro-units, along with a wide range of neighborhood- and community-serving retail, personal service, office, hospitality, entertainment, and public uses. Densities and FARs are specific to the communities where this designation is applied, as follows:</p> <table><tr><td>Alamo 22-40 du/net acre, 1.75 FAR</td><td>Montalvin Manor 17-35 du/net acre, 1.75 FAR</td><td>Vine Hill 22-35 du/net acre, 1.75 FAR</td></tr><tr><td>Bay Point 22-40 du/net acre, 1.75 FAR</td><td>North Richmond 17-35 du/net acre, 2.0 FAR</td><td></td></tr><tr><td>Crockett 17-27 du/net acre, 2.0 FAR</td><td>Pacheco 22-40 du/net acre, 1.75 FAR</td><td></td></tr><tr><td>Discovery Bay 17-35 du/net acre, 1.5 FAR</td><td>Rodeo 17-35 du/net acre, 2.0 FAR</td><td></td></tr><tr><td>El Sobrante 17-35 du/net acre, 1.75 FAR</td><td>Saranap 22-40 du/net acre, 1.75 FAR</td><td></td></tr></table> <p>Additional policy guidance related to the MUC designation may appear in the Community Profiles for these communities.</p> <p><i>Consistent Zoning: N-B, C-B, R-B, A-O, O-1, M-17, M-29      Potentially Consistent Zoning: P-1</i></p> | Alamo 22-40 du/net acre, 1.75 FAR                                                                  | Montalvin Manor 17-35 du/net acre, 1.75 FAR | Vine Hill 22-35 du/net acre, 1.75 FAR | Bay Point 22-40 du/net acre, 1.75 FAR | North Richmond 17-35 du/net acre, 2.0 FAR |  | Crockett 17-27 du/net acre, 2.0 FAR | Pacheco 22-40 du/net acre, 1.75 FAR |  | Discovery Bay 17-35 du/net acre, 1.5 FAR | Rodeo 17-35 du/net acre, 2.0 FAR |  | El Sobrante 17-35 du/net acre, 1.75 FAR | Saranap 22-40 du/net acre, 1.75 FAR |  | <p><b>Density</b><br/>Variable</p> <p><b>FAR</b><br/>Variable</p> |
| Alamo 22-40 du/net acre, 1.75 FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Montalvin Manor 17-35 du/net acre, 1.75 FAR                                                        | Vine Hill 22-35 du/net acre, 1.75 FAR       |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| Bay Point 22-40 du/net acre, 1.75 FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | North Richmond 17-35 du/net acre, 2.0 FAR                                                          |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| Crockett 17-27 du/net acre, 2.0 FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pacheco 22-40 du/net acre, 1.75 FAR                                                                |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| Discovery Bay 17-35 du/net acre, 1.5 FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rodeo 17-35 du/net acre, 2.0 FAR                                                                   |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| El Sobrante 17-35 du/net acre, 1.75 FAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Saranap 22-40 du/net acre, 1.75 FAR                                                                |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| <p><b>PUBLIC and SEMI-PUBLIC   PS</b></p> <p>Appropriate for uses and facilities owned or operated by public entities or private entities serving the public. These include law enforcement and fire stations, schools, libraries, hospitals, water and sewage treatment plants, landfills, cemeteries, airports, and military installations. Also includes high-volume public and private transportation corridors (e.g., freeways, BART, railroads) and utility corridors.</p> <p><i>Consistent Zoning: All districts      Potentially Consistent Zoning: None</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>Density</b><br/>N/A</p> <p><b>FAR</b><br/>N/A</p>                                            |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| <p><b>AGRICULTURAL CORE   AC</b></p> <p>Applied to approximately 11,900 acres between Brentwood, Discovery Bay, and Byron composed primarily of soils rated Class 1 or 2 per the National Resources Conservation Service (NRCS) Land Capability Classification. Much of the area under this designation is prime agricultural land that is actively farmed with intensive row crops, orchards, and vineyards. Agricultural production is the primary use in areas with this designation and takes precedent over other uses. Limited agricultural tourism activities that support the agricultural economy are consistent with this designation. “Ranchette” or estate-style residential development, and any other use that interferes with agricultural activities, is inconsistent with this designation.</p> <p><i>Consistent Zoning: A-4, A-40, A-80      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Density</b><br/>1 unit/40 acres</p> <p><b>FAR</b><br/>N/A</p>                                |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |
| <p><b>AGRICULTURAL LANDS   AL</b></p> <p>Applied to agricultural areas composed primarily of soils rated Class 3 or lower per the National Resources Conservation Service (NRCS) Land Capability Classification. Most areas with this designation are non-irrigated, rural lands that may support grazing and dryland farming, though it also includes non-prime, productive agricultural lands. Other types of agricultural, open space, and non-urban uses are consistent with this designation when conducted in accordance with the County’s policies pertaining to agricultural areas. These include limited opportunities for recreation, lodging (farm stays, bed and breakfasts, etc.), food services (farm-to-table dining, farm stands, etc.), special events, and similar activities that support the county’s agricultural economy.</p> <p>Some land with this designation is within the Delta Primary Zone (DPZ) and may be used for recreation and other nonagricultural activities that are consistent with the Delta Protection Commission’s <i>Land Use and Resource Management Plan for the Delta</i> and the Delta Stewardship Council’s <i>Delta Plan</i>.</p> <p><i>Consistent Zoning: All A- districts      Potentially Consistent Zoning: P-1</i></p>                                                  | <p><b>Density</b><br/>1 unit/10 acres<br/>1 unit/20 acres within DPZ</p> <p><b>FAR</b><br/>N/A</p> |                                             |                                       |                                       |                                           |  |                                     |                                     |  |                                          |                                  |  |                                         |                                     |  |                                                                   |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <p><b>PARKS and RECREATION   PR</b><br/>         Applied to publicly- and privately-owned parks and similar outdoor spaces. Includes <del>neighborhood and community</del> <u>local</u> parks <u>in urban areas</u> as well as federal, State, and regional parks and historic sites that are managed primarily for conservation purposes and provide active or passive recreational activities. Ancillary amenities such as visitor centers, event spaces, amusements/rides, and eateries that support or enhance the primary recreational use are consistent with this designation.</p> <p><i>Consistent Zoning: All R-, M-, and A- districts      Potentially Consistent Zoning: P-1</i></p>                                                                                                                                                                                                                                                                          | <p><b>Density</b><br/>0.0<br/><b>FAR</b><br/>N/A</p> |
| <p><b>COMMERCIAL RECREATION   CR</b><br/>         Appropriate for privately-owned recreational uses where the primary activity is conducted outdoors, such as golf courses, recreational vehicle campgrounds, hunting clubs, and marinas. Ancillary commercial and service uses, as well as an on-site residential unit for a caretaker, harbor master, etc., are consistent with this designation.</p> <p><i>Consistent Zoning: A-2, A-3      Potentially Consistent Zoning: C, R-B, P-1</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p><b>Density</b><br/>0.0<br/><b>FAR</b><br/>N/A</p> |
| <p><b>RESOURCE CONSERVATION   RC</b><br/>         Applied to the watersheds of reservoirs owned by public utilities, mitigation banks, <u>habitat restoration sites</u>, ecologically significant or environmentally sensitive areas that are not within publicly-owned parkland, and hazardous or otherwise constrained areas that are unsuitable for development. Resource management, low-intensity agriculture, low-intensity recreation, and similar activities are consistent with this designation when conducted in a way that is not damaging to the resources being protected. Construction of <u>public and semi-public infrastructure</u>, <u>and one single-family residence</u> on an existing legal lot under private ownership, is consistent with this designation. All types of urban development and subdivisions that increase density are prohibited.</p> <p><i>Consistent Zoning: All A- districts      Potentially Consistent Zoning: P-1</i></p> | <p><b>Density</b><br/>0.0<br/><b>FAR</b><br/>0.0</p> |
| <p><b>WATER   WA</b><br/>         Applied to approximately 41.5 square miles of water including the portions of San Francisco Bay, San Pablo Bay, and the Sacramento-San Joaquin River Delta that are within the county, large inland reservoirs, and other water bodies large enough to warrant designation. Typical uses include ferry terminals, shipping facilities associated with adjacent industry (marine terminals, wharves, etc.), docks, water-oriented recreation uses, and aquaculture.</p> <p><i>Consistent Zoning: None      Potentially Consistent Zoning: All districts</i></p>                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Density</b><br/>0.0<br/><b>FAR</b><br/>N/A</p> |

#### Notes on Mixed-Use Designations

1. Single-use residential and single-use nonresidential projects are allowed in areas with mixed-use designations; however, policies elsewhere in this General Plan may encourage or require mixed-use projects at specific locations.
2. The densities stated in each mixed-use designation apply only when a project includes a residential component; they do not compel residential development in otherwise nonresidential projects.
3. The FAR for each mixed-use designations is inclusive of residential and nonresidential development; density and FAR are not additive.
- 2.4. Mixed-use projects may be horizontal, meaning residential and nonresidential uses exist on the same site, or vertical, meaning residential and non-residential uses exist in the same building.



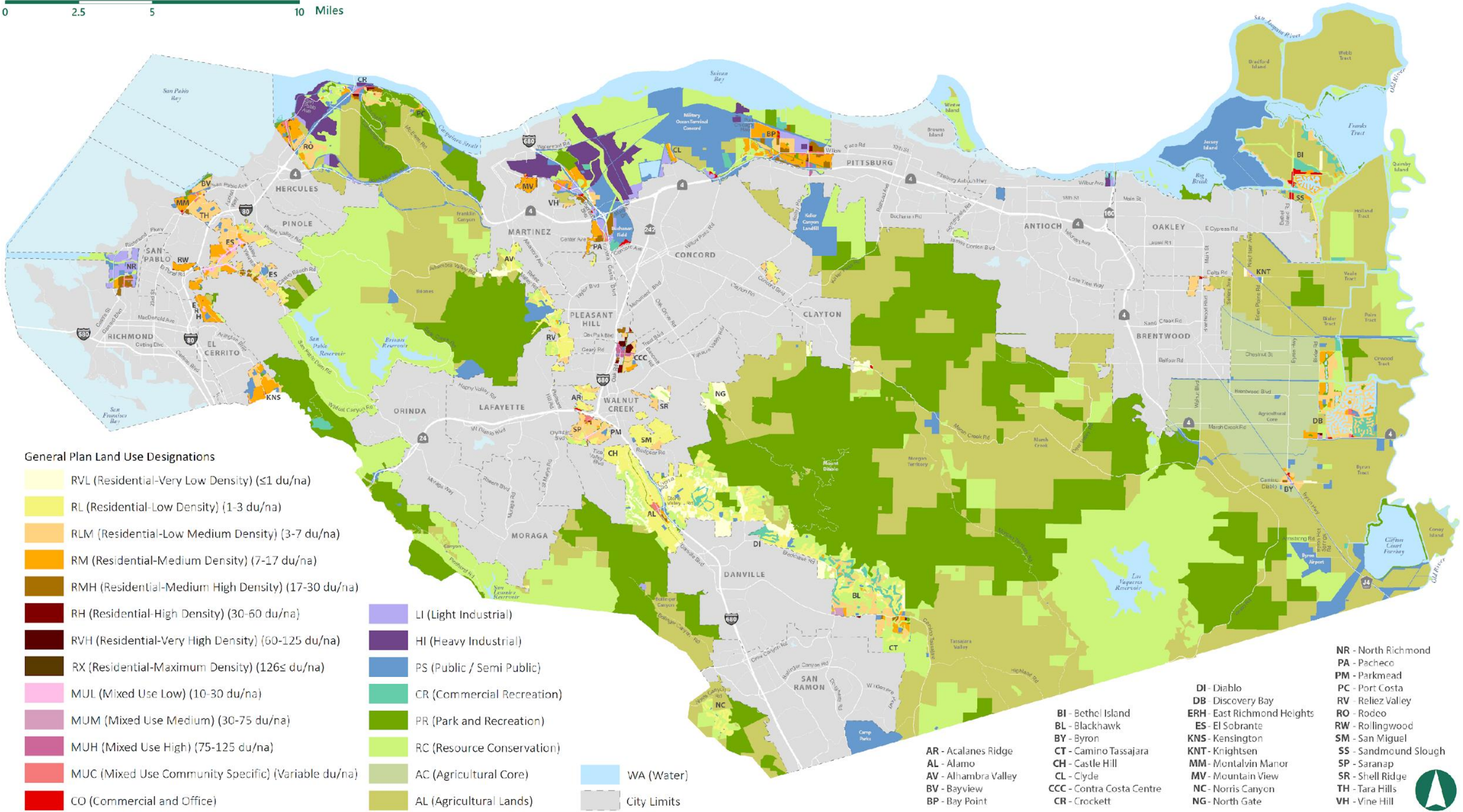
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FIGURE LU-1 GENERAL PLAN LAND USE MAP

0 2.5 5 10 Miles







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**TABLE LU-2 URBAN AND NON-URBAN LAND USE DESIGNATIONS**

| Urban Land Use Designations                                                                                                                                                                                                                                                                                                                                                                                                                | Non-Urban Land Use Designations                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Residential Very-Low Density<br>Residential Low Density<br>Residential Low-Medium Density<br>Residential Medium Density<br>Residential Medium-High Density<br>Residential High Density<br>Residential Very-High Density<br>Residential Maximum Density<br>Commercial and Office<br>Light Industry<br>Heavy Industry<br>Mixed-Use Low Density<br>Mixed-Use Medium Density<br>Mixed-Use High Density<br>Mixed-Use Community-Specific Density | Public and Semi-Public<br>Agricultural Core<br>Agricultural Lands<br>Parks and Recreation<br>Commercial Recreation<br>Resource Conservation<br>Water |

# Urban Limit Line

The ULL, shown in Figure LU-2, is the second fundamental component of Measures C-1990 and L-2006. It prevents sprawl by establishing a boundary beyond which no urban land uses can be designated. The ULL and 65/35 Standard together ensure that urban development occurs within established communities where infrastructure and services already exist or are planned.

In addition to Measures C-1990 and L-2006, the voter-approved Measure J-2004 Growth Management Program administered by the Contra Costa Transportation Authority requires the County and each city in the county to adopt a voter-approved ULL or equivalent. Sixteen of the 19 cities adopted the County's 2006 voter-approved ULL as their own. Antioch, Pittsburg, and San Ramon adopted their own voter-approved ULLs (known as the Urban Growth Boundary [UGB] in San Ramon). The County and cities are solely responsible for administering their respective ULLs/UGBs, which together

contain approximately 47 percent of the total land area within Contra Costa County. Because the 65/35 Standard limits urban land use designations to no more than 35 percent of the county's total land area, the County and cities must work cooperatively to maintain ensure that over 60,000 acres within the ULLs/UGBs remain under non-urban land use designations. Fortunately, a significant portion of this acreage already is permanently protected as neighborhood and community local parks, regional parks and open spaces, reservoirs, and other public facilities. Examples of protected lands within the ULLs/UGBs include several regional parks within Richmond's city limits (4,000 acres), Lafayette Reservoir and its surrounding recreation area (900 acres), Thurgood Marshall Regional Park (2,500 acres), Lime Ridge Open Space (1,200 acres), and Big Break Regional Shoreline (1,600 acres).



*The Urban Limit Line prevents sprawl and preserves valuable agricultural land.*

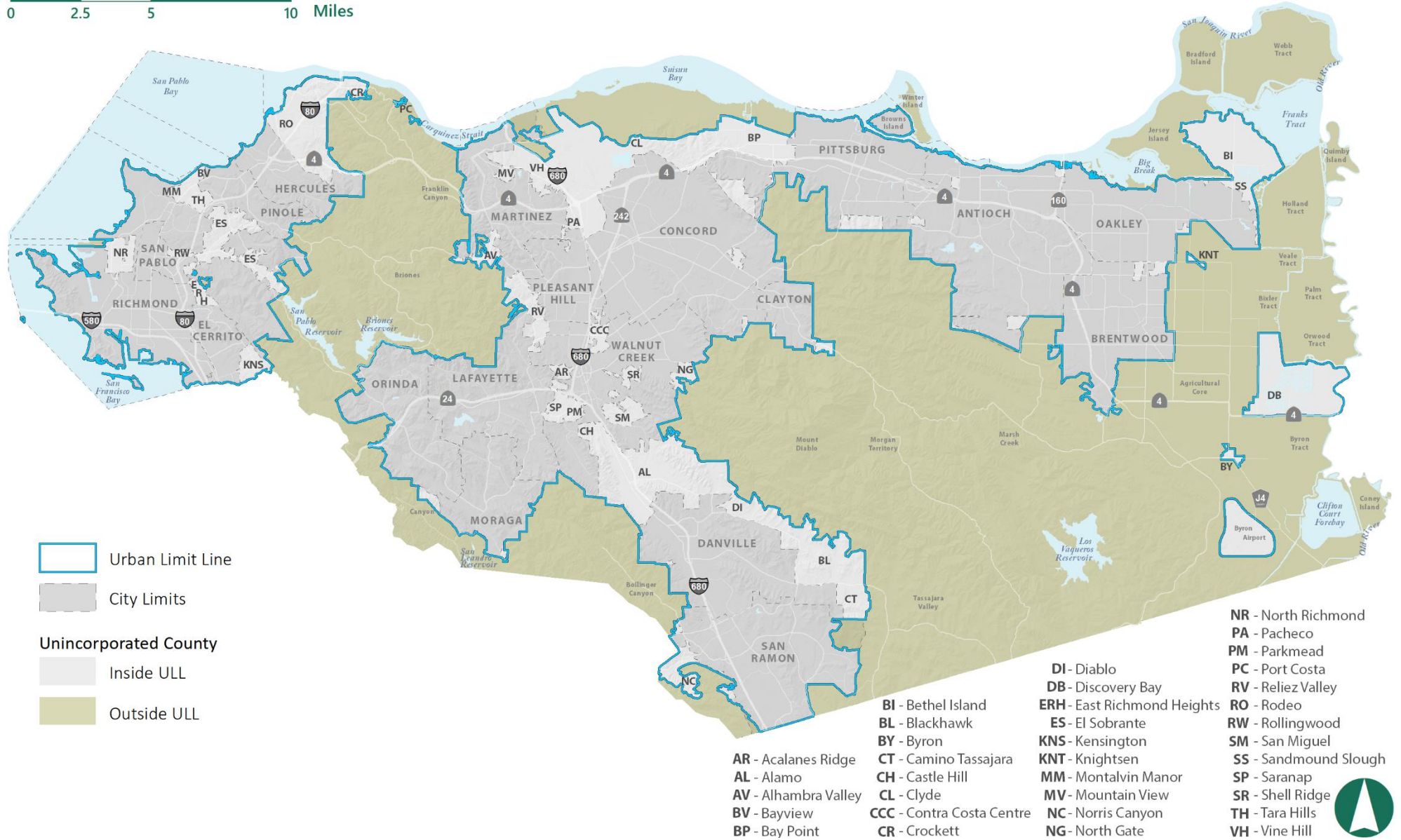
The County considered several criteria and factors when establishing the initial ULL location in 1990. Factors which contributed to properties being located outside the ULL included:



- Land which qualifies for rating as Class I and Class II in the National Resource Conservation System (NRCS) Land Capability Classification.
- Major open space, park, and recreation areas.
- Lands with slopes of 26 percent or greater.
- Wetlands.

FIGURE LU-2 URBAN LIMIT LINE

0 2.5 5 10 Miles







- Other areas not appropriate for urban growth because of physical unsuitability for development, unstable geological conditions, inadequate water availability, lack of appropriate infrastructure, distance from existing development, likelihood of substantial environmental damage or substantial injury to fish or wildlife or their habitat, and other similar factors.

No single criterion was necessarily determinative of whether a property was located inside or outside of the ULL. Where properties had characteristics that would locate them either inside or outside the ULL, the County weighed the competing characteristics and determined the most appropriate approach for the property. This resulted in the ULL cutting across properties in some instances.

Properties that are located outside the ULL may not obtain General Plan amendments that would redesignate them for urban land use. In addition, properties outside the ULL may be subject to various agricultural and open space preservation measures identified elsewhere in this General Plan. These measures could include:

- Encouraging dedication of open space and conservation easements.
- Implementing a transfer of development rights (TDR) program.
- Requiring payment of an agricultural mitigation fee for conversion of agricultural land.
- Promoting non-urban "preservation" agreements between the County and cities to prevent annexation by cities of certain appropriate properties.
- Encouraging clustering of development.

- Establishing an "agricultural soils trust fund" to fund possible purchase of easements or title to agricultural or open space lands.


In general, the purpose of these measures is to preserve agricultural lands and open space and contribute to the continued economic viability of agricultural property.

## Changes to the Urban Limit Line

The following text is from Measure L-2006, which requires specific language to be included in the Land Use Element and is why the 2016 ULL review conducted by the Board of Supervisors is discussed in future tense:

There shall be no change to the ULL that would violate the 65/35 Land Preservation Standard. There will be no change to the ULL except in the manner specified herein. There will be no change to the ULL unless the Board of Supervisors first holds a public hearing at which it approves the change or changes, by a four-fifths vote, after making one or more of the following findings based on substantial evidence in the record:

- (a) A natural or man-made disaster or public emergency has occurred which warrants the provision of housing and/or other community needs within land located outside the ULL.
- (b) An objective study has determined that the ULL is preventing the County from providing its fair share of affordable housing or regional housing as required by State law, and the Board of Supervisors finds that a change to the ULL is necessary and the only feasible means to enable the County to meet these requirements of State law.

- 
- (c) A majority of the cities that are party to a preservation agreement and the County have approved a change to the ULL affecting all or any portion of the land covered by the preservation agreement.
  - (d) A minor change to the ULL will more accurately reflect topographical characteristics or legal boundaries.
  - (e) An objective study has determined that a change to the ULL is necessary or desirable to further the economic viability of the East Contra Costa County Airport, and either mitigate adverse aviation-related environmental or community impacts attributable to Buchanan Field, or further the County's aviation-related needs.
  - (f) A change is required to conform to applicable California or federal law; or
  - (g) A five-year cyclical review of the ULL has determined, based on the criteria and factors for establishing the ULL set forth above, that new information is available (from city or County growth management studies or otherwise) or circumstances have changed, warranting a change to the ULL.

Any General Plan amendment that would expand the ULL by more than 30 acres shall require voter approval of the proposed General Plan amendment, following the public hearing and the four-fifths vote of the Board of Supervisors approving the General Plan amendment and making one or more of the findings set forth in subsections (a) through (g) above. Notwithstanding the foregoing, a proposed General Plan amendment to expand the ULL by more than 30 acres does not require voter approval if, after a public hearing, the Board of Supervisors by a four-fifths vote approves the General Plan amendment and makes either of the following findings based on substantial evidence in the record: (i) the expansion of the ULL is necessary to avoid an unconstitutional taking of private property; or

(ii) the expansion of the ULL is necessary to comply with State or federal law. Expansions of the ULL totaling 30 acres or less do not require voter approval.

The Board of Supervisors may conduct a cyclical review of the ULL every five years.

The Board of Supervisors will review the boundary of the ULL in the year 2016. The purpose of the year 2016 review is to determine whether a change to the boundary of the County's Urban Limit Line Map is warranted, based on facts and circumstances resulting from the County's participation with the cities in a comprehensive review of the availability of land in Contra Costa County sufficient to satisfy housing and jobs needs for 20 years thereafter. This review of the ULL is in addition to any other reviews of the ULL the Board of Supervisors may conduct.

Any change to the ULL proposed as a result of any review authorized by this section must be adopted pursuant to the procedures set forth in this section. These provisions are effective until December 31, 2026.

### **Goal LU-1**

Coordinated and effective planning over the life of this General Plan.

## **Policies**

### **LU-P1.1**

The General Plan Update Environmental Impact Report (EIR) assumes the following maximum development



projections for the year 2045:

- (a) 23,200 new dwelling units.
- (b) 1.2 million square feet of new commercial and office space.
- (c) 5 million square feet of new industrial space.

If new development approved within the unincorporated county reaches the maximum number of residential units and commercial/office and industrial square feet projected in the General Plan EIR, require that environmental review conducted for any subsequent development project address growth impacts that would occur from development exceeding the General Plan EIR's projections.\*

## Actions

### LU-A1.1

Track growth to ensure it does not exceed the development projections analyzed in the General Plan EIR and described in Policy LU-P1.1 without subsequent environmental review.\*

### LU-A1.2

~~Periodically update~~ Review County Ordinance Code Titles 7 – Building Regulations, 8 – Zoning, 9 – Subdivisions, and 10 – Public Works and Flood Control at least once every five years and update as necessary to maintain consistency with State law and newly adopted or revised planning documents (General Plan, Specific Plans, etc.); address emerging issues; and respond to economic, technological, and social trends.

### LU-A1.3

Biennially review and update the General Plan Land Use Map to ensure major land use changes, such public land acquisitions, are accurately reflected.

### LU-A1.4

Quantify the acreage designated for urban land uses at least once every five years to ensure continued compliance with the 65/35 Land Preservation Standard.

## Goal LU-2

Growth and conservation that are balanced to preserve and enhance the quality of life, protect the environment and public safety, and benefit all those who live or work in Contra Costa County.

## Policies

### LU-P2.1

Continue implementing the 65/35 Land Preservation Standard, using the County ULL to focus future development in the county's established urban and suburban communities while preserving agricultural land, rangeland, natural habitats, watersheds, and open space.\*

## LU-P2.2

Enhance the ULL's effectiveness by supporting efforts to acquire and permanently protect land along the ULL boundary.\*

## LU-P2.3

Limit development outside the ULL to non-urban uses, such as agriculture, mineral extraction, wind and solar energy production, natural carbon sequestration, other resource-based uses, and essential infrastructure.\*

## LU-P2.4

~~Deny applications for~~ Prohibit major subdivisions outside the ULL ~~and as well as~~ successive minor subdivisions of lots outside the ULL that were created through previous subdivisions.\*

## LU-P2.5



Encourage infill development.

## LU-P2.6



Encourage clustering of allowable densities to reduce development footprints; protect scenic resources, natural features, and open spaces; and avoid hazardous areas (e.g., floodplains).

## LU-P2.7



In areas with a Residential land use designation, relate single-family residential density to the availability of utility services as follows:

- (a) Require a 5-acre minimum lot size where no public water or sanitary sewer service is available.
- (b) Require a 1-acre minimum lot size where either public water or sanitary sewer service is available, but not both.

Where public water and sanitary sewer services are available, allowable density will be based on the General Plan Land Use Map designation, as well as drainage, health, safety, and other applicable standards.

## LU-P2.8

Discourage extension of water and sanitary sewer lines into areas outside the ULL, except to serve public and semi-public uses that are not growth inducing, or when such extension is necessary to address a declared public health emergency. When lines are extended outside the ULL, they should be designed to service the intended use only, and not allow for additional future service connections.

## LU-P2.9

Consistently advise the Contra Costa County Local Agency Formation Commission (LAFCO) to support the 65/35 Land Preservation Standard and County ULL when considering requests for annexation to water and wastewater districts and extension of services.





## LU-P2.10



When considering development proposals and land use changes, treat susceptibility to hazards and threats to health and safety human life as primary considerations.

## Actions

### LU-A2.1

Amend the County Ordinance Code to require the following prior to approval of a tentative map for subdivision in areas designated Agricultural Lands or Agricultural Core:

- (a) Evidence of adequate groundwater supply to support intended uses, considering the cumulative, long-term demand.
- (b) Demonstration that each parcel is suitable for an on-site wastewater treatment system.
- (c) Satisfactory road and street access, particularly for emergency vehicles.
- (d) Adequate regional drainage capacity, including downstream natural watercourses.
- (e) Detailed site plans for each lot indicating building locations, driveways, well and leach field locations, energy-efficient and -conserving features, location of hazards such as landslides and floodplains, necessary flood and stormwater management improvements, and fencing.
- (f) Other information that may be required to confirm the safe use of each lot for its intended purpose.

*See the Land Use, Infrastructure, and Transportation Coordination section of this Element and the Public Facilities and Services Element for additional policies and actions on urban services and infrastructure. See the Conservation, Open Space, Conservation, and Working Lands Element for additional policies and actions on agricultural areas, resource-based uses, and open space management.*

## Sustainable Growth and Quality Design

The County's 65/35 Standard and ULL provide a framework for sustainable growth countywide by containing sprawl and preserving natural spaces. Inside the ULL, certain development patterns and design approaches promote sustainability at the community level. Infill development, for example, occurs within existing communities and utilizes existing infrastructure networks to accommodate new residents and businesses, thereby eliminating environmental and fiscal impacts associated with extending roads, utilities, and services into undeveloped areas. Infill projects make use of vacant or underutilized spaces and contemporary designs tend to be more human-scaled than projects of the past, with priority given to the needs and comfort of people instead of the movement of vehicles.

Locating jobs and housing near transit and other services is another sustainable growth strategy. There is a jobs-housing imbalance in the county, with considerably more employed residents than jobs. Countywide, as of 2020, there are only 0.9 jobs for every home, leading to substantial out-



*Vacant lots, like the one above in Saranap, are opportunities for infill development such as the proposed Saranap Village project, below.*



commuting as Contra Costa residents drive to other parts of the Bay Area and beyond for work. Ideally, there would be 1.4 jobs for every home in the county since there are about 1.4 employed residents per home. Balancing the number of jobs and housing units across the county and individual communities, and locating these types of uses near transit and other services, can reduce commute times and daily travel distances (i.e., vehicle miles traveled, or VMT), which in turn reduces air pollution and greenhouse gas emissions and improves quality of life. When developing these uses near each other, superior design becomes even more critical to ensure that the uses are complementary.

Quality, thoughtful design also supports achievement of sustainability goals. For example, careful consideration of solar orientation and shading when designing site plans, buildings, and landscaping can maximize exposure for solar panels and gardens while reducing energy use for heating and cooling. Low Impact Development, a stormwater management strategy, uses green roofs, bioswales, rain gardens, and similar features to mimic natural processes for removing pollutants from runoff before it reaches creeks, rivers, and bays. Designs that incorporate the principles of a circular economy aim to reduce consumption and benefit the environment by accounting for the full life cycle of buildings and materials, including manufacture, construction, maintenance, reuse, and disposal, and striving to eliminate waste and pollution. The County supports these and other environmentally-conscious design approaches.



### Goal LU-3

A range and distribution of compatible and sustainable land uses that meet the county's social and economic needs and allow for balanced housing and job growth.

## Policies

### LU-P3.1



Support regional efforts to achieve a jobs-housing balance within the county and within subregions of the county by maintaining an adequate supply of developable land designated for job-generating uses. For any General Plan amendment proposing to convert commercial, industrial, or office land uses to residential or non-urban land uses, evaluate the project's effect on the local and countywide jobs-housing balance.

### LU-P3.2



Encourage residential development in or near existing employment centers, and development of job-generating uses near areas that are primarily residential. Where large-scale residential or commercial development is planned, encourage a mix of housing and employment opportunities unless doing so would exacerbate a severe jobs-housing imbalance in the area.

### LU-P3.3



Encourage extremely high-density, mixed-use development that combines employment, housing, and services near major transit facilities. Such development should be planned and designed to encourage walking, micromobility, and transit use; shorter commutes; and reduced dependency on single-occupant vehicles.

### LU-P3.4



Encourage conversion of existing commercial areas to mixed-use nodes and corridors.

### LU-P3.5



Encourage development of housing that meets the needs of the local workforce and living-wage jobs that maximize the education, skills, and talents of county residents.

### LU-P3.6

Encourage incorporation of childcare, adult daycare, and similar beneficial uses into new development. To maximize accessibility, encourage childcare facilities in residential neighborhoods, employment centers, schools, public libraries, hospitals, religious facilities, and parks, as well as near transit stops.

### LU-P3.7



Welcome development that supports the countywide goal of reducing VMT, thus reducing greenhouse gas emissions, to meet climate change targets. Require projects that do not support the County's VMT-reduction goals to incorporate necessary changes (e.g., design,

land use mix) to ensure they support those goals.

*See the Stronger Communities Element for additional policies and actions about economic development and the Transportation Element for additional policies and actions about VMT.*

## Actions

### LU-A3.1



Evaluate financial strategies and tools, such as Enhanced Infrastructure Financing Districts, to attract housing to employment areas and create new employment centers near residential areas.

### LU-A3.2

Develop and maintain an inventory of County-owned surplus lands with residential development potential and post the inventory on the County's website.

## Goal LU-4

Sustainable and high-quality design.

## Policies

### LU-P4.1



Embrace the principles of a circular economy as they relate to development and encourage all projects to utilize ecologically sustainable practices and materials.

### LU-P4.2

Continuously improve community appearance by requiring high-quality designs and materials that complement their surroundings, with emphasis on enhancing public spaces and historic and cultural resources.\*

### LU-P4.3

Encourage smooth transitions between new and existing or planned development.

### LU-P4.4

Require site and building reconfigurations, setback increases, landscaping enhancements, screening, or other design solutions wherever necessary to minimize potential conflicts between uses.

### LU-P4.5

Require shadow and solar access studies for new multiple-family residential, mixed-use, commercial, and industrial projects greater than three stories in height or with obvious potential to significantly shade parks, commercial nurseries, residential yards, solar arrays, and other uses that are sensitive to loss of sunlight.\*

### LU-P4.6

Require commercial and mixed-use projects to create inviting, pedestrian-oriented streetscapes wherever possible.





### LU-P4.7

Encourage residential and mixed-use buildings over four stories tall to incorporate setbacks or other massing changes on upper floors to create more human-scale and comfortable pedestrian environments.

## Actions

### LU-A4.1



Amend the County Ordinance Code to include requirements for Low Impact Development, use of low-carbon concrete, water and energy conservation, reclaimed water, renewable energy use, green building, and other measures that reduce the environmental impacts of development, based on the best available science.

*See the Conservation, Open Space, and Working Lands Element for additional policies and actions about sustainable design.*

## Land Use, Infrastructure, and Transportation

The breadth of uses and activities in the county must be supported by infrastructure such as utilities, roadways, railroads, pipelines, and drainage facilities. Most of the infrastructure and utility services in the county are provided by other agencies and private entities. The Contra Costa Local Agency Formation Commission (LAFCO) regulates the jurisdictional boundaries and spheres of influence of all cities and all special districts who provide infrastructure and services, like water, wastewater, and fire districts. By coordinating changes to local governmental boundaries, LAFCO helps to

ensure that current and projected service needs will be met while discouraging sprawl and preserving agricultural and open space lands.

The County also has a responsibility to ensure that the pace and pattern of development can be supported by the infrastructure and transportation networks, promotes fiscal health, aligns with regional plans, and represents community values. Focusing on higher-density infill development maximizes the efficiency of transportation and other infrastructure and reduces up-front construction and long-term maintenance costs.

### Goal LU-5

Coordinated land use, transportation, and infrastructure decisions so that growth occurs in locations where capacity and services are available or committed.

## Policies

### LU-P5.1

Allow development only where requisite community services, facilities, and infrastructure can be provided.\*

### LU-P5.2

Coordinate with LAFCO to ensure that city annexations and related land use decisions do not:

(a) Interfere with attainment of the County's land use goals as expressed in this General Plan.

(b) Include Housing Element inventory sites unless provisions have been made to transfer the site's assigned units to the receiving city's Regional Housing Needs Allocation (RHNA).

(c) Create new unincorporated "islands" (i.e., developed isolated areas substantially surrounded by incorporated cities).

### **LU-P5.3 LU-P5.3**

Encourage cities to annex unincorporated "islands," such as the Rollingwood (San Pablo), Ayers Ranch (Concord), and San Miguel (Walnut Creek) neighborhoods.

### **LU-P5.2LU-P5.4**

Consider the potential locations of planned public infrastructure projects (e.g., transit lines, roadways, drainage improvements) when evaluating development proposals and deny development applications that would interfere with implementation of such projects.

## **Actions**

### **LU-A5.1**



In 2025 and at least once every five years thereafter, evaluate the County's off-street parking standards to ensure their continued applicability in light of changing conditions, trends, and technologies. Each evaluation should assess the appropriateness of reducing or eliminating parking minimums, taking off-site impacts and the variations in parking needs between communities into account, and recommend strategies for reducing parking demand.

### **LU-A5.2**

Work with LAFCO and utility service providers to:

- (a) Annex lands planned for urban development by this General Plan into their service areas.
- (b) Detach private lands, especially agricultural or rural lands, from district boundaries if they are not planned for urban development and are not currently served.

*See the Public Facilities and Services Element for additional policies and actions about infrastructure and services, and the Transportation Element for additional policies and actions about transportation infrastructure.*

## **Intergovernmental Coordination**

The County's jurisdiction on land use matters is limited to unincorporated areas and the County itself doesn't provide many of the utilities and services upon which its residents and businesses depend. County staff and officials regularly work with cities, special districts, and other agencies to ensure that the County's planning decisions support achievement of regional goals. Important regional partners in land use planning include the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC); Delta Protection Commission and Delta Stewardship Council, which ~~has regulatory~~ have authority over land uses within the Primary Zone of the Delta and Legal Delta, respectively (see Figure LU-3); and ~~the~~ US military, which must be consulted on projects proposed near its facilities (see Figure LU-4) to ensure new development does not conflict with operations or pose safety risks.



An important component of long-range regional planning in the Bay Area is designation of Priority Development Areas (PDAs). PDAs are proximate to public transit and planned for concentrated development of new homes, jobs, services, and community amenities. PDAs are envisioned as walkable areas that provide the necessities of daily living, thereby allowing residents to be less automobile dependent. ABAG/MTC offers grants and other assistance to develop and implement PDA plans. While PDAs are a regional planning tool, they are under the jurisdiction of the cities and counties where they are located. Over 30 PDAs have been designated in Contra Costa County, six of which are entirely or partially within the unincorporated area, as shown on Figure LU-5 and described in Table LU-3.

Another regional planning tool supported by ABAG/MTC is Transit-Oriented Communities (TOCs). TOCs are similar to PDAs in that their purpose is to create walkable communities near public transit. However, TOCs specifically aim to provide high residential densities within one-half mile of high-quality transit facilities like BART stations and ferry terminals, whereas PDAs may have lower average densities and extend farther out. A TOC therefore may exist within a larger PDA. In Contra Costa County there are 14 locations (12 BART stations, one Amtrak station, and one ferry terminal) that could qualify for designation as a TOC. As shown on Figure LU-5, these include unincorporated areas near the Pleasant Hill/Contra Costa Centre and Pittsburg/Bay Point BART Stations.

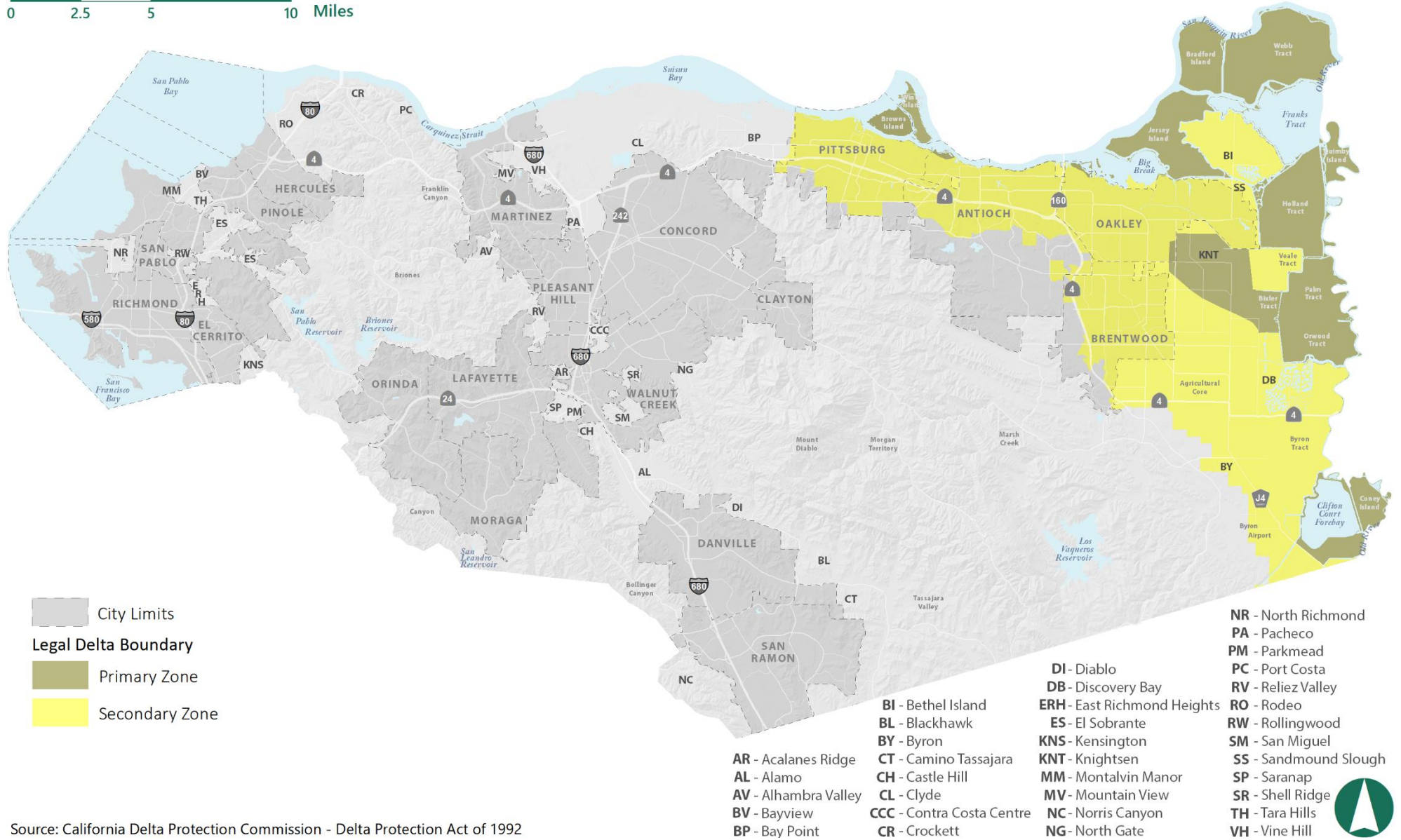
#### PRIORITY DEVELOPMENT AREAS IN UNINCORPORATED CONTRA COSTA COUNTY

| Priority Development Area                         | Households |       |                            |          | Jobs  |       |                            |          |
|---------------------------------------------------|------------|-------|----------------------------|----------|-------|-------|----------------------------|----------|
|                                                   | 2010       | 2040  | Projected 2010-2040 Growth | % Growth | 2010  | 2040  | Projected 2010-2040 Growth | % Growth |
| San Pablo Avenue Corridor - Unincorporated County | 1,586      | 4,784 | 3,198                      | 202%     | 847   | 1,087 | 240                        | 28%      |
| North Richmond                                    | 1,080      | 4,304 | 3,224                      | 299%     | 1,797 | 2,400 | 603                        | 34%      |
| Downtown El Sobrante                              | 559        | 784   | 225                        | 40%      | 1,030 | 1,127 | 97                         | 9%       |
| Contra Costa Centre                               | 354        | 623   | 269                        | 76%      | 4,441 | 5,888 | 1,447                      | 33%      |
| Pittsburg/Bay Point BART Station                  | 847        | 1,460 | 613                        | 72%      | 838   | 1,959 | 1,121                      | 134%     |
| Brentwood Boulevard                               |            |       |                            |          |       |       |                            |          |

Source: 2017 Contra Costa PDA Investment and Growth Strategy. Contra Costa Transportation Authority.

FIGURE LU-3 SACRAMENTO-SAN JOAQUIN DELTA

0 2.5 5 10 Miles



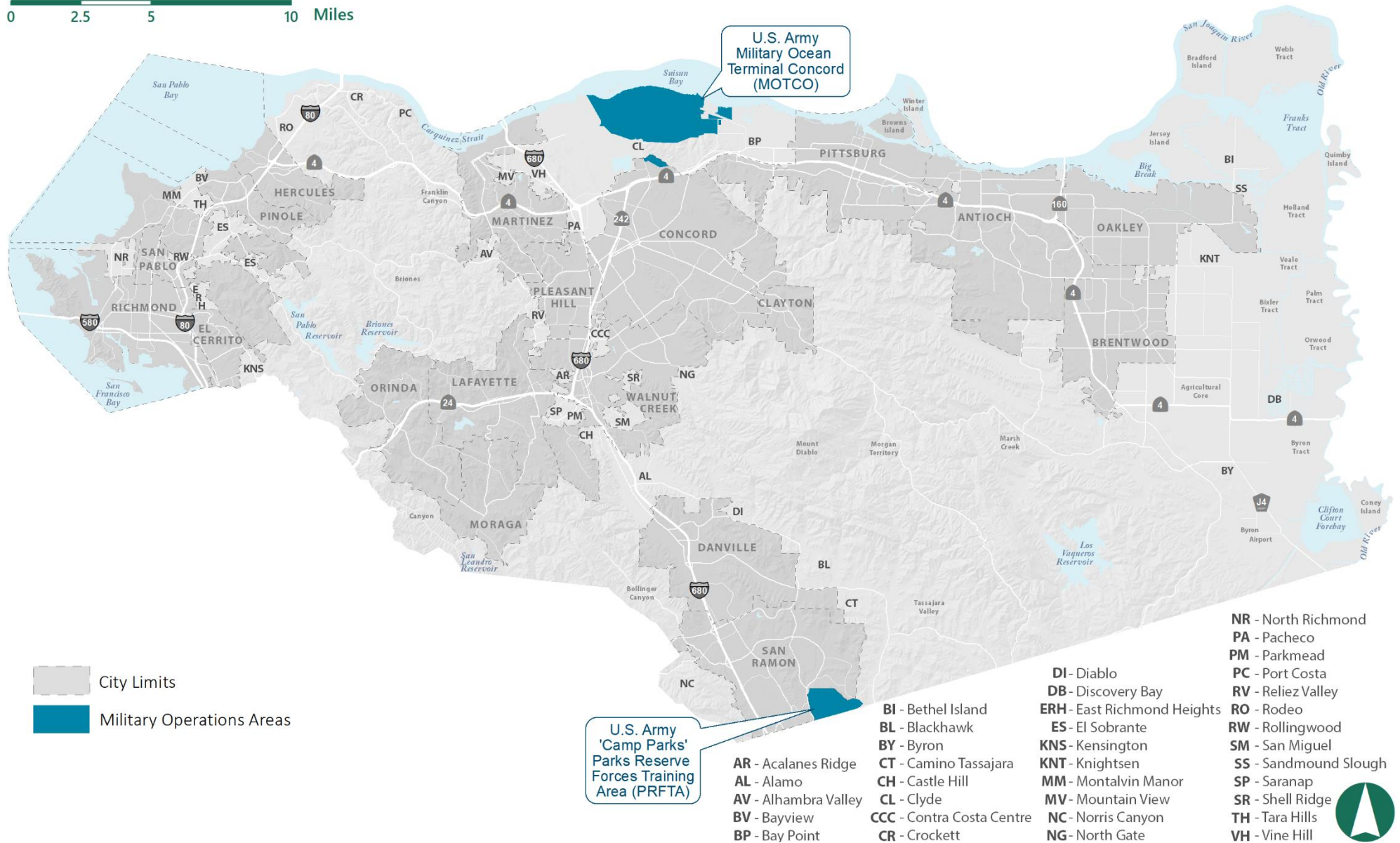
Source: California Delta Protection Commission - Delta Protection Act of 1992





**FIGURE LU-4**     **MILITARY OPERATIONS AREAS**

0     2.5     5     10   Miles



## Goal LU-6

Effective coordination with other agencies to ensure orderly planning and consistent service delivery.

## Policies

### LU-P6.1

Ensure that County projects and decisions on private development and land use activities within the Legal Delta are consistent with the following plans:

- (a) ~~The~~ Land Use and Resource Management Plan for the Primary Zone of the Delta adopted by the Delta Protection Commission.
- (b) ~~The~~ Delta Plan adopted by the Delta Stewardship Council.

In addition, screen proposed General Plan amendments affecting the Primary Zone for consistency with Public Resources Code Section 29763.5, including a specific analysis of consistency with each subsection thereof.

### LU-P6.2

Maintain Priority Development Area and Transit-Oriented Community designations in support of Plan Bay Area and other regional planning initiatives sponsored by ABAG/MTC.

~~Work collaboratively with cities and special districts (e.g.,~~

~~East Bay Regional Park District and utility service providers) to address regional issues of mutual concern and coordinate on decisions and actions that affect residents of nearby unincorporated areas.~~

### LU-P6.3

Work collaboratively with cities and special districts (e.g., East Bay Regional Park District and utility service providers) to address regional issues of mutual concern and coordinate on decisions and actions that affect residents of nearby unincorporated areas.

~~When a project is within the sphere of influence of a city within Contra Costa County, or adjacent to a city located in a neighboring county, refer the project to the city for review and comment.~~

### LU-P6.4

When a project is within the sphere of influence of a city within Contra Costa County, or adjacent to a city located in a neighboring county, refer the project to the city for review and comment.

~~Coordinate with LAFCO to ensure that city annexations and related land use decisions do not:~~

- ~~(a) Interfere with attainment of the County's land use goals as expressed in this General Plan. Include Housing Element inventory sites unless provisions have been made to transfer the site's assigned units to the receiving city's Regional Housing Needs Allocation (RHNA).~~
- ~~(b)(a) Create new unincorporated "islands" (i.e., isolated areas substantially surrounded by incorporated cities).~~



### LU-P6.5

~~Encourage cities to annex unincorporated “islands,” such as the Ayers Ranch and San Miguel neighborhoods.~~

### LU-P6.6

Coordinate with the Department of Defense to ensure new development near military installations does not interfere with military readiness or operations.

## Actions

### LU-A6.1

Review and comment on major projects proposed within cities to avoid conflicts with County land use goals and policies.

*See the Conservation, Open Space, and Working Lands Element for additional policies and actions about the Delta.*

## SPECIFIC LAND USES

Although located in the San Francisco Bay Area, one of America’s most populated metropolitan areas, the vast majority of the land in the unincorporated ~~the~~ county is devoted to agriculture, parks, and other forms of open space, supported by the 65/35 Standard and ULL discussed previously. Communities in West and Central County include a full range of urban and suburban uses. In East County, the dominant land uses are agriculture and open space with a handful of distinct unincorporated communities that are primarily residential, supported by limited commercial, industrial, and public uses.

As described in the Land Use Designations and Map section of this Element, the General Plan Land Use Map (Figure LU-1) designates each parcel of land in the unincorporated county for a type of land use. A parcel’s designation usually reflects an existing use that will continue. However, in some cases the designation is intended to encourage a land use change that is consistent with the vision for the community’s future. The policy guidance in this section supports development of those planned land uses in alignment with the overarching goals of this General Plan.

### Goal LU-7

A variety of residential neighborhood types that provide housing opportunities and desirable living environments for all residents.



Multiple-family homes, like these in Bay Point, fill an important housing need.

## Policies

### LU-P7.1

Plan for a variety of housing types. Encourage innovative, nontraditional designs and layouts in response to evolving housing trends and needs.

### LU-P7.2

Provide housing opportunities for all economic segments of the population, ensuring that affordable housing is distributed throughout the county and is not concentrated in traditionally lower-income areas. Promote development of affordable housing near public transit and essential services whenever possible.

### LU-P7.3

Maintain objective design standards for residential and

mixed-use development to provide a streamlined approval process and ensure architectural compatibility for future infill development.

### LU-P7.3LU-P7.4



Protect residential neighborhoods from incompatible uses and activities that ~~will~~ adversely affect public health and safety.

### LU-P7.4LU-P7.5



Require new residential development to be planned, designed, and constructed in a way that promotes health, minimizes hazard exposure for future residents, and mitigates potential adverse effects on natural resources and the environment.

### LU-P7.6



In hazard-prone areas, such as slopes exceeding 15 percent, mapped floodplains, High and Very High Fire Hazard Severity Zones, and Alquist-Priolo Earthquake Fault Zones, allow for decreased residential density, including below the minimum density requirement for the applicable land use designation, as the severity of risk increases.\*

### LU-P7.5LU-P7.7



Require new residential projects to provide convenient access/connections to public transit, local destinations, and multi-use trails ~~whenever possible.\*~~





## **LU-P7.6LU-P7.8**

Within the ULL, allow properties with existing legally established residential development that exceeds the maximum density ranges specified in Table LU-1 to retain those densities in the event the existing development must be reconstructed for any reason.

## **Actions**

### **LU-A7.1**

~~Maintain objective design standards for residential and mixed-use development to provide a streamlined approval process and ensure architectural compatibility for future infill development.~~

Evaluate the appropriateness of amending County Ordinance Code Title 8 - Zoning to allow sale of an ADU as a condominium separate from the primary residence, pursuant to AB 1033 and Government Code Section 66342.

*See the Health and Safety Element for additional policies and actions related to residential development in areas vulnerable to hazards (e.g., wildfire, flooding); see the Stronger Communities Element for additional policies and actions related to safe housing; see the Community Profiles in the Stronger Communities Element for guiding principles, policies, and actions about future land uses in individual unincorporated communities; and see the Housing Element for additional policy guidance related to housing in general.*

## **Goal LU-8**

A variety of well-located commercial and mixed-use areas that provide jobs and services, create civic gathering places and community focal points, accommodate higher-density housing, and contribute to the tax base of the County.



*Mixed-use development in Contra Costa Centre makes efficient use of the land by providing homes above commercial services.*

## **Policies**

### **LU-P8.1**



Plan for a sufficient quantity, variety, and distribution of commercial uses to meet the basic daily needs of

residents in communities throughout the county.

#### LU-P8.2



Support development of neighborhood-serving commercial services in and adjacent to residential areas where they can be accessed easily using multiple modes of transportation.

#### LU-P8.3



Encourage adaptive reuse of aging commercial buildings and sites.

#### LU-P8.4



Support rehabilitation of commercial centers, encouraging improvements that enhance appearance, sustainability, and non-motorized (pedestrian, bicycle, etc.) access and safety.

#### LU-P8.5

Emphasize the importance of commercial centers as civic ~~gathering places~~spaces. Whenever feasible, require plans for commercial ~~and mixed-use areas~~projects to include safe, well-maintained open spaces~~areas, gathering places, and public spaces~~ and amenities that create a strong sense of place.

#### LU-P8.6

Discourage new strip commercial development, allowing it only when alternative layouts are infeasible at the project site.

#### LU-P8.7



Encourage growth of the county's hospitality sector, including heritage tourism, waterfront amenities, farm-to-table restaurants, other dining and entertainment establishments, commercial recreation, various types of accommodations, and visitor services.

#### LU-P8.8



Accommodate a variety of land uses at Buchanan Field and Byron Airports, consistent with the master plan for each facility. A range of commercial aviation functions, including fixed-base operators, aviation businesses, and passenger facilities and services, should be allowed, as well as ancillary uses that support the economic viability of each airport.

#### LU-P8.9



Plan land uses and activities in the vicinity of harbors to optimize their use for commerce and recreation while accounting for forecasted sea-level rise by 2100 under a medium-high risk aversion scenario, subsidence, and groundwater threats.

### Actions

#### LU-A8.1



Monitor shifts in the office and retail markets to determine whether General Plan, zoning, and other regulatory changes that facilitate conversion of vacant or obsolete space to new uses are warranted.



See the Stronger Communities Element for additional policies and actions related to economic development.

### Goal LU-9

Industrial areas that support advanced manufacturing, research and development, production and distribution, repair, and other sectors that anchor the county's economy.



Industrial uses along the Northern Waterfront, like this facility that manufactures commuter trains, provide local jobs and boost the economy.

## Policies

### LU-P9.1



~~Welcome~~ Actively seek out industries that create living-wage jobs and career advancement opportunities for county residents while minimizing environmental degradation, pollution exposure, hazardous conditions, and adverse public health impacts.

### LU-P9.2



Welcome new businesses that improve supply chains for core local industries, including agriculture and food.

### LU-P9.3

Designate industrial land adjacent to major transportation infrastructure (i.e., freeways, rail lines, ports) and in other locations where the impacts of industrial traffic on neighborhoods and commercial areas can be minimized.

### LU-P9.4



Prioritize industrial land along the Bay and Delta shoreline for uses requiring deep-water access or large quantities of raw water for their processes (e.g., cooling), and discourage siting of other industrial uses that could be accommodated elsewhere. Continue partnering with regional agencies to ensure reliable deep-water access to industrial sites.

### LU-P9.5



Plan industrial uses and districts to be harmonious with nearby areas, reduce the potential for off-site impacts,



and limit potential exposure to environmental health hazards and pollutants.

## Actions

### LU-A9.1



Maintain formal “Priority Production Areas” designation of key industrial areas by ABAG/ MTC, confirming their long-term importance to the region and facilitating future investment. Pursue coordinated economic development funding for these areas.

### LU-A9.2



Monitor shifts in industrial markets resulting from the transition from fossil fuels and evaluate the County's industrial land supply for opportunity zones or innovation districts that can accommodate industries such as advanced manufacturing, prefabricated housing production, biomedical/biotech, logistics and mobility hubs and transportation technology, clean technology, and maker spaces. Consider General Plan, zoning, and other regulatory changes that facilitate conversion of vacant or obsolete space to new uses as warranted.

### LU-A9.3



Amend the County Ordinance Code and/or procedures to streamline the permitting process for businesses and industries that provide living-wage jobs, invest in the community, hire from the local workforce, and embrace sustainability.

*See the Conservation, Open Space, and Working Lands Element for additional policies and actions that support the agriculture industry. See also the Stronger*

*Communities Element for additional policies and actions related to a potential transition from fossil fuel industries to renewable and sustainable industries that offer living-wage jobs, and for additional policies and actions about economic development. See the Health and Safety Element for additional policies and actions related to hazardous materials.*

## Goal LU-10

Rural, agricultural, and open space areas that provide scenic value, support Delta ecosystem health, and meet the needs of the agricultural industry.



*Agricultural buildings, like this barn in Tassajara Valley, enhance the character of rural areas.*





## Policies

### LU-P10.1

Encourage consolidation of agricultural parcels not meeting the minimum acreage requirement for the applicable zoning district.

### LU-P10.2

Ensure all former Williamson Act parcels are rezoned from Agricultural Preserve District to an agricultural zoning district appropriate for the area.

### LU-P10.3

Preserve the rural character of the following areas, which are displayed in Figure LU-65:

- (a) Alhambra Valley/Briones
- (b) Tassajara Valley
- ~~(b)~~(c) Delta Primary Zone
- ~~(c)~~(d) Agricultural Core between Brentwood and Discovery Bay
- ~~(d)~~(e) Crockett Hills between Crockett and State Route 4
- ~~(e)~~(f) Franklin Canyon/State Route 4 corridor between Hercules and Martinez
- ~~(f)~~(g) Bollinger Canyon Road corridor between Las Trampas Regional Wilderness and Crow Canyon Road
- ~~(g)~~(h) Norris Canyon Road corridor between San Ramon and the Alameda County line

~~(h)~~(i) Marsh Creek Road corridor between Clayton and Byron Highway

~~(i)~~(j) Kirker Pass Road corridor

~~(j)~~(k) Morgan Territory Road corridor

~~(k)~~(l) Deer Valley Road corridor

Pay special attention to potential aesthetic impacts in these areas and ensure such impacts are adequately mitigated.

### LU-P10.4

Maintain agricultural preserves in the Briones Hills and Tassajara Valley areas through agreements with adjacent cities to retain these areas for agricultural, open space, and other non-urban uses.\*

## Actions

### LU-A10.1

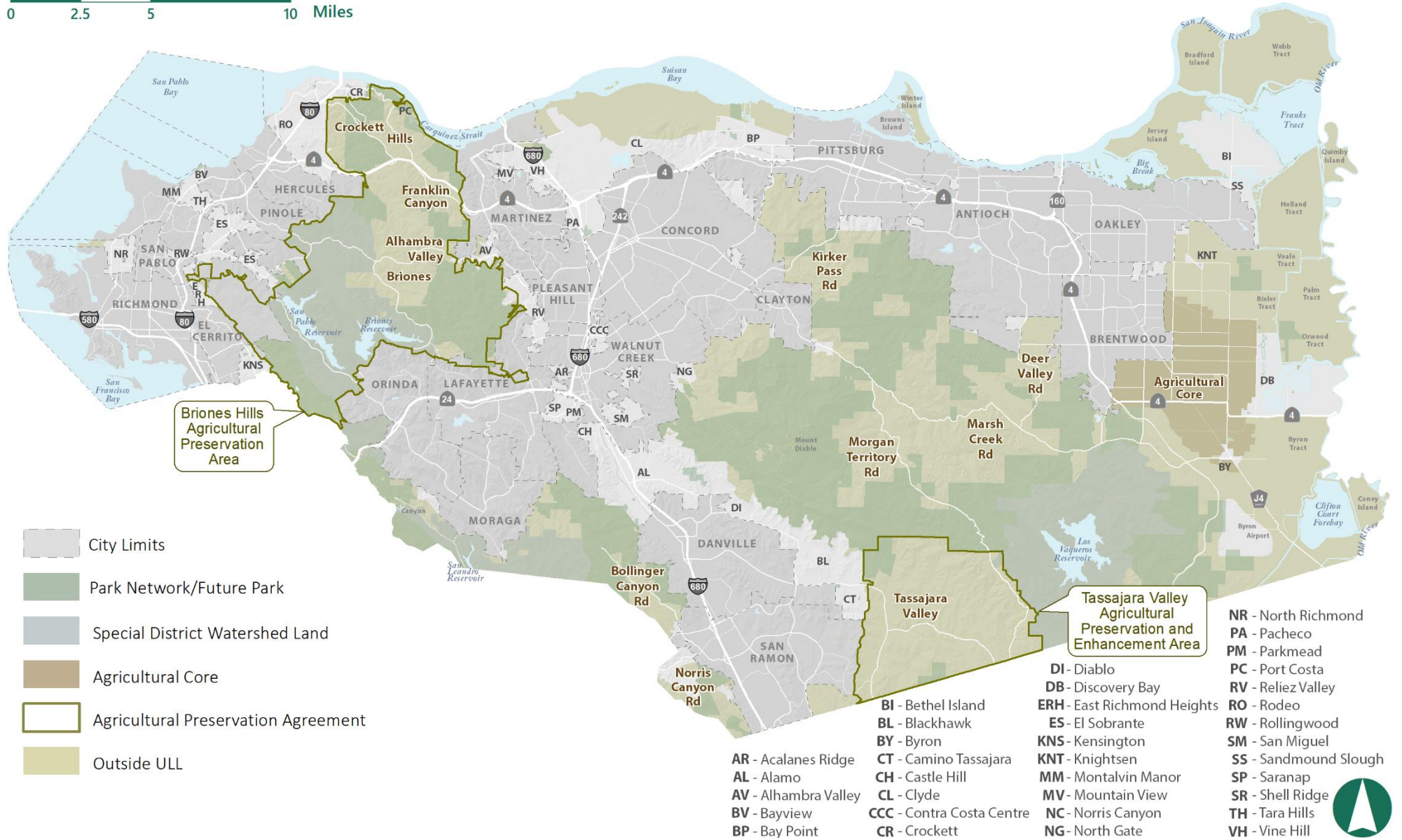
Amend County Ordinance Code Title 8 – Zoning related to development of homes and associated buildings and structures on agricultural properties to require clustering of such improvements to protect agricultural vitality and sustainability.

### LU-A10.2

Continue working with agricultural stakeholders to minimize the complexity, time, and expense of County permitting requirements for agricultural properties and maximize focus on meeting the objectives of the regulations.

FIGURE LU-5 RURAL AND AGRICULTURAL AREAS

0 2.5 5 10 Miles





*See the Conservation, Open Space, and Working Lands Element for additional policies and actions related to open space management, agricultural resource conservation, and the agricultural industry.*

## LAND USE ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.

- Cumulative numbers of single-family and multiple-family units and square footages of commercial and industrial development approved since General Plan adoption that stay within the development projections listed in Policy LU-P1.1, unless additional environmental review is conducted.
- Increased acreage of permanently protected open space.
- Improved balance between the number of employed residents and jobs to reduce the need for people to commute outside the county.
- Increased ratio of multiple-family units to single-family units.
- Increased percentage of households that are within a half-mile of a neighborhood-serving commercial service.

# 5

## TRANSPORTATION ELEMENT

Transportation is a fundamental part of our daily lives. The diversity and availability of transportation options, the conditions in which they exist, and how we ultimately choose to travel—to jobs, schools, homes, healthcare providers, stores, and leisure activities—have major implications for quality of life, public health, climate resilience, sustainability, and the environment.

Contra Costa County has excellent regional access by road, passenger and freight rail, water, and air. The county includes dense urban neighborhoods served by local and express bus service, sprawling suburbs connected to the Bay Area's larger employment centers by Bay Area Rapid Transit (BART) and major freeways, and rural and agricultural communities served by a network of two-lane highways and roads. Multi-use trails found throughout the county serve pedestrians, cyclists, and micromobility. Reducing the need for single-occupant vehicle trips, improving travel times for transit and carpools, and providing multiple connections and options for travel between neighborhoods and destinations in Contra Costa County are key considerations for the future. Closing gaps in the multi-use trail network, improving the pedestrian realm, expanding transit access, and extending the range of efficient, safe, and easy options for getting around will enhance the quality of life for all community members. This Element focuses on providing people with a variety of high-quality transportation options, strengthening transportation connections to the rest of the Bay Area and beyond, and improving transportation within communities.

The Transportation Element sets forth goals and policies describing the overall mobility program for the county and identifies the general location of existing and proposed major transportation routes, terminals, and facilities, as required by the California Government Code. The Transportation Element

is divided into the following seven sections that address the needs of the Contra Costa community:

- The **Safe and Sustainable Transportation** section includes policy guidance to improve safety for all roadway users and reduce greenhouse gas (GHG) emissions and other environmental harms through expanded opportunities for active transportation, public transit, and zero-emission vehicles (ZEVs).
- The **Coordinated Planning** section includes policy guidance to support the County's role in regional transportation projects that involve other agencies locally and across the Bay Area.
- The **Multimodal Roadway Network** section defines roadway classifications and includes policy guidance to enhance mobility and connectivity for all roadway users.
- The **Active Transportation** section defines bikeway types and includes policy guidance to expand opportunities for active transportation, which includes walking, biking, or other rolling forms of travel that support active lifestyles and health.
- The **Goods Movement** section includes policy guidance to support rail, port, and truck facilities that bolster the economy, while reducing GHG emissions and protecting public health and safety.
- The **Air Mobility** section includes policy guidance to provide safe and viable general and commercial aviation in the county.





- The **Transportation Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.

This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Environmental Justice



Economic Development



Sustainability



*Separated and protected bicycle facilities increase the usage and safety of bicycles as a mode of transport, helping to shift trips away from automobiles.*

## SAFE AND SUSTAINABLE TRANSPORTATION

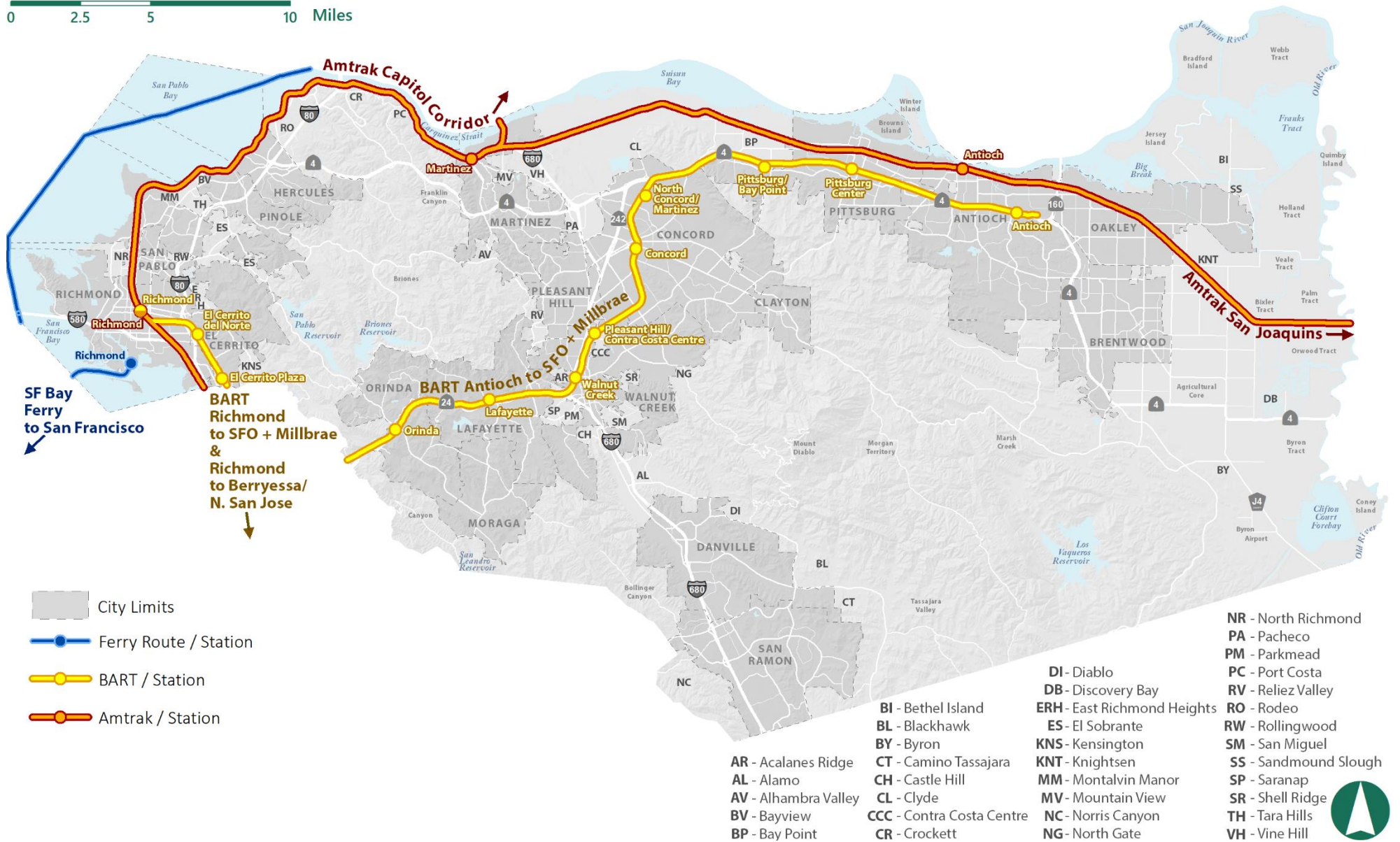
We all use some form of transportation to reach our daily destinations. The mode of transportation people choose is affected by convenience, cost, comfort, perceived safety, travel time, and availability of options such as transit and bikeways.

Since World War II, the transportation system in Contra Costa County has been focused on the automobile. The Public Works Department spends the majority of gasoline tax revenue on road maintenance primarily to ensure safe passage for cars. However, roadways that originally were designed to move cars as efficiently as possible can be redesigned to encourage walking, biking, and micromobility by making them safer and more comfortable through the provision of sidewalks, crosswalks, protected bike lanes, lighting, and shade. In addition, there is a range of public transit available that expands transportation options, including two BART lines, Amtrak's Capitol Corridor and San Joaquins routes, local and express buses operated by several transit agencies, and ferry service (see Figure TR-1).

The County plays an active role in promoting safe and sustainable transportation. Its Transportation Demand Management (TDM) program encourages developers to devise creative and effective ways to reduce car trips and associated impacts from new development. The County also maintains the Transportation Analysis Guidelines that establish a uniform approach to preparing traffic analyses and ensuring that County decisions support State, regional, and local goals, such as reducing vehicle miles traveled (VMT) and improving safety for pedestrians, cyclists, and other vulnerable users. Through these and other approaches, the County also aims to reduce air pollution and GHG emissions from the transportation sector.

FIGURE TR-1 PASSENGER RAIL AND FERRY SERVICES

0 2.5 5 10 Miles







Despite efforts to reduce vehicle trips, cars are and will continue to be the dominant mode choice for years to come. This section promotes sustainability by supporting ZEVs. In 1990, the State initiated efforts to promote transitioning to ZEVs, and regulations have been strengthened over the years as technology has evolved to enable greater emissions reductions. The County is preparing for a future with ZEVs through the Contra Costa Electric Vehicle (EV) Readiness Blueprint, which identifies the best locations for EV charging infrastructure, provides local agencies with guidance to encourage EVs, addresses maintenance of EVs and charging infrastructure, and identifies areas where energy distribution improvements are needed to support charging infrastructure.

To support safety on our roadways, the County adopted the Vision Zero Action Plan in 2022, which recognizes that fatalities and major injuries on roadways are preventable. Vision Zero is founded on the five elements of a Safe System Approach: safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. The County supports programs and physical improvements aimed at getting us to zero deaths on our roadway network. To monitor progress, the Vision Zero Plan commits the County to ongoing tracking of collision data.

Managing transportation safely and sustainably into the future will mean operating within available funding levels while positioning Contra Costa County to take advantage of current and future innovations. Such innovations could include alternative fuels, car sharing, micromobility, private transportation network services, autonomous vehicle technology, and other advances still to come. Through all of this, the County will need to ensure its actions and practices support its safety, equity, and sustainability goals.



*The Pleasant Hill/Contra Costa Centre BART station provides an alternative to commuting by car.*

### Goal TR-1

A transportation system that promotes active transportation, supports effective and equitable provision of transit services, and reduces GHGs and other environmental harm.

## Policies

### TR-P1.1



In addition to any required California Environmental

Quality Act (CEQA) review, evaluate the traffic operations effects of proposed projects in accordance with the County's Transportation Analysis Guidelines and other appropriate policy supplements and transportation plans, and best practices. When operational deficiencies are identified, the treatments to address those deficiencies should first prioritize reducing the project's vehicular trips and collision risks, and may secondarily consider adding vehicular capacity so long as the safety and movement of active modes are not compromised. Exceptions to the level of service (LOS) operational standards presented in the Transportation Analysis Guidelines may be granted if the treatments necessary to address operational deficiencies would conflict with other priorities in this General Plan and if the project is otherwise consistent with this Plan.

#### TR-P1.2



Prioritize expansion of bicycle, micromobility, and pedestrian infrastructure (e.g., Class IV separated bikeways) to address the significant latent demand for these active transportation modes.

#### TR-P1.3



Ensure emerging transportation technologies and travel options, such as autonomous and ZEVs and transportation network companies, support the County's goals for reducing emissions, adapting to climate change, improving public safety, and increasing equitable mobility.

#### TR-P1.4



Reduce single-occupant vehicle usage and VMT, by significantly enhancing the availability and safety of other travel modes through infrastructure investment, policy

support (Vision Zero, at a minimum using strategies defined in the TDM Ordinance, and other best practices), and support for public transit.\*

#### TR-P1.5

Ensure new highways constructed outside the Urban Limit Line are not growth-inducing through land-use controls, access limitations, and other appropriate measures.

#### TR-P1.6

Partner with the Contra Costa Transportation Authority (CCTA) and California Department of Transportation (Caltrans) to better manage traffic operations on the State highway system in Contra Costa County through the application of ramp metering, construction of high-occupancy toll (HOT)/Express or other managed lanes, and other capacity-management techniques.

#### TR-P1.7



Leverage the County's position as a major employer to demonstrate leadership in enhancing workforce commute options.

#### TR-P1.8



Support improvement and expansion of passenger and commuter rail service countywide, with emphasis on transformative projects such as the Hercules Intermodal Transit Center and BART extensions in the I-80 corridor toward Crockett and SR 4 corridor toward Brentwood.

#### TR-P1.9



Support public transit and encourage transit use by advocating for increased funding with enhanced



governance, high-frequency service, supporting and expansion of first-mile/last-mile programs, including micromobility and other emerging modes.

#### TR-P1.10



Enhance multimodal access to all transit stops, ~~including local routes as well as passenger and commuter rail stations and ferry terminals,~~ prioritizing stops which serve vulnerable and mobility-impaired populations.

#### TR-P1.11



Support transitioning all on-road vehicles, including personal vehicles and business, government, and public transit fleets, to electric power from renewable sources or other ~~zero-emission-free~~ fuels.

#### TR-P1.12



Continue to improve ZEV ~~(including electric bicycle)~~ charging/fueling infrastructure within new development and public rights-of-way, incorporating new technologies whenever possible.

#### TR-P1.13



Require designs for new parking facilities to incorporate ZEV charging/fueling infrastructure and maximize opportunities for adaptive reuse.\*

## Actions

#### TR-A1.1



Develop and promote mobility alternatives to single-

occupancy vehicles, including but not limited to public transit, micromobility, zero-carbon carbon-free rideshare strategies, and public transit nonmotorized modes.

#### TR-A1.2



Review and update County Ordinance Code Chapter 82-32 – Transportation Demand Management and the County's Transportation Demand Management Guidelines at least once every five years to incorporate current best practices.

#### TR-A1.3

Update the Contra Costa County Transportation Analysis Guidelines on an as-needed basis.

#### TR-A1.4



Implement programs to encourage transit use, bicycling, walking, telecommuting, and use of alternative vehicle fuels by County employees.

#### TR-A1.5



Conduct a survey ~~of County offices and facilities~~ to identify gaps in public transit and the alternative active transportation network within one mile of County offices and facilities, and pursue funding for projects and programs that will fill those gaps and improve the availability of alternative transportation options for County employees.

#### TR-A1.6



Partner with transit agencies and CCTA to develop “Safe Routes to Transit” guidance that could be applied in new development areas and existing neighborhoods.

#### TR-A1.7



Partner with transit providers, cities, and CCTA to develop a countywide transit stop program that takes a holistic approach to transit stop planning and construction. ~~Push for~~Encourage the program to address right-of-way adequacy (i.e., sufficient space for bus pullouts and amenities), amenities (e.g., shelters, seating, bicycle racks and lockers), and improvements around stops to increase accessibility (e.g., curb ramps, sidewalk widening).

#### TR-A1.8



Work with transit agencies to provide convenient ways for residents to report transit shelters and other amenities (e.g., lighting, seating) that are in disrepair. Encourage and promote reporting countywide, especially in Impacted Communities.

#### TR-A1.9



Pursue funding and other resources to implement the Accessible Transportation Services Strategic Plan and similar plans and initiatives that expand the hours of operation, operational boundaries, convenience, and quality of accessible transit to improve mobility for seniors, people with disabilities, and other vulnerable populations.

#### TR-A1.10



Support establishment of a Bay Area-wide transit fare equity program that includes free or means-based transit passes for qualifying residents of Impacted Communities.

#### TR-A1.11



Coordinate with CCTA and other local and regional agencies to implement the Contra Costa Electric Vehicle Readiness Blueprint and related policies and apply best practices in ZEV charging/fueling infrastructure requirements.

#### TR-A1.12



Update the County Ordinance Code as necessary to support advances in ZEV charging/fueling infrastructure, ~~including for medium- and heavy-duty vehicles.~~

#### TR-A1.13

Advocate for legislation requiring micromobility and other transportation technology providers to accept responsibility for and mitigate the unique physical, operational, and financial impacts of their services, such as abandoned mobility devices, upon local jurisdictions.

*See also the Health and Safety Element for policies and actions related to GHG emissions, air quality, and parking lot shading.*

### Goal TR-2

A transportation system that protects human life.



## Policies

### TR-P2.1



Pursue the priorities identified in the County's Vision Zero and other safety programs, through prioritization of safety projects and incorporation of safety considerations into all transportation planning efforts.

### TR-P2.2



Minimize conflicts between vehicles and people who walk, bike, or use micromobility through careful site planning, paying particular attention to driveway locations and internal pedestrian circulation, and prioritizing safety for active modes of travel.

### TR-P2.3



~~Provide or~~ Require new projects to ~~installation of, or provide,~~ energy-efficient street lighting to improve public safety and comfort in urbanized areas. Prioritize installation in Impacted Communities, particularly at parks, transit stops, alleyways, bike and pedestrian paths, trails, and other appropriate high-need areas, consistent with community preferences.

## Actions

### TR-A2.1



Maintain a Vision Zero Working Group to regularly review collision data and evaluate the effectiveness of Vision Zero and other safety strategies.

### TR-A2.2



Identify and address neighborhood-specific issues and needs in Impacted Communities, prioritizing installation of sidewalks, enhanced crosswalks, street lighting, street trees, bicycling infrastructure, transit stop amenities, traffic calming, and other safety and comfort improvements, especially in residential areas and near schools, libraries, and recreational facilities. Explore innovative methods to ensure these facilities are maintained. Engage school districts, neighborhood groups, and the local Safe Routes to School Program in implementing this action.

### TR-A2.3


Coordinate with the California Public Utilities Commission and railroads to design and implement projects that address safety concerns and conflicts from at-grade rail crossings.

*See the Health and Safety Element for policies and actions related to evacuation.*

## COORDINATED PLANNING

Contra Costa County is part of a regional transportation network. Residents and workers have access to a variety of transportation options for intra-county and regional travel.

The Contra Costa Transportation Authority (CCTA) serves as the Congestion Management Agency (CMA) for the county and distributes sales tax revenue to the County, cities, and transit agencies for projects and programs like freeway improvements, local road maintenance, public transit enhancements, and Safe Routes to School. CCTA prepares and implements the Countywide Transportation Plan (CTP) and its associated voter-approved



Expenditure Plan to guide development of the future transportation system in Contra Costa County.

To distribute transportation funding equitably and appropriately, CCTA divides the county into five subregions, each administered by a Regional Transportation Planning Committee. Unincorporated Contra Costa County is spread among all five subregions:

- The **West County** subregion is administered by the West Contra Costa Transportation Advisory Committee (WCCTAC).
- The **Central County** subregion is administered by the Transportation Partnership and Cooperation Committee (TRANSPAC).
- The **Lamorinda** and **Tri Valley** subregions are administered by the Southwest Area Transportation Committee (SWAT).
- The **East County** subregion is administered by the TRANSPLAN Committee.

Due to the county's diverse physical and demographic landscape, each subregion is governed by an Action Plan tailored to address its distinct transportation needs. The Action Plans and CTP also set quantifiable Regional Transportation Objectives (RTOs) to meet goals on Routes of Regional Significance, which are shown in Figure TR-2. Over time, the County implements projects and programs in the unincorporated areas to improve the transportation network and ultimately contribute to achieving the RTOs.

For the larger Bay Area region, the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) coordinate transportation planning and financing and administer regional plans that promote sustainable growth, including the Regional Transportation Plan/Sustainable Communities Strategy, known as Plan Bay Area 2050, and guide funding and policy decisions for the region.

### Goal TR-3

Transportation facilities and services that are planned, funded, built, and maintained in a coordinated, cooperative, and effective manner.

## Policies

### TR-P3.1

Maintain an inclusive and orderly approach to interagency, interdepartmental, and stakeholder coordination on long-range capital planning and the design of specific transportation projects, including consultation with affected community and stakeholder organizations and appropriate commissions and committees.

### TR-P3.2



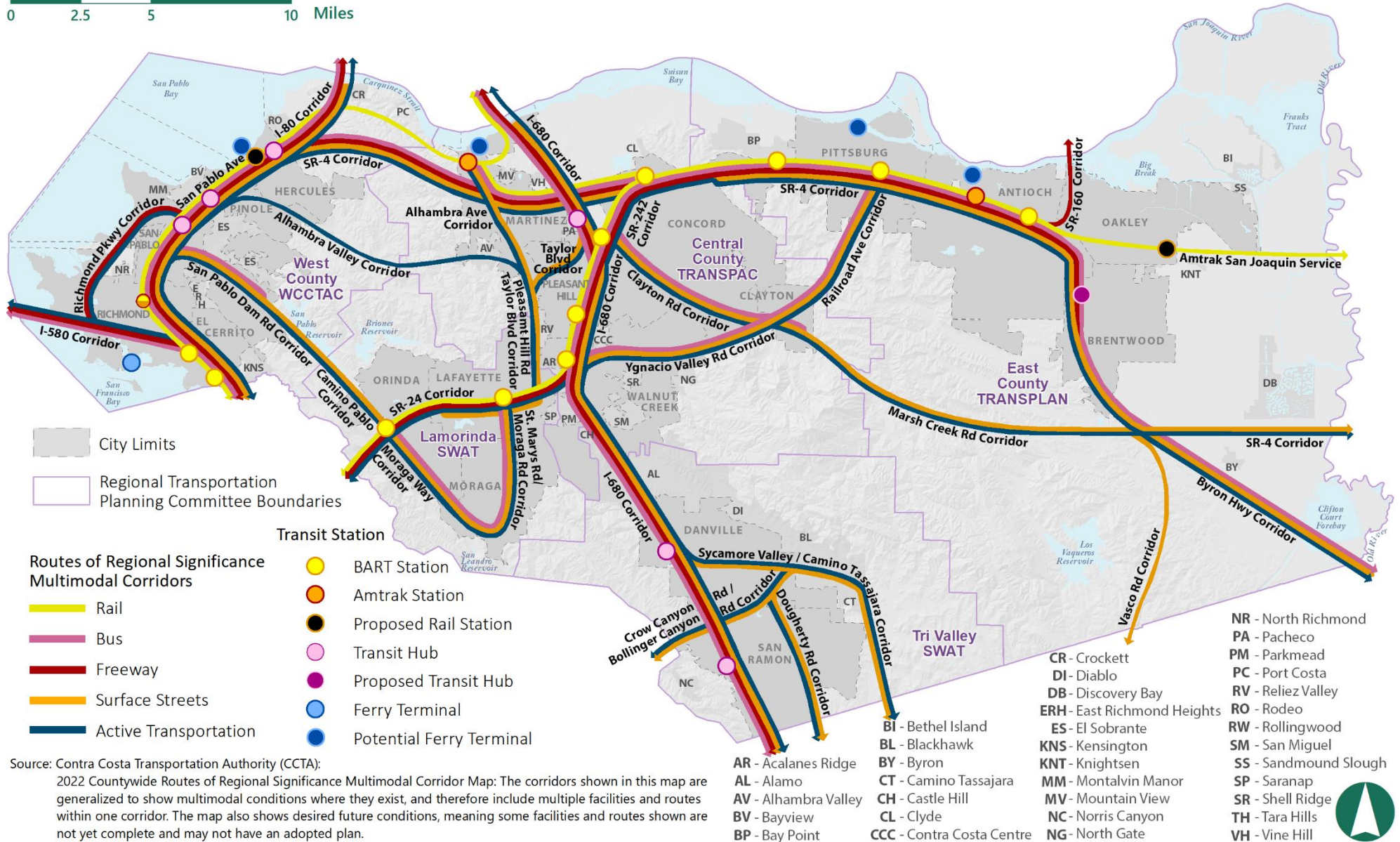
Coordinate planning, construction, and maintenance of streets, transit infrastructure, non-motorized rights-of-way and associated facilities, the countywide bicycle network, and Pedestrian Priority Areas with neighboring jurisdictions and CCTA.\*





FIGURE TR-2 ROUTES OF REGIONAL SIGNIFICANCE

0 2.5 5 10 Miles



### TR-P3.3



Partner with cities, CCTA, and the San Francisco Bay Area Water Emergency Transportation Authority (WETA), ~~and other involved agencies~~ to plan and implement ferry service that benefits unincorporated county residents.

### TR-P3.4

Work with project applicants and property owners to establish community facilities districts or other funding mechanisms to pay for construction, operation, and maintenance of new transportation infrastructure and programs without creating an undue financial burden on existing residents, businesses, or the County. Consider that new, innovative infrastructure may cost more to maintain than facilities installed in the past, and that the increase in ongoing maintenance costs is a potential reason to deny a development application.

### TR-P3.5

Pursue ~~federal~~regional, State, and ~~federal~~regional funding to augment locally generated funds to construct and maintain transportation infrastructure.

## Actions

### TR-A3.1



Coordinate with Caltrans, neighboring jurisdictions, CCTA, and the Regional Transportation Planning Committees to plan, design, and implement Complete Streets concepts on Routes of Regional Significance.

### TR-A3.2

Partner with CCTA, neighboring and regional agencies, and stakeholders to explore and implement options for transportation system funding, including assessment districts, county service areas, impact fees, tax revenue, and other funding sources.

### TR-A3.3

Continue updating the County's Area of Benefit impact fee programs as a mechanism to collect fair-share contributions from new development and fund needed transportation improvements.

*See the Public Facilities and Services Element for policies and actions related to general infrastructure and infrastructure funding.*

## MULTIMODAL ROADWAY NETWORK

The local transportation system needs to serve all users and modes of transportation, with a focus on safety, accessibility, and convenient, efficient travel between origins and destinations in Contra Costa County. Enhancing mobility and connectivity for transit, bicycles, and pedestrians will also help reduce traffic congestion and pollution and promote public health.

As interest in safe and sustainable transportation systems has grown, communities throughout California have been changing the transportation planning paradigm from a vehicle-centered exercise to a complete streets approach, in which all travel modes are accommodated in a balanced way based on the particular street's location, land use context, and function within the circulation network. In 2016, Contra Costa County adopted its Complete Streets Policy that includes complete streets principles and implementation guidelines. The policy focuses on context-sensitive planning, the importance of considering user diversity (i.e., different user abilities and





modes of travel), and a holistic approach that expects all involved County departments and all projects to include a complete streets focus.

Roadway classifications help define the function of various street types in the transportation network, based on the level of traffic volume that can be served. Classifying roadways allows the County to monitor performance and plan for improvements needed to accommodate changes in traffic, as well as pedestrian and bicycle volumes over the life of this General Plan.

Classifications are also necessary to ensure the County is eligible for roadway maintenance and improvement funding.

This General Plan defines the County's roadway network based on traditional categories recognized by regional, State, and federal transportation agencies. The roadway classifications included in the roadway network are described herein and shown on Figure TR-3.

- **Freeways** are high-speed facilities that move inter-city or regional traffic. Freeways that provide regional access to, from, and within Contra Costa County include Interstate (I-) 80, I-680, I-580, State Route (SR) 4, SR 24, SR 242, and SR 160.
- **Arterials** are relatively high-volume facilities that connect the regional roadway network to the local roadway network. Limited access is provided to abutting parcels in many cases. Arterial streets generally serve between 10,000 and 40,000 vehicles per day; some minor arterials serve fewer than 10,000 vehicles per day. Most intersections along arterials are signalized, often with a coordinated and interconnected signal system. Some of the primary arterials in Contra Costa County include Richmond Parkway, San Pablo Avenue, San Pablo Dam Road, Kirker Pass Road, Danville Boulevard/San Ramon Valley Boulevard, Camino Tassajara, Vasco Road, and Byron Highway.

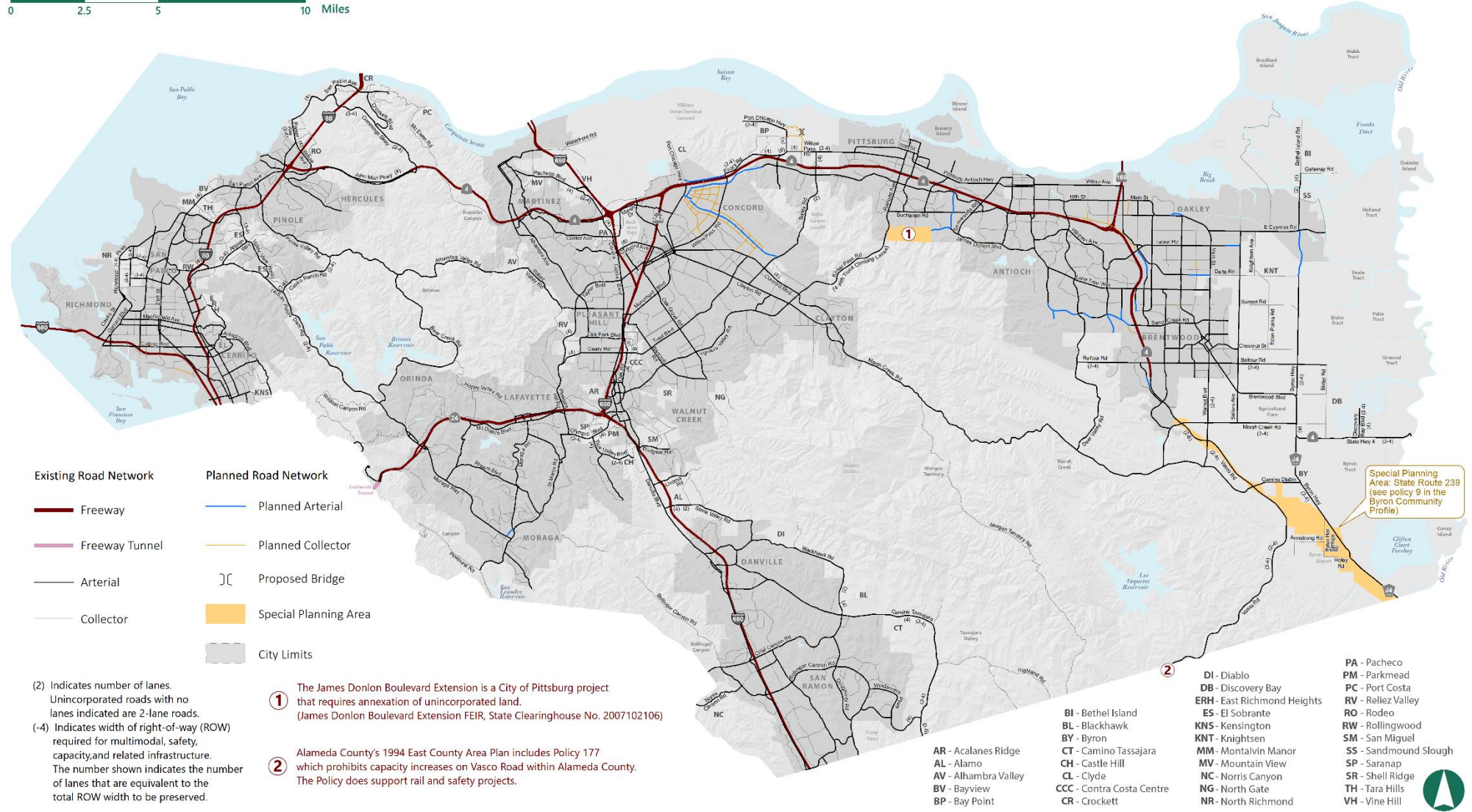
- **Collectors** connect residential and local-serving commercial areas with the arterial system. Collector streets serve as principal traffic arteries within residential and commercial areas. These streets typically carry up to 10,000 vehicles per day, although some collectors may carry more vehicle traffic for short segments as they convey traffic between arterial streets and local residential streets. Collectors are often important segments of bikeway networks.
- **Local roads** provide circulation within neighborhoods and between adjacent land uses. They are typically low-speed, low-volume streets with design features that discourage through traffic to be more compatible with residential needs.



*San Pablo Dam Road in El Sobrante is classified as an arterial.*

FIGURE TR-3 ROADWAY CLASSIFICATIONS

0 2.5 5 10 Miles







The roadway network in the southeastern part of the county will be significantly expanded with the planned SR 239 project, which will provide a direct connection between SR 4 and the I-580/I-205 corridor in Alameda and San Joaquin Counties. Although SR 239 has been a legislatively designated route since 1959, development of the facility didn't begin gaining momentum until 2005, with the County receiving several federal earmarks. As of Fall 2023 the project is in design and environmental review. SR 239 is a large, multiphase project that is anticipated to take some time to build out. The Vasco Road - Byron Highway Connector, which among other things would enhance access to Byron Airport, is being planned as the first phase.

The County plans for roadway improvements and maintenance through the Capital Road Improvement and Preservation Program (CRIPP), which is updated every two years to identify the status, estimated cost, funding source, and schedule for roadway projects anticipated over the next seven years. Similar to the Zoning Code, the CRIPP must be consistent with the General Plan. California Government Code Section 65401 requires portions of capital improvement plans and programs such as the CRIPP to be reviewed annually for General Plan consistency. This review is conducted by the County's Transportation, Water, and Infrastructure Committee, a subcommittee of the Board of Supervisors.

### Goal TR-4

A roadway network that accommodates multimodal travel options for all county residents, businesses, and visitors, regardless of age, ability, race, culture, or economic status.

## Policies

### TR-P4.1



Plan, design, and maintain improvement projects involving County roadways in accordance with the County's adopted Complete Streets Policy, other applicable policies (e.g., Vision Zero and other safety initiatives), planning documents such as the County ATP and CCTA Countywide Bicycle and Pedestrian Plan, and best practices (e.g., Caltrans, American Association of State and Highway Transportation Officials, and National Association of City Transportation Officials guidance).\*

### TR-P4.2



Require transportation infrastructure serving new development to be designed using best practices, contemplating existing and planned land uses, roadways, bicycle and pedestrian facilities, transit facilities, and connections to adjoining areas.\*

### TR-P4.3



Create connections between unincorporated communities and neighborhoods ~~in unincorporated areas~~ and adjacent jurisdictions to improve multimodal access to local destinations, such as schools, parks, shopping, health services, and workplaces.

### TR-P4.4



Manage access points along arterial and collector roadways to minimize the number of new driveway or street-type intersections. Consolidate existing street and driveway intersections to limit conflict points as opportunities arise.

#### TR-P4.5

Require installation of, or provide, wayfinding signage (accessible to persons who are vision impaired) to aid navigation where necessary or desirable.

#### TR-P4.6



Enhance streetscapes in nonresidential areas, making them more pedestrian-friendly ~~and inviting~~ by reducing ~~setback and~~ off-street parking ~~and setback~~ requirements and augmenting traffic-calming measures.

#### TR-P4.7



Encourage walkability and safety by streamlining implementation of traffic-calming measures through the Neighborhood Traffic Management Program.

#### TR-P4.8

Minimize speeding through residential neighborhoods by implementing appropriate roadway design standard, traffic-calming, and other holistic solutions, as well as enforcement.

#### TR-P4.9

Protect residential neighborhoods from outside or cut-through traffic by implementing appropriate design solutions aimed at keeping through traffic on arterials and collectors.

#### TR-P4.10



Design roadway infrastructure, including traffic-calming and complete streets features, to accommodate emergency response vehicles while maintaining the safety of vulnerable road users.\*

### Actions

#### TR-A4.1

~~Update~~Review the County Standard Plans at least once every five years for relevance and applicability and update on an as-needed basis as necessary to reflect best practices in context sensitivity, ~~e~~Complete ~~s~~treets, travel safety, and environmental sustainability.

#### TR-A4.2

Ensure that the CRIPP:

- (a) Reflects current and best transportation planning practices.
- (b) Implements adopted transportation and land development policies.
- (c) Complies with public review requirements.
- (d) Presents planned transportation system improvements with an implementation schedule.

#### TR-A4.3



Develop guidance for managing curb space in ways that are sensitive to the land use context, with considerations for ~~freight deliveries, parking,~~ active transportation use, users with limited mobility, transportation network

companies, outdoor dining, freight deliveries, parking, and other curb uses that may emerge.

## ACTIVE TRANSPORTATION

Active transportation modes – i.e., walking, biking, micromobility, and other rolling forms of travel – support active lifestyles, which in turn support community health. Neighborhoods with safe and convenient walking and biking connections to parks, jobs, and schools provide residents with a healthier alternative to driving.

The pedestrian network generally consists of sidewalks and multiuse trails. Sidewalks are provided in many neighborhoods, especially those developed since the 1960s, and commercial areas, but there are gaps throughout the network and older neighborhoods sometimes have no sidewalks at all. The bicycle network, which is shown on Figure TR-4 and includes a range of bikeway types, is less developed countywide. These networks are inclusive of “rolling” transportation, in which people may use a wheelchair, skate, ride a scooter, or push a stroller. Geographic barriers such as waterways, railways, and freeways pose challenges to pedestrian and bicycle/rolling circulation and connectivity. Expanding the pedestrian and bicycle network will enhance opportunities for active transportation and reduce dependency on the car. In 2022 the County adopted its Active Transportation Plan (ATP), which serves as a roadmap to enhancing active transportation safety and mode share by providing a comprehensive look at the County’s active transportation needs and opportunities. The ATP outlines investments in new bicycle facilities, upgraded crossings, enhanced trail connections, and improved walkways.

Adopted by CCTA in 2018, the Contra Costa Countywide Bicycle and Pedestrian Plan (CBPP) identifies a network of “low-stress” routes that are comfortable for most pedestrians or bicyclists. Once developed, this network will allow people of all ages and abilities to connect across the county by

walking or bicycling. Future bicycle connections planned by the CBPP are shown on Figure TR-4. The CBPP also identifies Pedestrian Priority Areas, shown on Figure TR-5, which are places where greater numbers of people are expected to walk and safety issues are most acute, indicating a need to prioritize investments in pedestrian improvements like walkways, curb ramps, and intersection improvements.

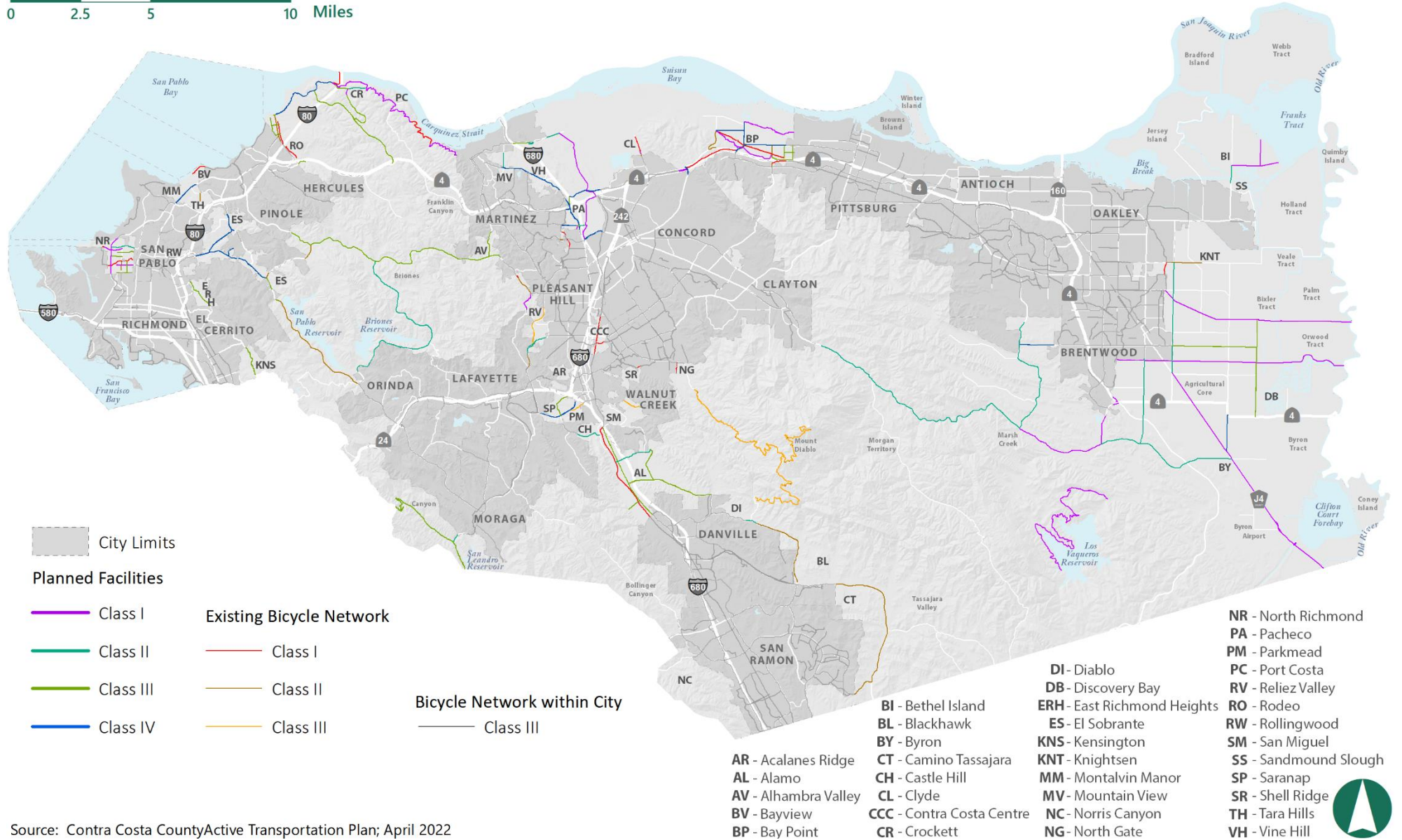
With support from MTC, the County has also prepared two Community-Based Transportation Plans (CBTPs) in unincorporated areas near Richmond and Bay Point that intend to improve mobility options for low-income and underserved communities. The CBTPs seek to improve all types of transportation, increase access to services, improve the local quality of life, provide environmental benefits, and enhance the sense of community in the area.



*The Robert I. Schroder Overcrossing along the Iron Horse Trail is part of an important non-motorized regional connection between Pleasanton and Concord.*

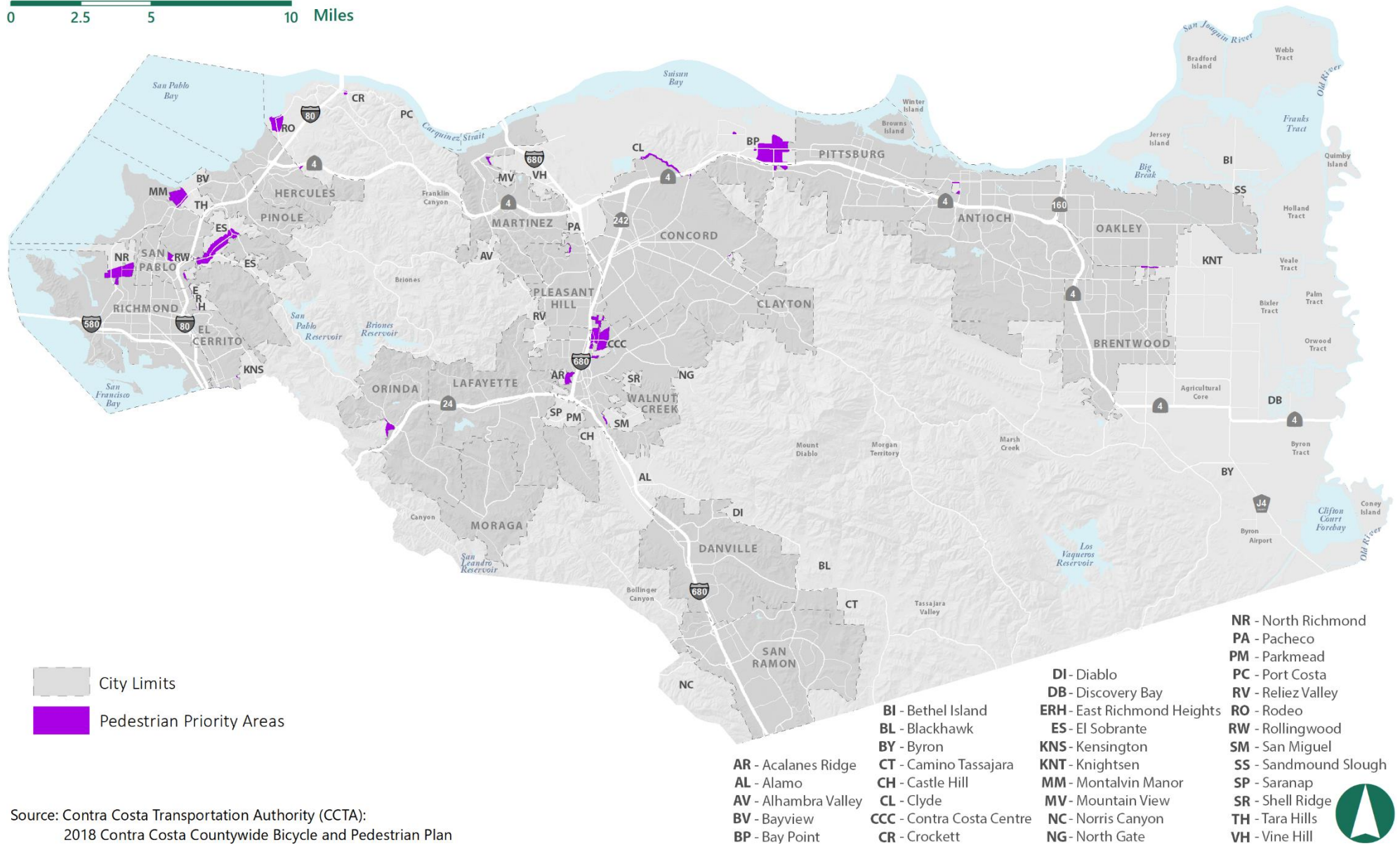
FIGURE TR-4 EXISTING AND PLANNED BICYCLE NETWORK

0 2.5 5 10 Miles



Source: Contra Costa CountyActive Transportation Plan; April 2022





Source: Contra Costa Transportation Authority (CCTA):  
2018 Contra Costa Countywide Bicycle and Pedestrian Plan

Local bikeways are classified based on traditional categories recognized by ~~regional~~federal, State, and ~~federal~~regional transportation agencies. Each bikeway class is intended to provide bicyclists with safe and convenient riding conditions. Different bikeway designs offer various levels of separation from traffic based on traffic volume, speed, and other factors. There are four ~~bikeway~~ types:

- **Class I bikeways (bike paths)** provide completely separate facilities from automobiles and are designated for the exclusive use of bicyclists and pedestrians with minimal cross-flow automobile traffic. In Contra Costa County, these types of paths are often along creeks, canals, utility corridors, and former rail lines. Class I bikeways are often used for recreational and commute trips.
- **Class II bikeways (bike lanes)** provide designated street space for bicyclists, typically adjacent to the outer vehicle travel lanes. Bike lanes include special lane markings, pavement legends, and signage. Bike lanes may be enhanced with painted buffers between vehicle lanes and parking, and green paint along the bike lane or at conflict zones (such as driveways or intersections).
- **Class III bikeways (bike routes)** provide enhanced conditions for bicyclists through signage, striping, and traffic-calming treatments, and provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike paths or bike lanes, or along low-volume, low-speed streets. Bicycle boulevards provide further enhancements to bike routes by encouraging slow speeds and discouraging non-local vehicle traffic, often through use of traffic-calming features. Bicycle boulevards can also feature special wayfinding signage to nearby destinations or other bikeways.

- **Class IV bikeways (separated or protected bikeways)**, also referred to as cycle tracks, are bikeways for the exclusive use of bicycles, which are physically separated from vehicle traffic with a vertical element. Types of separation may include grade separation, plastic delineator posts, concrete dividers, or on-street parking.



*Pedestrian infrastructure such as signals, sidewalks, and crosswalks enhance safety.*

### Goal TR-5

Support people who walk, bike, roll, or use mobility devices by creating safe, equitable, connected, and comfortable facilities for all ages and abilities.



## Policies

### TR-P5.1



Plan, design, construct, and maintain facilities for walking, bicycling, and rolling to serve people of all ages, abilities, and income levels, including children, seniors, families, and people with limited mobility.

### TR-P5.2



Coordinate with Caltrans to provide safe and comfortable highway interchange crossings for people of all ages and abilities who walk, bike, or use micromobility.

### TR-P5.3



Prioritize construction of capital improvement projects identified in the County's ATP.

### TR-P5.4

Ensure that fee programs include active transportation facilities, and require new development to contribute funds, right-of-way, and/or provide active transportation facilities themselves, ~~where feasible~~.\*

### TR-P5.5



Maintain pedestrian and active transportation facilities to the same standard as roads and other transportation infrastructure, including repair and cleanup of all bikeway types and shared-use pathways.

### TR-P5.6

Support use of temporary, quick-build, demonstration, and pilot pedestrian and bicycle improvements to test their effectiveness and promote active transportation strategies to the public.

### TR-P5.7



Encourage walking, bicycling, and micromobility as the travel modes of choice for short to medium-length trips, such as trips to schools, parks, transit stops, local shopping areas, and neighborhood services.

### TR-P5.8



Partner with neighboring jurisdictions, transit agencies, community members, and business organizations to plan and construct sustainable streets in business and commercial areas. Consider forming community facilities districts or business improvement districts to help fund and maintain improvements.

### TR-P1.1TR-P5.9



Consider allowing proposals for temporary and permanent re-orientation of public space towards increased outdoor activity, including such as walking, bicycling, rolling, dining, and other social uses.

### TR-P5.9TR-P5.10



Support micromobility options such as bike-, e-bike-, and e-scooter-share.

## TR-P5.10TR-P5.11



Require generous parking for bicycles and other mobility devices at key destinations, such as shopping centers, parks, schools, workplaces, employment centers, transit stations, and multiple-family housing. This parking should be conveniently located near entrances, include charging infrastructure, and accommodate cargo bikes when appropriate for the land use.

## Actions

### TR-A5.1



Partner with CCTA and neighboring jurisdictions to build out the countywide bicycle and pedestrian network, prioritizing completion of the Low-Stress Countywide Bicycle Network and pedestrian safety improvement projects in the County's Pedestrian Priority Areas, as described in the Countywide Bicycle and Pedestrian Plan.

### TR-A5.2



Construct innovative bicycle and pedestrian facilities, including Class IV separated and protected bikeways, bicycle superhighways, and other low-stress facility types, as described in the Countywide Bicycle and Pedestrian Plan and in contemporary, best-practice transportation planning and engineering guidance. Use contextually appropriate green infrastructure and landscaping to separate vehicular lanes from bicycle and pedestrian facilities whenever feasible.

### TR-A5.3



~~Periodically~~ Review the scoring formula for active

transportation projects at least once every five years to ensure continued prioritization of projects in Impacted Communities.

### TR-A5.4



Partner with the cities, EBRPD, and CCTA to develop uniform guidance to manage active micromobility services.

### TR-A5.5



Evaluate the feasibility and appropriateness of the following when updating the ATP and CRIPP:

- (a) Installing bikeways along all segments of Routes of Regional Significance within the County's jurisdiction.
- (b) Restriping arterials and collectors to include bikeways whenever major maintenance occurs.
- (c) Installing bikeways and sidewalks along arterials and collectors to the limits of adjacent jurisdictions.
- (d) Installing bicycle detection systems, bicycle signals, bicycle boxes, and pavement markings at new and retrofitted traffic signals.
- ~~(a)~~ (e) Installing crosswalks at all legs of signalized intersections.

*See the Public Facilities and Services Element for additional policies and actions related to the countywide trail network.*





## GOODS MOVEMENT

Industry and commercial enterprises in Contra Costa County are served by a goods movement system that includes rail, port, truck, and air facilities. As shown on Figure TR-6, all freeways in the county are designated as State truck routes. I-80 and I-680 are the principal north-south corridors and connect to neighboring industrial hubs, while SR 4 is the principal east-west transportation corridor serving the industrial areas of the 55-mile Northern Waterfront. Two major transcontinental railroads, Burlington Northern Santa Fe (BNSF) and Union Pacific Railroad (UPRR), follow the county's western and northern shorelines, connecting the Northern Waterfront to the rest of the county, and serving ports and major rail facilities in Oakland and Richmond. The Port of Richmond, within the Richmond city limits, is a deep-water port that connects the county to markets regionally and farther afield. Deep-water shipping channels along the Northern Waterfront connect to the Ports of Sacramento and Stockton. Finally, Buchanan Field Airport in Concord is capable of handling small cargo aircraft.

While goods movement is an essential component of daily life and the economy, it can cause severe health and quality of life impacts for residents who are exposed to air pollution, noise, and the potential for accidents from nearby trains, ships, trucks, and planes. In Contra Costa County, heavy-duty truck emissions at industrial facilities and on local roads and freeways is a significant contributor to health disparities, especially in Impacted

A horizontal number line is shown with tick marks at 0, 2.5, 5, and 10. The word "Miles" is written at the right end of the line. A green rectangular bar is drawn above the line, starting at the 2.5 mark and ending at the 5 mark.





Communities. Given these and other concerns, goods movement is heavily regulated by federal and State agencies, including the California Air Resources Board, which restricts idling times for heavy-duty trucks to minimize localized air pollution.



*Contra Costa County is part of the global shipping economy through various local ports, marine terminals, and railroads.*

## Goal TR-6

Safe and efficient movement of goods consistent with the County's goals to reduce emissions, protect public safety, and support economic development, local access, and circulation.

## Policies

### TR-P6.1



Partner with neighboring jurisdictions, CCTA, and the MTC to manage regional movement of goods through unincorporated areas, minimizing impacts on residents and other sensitive receptors.

### TR-P6.2



Support roadway improvements that facilitate regional goods movement, such as construction of SR 239 and the Vasco Road-Byron Highway Connector near Byron, and replacement of the Old River Bridge near Discovery Bay.

### TR-P6.3



Work with ABAG/MTC to improve resilience, speed, and reliability of goods movement through expansion of smaller ports-of-entry which will increase redundancy, thereby limiting exposure to disruptive events at larger congested ports.

### TR-P6.4



Use all available policy tools to ensure that trucks use designated truck routes.

### TR-P6.5



Work with railroads to preserve non-operational contiguous railroad rights-of-way, and highly encourage construction of grade-separated railroad crossings along active lines to support current and future rail operations and ensure the long-term viability of these rail corridors.

When no longer in operation, maintain options for future use of the corridors for trails or other public purposes.

#### TR-P6.6



Support development of short-line railroad infrastructure and operations in industrial areas to facilitate rail access to Class I railroad lines, attract potential businesses seeking rail-served properties, ease traffic congestion caused by goods movement on regional highways, and reduce GHG emissions.

#### TR-P6.7



Support deepening and ongoing maintenance of the deep-water ship channels between San Francisco Bay and Stockton and continued deep-water access to the county's Northern Waterfront.

#### TR-P6.8



Support continued operation, maintenance, and further development of ports and terminals consistent with federal, State, and County environmental policies and economic priorities.

## Actions

#### TR-A6.1



Develop a program to establish and maintain truck routes, with the goal of minimizing impacts on residents and other sensitive receptors. This program will provide engineering and policy solutions to divert trucks from Impacted Communities and establish criteria for designating weight

limits on certain routes and installing physical barriers and signage.

#### TR-A6.2



Facilitate enforcement of idling restrictions by promoting community-based reporting to enforcement agencies.

#### TR-A6.3

Amend County Ordinance Code Title 9 – Subdivisions to require new multiple-family residential, commercial, and mixed-use developments to designate areas adequate for package and goods deliveries and passenger loading and unloading.

#### TR-A6.4



Develop regulations responding to technological advancements in freight movement, such as autonomous vehicles, robotics, and drone deliveries, while supporting the County's goals for reducing emissions, adapting to climate change, improving public safety, and increasing equitable mobility.

*See the Health and Safety Element for policies and actions related to protecting the transportation network, including rail, from sea-level rise.*

## AIR MOBILITY

Contra Costa County has two public County-owned airports: Buchanan Field Airport near Concord and Byron Airport, south of Byron. Buchanan Field Airport provides general aviation, recreation, emergency response, law enforcement, passenger, cargo, and charter services. The airport is surrounded by urban development, which limits its potential for expansion. Byron Airport serves general aviation functions and is a popular base for





skydivers, gliders, and other recreational flight activities. Byron Airport also serves as a testing ground for new aviation technologies.

Airports influence surrounding land uses for up to three miles from the runways, affecting unincorporated and incorporated areas. To protect public safety and the long-term operations of the airports, the County's Airport Land Use Commission adopted the Airport Land Use Compatibility Plan (ALUCP), which regulates the location of land uses near both airports through the designation of Airport Land Use Compatibility Zones (see Figure TR-7). Specifically, the ALUCP seeks to protect the public from adverse effects of aircraft noise, ensure people and facilities are not concentrated in areas susceptible to aircraft accidents, and ensure no structures or activities adversely affect navigable airspace.

Emerging technologies will influence future air mobility, including vertical takeoff and landing aircraft that can expand air mobility options for people and cargo to places that had previously lacked air access. Such aircraft can be served by vertiports that are specifically designed for this technology and take up smaller spaces than traditional airports.



*Buchanan Field is one of two general aviation airports in Contra Costa County.*

### Goal TR-7

Safe and viable general and commercial aviation activities in Contra Costa County.

## Policies

### TR-P7.1



Partner with other agencies to obtain funding for planning, development, improvement, operation, and maintenance of general and commercial aviation facilities.



### TR-P7.2



Work with the Federal Aviation Administration and aviation operators to minimize conflicts with residential areas and other sensitive receptors.

### TR-P7.3



Regulate the location of private airfields and heliports to protect public safety and minimize impacts on nearby residents and sensitive receptors.\*

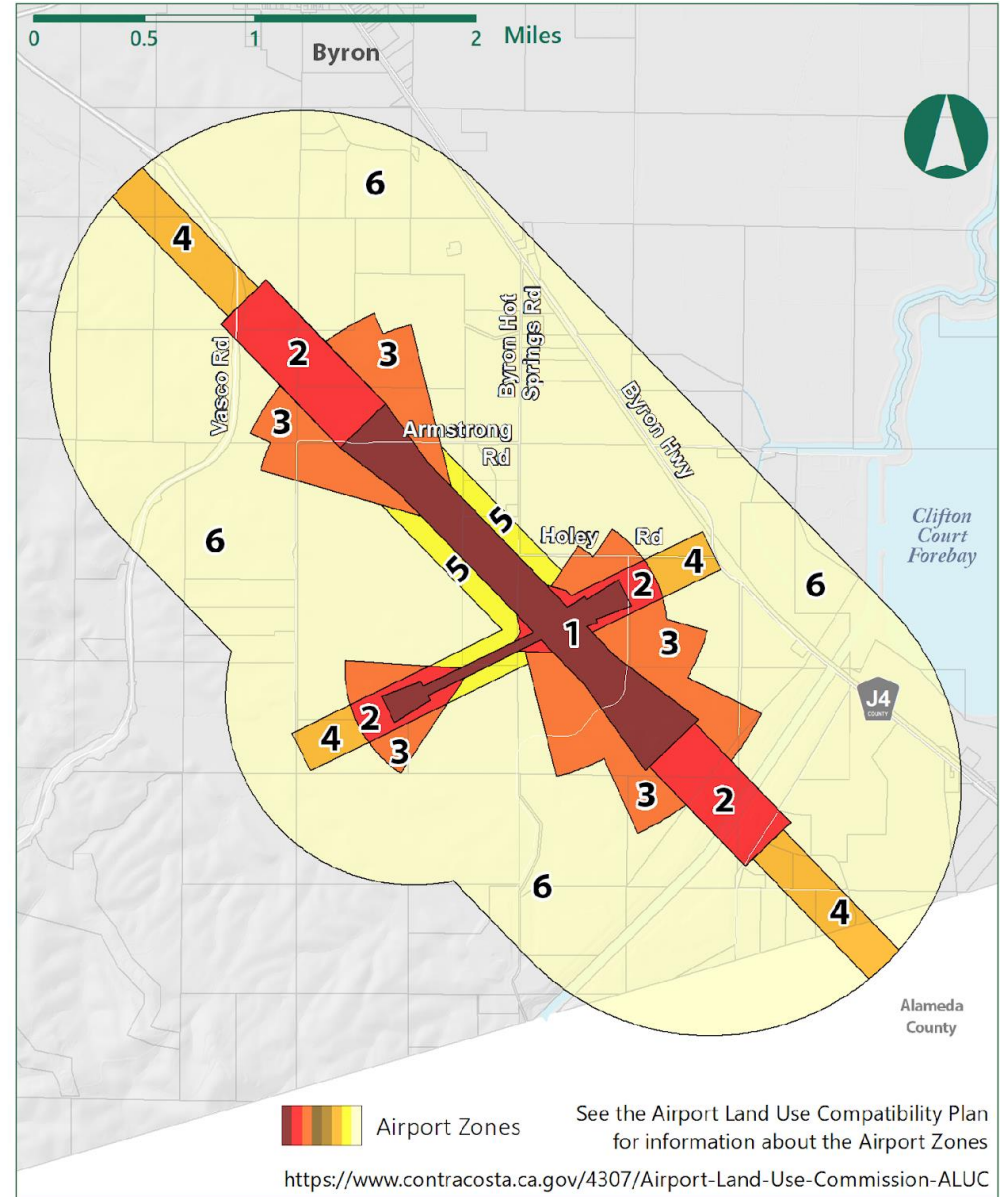
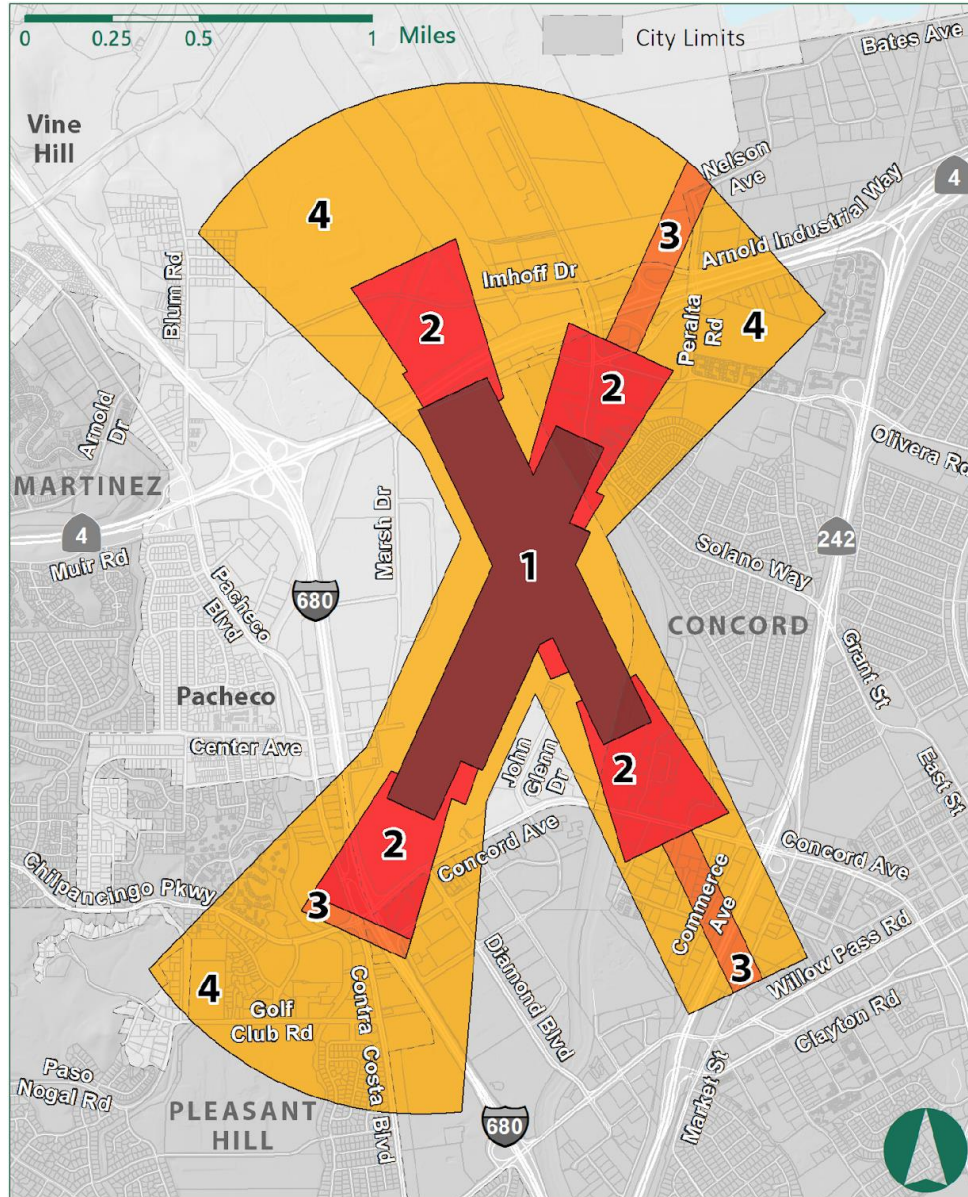
### TR-P7.4



Protect the County's airports from encroachment by incompatible uses and minimize the public's exposure to safety hazards and excessive noise by ensuring that all future development within each Airport Influence Area is consistent with the Contra Costa County ALUCP.\*



FIGURE TR-7 BUCHANAN FIELD AIRPORT AND BYRON AIRPORT COMPATIBILITY ZONES





### TR-P7.5



Partner with the cities of Concord and Pleasant Hill in making land use decisions that support Buchanan Field Airport's ongoing viability while protecting public safety, consistent with the Airport Master Plan and ALUCP.

### TR-P7.6



Enhance Byron Airport's viability by protecting it from incompatible urban encroachment, such as large-scale residential development, and providing infrastructure that supports existing and planned airport activities, consistent with the Airport Master Plan and ALUCP.

### TR-P7.7



Embrace emerging aviation-related technologies, such as drones, electric-powered aviation, and vertical takeoff and landing aircraft, to promote economic development and support the County's goals for reducing emissions, adapting to climate change, improving public safety, and increasing equitable mobility.

## Actions

### TR-A7.1



Update the ALUCP every 5 to 10 years to maintain consistency with applicable federal and State requirements, regional plans, and this General Plan, and to achieve the County's goals for Buchanan Field Airport and Byron Airport.

### TR-A7.2

TR-A7.2

Switch to sale of unleaded aviation gasoline at County-owned airports as soon as there is a commercially viable and safe drop-in replacement for leaded fuel.

## TRANSPORTATION ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.

- Reduced per-capita VMT.
- Reduced single-occupant vehicle mode share.
- Increased bicycle and pedestrian trips.
- Reduced average commute time for county residents.
- Increased ZEV charging and fueling infrastructure.
- Reduced number of roadway collisions involving fatalities and serious injuries.





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# 7

## CONSERVATION, OPEN SPACE, AND WORKING LANDS ELEMENT

Contra Costa County encompasses a large geographic area containing diverse species, habitats, open spaces, working lands, and natural and cultural resources. This Element promotes conservation, preservation, and enhancement of these critical assets. It is organized around the following nine sections:

- The **Open Space Framework** section includes policy guidance to conserve open space throughout the county to protect ecological resources, provide recreation opportunities, and improve resilience to climate change-related impacts.
- The **Agricultural Resources and Working Lands** section includes policy guidance to protect agricultural lands from conversion to urban uses and support a thriving agricultural economy.
- The **Ecological Resources and Natural Systems** section includes policy guidance to preserve and enhance important ecological resources, including creeks, wetlands, riparian areas, and upland habitat.
- The **Water Resources** section includes policy guidance to sustainably manage surface water and groundwater resources, and protect and enhance the Sacramento-San Joaquin River Delta and shoreline areas.
- The **Historic and Cultural Resources** section includes policy guidance to support identification and preservation of archaeological, historic, and tribal resources in the county, and underscores a commitment to consult and collaborate with local tribes throughout the planning process.
- The **Scenic Resources** section includes policy guidance to protect the abundant scenic resources in the county, including scenic routes, scenic ridges, and other natural features with scenic value.
- The **Mineral Resources** section includes policy guidance to support mineral extraction operations, which are an important part of the regional economy, while avoiding land use conflicts and negative environmental impacts.
- The **Energy Resources** section includes policy guidance to conserve energy and support a transition to ~~zero-carbon-free~~ energy sources, such as wind and solar.
- The **Conservation, Open Space, and Working Lands Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.

This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Economic Development



Environmental Justice



Sustainability



## OPEN SPACE FRAMEWORK

Contra Costa County is a unique place where the greater San Francisco Bay Area, Delta, and Central Valley meet. Well over a third of the county's unincorporated area is designated for resource conservation, open space, and parks and recreation uses.



*EBRPD manages numerous recreational open spaces, including Briones Regional Park.*

Major open space landowners operating at the local level in Contra Costa County include:

- **East Bay Regional Park District (EBRPD)**, which owns and manages over 65,000 acres of parkland in the county.
- **East Bay Municipal Utility District (EBMUD)**, which owns and manages almost 27,000 acres of watershed land in the areas around San Pablo, Briones, and San Leandro Reservoirs.

- **Contra Costa Water District (CCWD)**, which owns and manages approximately 20,000 acres of watershed land surrounding Los Vaqueros Reservoir.

Among the State agencies owning land in Contra Costa County, the California Department of Parks and Recreation (CDPR) owns the most. The 20,000-acre Mount Diablo State Park, surrounding the iconic 3,849-foot peak of Mount Diablo, is the most well-known State park in the county. In addition, land trusts like Save Mount Diablo, John Muir Land Trust, and Agricultural-Natural Resources Trust work in tandem with the local community to conserve open space.

These open spaces are diverse in size and character, ranging from the wetlands and marshes at the gateway to the Delta, to the rugged and wooded 2,800-acre Wildcat Canyon Regional Park, nestled in the Berkeley Hills. Each open space area is defined by a combination of resources, habitats, and agency jurisdiction that require different approaches to preservation, rewilding, and interagency coordination. These open spaces comprise an integrated natural network supporting the county's livability and resiliency to climate change, and are important recreational and scenic resources highly valued by the community. The County therefore partners with other agencies, such as those discussed above and the Contra Costa Resource Conservation District (RCD), and non-profit organizations to ensure that these resources are protected.



Delta waterways are an important open space feature in East County.

## Goal COS-1

Preserved open space for environmental protection, resource management and production, recreation, scenic value, and climate resilience and adaptation.

## Policies

### COS-P1.1



Support efforts by public agencies and nonprofit organizations to acquire and permanently protect open space areas containing important ecological or scenic resources and areas that connect protected lands to form a cohesive system of open space. Plan infrastructure to avoid interfering with such acquisitions whenever possible.

### COS-P1.2



Pursue opportunities for permanent open space dedication for habitat, scenic, or passive recreation benefits as part of future development approvals and major capital improvement projects.

### COS-P1.3



Discourage conversion of land designated Resource Conservation or Parks and Recreation to urban uses. If such conversion is to occurs, require mitigation through permanent protection of other open space or park lands for habitat, scenic, or recreation benefits at a ratio to be determined based on the biological, scenic, or recreational value of the land, but not less than 3:1.\*

### COS-P1.4



Require new projects adjacent to protected open space areas, such as EBRPD lands, to establish buffers on their properties as necessary to minimize conflicts and protect the open space. If conflicts arise between protected open spaces and other uses, prioritize maintaining the viability of the open space functions.\*

## Actions

### COS-A1.1

Convene an annual staff-level meeting with involved conservation agencies, such as (e.g., the East Contra Costa County Habitat Conservancy, and EBRPD, land trusts, and conservation groups organizations (land trusts, watershed stewardship groups, etc.)) to review



current and planned efforts to protect and maintain open space and habitat.

*See the Land Use Element for additional policies and actions related to the Urban Limit Line and open space uses.*

## AGRICULTURAL RESOURCES AND WORKING LANDS

### Agricultural Resource Areas

There are approximately 254,500 acres of agricultural land mapped by the State in Contra Costa County, most of it in the unincorporated area. The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) maps land by agricultural production potential using the following categories:

- **Prime Farmland** has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields.
- **Farmland of Statewide Importance** is similar to Prime Farmland, but with minor shortcomings, such as steeper slopes or less ability to store soil moisture.
- **Unique Farmland** consists of lesser-quality soils used for producing the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards, as found in some climatic zones in California.

- **Farmland of Local Importance** consists of dryland grains and irrigated pastures not meeting the definitions of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.
- **Grazing Land** is land on which the existing vegetation is suited to the grazing of livestock.

These categories are used to determine impacts to agricultural land under the California Environmental Quality Act (CEQA). Figure COS-1 shows agricultural land in the unincorporated county as mapped by the FMMP.

In addition to the FMMP, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) maps prime productive agricultural soils, which are classified as Class I and 2 soils and considered the very best soils for farming. As shown in Figure COS-2, these soils are primarily in East County.



*Agricultural land and farmworker labor yield valuable crops in Contra Costa County.*

Agricultural lands provide additional benefits outside the traditional crop and agricultural product yield. These lands can provide natural habitats and

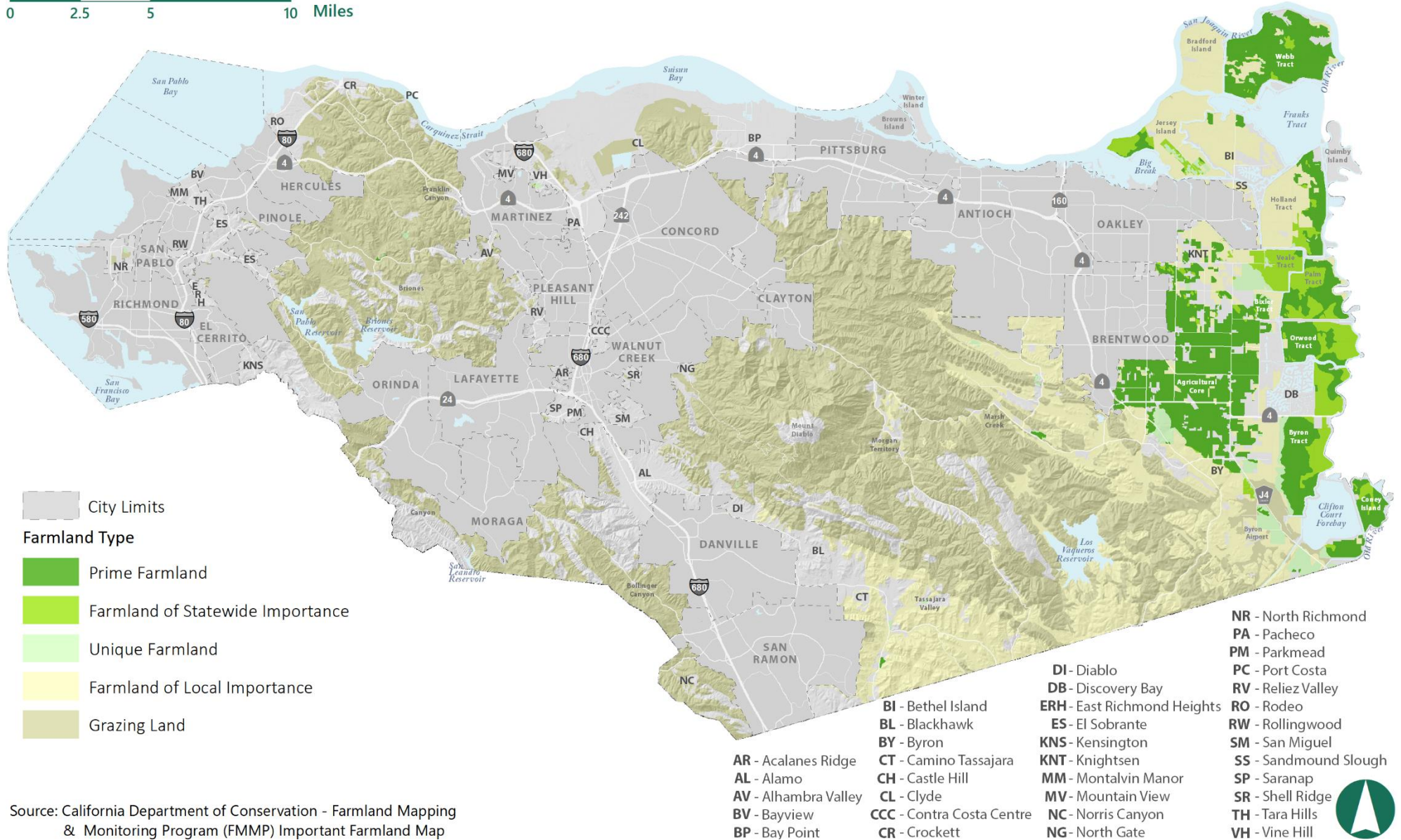


support ecological functions, while sequestering carbon to support climate stability. Agricultural lands, when managed appropriately, can also serve as strategic wildfire resilience assets by acting as a buffer between fire-prone landscapes and communities.



FIGURE COS-1 AGRICULTURAL LAND

0 2.5 5 10 Miles

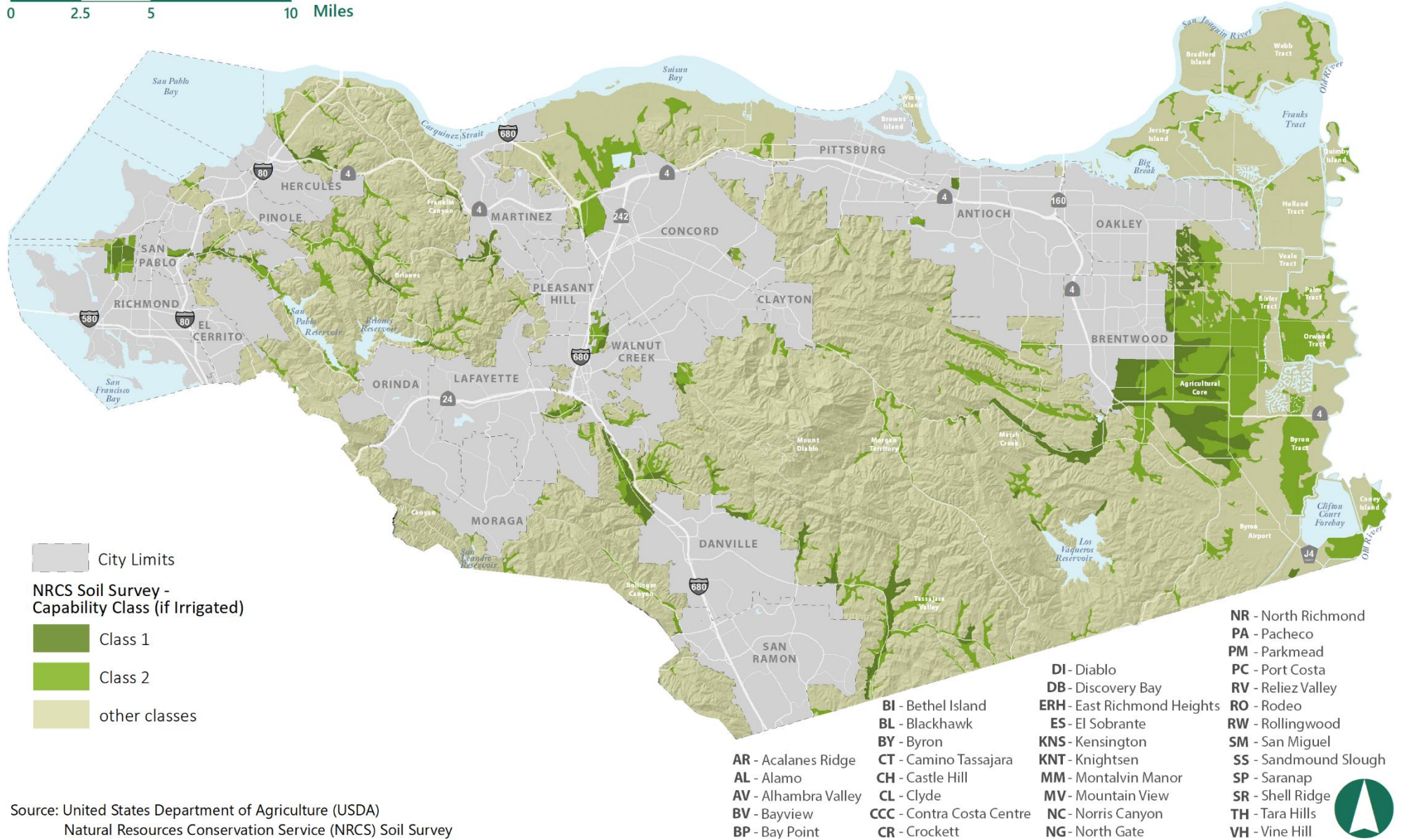


Source: California Department of Conservation - Farmland Mapping & Monitoring Program (FMMP) Important Farmland Map



FIGURE COS-2 PRIME PRODUCTIVE AGRICULTURAL SOILS

0 2.5 5 10 Miles







The County realizes the multiple benefits of agriculture and has implemented various programs and regulations to support agricultural land conservation. These include the Agricultural Land Conservation Ordinance, which implements the Williamson Act by allowing property owners to receive a reduced property tax rate in exchange for keeping land in agricultural production, and the Right-to-Farm Ordinance, which protects farms from nuisance complaints. The County also promotes integrated pest management (IPM) strategies to support healthy crops while reducing use of harmful chemicals and associated impacts to the environment.



Grazing goats can eliminate weeds and reduce wildfire risks as an IPM strategy. Photo credit: Contra Costa Health Integrated Pest Management

## Goal COS-2

A thriving and resilient agricultural sector based on resource conservation and sustainability practices.

## Policies

### COS-P2.1



Preserve large, contiguous areas of the county for agricultural production. ~~Prohibit~~ Deny applications for projects that would lead to fragmentation of agricultural areas.\*

### COS-P2.2

Preserve and protect productive agricultural land from conversion to urban uses, especially land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland on the Important Farmland Map prepared by the California Department of Conservation; land containing Class 1 or Class 2 soils; and land designated Agricultural Core.\*

### COS-P2.3

Require a 40-acre-minimum parcel size for subdivisions of prime productive agricultural land (i.e., Class 1 and Class 2 soils).

### **COS-P2.4 NEW POLICY**

Consult with the Delta Protection Commission to identify

mitigation strategies as relevant, if a change in land use that converts agriculture would significantly affect the sustainability of the Delta agricultural economy.

X

NEW POLICY

Screen proposals for conversion of agricultural land in the Primary Zone to avoid conversion of highly productive lands...

**COS-P2.4COS-P2.5**



Require new projects adjacent to agriculture to establish buffers on their properties as necessary to minimize conflicts and protect agriculture. Determine appropriate Bbuffers may be established in consultation with the County Agricultural Commissioner.\*

**COS-P2.5COS-P2.6**



When resolving conflicts between agricultural uses and urban uses, prioritize maintaining the viability of the agricultural uses.

**COS-P2.6COS-P2.7**



Require deed disclosures for new residential development in or adjacent to areas designated or zoned for agricultural use. The disclosures must explain the potential disturbances associated with agricultural operations (e.g., dust, noise, odors, and use of pesticides) and reference the Right-to-Farm Ordinance, which protects agricultural operations from nuisance complaints and unreasonable restrictions.\*

**COS-P2.7COS-P2.8**



Encourage owners of qualifying agricultural land to participate in the Williamson Act (Agricultural Preserve) Program.

**COS-P2.8COS-P2.9**



Support public infrastructure projects and programs that will increase, enhance, and protect agricultural land and its production capabilities.

**COS-P2.9COS-P2.10**



Coordinate with Byron-Bethany Irrigation District and East Contra Costa Irrigation District to facilitate water conservation, efficient use of agricultural irrigation water, and implementation of emerging water reuse technologies and practices.

**COS-P2.10COS-P2.11**



Support soil conservation and restoration programs. Encourage agricultural landowners to work with agencies such as the USDA's NRCS and Contra Costa RCD to reduce erosion and soil loss.

**COS-P2.11COS-P2.12**



Support efforts to protect, maintain, and improve soil health as a carbon sequestration tool.

**COS-P2.12COS-P2.13**





Partner with the agricultural community and University of California Cooperative Extension (UCCE) to support regenerative agriculture practices that maintain agricultural viability.

### **COS-P2.13COS-P2.14**



Encourage IPM practices that reduce the use of agricultural pesticides and minimize pesticide drift, and discourage farming practices that may expose residents, water resources, and the environment to fine particulates and harmful chemicals.

## **Actions**

### **COS-A2.1**

Review each update of the California Department of Conservation FMMP data and report to the Board of Supervisors on the quantity of land in the county converted to and from agricultural use.

### **COS-A2.2**

Work with the agricultural community, Contra Costa LAFCO, and cities to establish programs and mechanisms to protect agricultural resources, such as preservation agreements, conservation easements, an agricultural soils trust fund, and agricultural mitigation fees.

### **COS-A2.3**

Conduct a study of potential Transfer or Purchase of Development Rights (TDR/PDR) programs to address development pressures and preserve agricultural land. The study should determine:

- (a) Overall feasibility and usefulness toward implementing the County's agricultural preservation goals.
- (b) Specific mechanisms that could be used.
- (c) Geographic areas where these mechanisms could be used.
- (d) Organizational and administrative requirements.
- (e) Cost to the County and potential revenue sources.

### **COS-A2.4**



Amend County Ordinance Code Title 8 – Zoning to include development standards, and possibly adopt accompanying design guidelines, for urban land uses that interface with agricultural uses, addressing, at minimum:

- (a) Setbacks on urban properties to provide a buffer for agricultural uses.
- (b) Location and arrangement of buildings, structures, and uses on urban properties.
- (c) Lighting, fencing, screening, and appropriate landscaping/vegetation.

## COS-A2.5

Review the Williamson Act Program to identify potential areas for improvement, such as:

- (a) Expanding the range of allowable uses to include wildlife habitat areas.
- (b) Increasing enforcement of non-compliant properties.
- (c) Ensuring agricultural conservation commitments are adequate to justify inclusion in the Program.
- (d) Creating a mechanism to ensure rezoning of properties no longer under a Williamson Act contract.

*See the Land Use Element for additional policies and actions related to agricultural areas and the Health and Safety Element for additional policies related to soil health in support of carbon sequestration.*

## Agricultural Economy

Contra Costa County's rich soils, climate, and reliable water supplies have allowed generations of farmers to produce an array of outstanding crops. Contra Costa farmers have grown a wide variety of food for the Bay Area and beyond since the Gold Rush, from vast winter wheat fields in the 1880s to sweet corn, stone fruits, vegetables, olives, wine grapes, and beef today. East County has a long history of agricultural tourism, including U-pick farms going back to the 1970s. The unique combination of world-class growing conditions, proud farming tradition, and proximity to major metropolitan areas makes agriculture one of the county's most important assets.



*Peppers are harvested in East Contra Costa County. (Community-submitted photo)*

As of 2021, Contra Costa County ranked 36th out of California's 58 counties in total agricultural production, with a \$109.4 million value, despite being 51st in land mass. Cattle and calves, sweet corn, tomatoes, grapes, and cherries are the highest-grossing agricultural yields in the county. Future economic opportunities for Contra Costa County agriculture include:

- Demand for organic products.
- Demand for locally-grown, healthy, and sustainably produced food.
- Potential to expand value-added food processing, manufacturing, co-processing, and co-packing across the county.
- Expanded agricultural tourism.





*U-pick farms offer opportunities to experience agriculture firsthand and support the local farming community.*

The Contra Costa County Department of Conservation and Development (DCD) and Department of Agriculture, Weights, and Measures seek to promote and protect the county's agricultural industry, crops, and rangelands. The future of the county's agricultural economy is supported by local agriculturalists introducing innovative approaches to farming and seeking creative ways to reintroduce farming culture and recapture earnings.

### Goal COS-3

A thriving, sustainable, and competitive agricultural economy.

### Policies

#### COS-P3.1



Support development of public and private infrastructure and services needed to support agriculture.

#### COS-P3.2



Support efforts to promote and market locally grown and value-added agricultural products.

#### COS-P3.3



Enable farmers to showcase farm products grown on-site and elsewhere within the county and offer on-site farm experiences, such as culinary classes, farm-to-table meals, tastings, and special events, while maintaining the character and integrity of the surrounding agricultural landscape.

#### COS-P3.4



Enable farmers and ranchers to provide small-scale, short-term guest accommodations in a manner that is non-disruptive to the rural setting.

### COS-P3.5



Assist the agricultural community through the County's economic development programs.

### COS-P3.6



Support the Contra Costa RCD in carrying out its mission to assist farmers and ranchers through programs that conserve natural resources and build a strong farming community.

### COS-P3.7



Support rural property owners who apply to the Contra Costa LAFCO to detach agricultural land outside the Urban Limit Line (ULL) from special districts that provide urban services.

### COS-P3.8



Allow farmworker and farm family housing in agricultural areas to meet the needs of locally employed seasonal and permanent farmworkers.

## Actions

### COS-A3.1

Establish a mitigation program to offset conversion of working lands (irrigated and intensively cultivated agricultural lands and rangeland) to nonagricultural uses. The program will define the types of land conversions requiring mitigation, mitigation ratios, acceptable

mitigation locations, allowable conservation instruments, and use of in-lieu fees.\*

### COS-A3.2



Partner with the agricultural community and agencies such as the Delta Protection Commission to obtain funding for design, installation, and ongoing maintenance of proper signage promoting agriculture in the county, including wayfinding signage for agricultural tourism (e.g., U-pick, lodging, food service, winery) uses.

### COS-A3.3



Designate a staff position in DCD to serve as a point of contact to guide members of the agricultural community in understanding the processes at DCD, help DCD staff understand the particular needs of the agricultural community, and coordinate with other agencies, such as the Contra Costa RCD, USDA NRCS, UCCE, County Department of Agriculture, Weights, and Measures, and County Environmental Health Division.

### COS-A3.4



Work with the agricultural community and UCCE to promote education, training, information-sharing programs, and networking opportunities for farmers, ranchers, and agricultural agencies to increase agriculture's resilience to climate change hazards.

### COS-A3.5



Coordinate with the Contra Costa RCD, USDA NRCS, UCCE, Contra Costa Mosquito and Vector Control District, County Department of Agriculture, Weights, and



Measures, and County Environmental Health Division to support sustainable and resilient agricultural operations through vegetation and pest management programs, best management practices, technical assistance related to soil health, funding opportunities for efficient irrigation infrastructure, and information about alternative crop types that are drought-, heat-, and severe weather-resistant.

*See the Land Use Element for additional policies and actions on the Urban Limit Line and agricultural lands.*

## ECOLOGICAL RESOURCES AND NATURAL SYSTEMS

### Ecological Resource Areas

Ecological resource areas contain the county's most important biological resources and cultivate biodiversity. The County partners with a variety of public agencies to manage and protect these and other natural resources.

The East Contra Costa County Habitat Conservancy oversees implementation of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), which provides regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for projects that will impact endangered species and sensitive habitat. The HCP/NCCP allows local agencies to authorize endangered species permitting for activities and projects in the region, while providing comprehensive species, wetlands, and ecosystem conservation and contributing to the recovery of endangered species in northern California.

The area covered by the HCP/NCCP totals over 174,000 acres and is shown in Figure COS-3. The HCP/NCCP mainly offsets ecological impacts by conserving and restoring lands in a Preserve System. The Preserve System ultimately will encompass between 23,800 and 30,300 acres that will be acquired and managed to benefit the 28 plant and animal species covered by the HCP/NCCP, as well as the natural communities that they, and hundreds of other species, depend on for habitat. During the first 15 years of HCP/NCCP implementation, ~~432~~ properties were acquired for the Preserve System, totaling over 14,400 acres. All but one of the acquisitions were completed in partnership with EBRPD.

In addition to the HCP/NCCP, the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) have identified Priority Conservation Areas (PCAs) throughout the county and region. These areas, for which there is broad consensus on the need for long-term protection given the ecological resources present and urban development pressures, are eligible for conservation grants through the One Bay Area Grant Program. PCAs in Contra Costa County total over 135,000 acres and are shown on Figure COS-4.

#### Goal COS-4

Preserved and enhanced ecological resources and wildlife habitat.

### Policies

#### COS-P4.1



Maintain ecologically significant resource areas in their

natural state to the greatest extent possible. Limit development in and near these areas to compatible low-intensity uses with adequate provisions to protect sensitive resources, including setbacks around resource areas. Prohibit projects that would lead to fragmentation of ecologically significant resource areas.\*

#### **COS-P4.2**

Support land conservation and restoration consistent with the HCP/NCCP and discourage development in areas where such conservation is planned, as shown on Figure COS-3. Support actions to preserve land and resources within PCAs mapped by ABAG, as shown on Figure COS-4.

#### **COS-P4.3**

Require a biological resources assessment prepared according to State and federal protocols for projects with the potential to impact rare, threatened, endangered, or special-status species or their habitat, and implement appropriate mitigation for identified impacts, preferably near the impact and within the county.\*

#### **COS-P4.4**

Protect ~~habitat and~~ wildlife migration corridors, including natural and channelized creeks providing habitat in urban settings, and support projects that enhance these areas.\*

#### **COS-P4.5**

Discourage ~~the~~ use of fencing that poses risks to wildlife.\*

#### **COS-P4.6**

##### NEW POLICY

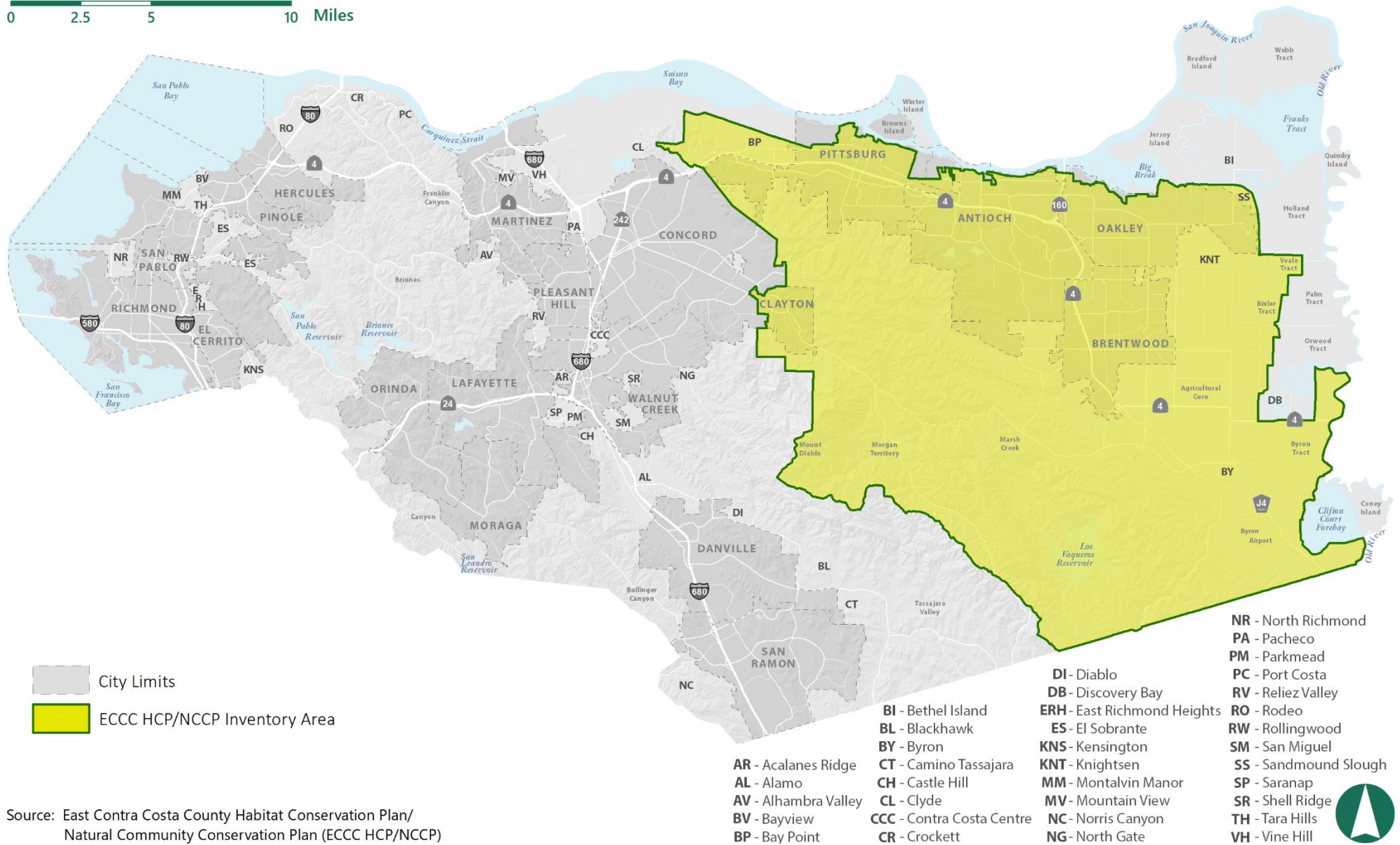
Require projects ~~that~~ impacting Pacific Flyway habitat in the Delta Primary Zone to incorporate mitigation ~~that~~ ~~ensures~~ ~~ensuring~~ that ensures no net loss of habitat function, including temporal loss. Impacts to Pacific Flyway habitat will be determined based on best available information at the time of environmental review.

#### **COS-P4.7**

##### NEW POLICY

Require projects near sensitive habitat areas to minimize lighting in general and mitigate light pollution by incorporating best practices for wildlife-friendly lighting.

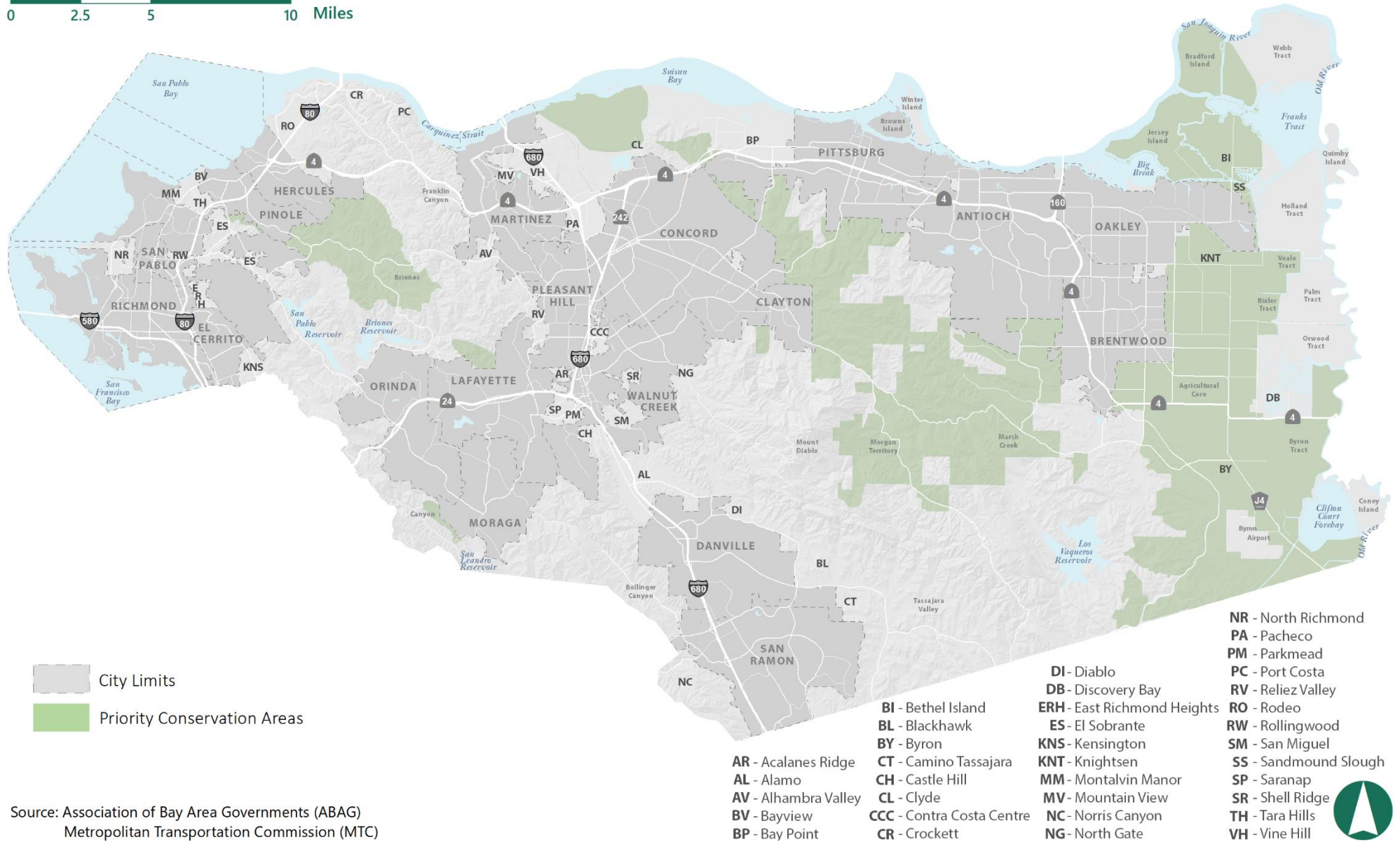




Source: East Contra Costa County Habitat Conservation Plan/  
Natural Community Conservation Plan (ECCC HCP/NCCP)

FIGURE COS-4 PRIORITY CONSERVATION AREAS

0 2.5 5 10 Miles



Source: Association of Bay Area Governments (ABAG)  
Metropolitan Transportation Commission (MTC)



#### **COS-P4.6COS-P4.8**

Require appropriately-timed, comprehensive floristic and vegetation surveys prepared according to State and federal protocols when development is proposed on land with potentially suitable habitat for special-status plant species, sensitive natural plant communities, or locally rare plants, including areas mapped by the California Native Plant Society as Botanical Priority Protection Areas.\*

#### **COS-P4.7COS-P4.9**

Require avoidance and protection of sensitive ecological resources not approved for disturbance or removal during project entitlement, and require restitution in exceedance of standard mitigation ratios for deliberate or inadvertent damage to these resources.\*

#### **COS-P4.8COS-P4.10**



Require majority use of California native plant species in landscaping for large landscaped areas in new developments, and require construction practices that avoid spread of invasive plant species by minimizing surface disturbance; seeding and mulching disturbed areas with certified weed-free native mixes; disinfecting/decontaminating equipment; and using native, noninvasive, drought-resistant species in erosion-control plantings.\*

#### **COS-P4.9COS-P4.11**

Support preservation, enhancement, and reestablishment of native and sport fisheries and reestablishment of fisheries in streams wherever possible. Assist conservation agencies and organizations with identifying and addressing barriers

to fish passage and other challenges to fish survival in natural watercourses.

### **Actions**

#### **COS-A4.1**

For the portion of the county not covered by the HCP/NCCP, prepare and maintain a similarly detailed inventory of ecologically significant resource areas, including unique natural areas, wetlands, floodplains, riparian resources, and the habitat of rare, threatened, endangered, and other uncommon and protected species.\*

#### **COS-A4.2**



Amend County Ordinance Code Title 8 – Zoning to include development standards, and possibly adopt accompanying design guidelines, for urban land uses that interface with ecologically significant resource areas and other protected conservation lands, addressing, at minimum:

- (a) Setbacks on urban properties to provide a buffer for resource areas.
- (b) Clustering of development to maximize ecological and conservation benefits.
- (c) Lighting, fencing, screening, and landscaping/vegetation that support, and do not interfere with, wildlife migration and other conservation purposes.\*



### COS-A4.3



Work with conservation agencies to identify appropriate locations and methods for incorporating wildlife crossings into future road projects.

*See the scenic resources section of this Element for policies and actions related to conservation of hillsides and steep slopes.*

## Creeks, Wetlands, Natural Watercourses, and Riparian Areas

Contra Costa County hosts abundant aquatic habitat ~~through its~~ in the form of coastal salt and freshwater and coastal salt marshes, mud flats, inland wetlands, creeks and streams, and riparian vegetation. Wetlands, especially marshes scattered along the shoreline, are among the most important habitat resources within the county and have substantial legal and policy protection. They are critical for climate resilience, as they offer flood and storm surge protection during storm events by absorbing excess water and reducing erosion and the height of flooding. Wetlands also intercept water runoff and remove pollutants, improving water quality.



*Wetlands in Radke Martinez Regional Shoreline Park provide valuable wildlife habitat along the Carquinez Strait. (Community-submitted photo)*

As illustrated ~~in~~ in Figure COS-5 and Figure COS-6, many creeks, streams, and other drainages extend throughout the county and ultimately drain into San





Francisco Bay, San Pablo Bay, Suisun Bay, and the Delta. Outside the urbanized parts of the county, creeks and streams tend to be in a natural or mostly undisturbed state, supporting diverse plant and animal life. The riparian ecosystems along creek banks provide permanent homes and migratory pathways for many species, while also offering recreational opportunities for people to connect with nature. ~~Natural~~ Creeks and other freshwater bodies also store water and help to recharge groundwater basins, which increases resiliency to drought conditions. However, many creeks within urbanized areas have been heavily modified to support flood control, often by rerouting them into concrete channels or culverts. Recognizing the importance of creeks in supporting ecological, recreational, and flood-control goals, in 2009 the County adopted an outline of a 50-year plan to convert creeks back to their natural state.

role of these features in climate change resilience, air and water quality, and wildlife habitat.

### Goal COS-5

Protected and restored natural watercourses, riparian corridors, and wetland areas that improve habitat, water quality, wildlife diversity, stormwater flows, and scenic values.

## Policies

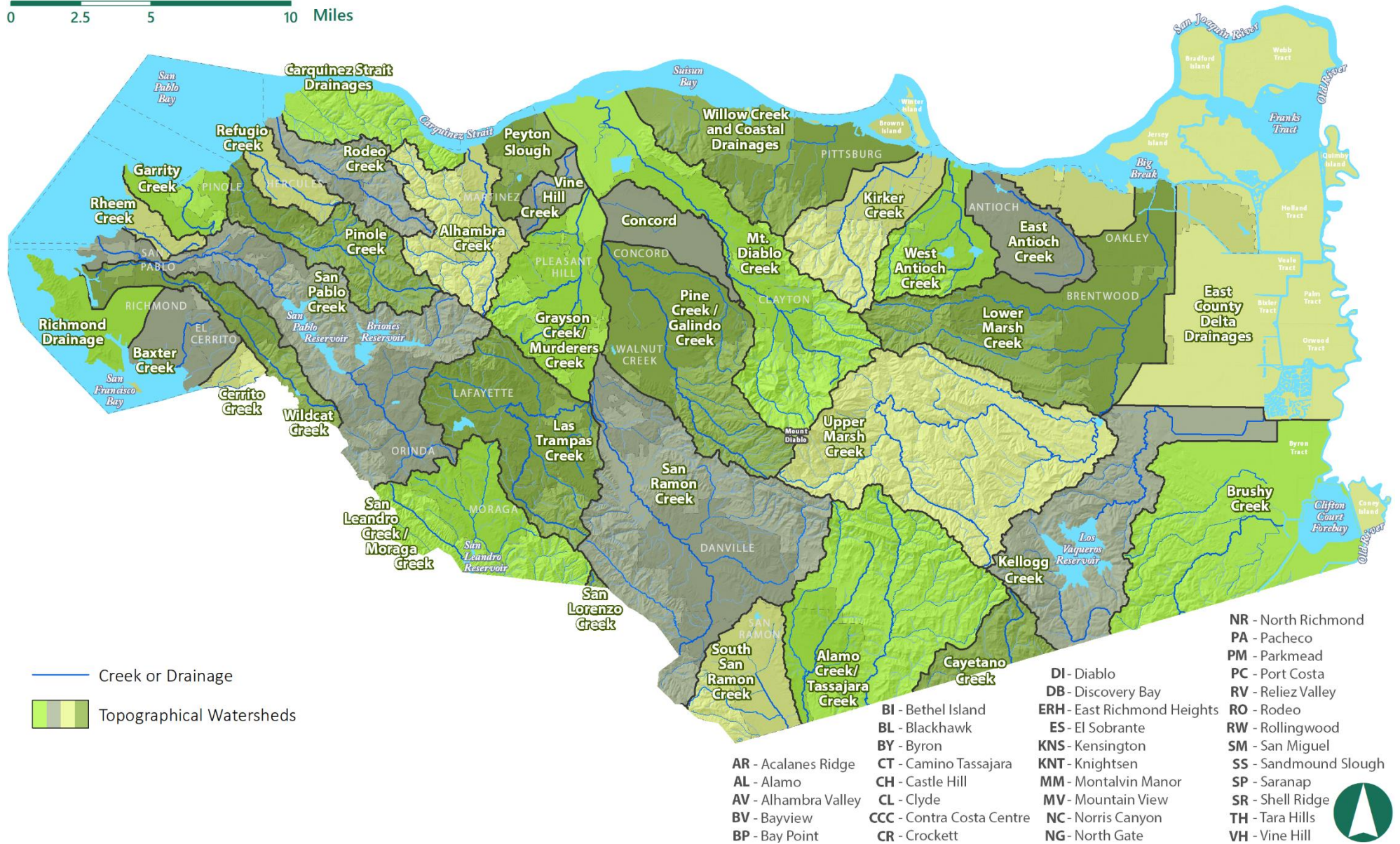
### COS-P5.1



Support protection, restoration, and enhancement of ~~creeks, wetlands, marshes, sloughs, and tidelands, natural~~ watercourses, and riparian corridors, and emphasize the

FIGURE COS-5 WATERSHEDS, WATERBODIES, CREEKS, AND RIVERS

0 2.5 5 10 Miles





### COS-P5.2



Require ~~new~~ public infrastructure and private development projects to preserve, and whenever possible restore and enhance, natural watercourses, floodplains, and riparian habitat.\*

### COS-P5.3



Require avoidance, minimization, and/or compensatory mitigation for development that would impact a wetland, wetland species, or adjacent upland habitat areas. Where feasible, compensation shall be in-kind (i.e., the same type of habitat), provided on-site, and based on a ratio that provides a margin of safety reflecting the expected degree of success and accounting for the relative functions and values of the lost and created wetlands.\*

### COS-P5.4



Require new buildings and structures on private property be set back at least 75 feet from the edge of any wetland area, unless a peer-reviewed, site-specific evaluation indicates that a different setback is appropriate for protecting the wetland and adjacent upland habitat areas. Allow encroachment into a required wetland setback area only when a parcel would otherwise be rendered unbuildable or impacts have been adequately mitigated.\*

### COS-P5.5

Acquire deeded development rights to setback areas surrounding wetlands, floodplains, and natural watercourses to ensure preservation of the resource and protect adjacent improvements.\*

### COS-P5.6

Identify and pursue funding opportunities to acquire, protect, and maintain open space around existing flood control channels to facilitate implementation of the County's 50-Year Plan "From Channels to Creeks."

### COS-P5.7



#### NEW POLICY

~~Support efforts by~~ Work with conservation agencies and organizations to:

(a) Increase public awareness about threats to water quality and prepare and implement watershed restoration plans throughout the county.

#### — NEW POLICY

~~(b) Support efforts by conservation agencies and organizations to a~~ Acquire, protect, restore, and maintain areas adjacent to natural watercourses and riparian corridors.

### COS-P5.8



#### NEW COS-P5.7

Discourage ornamental landscaping within setback areas along natural watercourses and require use of California native plant species when revegetating those areas.

### ~~COS-P5.6~~ COS-P5.9



Require increased setbacks for animal-handling uses whenever necessary to protect natural watercourses,

wetlands, riparian habitat, or erosion-prone soils. Setback increases can be applied to all ~~aspects~~ components of the use, such as manure storage or parking areas, and are not limited to buildings and structures.\*

#### ~~COS-P5.7~~ COS-P5.10



Allow encroachments into required setback areas along natural watercourses and wetlands for the purpose of constructing low-impact public improvements or public-serving amenities, such as footbridges, trails, and nature viewing areas, provided a qualified biologist confirms that the improvements/amenities are compatible with protection of ecological values.

#### ~~COS-P5.8~~ COS-P5.11



Prohibit direct runoff of pollutants and siltation into marsh, creek, and wetland areas from outfalls serving urban development.\*

## Actions

#### COS-A5.1



Inventory wetlands, floodplains, marshlands, natural watercourses, riparian corridors, 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).\*

#### COS-A5.2

Amend the County Ordinance Code to include the wetland setback requirement described in Policy COS-P5.4.\*

#### COS-A5.3

Amend ~~the~~ County Ordinance Code Chapter 914-14 – Rights-of-Way and Setbacks to apply make the creek setback requirements for unimproved earth channels applicable in Title 9 – Subdivisions to all projects, including those that are not part of and just subdivisions.\*

#### COS-A5.4

With input from watershed stewardship groups, evaluate the setback requirements in County Ordinance Code Chapter 914-14 – Rights-of-Way and Setbacks to determine appropriate setbacks for maximizing the natural function of natural watercourses and allowing for future restoration.

#### COS-A5.5

Review the Contra Costa County Watershed Atlas to determine whether an update is necessary.

*See the Health and Safety Element for policies and actions about flooding and sea-level rise.*

## Uplands

The upland areas of Contra Costa County support grasslands, shrublands, woodlands, and forests. These natural communities are important because they provide carbon sequestration, nutrient cycling, forage and homes for





wildlife, erosion control, and recreation, while also supporting agriculture and other working lands. Oak trees, an iconic part of the landscape in the county and throughout the state, are recognized by State law with special protections for oak woodlands.



Oak trees dot the natural landscape in upland areas of throughout Contra Costa County. (Community-submitted photo)

## Goal COS-6

Preserved and enhanced native upland habitat, including woodlands, grasslands, and rangelands.

## Policies

### COS-P6.1



Preserve natural woodlands and significant trees, particularly mature native species, intact coastal scrub and chaparral, and grasslands, especially those with native grass and wildflower populations.\*

### COS-P6.2



Encourage planting and propagation of California native trees and habitat-supporting native shrubs, forbs, and grasses throughout the county to enhance the natural landscape, provide shade (especially in riparian areas), sustain wildlife, absorb stormwater, and sequester carbon.

### COS-P6.3



Support protection of native trees, especially oaks, in foothill woodlands and agricultural areas by encouraging voluntary installation of fencing around individuals or clusters of trees to prevent grazing and promoting replanting of native species.

### COS-P6.4



~~Encourage~~ Support removal of invasive, non-native trees, shrubs, and grassland weeds ~~species~~, especially those that are ecologically harmful or known to pose threats to public safety.

### COS-P6.5



Encourage revegetation with local or regional ecotypes of



native species in areas that were previously converted for agriculture but are no longer in production.

## Actions

### COS-A6.1



Update County Ordinance Code Chapter 816-6 – Tree Protection and Preservation, to enhance tree protections and strengthen mitigation requirements/restitution for tree removal commensurate with the benefits the tree provides.\*

### COS-A6.2



Develop an Oak Woodland Conservation Program that establishes special mitigation ratios for removal of oak trees, along with specific tree replacement and planting standards to ensure long-term growth and survival. Amend the County Ordinance Code as needed to implement the program.\*

## WATER RESOURCES

### Surface and Groundwater Resources

Supporting the life-sustaining properties of water as a natural resource is a complex challenge. Water is dynamic, contested, and increasingly scarce. Maintaining the quality of the county's water supply requires protecting surface water and groundwater from the impacts of past and future development. An important tool for protecting water quality is the National Pollutant Discharge Elimination System (NPDES), which requires a permit to

discharge water or wastewater into surface waters. The County supports the efforts of outside regulatory agencies who protect water quality, and actively monitors regional, State, and federal programs that could affect water quality and water supply safety in the county.

As discussed in the Public Facilities and Services Element, there are two major water service providers in the county that rely on surface water resources from the Mokelumne River and Delta: EBMUD and CCWD. These utilities own the watershed lands around their storage reservoirs, as shown in Figure COS-76, and they actively manage the land to protect the quality of the East Bay's water supply.

Figure COS-87 shows Census tract rankings for impaired waterbodies in the county. This data ranks Census tracts based on the number of pollutants found in all waterbodies within the Census tract that are designated as impaired relative to Census tracts in the rest of the state. As shown in the figure, the highest rankings for impaired waterbodies are in East County where pesticide use from agricultural operations harms water quality. Some Census tracts on the north and west sides of the county also rank high, mainly due to discharge from industrial uses.

State data also demonstrates threats to groundwater quality, as shown in Figure COS-98. This data ranks Census tracts based on activities that pose threats to groundwater quality, such as uses involving hazardous chemicals, gasoline or diesel, solvents, heavy metals, or pesticides. These threats are most significant along the Northern Waterfront where there is a high concentration of heavy industrial uses.

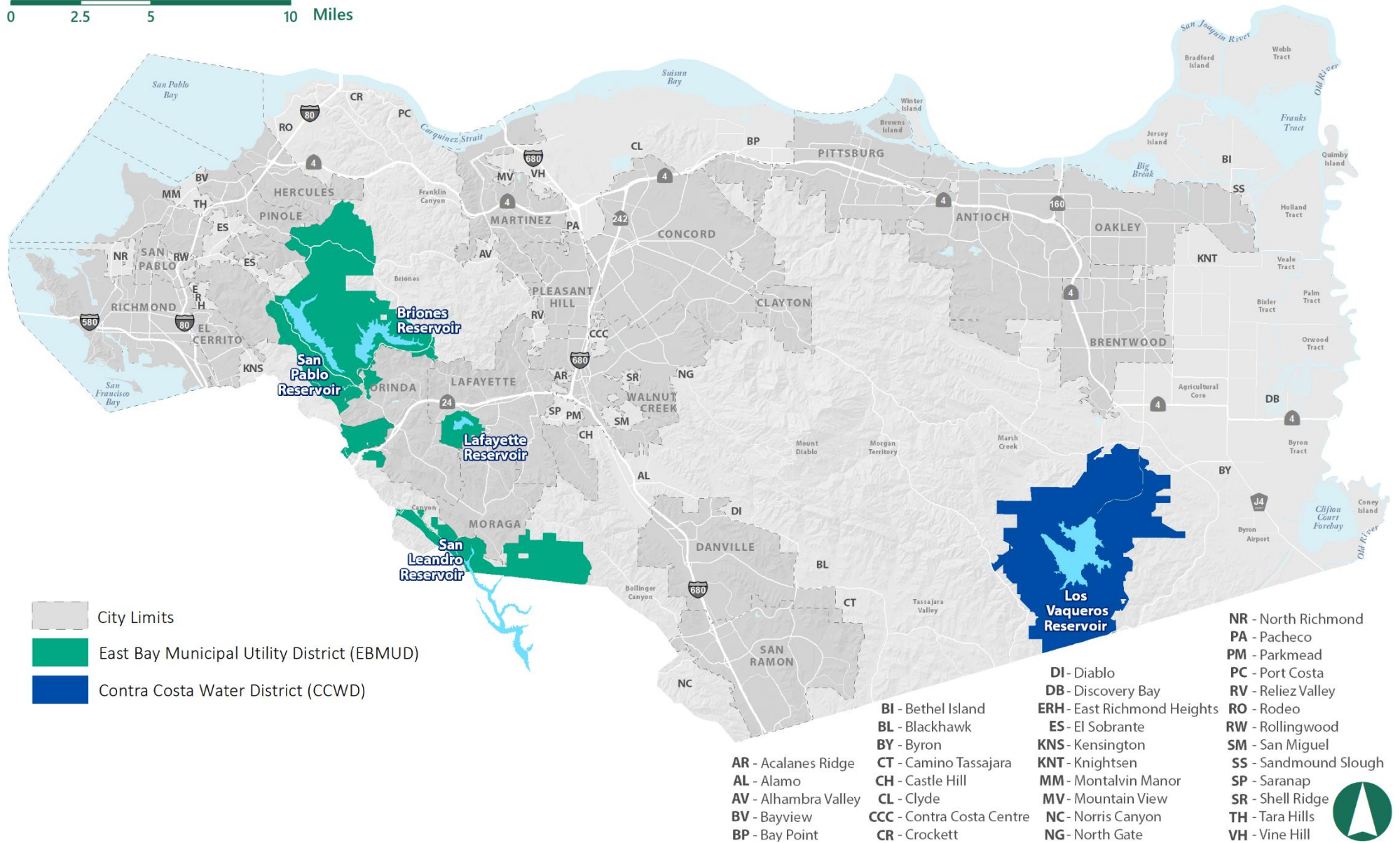
The Sustainable Groundwater Management Act (SGMA), enacted in 2015, provides a framework of priorities and requirements to facilitate sustainable groundwater management throughout the state. Groundwater Sustainability Agencies (GSAs) and other local public



agencies help manage groundwater in high- and medium-priority groundwater basins to ensure it is maintained

FIGURE COS-76 UTILITY DISTRICT WATERSHED LANDS

0 2.5 5 10 Miles

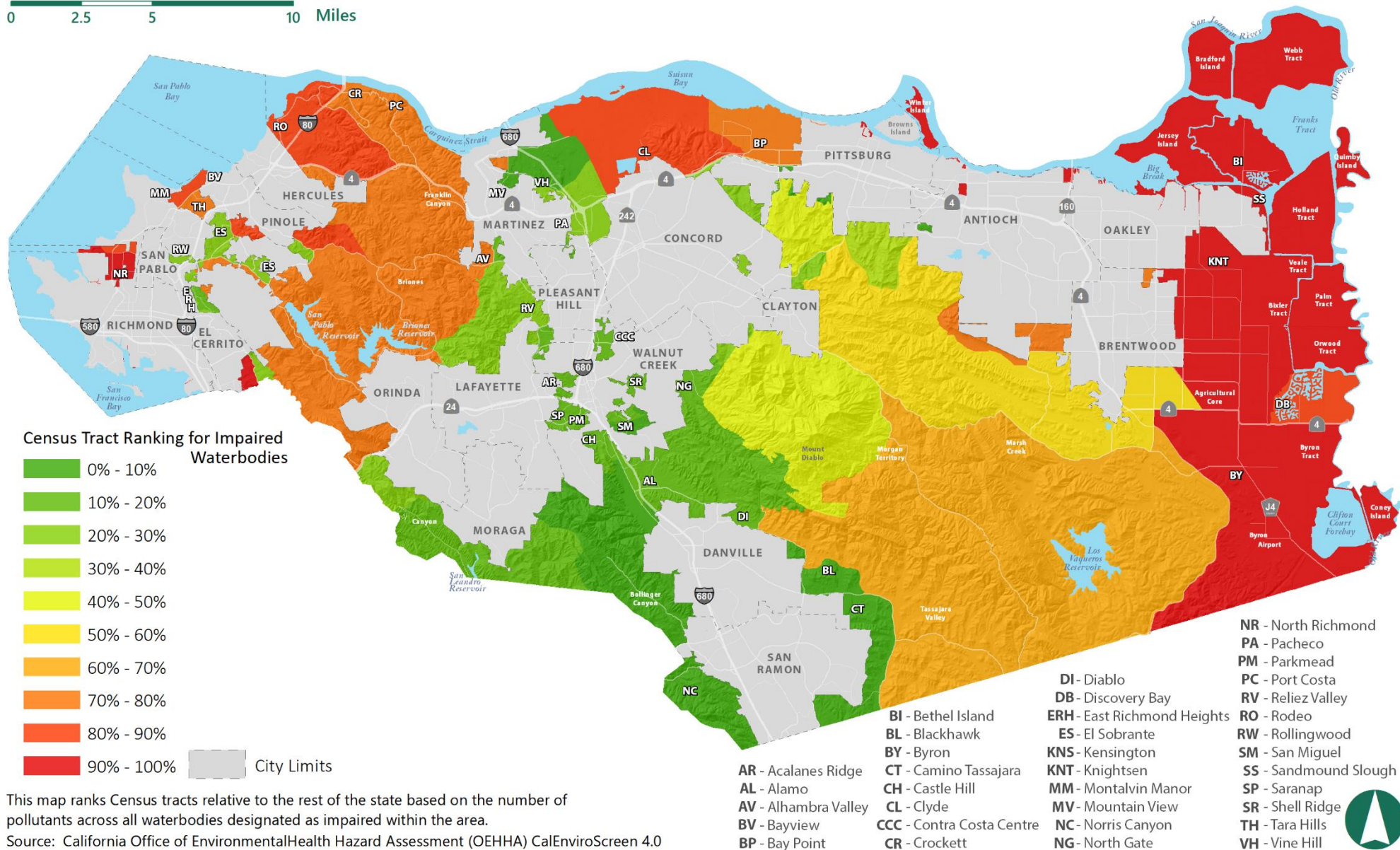






**FIGURE COS-87** IMPAIRED WATERBODIES RANKINGS RELATIVE TO THE STATE

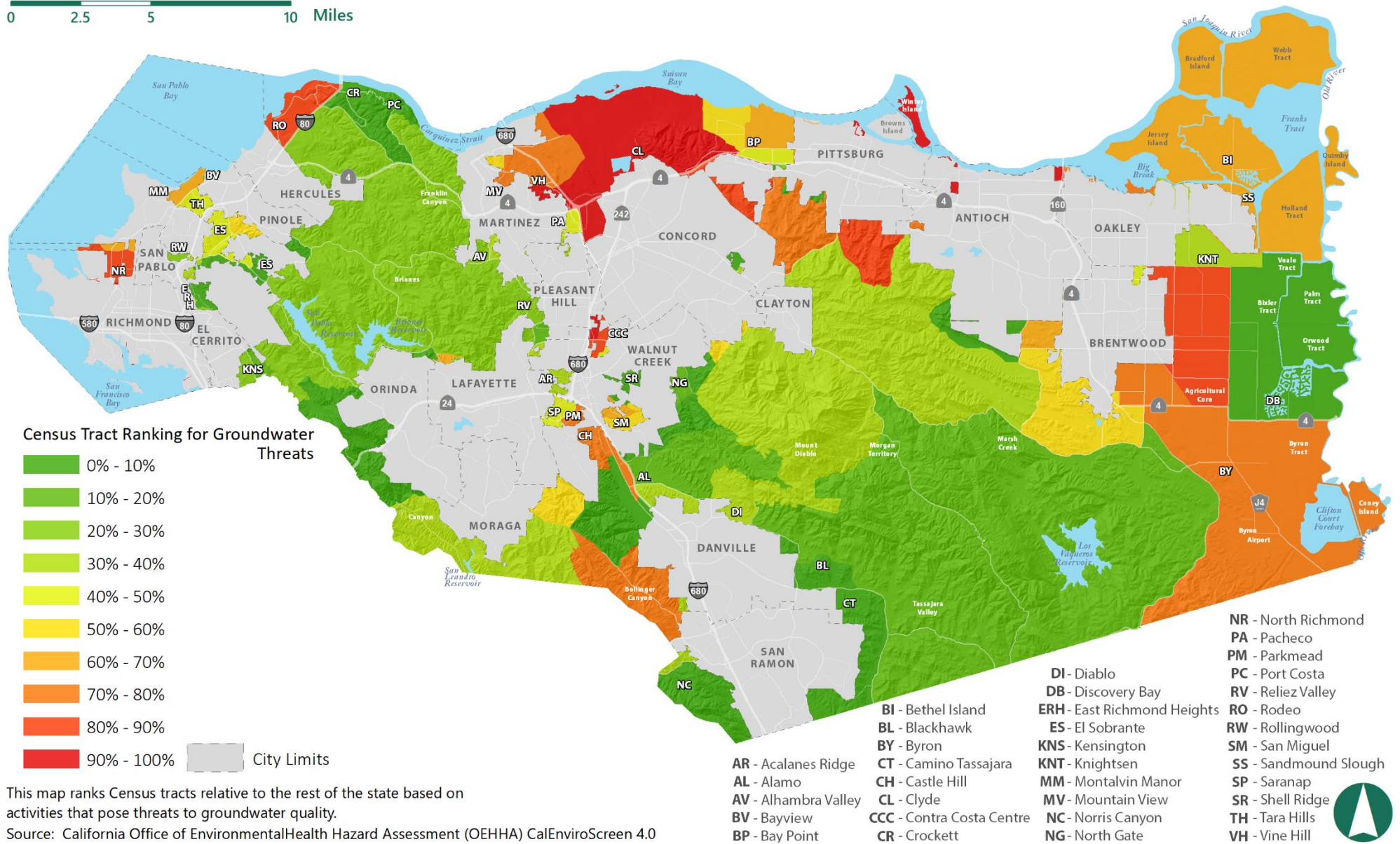
0 2.5 5 10 Miles



This map ranks Census tracts relative to the rest of the state based on the number of pollutants across all waterbodies designated as impaired within the area.  
Source: California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0



**FIGURE COS-98** GROUNDWATER THREAT RANKINGS RELATIVE TO THE STATE





within its sustainable yield. Groundwater Sustainability Plans (GSPs) are adopted and implemented by GSAs and other agencies to be consistent with the SGMA.

Groundwater basins in the county are shown in Figure COS-109. Three of these are medium-priority: East Contra Costa, East Bay Plain, and Livermore Valley. In eastern Contra Costa County, seven local agencies, including the County, are GSAs. These agencies signed a memorandum of understanding agreeing to prepare a single GSP for the East Contra Costa Subbasin, which was adopted by the County in December 2021.

### Goal COS-7

Sustainable surface and groundwater resource management.

## Policies

### ~~COS-P7.1~~



~~Require new development to reduce potable water consumption through use of water-efficient devices and technology, drought-tolerant landscaping strategies, and treated recycled water, where available.\*~~

### ~~COS-P7.2~~COS-P7.1



Partner with water and wastewater service providers, GSAs, irrigation districts, and private well owners to increase participation in water conservation programs countywide.

### ~~COS-P7.3~~COS-P7.2

Consult applicable GSPs and local GSAs before making land use decisions that could impact groundwater resources.\*

### ~~COS-P7.4~~COS-P7.3



For projects in areas without a water service provider, require proof of adequate on-site groundwater during the development review process. In addition to requiring compliance with the County's well regulations related to water quality and flow rate, require documentation that the proposed project will not have a significant cumulative impact on the aquifer or negatively affect development that already relies on the same groundwater supply.\*

### ~~COS-P7.5~~COS-P7.4



Prohibit new development that would create or significantly aggravate groundwater overdraft conditions, land subsidence, or other "undesirable results," as defined in Section 354.26 of the California Water Code.\*

### ~~COS-P7.6~~COS-P7.5



Support multipurpose water storage options that incorporate water supply, flood control, surface and groundwater storage, groundwater management, and ecosystem components.

### ~~COS-P7.7~~COS-P7.6



Require new development to reduce ~~potable~~ water consumption through use of water-efficient devices and



technology, drought-tolerant landscaping strategies, and treated recycled water, where available.\*

~~COS-P7.8~~ **COS-P7.7**



Require landscaping for new development to ~~be drought-tolerant,~~ filter and retain runoff, and support flood management and groundwater recharge.\*

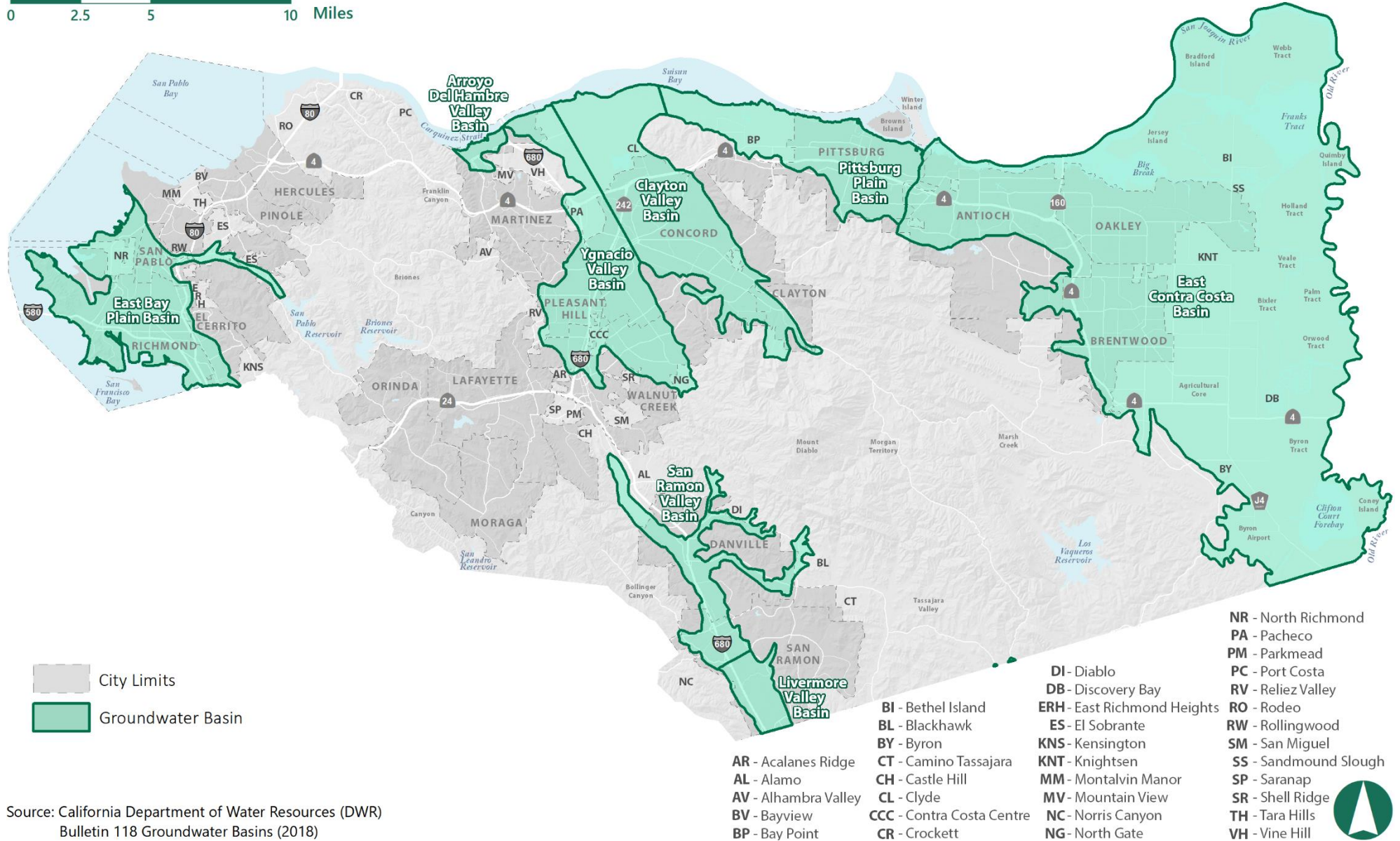




FIGURE COS-109

# GROUNDWATER BASINS

0 2.5 5 10 Miles



Source: California Department of Water Resources (DWR)  
Bulletin 118 Groundwater Basins (2018)

### ~~COS-P7.9~~ **COS-P7.8**



Promote installation of drought-tolerant green infrastructure, including street trees, in landscaped public areas.

### ~~COS-P7.10~~ **COS-P7.9**



Support wastewater reclamation and reuse programs that maximize use of treated recycled water.

### ~~COS-P7.11~~



~~Support programs and activities conducted by community watershed stewardship groups and volunteers that increase public awareness and encourage stewardship protection, restoration, and maintenance of water resources.~~

## Actions

### **COS-A7.1**

Update County Ordinance Code Chapter 414-4, Water Supply, to be consistent with adopted GSPs.\*

### **COS-A7.2**



For areas that are not covered by an adopted GSP, amend the County Ordinance Code to include sustainability indicators, defined by the SGMA, as a guide for development to maintain and protect the quality and quantity of groundwater supplies within the county.\*

### **COS-A7.3**



Evaluate the feasibility and necessity of amending the County Ordinance Code to promote rainwater harvesting, installation of dual plumbing (purple pipe), and water reuse.

### **COS-A7.4**



Publish information on the DCD website about alternative sources of water for irrigation and other non-potable needs, such as greywater, rainwater, air conditioning condensation, and foundation drainage.

## Goal COS-8

Protected quality of surface water and groundwater resources.

## Policies

### **COS-P8.1**



Protect public water supplies by denying applications for projects that would introduce significant new pollution sources in groundwater basins and watersheds feeding major reservoirs, and support efforts to acquire and permanently protect reservoir watersheds.\*



### COS-P8.2



Coordinate with other agencies to control point and non-point sources of water pollution and maintain water quality standards.\*

### COS-P8.3



Support development and implementation of a long-term, area-wide integrated vegetation management program to control invasive weeds in a way that reduces pesticide use and preserves water quality.

### COS-P8.4



Require new development to retain natural vegetation and topography whenever feasible and require projects involving erosion-inducing activities to use best management practices to minimize erosion.\*

### COS-P8.5



Require groundwater monitoring programs for all large-scale commercial and industrial facilities that use wells and prohibit discharge of hazardous materials through injection wells.\*

### COS-P8.6



Support ongoing remediation of the Mount Diablo Mercury Mine.

*See the Public Facilities Element for policies and actions on water and wastewater service, drainage, and stormwater management. See the Health and Safety Element for policies and actions on flood control.*

## Delta and Shoreline Resources

Encompassing 738,000 acres, the Delta is the largest estuary on the West Coast and the confluence of California's two longest rivers: the Sacramento River and San Joaquin River. East County is home to a large portion of the western Delta where unique plant and animal communities flourish. The Delta is one of the county's greatest natural resources, and its health is critical to the county's physical, societal, and economic well-being.

A healthy Delta requires sufficient high-quality water to provide habitat for fish and other native aquatic, terrestrial, and avian species, both migratory and year-round. The Delta needs proper management, including through partnerships between federal, State, and local agencies, to protect people and land with strong levees, comprehensive emergency response, and fresh water. The Delta also promotes the economic health of the region through recreation, industrial and maritime commerce, and agriculture.

The Delta provides a portion of the water supply for 30 million people and over 6 million acres of agriculture. However, the Delta's health has declined in recent decades due to wetland loss, diversions of water for export to other regions, increased salinity from diversions and drought, pollution from urban run-off and agricultural pesticide use, and invasive species, which threatens our health, safety, and welfare. Without continued improvements to the ecosystem through conservation and restoration efforts and sustainable land use practices, the Delta is at risk of further decline. Understanding this need, the County adopted its Delta Water Platform in 2014 to guide decisions, actions, and advocacy in a way that supports the Delta's health and sustainability.



The Delta is an extensive network of waterways stretching from East Contra Costa County to Sacramento and Stockton. (Credit: California Department of Water Resources)

## Goal COS-9

Protected, preserved, and enhanced scenic quality, recreational value, and natural resources of the San Francisco Bay/Sacramento-San Joaquin Delta estuary system and shoreline.

## Policies

### COS-P9.1

Advocate for increased freshwater flow into, through, and from the Delta into San Francisco Bay, and support other

efforts to protect and improve Delta water quality.

### COS-P9.2



Support continued maintenance and improvement of Delta levees to protect water quality, ecosystems, agricultural land, and at-risk communities.

### COS-P9.3

Oppose all efforts to construct an isolated conveyance, ~~(e.g., such as a peripheral canal, or tunnel),~~ or any other water diversion system that reduces Delta water flows unless and until it can be conclusively demonstrated that such a system would protect, preserve, and enhance water quality and fisheries of the San Francisco Bay/Delta estuary system.

### New P9.4

Work with the Delta Protection Commission to advise agencies undertaking habitat restoration projects within the Delta Primary Zone of their obligation to comply with California Constitution Article XIII D, Section 4, which requires public projects to continue paying benefit assessments unless the project demonstrates that it would not receive the relevant services.

### COS-P9.4



Plan for land uses along shorelines that do not pose a threat to Bay or Delta resources, including water quality and shoreline and marshland habitats.\*





#### **COS-P9.5**



Support efforts to expand and enhance public access to the Bay shoreline and Delta.

#### **COS-P9.6**

Prohibit private development on tule islands, sand dunes, and levee remnants.

#### **COS-P9.7**

Evaluate cumulative impacts on boating safety when reviewing applications for new or expanded marinas and docks.

#### **COS-P9.8**

Require design excellence for new development along Bay and Delta waterways to enhance the visual quality of these areas.

### **Actions**

#### **COS-A9.1**



Amend County Ordinance Code Title 8 – Zoning to incorporate the following requirements for new or expanded marinas and docks:

- (a) Adequate channel width and depth, as defined by the State Harbors and Navigation Code.
- (b) Adequate public fire protection services.
- (c) Adequate public vehicular access.
- (d) Adequate supply of potable water.

- (e) Adequate on-site facilities for sewage and solid waste disposal.
- (f) Compatibility with nearby agricultural uses.
- (g) Compatibility with nearby conservation/habitat lands.
- (h) Designed to avoid inundation from projected sea-level rise, as shown on Figures HS-6 through HS-9 (Sea-Level Rise Projection Maps) in the Health and Safety Element.\*

## **HISTORIC AND CULTURAL RESOURCES**

### **Archaeological and Historic Resources**

Although the Spanish explored Contra Costa County as early as 1772, significant European settlements were not established until the nineteenth century. In 1822, the newly independent Mexican government began issuing land grants, called ranchos, to its citizens in California. Sixteen ranchos existed in what is now Contra Costa County, and most of the land was used for grazing or growing wheat. One rancho was later purchased by a settler named John Marsh in 1837. It became known as Marsh's Landing, near present day Antioch, and grew into an important commercial center along the San Joaquin River during the California Gold Rush. The success of Marsh's Landing encouraged other American immigrants to purchase land in the area, and permanent communities began to take shape. Following the Gold Rush, agriculture was the economic driver in the region, boosted by the Southern Pacific Railroad's expansion into the area in the late nineteenth century.



*South of Brentwood, the John Marsh House was built by Dr. Marsh in 1856. (Community-submitted photo)*

Industrial development and associated residential development to house workers shaped the western portions of Contra Costa County from the early twentieth century. In 1906, the C&H Sugar Factory was established in Crockett, taking advantage of cargo ship access via the Carquinez Strait. Petroleum refineries were also developed during the late 1800s and early 1900s. World War II brought rapid expansion of industrial development to support war efforts, including the famous Kaiser Richmond Shipyards.

Over centuries, people have immigrated to the region from other cities, states, and countries, and the diverse population forms the unique fabric of modern-day Contra Costa County. This history is represented in the almost 400 historic sites, buildings, and other structures that have been identified in Contra Costa County's Historic Resources Inventory. They range from historic buildings that were part of the early industrialization of the western county,

like the C&H Sugar Factory, to historic ranches and homes, like the home of John Muir, which is part of the John Muir National Historic Site in Martinez.

In 2019, the United States Congress established the Sacramento-San Joaquin Delta National Heritage Area (NHA), which runs from the east side of San Pablo Bay through the Carquinez Strait to the Delta. The Delta NHA is recognized as a cohesive, nationally significant landscape arising from patterns of human activity shaped by the Delta's geography. The Delta Protection Commission is drafting a Management Plan to promote historic preservation, cultural conservation, education and interpretation, development of recreational assets, nature conservation, tourism, and economic development throughout the Delta NHA. The draft Management Plan will be submitted for review and approval by the United States Department of the Interior in the first quarter of 2024.

Other State and federal laws and programs help to protect historic and archaeological resources, including the California Historical Building Code, which preserves California's architectural heritage by ensuring historic buildings are maintained and rehabilitated in accordance with historically sensitive construction techniques. In addition, the Mills Act, enacted in 1976, provides a property tax incentive to owners of qualified, owner-occupied, historical properties to maintain and preserve the historic property in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The National Historic Preservation Act coordinates public and private efforts to identify, evaluate, and protect historic and archaeological resources across the nation. The Act authorized the National Register of Historic Places, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.



## Goal COS-10

Archaeological, cultural, and historic resources that are identified and preserved.

## Policies

### COS-P10.1

Prioritize preservation and adaptive reuse of buildings, sites, and areas having identifiable archaeological, cultural, or historic significance. Require new construction and renovation projects in historic areas to incorporate compatible and high-quality design that protects the overall historic integrity of the area and adjacent historic resources.\*

### COS-P10.2

Encourage sensitive restoration and adaptive reuse of historic resources following the Secretary of the Interior's Standards for the Treatment of Historic Properties, including additions and alterations to buildings that do not diminish historic integrity.

### COS-P10.3

Encourage owners of historic properties to make use of the State of California Historic Building Code to protect and rehabilitate historic resources.

### COS-P10.4

Encourage owners of eligible historic properties to apply for State and federal designation as historic properties and participate in tax incentive programs, such as allowed under the Mills Act, for historic preservation.

### COS-P10.5

When a project involves a resource that is listed in the County's Historic Resources Inventory, or as otherwise necessitated by the CEQA process, require applicants to engage a qualified consultant to prepare an evaluation of potential and previously identified archaeological, cultural, and historic resources that may be present on the project site.\*

### COS-P10.6

Upon discovery of significant historic or prehistoric archaeological artifacts or fossils during project construction, require ground-disturbing activities to halt within a 50-foot radius of the find until its significance can be determined by a qualified historian, archaeologist, or paleontologist and appropriate protection and preservation measures developed.\*

### COS-P10.7

Require significant historic, archaeological, and paleontological resources to be either preserved onsite or adequately documented as a condition of removal. Any documentation of historic resources shall be conducted in accordance with Historic American Building Survey (HABS) Level III standards, as defined by the US Secretary of the Interior.\*



### **COS-P10.8**

Emphasize native people, immigrant populations, and the environmental and cultural heritage of the region as significant themes related to historic preservation. Consider natural, agricultural, ranching, mining, commercial, industrial, residential, political, transportation, recreation, education, maritime, and military themes when evaluating the significance of historic resources.

### **COS-P10.9**

Ensure new cultural/historic resource evaluations consider potential social and cultural significance of resources in addition to architectural significance.

### **COS-P10.10**

Coordinate with cities and special districts to identify and preserve archaeological, cultural, and historic resources countywide.

### **COS-P10.11**

Partner with other agencies, culturally affiliated tribes, private entities, and nonprofit organizations to establish programs and funding mechanisms to preserve, restore, and enhance cultural, historic, and archaeological sites.

## **Actions**

### **COS-A10.1**

Beginning in 2024, then every five years thereafter, review and update the County's Historic Resources Inventory and Archaeological Sensitivity Map in consultation with culturally affiliated tribes to ensure these remain useful tools for evaluating potential cultural resources impacts

and guiding preservation efforts. As part of the 2024 update to the Historic Resources Inventory, create a map of the listed historic resources, and update the map upon each update to the Historic Resources Inventory. Ensure tribal cultural resources identified through these updates remain confidential.

### **COS-A10.2**

Evaluate and implement one or more measures to protect and preserve historic and cultural resources, such as a historic and cultural resources ordinance, overlay district, and/or design guidelines.

### **COS-A10.3**

Prepare a historic context statement that provides necessary background information about historic, archaeological, and cultural resources and a framework for identifying and evaluating historic resources. The context statement should include the overarching significance themes described in Policy COS-P10.8.

### **COS-A10.4**

Partner with the Delta Protection Commission to support preparation and implementation of the management plan for the Delta NHA.

## **Tribal Communities**

Contra Costa County is in an area where traditional territories of three Native American tribal communities – the Bay Miwok, ~~Northern Valley Delta~~ Yokuts, and Ohlone – converged, as shown in Figure COS-11.

The Bay Miwok inhabited the inner Coast Range, with territory stretching through eastern Contra Costa County, from Mount Diablo into the Delta. The





Bay Miwok were politically organized by tribelet, which consisted of one or more villages and camps within a defined territory.

The Northern Valley Delta Yokuts are the historical occupants of the central and northern San Joaquin Valley, and their territory extended into eastern Contra Costa County. Their main settlements were built atop low mounds on or near the banks of large watercourses for protection against flooding. Each subtribe was autonomous with a headman, and populations averaged around 300 individuals.

The territory of the Ohlone people extended along the coast from the Golden Gate south to just below Carmel, as well as along several inland valleys that led from the coastline. The Ohlone were also politically organized by tribelet, with each having a designated territory.

All of these tribal communities were primarily hunter-gatherers; they hunted animals like mule deer, tule elk, pronged antelope, mountain lions, whales, and waterfowl. They would travel seasonally into the foothills or plains to gather specific plant resources, such as acorns, buckeye nuts, hazelnuts, and pine nuts, as well as seeds, roots, and berries. These and other resources likely supported hundreds of individual villages throughout what is now Contra Costa County.

Despite the violence and displacement that accompanied European and Mexican settlement of this area and decimated indigenous communities, the indigenous inhabitants of the land are still present. Today, there are several Ohlone nations in Contra Costa, Alameda, Solano, Napa, and San Joaquin Counties, each with its own culture and language, including the Lisjan (Ohlone), Karkin (Ohlone), Bay Miwok, Plains Miwok, Delta Yokut, and Napian (Patwin).

This rich tribal history and living tribal culture are reflected in a range of tribal cultural resources throughout the county. Tribal cultural resources often are less tangible than an object or a site itself. For example, sometimes the importance is tied to views of or access to a sacred site. Therefore, consultation with culturally affiliated Native American tribes is key to identifying tribal cultural resources, as required by Assembly Bill 52.

CEQA requires that local agencies evaluate and mitigate to the extent feasible a project's potential impacts to tribal cultural resources. In addition, Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the Coroner must contact the California Native American Heritage Commission (NAHC) to determine appropriate treatment (as prescribed in Public Resources Code Section 5097 et seq.). Construction or excavation activity must remain stopped until lawful removal of the remains for reinternment or cremation.

Pursuant to Senate Bill 18, the County notified and consulted with local tribes throughout the General Plan update process. The policies and actions in this section reflect that consultation and commit the County to continuing a collaborative relationship through implementation of this General Plan.

### Goal COS-11

Robust tribal collaboration to preserve, restore, and enhance tribal cultural resources.



## Policies

### COS-P11.1

Respect and protect tribal cultural resources, including historic, cultural, and sacred sites; cultural landscapes; views of or access to resources; and objects with cultural value to California Native American tribes.\*

### COS-P11.2

Establish and maintain collaborative relationships with local Native American tribal representatives to facilitate tribal consultation and preservation of tribal cultural resources.\*

### COS-P11.3

Consult with culturally affiliated tribes on General Plan and Specific Plan amendments with potential to impact tribal cultural resources. If an amendment redesignates a tribal cultural resource site on private land for open space purposes, evaluate the appropriateness of developing a treatment and management plan for tribal cultural resources in the affected area.\*

### COS-P11.4

Consult with culturally affiliated tribes to identify and appropriately address tribal cultural resources through the discretionary development review process.\*

### COS-P11.5

Consult with culturally affiliated tribes to assess the sensitivity of sites and protect recorded and unrecorded tribal cultural resources.\*

### COS-P11.6

Encourage voluntary landowner efforts to protect tribal cultural resources, including voluntary relinquishment of tribal cultural resources to affiliated tribes.

### COS-P11.7

Support tribal acquisition of conservation easements on terms mutually satisfactory to the tribe and landowner for purposes of protecting tribal cultural resources.

### COS-P11.8

Encourage special districts, such as EBRPD, to consult with culturally affiliated tribes when pursuing land acquisitions for recreation or other public purposes to ensure tribal access to tribal cultural resources.

### COS-P11.9

Avoid impacts of development on Native American archaeological resources and tribal cultural resources whenever possible. When impacts cannot be avoided, mitigate to the maximum feasible extent.\*

### COS-P11.10

Consult with culturally affiliated tribes when developing mitigation measures to avoid or minimize impacts on tribal cultural resources. Mitigation could include, but is not limited to, a cultural resources treatment agreement between the developer and affected tribe(s) that addresses the treatment and disposition of cultural resources and human remains and tribal monitoring during earth-disturbing activities.\*



### COS-P11.11

Upon discovery of a burial, human remains, or suspected human remains, require immediate halt to ground-disturbing activities such as excavation and grading, protection of the area surrounding the find, notification of the County Coroner, and compliance with the provisions of California Health and Safety Code Section 7050.5, including California Public Resources Code Section 5097.98, if applicable. If human remains are determined to be Native American, require the applicant to consult with the Most Likely Descendants list to determine appropriate treatment, as prescribed in Public Resources Code Section 5097 et seq.\*

### COS-P11.12

Encourage landowners to relinquish ownership of Native American cultural artifacts found on project sites to the culturally affiliated tribe for proper treatment and disposition.

## Actions

### COS-A11.1

In consultation with local Native American tribes, prepare informational materials about living Native American culture in the region, the history of Native Americans in what is now Contra Costa County, and how the County's relationship with local Native American tribes has evolved. Make these materials easily accessible to the public, project applicants, and County staff.

### COS-A11.2

Work with local Native American tribes to establish programs and secure funding to implement actions aimed at preserving tribal cultural resources.

## SCENIC RESOURCES

With its vast open spaces, estuary system, and rolling hills, Contra Costa County encompasses an outstanding variety of scenic natural vistas, water resources, and landscapes. Many of these scenic resources, including the open spaces and Delta, are discussed in earlier sections of this Element. This section focuses on designated scenic routes and scenic ridges, which are described as follows:

- **Scenic routes** are public roadways that pass through picturesque natural landscapes. These roads tend to offer sweeping views of particularly beautiful areas or prominent features, such as valleys and mountain ranges.
- **Scenic ridges** are ridges that contribute to the scenic quality and character of a community or locale. In many areas, visually prominent ridges offer a striking and welcome contrast to the urban environment.



*Unobstructed ridgelines are an important component of the county's scenic landscape.*

Figure COS-120 shows scenic routes and ridges as designated by the County through this General Plan. The map also includes the only scenic route in the county officially designated by the State, State Route (SR) 24, as well as portions of SR 4, which are eligible for the State designation. The County designates scenic routes and ridges in order to distinguish especially significant natural features within the landscape and maintain their aesthetic quality through policy protections.

### Goal COS-12

Protected natural features with high scenic value, such as visual landmarks, major ridges, prominent hillsides, and stands of mature trees.

## Policies

### COS-P12.1

Deny applications for development that would destroy unique and irreplaceable natural features, such as distinctive rock formations.\*

### COS-P12.2

Require redesign of project components that negatively impact viewsheds or the visual quality of the area.\*

### COS-P12.3

Prohibit development within 100 vertical feet of the top of designated scenic ridges and within 50 vertical feet of other visually prominent ridgelines. Exceptions may be considered on existing legal lots where no other feasible building sites exist, and for infrastructure that requires high-elevation siting, such as wind turbines, communications towers, and water tanks. When siting buildings or infrastructure on or near ridges is unavoidable, require appropriate measures, such as screening, undergrounding, or camouflaging to mitigate visual impacts.\*







#### COS-P12.4

Preserve the scenic qualities of hillsides by encouraging designs that are sensitive to a site's topography and prohibiting unnecessary grading and vegetation removal.

#### COS-P12.5

Require restoration of natural contours and vegetation after grading and other land disturbances.\*

#### COS-P12.6

Prohibit extreme topographic modification, such as filling canyons or removing prominent hilltops. Exemptions may be considered for landfills, mining operations, and public or semi-public projects that necessitate such modifications.\*

#### COS-P12.7

Support preservation and enhancement of natural and human-made features that contribute to the scenic quality of the landscape and viewshed along designated scenic routes, and discourage projects that interfere with public views of those features.

#### COS-P12.8

Require a visual impact analysis for projects with potential to significantly impact public views along designated scenic routes.\*

#### COS-P12.9

Enable flexibility in the design of projects along scenic routes in scenic corridors and support innovative solutions to protect views and visual quality.

### Actions

#### COS-A12.1

Amend County Ordinance Code Division 814 – Slope and Hillside Development to convert the requirements from being a combining district to design and development standards related to building envelopes, building massing, colors, materials, grading, draining, and erosion control.

#### COS-A12.2

Adopt design guidelines to preserve views, vistas, and defining natural features along designated scenic routes.

### MINERAL RESOURCES

Mining in Contra Costa County dates to the 1850s, when coal fields were discovered north of Mount Diablo. Today, mining activities focus on construction aggregate (crushed rock, sand, and sandstone). Two rock quarries near Clayton and a sand quarry near Byron annually produce hundreds of thousands of tons of construction aggregate that is used for public infrastructure and private construction projects throughout Northern California. High-quality sand from Byron is also used in glass manufacturing, including bottles for California wineries. Mineral extraction in Contra Costa County therefore is an important component of the regional economy.

Conflicts between mining and urban uses throughout California led to passage of the Surface Mining and Reclamation Act of 1975 (SMARA). SMARA established policies for conservation and development of mineral lands and contains specific provisions for the classification of mineral lands by the State Geologist. SMARA requires all cities and counties to incorporate mapped designations approved by the State Mining and Geology Board (SMGB) in their general plans. These designations include lands categorized as Mineral Resource Areas (MRAs), the most significant of which contain mineral



resources of regional or statewide significance. The county contains regionally significant MRAs, which are shown in Figure COS-13<sup>4</sup>.

### Goal COS-13

Continued economic viability of mineral extraction operations while minimizing land use conflicts and environmental impacts.

## Policies

### COS-P13.1

Protect valuable mineral resources by prohibiting incompatible projects and land uses (i.e., those that would directly or indirectly interfere with extraction, processing, or transportation of mineral resources) within the MRAs identified in Figure COS-13.

### COS-P13.2

Encourage compact design and layout for mineral resource processing areas, preserving as much land as possible for buffering between these areas and adjacent land uses.

### COS-P13.3

For residential subdivisions within one mile of the MRAs depicted in Figure COS-13, require deed disclosures indicating the presence of the mineral resource and explaining potential disturbances (e.g., noise, dust, heavy truck traffic) associated with mineral extraction activities.\*

### COS-P13.4

Require applications for new or expanded quarrying operations adjacent to Mount Diablo State Park to include an analysis of potential impacts to the park's natural features, including viewsheds, and operations.\*

### COS-P13.5

Ensure that quarry reclamation plans, including bonding requirements, are maintained in compliance with SMARA.

## Actions

### COS-A13.1

Update County Ordinance Code Chapter 88-11 – Surface Mining and Reclamation, as necessary to maintain consistency with SMARA.



A horizontal number line is shown with tick marks at 0, 2.5, 5, and 10. The word "Miles" is written at the right end of the line. A green rectangular bar is drawn above the line, starting at the 2.5 mark and ending at the 5 mark.







## ENERGY RESOURCES

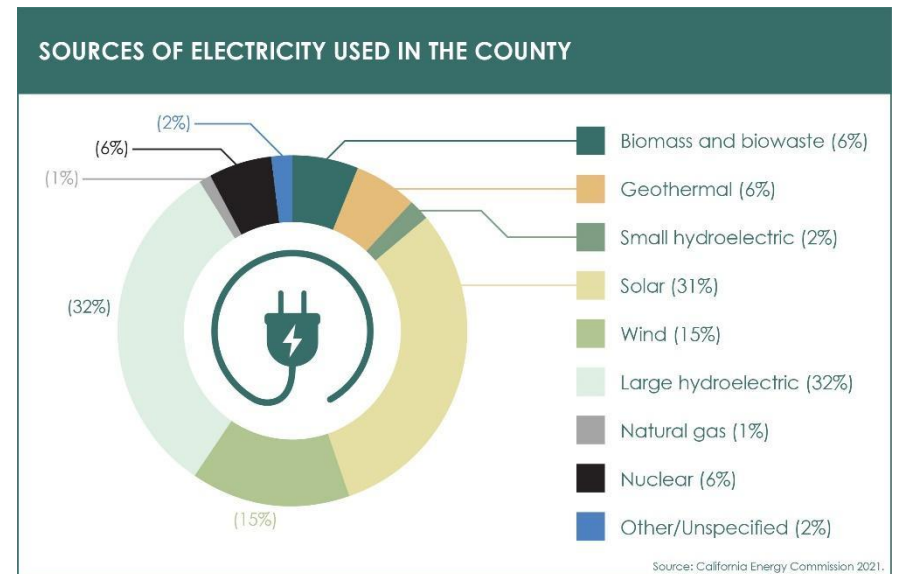
Contra Costa County has long been an energy producer. Coal mining began in the 1850s, as indicated previously. The first petroleum refinery in the Bay Area opened in Rodeo in 1896 and the county has historically been home to a small oil and natural gas production industry. However, energy production in Contra Costa County is evolving as reliance on fossil fuels decreases and the State enacts more aggressive policies to combat climate change. ~~In recent years, the State has including~~ increased support for ~~a transitioning to~~ cleaner-burning biofuels through investments in technology, infrastructure, and production. Biofuels, including biomethane, biodiesel, and gasoline and diesel fuels derived from renewable sources instead of petroleum, can reduce reliance on traditional fuel sources, improve air quality, and reduce greenhouse gas (GHG) emissions. Embracing the future. Two former petroleum refineries in the county have already begun converting their operations from refining crude oil to processing cleaner biofuels.

Today, most of the electricity generated in the county is from renewable sources, like wind and solar. The California Energy Commission designated the Altamont Pass area, including the Byron Hills portion of eastern Contra Costa County, as an area with high wind potential, as shown in Figure COS-14. In the early 1980s the private sector responded to that designation and federal and State tax incentives by moving rapidly into the wind energy business as a secondary use on agricultural land. Those first windfarms, which were inefficient and environmentally destructive, have since disappeared. Two modern windfarms with a generating capacity of 116.2 megawatts (MW) now operate in the county.

In 2017, the County received a grant from the California Strategic Growth Council to study the potential for renewable energy generation within its jurisdiction. The study estimated that 2,600 to 4,600 MW could be generated, with solar accounting for the vast majority (up to 4,410 MW, more

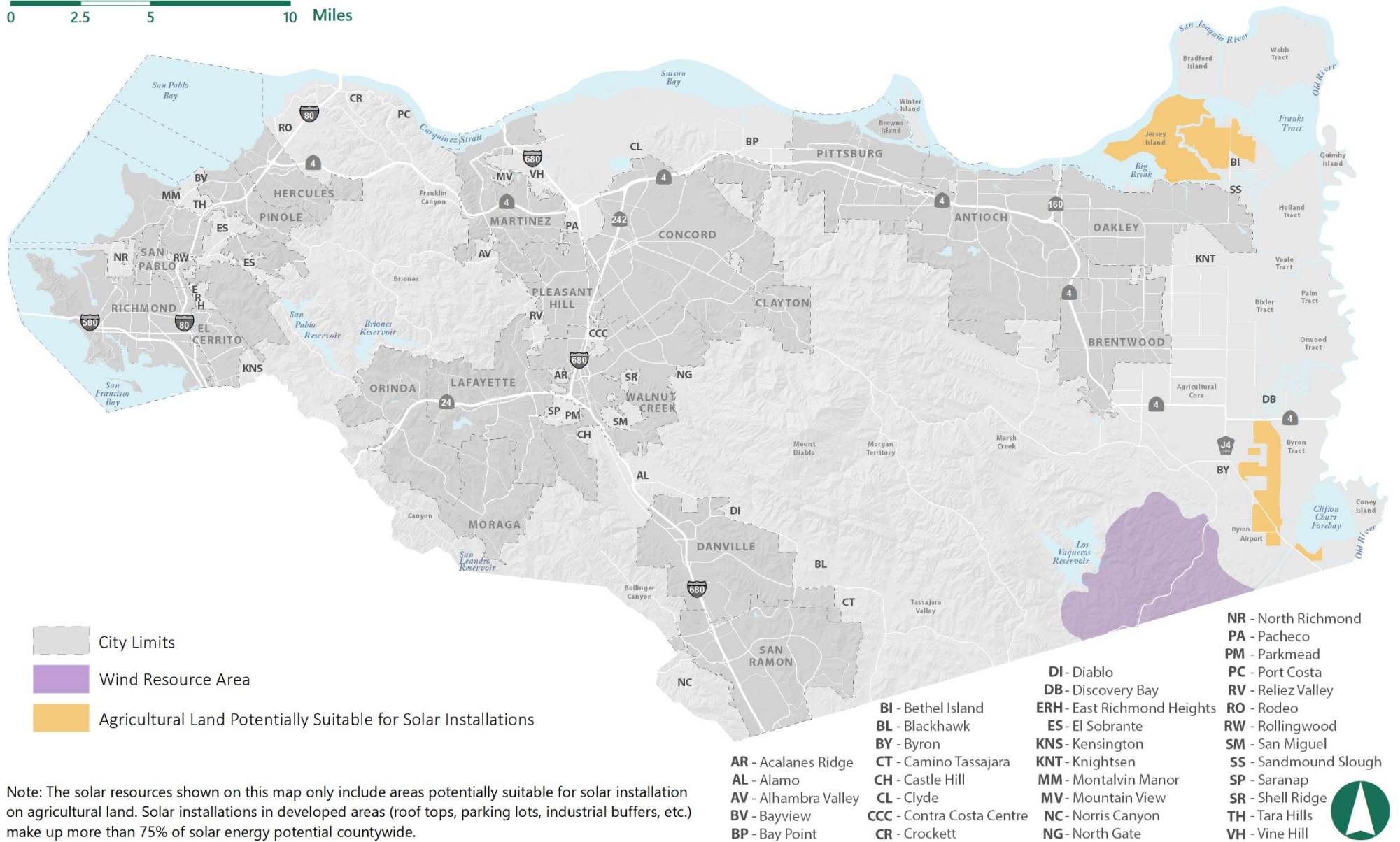
than 75 percent of which is in existing urban areas). In 2020 the County adopted its Solar Energy Facilities Ordinance and designated rural areas in East County as potentially suitable for large-scale commercial solar energy development, as shown on Figure COS-14~~2~~. The Solar Energy Facilities Ordinance regulates commercial solar energy facilities (i.e., facilities generating electricity for off-site use, usually for sale on the wholesale energy market) and provides a simplified permitting process for facilities on rooftops and parking canopies in commercial and industrial areas. The County also supports installation of solar energy systems generating electricity for on-site use through a low-cost, expedited permit process.

Pacific Gas and Electric Company (PG&E) and MCE are the primary electricity providers for Contra Costa County. Most of the electricity consumed in the county is generated from large hydroelectric, solar, and wind sources, as indicated in the following graph.



A horizontal number line is shown with tick marks at 0, 2.5, 5, and 10. The word "Miles" is written at the right end of the line. A green rectangular bar is drawn above the line, starting at the 2.5 mark and ending at the 5 mark.

A horizontal number line with tick marks at 0, 2.5, 5, and 10. The word "Miles" is at the right end. A green bar is drawn above the line, starting at 2.5 and ending at 5.



Note: The solar resources shown on this map only include areas potentially suitable for solar installation on agricultural land. Solar installations in developed areas (roof tops, parking lots, industrial buffers, etc.) make up more than 75% of solar energy potential countywide.



*Wind turbines generate power in East Contra Costa County near Byron.*

The State and Contra Costa County are moving towards reducing or eliminating natural gas use in existing and new buildings and transitioning to a clean energy economy. The County adopted an all-electric building ordinance in 2022, but enforcement was suspended following a federal court ruling in January 2024, requiring that all new residential, retail, office, and hotel buildings use electricity as the sole source of energy for space heating, water heating, cooking appliances, and clothes-drying appliances; natural gas and propane plumbing is prohibited. Later in 2024 the County will consider adopting a replacement ordinance that supports high levels of energy efficiency and low levels of GHG emissions for new construction.

The County, ~~and~~ regional utilities, and community choice energy providers also provide rebates and programs to help make homes and businesses more resource efficient through energy audits, building retrofits, and opportunities to transition to a renewable electricity provider. The County

continues to pursue opportunities for reducing overall energy use and increasing reliance on renewable sources, such as converting municipal and other wastes to energy resources (e.g., methane).

In ~~December 2015~~ October 2024 the County ~~will consider adopting~~ adopted ~~its~~ Climate Action and Adaptation Plan (CAAP), the successor to the 2015 Climate Action Plan, which The CAAP is the County's strategic approach to reducing GHG emissions from sources throughout the unincorporated area. The CAAP identifies County programs and actions to decrease energy use, improve energy efficiency, develop renewable energy, reduce vehicle miles traveled, increase multi-modal travel options, expand green infrastructure, reduce waste, and improve the efficiency of government operations. The CAAP also forecasts the County's GHG emissions and sets reduction targets and strategies. As a document that is integral to implementation of the General Plan, the CAAP ~~was updated in parallel with this~~ and General Plan must remain consistent and compatible.

## Goal COS-14

Increased generation of and reliance on renewable, sustainable, and carbon energy and reduced energy use.

## Policies

### COS-P14.1



Implement Climate Action and Adaptation Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related GHG emissions.\*

### COS-P14.2

Partner with ~~State and~~ regional ~~and State~~ agencies (e.g., California Public Utilities Commission, California Energy Commission, and ABAG/MTC) to support energy efficiency and renewable energy planning efforts.

### COS-P14.3

Support distributed electricity generation, including development of microgrids, renewable energy sources, storage capacity, and associated technologies. Encourage these throughout urban areas, and in nonurban areas when significant environmental impacts can be avoided or successfully mitigated.

### COS-P14.4

For residential subdivisions within two miles of the wind resource area depicted in Figure COS-14, require deed disclosures indicating the presence of the wind resource area and explaining potential disturbances (e.g., noise, shadow/flicker) associated with wind turbines.

### COS-P14.5

Support development of energy recovery projects (e.g., methane recovery from landfills and wastewater treatment plants).

### COS-P14.6

Support efforts to convert existing buildings to be low-carbon or carbon neutral.

### COS-P14.7

Encourage installation of battery storage systems in new and existing buildings, especially buildings with solar energy systems and buildings that provide essential community services.

### COS-P14.8

Design and construct new County facilities to be ~~zero~~ net-zero-net energy to the extent feasible.\*

### COS-P14.9

Work with energy service providers and the Bay Area Regional Energy Network to encourage property owners to participate in weatherization, education, rate incentive, and other programs and measures to improve energy efficiency in existing buildings.

### ~~COS-P9.9~~

~~Require replacement and new water heaters and space heating and cooling systems to be electric or have no nitrogen oxide emissions if the building electric panel has sufficient capacity in accordance with Bay Area Air Quality Management District Regulation 9, Rule 4, and Regulation 9, Rule 6. Provide educational and technical resources to advance the adoption of heat pump water heater and heat pump space heating in buildings in support of BAAQMD Regulation 9, Rule 4, and Regulation 9, Rule 6, which will mandate that replacement and new water heaters (2027 and 2031) and space heaters (2029) are zero NOx.~~





## Actions

### COS-A14.1



Amend County Ordinance Code Chapter 88-14 – Oil and Gas Drilling and Production to:

- (a) Prohibit new and expanded oil and gas production wells in the following:
  - i. Sensitive ecological areas, such as wetlands and habitat for rare, threatened, endangered, or special-status species.
  - ii. Areas subject to 100-year flood hazards or sea-level rise, as shown in Figures HS-2 and HS-6 through HS-9.
  - iii. Areas within 3,200 feet of sensitive receptors or urban land use designations unless project-specific exceptions are granted by the California Department of Conservation, Geologic Energy Management Division.
- (b) Restrict oil and gas drilling operations to agricultural zoning districts only.
- (c) Require a land use permit for all new and expanded oil and gas wells.
- (d) Require a reclamation plan for oil and gas well sites that includes bonding for site clean-up.
- (e) Include performance standards related to surface water and groundwater quality and quantity, air quality, odors, noise, and aesthetics.

In parallel, study the feasibility of amending the County Ordinance Code to prohibit development of new oil and

gas wells and phase out existing oil and gas well operations.

### COS-A14.2

Amend County Ordinance Code Division 88 – Special Land Uses to consolidate Chapters 88-3 and 88-30 governing wind energy conversion systems and solar energy facilities, respectively, into a new renewable energy chapter, with added provisions related to microgrids, community solar projects, and battery energy storage systems. Simultaneously review the boundaries of the Solar Energy Generation Combining District to determine whether opportunities exist for increasing solar energy generation without encroaching upon HCP/NCCP priority acquisition areas, aesthetically sensitive areas, or other lands that are inappropriate for solar energy development.

### COS-A14.3



Amend County Ordinance Code Chapter 88-3 – Wind Energy Conversion Systems to require that decommissioned wind farms be returned to a condition consistent with the natural environment in the area at the time of decommissioning, rather than a return to pre-project condition. The following issues must be specifically addressed:

- (a) Unnecessary and poorly constructed roads that are sources of erosion.
- (b) Remaining turbine foundations/footings and underground conduit.
- (c) Abandoned equipment yards, turbine components, and other debris.

#### COS-A14.4



~~Consider adopting~~ Adopt new or modified reach codes that exceed the California Building Standards Code, as the State updates the Building Code every three years, to require ~~the use of lower-carbon intensive energy sources, to achieve higher feasible levels of energy conservation and efficiency performance, and to achieve lower feasible levels of GHG emissions.~~

#### COS-A14.5



Maintain, update, and publicize County ordinances and programs enforce the County Ordinance Code Title 7 – Building Regulations amendment requiring new residential buildings, hotels, offices, and retail to be all-electric, more energy efficient, with low levels of GHG emissions.  
Evaluate the feasibility of including other building types as appropriate.

#### COS-A14.6



Create a County policy or program to facilitate making existing residential and nonresidential buildings more energy-efficient and powered by carbon-free energy.

#### COS-A14.7



Create a detailed County roadmap to convert existing homes and businesses to use low-carbon or zero-carbon-free appliances. The roadmap should include steps to support converting buildings to rely on low-carbon or zero-carbon-free energy using an equitable framework that minimizes the risk of displacement or significant disruptions to existing tenants.

#### COS-A14.8



Evaluate options for incentivizing and requiring additions and alterations to be energy efficient and to achieve the lowest feasible levels of GHG emissions, including upgrades to the building electric panel as needed.

#### COS-A14.9



Ensure County-led and supported retrofit programs incentivize and prioritize conversion of buildings built before 1980 and emphasize assistance to owners of properties that are home to very low-, low-, and moderate- income residents or located in Impacted Communities, as permitted by available funding.

#### COS-A14.10



Provide educational and technical resources to advance the adoption of heat pump water heater and heat pump space heating in buildings in support of BAAQMD Regulation 9, Rule 4, and Regulation 9, Rule 6, which will mandate that replacement and new water heaters (2027 and 2031) and space heaters (2029) are zero NOx.

#### COS-A14.10COS-A14.11



Support legislative efforts to establish a green bank able to equitably finance sustainability projects, including renewable energy, energy efficiency, and green infrastructure, for residential and commercial customers.

*See the Transportation Element for policies and actions to reduce energy consumption in the transportation sector and the Health and Safety Element for*



*policies and actions related to climate change and power line infrastructure and planned power shutoffs in relation to wildfire hazards.*

## CONSERVATION, OPEN SPACE, AND WORKING LANDS ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.

- Increased acreage of land designated Resource Conservation or Parks and Recreation.
- Increased gross value of agricultural production.
- Increased acreage of land acquired for conservation of ecological resources.
- Reduced per-capita water consumption.
- Reduced per-capita electricity and natural gas consumption.
- Increased renewable energy generation and storage.

# 8

## PUBLIC FACILITIES AND SERVICES ELEMENT

Contra Costa County is committed to providing a high quality of life for its residents. This commitment includes providing public services, infrastructure, and facilities that are accessible to and benefit all county residents, while also working with outside service providers to accomplish those same goals. Although the Public Facilities and Services Element is not explicitly required by State law, the topics addressed here are an integral part of the County's overall planning strategy and a basic consideration in setting growth and development policy.

The following nine sections are included in this Element:

- The **General Public Facilities and Services** section includes policy guidance to support coordination, financing, and equitable distribution of public facilities and services that promote the economic, social, physical, and environmental wellbeing of residents.
- The **Water and Wastewater** section includes policy guidance to provide safe, resilient, and environmentally responsible water and wastewater services to meet existing and future needs.
- The **Drainage and Flood Risk** section includes policy guidance to support effective and resilient natural drainage systems and flood-risk management infrastructure.
- The **Sheriff, Fire, and Emergency Medical Service** section includes policy guidance to provide efficient and effective public safety and emergency services, with emphasis on improvements to the physical environment that support a safe and accessible public realm.
- The **Solid Waste Management** section includes policy guidance aimed at reducing waste, providing equitable and sustainable waste management services, and reducing illegal dumping.
- The **Parks and Recreation** section includes policy guidance to develop an integrated and accessible park and trail system with a focus on improving access to parks for Impacted Communities.
- The **Schools** section includes policy guidance to support a strong and diverse education system from primary school through higher education facilities.
- The **Libraries** section includes policy guidance to expand library services to support access to information and educational opportunities for residents of all ages.
- The **Public Facilities and Services Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.

This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Environmental Justice





Economic Development



Sustainability

## GENERAL PUBLIC FACILITIES AND SERVICES

### Coordinated Facilities and Services



*The Crockett Community Services District provides bocce courts at Rithet Park.*

A complex array of County departments and districts and outside agencies serve the diverse needs of Contra Costa residents and businesses. In addition to the County and incorporated cities and towns, this includes:

- Community services districts providing police, recreation, water, wastewater, and solid waste services.

- Fire protection districts.
- Healthcare districts.
- Park and recreation districts.
- School districts and a community college district.
- Water districts, irrigation districts, and sanitary sewer districts providing water and wastewater services.
- Reclamation districts and a municipal improvement district providing flood protection and levee and drainage maintenance services.

The Contra Costa Local Agency Formation Commission (LAFCO) regulates the jurisdictional boundaries of all cities and special districts, affecting which agencies provide services to a given area. Properties inside city limits receive certain services from the incorporated city, such as law enforcement. Fire protection, parks and recreation, and various other services may be provided by the city or a special district, or a combination of both. Other countywide services, like health and human services, hazardous materials response, and criminal justice, are provided by the County. As such, the County operates at many levels, simultaneously providing mandated countywide services and local services to unincorporated areas, and coordinating with the activities of State agencies, cities, and regional and local special districts.

The County adopts a new budget annually that sets priorities and addresses operating costs. In September 2022, the Board of Supervisors adopted the Capital Facilities Master Plan, outlining a 20-year vision for transforming County facilities to improve customer service delivery and support County employees providing those services, and guiding future capital facilities budgeting and planning decisions.

Through Senate Bill (SB) 244, State law requires that general plans identify Disadvantaged Unincorporated Communities (DUCs) and evaluate and address any infrastructure or fire service deficiencies in those communities to support public health and safety. For counties, DUCs are defined as an inhabited community with 10 or more dwelling units in close proximity, or where 12 or more registered voters reside, that is located outside of a city sphere of influence and has an annual median household income that is 80 percent or less of the statewide median. The County conducted a DUC analysis in 2023 and found that parts of Rodeo, Crockett, and Bethel Island meet the DUC criteria. Policy guidance related to infrastructure and service needs in these communities is provided in the respective Community Profiles, located in the Stronger Communities Element.

### Goal PFS-1

Coordinated public facilities and services that support the economic, social, health, and environmental well-being of the county and its residents.

## Policies

### PFS-P1.1



Consider potential effects on the physical, social, cultural, and recreational needs of the surrounding community when developing new County facilities.

### PFS-P1.2



Locate new County facilities that involve regular

community access in places that are easily accessible by public transit, walking, and micromobility, to the greatest extent possible.

### PFS-P1.3

Encourage, and whenever possible require, public agencies to locate, design, construct, and operate their facilities in a manner that complements and avoids conflict with adjacent land uses.

### PFS-P1.4

Encourage, and whenever possible require, co-location and undergrounding of new utility infrastructure, such as transmission and distribution lines, fiber-optic cables, and pipelines, in existing rights-of-way to minimize visual, operational, and environmental impacts on the community.

## Actions

### PFS-A1.1

Streamline processes for special districts to establish new facilities that support their core mission and are consistent with General Plan goals and policies.

### PFS-A1.2



Update the Capital Facilities Master Plan, Capital Road Improvement and Preservation Program, Parks Capital Improvement Program, and similar plans and programs as needed to maintain consistency with this General Plan, particularly its provisions related to environmental justice.



### PFS-A1.3

Notify and request comments from utility service providers on development applications.\*

### PFS-A1.4

Upon each update to the Housing Element, perform an analysis of infrastructure needs and deficiencies in DUCs and explore funding mechanisms that could make extension of needed services and facilities feasible.\*

## Just and Equitable Facilities and Services

An uneven distribution of amenities along race and class lines reflects long legacies of racism and discrimination in how public facilities and services are provided. Environmental justice efforts seek equitable access to community investments, and SB 1000 requires that local agencies prioritize public investments in Impacted Communities, as discussed further in the Stronger Communities Element.

Figure PFS-1 shows the locations of existing community facilities countywide in relation to Impacted Communities. The policy guidance in this section seeks to combat historic discrimination by promoting equitable distribution of and access to public facilities and services, and prioritizing improvements in Impacted Communities. This includes the types of facilities shown on Figure PFS-1, as well as technological resources like broadband internet to promote success in the Information Age and equitable code enforcement to promote healthy and safe neighborhoods.

### Goal PFS-2

Public facilities, infrastructure, and services that meet the needs of, and are accessible to, residents of Impacted Communities.

## Policies

### PFS-P2.1



Ensure County facilities and services meet the needs of all users, regardless of age, ability, race, ethnicity, culture, language, gender identity, or economic status.

### PFS-P2.2



Pursuant to SB 1000, as part of the County's annual budgeting process, prioritize investments in public facilities, infrastructure, and services that benefit Impacted Communities and respond to their needs, particularly those needs identified in their Community Profiles.

### PFS-P2.3

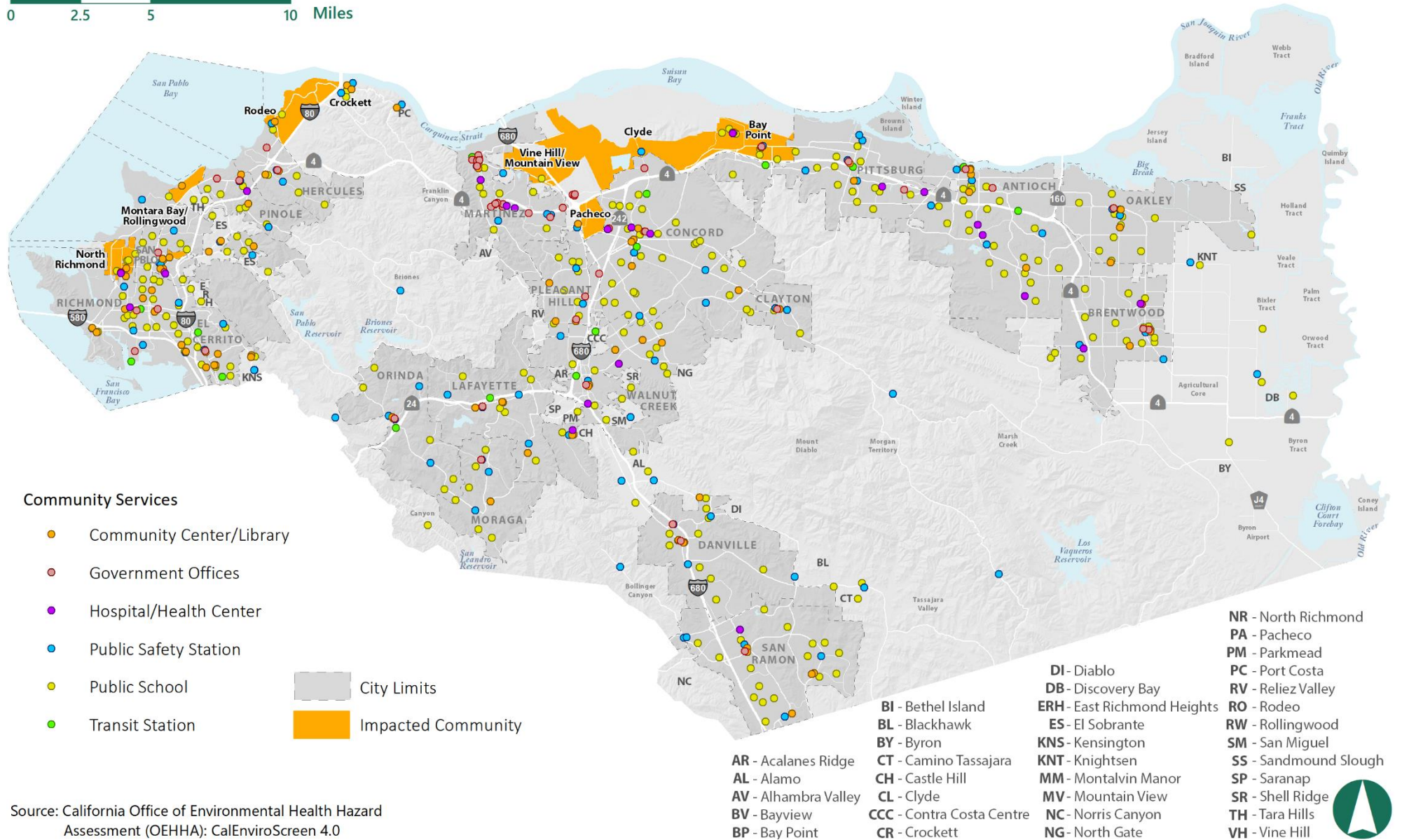


Coordinate with service providers (e.g., water, wastewater, transit, and recreation districts) and advocate for proper planning, maintenance, and implementation of services and infrastructure to ensure efficient service delivery in Impacted Communities.



FIGURE PFS-1 COMMUNITY SERVICES FOR IMPACTED COMMUNITIES

0 2.5 5 10 Miles



Source: California Office of Environmental Health Hazard Assessment (OEHHA): CalEnviroScreen 4.0





#### PFS-P2.4

Continue to provide contact information for the Code Enforcement Section of the Department of Conservation and Development (DCD) on the front page of the DCD website. Maintain clear, simple lines of communication for residents to reach the County regarding code enforcement and nuisance complaints, and ensure equitable, prompt responses.

#### PFS-P2.5



Continue to prioritize and adequately fund code enforcement and clean-up of illegal dumping on public and private property in Impacted Communities.

### Actions

#### PFS-A2.1



Establish funding and financing mechanisms in Impacted Communities to provide and maintain community-desired public facilities and services. These could be County- or community-initiated, and include business improvement districts, green benefit districts, and similar mechanisms.

#### PFS-A2.2



Establish an entity within the County tasked with ensuring that County services and facilities in Impacted Communities are coordinated, prioritized, and delivered efficiently and effectively.

#### PFS-A2.3



Implement and maintain urban greening and green infrastructure, such as sustainable/green street projects, in Impacted Communities.

#### PFS-A2.4



Regularly assess Code Enforcement responses and Public Works maintenance practices to ensure equitable implementation. Prioritize resources to keep Impacted Communities safe and clean, emphasizing enforcement actions on issues identified in Community Profiles.

#### PFS-A2.5

Work with the Contra Costa Crisis Center to provide Code Enforcement contact information through the 211 Contra Costa information service.

#### PFS-A2.6



Pursue public-private partnerships that will improve access to reliable, fast, and affordable internet and make digital resources available in Impacted Communities at affordable prices.

### Funding Services and Infrastructure

Financing capital improvements and public services within Contra Costa County is complex, given the large number of agencies involved. As urban growth continues throughout the county, demands for public services and infrastructure will increase, which can place higher fiscal burdens on service providers. Meanwhile, many service providers lack adequate funding for ongoing maintenance and eventual replacement of existing infrastructure,

much of which was constructed in the decades immediately following World War II.

Special financing mechanisms may be required to support major new development. These could include County Service Areas, community facilities districts, or other benefit assessment districts that fund services through a special tax on properties within the service area. New development is also subject to the County's impact fee programs, which apply fees to development projects proportionate to the cost of providing public facilities and services to the development.



*Streetscape improvements like this project along Fred Jackson Way in North Richmond are provided by the County's Public Works Department.*

### Goal PFS-3

Adequate, fair, and cost-effective funding for public facilities, infrastructure, and services.

## Policies

### PFS-P3.1

Coordinate with LAFCO, infrastructure and service providers, and cities to ensure infrastructure and services are reliable and provided in a cost-effective and equitable manner.\*

### PFS-P3.2

Require new development to pay its fair share of public improvement costs for infrastructure, facilities, maintenance, and services based on the proportionate cost of serving the project.\*

### PFS-P3.3

When new development cannot adequately be served by existing infrastructure and facilities or through the County's impact fee programs, require a public facilities financing plan that identifies the necessary public improvements and establishes an equitable plan to pay for and develop the required improvements.\*

### PFS-P3.4



When communities request levels of County services that exceed the countywide standard, require creation of (or annexation into) a County Service Area, community



facilities district, or equivalent mechanism to fund the supplemental service costs. Allow exceptions for enhanced services in Impacted Communities if alternative funding sources can be identified.\*

### PFS-P3.5

When new development needs ongoing infrastructure maintenance that exceeds County standards or existing funding levels, require creation of or annexation to a County service area, community facilities district, benefit assessment district, or other special funding unit to pay for those maintenance activities.\*

### PFS-P3.6



When adopting, amending, and imposing impact fees, community benefits agreements, and developer exactions, consider the effects of such fees and exactions upon individual project economics, housing supply, economic development, and the County's broad goals and objectives related to overall community development. If gap funding can be identified, consider fee reductions or exemptions for projects in Impacted Communities that are consistent with the community objectives identified in their Community Profile.

## Actions

### PFS-A3.1

Implement an equitable and standardized approach to property tax sharing with cities during the annexation process.

### PFS-A3.2

Regularly update development impact fees to ensure new

development pays its fair share of infrastructure and service costs.\*

## WATER AND WASTEWATER

Water service consists of transmission of raw water from its source to a treatment facility, treatment, and then distribution through a network of pressurized pipes. Water service in unincorporated urban parts of Contra Costa County is provided by special districts and some cities, as shown in Figure PFS-2. The major water service providers in the unincorporated county are East Bay Municipal Utility District (EBMUD) and Contra Costa Water District (CCWD).

- **EBMUD** provides treated water to approximately 1.4 million ~~customers~~people in western Contra Costa County and portions of Central County. EBMUD brings water from the Mokelumne River watershed in the Sierra Nevada through three 81-mile aqueducts to the East Bay. Water is stored in a network of reservoirs, including Briones, Lafayette, San Pablo, and San Leandro in Contra Costa and Alameda Counties prior to treatment.
- **CCWD** provides treated and untreated water to approximately 500,000 ~~customers~~people in the urbanized parts of central and northeastern Contra Costa County ~~that are not serviced by EBMUD, as well as some eastern parts of the county.~~ Customers include municipalities, industrial facilities, businesses, and residences. CCWD's water is sourced from the Sacramento-San Joaquin Delta via the 48-mile Contra Costa Canal. CCWD also stores water at Los Vaqueros Reservoir in East County, southwest of Byron, before it is delivered via the Contra Costa Canal.

Properties outside of a water service district rely on individual groundwater wells or private water systems. East Contra Costa Irrigation District and



Byron-Bethany Irrigation District also make additional raw water available to properties in East County.

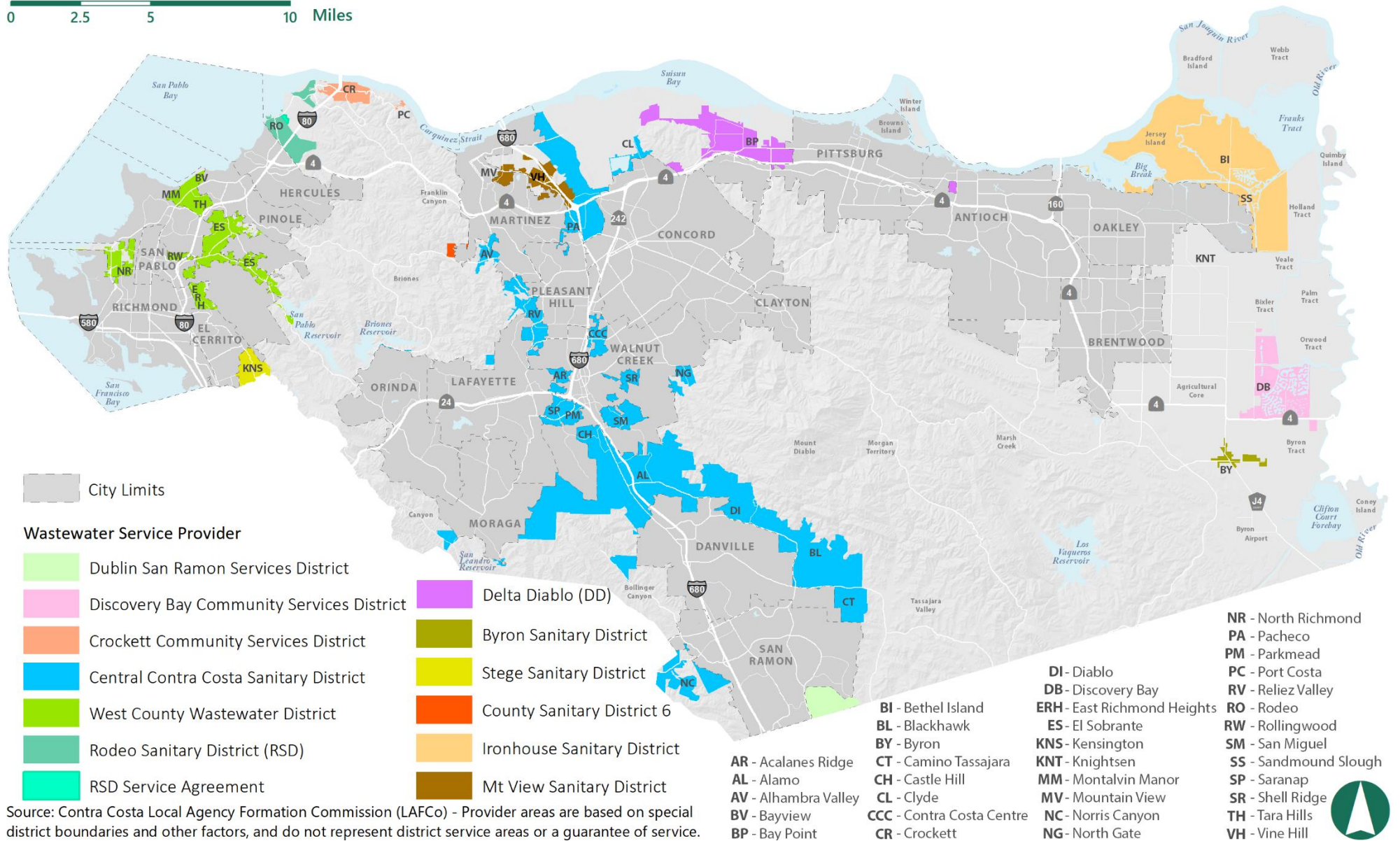
Wastewater service consists of transmission of wastewater to a treatment facility, treatment, and then disposal of the wastewater and residual waste solids. As shown in Figure PFS-3, many special districts are responsible for wastewater service in unincorporated Contra Costa County. The largest wastewater service providers include Central Contra Costa Sanitary District





FIGURE PFS-3 WASTEWATER SERVICE DISTRICTS PROVIDERS

0 2.5 5 10 Miles







(CCCSD), which serves most of Central County, and the West Contra Costa Sanitary District (WCCSD), which serves much of West County. Rural areas outside district boundaries rely on on-site wastewater treatment systems to treat sewage.

### Goal PFS-4

Water and wastewater services that meet current and future needs in a safe, resilient, and environmentally responsible manner.

## Policies

### PFS-P4.1



Support the goal of regional self-sufficiency as part of new water system planning efforts, where all regions in the state are required to implement a variety of local water supply options and institute conservation and reuse programs to reduce reliance on exports from the Delta.

### PFS-P4.2



Encourage water service providers to require separate service connections and meters for recycled water use or where large quantities of water are used for special purposes, such as landscape irrigation.

### PFS-P4.3

Support the State Water Resources Control Board's efforts to eliminate small public water systems in new

development. Allow such systems only for projects that cannot feasibly be connected to a public water system.\*

### PFS-P4.4



Partner with water service providers to ensure continuity of service and provide financial relief to Impacted Communities if prices rise during drought conditions.

### PFS-P4.5



Require new development to demonstrate the availability of a safe, sanitary, and environmentally sound water delivery system with adequate capacity.\*

### PFS-P4.6



Require new development to demonstrate the availability of a safe, sanitary, and environmentally sound wastewater treatment system with adequate capacity.\*

### PFS-P4.7

Support CCWD's planned Phase 2 Expansion of Los Vaqueros Reservoir.


### PFS-P4.8

#### NEW POLICY

Partner with water service providers to protect water conveyance infrastructure, such as aqueducts and canals, from encroachment and pollution.

### PFS-P4.9

#### NEW POLICY



Deny applications to establish private wastewater treatment facilities within the Delta Primary Zone that would serve areas outside the Primary Zone.

## **Actions**

### **PFS-A4.1**

#### NEW ACTION

Establish a standing drought and water shortage task force to facilitate drought and water shortage preparedness for State small water systems and domestic wells within the County's jurisdiction.

### **PFS-A4.2**

#### NEW ACTION

Develop a plan to address potential drought and water shortage risk, including interim and long-term solutions for State small water systems and domestic wells.

*See the Conservation, Open Space, and Working Lands Element for policies and actions related to water quality, conservation, and management.*

## **DRAINAGE AND FLOOD RISK**

Unlike engineered domestic water and sanitary sewer systems, the pattern of stormwater drainage is determined by water's natural tendency to flow downhill. Consequently, much of the drainage system serving the county consists of natural drainage swales, ditches, and watercourses. Water ultimately drains into San Francisco and San Pablo Bays, or the Delta.

Flood control infrastructure includes levees, drainage channels, and other structures designed to prevent creeks, the Delta, and other water bodies throughout Contra Costa County from overflowing their banks and causing

floods. Conventional flood control infrastructure often incorporates concrete and riprap lined channels, detention basins, and other highly engineered solutions. Increasingly, communities and agencies are transitioning to “green infrastructure,” which focuses on using natural drainage swales, permeable pavement, and rain gardens to filter and absorb stormwater.

The Contra Costa County Flood Control and Water Conservation District (CCCFCWCD), which is a dependent special district governed by the County Board of Supervisors, is responsible for regional flood control projects. Incorporated cities and the CCCFCWCD have developed regional drainage plans in many areas to guide developers in implementing new drainage systems as part of development projects, and to provide the basis for local and federal flood control projects. On-site drainage infrastructure is provided and/or improved by developers as part of the land development process.

Levees are especially important components of the county's flood control infrastructure. Figure PFS-4 depicts Contra Costa's levee system, most of which is owned and operated by public agencies such as reclamation districts. Similar to dams, levees hold back water and protect lower-lying areas from inundation. In Contra Costa County, many of these areas are at or below sea level. Levees protect critical infrastructure, including EBMUD's water aqueducts, intake and conveyance facilities, highways, railroads, natural gas pipelines and storage facilities, fields, and electrical transmission lines, and more as well as thousands of acres of private property. ~~Many levees in the Delta region are unstable; they were constructed over 100 years ago on land that is settling due to subsidence and were not built to provide long-term protection. Since 1980, 27 Delta islands have been partially or completely flooded due to levee failure.~~

Strengthening Delta levees is vitally important to safeguarding the lives and livelihoods of county residents and are equally important components of the county's flood control infrastructure. In addition to protecting property from





flooding. Delta levees form the backbone of the regional road system, ensure the continued existence of Delta towns and communities, and protect habitat for wildlife, including threatened and endangered species. They form a network of channels that entice boaters to explore the Delta and support a longstanding tradition of hunting and fishing. They also carry fresh water to the pumps that supply water to the farmers of the San Joaquin Valley and residents of the Bay Area and Southern California. Local levee-maintaining agencies have managed the financing and ongoing maintenance, rehabilitation, and repair of Delta levees, and have improved levee integrity, reducing overall Delta flood risk. Much remains to be accomplished, however, as sea level rise, increased storm frequency and intensity, and higher flows from greater rainfall and less snowfall as a result of climate change will continue to threaten levee stability and effectiveness.

The California Department of Water Resources (DWR) implements the Central Valley Flood Protection Plan (CVFPP) to improve flood risk management in the Central Valley and the Delta. The CVFPP seeks to integrate and improve ecosystem functions concurrently with flood management investments and projects. It also calls for local agencies to protect urban communities (defined as communities with at least 10,000 residents) in the Central Valley from a 200-year flood, which is a flood that has a 0.5-percent probability (1 in 200) of occurring in any year. In unincorporated Contra Costa County, only Discovery Bay meets the criteria for 200-year flood protection.



*The capacity of Grayson Creek in Pacheco has been increased to protect against flooding.*

#### **Goal PFS-5**

Natural systems and flood-risk management infrastructure that can handle stormwater year-round and adapt to new and changing conditions.

0 2.5 5 10 Miles





## Policies

### PFS-P5.1

Support public and private efforts to improve protection against flooding, subsidence, and inundation, especially projects that achieve 200-year flood protection or better, factoring in anticipated sea-level rise, in areas of the county covered by the CVFPP.

### PFS-P5.2

Partner with responsible parties, public and private, to ensure ongoing funding exists for maintenance and rehabilitation of flood management facilities and structures (e.g., levees, pump stations, canals, channels, and dams), particularly those that do not meet adopted State or federal flood-protection standards.\*

### PFS-P5.3

Allow for future height increases to private levees protecting inland areas from tidal flooding and sea-level rise by requiring rights-of-way and setbacks to be sufficiently wide on the levee's upland side and prohibiting new structures from being constructed on top of or immediately adjacent to the levee.

### PFS-P5.4

#### NEW POLICY

Evaluate projects involving water impoundment or conveyance to ensure they will not create a risk of seepage onto adjacent properties. Such projects must conclusively demonstrate that unacceptable seepage will not occur.

### ~~PFS-P5.4~~ PFS-P5.5

Support material stockpiling and equipment staging for emergency levee repair, ~~especially in the western of~~ Delta levees by:-

- (a) Consulting with reclamation districts to identify storage sites within the Delta Primary Zone.
- (b) Denying entitlements to convert identified storage sites to uses that would preclude storage unless the affected reclamation district(s) identify suitable alternative sites or determine sites to be converted are no longer needed.
- ~~(a)~~(c) Denying entitlements for mining/extraction uses that would remove from the Primary Zone those materials deemed essential for levee repair.

### ~~PFS-P5.5~~ PFS-P5.6

~~Encourage~~ Whenever possible, require new development projects with potential to significantly impact natural watercourses to establish or participate in programs that ensure ongoing maintenance of ~~natural~~ the watercourses to maintain their flood carrying capacity and habitat values.

### ~~PFS-P5.6~~ PFS-P5.7



When developing new or revised regional drainage and flood management plans, including plans to protect against sea-level rise, incorporate adequate setbacks and alternative drainage system improvements that provide aesthetic, recreational, and environmental benefits. Improvements should avoid structural modifications to watercourses and preserve riparian habitat and floodplains, and convert engineered drainage systems to more natural systems, when and where possible. In areas at risk of temporary or permanent inundation from sea-

level rise, ensure that improvements can continue to provide adequate protection for the projected level of inundation by 2100 or the expected operational life of the project, whichever is later.\*

#### **PFS-P5.7PFS-P5.8**



Incorporate green infrastructure into new and retrofitted flood-control and streetscaping projects, including replacing existing asphalt and other hardscapes with green infrastructure, as feasible.\*

#### **PFS-P5.8PFS-P5.9**



Encourage Work with developers of properties along transit corridors and/or in commercial or mixed-use areas to combine their private required C.3/stormwater treatment facilities with green infrastructure on the adjoining street frontage public right-of-way to enhance the value and sizing of these facilities.

#### **PFS-P5.9PFS-P5.10**

Encourage public participation in design processes for major flood control and sea-level-rise resiliency projects to ensure that these facilities are context-sensitive and provide multiple public benefits whenever possible.

## **Actions**

#### **PFS-A5.1**

Identify existing developed areas where drainage maintenance issues exist and coordinate with each affected community to consider creating a benefit assessment district or similar local funding mechanism to pay for improvement and maintenance needs.\*

#### **PFS-A5.2**



Coordinate with responsible parties, public and private, to develop a flood risk management plan for the levee systems protecting the unincorporated county that:

- (a) Identifies the entities responsible for operation and maintenance of the levees.
- (b) Determines the anticipated flood levels in the adjacent waterways and the level of protection offered by the existing levees along the waterways.
- (c) Establishes a long-term plan to upgrade the system as necessary to provide at least a 100-year level of flood protection, and 200-year level of flood protection where required.
- (d) Considers the worst-case situations of high tides coupled with sea-level rise and storm-driven waves.
- (e) Protects beneficial uses of San Francisco Bay and the Delta and their water.
- (f) Prioritizes designs that foster riparian habitat while containing floodwaters, such as by using more natural materials, landforms, and vegetation, rather than concrete channels and other conventional flood-control infrastructure.
- (g) Encourages multipurpose flood-management projects that, where feasible, incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of waterways.
- (h) Takes a holistic approach to flood-risk management so that new infrastructure does not simply transfer flooding impacts from one property or location to another.



- (i) Considers flood and tidal impacts to existing brownfields, especially adjacent to shorelines.
- (j) Includes provisions for updates to reflect future State- or federally mandated levels of flood protection.

### PFS-A5.3



Develop watershed management plans incorporating best management practices that slow, spread, and sink water runoff to flatten the hydrograph (i.e., water flow over time) where erosion is a concern, while also enhancing wildlife habitat and recreation opportunities where feasible.\*

### PFS-A5.4



Establish programs for development projects alongside natural watercourses that ensure regular maintenance of the waterway, including debris removal, erosion control, and conservation and restoration of native species.\*

### PFS-A5.5



Coordinate with the Contra Costa County Mosquito and Vector Control District to identify and remedy areas with ongoing drainage problems to reduce disease risk from stagnant water.

*See the Health and Safety Element for policies and actions related to flood hazards and sea-level rise and the Parks and Recreation section later in this Element for policies and actions related to secondary recreational uses of flood-control infrastructure.*

## SHERIFF, FIRE, AND EMERGENCY MEDICAL SERVICE

Law enforcement services in Contra Costa County are provided by several agencies at various levels of government. In the unincorporated county, community policing is provided primarily by the Contra Costa County Sheriff's Office, with special districts like the Kensington Police Protection and Community Services District providing service in certain areas.

Beyond police services, careful design of the built environment can also help prevent crime and increase the sense of safety. Research has shown that the *certainty* of being caught is a highly effective deterrent to criminal activity. Design elements that enhance visibility of public spaces, such as adequate lighting and windows and porches that encourage residents to have “eyes on the street,” can create safer environments. The policy guidance in this section emphasizes improvements to the physical environment that support an accessible and visible public realm. Additional policy guidance in the Stronger Communities Element addresses engagement with Impacted Communities to ensure the designs for public realm improvements allow residents and visitors to feel safe and welcomed.

Fire protection services in ~~unincorporated~~ Contra Costa County are provided by six fire protection districts ~~and one~~ three city fire departments that adequately cover the entire county except for Jersey Island, Bradford Island, Quimby Island, Webb Tract, and the Marathon Refinery near Martinez, as shown in Figure PFS-5. All fire protection agencies within the county have signed mutual-aid agreements to provide assistance to neighboring agencies. The firefighting capabilities of these agencies are further augmented by personnel and equipment from the California Department of Forestry and Fire Protection.

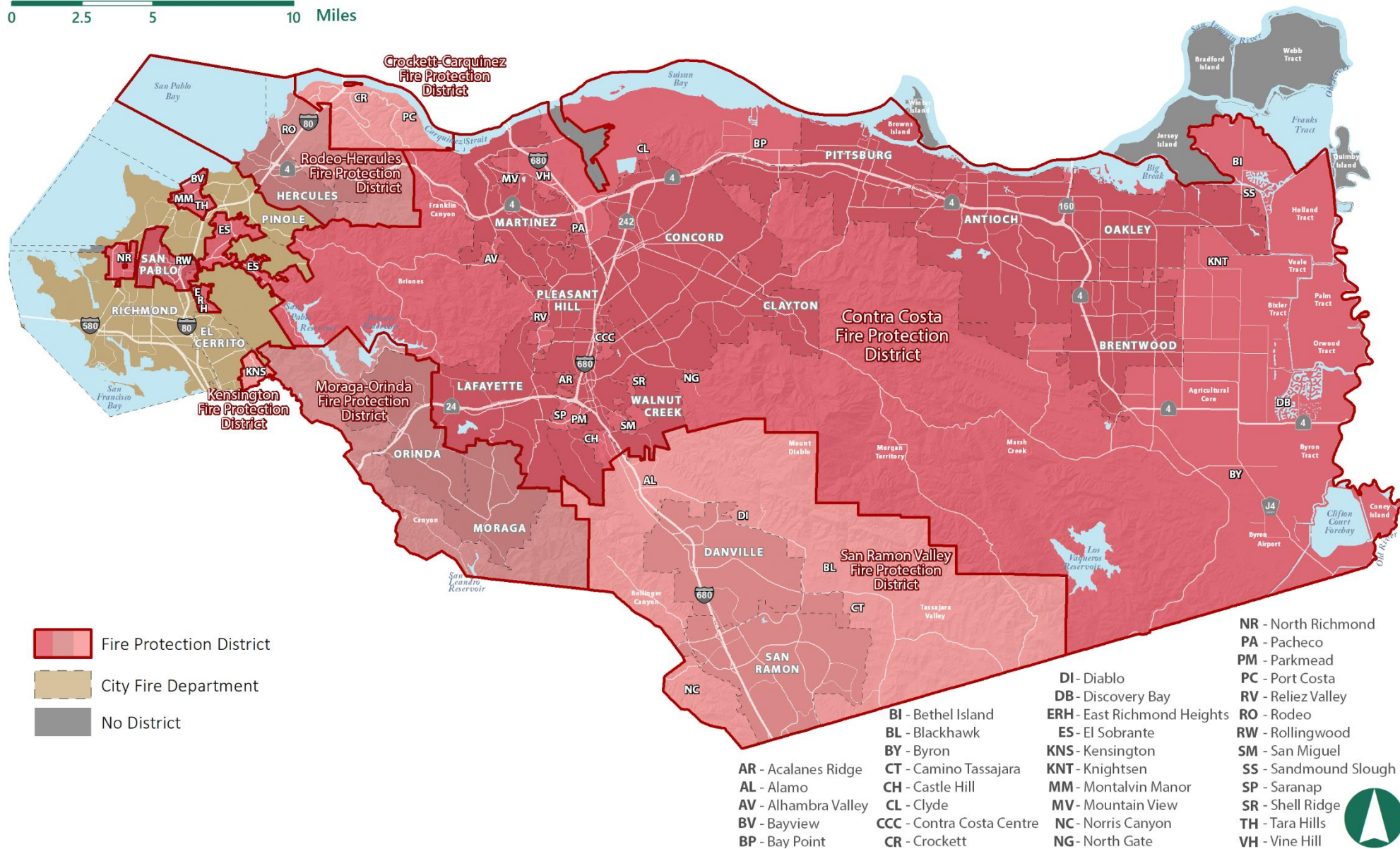



The Contra Costa Fire Protection District operates ~~this~~ Station 19 in rural Briones Valley.



FIGURE PFS-5 FIRE PROTECTION DISTRICTS

0 2.5 5 10 Miles





Contra Costa County Health Services contracts with the Contra Costa Fire Protection District, Moraga-Orinda Fire Protection District, San Ramon Valley Fire Protection District, and American Medical Response to provide emergency ambulance service. Emergency response calls for the unincorporated county are fielded by the Office of the Sheriff's Communications Center.

Public safety response time standards provide a means to ensure that the community will remain safe as the county develops. The County strives to achieve the following public safety standards:

- **Sheriff Response Times:** Average law enforcement response time of five minutes or less for Priority 1 calls (where a threat to people may exist).
- **Fire Response Times:**
  - Four minutes or less response time for the arrival of the first engine company at a fire suppression incident, 90 percent of the time.
  - Six minutes or less response time for the arrival of the second engine company at a fire suppression incident, 90 percent of the time.
  - Eight minutes or less response time for an initial full alarm assignment at a fire suppression incident that does not involve a high-rise building, 90 percent of the time.
  - Ten minutes and 10 seconds or less response time for an initial full alarm assignment at a fire suppression incident that involves a high-rise building, 90 percent of the time.
- **Emergency Medical Services Response Times:**
  - Four minutes or less response time for the arrival of a unit with a first responder, 90 percent of the time.

- Eight minutes or less response time for the arrival of an advanced life support company, 90 percent of the time.

### Goal PFS-6

Efficient and effective law enforcement, fire, and emergency medical services for all communities.

## Policies

### PFS-P6.1

Require new development to support effective law enforcement and fire protection by providing a safe and accessible public realm for all.

### PFS-P6.2

Design, improve, and maintain public spaces to maximize visibility and safety through appropriate lighting and landscaping.

### PFS-P6.3

During the discretionary review process for projects with potential to increase demand on fire protection services, consult with the applicable fire district to identify any upgrades to fire protection facilities, infrastructure, and equipment needed to reduce fire risk and improve emergency response.\*





## **PFS-P6.4**

Encourage multi-jurisdictional and mutual-aid disaster response training between all agencies providing emergency services within the county.

## **Actions**

### **PFS-A6.1**

Engage community members, law enforcement, and local leaders, and amend the County Ordinance Code to incorporate standards for new development that support a safe, accessible public realm for all through environmental design.\*

*See the Health and Safety Element for policies and actions related to wildfire hazards and emergency response and the Transportation Element for policies and actions related to safe streets.*

## **SOLID WASTE MANAGEMENT**

In Contra Costa County, the private sector is mainly responsible for solid waste collection and disposal, and the County is responsible for planning, administration, and facility approval. The County, Joint Powers Authorities (JPAs), and certain special districts enter into franchise agreements with private waste haulers to provide collection services. The County oversees solid waste management for about half of the unincorporated population, which is currently serviced by four different franchise agreements. Disposal facilities, which are shown in Figure PFS-6, are privately owned. Given the many entities involved, public and private, effective solid waste management requires significant coordination.

Reducing waste in the first place, along with repairing or reusing items and materials, are important strategies for overall sustainability. The California

Integrated Waste Management Act (CIWMA) requires cities and counties to adopt and implement waste diversion programs for source reduction, recycling, and composting, and requires that each county adopt a Countywide Integrated Waste Management Plan (CoIWMP); the County's CoIWMP was adopted in May 1993. In addition to the CIWMA, the State continues to enact laws addressing solid waste and recycling. The County reports to the State annually regarding compliance with existing laws, including diversion goals and waste reduction measures.

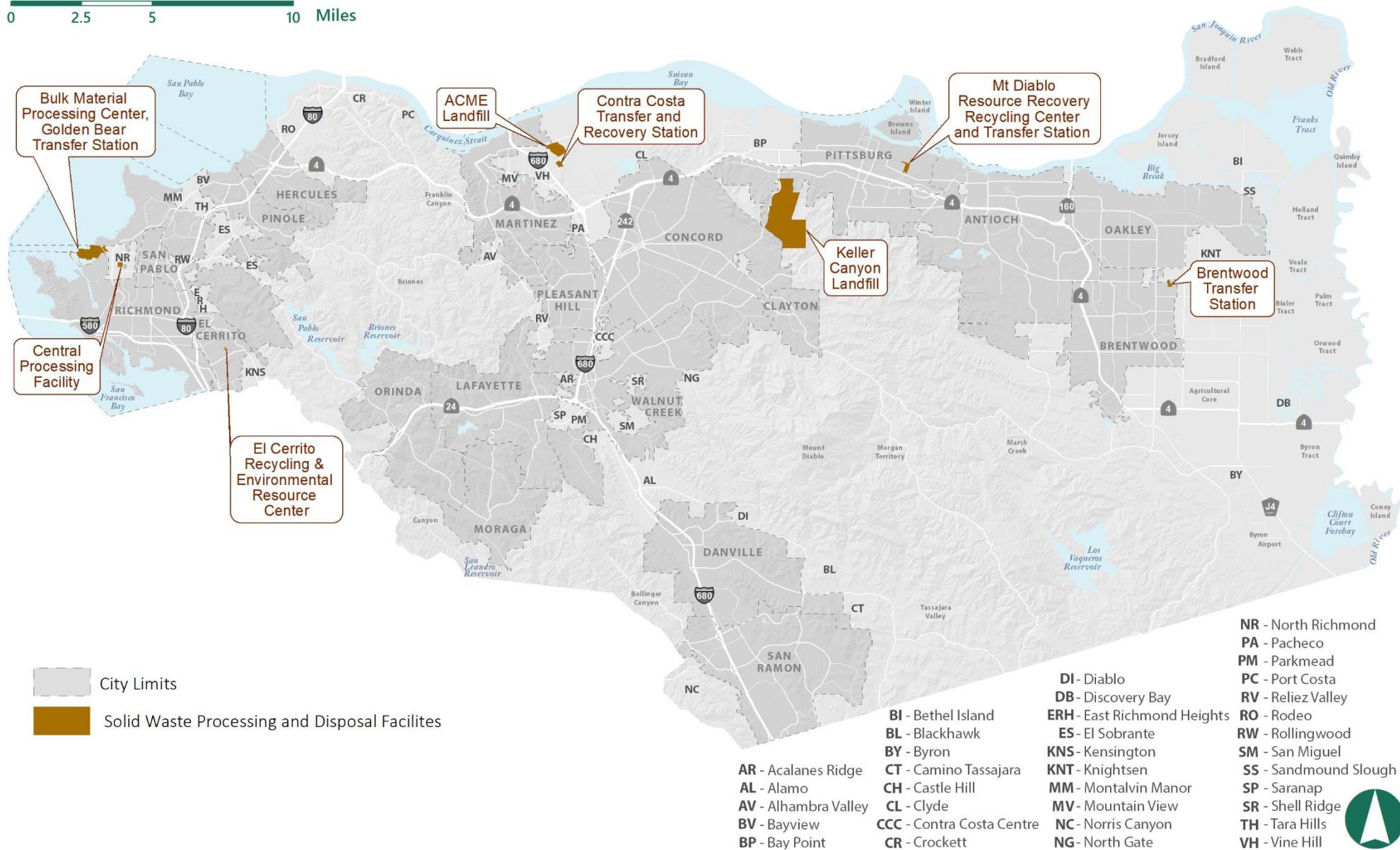
Waste that is not diverted is deposited into landfills, where it breaks down slowly and emits methane, a potent greenhouse gas (GHG), contributing to climate change. Methane emissions from landfills are a major source of the GHG emissions generated in the county. Landfill operators already capture a large proportion of this methane, which can be used to generate energy or converted to a liquid fuel that can be used to power vehicles and other equipment. There are opportunities for landfill operators to expand the methane collection infrastructure at the county's landfills, capturing more methane and reducing the county's GHG emissions.

Illegal dumping is a large-scale pervasive problem in Contra Costa County and a high-priority issue because of its immediate and long-term adverse effects on health and safety, community assets, community pride, economic development, and natural habitats. Illegal dumping hot spots are widespread throughout the county, occurring on rural roads and agricultural land, in suburban neighborhoods, and in urban environments affecting many communities regardless of socio-economic status. However, Impacted Communities are disproportionately affected by illegal dumping. In 2018, the County formed an interdepartmental team and began implementing strategies to combat illegal dumping as part of the Contra Costa County Illegal Dumping Initiative. Strategies are grouped into four categories: educate, prevent, clean up, and enforce; they include a public outreach campaign to educate residents about dumping, street signs placed near dumping zones with information on how to report dumping activity, removal



of abandoned recreation vehicles, and dedicated law enforcement to investigate dumping crimes.

### FIGURE PFS-6 SOLID WASTE PROCESSING AND DISPOSAL FACILITIES





*Illegal dumping in Bay Point harms community character, health, economy, and natural resources.*

## Goal PFS-7

Safe, efficient, and environmentally responsible solid waste diversion and reduction practices and management.

## Policies

### PFS-P7.1

Coordinate with private solid waste collection and disposal companies, cities, and other appropriate agencies to plan solid waste management facilities that are safe, effective, and efficient.\*

### PFS-P7.2

Coordinate with other jurisdictions to ensure that solid waste management, including solid waste resource recovery (e.g., reduce, reuse, recycle, compost, and waste-to-energy), is carried out in accordance with the ColWMP and meets strict environmental standards.\*

### PFS-P7.3

Strive to provide equivalent solid waste collection services and rates across each unincorporated community under County franchise control.

### PFS-P7.4

Ensure that new development complies with the requirements of the ColWMP.\*

### PFS-P7.5

Require new residential and commercial uses to provide adequate space for trash, recycling, and organics collection, as well as edible food recovery when applicable.\*

### PFS-P7.6



Encourage new technologies for organics processing consistent with SB 1383, the Short-Lived Climate Pollutants Reduction Strategy of 2016.

### PFS-P7.7



Support expansion of recycling programs and efforts to locate convenient, accessible recycling centers in Impacted Communities.





#### PFS-P7.8



Consistently use a multiprong approach (i.e., educate, prevent, clean up, enforce) to combat illegal dumping.

#### PFS-P7.9



Prohibit new landfills in ecologically sensitive areas, and require that new landfills be located, designed, and operated to avoid adverse impacts to surrounding land uses, including by limiting the area of landfill activities; limiting hours of operation; providing safe and appropriate transportation routes; maintaining site security; identifying associated off-site feeder transfer stations; grading to blend the landfill disturbance area with surrounding topography; covering refuse daily; and mitigating noise, odor, litter, and visual impacts.\*

#### PFS-P7.10



Require that new landfills provide the following:

- (a) An appropriate leachate collection and recovery system.
- (b) An approved erosion-control and drainage plan.
- (c) Geotechnical studies, including stability analysis, to determine the most appropriate engineering design.
- (d) A habitat enhancement plan that provides for at least a 3:1 replacement for lost significant habitat.\*

#### PFS-P7.11



Require new landfills to be designed and operated so that upon decommissioning they can be repurposed for other

uses, such as renewable energy facilities, recycling and organics recovery operations, outdoor recreation facilities, and open space.

#### PFS-P7.12



Require that new and expanded landfill operations significantly reduce GHG emissions to meet or exceed State targets to the extent feasible, and work toward carbon-neutral landfills.

#### PFS-P7.13



Extend the life of landfills by continually striving to:

- (a) Reduce the amount of solid waste generated.
- (b) Reuse and recycle as much solid waste as possible.
- (c) Utilize the energy and nutrient value of solid waste (i.e., waste-to-energy and composting).
- (d) Properly dispose of remaining solid waste.\*

#### PFS-P7.14

Discourage direct public access to landfills and instead direct the public to transfer stations. Base the need for new or expanded transfer stations on economics, the need to mitigate traffic impacts, and the need to inspect refuse for hazardous materials and recyclables.

#### PFS-P7.15



Ensure transfer stations provide adequate capacity to accommodate recovery of recyclables and organic materials and encourage organics processing.\*

## PFS-P7.16

Include a condition of approval in land use permits for solid waste facilities requiring review for compliance with permit conditions every three to five years.\*

## Actions

### PFS-A7.1

Study the potential benefits of combining the County's solid waste collection franchise agreements, or adjusting the boundaries of franchise service areas, to improve efficiency and consistency.

### PFS-A7.2



Streamline the permitting process for composting, organics processing, and repair/reuse facilities.

### PFS-A7.3



Partner with community organizations and solid waste franchise collection haulers to maximize participation in community clean-up days and residential on-call garbage pick-ups in Impacted Communities. Encourage community participation by holding these events in conjunction with other community events whenever possible.

### PFS-A7.4



Work with other counties, cities, and community members to establish public/private partnerships to combat illegal dumping.

### PFS-A7.5



Install signage and increase education, monitoring, enforcement, and rapid cleanup to discourage illegal dumping, especially in Impacted Communities and rural areas.

### PFS-A7.6



Use the County's legislative platform process and partner with other public agencies throughout the state to propose and support legislation to combat illegal dumping.

## PARKS AND RECREATION

Contra Costa County is an outdoor enthusiast's delight. Whether it is a peaceful nature walk through Carquinez Strait Regional Shoreline, an exciting hike around historic Black Diamond Mines Regional Preserve, fishing at a local nearby reservoir, or a fun day out with family and friends at a neighborhood local park, the county offers something for residents of all ages and abilities. In this region, one can explore the beautiful landscapes, appreciate breathtaking views, enjoy outdoor activities, and learn about the local flora and fauna. This wide variety of activities encourages physical activity, learning, and socialization, while also providing opportunities for people to connect with nature and enjoy the outdoors. Quality parks and recreational opportunities can also contribute to economic development by attracting visitors and promoting tourism. Overall, parks and recreation are essential to creating healthy, vibrant communities where individuals and families thrive.



*The Carquinez Strait Regional Shoreline provides trail recreation opportunities for residents and visitors. (Community-submitted photo)*

Most county residents are fortunate to have access to a variety of parks and trails in unincorporated areas, as shown on Figures PFS-7 and PFS-8:

- **State and regional parks** provide a broad range of recreational opportunities, such as hiking, bicycling, horseback riding, fishing, swimming, camping, group sports, and ecological and cultural education. This category includes Mount Diablo State Park and Marsh Creek State Historic Park, which are owned and managed by the California Department of Parks and Recreation, as well as many regional parks owned and managed by the East Bay Regional Park District (EBRPD). In addition, EBMUD and CCWD offer recreational opportunities, such as hiking and fishing, as secondary uses within the watersheds of their reservoirs. The US National Park Service also operates the Port Chicago Naval Magazine National Memorial at Military Ocean Terminal Concord, John Muir National Historic Site in Martinez, and Eugene O'Neill National Historic Site just outside Danville.

- **Local parks** are indispensable elements of our neighborhoods and communities. They serve as focal points where people can exercise and enjoy leisure time together, and include a variety of amenities such as sports courts, community centers, swimming pools and splash pads, playgrounds, playball fields, picnic areas, community gardens, and gathering spaces or other amenities. Local parks in unincorporated areas are typically owned and maintained by the County or a special district, such as a recreation and park district or community services district. The local park system is often augmented by similar facilities on school campuses. In some areas, private organizations such as homeowners' associations maintain parks for their communities, sometimes allowing public access.
- **Trails** are essentially linear parks. ~~They that~~ provide safe connections between residential neighborhoods, parks, schools, and other destinations. Because of their connectivity, they also act as alternative commute routes in some communities, though typically they're restricted to pedestrian, bicycle, and micromobility use. Major regional trails in Contra Costa County include portions of the San Francisco Bay Trail, a 500-mile network of trails along San Francisco and San Pablo Bays that is managed collaboratively by several agencies, including the Metropolitan Transportation Commission/Association of Bay Area Governments, and EBRPD; portions of the 50-mile Carquinez Strait Scenic Loop Trail that is managed by the Bay Area Ridge Trail Council; and the 26-mile Iron Horse Regional Trail, 13.5-mile Contra Costa Canal Regional Trail, and 19-mile Delta de Anza Regional Trail managed by EBRPD. The county is also crisscrossed by innumerable smaller, local trails, many of which are unpaved and informal.

While not shown on Figure PFS-7, numerous parks within incorporated cities and towns are also available to residents of unincorporated areas.

0 2.5 5 10 Miles

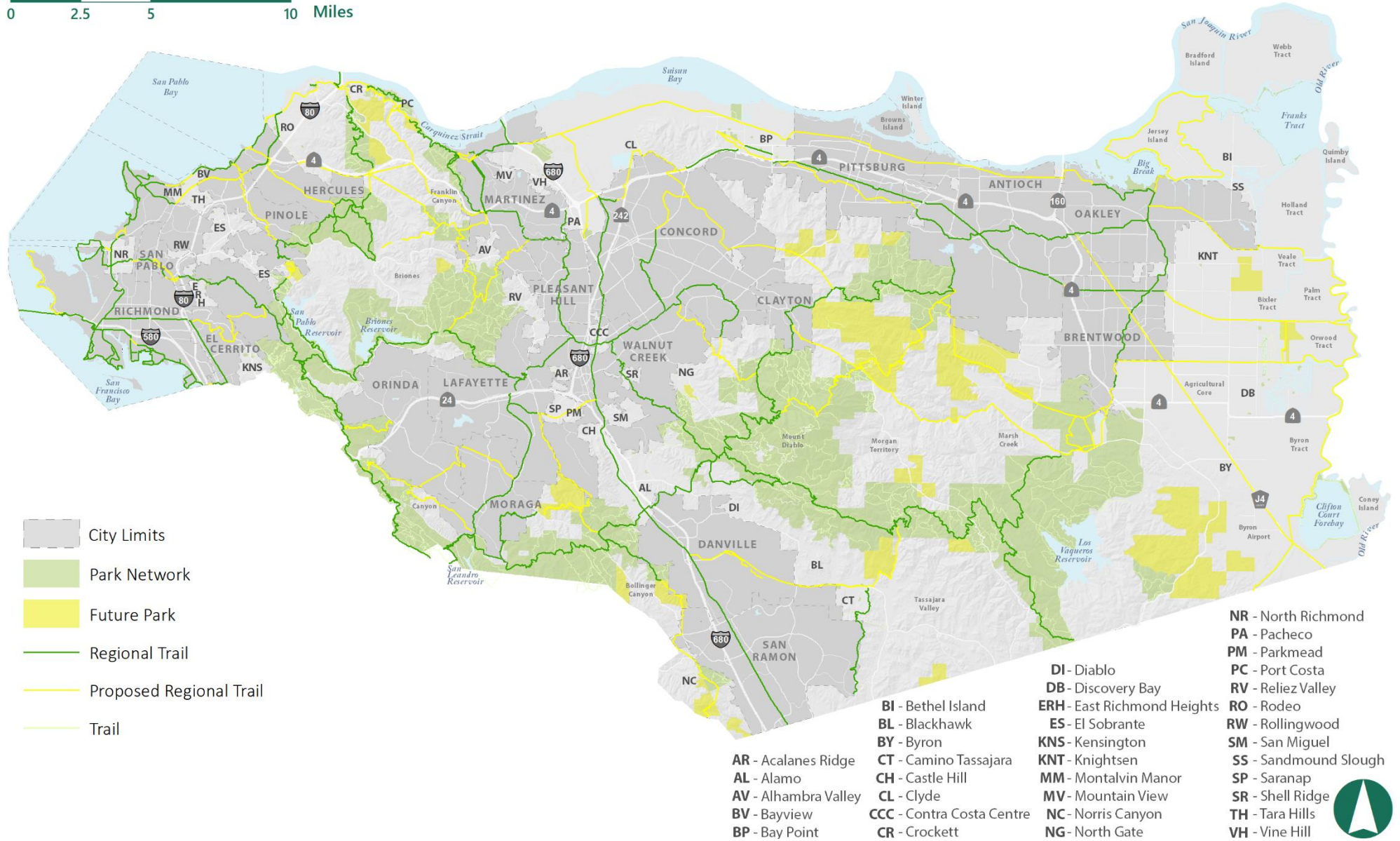






FIGURE PFS-8 TRAILS NETWORK

0 2.5 5 10 Miles



The County coordinates with agencies at all levels of government to provide and maintain parks and recreational programs in unincorporated communities. The County administers and regularly updates the Parks Capital Improvement Program, which allocates funding to park projects and maintenance based on community priorities and budget availability. Park acquisition and development are also funded in part through the County's Parks Impact Fee, which is a fee charged to new residential projects. The fee amount is based on the project size, location, and type(s) of housing proposed.

Access to parks and open space is an important environmental justice issue. Impacted Communities, which are described in the Stronger Communities Element, often lack access to the range and quality of facilities that support a high quality of life and positive public health outcomes. This can be a significant driver of poor physical and mental health. It is important to correct this inequity by investing in Impacted Communities and ensuring that each resident has access to space for outdoor physical activity.



*Ambrose Park provides play areas for children in Bay Point.*

Park standards provide a means to ensure that parks and recreation facilities are provided as the county develops. The County strives to provide 3 acres of local parks per 1,000 residents. This standard is an important tool for requiring new development to provide facilities when parks to serve new residents are lacking nearby.

### Goal PFS-8

An easily accessible, integrated system of high-quality parks and trails to meet the needs of all residents.

## Policies

### PFS-P8.1



Support development of a variety of local amenities that meet a diverse range of recreational needs, such as ballfields, all-abilities playgrounds, tot lots, spraygrounds, adult fitness courses, gymnasiums, swimming pools, sport courts, passive parks, pocket parks, urban gardens, and trails.

### PFS-P8.2



Provide a local park within a safe 10-minute walk for all residents in urban communities or within a 5-minute drive for residents in suburban communities, as indicated in Figures PFS-9 and PFS-10.\*





**FIGURE PFS-9 PUBLIC PARK AND OPEN SPACE WALKABILITY FOR URBAN COMMUNITIES**

0 2.5 5 10 Miles

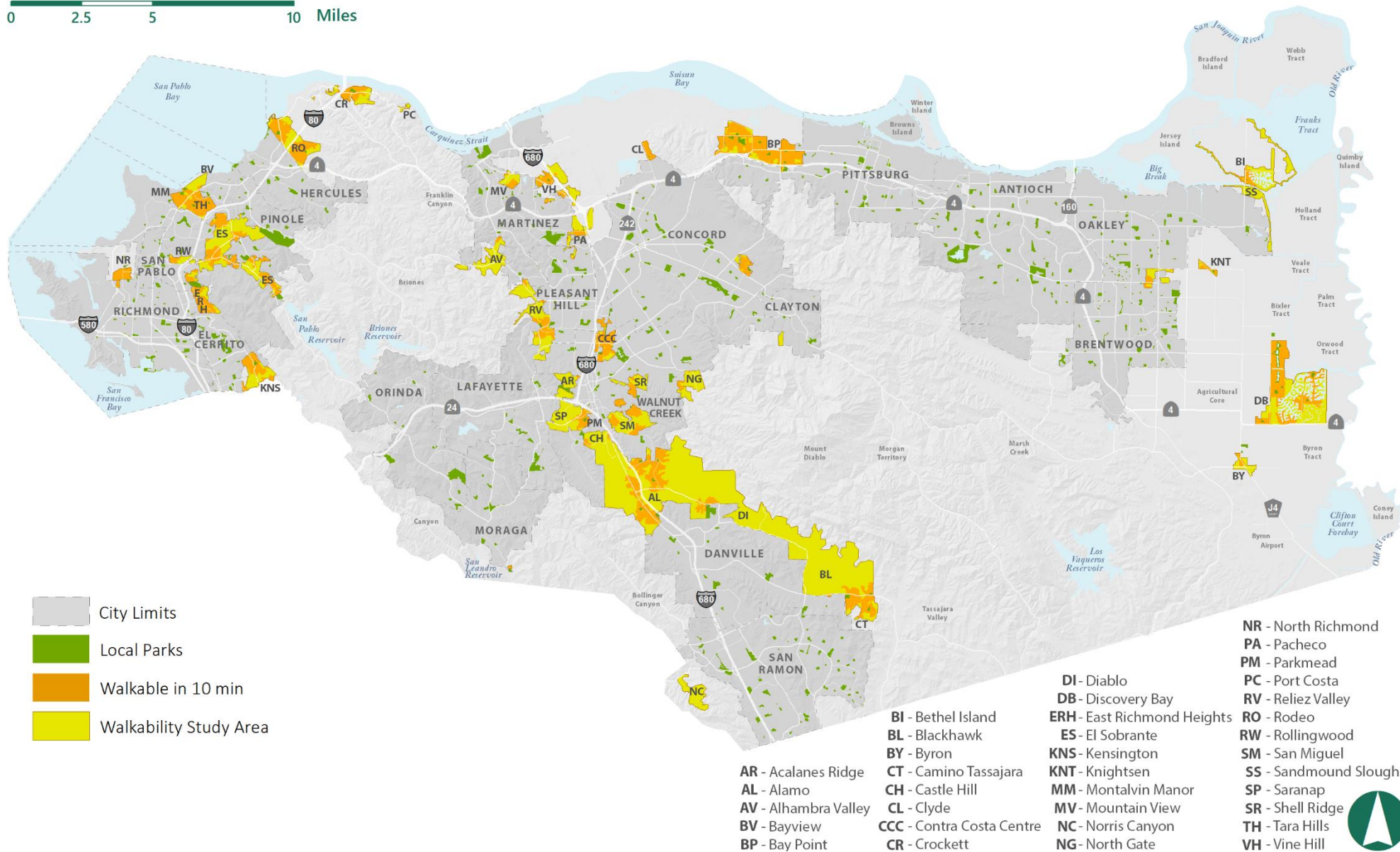
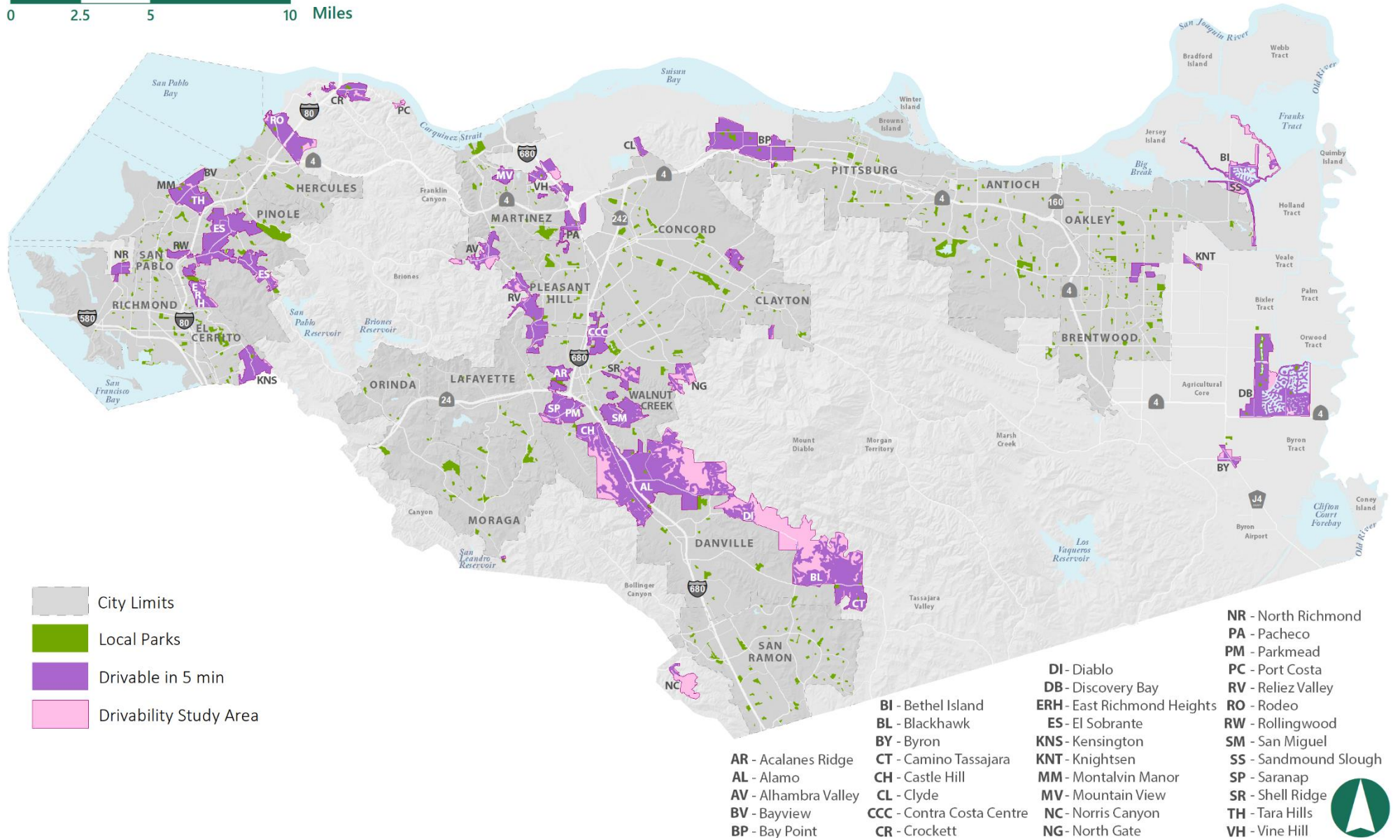


FIGURE PFS-10 DRIVE TIMES TO PUBLIC PARKS AND OPEN SPACE FOR SUBURBAN COMMUNITIES

0 2.5 5 10 Miles







### PFS-P8.3



~~Increase~~Expand access to diverse, high-quality parks, green spaces, recreational facilities, trails, and natural environments for residents of Impacted Communities, including ~~by facilitating through~~ multiple transportation modes. Partner with other agencies and non-governmental organizations to obtain funding, and design and maintain these facilities to offer a safe and comfortable environment for ~~residents~~users of all ages and abilities.

### PFS-P8.4



Prioritize and promote recreational activity programs and opportunities in Impacted Communities.

### PFS-P8.5



~~Whenever possible, r~~Require projects subject to the Park Dedication or Park Impact Fee Ordinances to develop parks and recreation amenities ~~listed~~identified in, or ~~added~~proposed for addition to, the County's Park Capital Improvement Plan. Park Impact fees or in-lieu fees should be assessed only when the County determines developer improvements are not feasible.\*

### PFS-P8.6



Support expanded access to recreation opportunities by working with other agencies to co-locate parks and trails with public facilities, such as schools and utility easements, ~~with~~prioritizing Impacted Communities ~~prioritized~~.

### PFS-P8.7



Design recreational facilities to complement the natural features of the area, including topography and vegetation, whenever appropriate.

### PFS-P8.8



Support expanded public access to the waterfront and development of water-related recreational opportunities, such as fishing and boating.

### PFS-P8.9



Support development of a comprehensive and interconnected network of trails, including intra- and inter-regional trails like the San Francisco Bay Trail, Carquinez Strait Scenic Loop Trail, Great California Delta Trail, and Marsh Creek Corridor Trail, that provides public access to shorelines, ridges, and other scenic areas, connects residents with open space and nature, and links urban areas with parks and other recreational facilities.

### PFS-P8.10



Encourage use of abandoned railroad rights-of-way for trails or other public purposes and participate in collaborative planning processes to determine the best use of abandoned rail corridors.

### PFS-P8.11



Support local community groups and volunteer organizations in efforts to improve and maintain local parks, trails, and other public spaces, such as through an Adopt-A-Park/Trail program, especially in Impacted Communities.

## Actions

### PFS-A8.1



Create an internal County entity that works across departments and non-County agencies to coordinate planning and funding of unincorporated local parks, recreational facilities, and trails.

### PFS-A8.2



Coordinate with recreation and park districts and cities to prepare a parks and open space needs assessment for all unincorporated communities, prioritizing Impacted Communities. Integrate the results of the assessment into a Parks Master Plan and the Parks Capital Improvement Program and implement improvements that address barriers to outdoor physical activity, such as inadequate infrastructure and safety concerns.

### PFS-A8.3



Annually update park dedication and in-lieu fee requirements based on the Consumer Price Index for All Customers, All Items for the San Francisco-Oakland-San Jose Metropolitan Area to accommodate for increases or decreases in development costs. Conduct a fee study at least once every 10 years to reflect changes in the cost of land, local park and recreational needs, and development conditions.\*

### PFS-A8.4



Maintain up-to-date maps showing quarter-mile and half-mile walking distances and five-minute driving times to public parks.

### PFS-A8.5

Study the feasibility of developing an equestrian trail network throughout the county's rural areas.

## SCHOOLS

Good schools are the building blocks of vibrant, healthy communities. Communities with good schools are great places to raise families, and a good education system not only attracts new residents, but also encourages young people to remain in the community as they start their own families. Good schools are also economic development drivers, as businesses are attracted to communities where employees will have access to quality education for their families. The 18 school districts providing K-12 public education that serve Contra Costa County are shown on Figure PFS-11.

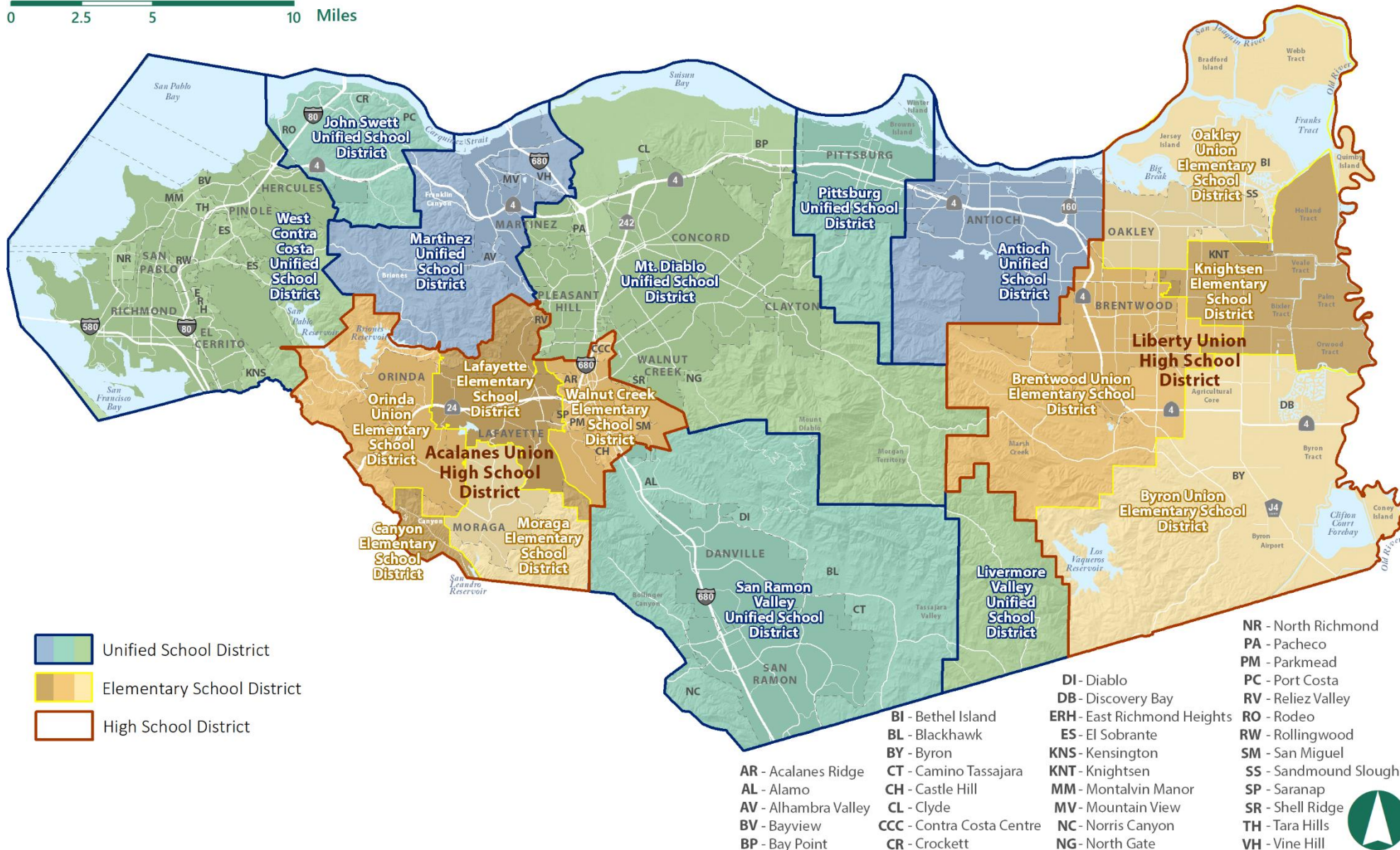


*Verde Elementary School in North Richmond is one of many schools operated by the West Contra Costa Unified School District.*




FIGURE PFS-11 SCHOOL DISTRICTS

0 2.5 5 10 Miles







Colleges and universities also play an important role in community life. Aside from the direct contributions they make to the local economy as large employers, post-secondary educational institutions provide critical workforce development and training through partnerships with local businesses and community groups. Post-secondary public education in Contra Costa County is offered at California State University, East Bay – Concord Campus and three community colleges operated by the Contra Costa Community College District: Contra Costa College in San Pablo; Diablo Valley College in Pleasant Hill, with a satellite campus in San Ramon; and Los Medanos College in Pittsburg. Numerous public and private colleges and universities, including prestigious institutions like the University of California, Berkeley and Stanford University, are also within 50 miles of Contra Costa County, providing county residents with extraordinary opportunities to pursue higher education.

### Goal PFS-9

Primary, secondary, and higher education facilities that serve the varied educational needs of all county residents.

## Policies

### PFS-P9.1

When reviewing new development proposals, coordinate with affected school districts to ensure adequate school capacity is or will be available, school sites are designated or dedicated if necessary, and adequate access is provided.\*

### PFS-P9.2

Encourage dedication of school sites through density transfer of the dedicated acreage or other incentives.



### PFS-P9.3

Encourage school districts to use school sites for multiple community purposes, such as recreation, and to locate new schools in conjunction with and/or adjacent to parks and trails.

### PFS-P9.4

Oppose efforts by school districts to locate new schools outside the Urban Limit Line.

### PFS-P9.5

Support efforts to enhance and expand access to higher education.

## Actions

### PFS-A9.1

Amend County Ordinance Code Title 8 – Zoning and Title 10 – Public Works and Flood Control to regulate public school siting and construction of off-site improvements related to public schools, to the extent allowable under Government Code Sections 53094 and 53097. Ensure these amendments include requirements for roadway improvements, including complete streets and multimodal roadway conditions.

*See the Stronger Communities Element for policies and actions related to workforce development.*





## LIBRARIES

Libraries are some of the oldest and most important public institutions. They provide access to knowledge and enhance public literacy. The Contra Costa County Library works in partnership with the incorporated cities and towns to operate 26 libraries across the county, offering robust programming for all ages, preschool to adults, including English as a Second Language (ESL), Science, Technology, and Mathematics (STEM) courses for kids, technology and computer help, interactive educational performances, arts and crafts events, book clubs, free lunches for children, and other programs. Residents can also reserve group study rooms and meeting rooms for educational, cultural, and community-related meetings, programs, and activities.



*Local libraries provide access to numerous education resources and programs.*

### Goal PFS-10

Library services that meet the informational and social needs of county residents.

### Policies

#### PFS-P10.1



Prioritize expansion of library services in Impacted Communities.

#### PFS-P10.2



Locate and design library facilities to provide access to the greatest number of people. Ensure they are sited in areas with broadband internet and close to public transit.

#### PFS-P10.3

Provide adequate funding for maintaining and improving library operations.\*

### Actions

#### PFS-A10.1

Develop library service and facility standards, identify standards not being met, and seek necessary resources to achieve those standards.\*



## PFS-A10.2

Adopt a library impact fee to ensure new development mitigates its impact on library services.\*

## PUBLIC FACILITIES AND SERVICES ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.

- More dollars invested per capita on public improvements in Impacted Communities than in other parts of the county.
- Fire suppression incidents responded to with the first engine company within four minutes or less, with the second engine company within six minutes or less, and with the initial full alarm assignment within eight minutes or less (or 10 minutes and 10 seconds if it involves a high-rise building), 90 percent of the time. Emergency medical service incidents responded to with a unit with a first responder within four minutes or less and with an advanced life support company within eight minutes or less, 90 percent of the time.
- Increased percentage of homes within a 10-minute walk of a local park.
- At least 3 acres of local parkland per every 1,000 residents.
- Reduced number of illegal dumping incidents.



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# 9

## HEALTH AND SAFETY ELEMENT

State law requires every general plan in California to address natural and human-caused hazards and dangers and identify the potential risk of death, injuries, property damage, and economic and social dislocation from fires, floods, earthquakes, and other events. Contra Costa County is at risk from a number of natural and human-caused hazards, and climate change is likely to make many of these more damaging for people, buildings and structures, ecosystems, and other important community assets.

This Element focuses on improving public health and safety and reducing the risk of hazards. It is organized into the following 11 sections:

- The **Air Quality** section includes policy guidance supporting clean air and promoting community and environmental health equitably throughout the county.
- The **Greenhouse Gases** section includes policy guidance to reduce greenhouse gas (GHG) emissions in Contra Costa County in support of statewide carbon neutrality and other GHG emissions reduction goals.
- The **Climate Change, Resilience, and Adaptation** section includes policy guidance promoting community resilience to climate change hazards.
- The **Flood Hazards and Sea-Level Rise** section includes policy guidance to mitigate flood and sea-level rise hazards.
- The **Wildfire Hazards** section includes policy guidance to minimize wildfire risks to residents, infrastructure, and natural resources.
- The **Extreme Heat** section includes policy guidance supporting resilience to an increasing number of extreme heat events per year.
- The **Management of Hazardous Materials and Hazardous Waste** section includes policy guidance to protect communities from past and present activities involving the use of hazardous materials and hazardous waste.
- The **Seismic and Geologic Hazards** section includes policy guidance to protect residents, property, and infrastructure from seismic and geologic hazards, including earthquakes, liquefaction, and landslides.
- The **Emergency Preparedness, Response, and Evacuation Routes** section includes policy guidance to maintain emergency response and recovery procedures, including effective evacuation capacity and capability, that protect human life and allow communities and economies to function during emergencies.
- The **Noise and Vibration** section includes policy guidance to maintain an acceptable level of noise and vibration in communities.
- The **Health and Safety Element Performance Measures** describe how the County will track its progress in achieving some of the major objectives expressed in this Element.

Appendix B provides additional information about many of these hazards.





This General Plan highlights policies and actions that address four major themes that serve as a framework for the Plan. For the reader's ease, policies and actions related to these themes are identified throughout the General Plan using the following icons. The policies and actions related to each theme are also compiled in Appendix A. See Chapter 1 for more information about each theme.



Community Health



Environmental Justice



Economic Development



Sustainability



*Delta flooding, as occurred on Bradford Island in 1983, is a significant hazard in Contra Costa County. (Credit: California Department of Water Resources)*

## AIR QUALITY

### Countywide Air Quality

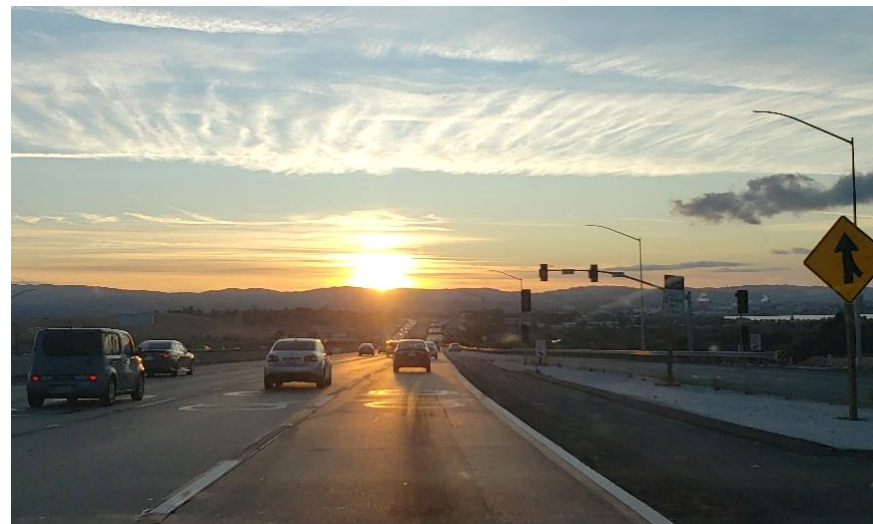
As basic and critical as it is to healthy living, clean air is not guaranteed in any community. Air quality in Contra Costa County is primarily affected by ozone pollution from vehicle exhaust and particulate matter from industrial centers and diesel trucks. Higher temperatures can increase surface ozone concentrations, which is associated with negative health outcomes, including reduced lung function, pneumonia, asthma, cardiovascular diseases, and premature death. Ozone concentrations are projected to increase in most places that already experience high levels, such as East County, by 2040. During cooler months, near-ground particulate matter is trapped in the air for longer periods of time due to an inversion layer, especially in the northern and eastern parts of the county where particulate matter rates are already high. Higher rates of particulate matter increase the likelihood of cardiovascular and asthma-related health complications.

Contra Costa County is committed to protecting human health and the environment by meeting State of California and federal standards for all air pollutants. The California and National Ambient Air Quality Standards (CAAQS and NAAQS, respectively) are the air quality levels considered to provide a margin of safety to protect public health and welfare. The California Air Resources Board (CARB) regulates and enforces air quality laws, rules, and regulations set by the State. Local air districts are delegated the authority to regulate local stationary sources of air pollution to improve air quality. The local air district in the San Francisco Bay Area is the Bay Area Air Quality Management District (BAAQMD).

For over 60 years, BAAQMD has been tasked with improving air quality in the Bay Area and reducing exposure to air pollution, including “criteria air pollutants” like ozone, particulate matter, and toxic air contaminants (TACs), all of which are dangerous to human health. BAAQMD monitors and reduces air pollution throughout the region to achieve the air quality standards established by the State and federal governments. As of 2023, the San Francisco Bay Area Air Basin, which encompasses Contra Costa County and the rest of the Bay Area, is not meeting the State and federal standards for ozone and particulate matter.

Improving air quality requires constant oversight and can involve significant expenditures and changes in behavior. Since the late 1980s, BAAQMD has required major stationary sources of air pollution (e.g., petroleum refineries and other heavy industrial sources) to reduce emissions to the maximum achievable level. In 2004, BAAQMD initiated its Community Air Risk Evaluation (CARE) program to reduce TAC exposure from stationary and mobile sources (i.e., cars, trucks, trains, and airplanes) in the Bay Area, and has more recently provided related planning assistance through its *Planning Healthy Places* guidebook. The Planning Healthy Places guidance maps communities with higher concentrations of air pollution, shares best practices to reduce health risks associated with air pollution, and encourages jurisdictions to address and minimize potential local air pollution issues early in the land use planning process, with technical guidance for implementation.

Additionally, BAAQMD’s 2017 Clean Air Plan, prepared in cooperation with the Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC), includes several control strategies for reducing air pollution from new and existing stationary sources and vehicle travel.



*Freeways and other high-traffic roads, such as State Route 4, are a major source of air pollution. (Community-submitted photo)*

## Goal HS-1

Air quality that supports community and environmental health.

## Policies

### HS-P1.1



Coordinate air quality planning efforts with State and regional agencies, such as CARB, BAAQMD, and ABAG/MTC.



### HS-P1.2



~~Prioritize Participation~~ in emission and exposure reduction, public education, engagement, outreach, and other programs that promote improved air quality, focusing on Impacted Communities.

### HS-P1.3



Require new development to adhere to BAAQMD's Planning Healthy Places guidance when local conditions warrant.\*

### HS-P1.4



Require new industrial development to locate significant pollution sources as far away at the maximum distance possible from sensitive receptors ~~as possible~~.\*

### HS-P1.5



Require new sources of air pollution that will generate significant new air quality impacts or expose sensitive receptors to substantial increases in harmful emissions of TACs to prepare a Health Risk Assessment that identifies appropriate mitigation consistent with BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines, based on the findings of the Health Risk Assessment.\*

### HS-P1.6



Require that any mitigation of air quality impacts occur on-site to the extent feasible to provide the greatest benefit to ~~local residents in unincorporated neighboring communities most impacted~~. For mitigation that relies on offsets, require that the offsets be obtained from sources

as near to the project site as possible or from sources that would improve air quality in an Impacted Community. If the project site is within or adjacent to an Impacted Community, require offsets/mitigation within that community unless determined infeasible by the County.\*

### HS-P1.7



Require construction activities that involve large grading operations to implement additional construction measures identified in BAAQMD's CEQA Guidelines to reduce air pollutant emissions.\*

### HS-P1.8



Require new or expanded commercial and industrial projects ~~exceeding~~ resulting in 25,000 square feet or more of gross habitable floor area, such as warehouses and other large enclosed buildings, to be near-~~zero-emissions (NZE)~~ zero-emissions operations, including the facilities themselves and the associated fleets. Require all necessary measures, such as the following, to achieve ~~NZE~~ near-zero emissions:

- (a) Reduce on-site energy consumption and increase on-site energy generation and energy storage.
- (b) Provide adequate on-site ~~zero-emission~~ ZE ~~vehicle-capable~~ parking for all anticipated truck traffic to prevent idling and off-site queuing.
- (c) Provide electrified loading docks with receptacles allowing plug-in of refrigerated trailers.
- (d) Use heavy-duty trucks that are model year 2014 or later and expedite a transition to ~~ZE~~ zero-emission trucks by establishing a clear timeline for electrification of trucks as they become commercially available. Ensure contracts with motor

carriers include air quality incentives or requirements, such as providing incentives to fleets that meet United States Environmental Protection Agency (EPA) SmartWay standards or requiring use of ~~ZE~~zero-emission or near-~~zero-emission~~NZE trucks.

- (e) Use a “clean fleet” of delivery vehicles as they become commercially available, but no later than 2025.
- (f) Use ~~ZE~~zero-emission yard equipment, such as forklifts, pallet trucks and jacks, and stackers.
- (g) Implement practices to control and remove fugitive dust and other contaminants from paved areas.

Uses with fewer than five vehicles domiciled on-site are exempt from this policy.\*

#### HS-P1.9



Prohibit nonessential diesel engine idling countywide and nonessential idling of all vehicles within 100 feet of sensitive receptors.\*

#### HS-P1.10



Support efforts to provide HVAC upgrades and portable clean air filters to persons who live in Impacted Communities and other areas burdened by disproportionate exposure to poor air quality.

#### HS-P1.11

~~TBD~~Encourage modernization projects at existing industrial facilities that support State energy and climate goals and achieve all of the following:

- (a) Improved community and worker health and safety.

(b) Enhanced environmental protection.

(c) Significant reductions in criteria pollutants, TACs, and GHGs.

(d) Timely remediation of preexisting and future on- and off-site contamination as a component of the project or through a fully funded work program that restores the site to a condition suitable for commercial or industrial use.

#### HS-P1.12



Encourage installation of upgraded HVAC systems at schools, childcare centers, and similar uses located proximate to industrial facilities.

## Actions

#### HS-A1.1



Consult with BAAQMD and community stakeholders and prepare an Air Quality Community Risk Reduction Plan that applies to areas with high levels of cancer risk, providing a comprehensive strategy to protect community members from the negative health effects of air pollution.

#### HS-A1.2



Consult with BAAQMD and community stakeholders and amend County Ordinance Code Title 8 – Zoning to create an Air Pollution Exposure Overlay Zone around freeways that requires new construction in these areas to install enhanced ventilation systems and other strategies to protect people from respiratory, heart, and other health effects associated with breathing polluted air.





### HS-A1.3



Consult with BAAQMD and community stakeholders and amend County Ordinance Code Title 8 – Zoning to include an Industrial-Sensitive Receptor Interface Overlay Zone applied to areas where residential land uses and other sensitive receptors interface or directly abut heavy industrial land uses. In the overlay zone, require industrial uses to reduce pollution and employ strategies to mitigate air quality, noise, vibration, odor, light, visual, and safety impacts on nearby sensitive receptors. In addition, require new sensitive receptors to install enhanced ventilation systems and implement other strategies, paid for by neighboring sources of pollution to the extent possible, to protect residents from health and quality of life impacts.

### HS-A1.4



Consult with BAAQMD and community stakeholders and amend County Ordinance Code Title 7 – Building Regulations to include a clean construction ordinance that requires projects to implement extra measures to reduce emissions at construction sites in or near places that are already overburdened by air pollution, such as Impacted Communities.

### HS-A1.5



Adopt an ordinance at least as stringent as the State's maximum idling law, and coordinate with CARB and law enforcement to achieve compliance.

### HS-A1.6



Develop a plan to provide convenient and accessible clean air refuges during times when outdoor air quality is deemed unhealthy.

*See the Transportation Element for policies and actions related to air quality associated with vehicular emissions.*

## Air Quality in Impacted Communities

Poor air quality tends to disproportionately affect vulnerable populations, such as children and people who are elderly, chronically ill, unsheltered, or on a limited income. Often these populations live in proximity to high-volume transportation corridors (e.g., freeways, railroads) or stationary sources of toxic air emissions. Despite the federal, State, and BAAQMD air quality standards and requirements discussed above, there are still communities in the Bay Area that are exposed to significantly more air pollution than others, and these communities are often home to higher-than-average proportions of vulnerable populations, low-income households, and people of color. As explained in the Stronger Communities Element, Impacted Communities are unincorporated communities that are disproportionately impacted by pollution and negative health outcomes. In Contra Costa County, they are located near refineries and other large industrial facilities, major freeways and high-traffic roads, distribution centers, and railroad lines. Figure HS-1 displays rates of diesel particulate matter emissions, or exhaust from diesel engines, in unincorporated Census tracts relative to the rest of the state, and demonstrates how communities near heavy industry and freeways experience the highest rates of diesel particulate matter pollution.

CARB recently established the Community Air Protection Program in response to Assembly Bill (AB) 617, through which BAAQMD must implement community air monitoring and community emissions reduction programs for

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communities most affected by air pollution. As of Fall 2023, BAAQMD, in partnership with community members in Richmond, San Pablo, and portions of unincorporated Contra Costa County, is completing the AB 617 Path to Clean Air (PTCA) Community Emissions Reduction Plan (CERP) to reduce emissions and exposure for people in these communities. Additional communities in the county may benefit from this program in future years.

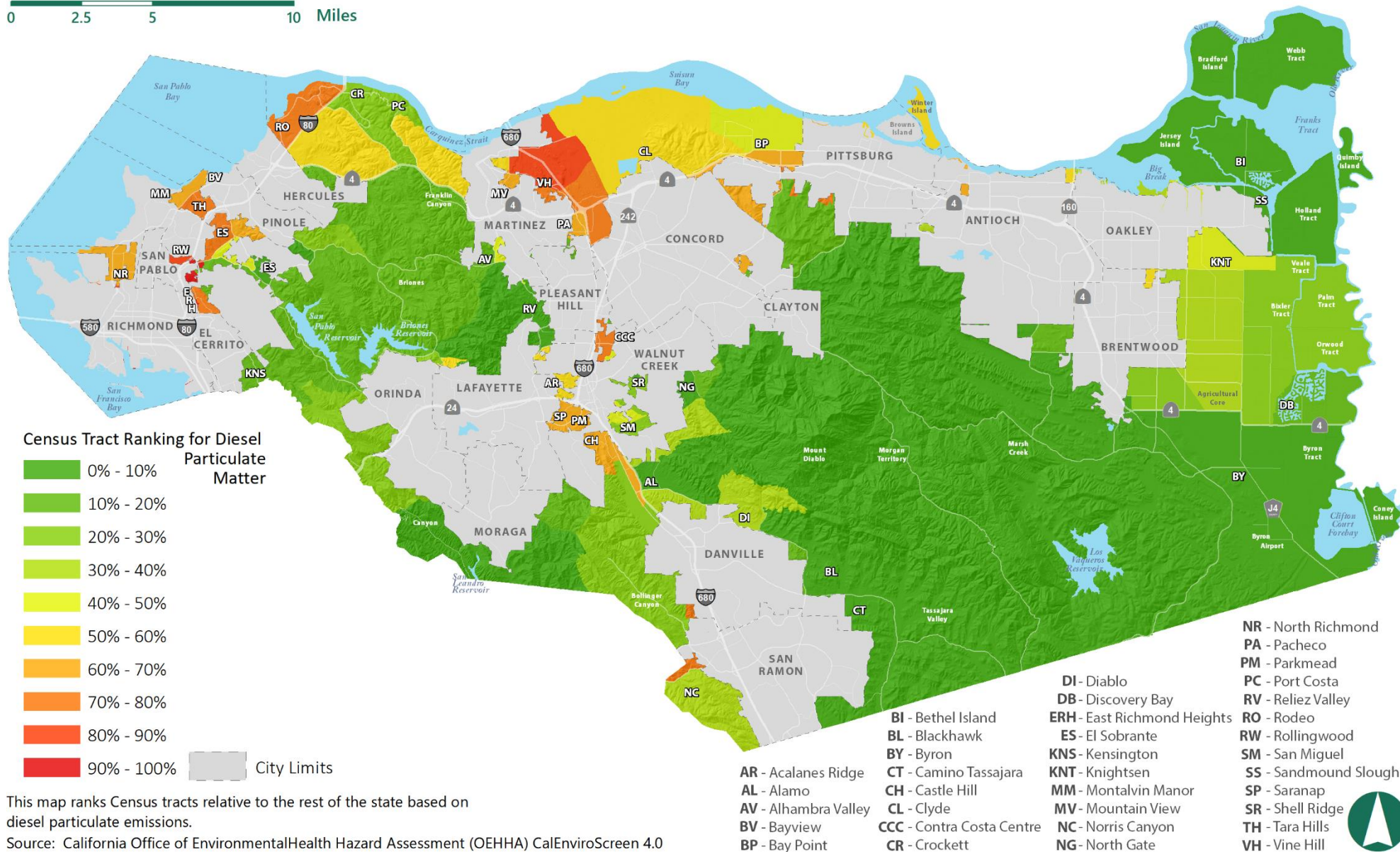


*Emissions from heavy industrial facilities disproportionately affect Impacted Communities.*  
(Credit: California Department of Water Resources)



**FIGURE HS-1 DIESEL PARTICULATE MATTER RANKINGS RELATIVE TO THE STATE**

0 2.5 5 10 Miles



This map ranks Census tracts relative to the rest of the state based on diesel particulate emissions.

Source: California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0

## Goal HS-2

Healthy air quality for all communities, so no community bears the disproportionate burden of environmental hazards and health risks.

## Policies

### HS-P2.1



When evaluating health risk impacts of projects in Impacted Communities, use an excess cancer risk of 6.0 per million and a non-cancer (acute and chronic) hazard index greater than 1.0 as thresholds for finding that the project could cause a cumulatively considerable contribution and a significant impact.\*

### HS-P2.2



Increase the tree canopy on public property, especially in Impacted Communities and areas with a high heat index, by prioritizing funding for new street tree planting and maintenance.

### HS-P2.3



Support protection, restoration, and enhancement of natural landscapes in and near Impacted Communities to improve air quality and community health.

## Actions

### HS-A2.1



Partner with community members and regulatory agencies such as BAAQMD to conduct data collection and monitoring of pollution exposure, prepare a community-scale plan for reducing and mitigating air pollutant emissions and industrial hazards, such as pipeline risks, accidents, potential water or soil contamination, and impacts to sensitive ecological resources for each Impacted Community, or group of Impacted Communities, as appropriate. Require future projects to demonstrate consistency with those plans.

### HS-A2.2



Coordinate with community members, BAAQMD, and other regulatory agencies to facilitate AB 617 citizen-led programs, including data collection, monitoring of pollution exposure, and identification and implementation of solutions in Impacted Communities. Consider future General Plan and Zoning Code amendments as needed to support BAAQMD in meeting AB 617 objectives.

### HS-A2.3



Conduct a housing condition survey in Impacted Communities to identify units likely requiring upgrades to provide adequate protection from toxic releases. Based on the survey's findings, target outreach to provide information about weatherization and similar improvement programs.





#### HS-A2.4



Coordinate with BAAQMD to determine where to focus a targeted permit inspection program in Impacted Communities to help ensure enforcement of air quality permits.

#### HS-A2.5



Prepare a tree master plan for the county that emphasizes planting of low-maintenance native tree species and includes quantified goals and tracking methods, including mapping the tree canopy, and prioritizes planting in Impacted Communities and along safe routes to schools.

*See the Extreme Heat section of this Health and Safety Element and the Conservation, Open Space, and Working Lands Element for additional policies and actions related to tree preservation and planting.*

## GREENHOUSE GASSES

Scientific consensus is that human activity involving the use of fossil fuels has resulted in an ever-accelerating increase in the concentration of heat-trapping gases, known as GHGs, in Earth's atmosphere (termed the "greenhouse effect"). In California, communities are now adapting to the resulting climate change stressors: warmer annual average temperatures, changes in precipitation patterns, sea-level rise, and a reduction in snowpack. Recognizing the numerous threats posed by climate change, the State has set ambitious GHG emission reduction targets:

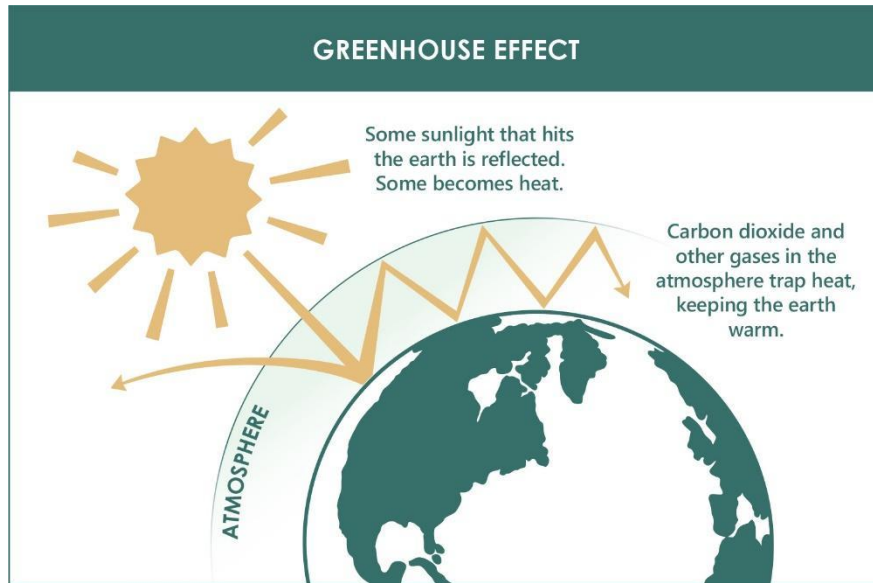
- Reduce community-widestatwide GHG emissions by 40 percent from 1990 levels by 2030.

- Reduce community-widestatwide GHG emissions by at least 85 percent from 1990 levels by 2045 and be on a path to support statewide carbon neutrality by 2045.

Since 2005, the County has implemented various measures to address climate change, including efforts to quantify GHG emissions, prioritize climate change adaptation in local government, and use nature-based solutions to achieve GHG emissions reductions.

In 2020, the Board of Supervisors declared that climate change "threatens the long-term economic and social well-being, health, safety, and security of the county, and that urgent action by all levels of government is needed to immediately address this climate emergency."

To support State efforts related to climate change and its own GHG emissions reduction goals, the County strives for ~~net~~-carbon neutrality through a gradualconscientious transition to renewable and carbon-free fuels, resource conservation, sustainable practices, and other approaches.



Source: State of Washington Department of Ecology, "What is Climate Change," [www.ecy.wa.gov/climatechange/whatis.htm](http://www.ecy.wa.gov/climatechange/whatis.htm)



Solar panels help reduce reliance on natural gas and electricity providers and increase resilience for homeowners.

The goals, policies, and actions in this section focus on reducing GHG emissions throughout the county. The County's Climate Action and Adaptation Plan, one of the tools for implementing this General Plan, provides more specific strategies and actions to achieve Contra Costa County's GHG emission reduction goals.

### Goal HS-3

Communities that reduce existing and anticipated GHG emissions in support of statewide carbon neutrality goals and other GHG reduction targets.

## Policies

### HS-P3.1



Prioritize implementation of the Contra Costa County Climate Action and Adaptation Plan to reduce GHG emissions from community-wide sources and adapt to changing climate conditions.

### HS-P3.2



Facilitate carbon-neutral development projects and communities that support a circular economy, ~~not~~ zero-emission modes of transportation, reliable and renewable energy resources, energy-efficient buildings, zero waste, water efficiency and conservation, green infrastructure, soil conservation, and a system of natural and working lands that support natural carbon sequestration and climate resilience.



### HS-P3.3



Require new development projects using the Contra Costa County Climate Action and Adaptation Plan to streamline their environmental review of GHG emissions, as permitted by CEQA Guidelines Section 15183.5, to demonstrate consistency with the Climate Action and Adaptation Plan and incorporate applicable GHG reduction and climate change adaptation measures.\*

## Actions

### HS-A3.1



Update the Contra Costa County Climate Action and Adaptation Plan as needed to maintain consistency with CEQA Guidelines Section 15183.5(b), other State and regional guidance, and best practices. Future updates must include:

- (a) Inventories of GHG emissions in the unincorporated county.
- (b) GHG reduction targets for 2030 and 2045 at a minimum.
- (c) Forecasts of GHG emissions for the unincorporated county consistent with growth assumptions of this General Plan.
- (d) GHG reduction ~~measures and~~ strategies with quantifiable outcomes.
- (e) Climate adaptation and resilience strategies to ensure the county's communities can respond to changing climate conditions.

- (f) An implementation and monitoring program to track the County's progress toward achievement of the GHG reduction targets.
- (g) A community and stakeholder engagement program for Climate Action and Adaptation Plan preparation and implementation.

### HS-A3.2



Study the feasibility of establishing a low-carbon concrete requirement for all new construction and retrofit activities and consider additional strategies to reduce embedded carbon in construction materials. The intent is to determine what the County can and should do to support or exceed State requirements for net-zero emissions for cement use by 2045.

### HS-A3.3




Regularly review and revise the County's purchasing and contracting programs as necessary to ensure consistency with the County's sustainability and GHG reduction goals.

*Every Element of this General Plan includes policies and actions that will contribute to reduced GHG emissions and a more sustainable future.*

## CLIMATE CHANGE, RESILIENCE, AND ADAPTATION

According to the California Climate Action Team—a committee of State agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail GHG emissions, the potency



and long atmospheric lifetimes of emissions that have already built up, combined with the inertia of the Earth's climate system, could still produce significant additional climate change hazards. Consequently, some effects from climate change are now considered unavoidable. To sustain the quality of life communities have come to expect, the County now must consider how to counteract potential threats to public health, buildings and infrastructure, economic drivers, biological resources, and key community services.

In 2020, the County released the [Contra Costa County Vulnerability Assessment](#), which analyzes how the changing climate can harm residents, buildings, ecosystems, natural resources, and more. Table HS-1 lists climate change-related hazards of concern identified in the Vulnerability Assessment.

The goals, policies, and actions in this section address climate change through a resilience and adaptation lens. Individual hazards are addressed through policy guidance in subsequent sections of this Element.

#### Goal HS-4

Resilient communities that are prepared for, responsive to, and recover from hazards created or worsened by climate change.

## Policies

### HS-P1.1



~~When considering development proposals and land use changes, treat susceptibility to hazards and threats to health and human life as primary considerations.~~





**TABLE HS-1 CLIMATE CHANGE HAZARDS OF CONCERN IN CONTRA COSTA COUNTY**

| Hazard                          | Climate Change-Induced Impacts                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agricultural Pests and Diseases | Disease-carrying pests are most active during warmer months, so the threat of infection or infestation rises with temperatures, thereby harming crops and rangelands.                                                                                                                                                                                                         |
| Air Quality                     | Higher temperatures can increase surface ozone and particulate matter concentrations, which are associated with reduced lung function, pneumonia, asthma, cardiovascular diseases, and premature death. In addition, smoke from wildfires can increase air pollution levels, which can exacerbate many of the same health conditions as extreme heat.                         |
| Bay Shoreline Flooding          | Rising sea levels mean that shoreline flooding from high tides and wave run-up can be more severe and frequent, damaging buildings, infrastructure, and important economic and environmental assets located in low-lying areas.                                                                                                                                               |
| Drought                         | Changes in precipitation patterns are expected to cause more frequent and intense droughts statewide, reducing water supplies for homes, businesses, industrial centers, and agriculture.                                                                                                                                                                                     |
| Extreme Heat                    | The number of extreme heat days is expected to increase dramatically due to increases in annual average temperature, which can cause heat stress in humans, animals, and plants not adapted to these conditions. Power lines, roadways, and other infrastructure also may fail under higher temperatures.                                                                     |
| Flooding                        | The frequency and intensity of floods is expected to increase with climate change, damaging buildings and infrastructure, and disrupting local economies and services. Floods can also exacerbate the growth of mold in indoor environments, threatening human health.                                                                                                        |
| Fog                             | Tule fog (in East County) and coastal fog (in West County) are expected to decrease, which further increases temperatures and may have harmful effects on local ecosystems.                                                                                                                                                                                                   |
| Human Health Hazards            | Diseases carried by animals that are considered pests, such as mice and rats, mosquitos, and ticks are likely to increase, causing negative health outcomes for residents and visitors.                                                                                                                                                                                       |
| Landslides and Debris Flows     | Landslides are expected to increase due to an increase in precipitation that can saturate the ground and wildfires that exacerbate slope instability.                                                                                                                                                                                                                         |
| Severe Storms                   | Severe storms, including heavy rainfall, high winds, and thunderstorms, may occur more often and become more intense than in the past.                                                                                                                                                                                                                                        |
| Sea_Level Rise                  | As temperatures rise, sea levels increase globally and locally as a result of melting ice and warmer waters. Higher sea levels threaten buildings and infrastructure that may be permanently inundated in the Bay shoreline and Delta areas. Without intervention, sea_level rise could eventually necessitate movement and relocation of entire populations and communities. |
| Wildfire                        | Warmer temperatures, an increase in drought conditions, and greater prevalence of forestry pests and diseases are likely to create more ideal conditions for fires. Fire season is expected to occur at all times of the year, putting lives, buildings, and infrastructure at greater risk.                                                                                  |

Source: Contra Costa County Vulnerability Assessment, 2020.

#### HS-P4.1



Address the effects of climate change, particularly the increased frequency and intensity of hazards, during review of new development applications.

#### HS-P4.2

Discourage new below-market-rate housing in High and Very High Fire Hazard Severity Zones, the Wildland-Urban Interface, and Alquist-Priolo Fault Zones. If below-market-rate housing must be constructed within these zones, require it to be hardened or make use of nature-based solutions to ensure it remains habitable to the greatest extent possible.\*

#### HS-P4.3



Prioritize efforts to protect Impacted Communities and other vulnerable populations from the impacts of climate change, including through improving community capacity and meaningfully involving community members in decision making.

#### HS-P4.4



As climate conditions change, evaluate the feasibility of implementing adaptive land use strategies to help avoid repetitive threats to life and property.

#### HS-P1.2



~~In hazard-prone areas, such as slopes exceeding 15 percent, mapped floodplains, High and Very High Fire Hazard Severity Zones, and Alquist-Priolo Earthquake Fault Zones, allow for decreased residential density, including below the minimum density requirement for the~~

~~applicable land use designation, as the severity of risk increases.\*~~

## Actions

#### HS-A4.1



Update the capital project planning and budgeting processes to account for anticipated effects of climate change hazards on County capital investments, including buildings and infrastructure, by integrating either the Contra Costa County Vulnerability Assessment or the best-available climate science data related to impacts, risks, sensitivities, adaptive capacities, and vulnerabilities.

See the Land Use Element for additional policies and actions related to development in hazard areas.

## FLOOD HAZARDS AND SEA-LEVEL RISE

### Flood Hazards

Flooding occurs when the natural and built systems that normally contain water are overwhelmed or fail. Floods can be caused by heavy or prolonged rainfall, clogged drainage infrastructure, and in rare instances, a break in a dam, levee, water pipe, or water tank. The water can build up and wash into normally dry areas and cause significant harm to buildings, people, and habitats. Construction of impervious surfaces (e.g., buildings and pavement) and reclamation of Delta land dating back over a century has reduced natural stormwater absorption, increasing flooding potential.

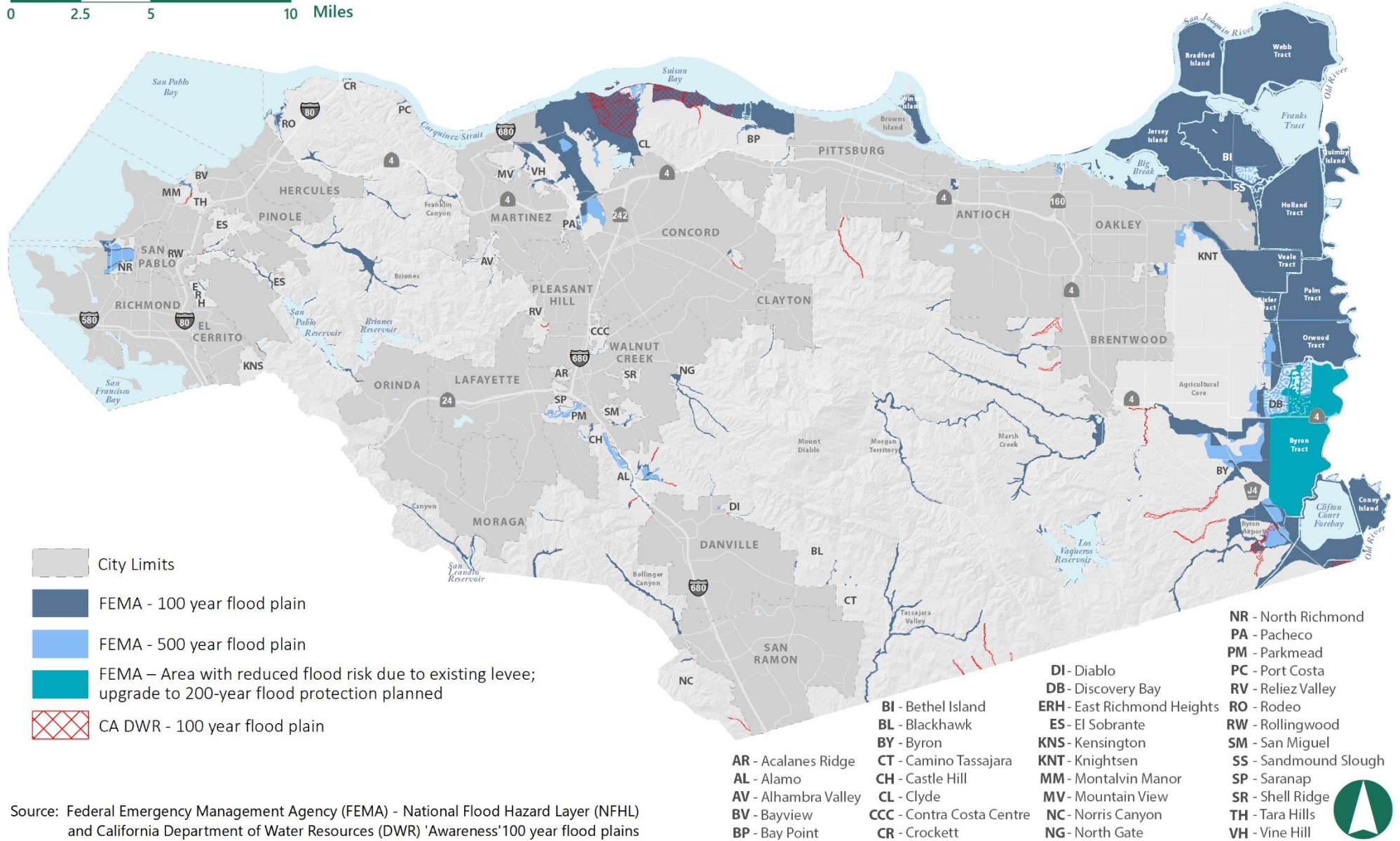
The Federal Emergency Management Agency (FEMA), California Department of Water Resources (DWR), and United States Army Corps of Engineers



(USACE) map areas at risk of inundation from a 100-year flood, which has a 1 percent chance of occurring in any year, and a 500-year flood, where the risk of flooding is 0.2 percent annually, as shown in Figure HS-2. These areas are primarily located in northern and eastern Contra Costa County and along creeks throughout the county. They are mostly along what FEMA designates as a “regulatory floodway,” which refers to the channel of a watercourse.:

FIGURE HS-2 FLOOD HAZARD ZONES

0 2.5 5 10 Miles



Source: Federal Emergency Management Agency (FEMA) - National Flood Hazard Layer (NFHL) and California Department of Water Resources (DWR) 'Awareness' 100 year flood plains





Climate change will likely enlarge the area of the county that is at risk of flooding. Further changes to these flood zones are likely as land use patterns shift and improvements are made to flood-control systems and channels. In Figure HS-3, these flood hazard zones are overlaid with existing development to illustrate how existing land uses are at risk of flooding.

As discussed in the Public Facilities and Services Element, DWR implements the Central Valley Flood Protection Plan (CVFPP), which calls for local agencies to protect urban communities (defined as communities with at least 10,000 residents) in the Central Valley from a 200-year flood (i.e., a flood that has a 0.5-percent probability of occurring in any year). Discovery Bay is the only unincorporated community meeting the CVFPP threshold for 200-year flood protection. There are no mapped 200-year flood zones in unincorporated Contra Costa County, but the 500-year flood zone can be used as a proxy in low-lying portions of East County (i.e., areas mainly at risk of flooding from the Delta). DWR has developed Urban Levee Design Criteria to measure the level of flood protection in urban and urbanizing areas that is necessary to withstand a 200-year flood, as required by the CVFPP. Figure HS-2 displays areas with reduced flood risk because of levees.

As also discussed in the Public Facilities and Services Element, levees exist across the county, with many protecting agricultural and rural areas of East County. There are over 1,100 miles of earthen levees and revetments managed by the Contra Costa County Flood Control and Water Conservation District and 13 reclamation districts in the county. Rudimentary levees along local creeks and streams, in many cases constructed by adjacent landowners, also protect small areas.



*Wetlands absorb excess water and reduce flood risk. (Community-submitted photo)*

Earthquakes or overtopping due to major storms can cause levees to fail. The county has historically faced flooding due to heavy precipitation events and levee failures. In 1973, 1980, 1982, 1983, 1986, 2004, and 2009, one or more Delta levees were breached or failed. Some islands in the Delta have been flooded two or three times since 1980, which will likely occur more frequently with stronger storm systems and higher tide levels.

Flooding can also be induced by dam failure, which is caused by structural failure or deficiency associated with intense rainfall, prolonged flooding, earthquakes, landslides, or equipment malfunction. There are over 20 dams of significant concern in Contra Costa County and another six dams outside the county that have inundation areas extending into the county. Figure HS-4 displays areas at risk of flooding because of a dam failure. Although dam failures are very rare, they aren't unprecedented. Complete failure of the St

0 2.5 5 10 Miles

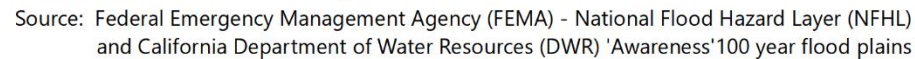
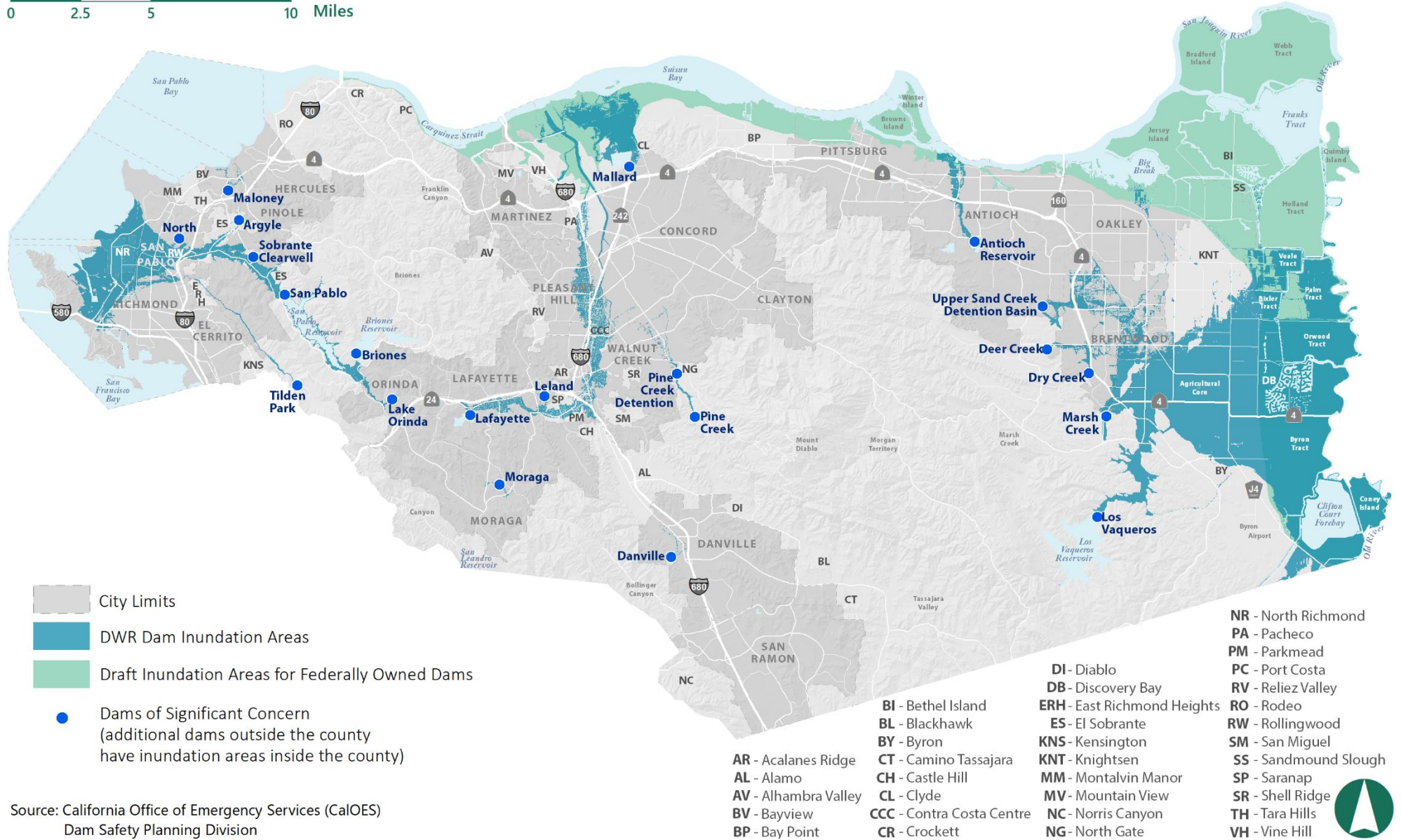







FIGURE HS-4 DAM INUNDATION AREAS

0 2.5 5 10 Miles



Source: California Office of Emergency Services (CalOES)  
Dam Safety Planning Division



Francis Dam in 1928 killed over 400 people and destroyed several communities in Los Angeles and Ventura Counties. In 2017, over 180,000 people in several Northern California counties were evacuated when heavy rainfall caused partial failure of Oroville Dam's main spillway. Each dam is required to have a comprehensive emergency action plan approved by the Federal Energy Regulatory Commission, and USACE and the California Division of Safety of Dams conduct inspections of all dams.

Tsunamis, massive waves caused by offshore earthquakes, can severely damage property, take lives, disrupt emergency services, and obstruct roads through intense flooding. Figure HS-5 illustrates the areas that may be subject to tsunami inundation in Contra Costa County, which include shoreline areas along San Francisco Bay, San Pablo Bay, and a portion of the Carquinez Strait. Earthquakes with magnitudes below 6.5 are very unlikely to trigger tsunami, so it is a particularly rare phenomenon. The narrow opening of the Golden Gate Strait also protects much of the inner Bay Area shoreline from severe tsunami impacts. Nonetheless, the County considers susceptibility to tsunami when reviewing development proposals.

A seiche is a wave that can occur in an enclosed or partially enclosed body of water, such as a reservoir, bay, or harbor. Seiches can be caused by a variety of factors, including changes in atmospheric pressure, wind, and seismic or geologic activity. When a seiche occurs, it can cause water levels to rise and fall rapidly, which poses a risk to boats, docks, and other structures in the affected area. Seiches can generate waves that can inundate areas around the affected water body, similar to a tsunami. Additionally, seiches occurring in a reservoir can cause overtopping of a dam and result in regional flooding. While seiches are a risk associated with earthquakes and tsunamis, it is unlikely that one would occur in the San Pablo or San Francisco Bays or in the reservoirs in Contra Costa County.

## Goal HS-5

Minimized risk of loss of life, injury, damage to property, and economic or social dislocations resulting from flood hazards.

## Policies

### HS-P5.1

Prohibit urban development in areas designated 100- or 200-year (or 500-year when used as a proxy for the 200-year) floodplain, as shown on Figure HS-2, or in areas subject to increased flood hazards due to subsidence or other changes, unless appropriate mitigations to reduce flood risk to the standards of the Flood Disaster Protection Act of 1973 or above are implemented.\*

### HS-P5.2

Require flood-proofing of new and expanded buildings and structures in any area subject to flooding. Flood-proofing methods will be determined on a project-by-project basis by the Floodplain Manager, and may include, but not be limited to:

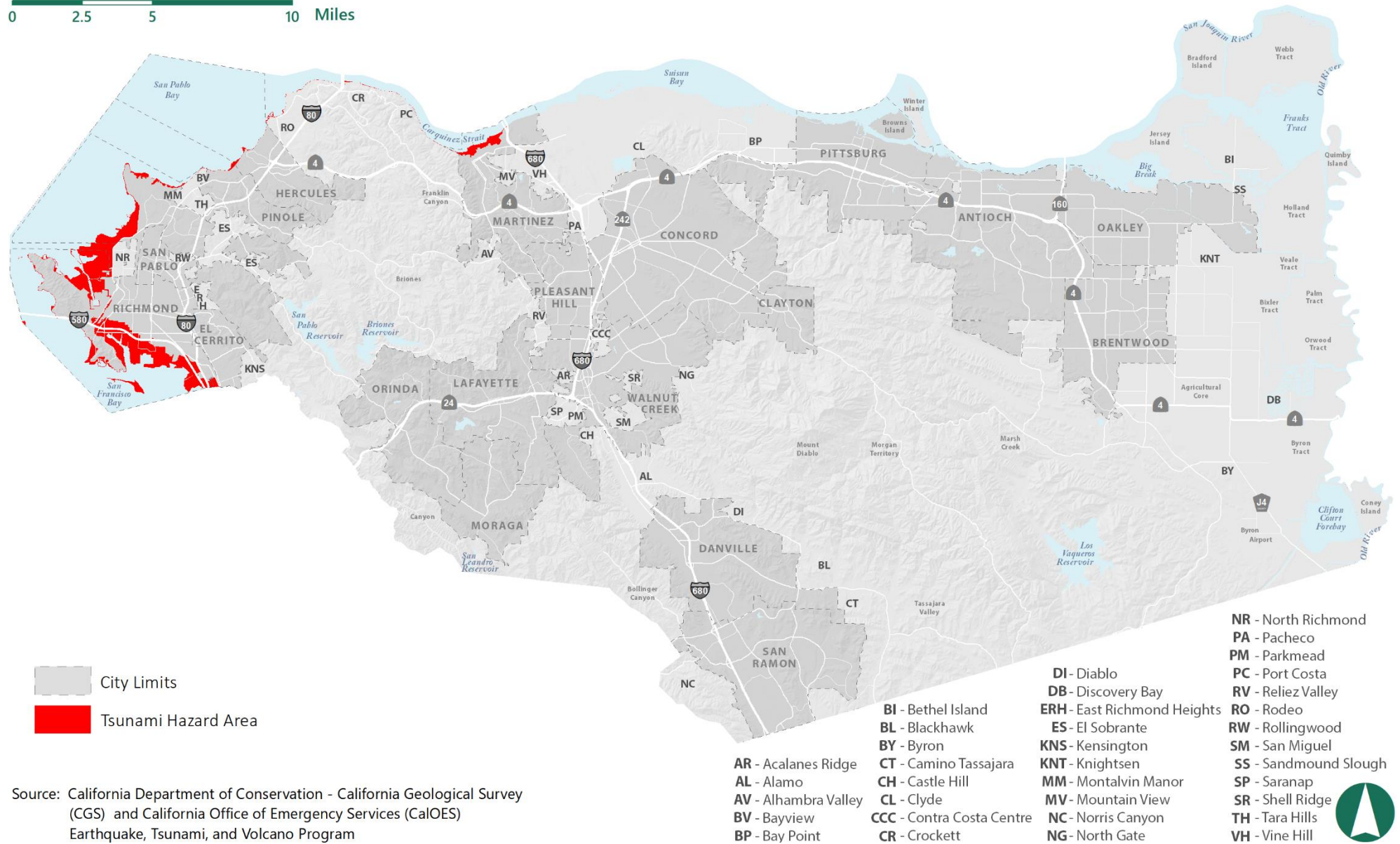
- (a) Anchoring to prevent flotation, collapse, or lateral movement.
- (b) Using flood-resistant construction materials.
- (c) Elevating building pads and habitable building floors above the base flood elevation plus required freeboard.





**FIGURE HS-5 TSUNAMI HAZARD AREAS**

0 2.5 5 10 Miles



Source: California Department of Conservation - California Geological Survey (CGS) and California Office of Emergency Services (CalOES) Earthquake, Tsunami, and Volcano Program

- (d) Providing adequate venting to allow for equalization of hydrostatic forces.
- (e) Employing any other construction methods and practices appropriate to minimize flood damage.\*

### HS-P5.3

For any development project in a FEMA- or DWR-designated floodplain, require review by the Floodplain Manager to consider potential downstream flood damage that may result from the project.\*

### HS-P5.4

Evaluate development within the Sacramento-San Joaquin Valley for consistency with DWR's Urban Level of Flood Protection Criteria. Prohibit new single-family residences, density increases, subdivision maps, or development agreements for any property within a 200-year floodplain in an urban or urbanizing area, unless an adequate finding can be made pursuant to California Water Code Sections 9600 to 9603.

### HS-P5.5

Prohibit permanent buildings and structures in designated floodways where such impediments could increase risks to human life or restrict the floodway's carrying capacity.

### HS-P5.6



Prohibit construction of critical infrastructure in areas subject to flooding or sea-level rise unless no feasible alternative exists.

### HS-P5.7

Require new subdivisions within the inundation area of a levee or dam, as shown in Figure HS-4, to include a deed notification explaining to future owners that the property may be subject to flooding if the levee or dam were to fail or be overwhelmed.

### HS-P5.8

Require new development in designated tsunami hazard zones to be designed to withstand anticipated tsunami forces, based on County-prepared studies conducted pursuant to Action HS-A5.4.

## Actions

### HS-A5.1

Review flooding policies and maps in this General Plan on an annual basis and incorporate best-available information regarding 100-, 200-, and 500-year floodplains and projected sea-level rise due to climate change.

### HS-A5.2



Establish countywide protection priorities for vulnerable communities and their populations identified to be at high risk of displacement from future flooding and sea-level rise in the Contra Costa County Vulnerability Assessment or the best-available climate science data and use regional funding mechanisms to plan and implement protection measures in these locations or for these populations.



### HS-A5.3

Amend the Floodplain Management Ordinance to address hazardous material storage.

### HS-A5.4

Conduct a study of existing development within designated tsunami hazard zones to determine evacuation and emergency response needs prior to and during a tsunami event.\*

### HS-A5.5

Pursue a TsunamiReady designation and certification as a TsunamiReady Tier Two community.

*See the Public Facilities and Services Element for policies and actions related to flood hazards and sea-level rise; the Conservation, Open Space, and Working Lands Element for policies and actions related to floodplain management; the Land Use Element for additional policies and actions related to development in hazard areas; and the Sea-Level Rise section of this Element for policies and actions related to adaptive management of rising tides.*

## Sea-Level Rise

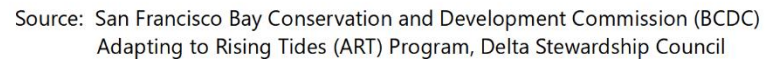
As global temperatures rise, glaciers and other land ice near the north and south poles melt, gradually raising sea levels. Higher temperatures also cause water to expand in oceans, further contributing to sea-level rise. Along the Contra Costa County shoreline, sea levels are projected to rise up to about 2 feet (24 inches) by 2050 and 7 feet (84 inches) by 2100. However, it is possible that sea levels could rise faster than these projections, which has happened historically. Figures HS-6 and HS-8 display the expected depth of water that would inundate dry land in Contra Costa County in 2050 and 2100 based on the Bay Shoreline and East Contra Costa Shoreline models

from the San Francisco Bay Conservation and Development Commission's (BCDC) Adapting to Rising Tides Program. Land that is below sea level could be inundated by water deeper than the sea-level rise (e.g., 2 feet of sea-level rise could expose land 2 feet below sea level to 4 feet of water). Rising sea levels can cause the shoreline to flood more frequently and severely during storms or king tide events. For example, a storm that has a one in five chance of occurring in a given year (known as a five-year storm) can create a temporary increase in sea levels of approximately 2 feet. Because sea-level rise will cause ocean levels to be higher during normal conditions, shoreline floods will reach further onto land. Sea-level rise projections in 2050 and 2100 with shoreline flooding are shown on Figures HS-7 and HS-9.

Rising seas increase the risk of flooding, storm surge inundation, erosion and shoreline retreat, and wetland loss. Rising sea levels also threaten a significant portion of prime agricultural land in the county, as low-lying areas could be subject to more frequent shoreline flooding and saltwater intrusion into groundwater basins could disrupt agricultural water supplies. Meanwhile, rising tides may increase groundwater levels, inundating contaminated soil and pushing toxins toward the surface. Given that some contaminated sites in Contra Costa County sit near the shoreline, rising groundwater may cause contaminated soils to leach into previously unaffected areas. Natural ecosystems in the Bay and Delta regions will be disrupted by the higher tide levels and intrusion of saltwater into freshwater systems. Historically, marshes have adapted to changes in sea level by building up sediment, increasing the height of the marsh to keep pace with the tide levels of San Francisco Bay, and by moving inland. However, sea-level rise is expected to outpace the rate of marsh-level rise and development near wetlands will likely prevent marsh migration. Without substantial intervention, most tidal marshes in Contra Costa County are expected to convert to another habitat type, a process called "downshifting," which will lead to the establishment of different plant and animal species. Some wetlands may be altered while others are lost. The use of nature-



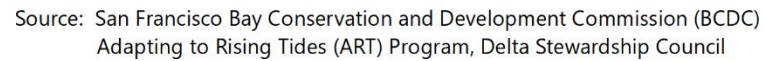
0 2.5 5 10 Miles







A horizontal number line is shown with tick marks at 0, 2.5, 5, and 10. The word "Miles" is written at the right end. A green bar is drawn above the line, starting at the 2.5 mark and ending at the 5 mark.

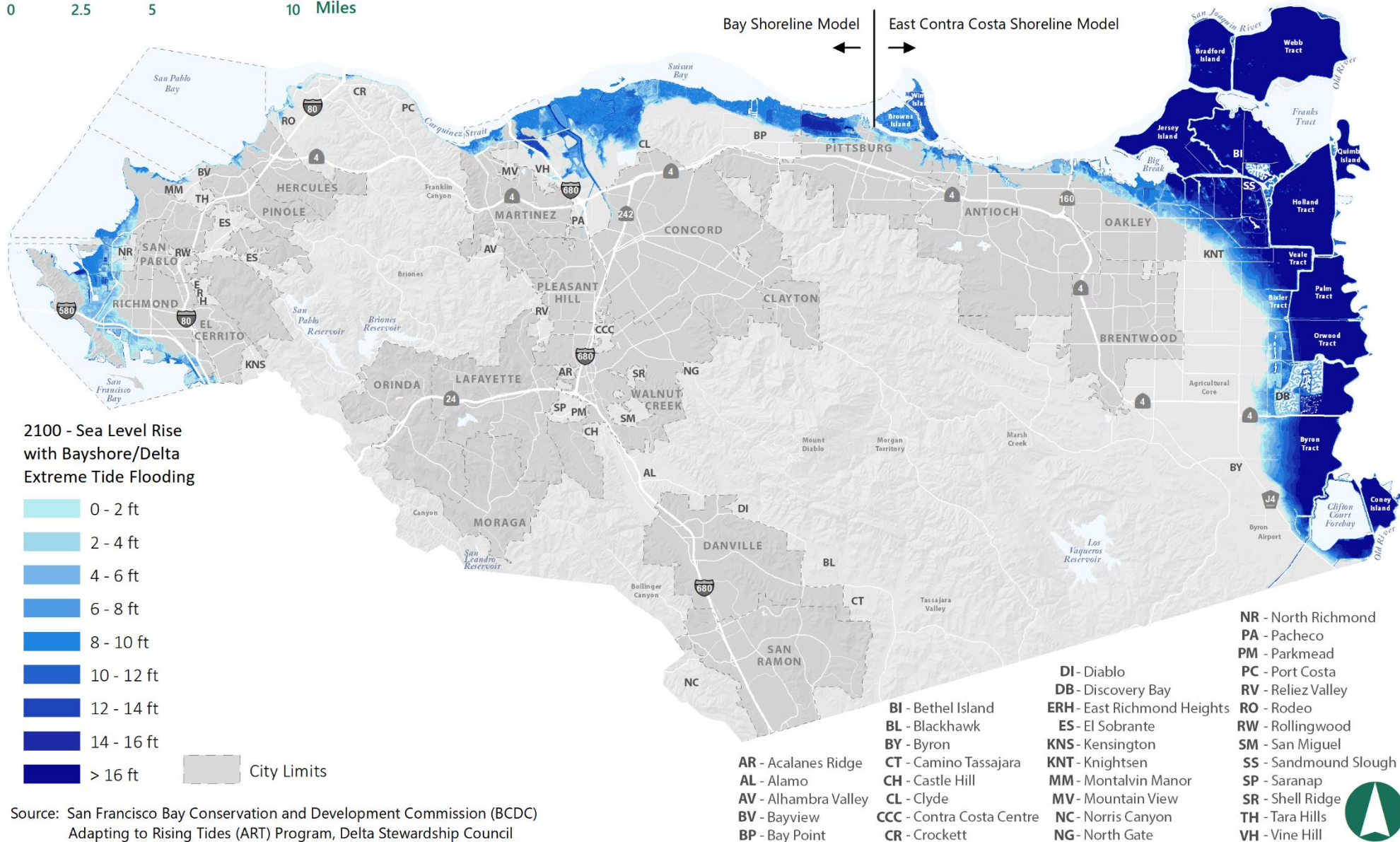






**FIGURE HS-9 2100 SEA-LEVEL RISE PROJECTION WITH BAYSHORE/DELTA FLOODING**

0 2.5 5 10 Miles



Source: San Francisco Bay Conservation and Development Commission (BCDC)  
Adapting to Rising Tides (ART) Program, Delta Stewardship Council

based solutions, which combine natural buffers like wetlands or bluffs with traditional infrastructure to mitigate flooding risks, could be an opportunity to preserve existing ecological communities and protect natural habitats.

The goals, policies, and actions in this section focus on planning for a medium- to high-risk aversion (1-in-200 chance) scenario in 2100, which projects 84 inches of sea level rise by 2100 under State guidance prepared in 2018. This scenario uses a higher level of caution, which helps in planning for more vulnerable developments or populations that will have a harder time adapting to sea-level rise and will experience more severe consequences from underestimating it.



*Sea-level rise resulting from climate change will inundate marinas over the next century.*

## Goal HS-6

Resilient and thriving Bayshore and Delta communities that are safeguarded and adaptively managed for rising sea levels.

## Policies

### HS-P6.1



Require new development to locate habitable areas of buildings above the highest water level expected, based on Figures HS-6 through HS-9, accounting for sea-level rise and other changes in flood conditions, or construct natural and nature-based features, or a levee if necessary, adequately designed to protect the project for its expected life.\*

### HS-P6.2



Support tidal wetland restoration projects in a manner consistent with community needs of flood-risk reduction, habitat and biodiversity conservation, and water quality protection.

### HS-P6.1



Require new industrial development in areas subject to sea-level rise, emergent groundwater flooding, or tsunami inundation to provide plans for prevention and remediation of any contaminant releases induced by these hazards, along with bonds that guarantee remediation plans are implemented. Remediation should meet standards that protect people and the environment in the event of future permanent inundation.

### HS-P6.3



Work with transportation agencies and infrastructure owners, such as railroads, to increase the resilience of transportation networks against sea-level rise and





increases in flooding intensity, including emergent groundwater flooding.

#### HS-P6.4

Work with property owners in areas prone to emergent groundwater flooding to pre-emptively harden properties using methods that minimize erosion, subsidence, and structural damage from rising waters.\*

### Actions

#### HS-A6.1

Amend the Floodplain Management Ordinance to apply to areas subject to sea-level rise under at least a medium-high risk aversion scenario by 2100, in accordance with State and regional guidance.\*

#### HS-A6.2



Adopt a Sea-Level Rise Overlay Zone with associated land use regulations for site planning and minimum construction elevations that reflects sea-level rise data under at least a medium-high risk aversion scenario by 2100. Refer to BCDC policy guidance when developing this overlay zone.

#### HS-A6.3



Coordinate with BCDC, Delta Stewardship Council, Caltrans, cities, and other affected agencies, organizations, and stakeholders to prepare and adopt a community-driven countywide sea-level rise adaptation and resilience plan addressing increased flooding and sea-level rise that provides unique adaptation options for the entire county shoreline and identifies funding

mechanisms for implementation. Use Figures HS-6 through HS-9 or the best-available climate science data to identify where sea-level rise hazards are likely to occur and lead efforts to:

- (a) Maximize awareness and disclosure to property owners and the public.
- (b) Assess and address impacts to future development, including promoting the Adaptation Pathways model to respond to uncertainty and evolving conditions.
- (c) Plan for resiliency projects and adaptation measures to protect existing development and infrastructure, emphasizing nature-based solutions.
- (d) Partner with the Adapting to Rising Tides Program, ~~Delta Stewardship Council~~, property owners, and community-based organizations to conduct a study of opportunities and costs for shifting development away from areas at risk from inundation.
- (e) Inform governance, funding, and financing decisions about short-term and long-term resiliency and adaptation projects.
- (f) Ensure that the disproportionate impacts on vulnerable populations and Impacted Communities are addressed.

#### HS-A6.1



~~Coordinate with the BCDC, Delta Stewardship Council, cities, and other involved agencies and stakeholders to create a joint powers authority or public-private partnership to develop, fund, and implement relevant, regionally coordinated sea-level rise adaptation measures that leverage the results of Adapting to Rising Tides, Bay~~

~~Adapt, Delta Adapt, and other studies and programs.~~

### HS-A6.4



Partner with cities and CCTA to develop and fund a countywide plan to increase the resiliency of roads that will be impacted by sea-level rise and tsunamis to ensure emergency responders can get to those in need and that community members, including those that rely on public transit, can continue to reach services.

### HS-A6.5

Work with State and regional agencies to conduct improved modeling of the areas at risk from emergent groundwater flooding to better understand the threat this hazard poses to Contra Costa County.

### HS-A6.6

Incorporate Figures HS-6 through HS-9 into the County's geographic information system for use as a publicly accessible tool for tracking flooding and sea-level rise.

## WILDFIRE HAZARDS

Wildfires are a regular feature of the landscape in much of California and can be sparked by lightning, malfunctioning equipment, carelessness, and other causes. In addition to direct fire impacts on people and property, wildfires remove stabilizing vegetation from hillsides, increasing the likelihood of future landslides and erosion. When wildfires burn at very high temperatures, soils can become hydrophobic, preventing the ground from absorbing stormwater and causing flooding downslope. Wildfire smoke is also harmful and can impact people hundreds of miles from the fire itself. Particulate matter from smoke can cause respiratory illnesses, especially for

those who spend substantial time outdoors during smoky conditions or whose homes are poorly sealed and allow smoke to penetrate.

The California Department of Forestry and Fire Protection (CAL FIRE) designates lands into responsibility areas based on who is financially responsible for fire protection services. Local Responsibility Areas (LRAs) include areas where local fire protection districts and fire departments are charged with fire protection. State Responsibility Areas (SRAs) include unincorporated areas and State lands where the State/CAL FIRE has financial responsibility for fire protection. CAL FIRE can also provide fire protection services by contract to cities and counties. ~~Contra Costa County has a mutual-aid agreement with CAL FIRE, and six~~ several fire protection districts and one three city fire departments provide fire prevention and protection services in the unincorporated that adequately cover the entire county, except for Jersey Island, Bradford Island, Quimby Island, Webb Tract, and the Marathon Refinery near Martinez, with the The Contra Costa County Fire Protection District covering covers 553 square miles and is by far the largest area local fire protection agency serving the county (see Figure PFS-5 in the Public Facilities and Services Element for a map of fire district service areas). All fire protection agencies within the county have signed mutual-aid agreements to provide assistance to neighboring agencies.

Within the responsibility areas, CAL FIRE designates lands within Fire Hazard Severity Zones. CAL FIRE designates lands within SRAs as Moderate, High, and Very High Fire Hazard Severity Zones; in LRAs, at the time the General Plan was adopted, CAL FIRE only designates land within Very High Fire Hazard Severity Zones (with city and county approvals). CAL FIRE is expected to designate Moderate and High Fire Hazard Severity Zones in the LRAs in future updates to these Fire Hazard Severity Zone maps. As shown in Figure HS-10, Very High Fire Hazard Severity Zones are mainly in the interior of Contra Costa County, in areas with dense forest, brush, or grassland vegetation and steep terrain that is difficult to access. Wildfires may start in

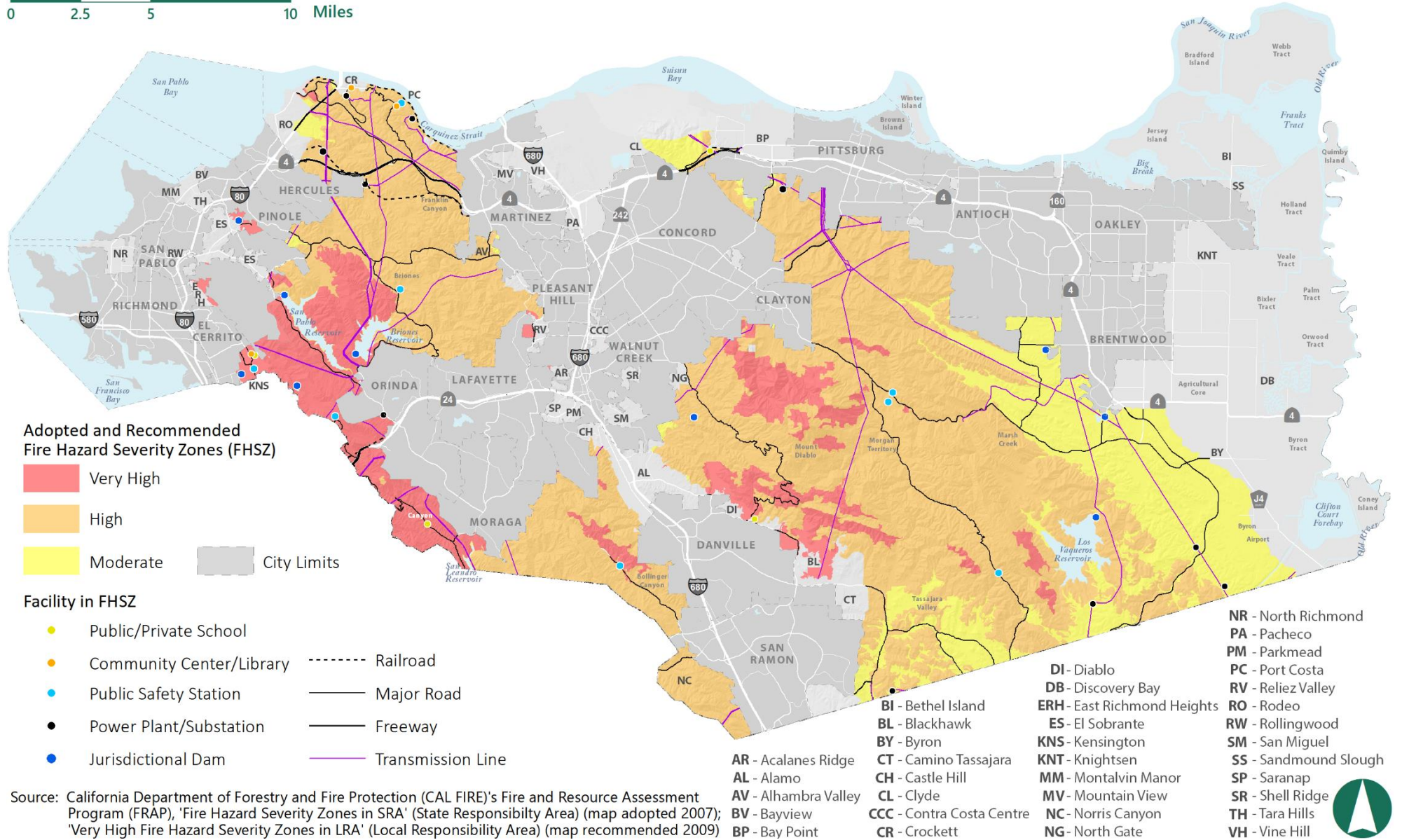


natural areas but can easily spread to developed areas bordering wildlands; this area is called the Wildland-Urban Interface (WUI) and is mapped in Figure HS-11.

All Very High Fire Hazard Severity Zones in Contra Costa County are within the service area of a fire protection district. Information about the fire districts' capacities is provided in Appendix B. Fire districts serving rugged, hard to reach areas are usually equipped with tank trucks because such areas typically lack public water infrastructure. Properties designated for

FIGURE HS-10 FIRE HAZARD SEVERITY ZONES

0 2.5 5 10 Miles



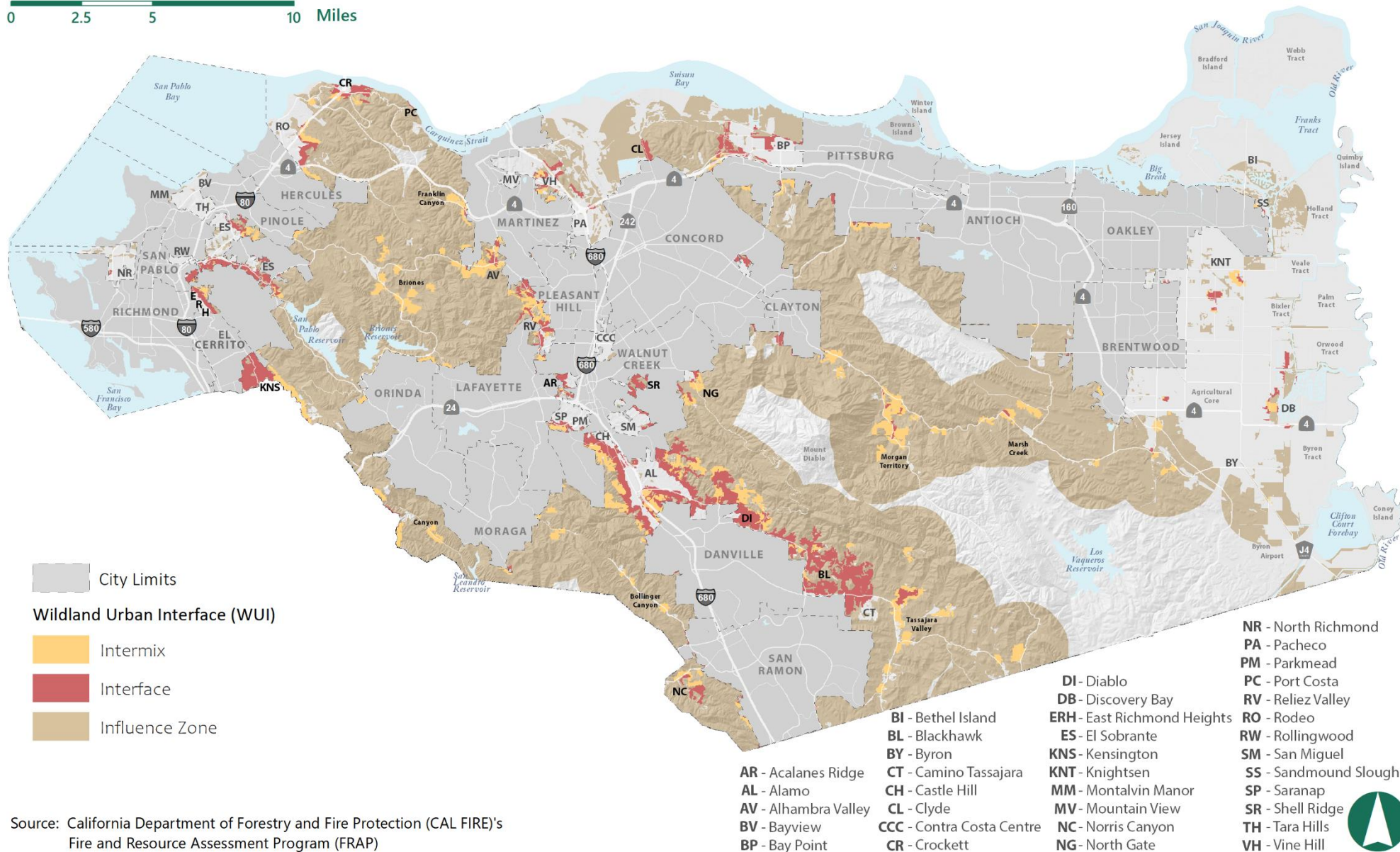
Source: California Department of Forestry and Fire Protection (CAL FIRE)'s Fire and Resource Assessment Program (FRAP), 'Fire Hazard Severity Zones in SRA' (State Responsibility Area) (map adopted 2007); 'Very High Fire Hazard Severity Zones in LRA' (Local Responsibility Area) (map recommended 2009)






**FIGURE HS-11 WILDLAND-URBAN INTERFACE DEVELOPMENT PATTERNS**

0 2.5 5 10 Miles



Source: California Department of Forestry and Fire Protection (CAL FIRE)'s Fire and Resource Assessment Program (FRAP)



residential use in areas without public water service are required to maintain sufficient on-site water storage and new development must show that it has sufficient water pressure for firefighting purposes.

Within the SRAs and Very High Fire Hazard Severity Zones, there are existing homes, businesses, and public land uses, as well as associated infrastructure like major roadways (e.g., SR 24 and SR 4), electrical transmission lines, water and wastewater distribution systems, and communication facilities. Most of this development occurred prior to recent wildfire hazard mapping. The policies and actions in this section limit future residential development in High and Very High Fire Hazard Severity Zones and aim to protect existing buildings and infrastructure. Meanwhile, State law requires that homeowners in the WUI create and maintain defensible space around homes and other structures, keep roofs clear of flammable material, and use spark arresters on chimneys.



Wildfires pose risks to residents and their homes and produce smoke that can impact the region. (Credit: USDA [www.flickr.com/photos/41284017@N08/9599182665](https://www.flickr.com/photos/41284017@N08/9599182665))

From 2010 to 2022, there were 24 wildfires in Contra Costa County, most burning over 100 acres each. Some burned considerably more acreage, most notably the 2020 Santa Clara Unit Complex Fire, which burned 396,824 acres in total (3,305 acres in Contra Costa County). Figure HS-12 shows the perimeters of wildfires from 1950 to 2022. Areas that have previously burned, regardless of their location within or outside of a Fire Hazard Severity Zone, are likely to burn again. Because of climate change, fire activity is projected to increase where development expands in the WUI, in addition to the dry hills around Mount Diablo.

### Goal HS-7

Minimized injury, loss of life, and damage to property from wildfire hazards.

## Policies

### HS-P7.1

Deny applications for new residential subdivisions, entitlements for projects creating additional residential lots (i.e., units not allowed by-right) in Very High Fire Hazard Severity Zones in the LRA or SRA, and discourage residential subdivisions projects in High Fire Hazard Severity Zones in the SRA and discourage them in the LRA unless adequate fire protection services are provided.\*

### HS-P7.2

Require any construction of buildings or infrastructure within a High or Very High Fire Hazard Severity Zone in the

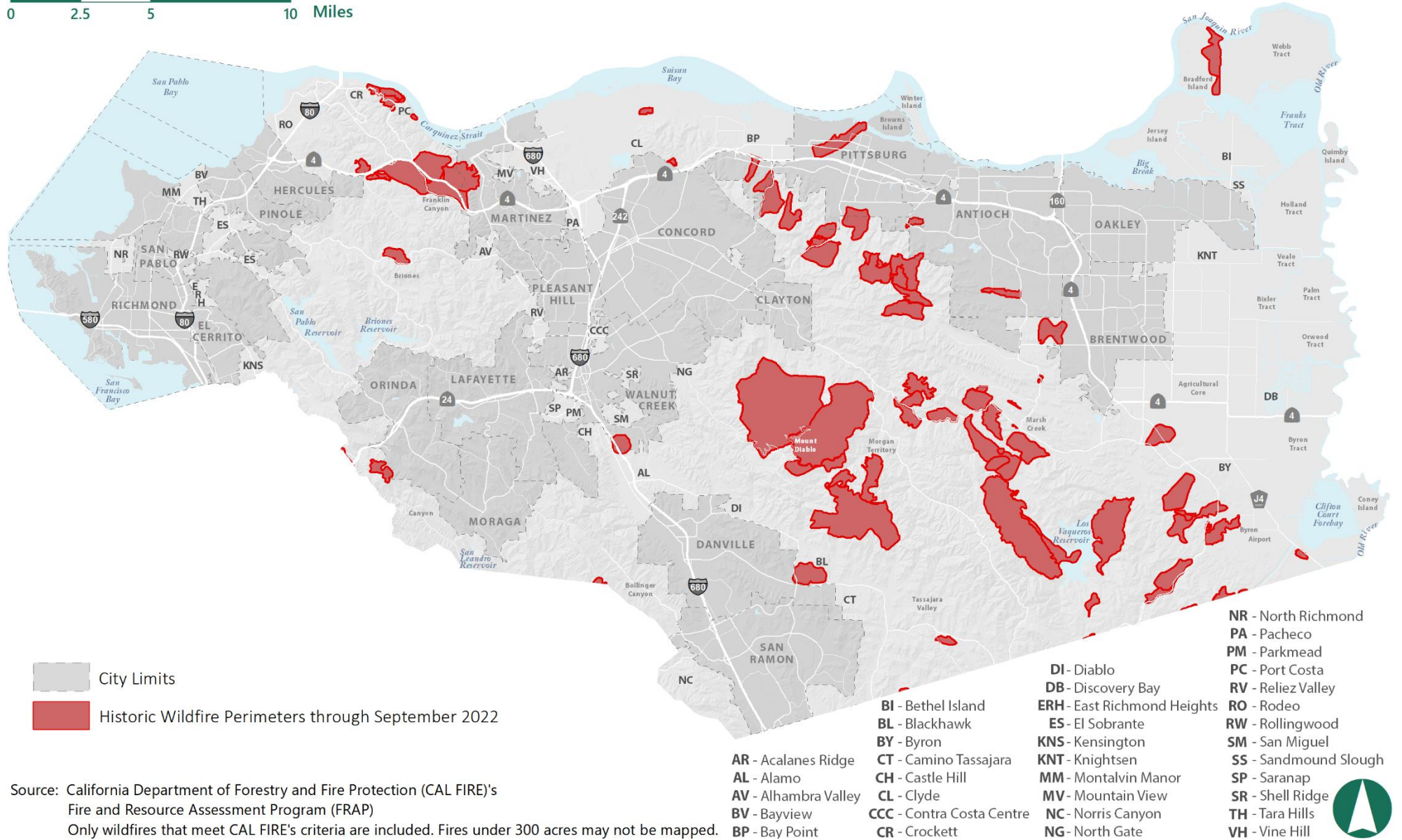


LRA or SRA ~~or in the WUI~~, as shown on Figures HS-10 ~~and HS-11~~, ~~or in areas that may be designated as the WUI~~ to incorporate fire-safe design features that meet the State Fire Safe Regulations and Fire Hazard Reduction Around Buildings and Structures Regulation for road ingress and egress, fire equipment access, and adequate water supply.\*



FIGURE HS-12 HISTORIC WILDFIRE PERIMETERS

0 2.5 5 10 Miles



Source: California Department of Forestry and Fire Protection (CAL FIRE)'s Fire and Resource Assessment Program (FRAP)  
Only wildfires that meet CAL FIRE's criteria are included. Fires under 300 acres may not be mapped.





### HS-P7.3

Require new development within a Very High Fire Hazard Severity Zone in the LRA or SRA (as shown on Figure HS-10), ~~or in areas that may be designated as the WUI (as shown on Figure HS-11), or and~~ on a residential parcel with evacuation constraints (as shown on Figure HS-21), to prepare a traffic control plan to ensure that construction equipment or activities do not block roadways or interfere with evacuation plans during the construction period. Work with the appropriate fire protection district to review and approve the traffic control plan prior to issuance of building permits.\*

### HS-P7.4

Require subdivisions in the High Fire Hazard Severity Zone in the LRA or SRA and projects requiring a land use permit in the High or Very High Fire Hazard Severity Zone in the LRA or SRA, as shown in Figure HS-10, to complete a site-specific fire protection plan. Work with the appropriate fire protection district to review and revise the fire protection plans. The fire protection plan shall include measures for fire-resistant construction materials and modifying fuel loading, as well as a plan to maintain that protection over time. The fire protection plan shall include:

- (a) A risk analysis
- (b) Fire response capabilities
- (c) Defensible space requirements
- (d) Fire safety requirements for infrastructure
- (e) Building ignition resistance
- (f) Mitigation measures and design for non-conforming fuel modification

- (g) Wildfire education
- (h) Maintenance and limitations
- (i) A plan for emergency preparedness, response, and evacuation\*

### HS-P7.5

Work with property owners ~~within mapped in~~ High or Very High Fire Hazard Severity Zones in the LRA or SRA, ~~or in areas that may be designated as the WUI, areas~~ to establish and maintain fire breaks and defensible space, vegetation clearance, emergency access roads, water supply and fire flow, signage, and firefighting infrastructure that meets ~~current~~ adopted State, County, or community fire safety standards.

### HS-P7.6

New Policy

Coordinate with Caltrans and other agencies, local fire safe councils, and community organizations to ensure long-term maintenance of fire hazard reduction projects, including community fire breaks and public and private road clearance.

### ~~HS-P7.6~~HS-P7.7

Promote installation of smoke detectors at the time of sale or lease agreement, and maintenance of smoke detectors in existing residences and commercial facilities that were constructed prior to the requirement for their installation.

### ~~HS-P7.7~~HS-P7.8

Work with water service providers and fire protection districts to safeguard the long-term integrity of water



supplies to meet firefighting needs and ensure that new and existing developments in high fire risk areas have suitable water delivery infrastructure.

#### **HS-P7.8HS-P7.9**

Construct critical facilities, such as Office of Emergency Services facilities and other uses on the County's designated critical facilities list, with fire-resistant materials, defensible space, and fire-resistant landscaping that allows them to maintain structural integrity and ensure functional operation to the greatest extent feasible. Avoid locating these facilities in high fire risk areas to the extent possible.\*

#### **HS-P7.9HS-P7.10**

Coordinate with energy service providers to underground power lines, especially in the WUI and High and Very High Fire Hazard Severity Zones.

#### **HS-P7.10HS-P7.11**

Work with energy service providers to ensure an adequate power supply to vulnerable populations during planned power shutoffs.

#### **HS-P7.11HS-P7.12**

Facilitate post-fire recovery by supporting efforts to stabilize slopes, control erosion, and replant with native species.

#### **HS-P6.2HS-P6.1**

Support State legislative efforts to reduce fire insurance costs and address resident concerns about rising liabilities and risk of dropped policies.

## **Actions**

### **HS-A7.1**

Collaborate/Work with local fire safe councils, CAL FIRE Santa Clara Unit, and other fire protection agencies to update and implement the *Community Wildfire Protection Plan* for Contra Costa County.\*

### **HS-A7.2**



Support local fire protection agencies with efforts to seek funding for development and implementation of a continuous vegetation management program in fire hazard severity zones and WUI areas.

### **HS-A7.3**

Update countywide fire hazard severity zone and WUI mapping as new data becomes available from the California Board of Forestry and Fire Protection.

### **HS-A7.4**

Upon future updates to LRA mapping, as promulgated by CAL FIRE, identify and as necessary adopt a WUI zone.

### **HS-A7.4HS-A7.5**



Following a large fire, evaluate the feasibility and resilience of redevelopment, and consider changes to



building or development standards to improve resilience.

#### **~~HS-A7.5~~HS-A7.6**

Collaborate with local and regional fire safe councils, CAL FIRE Santa Clara Unit, and other fire protection agencies to develop a fire safe education program to provide information about State fuel modification, defensible space, access, water, signage, and other fire safe regulations.\*

#### **~~HS-A7.6~~HS-A7.7**



Pursue grants and other funding mechanisms to retrofit ventilation systems at County buildings to provide refuge for residents during periods of unhealthy air quality caused by excessive wildfire smoke.

*See the Public Facilities and Services Element for policies and actions related to fire and emergency services and the Land Use Element for additional policies and actions related to development in hazard areas.*

## **EXTREME HEAT**

Extreme heat occurs when temperatures rise significantly above normal levels; it is defined as a daytime temperature that exceeds the 90<sup>th</sup> percentile of the historic average temperature for that date. Extreme heat is a relative term, and different temperatures in different parts of Contra Costa County qualify as extreme heat events because people and buildings accustomed to cooler average temperatures may be less prepared for extreme heat events. For example, an extreme heat day in Rodeo is when temperatures reach 93 degrees Fahrenheit (°F), while in Alamo it is 97°F, and in Knightsen it is 102°F.

Extreme heat can cause various heat-related illnesses, such as heat cramps, heat exhaustion, and heat stroke. Seniors (particularly those living alone),

small children, outdoor workers, people with chronic illnesses, unsheltered persons, persons living in multiple-family housing without air conditioning, and those on certain medications are particularly susceptible to heat illnesses. Nursing homes and elder-care facilities are especially vulnerable to extreme heat events if power outages occur and air conditioning or electricity-powered medical devices are not available. In addition, when extreme heat days occur while the air is smoky from wildfires, residents may have to choose between opening windows to cool their homes, letting in smoke, or keeping windows closed, causing dangerous indoor air temperatures.

Extreme heat has various other impacts. Some types of infrastructure, including power lines, communications equipment, railways, and roadways, are more prone to failure when temperatures are high. An example occurred in Contra Costa County in June 2022, when extreme heat buckled BART tracks causing a derailment. Very high temperatures increase demand for electricity, which can lead to outages and associated health and economic impacts. Extreme heat can also increase the risk of wildfires by drying out plants, exacerbating drought conditions, and harming wildlife that is not adapted to these conditions.



*Extreme heat can exacerbate drought conditions. (Credit: National Park Service)*

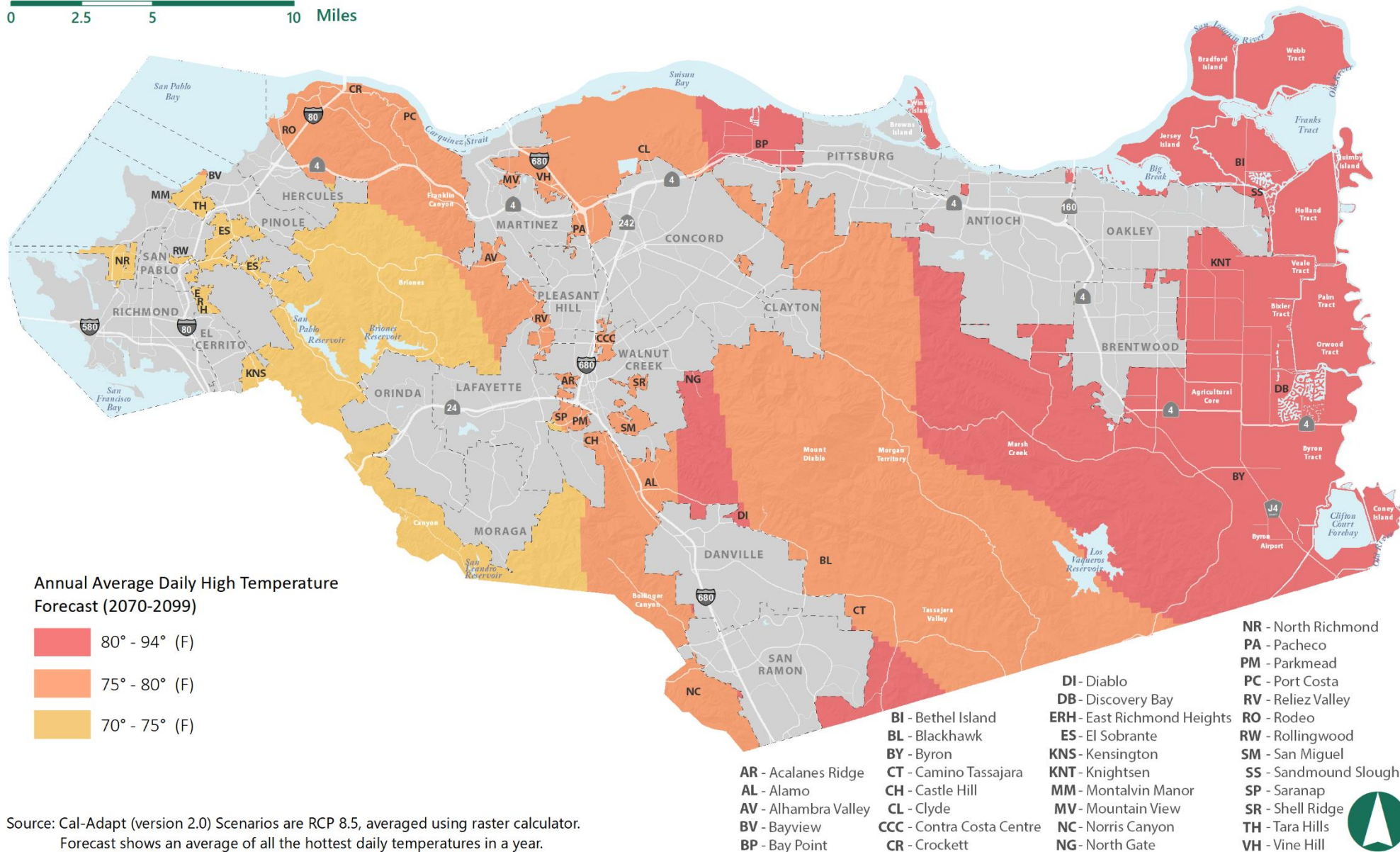
Historically, Contra Costa County has experienced an average of four extreme heat days a year. Figure HS-13 displays the projected average annual temperatures for 2070 through 2099. By the end of the century, the county is projected to experience an annual average of 18 to 30 extreme heat days per year.





FIGURE HS-13 TEMPERATURE FORECAST

0 2.5 5 10 Miles



Source: Cal-Adapt (version 2.0) Scenarios are RCP 8.5, averaged using raster calculator.  
Forecast shows an average of all the hottest daily temperatures in a year.

## Goal HS-8

Communities that can continue to function and thrive with an increase in average temperatures and extreme heat days.

## Policies

### HS-P8.1



Coordinate with public agencies, utilities, and community-based organizations to provide community resilience centers in all regions of the county during extreme heat events, severe weather events, and other highly hazardous conditions. Work to ensure that these facilities are in highly accessible areas and that information about their availability is widely distributed, especially to vulnerable populations.

### HS-P8.2



Work with energy service providers to promote programs encouraging reduced energy use during extreme heat events.

### HS-P8.3



Require new commercial parking lots with 50 or more spaces to mitigate heat gain through installation of shade trees, solar arrays, or other emerging cooling technologies. Prioritize the use of solar arrays where feasible and appropriate.

### HS-P8.4



Support efforts by East Bay Regional Park District and other local recreation agencies to provide outdoor recreation facilities with adequate shading and refillable water stations where appropriate.

### HS-P8.5



Provide shade trees or shade structures at parks, plazas, and other outdoor spaces.

## Actions

### HS-A8.1



Amend County Ordinance Code Chapter 82-16 – Off-Street Parking to achieve consistency with Policy HS-P8.3.

*See the Air Quality section of this Element and the Conservation, Open Space, and Working Lands Element for additional policies and actions related to tree preservation, planting, and air quality.*

## MANAGEMENT OF HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Heavy industrial uses play a large role in the history of Contra Costa County, particularly along its west and north coasts, where historic and ongoing activities handle, store, and transport vast amounts of hazardous materials and hazardous waste. Land uses involving hazardous materials include Military Ocean Terminal Concord (MOTCO), petroleum and chemical processing plants, oil and gas wells, power plants, ammonia refrigeration facilities, and petroleum product and natural gas storage and pipelines.



Potential hazards include release of flammable materials that could cause an explosion or fire along with smoke and combustion byproducts, and chemical releases with various levels of chemical toxicity. Notwithstanding industrial safety procedures, the presence of hazardous materials in large quantities, especially close to or upwind of populated areas, poses a constant safety hazard.

Hazardous materials and hazardous waste facilities are heavily regulated by the State and federal governments, including the California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB). Preventing environmental releases of hazardous materials depends primarily on compliance with industrial safety requirements and procedures regulated by the DTSC. The California Fire Code also minimizes public safety risks by requiring a buffer between hazardous materials use areas and residential populations.



*Pipelines transport crude oil through Rodeo and other communities.*

Contra Costa Hazardous Materials Programs (CCHMP) is the Certified Unified Program Agency (CUPA) for all of Contra Costa County. As the CUPA, CCHMP administers the State's hazardous materials regulatory programs through routine inspections at sites that handle hazardous materials, as well as the County's Industrial Safety Ordinance and Unannounced Inspection, Green Business, and Pollution Prevention programs.

The County Office of Emergency Services (OES) is responsible for planning, outreach, and training related to disaster management and emergency preparedness. Hazardous materials releases are reported to OES to ensure a coordinated response by County emergency services, such as fire and medical units, and evacuation notification, if needed.

Sites that have been contaminated with hazardous materials or hazardous waste can be remediated to protect human health and the environment. Remediation typically occurs in three stages. In the first phase, the current or prospective property owner performs an environmental assessment in which they review records to determine if the potential exists for exposure to hazardous materials. If potential contamination is discovered, environmental samples are collected and a health risk assessment is prepared. If the assessment identifies significant contamination, DTSC implements Health and Safety Code requirements to perform necessary cleanup activities. DTSC or the SWRCB oversees the assessment and remediation process; the County has no role in cleanup and remediation of contaminated sites, although it is an issue of significant concern to county residents and is typically considered during development review processes.

Reducing community exposure to hazardous materials is crucial in Impacted Communities to address the health disparities caused by exposure to hazardous materials from historic and ongoing activities. As shown in Figures HS-14 through HS-16, there are higher concentrations of toxic releases,



hazardous waste generators and facilities, and cleanup sites in and around Impacted Communities than many other parts of the county.

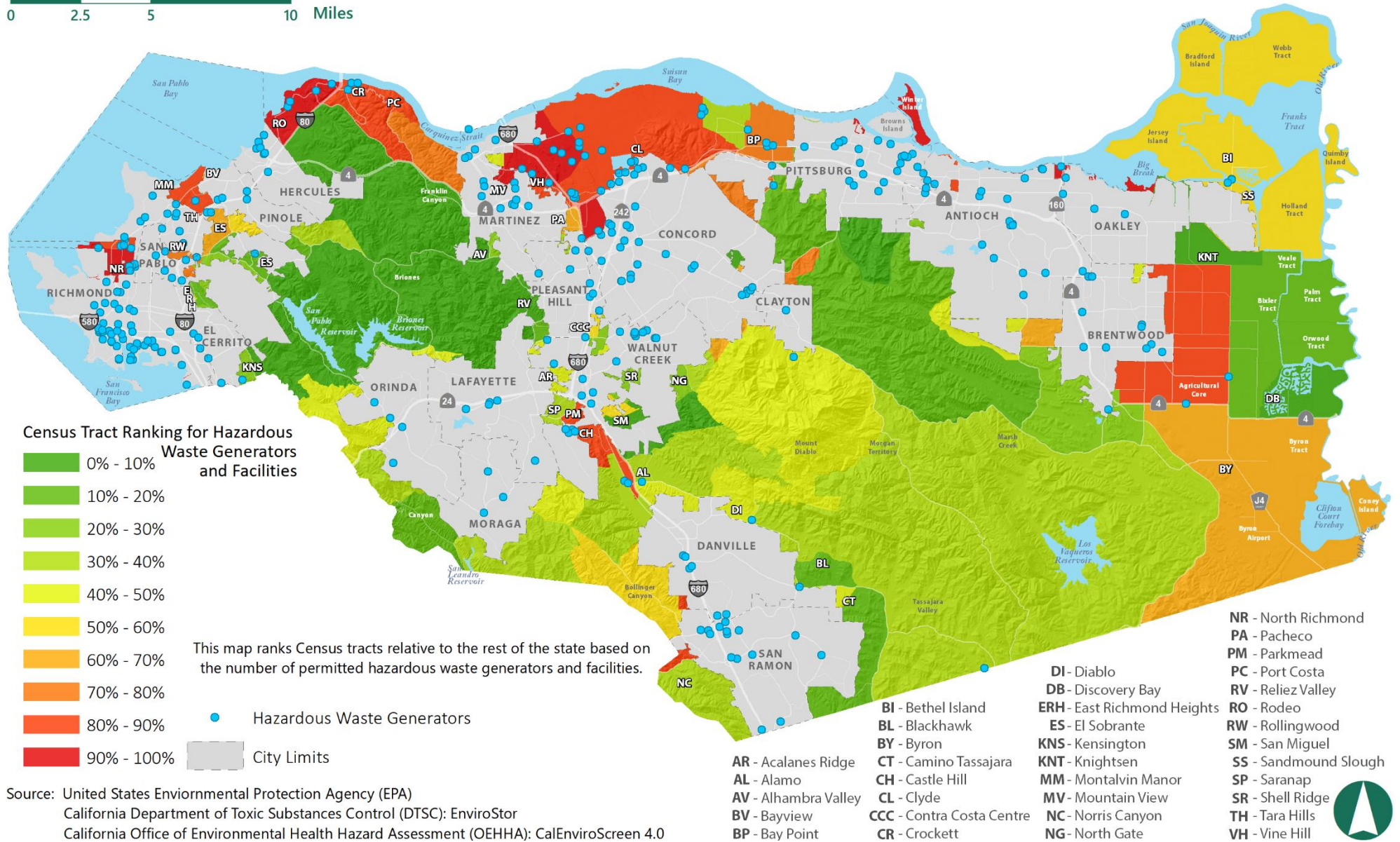






FIGURE HS-15 HAZARDOUS WASTE GENERATORS AND FACILITIES RANKINGS RELATIVE TO THE STATE

0 2.5 5 10 Miles



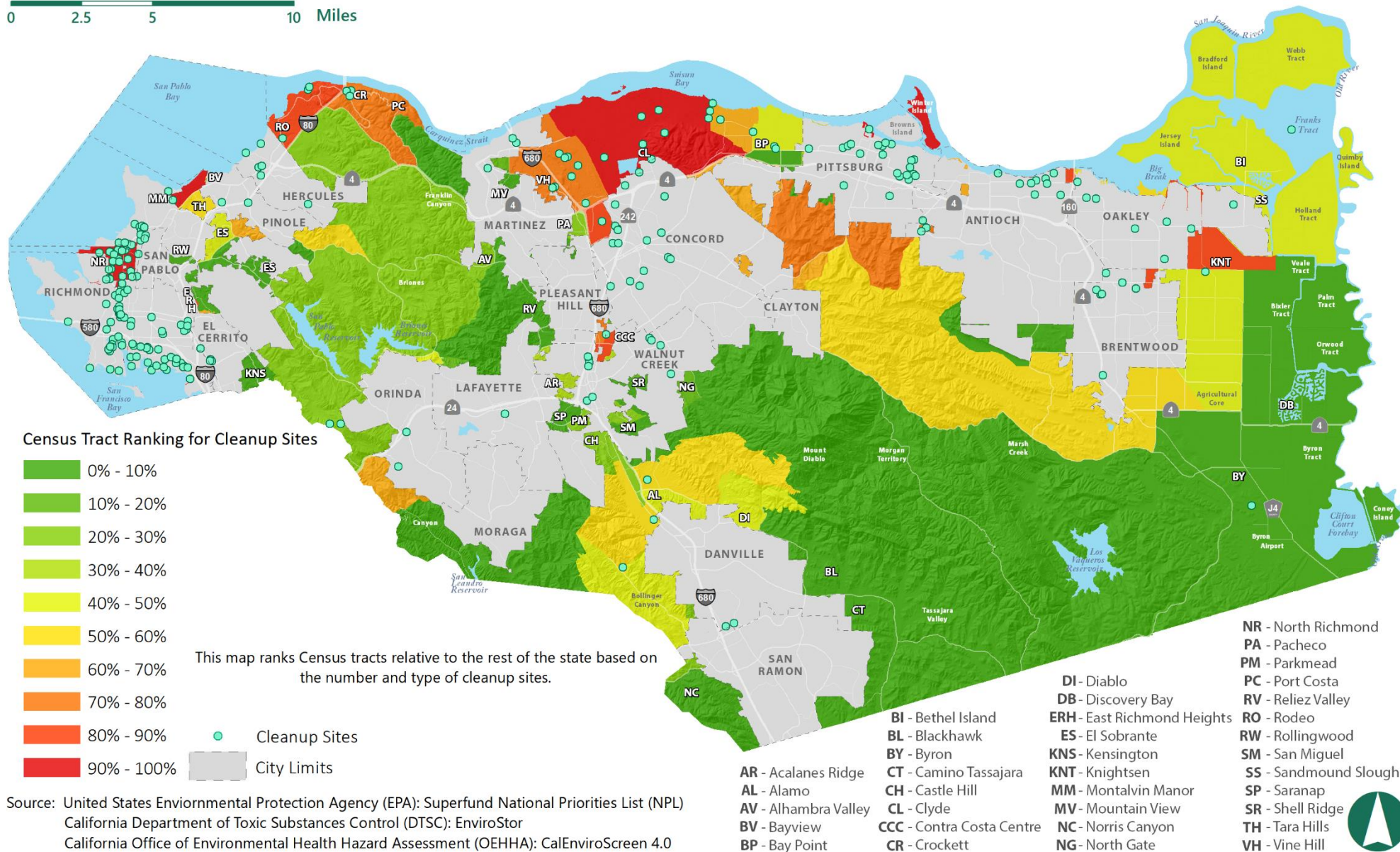
Source: United States Environmental Protection Agency (EPA)  
California Department of Toxic Substances Control (DTSC): EnviroStor  
California Office of Environmental Health Hazard Assessment (OEHHA): CalEnviroScreen 4.0





FIGURE HS-16 CLEAN-UP SITES RANKINGS RELATIVE TO THE STATE

0 2.5 5 10 Miles



Source: United States Environmental Protection Agency (EPA): Superfund National Priorities List (NPL)  
California Department of Toxic Substances Control (DTSC): EnviroStor  
California Office of Environmental Health Hazard Assessment (OEHHA): CalEnviroScreen 4.0

## Goal HS-9

Communities that are protected from hazards associated with use, manufacture, transport, storage, treatment, and disposal of hazardous materials and hazardous waste, including from fossil fuels, chemical refining, and power plants, as well as pipelines, rail lines, and truck transportation.

## Policies

### HS-P9.1



Provide equitable inspection and enforcement of hazardous material and hazardous waste regulations throughout the county.

### HS-P9.2

Ensure CCHMP staff have an opportunity to review and comment on developmental entitlement applications for projects involving use of hazardous materials or hazardous waste regardless of whether a land use permit is required pursuant to County Ordinance Code Chapter 84-63 – Land Use Permits for Development Projects Involving Hazardous Waste or Hazardous Material.

### HS-P9.3



Require new industrial development to reduce generation and disposal of hazardous materials to the maximum extent feasible by (listed in order of importance):

- Implementing operational source reduction strategies and replacing hazardous materials with less hazardous materials.
- Reducing generation of those wastes not amenable to source reduction or recycling.
- Recovering and recycling the remaining waste for reuse.
- Properly disposing of hazardous wastes and residuals generated from treatment of hazardous waste.\*

### HS-P9.4



Support development of alternative hazardous waste management technologies and methodologies that reduce the relative risk to human health and the environment.

### HS-P9.5



Require facilities that manage hazardous materials or hazardous waste in stationary or fixed storage tanks and that are in areas at risk of inundation from sea-level rise and flooding to conduct sea-level rise studies to address the risk of hazardous materials release from rising water levels, including rising groundwater. Require these facilities to incorporate best management practices to reduce the risk of release. Require industrial projects involving use, management, or generation of hazardous materials or waste, particularly those utilizing stationary or fixed storage tanks, in areas at risk from sea-level rise, surface or emergent groundwater flooding, or tsunami to incorporate best management practices to reduce risk and prepare plans for prevention and remediation of hazardous materials/waste releases resulting from inundation. Remediation plans must meet regulatory standards for protection of people and the environment in



the event of permanent inundation and include financial assurances to guarantee implementation.\*

### HS-P9.6

Require transport of hazardous materials via the safest available method for each material, avoiding Impacted Communities, populated areas, and areas subject to natural hazards whenever possible.

### HS-P9.7



Prioritize implementation of ~~safety~~ projects that reduce the risk of hazardous materials transportation accidents along hazardous material transportation corridors in Impacted Communities to address high risk scenarios.

### HS-P9.8



Require applicants for projects ~~in Impacted Communities~~ that involve hazardous materials or hazardous waste to provide clear information in plain language about potential hazards their projects pose to nearby residents communities at the beginning of the review process. Review and verify this information, make it available to residents, and encourage project applicants to host at least one community meeting to discuss potential hazards.

### HS-P9.9



~~Discourage~~ Deny applications/entitlements for construction of new large-scale facilities that treat, store, or dispose of hazardous waste from off-site sources and negatively impact Impacted Communities.

### HS-P9.10



Prohibit new hazardous waste facilities in the following areas:

- (a) Watersheds of an existing or planned drinking water reservoir.
- (b) Ecologically significant resource areas.
- (c) Within 200 feet of an active or potentially active fault.
- (d) Within a 100-year floodplain.
- (e) Within a setback distance determined in accordance with DTSC guidance under SB 673, once final.\*

### HS-P9.11



Require design and operation of new or expanded hazardous waste facilities to adhere to the following criteria, as well as the permitting criteria established by the DTSC for vulnerable communities and cumulative impacts pursuant to SB 673, once final:

- (a) Minimize risk to the surrounding area in the case of a hazardous waste accident or spill.
- (b) Ensure spills of waste will not reach the Bay, Delta, streams, creeks, reservoirs, or other bodies of water or environmentally sensitive resources by incorporating buffers as appropriate and/or using engineered structural design features (e.g., spill containment and monitoring devices).
- (c) Avoid known or suspected groundwater recharge areas or areas where residential uses rely on wells. If located in such areas, facilities must provide

properly engineered spill containment features, inspection measures, and other environmental protection controls.

- (d) In areas with unstable soils, such as steep slopes and areas subject to liquefaction or subsidence, ensure structural stability through engineered design features.
- (e) Use access roads leading to major transportation routes that:
  - Do not traverse residential neighborhoods.
  - Minimize, buffer, or employ physical barriers to residential frontages.
  - Demonstrate road network safety through road design, construction, accident rates, and traffic flow.
- (f) Minimize noise impacts on the surrounding area.\*

#### HS-P9.12



Require hazardous waste facilities to prepare a cumulative risk assessment that analyzes, characterizes, and quantifies the combined risks to human health and the environment from the facility, in combination with other off-site hazardous materials risks. The assessment must consider risks in the absence of actions to control or mitigate a potential release and determine whether buffers or other mitigation is necessary to protect residential uses, immobile populations (e.g., schools, hospitals, behavioral health facilities, convalescent homes, and prisons), other places where people gather, environmentally sensitive resources, and other sensitive areas from adverse emissions or contamination. The assessment must also be guided by DTSC guidance for vulnerable communities and cumulative impacts pursuant to SB 673, once final.

Require that project applicants fund the needed technical review for the assessment.\*

#### HS-P9.13

Include a condition in entitlements for new and expanded hazardous waste facilities that requires periodic (i.e., every one to three years) permit review to ensure ongoing compliance with conditions of approval.

#### HS-P9.14



Encourage and facilitate establishment of adequate sites for collection of household hazardous waste (HHW), unused pharmaceuticals, and universal wastes, along with provisions for residents who are physically unable to deliver materials to a collection site.

### Actions

#### HS-A9.1



Provide technical assistance to hazardous waste generators to encourage them to reduce their hazardous waste to the maximum extent feasible.

#### HS-A9.2



Update the Oil Spill Contingency Plan to protect the Bay and Delta shoreline areas in the event of an oil or other hazardous materials spill.

#### HS-A9.3



Provide information to county residents about less toxic alternatives to household products containing universal

wastes and the safe handling, storage, and disposal of such products, including pharmaceuticals.

### Goal HS-10

Communities that are protected from the impacts of historical hazardous waste releases.

## Policies

### HS-P10.1



Coordinate with other agencies in efforts to remediate or treat contaminated surface water, groundwater, and soils in or affecting Impacted Communities.

### HS-P10.2



Require development of contaminated sites to comply with all clean-up plans, land use covenants, and deed restrictions imposed by the DTSC or Regional Water Quality Control Board (RWQCB).\*

### HS-P10.3



Require new, modified, or expanded industrial uses involving hazardous materials or wastes to provide sufficient funds, in the form of a ~~cash deposit, surety bond, or other~~ financial instrument acceptable to the County, to guarantee site remediation, including removal of facilities, equipment, and structures, and ensure community safety and site reusability.

## Actions

### HS-A10.1




Support public access to the inventory of contaminated sites published by the DTSC and SWRCB by posting links to this information on the County's website.

## SEISMIC AND GEOLOGIC HAZARDS

Contra Costa County is in a region of high seismicity. Underlying California are two tectonic plates, the Pacific Plate and North American Plate. Their primary boundary is the San Andreas Fault, which runs most of the length of the state. These plates move past each other at a rate of about two inches per year. Friction occasionally causes the plates to become stuck, resulting in stress and stored energy deep below Earth's surface. When the plates inevitably break loose, the stored energy is suddenly released in the form of an earthquake. Several significant (i.e., stronger than magnitude 5.0) earthquakes have impacted the county, including the 1906 San Francisco earthquake (magnitude 7.8), 1989 Loma Prieta earthquake (magnitude 6.9), and 2014 South Napa earthquake (magnitude 6.0).

Many smaller, active faults exist within the San Andreas Fault Zone. Faults are commonly considered "active" when they have ruptured the ground surface or otherwise produced evidence of seismic activity within the last 10,000 years, while "potentially active" faults are those formed during approximately the last 2 to 3 million years. There are five major active faults running through the county:

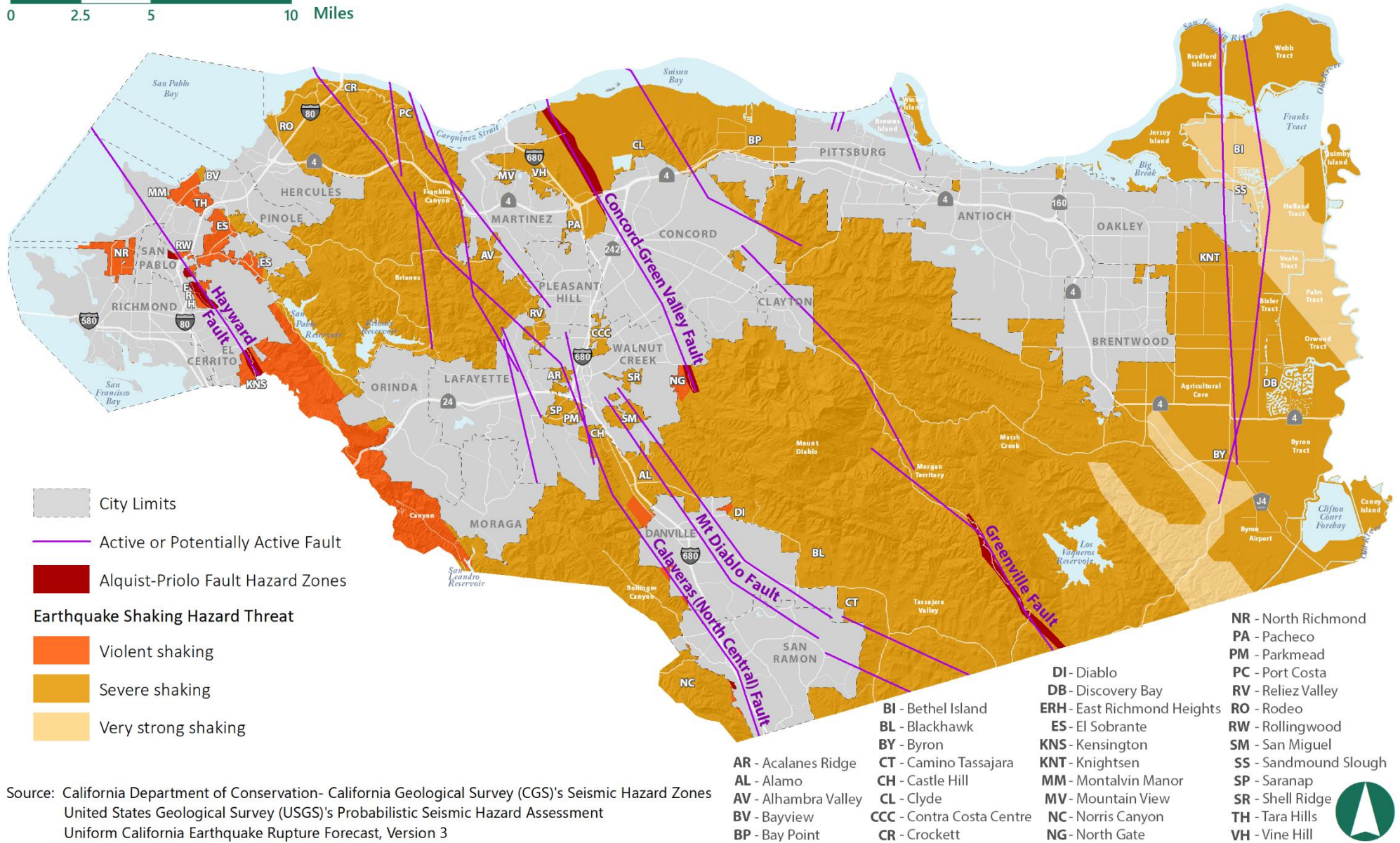
- Calaveras (North Central) Fault
- Concord-Green Valley Fault
- Greenville Fault

- 
- Hayward Fault
  - Mount Diablo Fault


Movement on any of these faults or other fault lines in the region could cause earthquakes and fault rupture. The Hayward Fault is particularly concerning, as it runs beneath densely populated sections of Contra Costa and Alameda Counties. A significant earthquake on the Hayward Fault is predicted to result in catastrophic damage to buildings and infrastructure and substantial loss of life.

The Alquist-Priolo Earthquake Fault Zoning Act is a State law enacted in 1972 that limits development along active faults in areas known as “Alquist-Priolo Fault Zones.” The Alquist-Priolo Fault Zones are areas around active faults that are known to cause surface rupture, meaning that the surface of the ground is “pulled apart” during seismic activity. Structures within these zones are subject to specific building codes and regulations to ensure they can withstand the effects of earthquakes, as surface rupture can seriously damage buildings and other structures built on top of the fault. Figure HS-17 shows active and potentially





Source: California Department of Conservation- California Geological Survey (CGS)'s Seismic Hazard Zones  
United States Geological Survey (USGS)'s Probabilistic Seismic Hazard Assessment  
Uniform California Earthquake Rupture Forecast, Version 3



active faults, Alquist-Priolo Fault Zones, and anticipated shaking levels based on State modeling data.

Earthquakes have secondary effects as well. One of these is liquefaction, which occurs when sandy or silty soil materials become saturated during ground shaking, losing strength, causing the ground to liquefy. This can rupture pipelines, buckle roads and railroad tracks, and damage or destroy building foundations. Figure HS-18a shows the susceptibility of land to liquefaction. Areas along the Bay shoreline and in the Delta are most susceptible. As explained in the Flood Hazards and Sea-Level Rise section of this Element, earthquakes can also cause tsunami and seiche.

Other geologic hazards are landslides and erosion, which can occur gradually and continuously or very suddenly, often with disastrous results. In Contra Costa County, landslides are usually triggered by heavy rain, so the potential for landslides largely coincides with severe storms that saturate steep, loose soils. Earthquakes can also trigger landslides, ~~and with~~ upland areas in Contra Costa County ~~are being~~ highly susceptible ~~to landslides~~, as shown in Figure HS-18b. Erosion, or the geological process in which earthen materials are worn away and transported by natural forces like water or wind, causes the soil to deteriorate. Highly erosive soils can damage roads, bridges, buildings, and other structures.

Liquefaction and landslide threats are addressed by the Seismic Hazards Zone (SHZ) Mapping Act of 1990, which closely resembles the Alquist-Priolo Act. The SHZ Act authorizes the California Geologic Survey to delineate seismic hazard zones (lands subject to lateral or vertical displacement under conditions of strong earthquake ground shaking) and provide guidelines and regulations for evaluating adverse conditions. Projects located in a SHZ, as shown on Figure HS-18, must conduct an investigation performed by a licensed geotechnical engineer or engineering geologist. When adverse conditions are confirmed present, effective mitigation must be provided to control/avoid the damage potential. Virtually all development applications

that would lead to construction of buildings for human occupancy (i.e., rezonings, subdivisions, land use permits, development plans, building permits) are subject to the provisions of the SHZ Act.

### Goal HS-11

Communities and infrastructure that are protected from seismic and geologic hazards, including severe ground shaking, fault rupture, liquefaction, landslides, and unstable slopes.

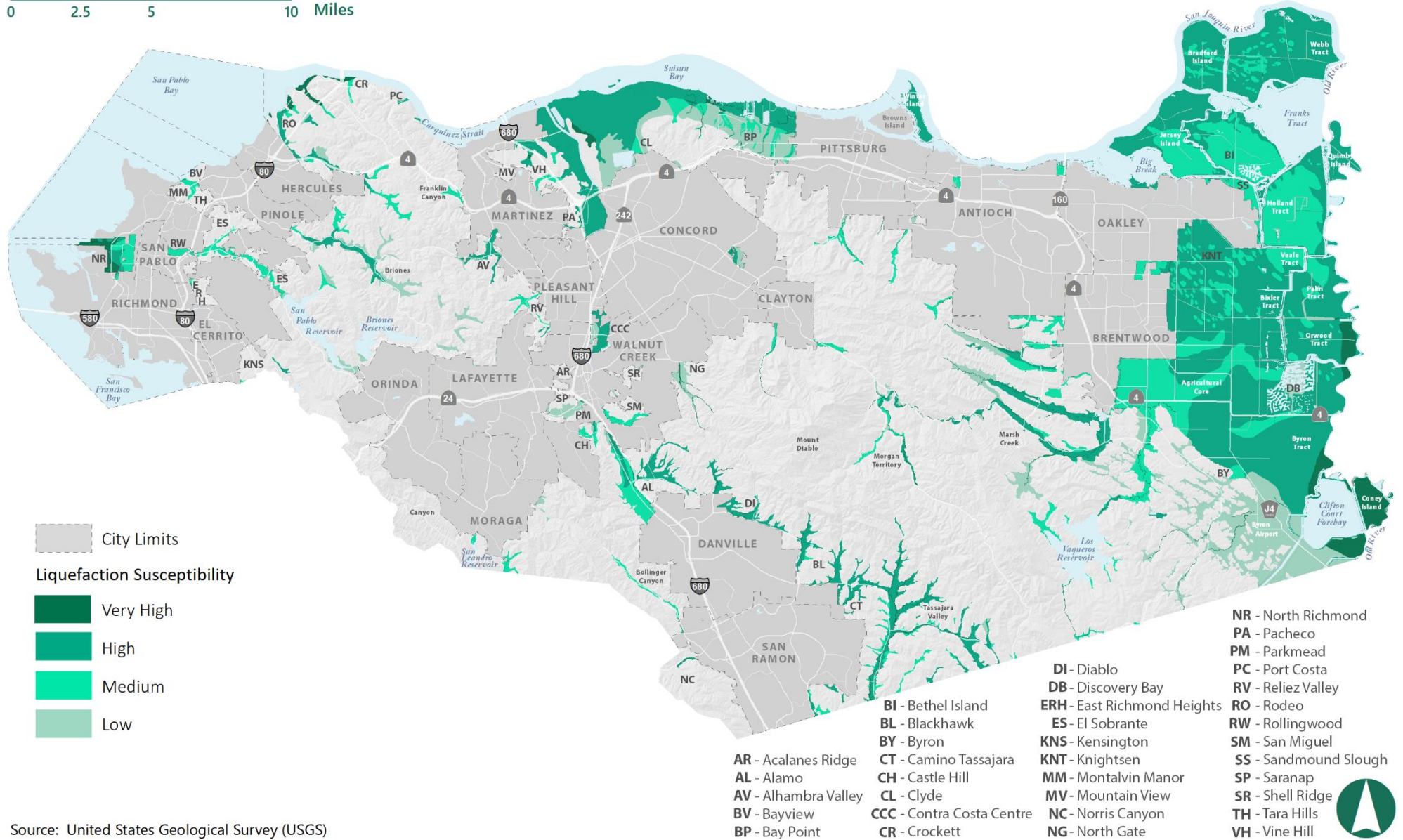




*Earthquakes can cause significant building damage, especially to buildings that do not meet modern seismic safety standards.*

FIGURE HS-18A LIQUEFACTION SUSCEPTIBILITY

0 2.5 5 10 Miles



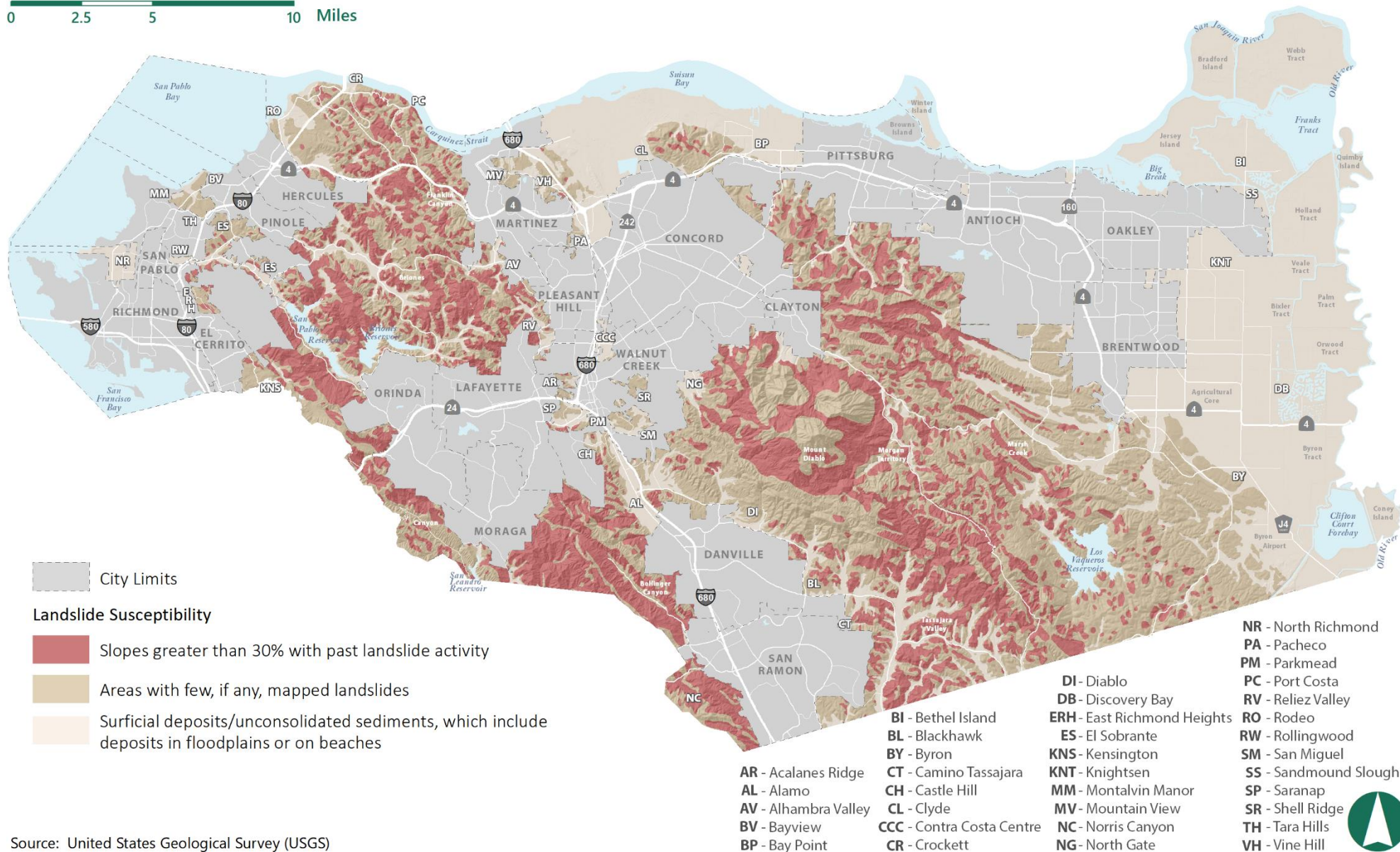
Source: United States Geological Survey (USGS)





**FIGURE HS-1918B LANDSLIDE HAZARDS**

0 2.5 5 10 Miles



Source: United States Geological Survey (USGS)



## Policies

### HS-P11.1

For projects in ~~areas of known or suspected seismic or other geologic hazards, such as Alquist-Priolo Earthquake Fault Zones or Seismic Hazard Zones, (areas considered to be at risk of earthquake triggered liquefiable soils, liquefaction or landslides displacement), delineated by the California Geological Survey, and as well as any other areas of steep slopes, or areas of suspected ground failure known to the County, require~~ submittal of ~~appropriately detailed engineering geologic or geotechnical report investigations, and ensure effective mitigation measures are incorporated into the project design.~~ The reports must be compliant with State Guidelines and include:

- (a) A map showing the outline of any geologic or potentially hazardous soil condition and areas subject to inundation.
- (b) Recommended means of mitigation of any adverse condition representing a hazard to improvements.
- (c) Recommendations to assure proper implementation of mitigation measures during construction.\*

### HS-P11.2

Prohibit construction of buildings intended for human occupancy in areas where seismic and other geologic hazards (e.g., landslides, liquefaction, and fault lines) cannot be adequately mitigated.\*

### HS-P11.3

~~Discourage construction of critical facilities and buildings intended for human occupancy in Alquist-Priolo Fault Zones, and encourage earthquake retrofitting. Where such development already exists, encourage earthquake retrofitting. If there is no feasible alternative to developing inside the Fault Zones, siting critical facilities and high-occupancy buildings intended for human occupancy in such hazard zones, the Fault Zones, building the improvements buildings must be sited, designed, and constructed to withstand the anticipated seismic stresses.\*~~

### HS-P11.4

~~Refer geotechnical and soils engineering geologic reports to the County Peer Review Geologist for review and approval whenever necessary.~~ evaluation of their adequacy, as required by State Law for projects in State-designated hazard zones. Reports deemed inadequate will require further engineering analysis and revision until the findings/opinions of the Peer Review Geologist have been addressed to the County's satisfaction.

### HS-P11.5

~~Discourage development on slopes exceeding 15 percent, and prohibit development on slopes exceeding 26.5 percent or greater, to avoid slope instability, extensive unnecessary grading, and unnecessary extensive land disturbance, and facilitate long-term control of erosion and sedimentation.~~ Discourage development on slopes exceeding 15 percent, and prohibit development on slopes exceeding 26.5 percent or greater, to avoid slope instability, extensive unnecessary grading, and unnecessary extensive land disturbance, and facilitate long-term control of erosion and sedimentation. Exceptions may be considered for infrastructure projects and development on existing legal lots where no other feasible building sites exist.



### **HS-P11.6 NEW**

Require projects to form a Geologic Hazard Abatement District (GHAD) or join an existing GHAD whenever necessary to adequately mitigate anticipated or residual geologic hazards.

### **HS-P11.6HS-P11.7**

Do not accept public road dedications or allow construction of private roads on unstable hillsides or in landslide hazard areas unless potential hazards have been mitigated to the County's satisfaction. All private roads constructed in such areas must be fully compliant with private road standards adopted by the County and local fire protection district with jurisdiction.\*

See the Land Use Element for additional policies and actions related to development in hazard areas.

## **EMERGENCY PREPAREDNESS, RESPONSE, AND EVACUATION ROUTES**

### **Preparedness, Response, and Recovery**

Contra Costa County is committed to preservation of life, property, and the environment during emergencies. The County implements its Local Hazard Mitigation Plan, which assesses risks from natural and human-caused hazards, including risks to people and facilities, and identifies mitigation actions to reduce or eliminate hazard risks. The current Local Hazard Mitigation Plan, certified by FEMA, is incorporated into this Health and Safety Element by reference, as permitted by California Government Code Section 65302.6. Collaborating with local agencies, including 16 incorporated cities and towns and 25 special districts in the Contra Costa County planning area. The County prepared the most recent Multi-Jurisdictional Local Hazard

Mitigation Plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's (FEMA) LHMP policy guidance. The County collaborated with local agencies, including 16 incorporated cities and towns and 25 special districts in the Contra Costa County planning area, to prepare the LHMP. Contra Costa County's LHMP incorporates a process is one where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. Implementation of these mitigation actions, which include short- and long-term strategies, involves planning, policy changes, programs, projects, and other activities. Local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance.

The LHMP and Health and Safety Element address similar issues, but the Health and Safety Element provides a higher-level framework and set of policies that pertain to the long-term safety of the county, while the LHMP focuses on more specific mitigation actions to enable jurisdictions to better protect lives, property, and natural systems. The LHMP, certified by FEMA, is incorporated into the Health and Safety Element by reference, as permitted by California Government Code Section 65302.6, and can be accessed at [www.contracosta.ca.gov/4732/General-Plan](http://www.contracosta.ca.gov/4732/General-Plan).

Multiple agencies within the county, along with State and federal agencies, are involved with emergency preparedness and response. The County has adopted the State of California Emergency Plan issued by the Governor's Office of Emergency Services (CAL OES). The State Plan outlines ways to prepare for and respond to various disasters, such as earthquakes, floods, and fires, and specifies which State-level department will be responsible for recovery efforts. Contra Costa County also participates in the California Disaster and Civil Defense Master Mutual-Aid Agreement, under which the State and local governments will work together to respond to emergencies. CAL OES Coastal Region (Mutual Aid Region II) serves the counties on the



coast from Del Norte to Monterey and the counties surrounding San Francisco Bay.

The County has its own Emergency Operations Plan developed by the Sheriff's Office of Emergency Services in collaboration with emergency management partners (fire districts, law enforcement agencies, etc.), and has prepared additional plans addressing earthquake response, disaster debris management, and airport emergencies. The County also maintains the Emergency Operations Center, which is activated as needed to communicate with emergency management partners and coordinate responses to incidents. In addition, the County and many of the incorporated cities offer Community Emergency Response Team (CERT) training to help residents be prepared for disasters. The intent of these plans and actions is to proactively safeguard life, property, and the environment, facilitate effective emergency response, and accelerate recovery when disasters happen.

## Goal HS-12

Communities and local economies that continue to function during all hazards and have coordinated and effective response and recovery procedures.



*The County's Emergency Operations Center monitors hazardous events as they unfold and coordinates the response.*

## Policies

### HS-P12.1

Continue implementing the *Contra Costa County Local Hazard Mitigation Plan*, which was adopted by the Board of Supervisors and certified by FEMA and is incorporated by reference into this Health and Safety Element.

### HS-P12.2

Locate facilities and uses on the County's designated critical facilities list outside of identified hazard areas whenever possible, accounting for how climate change may increase frequency and intensity of hazards. If critical facilities must be in hazard areas, ensure these facilities and their access routes are protected from the hazard risks inherent to each location.\*





### HS-P12.3



Coordinate with cities, school districts, recreation and park districts, and community-based organizations to ensure adequate emergency shelters, community resilience centers, and alternate care sites are available when natural disasters and other highly hazardous conditions, such as industrial accidents, occur.

### HS-P12.4



Ensure there are adequate identified locations for alternate care sites, especially in Impacted Communities.

### HS-P12.5

Ensure the designs for new and significantly renovated community-oriented County facilities allow for flexible uses and support multiple community purposes, including being used as community resilience centers.

### HS-P12.6

Support residents' ability to safely shelter-in-place, with appropriate air exchange rates and protection from contaminants.

## Actions

### HS-A12.1

Update the *Contra Costa County Local Hazard Mitigation Plan* as necessary to remain compliant with State and federal laws and reflect changing climate conditions.

### HS-A12.2

Incorporate the assessments and projections for future emergency service needs from the most recent Municipal Services Reviews into updates of the *Contra Costa County Local Hazard Mitigation Plan*.

### HS-A12.3

At least once every eight years, evaluate the effectiveness of and update the public safety, preparedness, and hazard mitigation policies in this Health and Safety Element, with consideration given to changing climate conditions.

### HS-A12.4

Identify and, as feasible, retrofit critical County-owned buildings and facilities in areas prone to flooding (including sea-level rise and emergent flooding), seismic hazards, landslides and debris flows, tsunamis, or wildfires to maximize defensible space and outdoor fireproofing, improve drainage systems, stabilize nearby slopes, and take other actions as appropriate to minimize the hazard.

### HS-A12.5



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. Work with the owners of these facilities to identify and implement upgrades, prioritizing facilities in Impacted Communities.

### HS-A12.6



Establish standardized triggers (temperature, air quality, etc.) for opening County-operated community resilience centers.

### HS-A12.7



Conduct a comprehensive energy resilience needs assessment for critical County facilities and pursue funding opportunities to meet identified needs.

### HS-A12.8

Install backup power and water resources at critical County facilities, emergency shelters, community resilience centers, and cooling centers.\*

### HS-A12.9



Coordinate with transit providers to identify and advertise ways for individuals with restricted mobility to reach resilience centers, cooling centers, and alternate care sites.

### HS-A12.10

Partner with community-based organizations, homeowners associations, and neighborhood groups to communicate with community members about human-caused, natural, and climate change-induced hazards, how to prepare for them, and what to do when a shelter-in-place or evacuation order is issued. Make this information widely available in various formats and languages to all community members, with special effort aimed at

reaching unsheltered people and people with special access and functional needs.

### HS-A12.11

Continue to provide alerts about developing and ongoing emergency situations in languages and formats appropriate to affected county residents through the Joint Information Center.

### HS-A12.12

Continue providing CERT training programs and encourage the Contra Costa CERT Coalition to provide updated training on hazards and related risks identified in the Contra Costa County Vulnerability Assessment or the best-available climate science data.

## Evacuation Routes and Plans

With advanced warning, evacuation can be effective in reducing injury and loss of life during a catastrophic event. Figure HS-19 shows the evacuation routes throughout the county, which include highways and major surface streets. Preferred evacuation routes during any individual evacuation order will depend on the characteristics of the emergency. Contra Costa County has identified evacuation zones to support efficient communication with community members regarding evacuation warnings and orders.

Some parts of the county face evacuation constraints, particularly those far from major roadways. Some areas have only one viable evacuation route, which could be disastrous if it becomes blocked or congested. State law requires counties to identify evacuation constraints in hazard-prone residential areas. Figure HS-20 maps residential parcels with evacuation constraints. All areas identified are more than a half-mile from a major roadway and/or have access to only one emergency evacuation route. In



most cases it is not feasible to retrofit existing neighborhoods to eliminate physical evacuation constraints such as lack of evacuation routes or

0 2.5 5 10 Miles

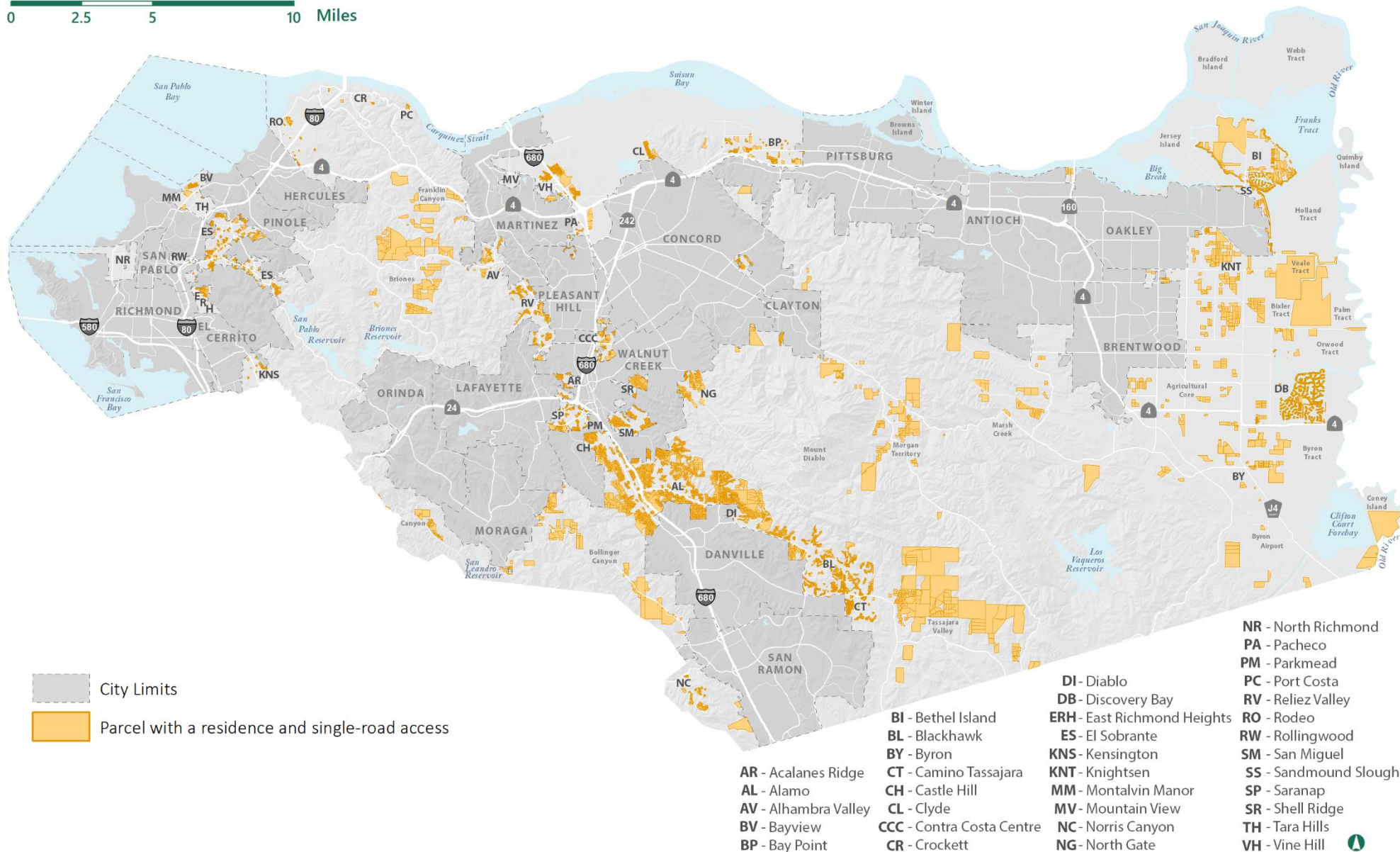







**FIGURE HS-2120 SINGLE-ACCESS ROAD RESIDENTIAL AREAS**

0 2.5 5 10 Miles





insufficient roadway capacity. The County will nonetheless strive to improve peoples' ability to evacuate from these constrained areas.

### **Goal HS-13**

Effective evacuation capacity and capabilities throughout the county in response to emergencies and major hazards of concern.

## **Policies**

### **HS-P13.1**

Except for infill sites, require new development in High and Very High Fire Hazard Severity Zones, the WUI, and 100-year or 200-year floodplains to have access to at least two emergency evacuation routes, and encourage the same for existing development.\*

### **HS-P13.2**

Coordinate with transit agencies and community service and faith-based organizations to assist with evacuation efforts and ensure that evacuation services are made available to vulnerable people, including those with limited English proficiency or limited access to transportation, communication, and other lifeline resources and services.

## **Actions**

### **HS-A13.1**

Partner with cities and public protection agencies to delineate evacuation routes, identifying their capacity, safety, and viability under different hazard scenarios, as well as emergency vehicle routes for disaster response, and where possible, alternate routes where congestion or road failure might reasonably be expected to occur. Update as new information and technologies become available.

### **HS-A13.2**

At least once every five years, update maps identifying neighborhoods with only one emergency evacuation route.\*

### **HS-A13.3**

Coordinate with local fire districts to develop and maintain minimum roadway, ingress, and egress standards for evacuation of residential areas in Very High Fire Hazard Severity Zones.\*

### **HS-A13.4**

Develop an evacuation education program to help inform community members about the Contra Costa County Community Warning System and recommended approaches to evacuation.

*See the Public Facilities and Services Element for policies and actions related to emergency medical services.*



## NOISE AND VIBRATION

Sounds are disturbances created by a vibrating object, transmitted by pressure waves, that are capable of being detected by a human ear or microphone. Noise includes sounds that are unpleasant or unwanted. Like noise, vibration is transmitted in waves, but through the earth or solid objects. Unlike noise, vibration is typically felt rather than heard. Vibration can be natural, such as from earthquakes or landslides, or human-caused, such as from machinery or trains.

Noise and vibration can significantly impact peoples' lives. Depending on their source and intensity, noise and vibration can be painful, interrupt sleep, cause distraction or confusion, and physically damage the inner ear. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA (i.e., the A-weighted sound level, which correlates to how the human ear perceives sound). Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure, functions of the heart, and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent hearing damage. When the noise level reaches 120 dBA, even short-term exposure causes a tickling sensation in the ear, called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation becomes painful, called the threshold of pain. Table HS-2 shows typical noise levels from familiar noise sources.

Some types of noise and vibration, such as from construction and maintenance activities, are temporary. While these types of noise and vibration can be long-term, they will end with completion of the activity. Other types of noise and vibration are permanent, including from mobile sources such as cars, trains, and planes, and stationary sources, like continual noise from machinery at an industrial site. These sources require the County to ensure that certain land uses, especially "sensitive receptors" like homes and schools, are not brought too close to the permanent source

of noise and vibration without incorporating reduction measures like thicker walls and windows.

**TABLE HS-2**                      **TYPICAL A-WEIGHTED SOUND LEVELS**

| Noise Source                                       | A-Weighted Sound Level in Decibels | Noise Environment    |
|----------------------------------------------------|------------------------------------|----------------------|
| Near Jet Engine                                    | 140                                | Deafening            |
| Civil Defense Siren                                | 130                                | Threshold of pain    |
| Hard Rock Band                                     | 120                                | Threshold of feeling |
| Accelerating Motorcycle at a Few Feet Away         | 110                                | Very loud            |
| Pile Driver; Noisy Urban Street/Heavy City Traffic | 100                                | Very loud            |
| Ambulance Siren; Food Blender                      | 95                                 | Very loud            |
| Garbage Disposal                                   | 90                                 | Very loud            |
| Freight Cars; Living Room Music                    | 85                                 | Loud                 |
| Pneumatic Drill; Vacuum Cleaner                    | 80                                 | Loud                 |
| Busy Restaurant                                    | 75                                 | Moderately loud      |
| Near Freeway Auto Traffic                          | 70                                 | Moderately loud      |
| Average Office                                     | 60                                 | Moderate             |
| Suburban Street                                    | 55                                 | Moderate             |
| Light Traffic; Soft Radio Music in Apartment       | 50                                 | Quiet                |
| Large Transformer                                  | 45                                 | Quiet                |
| Average Residence Without Stereo Playing           | 40                                 | Faint                |
| Soft Whisper                                       | 30                                 | Faint                |
| Rustling Leaves                                    | 20                                 | Very faint           |
| Human Breathing                                    | 10                                 | Very faint           |

State law requires general plans to use the Community Noise Equivalent Level (CNEL) or the Day/Night Average Sound Level (DNL) to describe the community noise environment (in decibels, "dB") and its effects on the population. Contra Costa County land use compatibility standards for noise are shown in Table HS-3, and the future 2045 roadway noise conditions are depicted graphically on Figure HS-21.

**TABLE HS-3**      **MAXIMUM ALLOWABLE NOISE EXPOSURE BY LAND USE**

| Land Use Type                                                                                                                     | Noise Level, DNL (dB)                                                                                                                                                                                                                   |       |       |       |       |       |     |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-----|
|                                                                                                                                   | 0-55                                                                                                                                                                                                                                    | 56-60 | 61-65 | 66-70 | 71-75 | 75-80 | >81 |
| Residential <sup>a, b</sup>                                                                                                       |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Urban Residential Infill                                                                                                          |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Hotels, Motels                                                                                                                    |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Schools, Libraries, Hospitals, Churches, Religious Institutions, Hospitals, Extended Care Facilities                              |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Auditoriums, Concert Halls, Amphitheaters                                                                                         |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Sports Arenas, Outdoor Spectator Sports                                                                                           |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Playgrounds, Neighborhood Local Parks                                                                                             |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Golf Courses, Riding Stables, Water Recreation (e.g., water parks), Cemeteries                                                    |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Office Buildings, Business Commercial, and Professional Buildings (i.e., uses that are generally indoors and not noise sensitive) |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
| Mining, Industrial, Manufacturing, Mining, Utilities, Agriculture                                                                 |                                                                                                                                                                                                                                         |       |       |       |       |       |     |
|                                                                                                                                   | <b>Normally Acceptable.</b> Specified land use is satisfactory based on the assumption that any buildings involved are of normal, conventional construction, without any special noise insulation requirements.                         |       |       |       |       |       |     |
|                                                                                                                                   | <b>Conditionally Acceptable.</b> New construction or development should be undertaken only after a detailed analysis of the noise-reduction requirements is made and needed noise insulation features have been included in the design. |       |       |       |       |       |     |
|                                                                                                                                   | <b>Unacceptable.</b> New construction or development should not be undertaken.                                                                                                                                                          |       |       |       |       |       |     |

<sup>a</sup> A DNL of 60 dB or less may not be achievable in all residential areas due to environmental, economic, or aesthetic constraints. One example is small balconies associated with multiple-family housing. In this

case, second- and third-story balconies may be difficult to control to the standard. A common outdoor use area that meets the goal can be provided as an alternative.

<sup>b</sup> If the primary noise source is passing trains, the standard for outdoor noise levels in residential areas is a DNL of 70 dB.

## Goal HS-14

An acceptable noise environment in all areas of the county.

## Policies

### HS-P14.1



Require projects that would locate noise-sensitive land uses in areas where the projected ambient noise level is greater than the “normally acceptable” noise level indicated in Table HS-3 to provide an acoustical analysis that recommends appropriate mitigation to meet the noise compatibility standards.\*

### HS-P14.2



Require new housing developments, hotels, and motels exposed to a DNL of 60 dB or greater to provide a detailed acoustical analysis describing how the project will provide an interior DNL of 45 dB or less.\*

### HS-P14.3



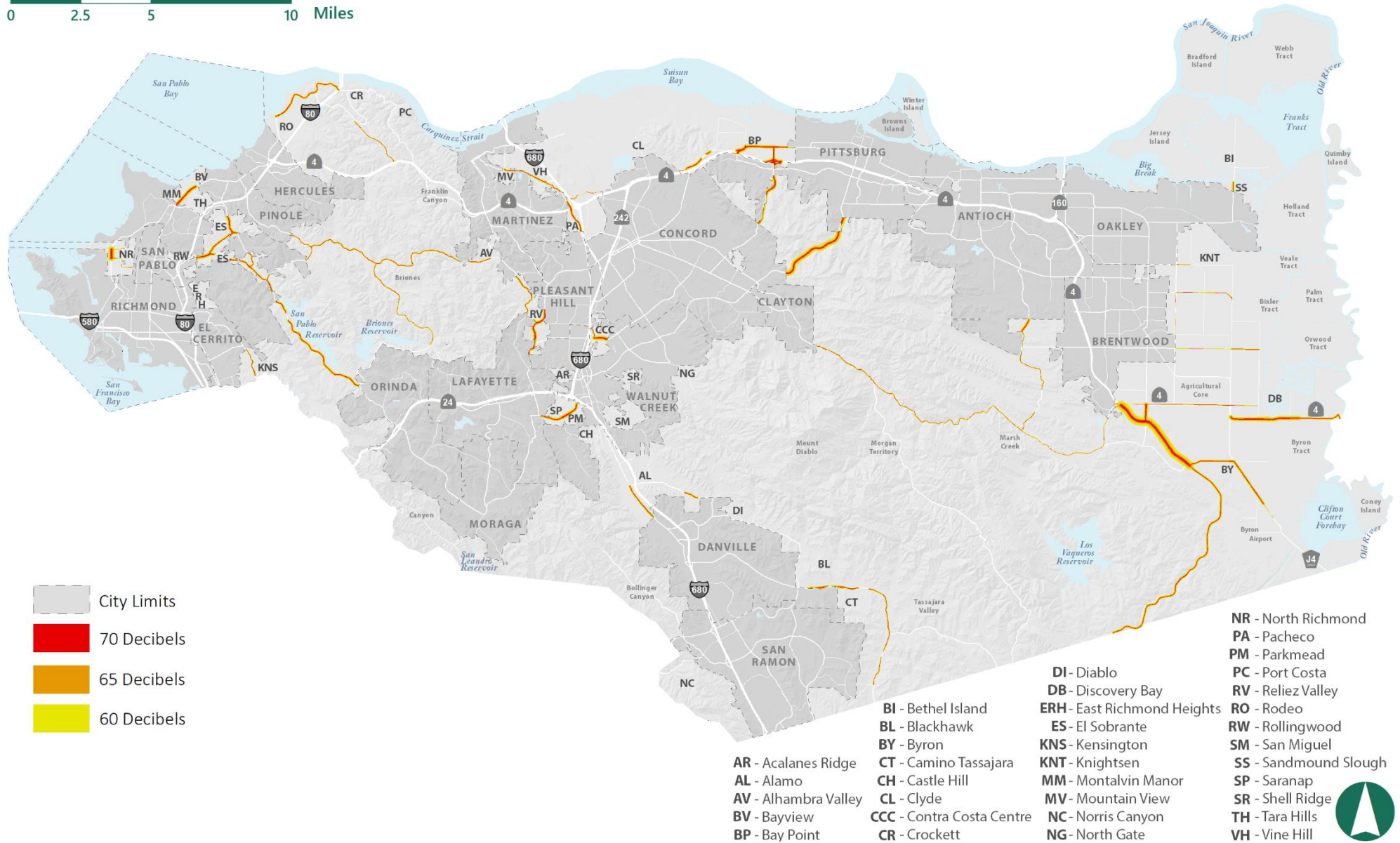
Require new nonresidential uses exposed to a DNL of 65 dB or greater to provide a detailed acoustical analysis describing how the project will provide an interior sound level of 50 Leq (1-hr).\*





FIGURE HS-2221 2045 ROADWAY NOISE CONTOURS

0 2.5 5 10 Miles



#### HS-P14.4



Require new residential development in areas exposed to a DNL in excess of 65 dB due to single events, such as train operation, to provide an acoustical analysis describing how indoor noise levels from these single events will not exceed a maximum A-weighted noise level of 35 dB in bedrooms and 55 dB in other habitable rooms. In areas exposed to a DNL in excess of 65 dB, use an indoor residential noise-level threshold of 45 dB CNEL.\*

#### HS-P14.5



Protect noise-sensitive land uses listed in Table HS-3 from adverse noise impacts by requiring mitigation to the degree feasible for projects that would increase long-term noise in excess of the following thresholds, when measured at the sensitive use's property line:

- (a) Greater than 1.5 dBA DNL increase for ambient noise environments of 65 dBA DNL and higher.
- (b) Greater than 3 dBA DNL increase for ambient noise environments of 60 to 64 DNL.
- (c) Greater than 5 dBA DNL increase for ambient noise environments of less than 60 dBA DNL.\*

#### HS-P14.6



Design County projects to minimize long-term noise impacts on existing residents and follow best practices to minimize short-term impacts from construction noise.\*

#### HS-P14.7



Condition entitlements to limit noise-generating construction activities to the following:

- (a) Weekdays and non-holidays unless site-specific conditions warrant exceptions.
- (b) Within 1,000 feet of noise-sensitive uses: ~~7:30 a.m.~~ 7:00 a.m. to 5:00 p.m.
- (c) Over 1,000 feet from noise-sensitive uses: 7:00 a.m. to 6:00 p.m.\*

#### HS-P14.8



Require a traffic noise analysis for development projects where the project would generate more than 40 percent of daily trips over existing average daily traffic (ADT) on impacted roadway segments. Projects below this threshold are assumed to have no significant traffic noise impact because they would increase noise levels by less than 1.5 dBA DNL, which is the most restrictive threshold for determining a significant traffic noise impact. This screening policy does not apply to projects involving a substantial number of new operational truck trips (e.g., warehouses).\*

#### HS-P14.9



Require effective measures along major transportation facilities/corridors to reduce impacts on adjacent noise-sensitive land uses.\*

#### HS-P14.10



Require new development to evaluate noise impacts on the natural environment, including impacts on wildlife, whenever appropriate.



### HS-P14.11



When reviewing proposals for new vibration-sensitive uses near an existing railroad or Bay Area Rapid Transit (BART) line, use Table HS-4 to evaluate whether the sensitive uses could be exposed to excessive groundborne vibration. Projects with sensitive uses within the screening distances identified in the table will require preparation of a groundborne vibration and noise evaluation that is consistent with Federal Transit Administration-approved methodologies.

**TABLE HS-4: RAIL VIBRATION SCREENING DISTANCES**

| Type of Rail                                       | Distance in Feet    |                     |                     |
|----------------------------------------------------|---------------------|---------------------|---------------------|
|                                                    | Land Use Category 1 | Land Use Category 2 | Land Use Category 3 |
| Conventional Commuter Rail or Rapid Transit (BART) | 600                 | 200                 | 120                 |

Notes:

Land Use Category 1: Vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, universities conducting vibration-sensitive research, concert halls, TV and recording studios, and theaters.

Land Use Category 2: Residential, hotels/motels, and hospitals without vibration-sensitive equipment.

Land Use Category 3: Institutional uses such as schools, churches, and medical offices without vibration-sensitive equipment.

## Actions

### HS-A14.1



Study the feasibility of adopting a noise ordinance establishing maximum exterior noise levels at sensitive receptors for noise generated by permanent and temporary stationary, non-transportation sources and construction sources.

### HS-A14.2



Pursue federal Quiet Zone status for rail crossings that are a noise nuisance to nearby residential areas and other noise-sensitive land uses.

## HEALTH AND SAFETY ELEMENT PERFORMANCE MEASURES

To track progress in achieving the major goals of this Element, every five years, the County will collect data to assess its performance against the following measures. Progress will be tracked relative to the prior performance review and the baseline year of 2024. Based on the findings from the five-year review, the County may adjust policies, actions, or the approach to implementing them to improve performance, as needed.

- Reduced rate of emergency department visits for asthma.
- Increased tree canopy on public property in Impacted Communities.
- Increased number of County facilities in hazard-prone areas that are retrofitted against hazards.
- Reduced number of people in hazard-prone areas that are constrained by having only one evacuation route.

# B.

## HEALTH AND SAFETY ELEMENT TECHNICAL APPENDIX

This is a technical appendix to the Health and Safety Element (Element), a State-mandated General Plan Element that must identify and plan for potential natural and human-created hazards that could affect Contra Costa County's residents, businesses, and services. This appendix provides additional technical details to augment the background information provided in the Health and Safety Element of the Contra Costa County 2045 General Plan. Figure references in this appendix are to the figures in the Health and Safety Element.

The Health and Safety Element contains the bulk of the General Plan's goals, policies, and actions to minimize hazardous situations and protect and improve public health in and around the county. Combined with the additional details provided in this technical appendix, it identifies the natural and human-caused hazards that affect existing and future development, describes present and expected future conditions, and sets policies and standards for improved public safety, including efforts to minimize harm to people, buildings, and infrastructure and reduce damage to local economic systems, community services, and ecosystems.

Some degree of risk is inevitable because the potential for many disasters cannot be eliminated completely, and the ability to predict such disasters is limited. However, the Health and Safety Element aims to reduce this risk by:

- Developing a framework for considering safety issues in the land use planning process.

- Facilitating identification and mitigation of hazards for new development and strengthening existing codes, project review, and permitting processes.
- Presenting policies directed at identifying and reducing hazards in existing development.
- Strengthening preparedness planning and post-disaster reconstruction policies for earthquakes, floods, dam inundation, wildfires, and other hazards.
- Identifying how natural and climate-related hazards are likely to increase in frequency and intensity in the future and providing policies to increase community resilience through preparedness and adaptation.

The Health and Safety Element addresses the topic of public health and safety following State requirements in Section 65302(g) of the California Government Code. State law requires that the Health and Safety Element contain background information and policies to address multiple natural hazards, analyze the vulnerabilities from climate change and establish policies to improve climate change resilience, and assess residential areas with evacuation constraints. The public safety issues in Contra Costa County include emergency preparedness and response, flood and inundation hazards, seismic and geologic hazards, fire hazards, hazardous waste and materials, and other climate-related hazards. The Health and Safety Element identifies goals, policies, and actions for each of these hazards.





## RELATIONSHIP TO OTHER DOCUMENTS

The Health and Safety Element does not exist in a vacuum but is instead one of several plans that address community public safety and related topics. These other plans include the Contra Costa County Local Hazard Mitigation Plan (LHMP), Contra Costa County Emergency Operations Plan (EOP), and Contra Costa Countywide Community Wildfire Protection Plan (CWPP). The Health and Safety Element should be consistent with these other plans to ensure that the County has a unified strategy to address public safety issues. The Health and Safety Element incorporates information, technical analyses, and policies from these other documents where appropriate to help support this consistency.

The other Elements in the General Plan also provide policy guidance on related topics. The Health and Safety Element is consistent with and complementary to the other General Plan Elements.


## Contra Costa County Local Hazard Mitigation Plan

In collaboration with local agencies and special districts, Contra Costa County prepared the most recent LHMP in accordance with the federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's (FEMA) LHMP guidance. Contra Costa County's LHMP is a plan that assesses hazard vulnerabilities from natural and human-caused hazards, including risk to people and facilities, and identifies mitigation actions to reduce or eliminate hazard risks in the county, including in incorporated cities. Local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance.

The LHMP and Health and Safety Element address similar issues, but the Health and Safety Element provides a higher level framework and set of policies that pertain to the safety of the county, while the LHMP focuses on more specific mitigation actions, which are often short term, to enable jurisdictions to better protect lives, property, and natural systems. The current LHMP, certified by FEMA, is incorporated into the Health and Safety Element by reference, as permitted by California Government Code Section 65302.6. Collaborating with local agencies, including 16 incorporated cities and towns and 25 special districts in the Contra Costa County planning area, the County prepared the most recent Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's (FEMA) LHMP policy guidance. Contra Costa County's LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. Implementation of these mitigation actions, which include short and long-term strategies, involves planning, policy changes, programs, projects, and other activities. Local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance.

The LHMP and Health and Safety Element address similar issues, but the Health and Safety Element provides a higher level framework and set of policies that pertain to the long-term safety of the county, while the LHMP focuses on more specific mitigation actions to enable jurisdictions to better protect lives, property, and natural systems. The LHMP, certified by FEMA, is incorporated into the Health and Safety Element by reference, as permitted by California Government Code Section 65302.6, and can be accessed at [www.contracosta.ca.gov/4732/General-Plan](http://www.contracosta.ca.gov/4732/General-Plan).

The County prepared the most recent Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) in accordance with the federal Disaster Mitigation Act



of 2000 and the Federal Emergency Management Agency's (FEMA) LHMP policy guidance. The County collaborated with local agencies, including 16 incorporated cities and towns and 25 special districts in the Contra Costa County planning area, to prepare the LHMP. Contra Costa County's LHMP process is one where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. Implementation of these mitigation actions, which include short- and long-term strategies, involves planning, policy changes, programs, projects, and other activities. Local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance.

The LHMP and Health and Safety Element address similar issues, but the Health and Safety Element provides a higher-level framework and set of policies that pertain to the long-term safety of the county, while the LHMP focuses on more specific mitigation actions to enable jurisdictions to better protect lives, property, and natural systems. The LHMP, certified by FEMA, is incorporated into the Health and Safety Element by reference, as permitted by California Government Code Section 65302.6, and can be accessed at [www.contracosta.ca.gov/4732/General-Plan](http://www.contracosta.ca.gov/4732/General-Plan).

intended to facilitate multi-agency and multi-jurisdictional emergency operations and coordination, particularly between local governments in the operational area (i.e., county boundary), and addresses State and federal response upon request.

## Contra Costa County Emergency Operations Plan

The EOP describes the planned response to extraordinary emergency situations associated with natural disasters, technological (human-caused) emergencies, and war emergency operations in or affecting Contra Costa County. The EOP establishes an emergency management organization that will respond to any significant emergency or disaster affecting the county. The EOP is also the principal guide for the County and special districts who respond to and mitigate emergencies and disasters in the county. It is



## Contra Costa Countywide Community Wildfire Protection Plan

In collaboration with the Contra Costa County Fire Chiefs Association, Hills Emergency Forum, and stakeholder committee members, the Diablo Fire Safe Council prepared and published the 2019 Contra Costa CWPP. The goal of the plan is to reduce hazards through increased information and education about wildfires, hazardous fuels reduction, actions to reduce structure ignitability, and other recommendations to assist emergency preparedness and fire-suppression efforts. The Contra Costa CWPP complements local agreements and existing plans for wildfire protection for a coordinated effort in determining appropriate fire management actions.

### CLIMATE CHANGE VULNERABILITY

Changes to the global climate system are expected to affect future occurrences of natural hazards in and around Contra Costa County. Many hazards are projected to become more frequent and intense in coming years and decades, and in some cases, these trends have already begun. Key climate change considerations that affect Contra Costa County include increasing temperatures, changes in precipitation, and sea-level rise. Overall, precipitation levels are expected to increase slightly; however, there are likely to be more years of extreme precipitation events and droughts that last

<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: SUMCCA4-2018-013.

<sup>2</sup> Ocean Protection Council. 2018. *State of California Sea-Level Rise Guidance*,

longer and are more severe. According to California's Fourth Climate Change Assessment,<sup>1</sup> Contra Costa County can expect to experience the following climate-related hazard events:

- Sea-level rise is a gradual process, taking place over years or decades. Along the Contra Costa County shoreline, sea levels are projected to rise approximately 24 inches by 2050 and 84 inches by 2100.<sup>2</sup> However, it is possible that sea levels could rise faster than these projections.<sup>3</sup> Rising sea levels can also cause the shoreline to flood more frequently and severely during storms or king tide events. Because ocean levels are higher during normal conditions due to sea-level rise, shoreline floods can reach further onto land.
- Although Contra Costa County is likely to experience only a slight increase in overall annual precipitation levels from climate change, rainfall is expected to fall in fewer, more extreme precipitation events. Climate change is expected to also increase the frequency and severity of droughts that cause soil to dry out and condense. When precipitation does return, more water will run off the dry ground instead of being


#### What is vulnerability?

Vulnerability is 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 a capacity to adapt.

Source: California Governor's Office of Emergency Services. 2020. California Adaptation Planning Guide.

[https://opc.ca.gov/webmaster/ftp/pdf/agenda\\_items/20180314/Item3\\_Exhibit-A\\_OPC\\_SLR\\_Guidance-rd3.pdf](https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf).

<sup>3</sup> California Coastal Commission. 2018. *California Coastal Commission Sea Level Rise Policy Guidance: Science Update – July 2018*. [https://documents.coastal.ca.gov/assets/slr/guidance/2018/3\\_Ch3\\_2018AdoptedSLRGuidanceUpdate.pdf](https://documents.coastal.ca.gov/assets/slr/guidance/2018/3_Ch3_2018AdoptedSLRGuidanceUpdate.pdf).



absorbed, potentially leading to more frequent flooding. Drought conditions will strain the water supplies derived from the Mokelumne River watershed and the Sacramento-San Joaquin Delta, causing water shortage contingency plans and demand reduction actions to go into effect more frequently.

- Severe weather events, such as lightning, hail, heavy rainfall, and high winds, may become more frequent and intense. Heavy rainfall may also contribute to an increased risk of landslides in the hills of Contra Costa County. Although the connection between climate change and severe weather is not as well established as it is for other hazards, severe winds such as the Diablo winds, which tend to be most frequent during the fall and winter months, may coincide more frequently with wildfire conditions.
- Warmer temperatures are projected to cause an increase in extreme heat events. An extreme heat day is defined in Contra Costa County as a day when the high temperature is on average at least 96.6°F, although it varies by specific location. Extreme heat days are expected to rise from a historical annual average of 4 days per year to 20 days per year by the middle of the century (2035 to 2064) and to an average of 37 days per year by the end of the century (2070 to 2099). In addition to the increases in extreme heat events, Contra Costa County is expected to see an increase in warmer nights, which are defined in Contra Costa County as nights when the minimum temperatures stay above 63.2°F. The number of warm nights is expected to rise from a historical annual average of 5 nights per year to 36 nights per year by the middle of the century (2035 to 2064) and to an average of 88 nights per year by the end of the century (2070 to 2099).

- Wildfire risk in Contra Costa County is increasing, and hotter, drier weather resulting from climate change is expected to increase wildfires in the surrounding area and across the county. Continued dry conditions with above-normal temperatures through spring will leave fuel moisture levels lower than normal, increasing the potential for wildfire activity and an extended wildfire season. Across the region, more frequent and intense wildfires may also create poor air quality for Contra Costa County due to smoke.
- Climate change can increase the rates of infection for various diseases because many of the animals that carry diseases are more active during warmer weather. For example, mosquitos are more active during warmer and rainier conditions, and therefore can more easily spread diseases such as West Nile virus and Zika virus. Warmer temperatures earlier in the spring and later in the winter can cause these animals to be active for longer periods, increasing the time that these diseases can be transmitted.
- Due to its location along the Bay and Delta shorelines, floodplains, wildfire prone areas, and steep topography, Contra Costa County is in an area that can experience multiple, simultaneous natural hazards. These can also be called compounding hazards or cascading hazards. Compounding hazards could include a flood event that is followed by an earthquake, which are unrelated events that could compound to increase liquefaction in soils near floodplains or shorelines. Cascading hazards, on the other hand, occur one after the other. For example, an increase in extreme heat events and drought can dry out forests, leading to more fuel for wildfires, which can lead to faster moving and higher burning wildfires. The burn scar of a wildfire could then experience heavy rainfall, which could lead to landslides or debris flows. These hazards are discussed separately above, but when combined,





they can cause more devastating consequences for county residents, visitors, and businesses.

## Vulnerability Assessment

Under California law, the Health and Safety Element is required to include a vulnerability assessment that looks at how people, buildings, infrastructure, and other key community assets may be affected by climate change. The County conducted a Vulnerability Assessment to analyze its susceptibility to hazards, including those related to climate change, in accordance with the most recent available guidance in the California Adaptation Planning Guide published by the California Governor's Office of Emergency Services (OES). The Vulnerability Assessment looks at how 13 different hazards—agricultural pests and diseases, air quality, coastal flooding, drought, extreme heat, human health hazards, flooding, fog, landslides, sea-level rise, seismic hazards, severe storms, and wildfire—may affect 64 different population groups and community assets. Each population or asset received a score of V1 (minimal vulnerability) to V5 (severe vulnerability) for each hazard.

Overall, populations in Contra Costa County tend to be most vulnerable to inland flooding, extreme heat and warm nights, wildfire and smoke, and human health hazards, which directly affect health outcomes. Climate change could affect the transportation network and associated economic activity by creating strain on transportation infrastructure, resulting in impacts to personal travel behavior and goods movement. Transportation infrastructure such as roadways, bridges, and railways are all potentially at increased risk due to inland and shoreline flooding, landslides, and severe weather events. Disruption of transportation infrastructure could significantly limit the movement of goods and services, economic vitality of the community, ability to evacuate during an emergency, and livelihood of many businesses.

Countywide, energy delivery is also vulnerable to multiple hazards, including severe weather, such as high winds that can trigger public safety power shutoff (PSPS) events, extreme heat that reduces capacity and strains the system, and wildfires that damage the system, ultimately disrupting energy service. In particular, extreme heat can cause mechanical failure of grid equipment and heat damage to power lines, while also creating a high demand for electricity to power air conditioners, all of which places stress on the network and can lead to rolling blackouts.

Climate change is also expected to affect parts of the county that are considered prone to both inland and shoreline flooding, mainly because of sea-level rise and stronger storm systems. As a result, agricultural land, homes, and businesses throughout the county will likely experience an increase in the frequency and magnitude of inland and shoreline flood events in future years.

Ecosystems throughout the county will likely shift and change due to rising temperatures and changes in precipitation patterns. Extreme temperatures and drought conditions can weaken woodlands and forests in the county, causing wildfires to spark more easily. Frequent wildfires in these ecosystems can cause specific composition to change as more fire-adapted species outcompete other species. Sea-level rise may cause a similar phenomenon in marshland habitat along the shorelines of the county. As sea levels rise, marshland habitat will likely be slowly inundated by elevated high tide levels, causing marshes to shift to mudflat habitat types.

## PUBLIC SAFETY ISSUES

Among other topics, the Health and Safety Element addresses:

- Air quality

- 
- Flood and inundation hazards (also addressed in the Public Facilities and Services Element)
  - Fire hazards (also addressed in the Public Facilities and Services Element)
  - Hazardous materials and waste
  - Seismic and geologic hazards
  - Emergency preparedness and response
  - Agriculture and ecosystem hazards (also addressed in the Conservation, Open Space, and Working Lands Element)
  - Additional climate-related hazards such as drought, extreme heat, and severe weather (also addressed in the Conservation, Open Space, and Working Lands Element and Public Facilities and Services Element)

This section provides details pertaining to probable locations each hazard or issue is likely to occur (per availability of data), past notable events in and around Contra Costa County, agencies responsible for providing protection from these public safety issues, and other background information required by California Government Code Section 65302(g)(4). Goals, policies, and actions related to these hazards are provided in the Health and Safety Element.

The results of the Vulnerability Assessment are integrated into the discussions of hazards and other public safety issues.

## Air Quality

Healthy air quality can be defined as the degree to which ambient air is pollution free. Although air pollution has been regulated for decades,

California still has some of the worst air in the country. Air pollution can cause many serious health effects.

A significant pollutant of concern in Contra Costa County is diesel particulate matter (DPM), a toxic air contaminant (TAC). TACs are air pollutants that can cause serious health effects from exposure at extremely low levels—a safe level of exposure may not even exist. DPM is particulate matter from diesel-fueled engines, such as those in on-road vehicles like diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

People exposed to DPM at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects, including damage to the immune system and neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory responses and may exacerbate existing allergies and asthma.

As illustrated in Figure HS-1, air pollution impacts from exposure to elevated concentrations of DPM is greatest in North Richmond, Montalvin Manor, Bayview, Tara Hills, Rollingwood, East Richmond Heights, El Sobrante, Rodeo, Crockett, Mountain View, Vine Hill, Pacheco, Baypoint, Contra Costa Centre, Saranap, Parkmead, and Castle Hill. In western and central Contra Costa County where these communities are located, major sources of DPM include I-80, SR-4, and I-680; the Richmond Parkway, which is a truck traffic thoroughfare; a bulk cargo port on Richmond Harbor; the Burlington Northern Santa Fe rail yard in Richmond; and petrochemical and other industrial complexes, many of which are near the Port of Richmond on



Richmond Harbor. There are also several facilities emitting DPM along the northern waterfront areas of the county, including along the San Pablo Bay shoreline adjacent to Rodeo and the Suisun Bay shoreline adjacent to Vine Hill, Clyde, and Bay Point.

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality. Regardless, the impacts to local air quality from DPM will vary over time based on changes to the location and operation of emission sources as well as their overall contribution to emissions. As traffic increases in these areas, particularly along I-80, SR-4, I-680, and the Richmond Parkway, diesel emissions will increase. Operational increases in diesel-fueled engines, such as those in railyards and other industrial complexes, will also contribute to a greater concentration of DPM. Consequently, increases in DPM concentrations will lead to a greater health risk for communities exposed to these emissions. Those most vulnerable from exposure to elevated concentrations of DPM include individuals with existing health conditions, children, and elderly populations.

## Flood and Inundation Hazards

Flood and inundation hazards are addressed in the Public Facilities and Services Element, in addition to the Health and Safety Element.

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide, significantly threatening the health and life of community members and causing substantial damage to structures, landscapes, and utilities. Flooding can be extremely dangerous—even six inches of moving water with a strong current can sweep a person off their


feet. Floodwaters can transport large objects downstream that can damage or even dislodge stationary structures, such as dam spillways. Saturated ground can lead to instability or collapse, and standing water can damage roads, building foundations, and electrical circuits. Floodwaters can also break utility lines and interrupt services. Other problems related to flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards (e.g., mold growth).

Flood events in Contra Costa County can occur from a river, creek, or canal overtopping its banks, a flash flood from intense precipitation in a targeted area, water pooling in low-lying areas and overwhelming drain systems, levee or dam failure, or waves and high water along coastal areas.

A large portion of developed and undeveloped lands in the county are subject to flooding as a result of heavy seasonal rainfall, dam inundation, and canal or levee failure. A majority of these flood-prone lands are subject to inundation specifically from heavy rainfall and resulting stream overflows. Climate change will likely enlarge the area of the county that is at risk of flooding.

## Flood Hazards

Areas at an elevated risk of flooding are divided into 100-, 200-, and 500-year flood zones. A 100-year floodplain has a 1 percent chance of experiencing a flood in any given year; a 200-year floodplain has a 0.5 percent chance of flooding in a given year; and a 500-year flood plain has a 0.2 percent chance of flooding in any given year. Figure HS-2 shows the 100- and 500-year floodplains in Contra Costa County. There are no 200-year flood zone maps for Contra Costa County, but the 500-year flood zone can be used as a proxy in low-lying portions of East County (i.e., areas mainly at risk of flooding from the Delta).



The floodplains in Contra Costa County include the areas along the shorelines of the San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, San Joaquin River, and Old River; tracts in the eastern portion of the county; and areas adjacent to inland tributaries. Floodplains can change over time, including through land development and the resulting reduction of pervious land, construction of bridges or culverts, or through building levees or other impoundment structures that control the flow in the watercourse.

The Contra Costa Flood Control and Water Conservation District (CCFCWCD) is the primary local flood control agency for the county. It constructs and maintains regional flood control facilities, including approximately 79 miles of channels, creeks, and other drainages and 30 detention basins and dams. CCFCWCD works to reduce flood risk, promote stormwater quality, and restore and enhance natural resources in an environmentally sensitive manner for communities throughout Contra Costa County.

Other agencies responsible for flood control in Contra Costa County include the United States Army Corps of Engineers (USACE), the Federal Insurance Administration (FIA), and the California Department of Water Resources (DWR).

## Canal or Levee Failure

Canals and levees in Contra Costa County are maintained by CCFCWCD, USACE, 13 special reclamation districts, and private landowners. These levees and drainage systems protect agricultural and rural areas, critical infrastructure like highways, and important environmental resources. Levee or canal bank failures or overtopping can cause sudden and severe flooding in surrounding areas. There are over 1,100 miles of earthen levees and revetments managed by CCFCWCD and reclamation districts in the county. Rudimentary levees along many smaller streams and creeks also protect

small areas of land. Many levees are old and were built under a different set of flood management goals and standards.

Using the best available data, DWR has identified areas in the Central Valley known as Levee Flood Protection Zones (LFPZ), which are places where flood waters would be three feet above base flood elevation or more if a levee were to fail. While there are no mapped LFPZs in Contra Costa County, FEMA has mapped areas in East County, such as Discovery Bay, that are at a reduced flood risk due to levees, as shown in Figure HS-2. Additionally, while not mapped, Bethel Island is below sea level and surrounded by levees. A levee failure would likely cause inundation of several feet throughout the island.

## Dam Failure

A dam failure is an uncontrolled release of water from a reservoir through a dam because of structural failures or deficiencies in the dam, usually associated with intense rainfall or prolonged flooding, but it could also happen because of an earthquake, landslides, or equipment malfunction. Dam failures can range from minor to catastrophic and can potentially harm human life, property, ecosystems, and habitat downstream. Although dam failures are very rare, they are not unprecedented.

Dam inundation zones are based on the highly unlikely scenario of a total catastrophic dam failure in a very short period of time. According to the USACE's National Inventory of Dams, there are 21 dams of significant concern in Contra Costa County, and another 6 dams outside the county have inundation areas extending into the county.

The Federal Energy Regulatory Commission (FERC), as required by federal law, has reviewed and approved comprehensive emergency action plans (EAP) for each of these dams. The EAPs minimize the threat to public safety and the response time to an impending or actual sudden release of water





from dams. The EAPs are also designed to provide emergency notifications when floodwater releases present the potential for major flooding.

As mandated by the National Dam Inspection Act, the USACE has the authority and responsibility for conducting inspections of all dams. The purpose of these inspections is to check the structural integrity of the dam and associated appurtenant structures, ensuring protection of human life and property. Periodic inspections disclose conditions that might disrupt operation or dam safety.

Figure HS-4 illustrates areas in the county that would be affected by inundation if any of these dams failed.

## Tsunamis

Earthquakes can create tsunamis as a secondary hazard, and tsunamis have the potential to affect the shoreline areas of Contra Costa County. Tsunamis are typically caused by earthquakes generated in offshore subduction zones. The sudden movement displaces a large volume of water, creating a tsunami wave that can travel across the ocean at speeds up to 700 miles per hour. As the tsunami enters shallower water near coastal shorelines, it slows to about 20 to 30 miles per hour and the wave can increase to a height of 90 feet or more as it approaches the coastline and the water column compresses. Tsunamis can result in severe property damages and loss of life in affected areas near the coast. They can also disrupt emergency services and transportation routes. Tsunami waves can also diffract around land masses. Because tsunamis are not symmetrical, the waves may be much stronger in one direction than another, depending on the nature of the source and the surrounding geography.

Earthquakes of magnitudes below 6.5 are very unlikely to trigger a tsunami so it is a particularly rare phenomenon. The narrow opening of the Golden Gate Strait also protects much of the inner Bay Area shoreline from severe

tsunami impacts. Nonetheless, the County considers susceptibility to tsunami when reviewing development proposals.


Figure HS-5 illustrates the areas that may be subject to inundation from tsunamis in Contra Costa County. The only areas of the county that are considered at risk from tsunamis are the shoreline areas along San Francisco Bay, San Pablo Bay, and a portion of the Carquinez Strait.

## Seiche

A seiche is a wave that can occur in an enclosed or partially enclosed body of water, such as a reservoir, bay, or harbor. Seiches can be caused by a variety of factors, including changes in atmospheric pressure, wind, and seismic or geologic activity. When a seiche occurs, it can cause water levels to rise and fall rapidly, which poses a risk to boats, docks, and other structures in the affected area. Seiches can generate waves that can inundate areas around the affected water body, similar to a tsunami. Additionally, seiches occurring in a reservoir can cause overtopping of a dam and result in regional flooding. While seiches are a risk associated with earthquakes and tsunamis, it is unlikely that one would occur in the San Pablo or San Francisco Bays or in the reservoirs in Contra Costa County.

## Sea-Level Rise and Shoreline Flooding

Sea-level rise is a gradual increase in the ocean's surface height over years or decades. Sea-level rise is a direct result of climate change and affects coastal communities as well as those along the San Francisco Bay and into the Sacramento/San Joaquin Delta region. Sea-level rise has the potential to inundate homes, businesses, and infrastructure near the shorelines as well as cause erosion of coastal lands over time. Rising seas increase the risk of coastal flooding, storm surge inundation, coastal erosion and shoreline retreat, and wetland loss. The communities and infrastructure that line many coasts are already vulnerable to damage from storms, which will likely



increase as the sea level continues to rise and inundate areas further inland. Finally, rising tides may increase groundwater levels, inundating contaminated soil and pushing toxins toward the surface. Given that some contaminated sites in Contra Costa County sit near the shoreline, rising groundwater may cause contaminated soils to leach into previously unaffected areas.

Along the Contra Costa County shoreline, sea levels are projected to rise approximately 2 feet (24 inches) by 2050 and 7 feet (84 inches) by 2100. However, it is possible that sea levels could rise faster than these projections, which has happened historically. Projections for the expected depth of water that would inundate dry land in the years 2050 and 2100 in Contra Costa County are shown in Figures HS-6 and HS-8, respectively. Land that is below sea level could be inundated by water deeper than the sea-level rise (e.g., 2 feet of sea-level rise could expose land 2 feet below sea level to 4 feet of water). Sea levels may increase enough by 2100 to permanently flood low-lying areas along the shorelines of the Carquinez Strait and Suisun Bay as well as large tracts of land in the eastern portion of the county adjacent to Old River.

Rising sea levels can cause the shoreline to flood more frequently and severely during storms or king tide events. For example, a storm that has a 1 in 5 chance of occurring in a given year (known as a 5-year storm) can create a temporary increase in sea levels of approximately 24 inches. Because ocean levels are higher during normal conditions due to sea-level rise, shoreline floods can reach further onto land. This means that if sea levels rise by 24 inches during normal conditions, a 5-year storm event would create a temporary sea-level rise of around 48 inches. Shoreline flooding projections for the years 2050 and 2100 in Contra Costa County are shown in Figures HS-7 and HS-9, respectively.

The San Francisco Bay Conservation and Development Commission (BCDC) requires that shoreline protection projects, such as levees and seawalls, be designed to withstand the effects of projected sea-level rise and be integrated with adjacent shoreline protection.

## Past Occurrences

Floods are a regular occurrence in California and cause the second-greatest number of disaster declarations in the state. Delta flooding has a long history in Contra Costa County and is a continuing hazard. Since construction of levees started in the early 1860s, every island in the Delta has been flooded at least once due to levee overtopping or failure. Approximately 110 levee failures have occurred since 1900, including about 12 since 1980. Since 1969, 10 flood events in Contra Costa County have been declared federal disasters. These 10 floods caused over \$50 million in property damage.

There are several major floods in the county's history. In 1955, strong storms inundated almost 38,000 acres and caused about \$3.3 million in damage. The Delta area suffered permanent damage to a sizeable amount of agricultural land. Concurrent strong onshore winds generated high waves that threatened many islands.

In January and February 1969, high tides and adverse wave action in the Delta combined with large river inflow and rain-soaked levees to cause flooding of several islands; approximately 11,400 acres were flooded, totaling \$9.2 million in flood damage.

In mid-January 1980, severe rainstorms over central California precipitated high river outflow through the Delta that coincided with gale force winds and high tides, resulting in levee failure and flooding of two tracts, with approximately 9,600 acres under water. Continued high inflow to the Delta and wind-generated waves increased erosion on all Delta-area levees, necessitating temporary curtailment of boat traffic.



In June 2004, Jones Tract in San Joaquin County near the border with Contra Costa County experienced a levee breach. In August 2009, a bulk carrier ship struck a levee at Bradford Island north of Bethel Island, also causing a serious breach.

More recently, communities in Contra Costa County report increased damage from king tide events, especially when paired with heavy rain, and community members are attributing these changes to sea-level rise.

## Potential Changes to Flood Risk in Future Years

Historically, extended heavy rains have resulted in floodwaters that exceed normal high-water boundaries and cause damage in Contra Costa County. Flooding has occurred within both the 100- and 500-year floodplains and in other localized areas. As land uses and climate conditions shift and as improvements are made to flood-control channels, the size of these flood zones is likely to change. Although climate change may not change average precipitation levels significantly, scientists expect that it will cause more events of extreme precipitation. That is, more years are likely to have particularly intense storm systems that drop enough precipitation over a short enough period to cause flooding. Because of this, floods are expected more often in Contra Costa County, and climate change may expand the parts of the county that are considered prone to flood. Climate change is also expected to increase the frequency and severity of droughts, which cause soil to dry out and harden. When precipitation does return, more water runs off the hardened surface than is absorbed into the ground, which can lead to floods.

Tsunamis depend on a seismic event. Major earthquakes are rare, but they are a possibility in the region and could generate tsunamis under some circumstances. A more likely instance is a tsunami triggered by a distant

earthquake that could still be large enough to cause damage in Contra Costa County.

Sea levels have risen in San Francisco Bay and are expected to continue rising at an accelerated rate over the coming century. Sea-level rise will occur slowly over time and increase impacts of other coastal hazards, such as shoreline erosion and the potential impact of tsunamis. Community assets and infrastructure that border the shoreline are vulnerable to damage from storms, which will likely increase as the sea level continues to rise and inundate areas further inland. As sea levels rise, the area and number of people at risk because of flooding will also increase.

The potential for a dam failure event affecting Contra Costa County will remain a risk in future years, although the likelihood of such events is expected to remain very low.

## Fire Hazards

The combination of complex terrain, Mediterranean climate, and productive natural plant communities, along with ample natural ignition sources, has created conditions for extensive wildfires in and around Contra Costa County, making this a hazard of high concern. Historically, the fire season extended from early summer through late fall during the hottest, driest months of the year, but it is becoming a hazard that can occur year-round. Wildfire conditions arise from a combination of high temperatures, low-moisture content in the air and plant matter, an accumulation of vegetation, and high winds. They can be sparked by lightning, malfunctioning equipment, carelessness, and other causes. There is also a risk of structural fires in Contra Costa County.

Three types of fires are of concern to Contra Costa County: (1) wildfires, (2) wildland-urban interface fires, and (3) structural fires.



## Wildfires and Wildland-Urban Interface Fires

Wildfires occur on mountains, hillsides, and grasslands. Fuel, weather, and topography are primary factors that affect how wildland fires spread. In Contra Costa County, grassland and woodland habitat provide highly flammable fuel that is conducive to wildfires. These plant species are capable of regeneration after a fire, making periodic wildfires a natural part of the ecology of these areas. The climate of Contra Costa County keeps the grass dry and more readily combustible during fire season. Seasonal drought conditions exacerbate fire hazards.

The wildfire potential for Contra Costa County is typically greatest when dry vegetation coexists with hot, dry winds, known as Diablo winds. Diablo winds come from the north and northeast, carrying extremely dry air at a high velocity, usually occurring in the San Francisco Bay Area. The name “Diablo wind” refers to the fact that the wind blows into the inner Bay Area from the direction of Mount Diablo in Contra Costa County. These hot, dry winds can quickly desiccate vegetation and other combustible materials and can push a fire down or up a slope at very high speeds. During these times, controlling a fire becomes far more difficult.

The wildland-urban interface (WUI) is an area where buildings and infrastructure mix with areas of flammable wildland vegetation. Wildfires are often most dangerous when they burn into this region because most people and structures in wildfire-prone areas are in the WUI. The WUI can be subdivided into the intermix zone (where houses and wildland vegetation directly mingle), the interface zone (housing adjacent to wildland vegetation, but not mingled with it), and the influence zone (areas of wildfire-susceptible vegetation surrounding the others). The interface and intermix zones are typically the areas of highest risk.

Increasing local and regional fire frequency can also create recurring air quality degradation events leading to respiratory health effects. Wildfire smoke consists of a mix of gases and fine particulate matter from burning vegetation and materials. The pollutant of most concern from wildfire smoke is fine particulate matter (PM<sub>2.5</sub>). PM<sub>2.5</sub> from wildfire smoke is damaging to human health due to its ability to deeply penetrate lung tissue and affect the heart and circulatory system. Although wildfire smoke presents a health risk to everyone, sensitive groups may experience more severe acute and chronic symptoms from exposure to wildfire smoke, including children, older adults, people with chronic respiratory or cardiovascular disease, people experiencing low socioeconomic status, or people who spend substantial time outdoors, such as agricultural workers..

## Structural Fires

Contra Costa County is also at risk from structural fires. These fires occur in built-up environments, destroying buildings and other human-made structures. Structural fires are often due to faulty wiring or mechanical equipment, or human error, combined with combustible construction materials. Older buildings that lack modern fire safety features may face greater risk of damage from fires.

## Fire Hazard Zones

The California Department of Forestry and Fire Protection (CAL FIRE) establishes Fire Hazard Severity Zones (FHSZ), designating moderate, high, or very high severity. Unincorporated areas are considered State Responsibility Areas (SRA). SRAs are areas where CAL FIRE has responsibility for fire protection. Local jurisdictions do not have financial responsibility for wildland fire protection in SRAs.





The highest areas at risk for fires are in western Contra Costa County and in the foothills and mountainous watershed areas around Mount Diablo and Los Vaqueros. Grassland areas, especially in eastern Contra Costa County, also face wildfire risk. Figure HS-10 shows the FHSZs in Contra Costa County, and Figure HS-11 identifies the WUI.

## Water Pressure and Supply

Insufficient water pressure and supply also contribute to wildfire danger. Most of the higher-risk wildfire areas in the county are not served by public water systems. Fire districts serving these areas are typically equipped with tank trucks. Properties designated for residential use in areas without public water service are required to maintain sufficient on-site water storage, and new development must have sufficient water pressure for firefighting purposes.

## Fire Protection

Fire protection service is addressed in the Public Facilities and Services Element. Six fire protection districts (the Contra Costa Fire Protection District, San Ramon Valley Fire Protection District, Moraga-Orinda Fire Protection District, Rodeo-Hercules Fire Protection District, Crockett-Carquinez Fire Protection District, and Kensington Fire Protection District) and three city fire departments provide fire prevention and protection services that adequately cover the entire county except for Jersey Island, Bradford Island, Quimby Island, Webb Tract, and the Marathon Refinery near Martinez. Other service providers include CAL FIRE and the Federal Fire Department Concord-US Army.

All agencies, including CAL FIRE, participate in mutual and automatic aid agreements to provide services outside of their bounds. Mutual aid

agreements help ensure adequate response times in outlying areas. The County also has a contract with the State Office of Emergency Services.


The jurisdictional boundaries for these fire protection districts are illustrated in Figure PFS-5 in the Public Facilities Element.

## Past Occurrences

From 2010 to 2022, there were 24 wildfires in Contra Costa County, most burning over 100 acres. Some burned considerably more acreage, most notably the 2020 Santa Clara Unit (SCU) Complex Fire. These events are illustrated in Figure HS-12; fires over 100 acres in size are listed in Table C-1.

**TABLE C-1: FIRE SIZES AND DATES (100+ ACRES, 2010–2021)**

| Date                      | Fire Name                     | Size in Acres |
|---------------------------|-------------------------------|---------------|
| June 11, 2010             | Vista Fire                    | 186           |
| July 2, 2010              | Bradford Fire                 | 510           |
| August 24-26, 2010        | Curry Fire                    | 375           |
| December 1-2, 2011        | Collier Fire                  | 198           |
| July 1, 2013              | Kirker Fire                   | 492           |
| July 1, 2013              | Concord Fire                  | 274           |
| September 8-14, 2013      | Morgan Fire                   | 3,111         |
| June 24-25, 2015          | Loma Fire                     | 533           |
| July 30, 2015             | Vasco Fire                    | 195           |
| July 25-August 3, 2018    | Marsh Fire                    | 247           |
| August 1-8, 2019          | Marsh 3 Fire                  | 340           |
| August 1-8, 2019          | Marsh 5 Fire                  | 227           |
| August 1-8, 2019          | Marsh 6 Fire                  | 174           |
| August 17-October 1, 2020 | Santa Clara Unit Complex Fire | 396,824*      |
| July 11, 2021             | Diablo Fire                   | 128           |



|                   |               |     |
|-------------------|---------------|-----|
| June 23, 2022     | Scenic Fire   | 120 |
| September 5, 2022 | Franklin Fire | 125 |

Sources: Contra Costa 2018 LHMP; California Fire Incident Database.

\* The SCU Complex Fire burned 3,305 acres within the borders of Contra Costa County.

The SCU Complex Fire, which started on August 17, 2020, is by far the largest fire to burn in Contra Costa County in recent years. The fire burned approximately 396,824 acres across Santa Clara, Alameda, Contra Costa, San Joaquin, Stanislaus, and Merced counties and lasted 44 days, with 3,305 of those acres in Contra Costa County. The fire consisted of three zones: the Deer Zone in Contra Costa County; the Canyon Zone in Alameda, Santa Clara, and parts of Stanislaus counties; and the Calaveras zone in parts of Stanislaus, San Joaquin, and Merced counties. The SCU Complex Fire was one of several fire complexes burning in California during August and September 2020. The fire destroyed 222 structures, damaged 26 structures, and injured 6 people, although no fatalities were recorded. As of summer 2023, this fire was the fourth-largest wildfire in California's modern history.

## Potential Changes to Fire Risk in Future Years

Wildfire is expected to continue being a high-risk hazard in Contra Costa County. Smoke impacts from local and regional wildfires are also likely to continue being problematic. Changing climate conditions are expected to increase the fire risk in and around Contra Costa County. Warmer temperatures brought on by climate change can exacerbate drought conditions. Droughts can kill or dry out plants, creating more fuel for wildfires. Warmer temperatures are also expected to increase the number of pest outbreaks, such as the pine beetle, creating more dead trees and increasing the fuel load. Hot, dry spells may also increase disease and insect infestations, resulting in higher fuel loads. Higher wind speeds cause more erratic fire behavior, making fires harder to contain. Warmer temperatures are also expected to extend the wildfire season from earlier in the year to

later than it has been historically. Wildfires later or earlier in the year are more likely during Diablo wind events, which cause wildfires to move more quickly and increase the likelihood of burning in the WUI areas.

## Hazardous Materials and Waste

### Types of Hazardous Materials

Hazardous materials are materials that pose a significant risk to public safety or human or environmental health. Hazardous materials come from a variety of sources within the county. Some common categories are briefly discussed below to provide a framework for the policies and actions in the Health and Safety Element.

Hazardous materials include toxic chemicals, flammable or corrosive materials, petroleum products, and unstable or dangerously reactive materials. They can be released through human error, malfunctioning or broken equipment, or as an indirect consequence of other emergencies (e.g., if a flood damages a hazardous material storage tank). Hazardous materials can also be released accidentally during transportation (e.g., from vehicle accidents).

A release or spill of bulk hazardous materials could result in a fire, explosion, toxic cloud, or direct contamination of people, property, and the environment. The effects may involve a small site or many square miles. Health problems may be immediate, such as corrosive effects on skin and lungs, or gradual, such as development of cancer from a carcinogen. Damage to property could include immediate destruction by explosion or permanent contamination by a persistent hazardous material. Figure HS-14 shows the location of toxic release facilities and the toxic releases exposure rankings for census tracts in unincorporated Contra Costa County. As



illustrated in Figure HS-14, exposure to toxic releases is greatest in Rodeo, Crockett, Mountain View, Vine Hill, Clyde, and Bay Point.

## Transportation of Hazardous and Toxic Materials

Land use hazards associated with the transport of hazardous cargo exist in Contra Costa County. A number of major, interstate transportation routes pass through the county and a wide range of hazardous cargo is regularly transported along these routes by trucks, trains, and ships. The most vulnerable areas are considered freeway on-/off-ramps and interchanges. Types of hazardous cargo regularly transported out of, into, and through Contra Costa County include flammable liquids, corrosive materials, compressed and/or poisonous gases, explosives, and flammable solids.

Some potential exists for a highway, railway, or shipping mishap that could cause hazardous cargo to spill, contaminating surrounding areas. If flammable liquids were to ignite, they could quickly spread fire and poisonous fumes that could cause human casualties and/or property damage. Spilled liquids could also contaminate the Bay or nearby streams or drainage facilities, spreading the effects of an accident over a much larger area. Since 1970, 105 railway and 100 roadway hazardous materials incidents have occurred in Contra Costa County.

In addition, hundreds of miles of pipelines that transport natural gas, crude oil, and refined petroleum products traverse Contra Costa County, including through residential and commercial areas. Such pipelines cross areas with active fault lines, landslide deposits, unstable slopes, and areas underlain by soft mud and peat. Most pipelines containing flammable or hazardous materials are underground. Each type of pipeline operates under various pressures depending on the size of the pipe, material, and what is necessary to move the material through the pipes. Despite all precautionary measures,


pipelines are at risk of leaking into the environment or releasing flammable material.

## Agency Monitoring and Response

Hazardous materials and waste in Contra Costa County are managed by the Contra Costa Hazardous Materials Programs (CCHMP), which is the Certified Unified Program Agency (CUPA) for all of Contra Costa County.. The CUPA consolidates, coordinates, and makes consistent the regulatory activities of several hazardous materials and hazardous waste programs, including Hazardous Materials Management, California Accidental Release Prevention, Hazardous Waste Management, Underground Storage Tanks, Aboveground Storage Tanks, and Emergency Response.

Several State agencies monitor hazardous materials and waste facilities. Figure HS-15 shows the location of hazardous waste generators and the hazardous waste exposure rankings for census tracts in unincorporated Contra Costa County. As illustrated on the figure, exposure to hazardous waste generators is greatest in North Richmond, Montalvin Manor, Bayview, Tara Hills, Rollingwood, El Sobrante, Rodeo, Crockett, Port Costa, Mountain View, Vine Hill, Clyde, Pacheco, Bay Point, Parkmead, Castle Hill, Alamo, Byron, Winter Island, and the Agriculture Core east of Brentwood.

Potential and known contamination sites are monitored and documented by the State Water Resources Control Board and the California Department of Toxic Substances Control (DTSC). Figure HS-16 shows the locations of cleanup sites and their ranking for census tracts in unincorporated Contra Costa County. As illustrated on the figure, exposure to cleanup sites is greatest in North Richmond, Montalvin Manor, Bayview, El Sobrante, Rodeo, Crockett, Port Costa, Vine Hill, Clyde, Bay Point, Contra Costa Centre, Knightsen, and Winter Island.



If a hazardous material spill poses an imminent public health threat, the County will support local regulating agencies in notifying the public. The transport of hazardous materials, wastes, and explosives through the county is regulated by the California Department of Transportation (Caltrans). I-80, I-580, I-680, SR-4, SR-24, SR-123, and SR-242 are open to vehicles carrying hazardous materials and wastes. Transporters of hazardous wastes are required to be certified by Caltrans, and manifests are required to track the hazardous material or waste during transport. The danger of hazardous materials and waste spills during transport does exist and can potentially increase as transportation of these materials increases on freeways and railways. The Contra Costa County Sheriff's Office, CAL FIRE, Contra Costa County Emergency Services Division, and Contra Costa County Division of Environmental Health are responsible for hazardous materials accidents at all locations in the county. Depending on location, Contra Costa County fire protection districts will also respond to hazardous materials accidents.

## Potential Changes to Hazardous Material Risk in Future Years

Although a hazardous material accident can occur almost anywhere, certain regions are more vulnerable. The potential for an accident increases in regions near roadways or railways that are frequently used for transporting hazardous material as well as those with agricultural or industrial facilities that use, store, handle, or dispose of hazardous material. Given that 205 hazardous materials incidents have happened in transport through the county in the past 50 years, it is likely a hazardous materials incident will occur in Contra Costa County every year. However, according to Caltrans, most incidents are related to releases of fluids from the transporting vehicles themselves and not the cargo; therefore, the likelihood of a significant hazardous materials release in the county is more limited and difficult to predict. Climate change is expected to cause increases in the frequency and

intensity of natural hazards, such as floods, landslides, and severe storms. This may lead to a greater risk of hazardous materials releases during these events.

## Seismic and Geologic Hazards

Seismic hazards include earthquakes and hazardous events caused by them. Geologic hazards are other hazards involving land movements that are not linked to seismic activity and are capable of inflicting harm to people or property.

### Seismic Hazards

Seismic activity occurs along boundaries in the earth's crust, called faults. Pressure along the faults builds over time and is ultimately released, resulting in ground shaking. Earthquakes can also trigger other hazards, including surface rupture (cracks in the ground surface), liquefaction (causing loose soil to lose its strength), landslides, and subsidence (sinking of the ground surface). Earthquakes and other seismic hazards often damage or destroy property and public infrastructure, including utility lines, and falling objects or structures pose a risk of injury or death.

Earthquake risk is very high in Contra Costa County due to the presence of several active faults in the region: the Calaveras (North Central) Fault, Concord-Green Valley Fault, Greenville Fault, Hayward Fault, Mount Diablo Fault, and San Andreas Fault. Figure HS-17 shows the locations of regional faults.

- **Calaveras (North Central) Fault:** The Calaveras (North Central) Fault is a major branch of the San Andreas Fault. It extends 76 miles from the San Andreas Fault near Hollister to Danville at its northern end. The Calaveras (North Central) Fault is one of the most geologically active and





complex faults in the Bay Area. According to the *2018 Contra Costa County LHMP*, the probability of experiencing a magnitude 6.7 or greater earthquake along the Calaveras (North Central) Fault in the next 30 years (beginning from 2018) is 26 percent.

- **Concord-Green Valley Fault:** The Concord-Green Valley Fault, so named because it is under the city of Concord, is connected to the main Green Valley Fault. The fault extends from Mount Diablo to the Carquinez Strait. It is under high stress and has a 16 percent probability of experiencing a magnitude 6.7 or greater earthquake in the next 30 years (beginning from 2018).
- **Greenville Fault:** The Greenville Fault extends from northwest of Livermore Valley along the Marsh Creek and Clayton faults toward Clayton Valley.
- **Hayward Fault:** The Hayward Fault is a 45-mile-long fault that runs through some of the Bay Area's most populated areas, including San Jose, Oakland, and Berkeley. The Hayward Fault is becoming a hazard priority throughout the Bay Area because of its increased chance for activity and its intersection with highly populated areas and critical infrastructure. The probability of experiencing a magnitude 6.7 or greater earthquake along the Hayward Fault in the next 30 years (beginning from 2018) is 33 percent.
- **Mount Diablo Fault:** The Mount Diablo thrust fault runs from Walnut Creek to Livermore. It plays a role in the continued uplift of Mount Diablo.

- **San Andreas Fault:** The San Andreas Fault is a major fault in the Bay Area region that has created devastating seismic activity, most notably in the 1906 San Francisco Earthquake and 1989 Loma Prieta Earthquake. This fault is approximately 15 miles to the west of the western edge of Contra Costa County. The probability of experiencing a magnitude 6.7 or greater earthquake along the San Andreas Fault by 2050 is 72 percent and a magnitude 7.5 or greater in that same timeframe is 20 percent.<sup>4</sup>


Figure HS-17 shows the Alquist-Priolo Fault Zones in the county and the areas susceptible to shaking from a hypothetical major earthquake. The Alquist-Priolo Fault Zones are areas around active faults that are known to cause surface rupture, meaning that the surface of the ground is “pulled apart” during seismic activity. Structures within these zones are subject to specific building codes and regulations to ensure they can withstand the effects of earthquakes, as surface rupture can seriously damage buildings and other structures built on top of the fault.

Potential shaking in Figure HS-17 is rated from very strong shaking to violent shaking. As illustrated on the figure, the western portions of the county are most susceptible to violent shaking; the communities of North Richmond, Montalvin Manor, Bayview, Tara Hills, Rollingwood, El Sobrante, East Richmond Heights, Kensington, and Canyon are most vulnerable.

Earthquakes have secondary effects and can cause urban fires, dam failures, tsunamis, sieches, and toxic chemical releases. A major earthquake along any fault could result in substantial casualties and damage from collapsed buildings; damaged roads, railroads, and bridges; fires; flooding; and other

<sup>4</sup> United States Geologic Survey. 2023. *Frequently Asked Questions*. <https://www.usgs.gov/faqs/what-probability-earthquake-will-occur-los-angeles-area-san-francisco-bay->

[area#:~:text=Within%20the%20next%2030%20years,an%20earthquake%20measuring%20magnitude%207.5](https://www.usgs.gov/faqs/what-probability-earthquake-will-occur-los-angeles-area-san-francisco-bay-)



threats to life and property. Most of the loss of life and injuries from earthquakes are due to damage and collapse of buildings and structures.

Building codes for new construction have generally been made more stringent following damaging earthquakes. However, in Contra Costa County, structures built prior to enactment of these improved building codes have generally not been upgraded to current standards and are vulnerable in earthquakes. In Contra Costa County, approximately 36,050 homes, or 57 percent of all housing in the unincorporated areas of county, were constructed prior to 1980.<sup>5</sup>

## Liquefaction

In addition to the direct physical damage that can result from the motion of an earthquake, damage can result from liquefaction. Liquefaction occurs where water-logged soils near the ground surface lose compaction during strong ground motion, causing the soils to lose strength and behave as liquid. This can cause building foundations to shift and can result in significant structural damage. Soils susceptible to liquefaction are typically found in areas of low-lying current or former floodplains. Areas with high liquefaction potential are shown on Figure HS-18.

## Geologic Hazards

Other geologic hazards also exist within the county. These hazards, which include landslides and erosion, depend on the geologic composition of the area. Landslides and rock falls may occur in sloped areas, especially areas with steep slopes, and usually in areas of loose and fragmented soil. Landslides, rockfalls, and debris flows can be very slow, while others occur

very suddenly, often with disastrous results. There are predictable relationships between local geology and landslides, rockfalls, and debris flows. Slope stability is dependent on many factors and interrelationships, including rock type, pore water pressure, slope steepness, and natural or human-made undercutting.

Landslides are usually triggered by other natural hazards like earthquakes, heavy rain, floods, or wildfires, so landslide frequency is often related to the frequency of these other hazards. The many types of landslides are categorized based on form and type of movement. They range from slow-moving rotational slumps and earth flows, which can distress structures over time but are less threatening to personal safety, to fast-moving rock avalanches and debris flows that are a serious threat to structures and have been responsible for most fatalities during landslide events. Many large landslides are complex and include a combination of more than one landslide type.

In Contra Costa County, landslides typically occur during and after severe storms, so the potential for landslides largely coincides with the potential for sequential severe storms that saturate steep, vulnerable soils. Landslides and mudslides are a common occurrence and have caused damage to homes, public facilities, roads, parks, and sewer lines.

Upland areas of the county are susceptible to landslides, land slips, mudflows, and debris flows. Triggered by an earthquake, heavy rainfall, or changes in ground conditions caused by development activity, these events can send large volumes of land cascading down hillsides, destroying property along the way. Figure HS-19 illustrates areas in Contra Costa County that are most susceptible to landslides.

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<sup>5</sup> United States Census Bureau. 2016–2020 American Community Survey 5-Year Estimates: Year Structure Built.



Contra Costa County is also susceptible to hazards related to erosion, the geological process in which earthen materials are worn away and transported by natural forces such as water or wind, causing the soil to deteriorate. Eroded topsoil can be transported into streams and other waterways. Water erosion is the removal of soil by water and transport of the eroded materials away from the point of removal. The severity of water erosion is influenced by slope, soil type, the soil's capacity for water storage, nature of the underlying rock, vegetation cover, and rainfall intensity and duration. The impact of soil erosion on water quality can be significant, particularly with soil surface runoff. Highly erosive soils can damage roads, bridges, buildings, and other structures.

## Past Occurrences

Contra Costa County is in a region of high seismicity with numerous local faults. A number of significant earthquakes (i.e., more than magnitude 5.0) have occurred in and near Contra Costa County over the last 35 years. The South Napa earthquake on August 24, 2014, was the most recent notable

### Earthquake Magnitude Scale

**Magnitude 3.0 or less:** Usually not felt, but can be recorded by a seismograph.

**Magnitude 3.0 to 4.0:** Minor earthquake felt by humans.

**Magnitude 4.0 to 5.0:** Light earthquake with some property damage.

**Magnitude 5.0 to 6.0:** Moderate earthquake with property damage.

**Magnitude 6.0 to 7.0:** Strong earthquake with damage in the billions of dollars and loss of life.


**Magnitude 7.0 to 8.0:** Great earthquake with severe economic impact and large loss of life.

**Magnitude 8.0 or greater:** Largest recorded earthquakes, destruction over vast area, massive loss of life.

Source: Gavin Hayes and David Wald, USGS, Earthquake Magnitude, Energy Release, and Shaking Intensity, <https://www.usgs.gov/programs/earthquake-hazards/earthquake-magnitude-energy-release-and-shaking-intensity>, accessed June 9, 2023..

earthquake near Contra Costa County. It was on the West Napa Fault, and its epicenter was near the Napa Valley Marina. With a recorded magnitude of 6.0, it was the largest in the Bay Area in about 25 years. The South Napa Earthquake caused extensive damage through ground shaking and surface cracking. This earthquake resulted in one death and approximately 200 injuries in the affected region. Ground shaking was felt in Contra Costa County.

The magnitude 6.9 1989 Loma Prieta earthquake was on the San Andreas fault roughly 48 miles southwest of Contra Costa County and 10 miles northeast of Santa Cruz, near Mt. Loma Prieta in the Santa Cruz Mountains. Statewide, 18,306 houses were damaged and 963 were



destroyed, and 2,575 businesses were damaged and 147 were destroyed. The most notable damage included the collapse of the elevated Cypress Structure section of I-880 in Oakland, the collapse of a section of roadbed on the Bay Bridge, and extensive damage to downtown Santa Cruz and San Francisco's Marina District. The Bay Bridge was unusable for a month. This earthquake resulted in an economic loss of approximately \$10 billion; 63 people died, 3,757 were reported injured, and 12,053 were displaced.

Though major earthquakes are rare in Contra Costa County, minor earthquakes occur more often. Small landslides are a common occurrence, generally on hillsides and in winter during high precipitation years.

## Potential Changes to Geologic and Seismic Risk in Future Years

Earthquakes are likely to continue on an occasional basis and are likely to be small in most instances. Most are expected to cause no substantive damage and may not even be felt by most people. According to the California State Hazard Mitigation Plan, earthquakes large enough to cause moderate damage to structures—those of magnitude 5.5 or larger—occur three to four times a year statewide. Strong earthquakes of magnitude 6 to 6.9 strike an average of once every two to three years. Major earthquakes of magnitude 7 to 7.9 occur in California about once every 10 years.

A major earthquake along any regional fault could result in substantial casualties and damage, although the greatest risk in Contra Costa County is from the Hayward-Rodger's Creek Fault and the Concord-Green Valley Fault due to their location and high potential to cause a severe earthquake. A major earthquake on the Hayward Fault could damage or destroy primary evacuation routes and bridges, limiting access in and out of the community. Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion.

Geologic risks, such as small landslides, are common occurrences in Contra Costa County. With significant rainfall, additional slope failures are likely in the community's landslide hazard areas, and minor to moderate landslides will likely continue to impact the area after heavy precipitation, as they have in the past. Heavy rainfall, which is expected to increase due to climate change, could cause an increase in the number of landslides or make landslides larger than in the past. Increased wildfire frequency can destabilize hillsides due to loss of vegetation and change in soil composition, which can contribute to greater runoff and erosion. The combination of a generally drier climate in the future, which will increase the chance of drought and wildfires, and the occasional extreme downpour, is likely to cause more mudslides and landslides. Impacts from these conditions would compound landslide potential for the most susceptible locations.

## Emergency Preparedness and Response

### Community Warning Systems

The County uses the Contra Costa County Community Warning System (CWS) to notify residents and businesses within Contra Costa County that are impacted by, or are in danger of being impacted by, an emergency. The system provides basic information about incidents and what specific protective actions (e.g., shelter in place, lockdown, evacuate, or avoid the area) are necessary to protect life and health. The CWS is a partnership of the Contra Costa County Office of the Sheriff, Contra Costa Health Services, other government agencies, industry, news media, and the non-profit Community Awareness and Emergency Response organization. CWS notifications may include:

- Sirens in special safety zones





- Emergency Alert System (EAS) alerts on television and radio (KCBS 740 AM)
- Use of the Telephone Emergency Notification System
- Cell phone alerts
- National Oceanic and Atmospheric Administration (NOAA) weather radios
- Notices posted on Twitter and Facebook

Alerts are distributed via voice, text, and email messages through the CWS Telephone Emergency Notification System. This computerized system makes telephone calls to the known telephone numbers in the vicinity of the hazard based on the incident-specific issues.

Other systems include the EAS and the Emergency Digital Information System (EDIS). The EAS is a national public warning system commonly used by State and local authorities to deliver important emergency information to affected communities, such as weather and AMBER alerts. EAS participants include radio and television broadcasters, cable systems, satellite radio and television providers, and wireline video providers. FEMA, the Federal Communications System, and NOAA's National Weather Service (NWS) work collaboratively to maintain the EAS and Wireless Emergency Alerts, which are the two main components of the national public warning system and enable authorities at all levels of government to send urgent emergency information to the public. The EDIS is a wireless emergency and disaster information service operated by the Governor's Office of Emergency Services (OES) and is an enhancement to the EAS. These systems are available in multiple languages.


## Emergency Evacuation

With advanced warning, evacuation can be effective in reducing injury and loss of life during a catastrophic event. Figure HS-20 shows the potential evacuation routes throughout the county, including highways and major surface streets, although the preferred evacuation routes in any individual evacuation order will depend on the emergency.

Some parts of the county may face challenges evacuating, particularly those far from major roadways. Additionally, some areas have only one viable route of evacuation, which could become blocked or congested. Figure HS-21 shows residential parcels with evacuation constraints. All parcels identified as having evacuation constraints are at least a half mile from a major roadway and/or have access to only one emergency evacuation route. In most cases, it is not feasible to retrofit existing neighborhoods to eliminate physical evacuation constraints such as lack of evacuation routes or insufficient roadway capacity. The County will nonetheless strive to improve evacuation from these constrained areas.

All evacuation routes in Contra Costa County face a potential disruption from flooding, earthquake, wildfire, landslide, or hazardous materials release. An emergency event may block roadways, damage the roadway surface, or collapse bridges and overpasses. In the event of widespread disruption to local evacuation routes, remaining evacuation routes may become congested, slowing down evacuation of a community or specific neighborhoods. This issue may be compounded if the county's evacuation routes are also the evacuation routes for surrounding areas, and so potential disruptions may have regional effects.

In preparation for wildfires and other disasters, the County uses Zonehaven Aware, which is a comprehensive evacuation support system of the Contra Costa County CWS. Zonehaven Aware provides the community with critical



evacuation updates, resources, and information on active incidents. In the event of an emergency, the Contra Costa County Sheriff's Office and Contra Costa County fire districts can issue evacuation warnings or evacuation orders for affected areas. The County's website has an interactive evacuation map lookup tool that enables residents to find possible evacuation routes based on their address and respective zone.

## Disaster Preparedness

Disaster preparedness refers to coordinated efforts to respond to both natural and human-caused disasters. In recent years, Contra Costa County has expanded its emergency preparedness planning. The County is required under State law to prepare and maintain a Standardized Emergency Management System (SEMS) Multi-hazard Functional Plan. OES has extensive guidelines outlining the requirements of the Contra Costa County SEMS.

Contra Costa County also participates in the California Disaster and Civil Defense Master Mutual-Aid Agreement, under which the State and local governments will work together to respond to emergencies. The Governor's Office of Emergency Services Coastal Region (Mutual Aid Region II) serves the counties on the coast from Del Norte to Monterey and the counties surrounding San Francisco Bay. The County has its own Contra Costa County Emergency Operations Plan developed by the Sheriff's Office of Emergency Services in collaboration with emergency management partners (e.g., fire districts, law enforcement agencies, and has prepared additional plans addressing earthquake response, disaster debris management, and airport emergencies. The County maintains an Emergency Operations Center, which is activated as needed to communicate with emergency management partners and coordinate responses to incidents.

Contra Costa County OES offers Community Emergency Response Team (CERT) training to residents and members of the business community to increase disaster awareness and emergency response capability through its CERT Coalition. The primary goal of the Contra Costa CERT Coalition is to promote the development, coordination, and advancement of all CERT programs in Contra Costa County, progressively improving the quality of CERT programs across jurisdictions. The CERT program educates volunteers about disaster preparedness for the hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT offers consistent volunteer training and organization that professional responders can rely on during disaster situations, allowing them to focus on more complex tasks.

## Agriculture and Ecosystem Hazards

Agriculture and ecosystem hazards are addressed in the Conservation, Open Space, and Working Lands Element, in addition to the Health and Safety Element.

## Agricultural Pests

Agriculture in Contra Costa County encompasses approximately 34 percent of the land area. Thirteen crop categories exceeded \$1 million in value in 2020. These categories in descending order are cattle and calves, sweet corn, tomatoes, grapes, cherries, miscellaneous vegetable crops, miscellaneous field crops, rangeland, alfalfa hay, irrigated pasture, apricots, walnuts, and apiary (bee) products. Crop values vary from year to year due to factors like production, weather, and market conditions. Eighteen of the farms in Contra Costa County used organic production methods in 2020.



Contra Costa County is threatened by several insect pests that, under the right circumstances, can cause severe economic and environmental harm. Insects of concern to plants and crops include the Asian gypsy moth, rosy moth, nun moth, Siberian silk moth, Asian citrus psyllid, European grapevine moth, glassy-winged sharpshooter, Japanese beetle, Mediterranean fruit fly, melon fly, and Oriental fruit fly.

## **Aquatic Invasive Species**

Introduction of nonnative species into county waters can cause significant and enduring economic and environmental impacts. One of the most widespread mechanisms of introductions is transport of ballast water in ships. Ballast water is taken on and released by a vessel during cargo loading and discharging operations to maintain the vessel's trim and stability.

Ships discharge ballast water that has been obtained from waters throughout the state, country, or world. This water might include nonnative organisms, untreated sewage, and other contaminants. Invasive species of concern in Contra Costa County include the New Zealand mud snail, zebra mussel, and quagga mussel. Once introduced, invasive species are likely to become a permanent part of an ecosystem and may flourish, creating environmental imbalances and wreaking economic havoc. The New Zealand mud snail can displace native aquatic insects that fish eat, but pass through the fish without being digested. Ultimately, this can result in reduced growth rates and lower populations of fish. Zebra and quagga mussels can also kill native freshwater mussels by either attaching to the shells of native species or by outcompeting them and other filter-feeding invertebrates for food.


## **Potential Changes to Agriculture and Ecosystems in Future Years**

As long as severe weather events continue to be a concern for Contra Costa County, the potential for ecosystem and agricultural losses remains. The primary causes of agricultural losses are severe weather events, such as droughts, freezes, and insect infestations. These factors can also contribute to significant ecosystem loss, as can wildfire events. Many pests and organisms that carry diseases are most active during warmer months. Given that temperatures are expected to get warmer earlier in the year and remain warmer until later in the year due to climate change, there will be a wider window for pests and diseases to be active.

Climate change can also indirectly create a greater risk of agriculture and ecosystem pests and diseases. Many crop plants, trees, and livestock may be weakened by warmer temperatures and changes in precipitation. These weaker plants and animals may not be able to fend off infestations or infections as well as stronger plants or animals, causing pests and diseases to affect more of the agricultural area or ecosystem. These pests and diseases can inhibit plant and animal growth, damage plants and animals such that their products are less appealing and harder to sell, or lead to mortality.

The rate of aquatic invasive species discoveries continues to increase. Due to the high number of incidents of invasive species in the Sacramento-San Joaquin Delta, it is likely that future infestations of aquatic pests will occur in Contra Costa County. The risks associated with aquatic invasive species exist, and if a breakout occurs, there may be potentially large economic impacts.

In aquatic ecosystems, climate change is expected to result in warmer water temperatures, altered streamflow patterns, increased salinization, and increased demand for water storage and conveyance structures. Due to



these patterns, invasive aquatic species are expected to flourish, since cold temperatures or winter hypoxic conditions are what have traditionally prevented the establishment and survival of these species in this climate.

## Drought

Drought is addressed in the Conservation, Open Space, and Working Lands Element and Public Facilities and Services Element, in addition to the Health and Safety Element.

A drought is an extended period when precipitation levels are well below normal. Drought is a normal part of the climate cycle. Drought may cause losses to agriculture; affect domestic water supply, energy production, public health, and wildlife; or contribute to wildfire. Like most of California and the western United States, Contra Costa County chronically experiences drought cycles. Drought impacts the county's water supply, which may in severe instances make less water available for people, businesses, and natural systems.

Less snow falling in mountainous areas causes water levels in lakes and reservoirs to drop. Local ecosystems that are not well adapted to drought conditions can be easily harmed. During drought events, the flow of water in creeks and streams is reduced, slowing water flow or creating standing water, which can concentrate sediment and toxins, harming plants and animals. Droughts can also indirectly lead to more wildfires, and the stress caused by water shortages can weaken plants, making them more susceptible to pests and diseases. Drought conditions can also increase the salinity of the Delta, threatening wildlife habitat.

The U.S. Drought Monitor recognizes a five-point scale for drought events: D0 (abnormally dry), D1 (moderate drought), D2 (severe drought), D3 (extreme drought), and D4 (exceptional drought). According to the U.S. Drought Monitor, the most intensive drought conditions in recent years were

during most of 2014 and 2021, when all of Contra Costa County was classified in “extreme” drought. During severe drought conditions, water shortages are common and water restrictions may be imposed to meet essential community needs. When the County declares a water shortage emergency under the authority of the Water Code, the County will implement actions in the Contra Costa County 2020 Water Shortage Contingency Plan to implement and enforce regulations and restrictions for managing a water shortage.

The county has a diverse set of water supply options, including surface water and groundwater wells, to ensure that the community has adequate water, even after a period of dry years, through a combination of water supplies and water conservation measures.

The county is serviced by 11 purveyors of domestic and industrial water, most of which is through surface water supplies from the East Bay Municipal Utility District (EBMUD) and the Contra Costa Water District (CCWD). EBMUD provides drinking water for 1.4 million customers in Contra Costa and Alameda counties over a 331-square-mile area. The EBMUD service area for drinking water in Contra Costa County covers western and central portions of the county, as shown on Figure PFS-2 in the Public Facilities and Services Element. CCWD provides treated and untreated water to a population of 500,000 in central and eastern Contra Costa County. In addition to EBMUD and CCWD, several smaller water providers serve the county, including incorporated communities, community services districts, and private suppliers.

Approximately 90 percent of EBMUD's water supply begins at the Mokelumne River watershed in the Sierra Nevada and extends 90 miles to the East Bay, passing through the Central Valley and Sacramento-San Joaquin Delta. The Mokelumne Aqueducts convey the Mokelumne River supply to local storage and treatment facilities in Contra Costa and Alameda





counties. After treatment, water is distributed to the incorporated cities and unincorporated communities in the East Bay that EBMUD serves.

The primary source of water for CCWD is the Central Valley Project (CVP), a federally owned system of reservoirs and canals. The water supplied by the CVP originates from rivers in the Sierra Nevada and Klamath Mountains, primarily the American, Sacramento, Stanislaus, and Trinity Rivers. The water from these rivers flows into the Sacramento and San Joaquin Rivers, eventually finding its way into the Delta.

Other water providers in Contra Costa County purchase water from EBMUD or CCWD, source water from the Delta or other surface supplies using their own water rights, or pump groundwater.

## Potential Changes to Drought in Future Years

Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically, affecting different sectors in different ways and with varying intensities. Based on historical information, the occurrence of drought in California, including Contra Costa County, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future.

Although droughts are a regular feature of California's climate, scientists expect that climate change will lead to more frequent and intense droughts statewide. Overall, precipitation levels are expected to stay similar, and may even increase in some places. However, the state's current data say that there will be more years with extreme levels of precipitation, both high and low, as a result of climate change. This is expected to cause more frequent and intense droughts compared to historical norms. Higher air temperatures are expected to increase evaporation, causing more water loss from lakes and reservoirs, exacerbating drought conditions. Reduced winter


precipitation levels and warmer temperatures have greatly decreased the size of the Sierra Nevada snowpack (i.e., the volume of accumulated snow), which in turn makes less fresh water available for communities throughout California, including the imported water supply for EBMUD and CCWD. Continued decline in the Sierra Nevada snowpack volume is expected, which may lead to lower volumes of available imported water. More precipitation is expected to fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under wetter climate projections, the loss of snowpack would pose potential water shortage issues and exacerbate drought conditions.

As the population in the county continues to grow, so will the demand for water. However, EBMUD and CCWD both consider their water supplies adequate to meet projected water needs through the year 2045.

## Extreme Heat

Extreme heat occurs when temperatures rise significantly above normal levels; it is defined as a daytime temperature that exceeds the 90th percentile of the historic average temperature for that date. Extreme heat is a relative term, and different temperatures in different parts of Contra Costa County qualify as extreme heat events because people and buildings accustomed to cooler average temperatures may be less prepared for extreme heat events. For example, an extreme heat day in Rodeo is when temperatures reach 93 degrees Fahrenheit (°F), while in Alamo it is 97°F, and in Knightsen it is 102°F..

Health impacts are the primary concern with this hazard, though economic impacts are also an issue. The Centers for Disease Control and Prevention (CDC) recognize extreme heat as a substantial public health concern.



Historically, NOAA data indicate that about 175 Americans die from summer heat each year, although this number has increased in recent years. From 2004 to 2018, studies by the U.S. Department of Health and Human Services indicate that there is an average of 702 deaths annually that are directly or indirectly linked to extreme heat. Following a record-breaking heat wave in 2006, over 16,000 emergency room visits, more than 1,100 hospitalizations, and at least 140 deaths were reported. As heat events are projected to become more frequent and last longer, preparing for the public health challenges they pose is critical.

In 2019, Contra Costa County reported an extreme heat event from June 9th to 11th. The combination of high pressure and strong offshore flow resulted in an early season heat wave across the Bay Area. Multiple daily records were broken across the region due to the heat. Three fatalities were reported: one person died as a direct result of heat-related illness, and two others drowned while attempting to cool down during the heat wave. In 2021, Contra Costa County reported an extreme heat event from July 9th to 11th. Daytime highs rose above 100°F, with locations across the East Bay up to 110°F. Overnight lows remained warm, particularly across higher elevations, where temperatures were between 70°F and 80°F in the early mornings. There were no reported fatalities from this heat event.

Extreme heat events are dangerous because people exposed to extreme heat can suffer a number of heat-related illnesses, including heat cramps,

heat exhaustion, and (most severely) heat stroke. As reflected in the Vulnerability Assessment, seniors, small children, persons with chronic illnesses and disabilities, , and those with limited mobility are particularly susceptible to heat. Seniors and individuals below the poverty level are the most vulnerable to extreme heat. Nursing homes and elder-care facilities are especially vulnerable to extreme heat events if power outages occur and air conditioning is not available. In addition, individuals below the poverty level may be at increased risk from extreme heat if use of air conditioning is not affordable. Areas with lower extreme heat thresholds are not necessarily at lower risk, because persons and community assets accustomed to cooler temperatures may be less prepared for extreme heat events. Outdoor workers in construction or landscaping are also much more exposed to the elements than most people, so they are more susceptible to extreme heat conditions and the potential illnesses associated with very high temperatures.

Very high temperatures can harm plants and animals that are not well adapted to them. Extreme heat can increase the temperature of water in lakes, streams, creeks, and other water bodies, especially during drought events when water levels are lower. In some cases, water temperatures may exceed comfortable levels for several plants and animals, causing ecological harm. Trees and other vegetation in the natural and urban environment help to lower surface and air temperatures by 2°F to 9°F.<sup>6,7</sup>

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<sup>6</sup> Huang, J., H. Akbari, and H. Taha. 1990. *The Wind-Shielding and Shading Effects of Trees on Residential Heating and Cooling Requirements*. ASHRAE Winter Meeting, American Society of Heating, Refrigerating and Air-Conditioning Engineers. Atlanta, Georgia.

<sup>7</sup> Kurn, D., S. Bretz, B. Huang, and H. Akbari. 1994. *The Potential for Reducing Urban Air Temperatures and Energy Consumption through Vegetative Cooling*. ACEEE Summer Study on Energy Efficiency in Buildings,

American Council for an Energy Efficient Economy. Pacific Grove, California.



Indirectly, extreme heat puts more stress on power lines, causing them to run less efficiently. The heat also causes more demand for electricity (usually to run air conditioning units), and in combination with the stress on the power lines, may lead to brownouts and blackouts and associated health and economic impacts. Wildfire risk increases as vegetation dries out. Damage to roadways, bridges, and other transportation infrastructure may also occur. An example occurred in Contra Costa County in June 2022, when extreme heat buckled BART tracks, causing a derailment.

Over 36,000 homes, or 57 percent of the housing stock in the unincorporated county, were constructed prior to 1980; they are unlikely to have air conditioning and may lack effective insulation. Therefore, people living in these homes, especially vulnerable populations, are at higher risk for heat-related illnesses from extreme heat events. To help provide relief from the heat, the County opens public libraries during extreme heat days and heat waves. These air-conditioned community spaces provide essential cool spaces for vulnerable populations.


## Potential Changes to Extreme Heat in Future Years

Extreme heat tends to occur on an annual basis and is likely to continue occurring annually. While the western portions of Contra Costa County close to San Francisco Bay generally experience cooler temperatures than the eastern portions of the county, high temperatures throughout the county will continue to be a common occurrence.

Overall, Contra Costa County is expected to see an increase in average daily high temperatures. Depending on the future severity of climate change, the State's Cal-Adapt database indicates the annual average maximum temperature is expected to increase from a historical annual average of 71.1°F to an average of up to 75.8°F by the middle of the century (2035 to 2064), and an average of up to 79.0°F by the end of the century (2070 to 2099). Figure HS-13 shows the average temperature forecast in Contra Costa County for the end of the century.

Although the temperature increases may appear modest, the projected high temperatures are substantially greater than historical norms. These

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increases also make it more likely that an above-average high temperature will cross the extreme heat threshold. The warmer temperatures brought on by climate change are likely to cause an increase in extreme heat events, increasing the risk of death from dehydration, heat stroke, heat exhaustion, heart attack, stroke, and respiratory distress. By the end of the century, the county is projected to experience an annual average of 18 to 30 extreme heat days per year.

## Severe Weather

Severe weather is generally any destructive weather event, but usually occurs in Contra Costa County as localized storms that bring heavy rain, hail, thunderstorms, and strong winds. Severe weather is usually caused by intense storm systems, although certain types of strong winds can occur without a storm. The types of dangers posed by severe weather vary widely and may include injuries or deaths, damage to buildings and structures, power outages, fallen trees, and roads and railways blocked by debris. In addition, lightning from these storms can strike objects and ignite wildfires and structure fires that can damage buildings and endanger people. Severe weather may also include tornadoes, although they are uncommon in Contra Costa County; only four have been recorded in the county since 1950.

A relatively common weather pattern that brings southwest winds and heavy rain to California is often referred to as an atmospheric river. Atmospheric rivers are long, narrow regions in the atmosphere that transport most of the water vapor carried away from the tropics. These columns of vapor move with the weather, carrying large amounts of water vapor and strong winds. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow, causing heavy rains that can lead to flooding and mudslide events.

High winds, often accompanying severe storms, can cause significant property damage, threaten public safety, and have adverse economic impacts from business closures and power loss. High winds, as defined by the National Weather Service, are sustained wind speeds of 40 miles per hour (mph) or higher lasting one hour or longer, or wind gusts of 58 mph or higher for any duration. These winds may occur as part of a seasonal climate pattern or in relation to other severe weather events, such as thunderstorms. Contra Costa County experiences high wind on an annual basis, although some high wind events have been particularly severe. On January 4, 2008, Contra Costa County reported 110 mph winds in the East Bay Hills and Diablo Range. During this high wind event, a very strong cyclone slammed into the San Francisco and Monterey Bay areas, bringing rain, high winds, record high surf, and coastal flooding. Hundreds of thousands of residences and businesses were without power, some for several days, due to high winds toppling power lines. The storm caused millions of dollars in property damage due to falling trees hitting cars and structures as well as damage to roads due to heavy rain. In another event on December 11, 2014, Contra Costa County reported 83 mph winds. This atmospheric river event brought heavy rain and gusty winds with a strong winter storm that impacted the Bay Area for several days. Contra Costa County and the greater Bay Area experienced a series of atmospheric rivers in winter 2023. Flooding was widespread throughout the county, with landslides in several steeper sloped areas of the county.

All wind events pose several different types of threats. By themselves, the winds pose a threat to the health of people and structures in the county. Dust and plant pollen blown by the wind can create respiratory problems. The winds can blow roofs off buildings and cause tree limbs to fall on people and property. High winds also increase the threat of wildfires. Winds may dry out brush and forest areas, increasing the fuel load in fire-prone areas. Winds may spark wildfires by knocking down power lines or causing them to arc. If wildfires do start, high winds can push flames quickly into new areas,





contributing to rapid spread and making them harder to control. This can also affect the air quality in Contra Costa County and may disrupt regional infrastructure networks.

## Public Safety Power Shutoff Events

Electricity utilities throughout California, including Pacific Gas and Electric Company (PG&E), have begun to occasionally “de-energize,” or turn off the electricity for power lines that run through areas where there is an elevated fire risk. This is intended to reduce the risk of power lines sparking or being damaged and starting a wildfire. These events, called public safety power shutoff (PSPS) events, result in a loss of power for customers served by the affected power lines. A PSPS event may occur at any time of the year, but they usually occur during high wind events and dry conditions. PSPS events may be limited to specific communities or they may affect broad swaths of the state. In October 2019, PG&E conducted one large-scale PSPS event, shutting off power to approximately 740,000 customers in 35 counties across the state, including customers in Contra Costa County. Several PSPS events also occurred in 2020. While smaller, these events still affected thousands of PG&E customers across the county.

PSPS events can impact emergency management activities. A loss of power can make it more difficult for homes or businesses to receive emergency notifications if needed. PSPS events can also create vulnerabilities for community members that lack backup power supplies and depend on electricity for heating or cooling homes and buildings, lighting, and internet. PSPS events may also be harmful to people who depend on electrically powered medical devices. Additionally, community members may be faced with economic hardships and be deprived of important services, such as grocery stores, gas stations, and banks/ATMs. Traffic lights and other traffic-control systems may not work, which can complicate evacuation and may hinder emergency response. Although critical public health and safety

facilities often have backup generators, the loss of power may also disable other key infrastructure systems.

## Potential Changes to Severe Weather in Future Years

According to historical hazard data, severe weather is an annual occurrence in Contra Costa County. Damage and disaster declarations related to severe weather have occurred and will continue to occur in the future. Heavy rain and thunderstorms are the most frequent type of severe weather in the county. Wind and lightning often accompany these storms and have caused damage in the past. However, actual damage associated with the primary effects of severe weather has been limited. It is the secondary hazards, such as floods and fire, that have had the greatest impact on the county. Thunderstorms, high winds, and lightning can each have localized impacts on infrastructure, properties, and public safety. Transportation, including freight movement, faces increased congestion when severe storms occur.

Climate change is expected to cause an increase in intense rainfall and strong storm systems. This means that Contra Costa County could see more intense weather resulting from these storms in the coming years and decades, although such an increase may not affect all forms of severe weather. While average annual rainfall may increase only slightly, climate change is expected to cause an increase in the number of years with intense levels of precipitation. Heavy rainfall can increase the frequency and severity of other hazards, including flooding.



## Endnotes