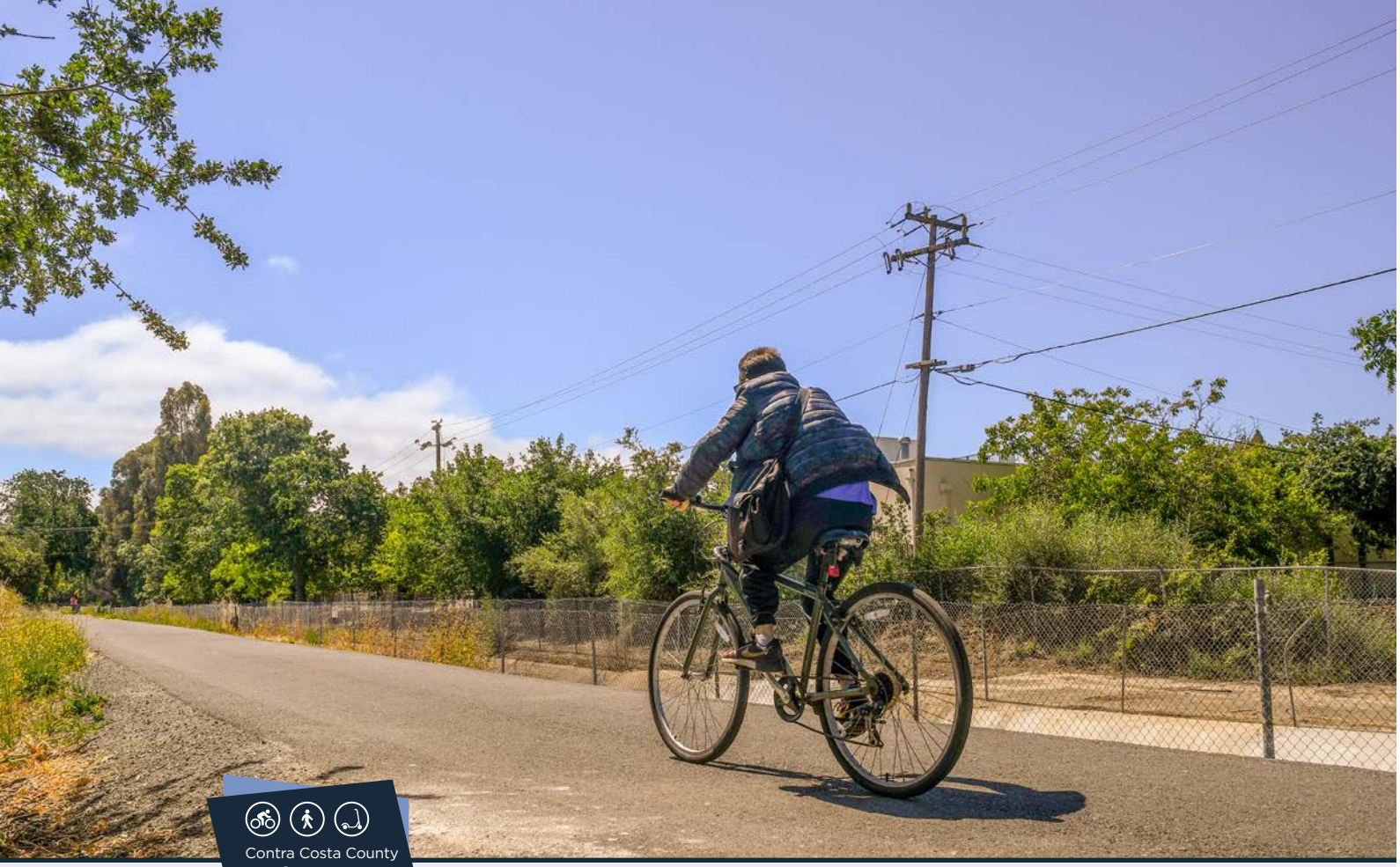

Contra Costa County
Active Transportation Plan

Contra Costa County

ACTIVE TRANSPORTATION PLAN

April 2022

Prepared By

FEHR & PEERS

EXECUTIVE SUMMARY

The Contra Costa County Active Transportation Plan (ATP) provides a comprehensive look at the needs and opportunities to improve bicycling and walking throughout the unincorporated areas of the County. The plan outlines investments in new bicycle facilities, upgraded crossings, enhanced trail connections, and improved walkways. These investments prioritize improvements within historically underserved and impacted communities.

The process of developing this Plan began with documenting community needs and input, and builds off the County's efforts in the recently adopted Vision Zero Action Plan. The Action Plan included a systemic look at safety and collision history within the County, including improvements for bicyclists and pedestrians. This Plan is intended to serve as an implementing action of the Vision Zero Action Plan, as well as guide future grant and funding applications for active transportation projects that support mode shift to walking and bicycling.

The Plan includes:

- An introduction to the project and overview of unincorporated Contra Costa County (**Chapter 1**)
- A guiding vision statement with associated goals and actions (**Chapter 2**)
- A review of the existing conditions for bicycling and walking within the County (**Chapter 3**)
- Detailed feedback from multiple phases of public outreach and engagement (**Chapter 4**)
- An overview of projects and programs designed to respond to community input and prioritize investments where they're needed most (**Chapter 5**)
- A set of seven project groupings for priority implementation, along with cost, construction, and funding implications (**Chapter 6**)

In support of the County's goals for sustainability, safety for all road users, economic vitality, and equitable investment, the projects and programs in this Plan represent an exciting and critical set of opportunities for the County's first-ever Active Transportation Plan.

Acknowledgements

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TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

Purpose of this Plan

The Contra Costa County Active Transportation Plan (**ATP**) will serve as a **roadmap to enhance active transportation safety and mode share** for the **unincorporated areas in Contra Costa County**. Active transportation is any self-propelled, human-powered travel, such as walking and bicycling. By prioritizing active transportation, Contra Costa County hopes to create a more sustainable and healthy community and reduce greenhouse gas emissions.

Parallel to this Plan is the development of the County's Vision Zero Action Plan (CCC Vision Zero Plan). By embracing Vision Zero, the County is committed to the elimination of severe injuries and fatalities resulting from traffic collisions on County roadways. The CCC Vision Zero Plan focuses on a range of policies, programs, and practices that support the Safe System approach.

Figure 1
The Safe System Approach

Source: Fehr & Peers for FHWA

Embracing the Safe System approach as part of this ATP aligns with the 2022 National Safety Strategy released by the US DOT[1], and Caltrans' pivot in their safety philosophy and commitment with the most recent Strategic Highway Safety Plan. Committing to and providing a Safe System, especially for vulnerable road users, is a foundational need for the County. This Plan reinforces this notion and adds additional opportunities for mode shift to active uses building on that baseline of safe mobility.

1 https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf

This Plan, the first of its kind for the County, presents a major opportunity for the County to enhance the existing multimodal transportation network by integrating bicycle, pedestrian, safe routes to school, and accessibility improvements using a Complete Streets approach. The County ATP builds upon many elements that help make the County an exciting destination for residents and businesses, as well as the many visitors to the region.

Just as many factors influence how travelers behave, numerous factors influence what actions an agency can take. While this effort is focused on bicycle, pedestrian, ADA, and safe routes to school planning, considerations have been made related to economic vitality, efficient movement of goods/people, public health, and ecological challenges.

Facilitating an increase in walking and biking can confer a variety of benefits such as reduced congestion, improved safety, comfort, health, air quality, economic vitality, and quality of life. Increased walking and bicycling will also support the County's requirements under new regulatory frameworks, including mandates to reduce greenhouse gases and vehicle miles traveled (VMT).

What Are Complete Streets?

Complete Streets are designed to prioritize safety, comfort, and access to destinations for all users and modes of travel. Complete Streets are unique to a community's context and the needs of the surrounding area. A complete street design often balances benefits for those walking, biking, and taking transit, including improvements such as safety enhancements at crosswalks, better bus stop waiting areas, and enhanced bicycle facilities.

Benefits of Active Transportation

Walking, biking, and rolling are transportation methods integral to the health of individuals and communities. The benefits of active transportation include the following:

- Connects families to schools, parks, work, shopping, restaurants, and bus stops, as well as other members of the community
- Improves health and reduces the incidence of disease and obesity
- Reduces air pollution and greenhouse gas production
- Supports local businesses and economic vitality
- Creates more vibrant and lively streets
- Saves money on gas and car maintenance

Mobility

Active transportation gives people who cannot or choose not to drive more and affordable options for getting around independently to meet their daily needs. Those who benefit most from improvements to walking and biking include children (particularly for going to school); many seniors and people with disabilities; and low-income families, for whom the cost of owning and operating a car can be prohibitive.

Transportation options are also important for drivers who would like to spend less time behind the wheel shuttling themselves or others around. Drivers also benefit from less congestion, less demand for parking, and fewer vehicle miles traveled (VMT) when more people walk and bicycle. Even a small number of people shifting their mode choice to walking and biking can have a positive impact on reducing traffic congestion.

Health

Active transportation allows people to build physical activity into everyday life by enabling them to walk or bike to their destination(s). Even a moderate amount of daily exercise offers an impressive range of benefits to both physical and mental health. These benefits range from lower risk of heart disease, adult-onset diabetes, high-blood pressure, and stress to more energy, flexibility, and muscle strength. Physical activity can also help combat obesity and lower asthma rates.

Livability

Promoting active transportation leads people to walk and bike more and to drive less, which can improve quality of life in important ways. When residents are out on foot or on bike, they interact more with neighbors. Residential streets become calmer and quieter, encouraging community interaction. Streets become not only safer, but also livelier with an increased presence of pedestrian and bicycle traffic.

Environment

By enabling people to make short trips on foot or bicycle instead of a car, active transportation can help communities address several environmental challenges. The most discussed, and perhaps most critical, environmental benefits of active transportation are reduced air pollution and emissions of greenhouse gases. Current data show that the transportation system is responsible for approximately 40% of the greenhouse gas emissions in California.[2] Other environmental benefits include energy savings, less noise pollution, less water pollution, and even reduced pressure to develop agricultural and open space.

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2 Contra Costa Transportation Authority, 2017 Countywide Comprehensive Transportation Plan, https://ccta.net/wp-content/uploads/2021/07/2017-CTP-Vol-1.2017.10.05.pdf, pg ES-6.

Equity

Active transportation can benefit the bottom line of households, businesses, and cities. The economic benefits of walking and biking include lower transportation costs for individuals and families, increased property values in traffic-calmed neighborhoods, savings to cities from less wear and tear on streets, less demand for roadway improvements and parking lots, and a greater ability for communities to attract new residents and employers.

Schoolchildren walking near Walnut Heights Elementary School

On 2nd Avenue in Crockett overlooking the Carquinez Bridge

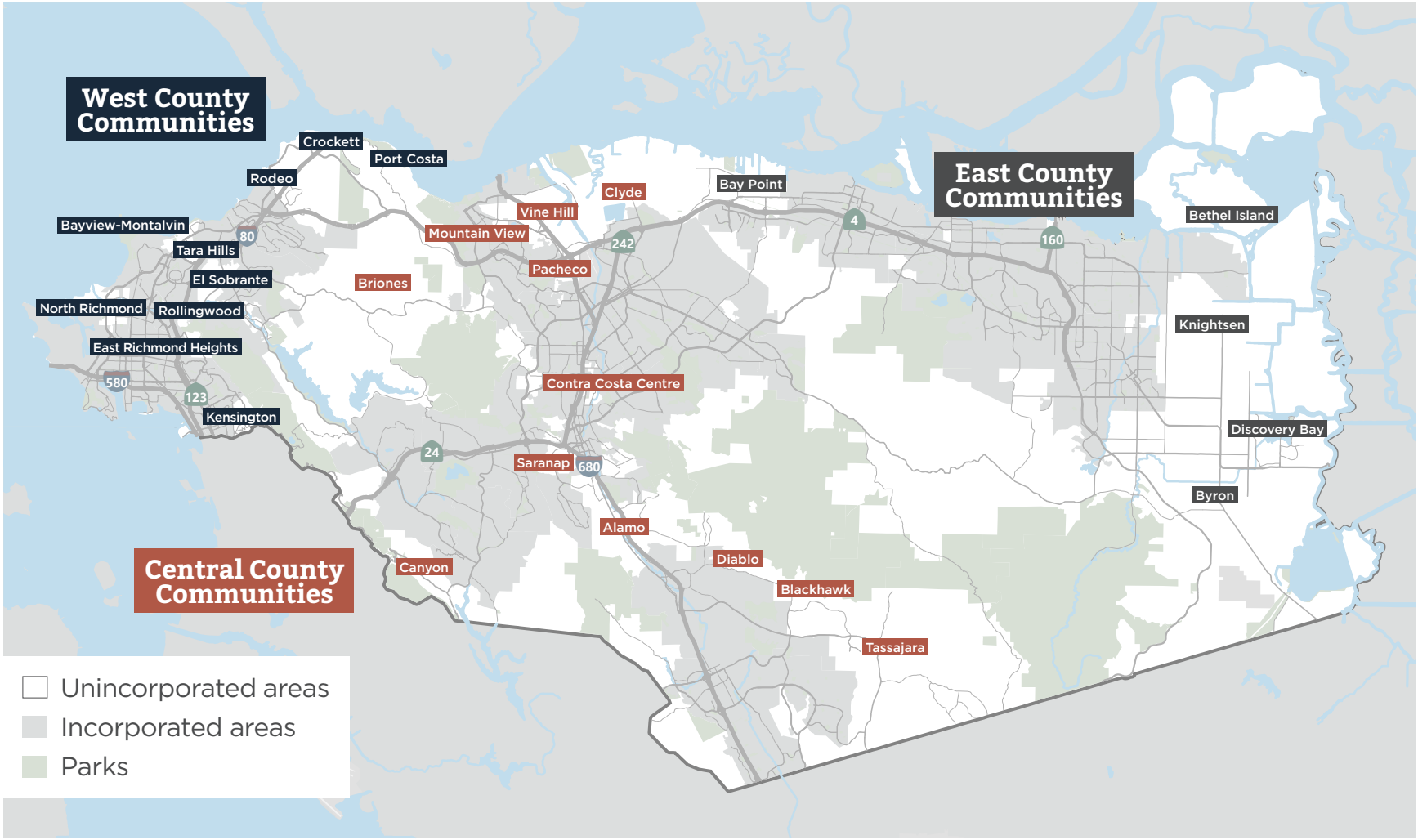
Public Participation

Obtaining input from Contra Costa County residents was an important piece of the ATP development process. A project website was created and community workshops were held to solicit feedback on high priority areas within the County. Community participation was solicited through the following:

- An interactive project website to promote outreach and educational materials, document workshops and events, host the online survey and interactive map, and allow the public to provide feedback on the draft plan
- A Public Engagement Plan with trusted community organizations to engage on the County's impacted communities, non-English speaking households, people without Internet access, and other hard-to-reach populations
- Targeted community meetings to discuss key issues around active transportation relevant to each organization or group's mission
- Pop-up engagement events that included engagement toolboxes on educational materials, project information, event flyers, and culturally relevant engagement activities, along with mobile workshops to understand community-specific needs and increase public visibility and understanding of the Plan
- Four community workshops to receive feedback on the Plan at all stages of analysis and recommendations

Full details on the public participation process and outcomes can be found in **Chapter 4**.

Figure 2
Regions and Communities in Unincorporated Contra Costa County



About Contra Costa County

Unincorporated Contra Costa County is a dispersed set of urban, suburban, and rural communities spread throughout Contra Costa County. Contra Costa County is broadly divided into three sub-regions, and the unincorporated areas include the following communities, as shown on **Figure 2**:

- **West County** — Kensington, El Sobrante, North Richmond, Rodeo, Crockett, Port Costa, Bayview-Montalvin, East Richmond Heights, Rollingwood, Tara Hills
- **Central County** — Canyon, Pacheco, Vine Hill, Clyde, Contra Costa Centre (Pleasant Hill BART station), Saranap, Alamo, Blackhawk, Tassajara, Briones, Diablo, Mountain View
- **East County** — Bay Point, Bethel Island, Knightsen, Discovery Bay, Byron

Contra Costa County's landscape is widely varied, and in most places generally suburban and rural in character. The estimated countywide population is 1,165,927, according to the U.S. Census Bureau (2020). Of this total population, approximately 174,000 residents live in unincorporated areas. A demographic assessment reveals the following:

- **Contra Costa County is racially diverse:** About 26% of the population identifies as Hispanic or Latinx, 9% as Black, and 18% as Asian. Communities with populations of over 70% people of color include North Richmond, Bay Point, and Tara Hills.
- **Contra Costa County is linguistically diverse:** Large Hispanic/Latinx populations are located in both North Richmond (54%) and Bay Point (58%), where more than 20% of people have limited English proficiency.[3]
- **Contra Costa County has high income inequality:** The median income in unincorporated Contra Costa is $132,600, which is higher than Contra Costa County as a whole ($99,716).[4] However, 16% of people in unincorporated Contra Costa are low income, with 38% of those low-income residents living in low-income communities where more than 28% of people are below 200% of the

3 The Metropolitan Transportation Commission defines Limited English Proficiency as a person above the age of five years, who do not speak English at least "well" as their primary language or had a limited ability to read, speak, write, or understand English at least "well," as defined by the U.S. Census.

4 U.S. Census 2019 ACS 5-Year Estimates.

federal poverty level.[5] The highest concentrations of poverty in Contra Costa County are located in just a few neighborhoods, including North Richmond, Rodeo, and Bay Point. The median incomes in these communities are all less than the threshold of 80% of the state median income, or $60,200.

- **Many Contra Costa County residents get around by car:** In Contra Costa County overall, 98% of households have access to an automobile. However, in a few neighborhoods in unincorporated Contra Costa County, that number is much lower. In Bay Point and Rodeo, for example, 9-10% of households have no vehicle access. These numbers are significantly above countywide and Bay Area region-wide averages and indicates a high need for active transportation and public transportation to facilitate equitable mobility.

Key Destinations and Land Uses

Figure 3 shows key destinations for bicyclists and pedestrians throughout the County.

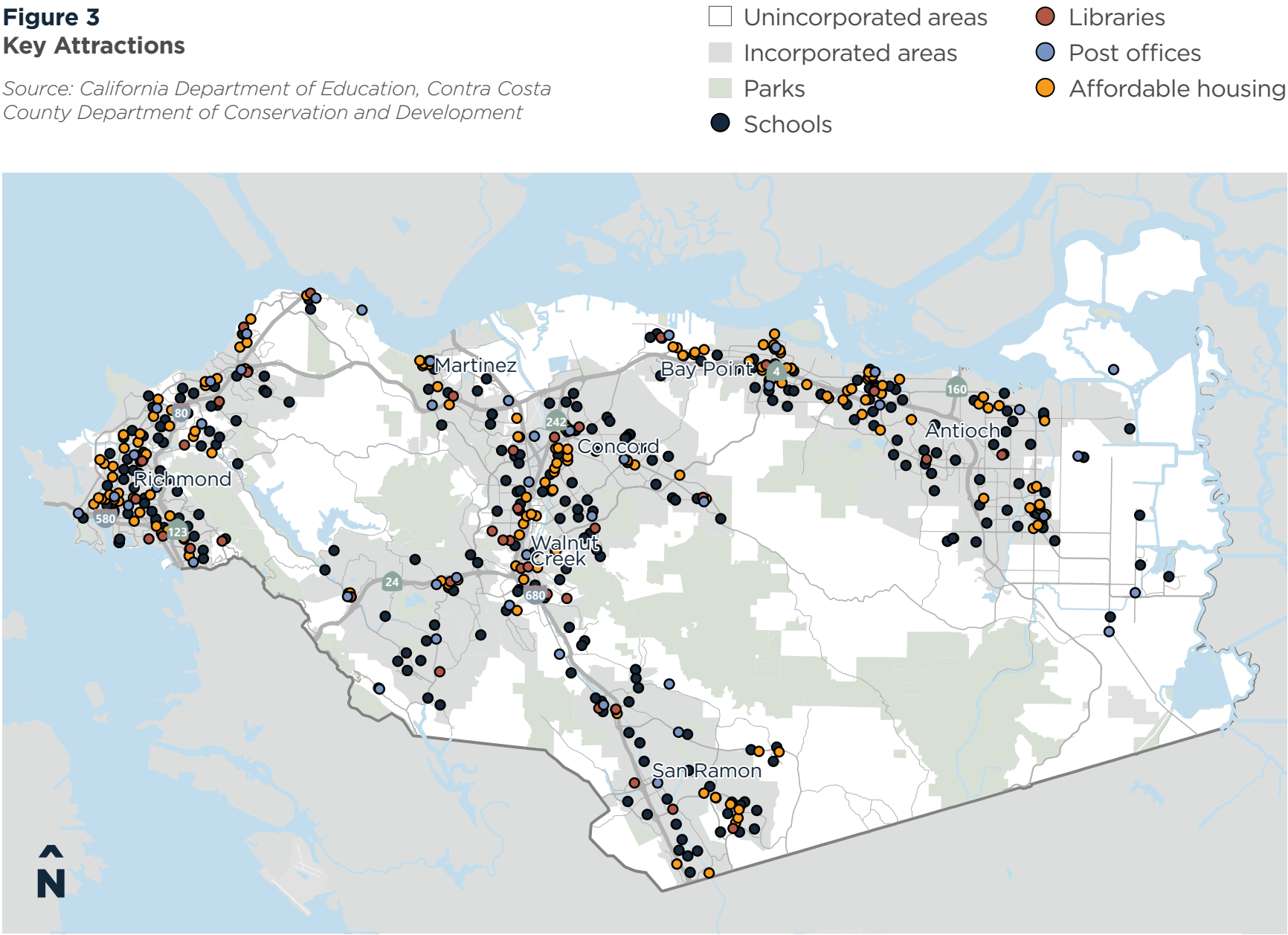
Destinations include:

- Schools
- Parks
- Civic destinations, including libraries and post offices
- Affordable housing, including senior housing

5 MTC defines low income as a person living in a household with incomes less than 200% of the federal poverty level established by the Census Bureau. A community is considered low income when 28% or more of people in the census tract meet this definition. https://bayareametro.github.io/Spatial-Analysis-Mapping-Projects/Project-Documentation/Equity-Priority-Communities/

Figure 3
Key Attractions

Source: California Department of Education, Contra Costa County Department of Conservation and Development



Impacted Communities

Service to historically marginalized and underserved communities is a key factor in many grant funding programs such as California's Active Transportation Program. This plan presents four different indicators of impacted communities[6], often referred to as environmental justice communities.

- Household median income – census tracts with median household income less than 80% of the statewide median, of $60,188 (American Community Survey (ACS) 2015-2019) (**Figure 4**)
- Free or reduced-price meal eligibility – the share of students at a school who are eligible for subsidized meals. Schools with at least 75% eligible students are considered disadvantaged by the Active Transportation Program's guidelines (**Figure 5**)
- CalEnviroScreen 4.0 score percentile – a measure of environmental health by census tract. Inputs include socioeconomic factors, population characteristics, pollution factors, and environmental factors. Tracts with higher percentiles are more disadvantaged. The worst scoring 25% are considered disadvantaged by the ATP guidelines (**Figure 6**)
- California Healthy Places Index – a measure of the community conditions shaping health outcomes. Factors include economic, education, transportation, social, neighborhood, housing, clean environment, and healthcare access. Census tracts in the worst scoring 25% are considered disadvantaged by the ATP guidelines (**Figure 7**)

6 The term "impacted community" is based off of MTC's definition for Disadvantaged Communities. These communities are defined as low-income areas that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation

Figure 4
Median Household Income

Source: American Community Survey (ACS) 2015 - 2019

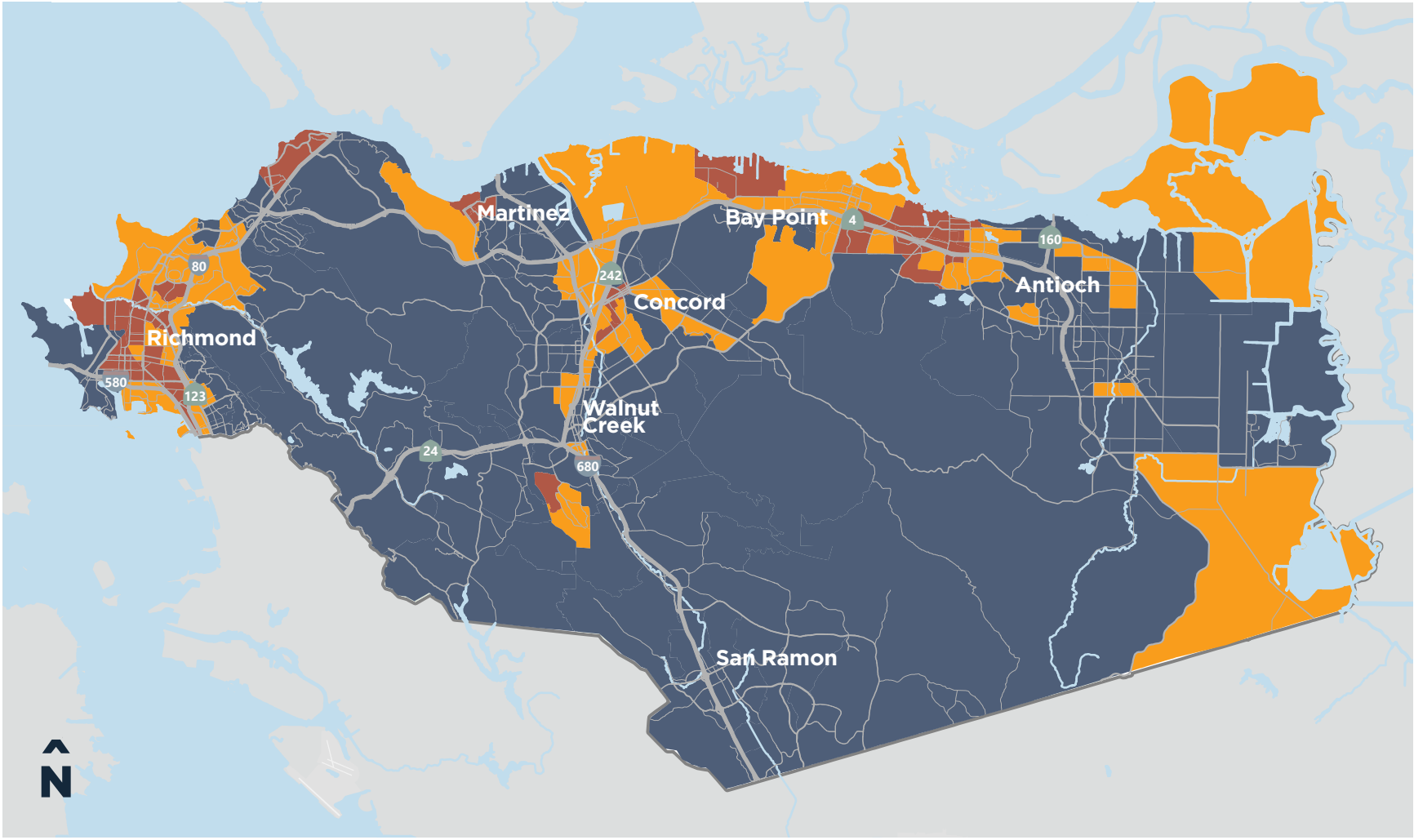


Figure 5
Schools in Contra Costa County by Student Body Eligibility for Free and Reduced Price Meals

Source: California Department of Education

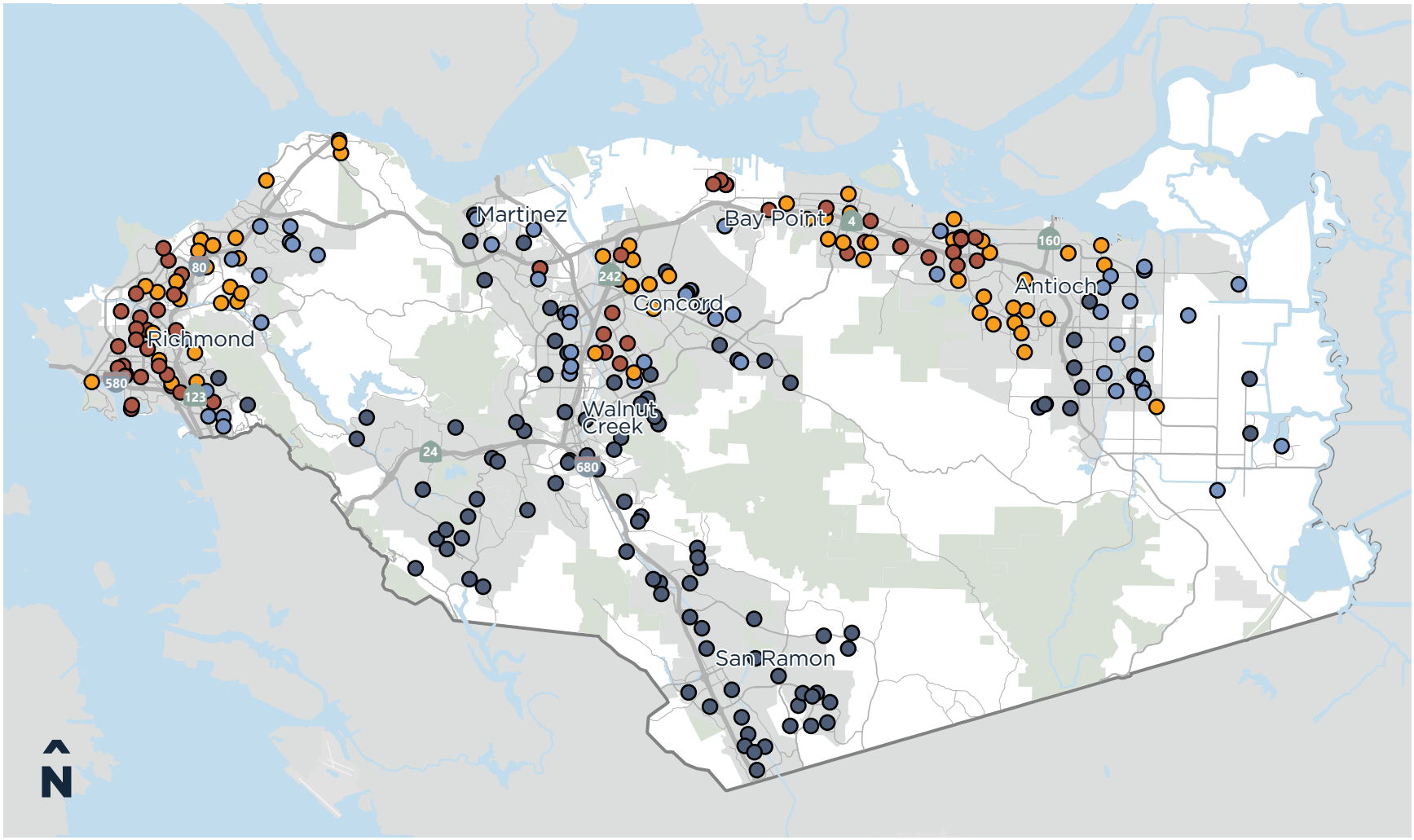


Figure 6
CalEnviroScreen 4.0 Score Percentile

Source: California Office of Environmental Health Hazard Assessment

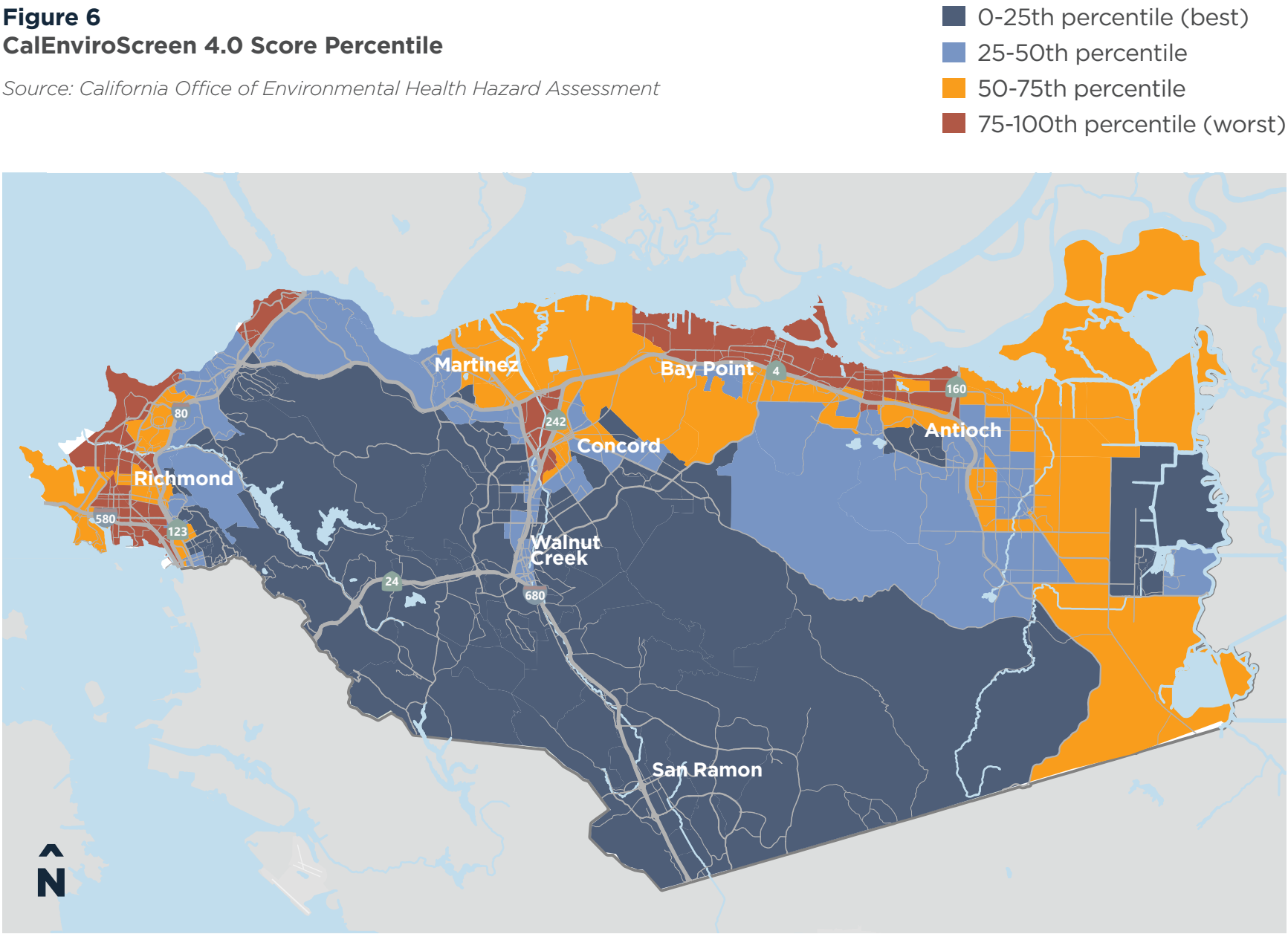
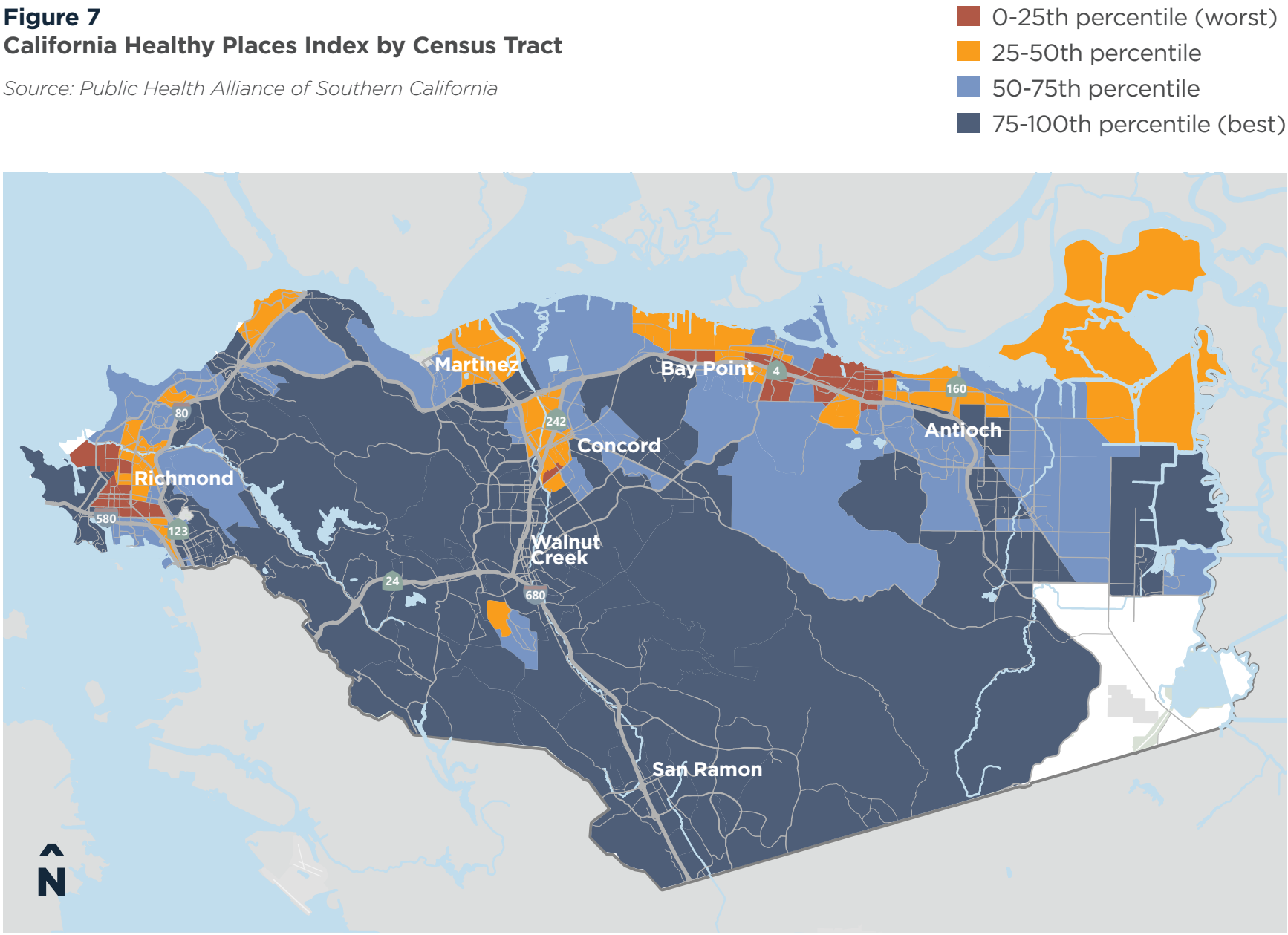


Figure 7
California Healthy Places Index by Census Tract

Source: Public Health Alliance of Southern California



CHAPTER 2

VISION AND GOALS

Vision Statement

Contra Costa County will have an equitable transportation system that supports active transportation for users of all ages and abilities, allowing all to travel conveniently, reliably, and free from harm.

The goals and objectives for this plan were developed in support of this Vision and with consideration of other local and state plans and policies, desires of local residents, and emerging best practices and opportunities in active transportation. The County's General Plan, Vision Zero Plan, the Contra Costa Transportation Authority's (CCTA) 2018 Countywide Bicycle and Pedestrian Plan (2018 CBPP), and CCTA's Vision Zero Framework & Systemic Safety Approach (Vision Zero Framework) each have goals supporting increases in bicycling and walking. Other statewide plans include the California Transportation Plan and the California State Bicycle and Pedestrian Plan. The MTC Regional Active Transportation Plan is currently under development, and will be an additional resource once published.

Goals and Actions

This plan was created to help facilitate the following goals and actions.

1 Prioritize active transportation investments based on factors such as collision history or systemic risk, location in an impacted community, location near key destinations, and funding opportunities.

Action 1-1: Use the High-Injury Network (HIN) to identify hot spots and systemic risks to apply for grant funding to implement projects prioritizing impacted communities' access to key destinations

Action 1-2: Enhance equity for communities that have seen less infrastructure investment and are disproportionately impacted by collisions

Action 1-3: Support neighborhood retail and local business vitality through projects that connect to and through key destinations

2 Shift trip modes by Contra Costa County residents and visitors from motor vehicles to active modes such as walking and biking to create a more sustainable community and reduce greenhouse gas emissions.

Action 2-1: Enable children to walk and bike to school by providing safe and accessible routes to school

Action 2-2: Fill key gaps in the network by providing first/last mile connections and reducing the stress level at crossings and interchanges

Action 2-3: Implement Class IV bike lanes, also known as protected or separated bicycle facilities. This physical separation of bicyclists from motor vehicles can reduce the level of stress, improve comfort for all users, and contribute to an increase in mode shift.

3 Provide a vision for arterials and collectors within the unincorporated County roadway network to assist County departments in planning for private development, capital projects, and maintenance efforts.

Action 3-1: Commit to Complete Streets and Safe System approaches and clarify how existing County procedures, policies, and plans may conflict

Action 3-2: Collaborate with key County stakeholders, neighboring jurisdictions, and Caltrans for larger funding efforts to complement infrastructure with non-infrastructure projects and create regionally significant projects

CHAPTER 3

EXISTING CONDITIONS

Two people on horse-back using a crosswalk in Bay Point

Bicycling and walking travel modes are employed and enjoyed by the community and visitors to Contra Costa County. Throughout this document, all references to pedestrians are inclusive of persons with disabilities who use mobility aids (scooters, manual and powered wheelchairs) to access public pedestrian walkways.

The County's existing roadway network primarily serves vehicular traffic for regional routes of significance. Bicycle and pedestrian networks often have gaps where unincorporated Contra Costa County meets various incorporated jurisdictions.

Bicycle and Pedestrian Networks

Currently, Contra Costa County has 25.1 miles of shared-use, off-street paths, 56.4 miles of roadway with designated bicycle facilities, and 440.6 miles of sidewalks in unincorporated areas. These networks are summarized in **Table 1** and mapped in **Figure 8**.

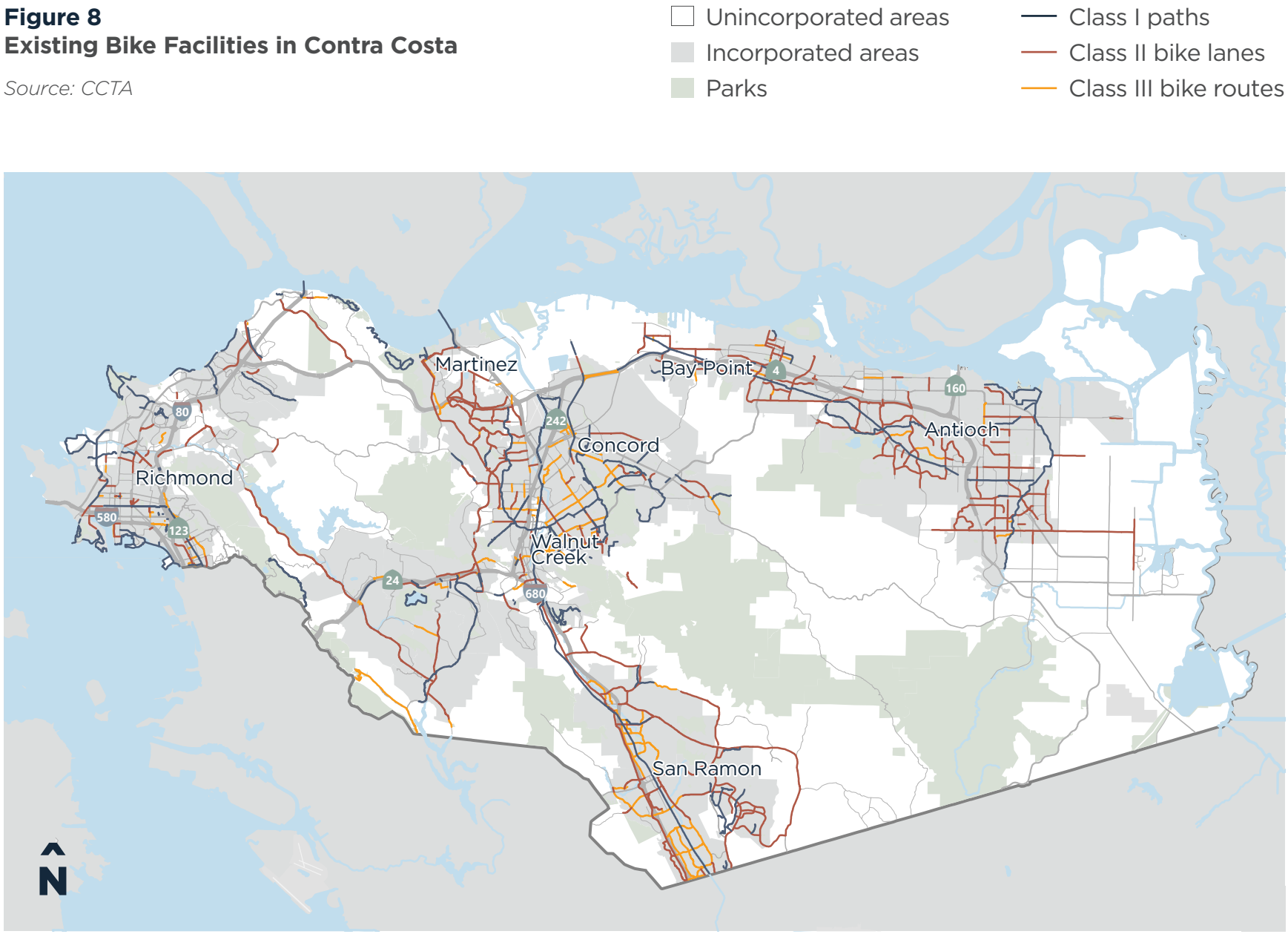
Table 1
Existing Bicycle and Pedestrian Networks

Type	Miles
Sidewalks*	440.6
Class I Bike Paths (Multi-Use)	25.1
Class II Bike Lanes	54.0
Class III Bike Routes	2.4
Class IV Bikeways	0

* Per side of street: that is, one mile of street with sidewalks on both sides would count as two miles of sidewalks.

Figure 8
Existing Bike Facilities in Contra Costa

Source: CCTA



Existing Bicycle Facilities

Cities and counties around the Bay Area and nationwide are using a "level of traffic stress" (LTS) analysis to help determine the comfort of bicycling in their communities. An LTS analysis takes different travel corridor characteristics into consideration, including the number of travel lanes; speed of traffic; number of vehicles; presence of bike lanes; width of bike lanes; and presence of physical barriers providing protection from traffic. Based on these variables, a bicycle facility can be rated with an LTS ranging from 1 to 4.

The least stressful (most comfortable) facilities are given an LTS 1 rating. Facilities with this rating are typically shared-use paths; separated bikeways; low-volume and low-speed bike routes; and bike lanes on calm and narrow streets. The most stressful (least comfortable) facilities are given an LTS 4 rating. Facilities with this rating are typically major arterials with multiple lanes of traffic (with or without bicycle lanes in some cases, depending on speeds) or narrower streets with higher speed limits.

The 2018 CBPP[7] further details a low-stress Countywide Bikeway Network (CBN), that when implemented, will provide connected facilities to serve all ages and abilities, address the barriers created by high-stress arterials and collectors, and provide key connections between destinations and infrastructure for local bikeways. Furthermore, the 2018 CBPP also includes an LTS analysis of how the implementation of the CBN would increase the existing 149 miles of low-stress facilities to 513 miles of low-stress facilities countywide.

Contra Costa County's existing and proposed bikeway network consists of four primary bikeway types, as classified in Chapter 1000 of the Caltrans Highway Design Manual (2015).

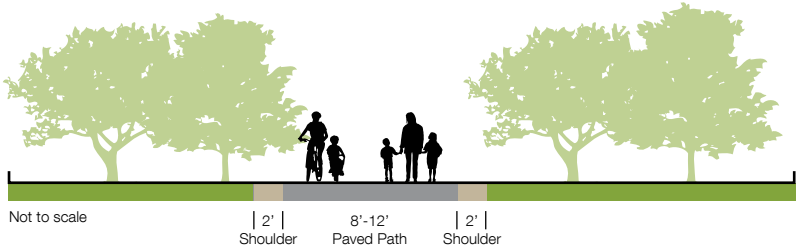
- Bike Paths and Shared-Use Paths (Class I)
- Standard Bike Lanes and Buffered Bike Lanes (Class II)
- Bike Routes and Boulevards (Class III)
- Separated Bikeways (Class IV)

Cross sections of different examples of these facilities are presented in **Figure 9**.

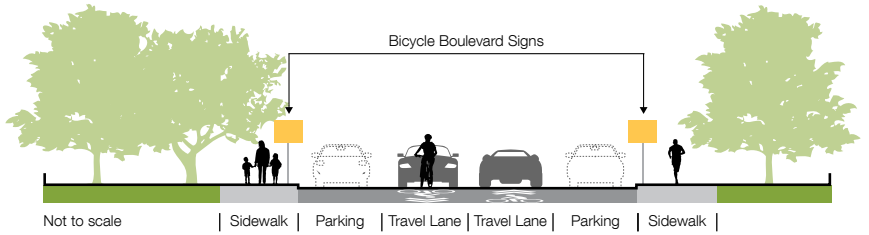
7 2018 Contra Costa Countywide Bicycle and Pedestrian Plan, https://ccta.net/wp-content/uploads/2018/10/5b8ec26192756.pdf, pgs 43-53.

Figure 9
Cycling Comfort and Level of Traffic Stress (LTS)

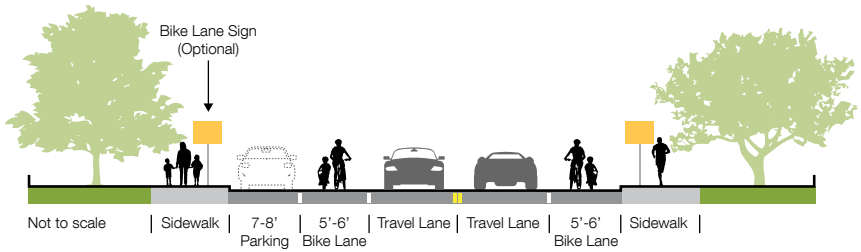
SHARED-USE PATH (CLASS I)
Completely separated right-of-way for exclusive use of bicycles and pedestrians



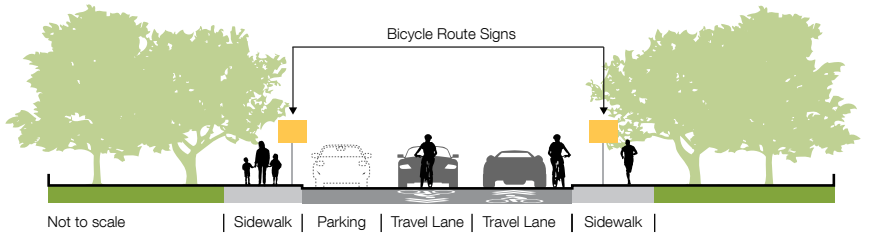
BICYCLE BOULEVARD (CLASS III)
Shared on-street facility with improvements to prioritize bicycle traffic



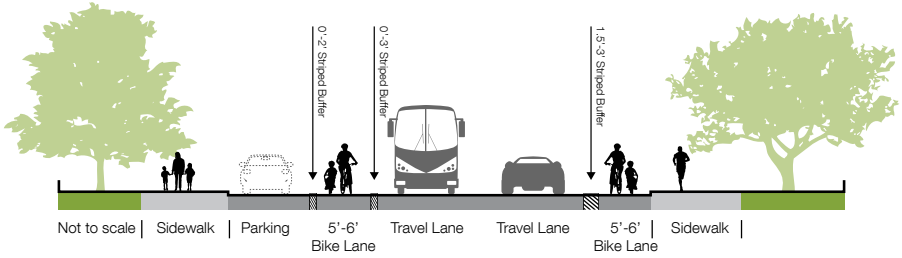
BICYCLE LANE (CLASS II)
On-street striped lane for one-way bike travel



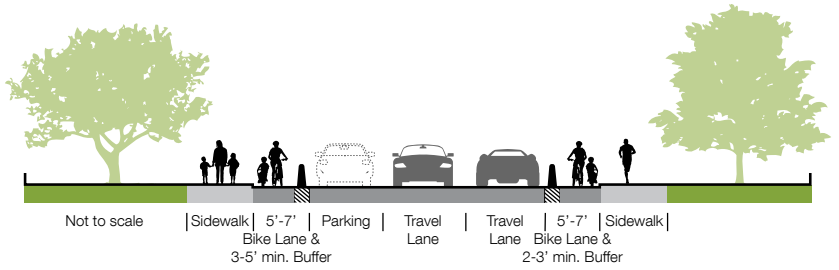
BICYCLE ROUTE (CLASS III)
Shared on-street facility



BUFFERED BICYCLE LANE (CLASS II)
Modified on-street bike lane with painted buffer



CYCLE TRACK/SEPARATED BIKEWAY (CLASS IV)
Physically separated bike lane



Pedestrians and bicyclists using a Class I path in Walnut Creek

Bike Paths and Shared-Use Paths (Class I)

Bike paths and shared-use paths provide a separate right-of-way for the exclusive use of bicyclists and pedestrians. They tend to have minimal cross-traffic and are often located along creeks, canals, and former rail lines. Bike paths are considered the lowest stress facilities for bicyclists.

The Iron Horse Trail, the Delta de Anza Trail, and the Bay Trail are major regional shared-use paths that link unincorporated Contra Costa County communities with neighboring cities, recreation areas, and regional transit. In several locations, like the Iron Horse Trail crossing of Treat Boulevard, grade-separated crossings provide access across barriers. Other smaller trail segments like the Wildcat Creek Trail and the Rodeo Creek Trail provide access and connectivity within neighborhoods.

Standard Bike Lanes (Class II)

Standard bike lanes designate an exclusive space for bicyclists using pavement markings and signage. The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or travel lane.

Within Contra Costa County bike lanes are striped on many streets, such as Fred Jackson Way, Willow Pass Road, Pacheco Boulevard, and Danville Boulevard.

Class II bike lane along Appian Way

Class IIB buffered bike lane near Las Juntas Elementary School on Pacheco Boulevard

Buffered Bike Lanes (Class IIB)

Buffered bike lanes are standard bike lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. This type of bikeway provides greater distance between vehicles and bicycles; provides space for bicyclists to pass each other; provides greater space for bicycling without making the bike lane appear so wide that it might be mistaken for a travel lane; and encourages bicycling by contributing to the perception of safety.

Contra Costa County currently installs bike lanes with buffers where space allows, for instance along Oak Road, Pacheco Boulevard in front of Las Juntas Elementary, and Bailey Road.

Bike Routes and Boulevards (Class III and Class IIIB)

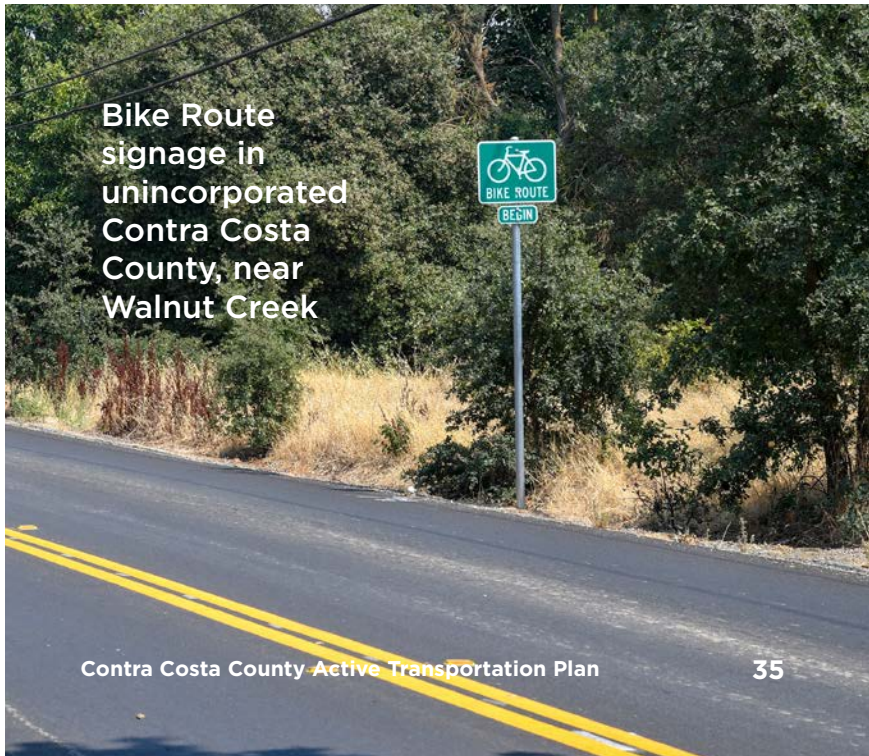
Bike routes are designated streets where bicyclists and automobile drivers are encouraged to share the road. The routes are typically designated with signage, but some streets also use sharrows to indicate where bicyclists should position themselves on the road.

Bike routes are typically used where there is not enough right-of-way to provide a standard bike lane, or along low-volume, low-speed streets where bicyclists can comfortably share the road with automobile drivers. The County has installed Class III bike routes as appropriate throughout the County, for instance Oak Road, Blackhawk Road, and Rollingwood Drive.

Class IIIB bicycle boulevards are similar to Class III bike routes, in that they are routes shared with auto traffic. Bicycle boulevards are primarily on low-speed and low-volume streets and can close important gaps in the bicycle network with insufficient space for dedicated lanes. Bicycle boulevards provide further enhancements to bike routes to encourage slow speeds and discourage non-local vehicle traffic via traffic diverters, chicanes, traffic circles, and/or speed tables. Bicycle boulevards can also feature special wayfinding signage to nearby destinations or other bikeways.

In Contra Costa, rural roads that are popular for recreational cycling are designated as Class III bicycle routes. No routes are currently designated and designed as bicycle boulevards, but many neighborhoods streets in the County are good candidates, where traffic calming and wayfinding could help encourage bicycling for local trips.

A sharrow marking on Oak Road



Bike Route signage in unincorporated Contra Costa County, near Walnut Creek

A Class IV separated bikeway on Bancroft Road in Walnut Creek

Separated Bikeways/Cycletrack (Class IV)

Separated bikeways are often referred to as “cycle tracks” and they are a relatively newer class of bicycle facility. They have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles, and are physically separated from motor vehicle travel lanes, parking lanes, and sidewalks with a vertical element.

Separated bikeways may be one-way or two-way and may be at street level or at sidewalk level. If at sidewalk level, a curb or median separates it from motor traffic, while different pavement color/ texture separates it from the sidewalk. If at street level, it can be separated from motor traffic by raised medians, on-street parking, or bollards.

Separated bikeways provide dedicated and protected space for bicycling making them an attractive facility for riders of all ages and abilities. No Class IV bike lanes currently exist in unincorporated Contra Costa County, but future opportunities are being considered where it is contextually appropriate.

Bicycle Parking

Bicycle parking encourages bicycling by supporting the final stage of the trip. Locations with high ridership are excellent candidates for bicycle parking: these destinations include civic, residential, commercial, and office spaces. At these locations, both short-term and long-term parking should be accommodated.

Short-term bicycle parking is temporary bicycle parking intended for visitors. Bicycle racks are a common form of short-term parking and are typically located in front of stores and other well-lit locations to discourage theft. Installing permanent bicycle racks near main entrances also helps bicyclists feel welcome and encourages them to ride their bicycle again on a return trip. Bicycle racks that allow at least two points of contact, such as the wheel and frame, provide the most protection against theft and accidental damage.

Long-term bicycle parking is intended for employees, students, commuters, and residents to protect bicycles for extended periods. Long-term facilities are more secure and provide protection from weather elements. Long-term bicycle parking includes bike lockers, bike cages, and bike rooms. These facilities would likely require a third party to install and maintain.

- **Bike cages** are fully enclosed, roofed shelters that house racks of bicycle parking, typically found at schools.
- **Bike lockers** are outdoor enclosures that accommodate one or two bicycles and are usually leased monthly or paid short-term use.
- **Bicycle rooms** are commonly found inside office or residential buildings and provide secure indoor parking. They may feature amenities such as bike pumps and quick-fix tools for employees and residents.

Bike storage at Contra Costa Centre BART

Attitudes Towards Bicycling

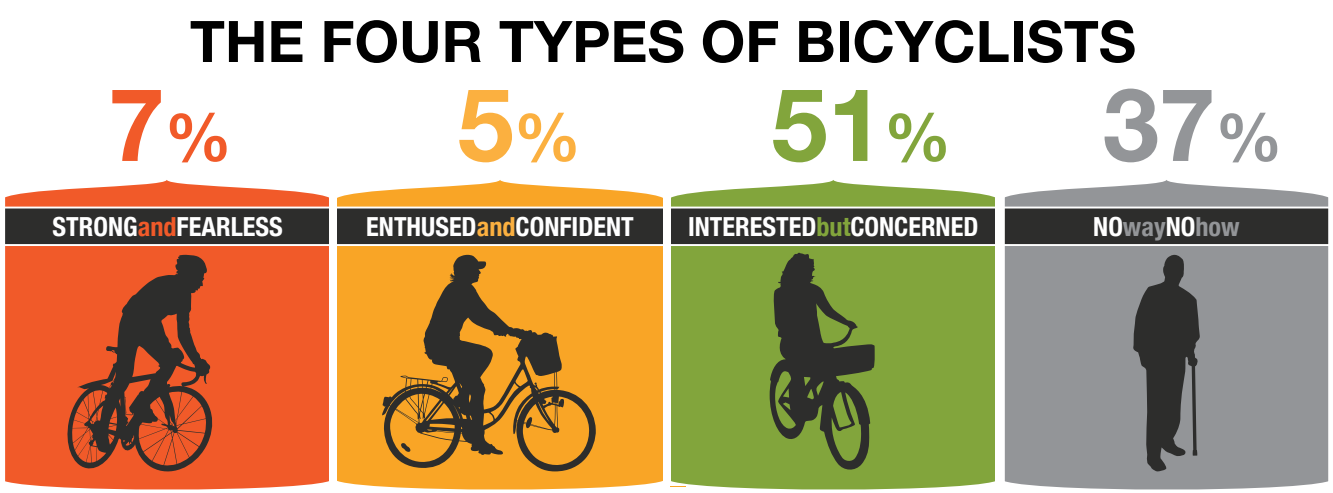
People typically fall into one of the following categories as bicyclists:

- **Strong and Fearless** People in this group are highly skilled and have the most riding experience. They will use their bicycles on arterials even when there are no bikeways present. Studies suggest that "strong and fearless" riders represent less than 1% of people in a community. This group of riders will feel comfortable using facilities with any LTS rating.
- **Enthused and Confident** This group consists of skilled riders who are also comfortable sharing the road but prefer using bikeways when they are available. "Enthused and confident" riders make up about 7% of people in a community. They typically feel comfortable using facilities with an LTS rating of 1, 2, or 3.
- **Interested but Concerned** This group of people is curious about bicycling and enjoys riding, but are concerned about safety and therefore do not ride regularly. They typically avoid riding their bicycles on major arterials unless there are facilities that provide a high degree of protection. "Interested but concerned" riders represent the majority in a community (around 60%). Riders in this group may only feel comfortable using facilities with an LTS rating of 1 or 2.
- **No Way No How** People in this group are simply not interested in riding a bicycle. Riding a bicycle may not appeal to them for several reasons. It may be inconvenient, or they may not be physically able to ride. This group represents approximately 33% of people in a community.

These categories are explored further in **Figure 10**.

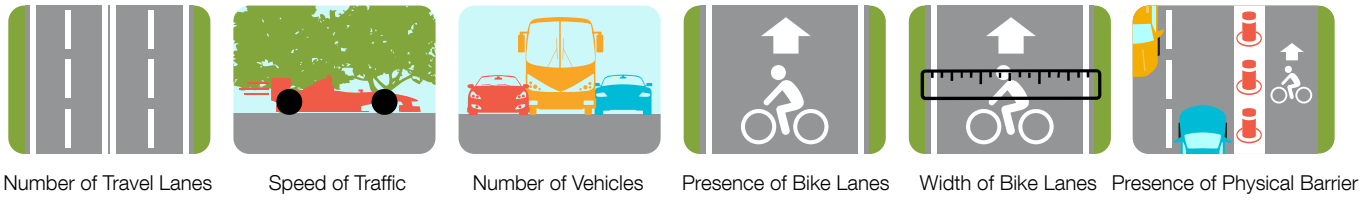
Addressing comfort is one of the most important things any community can do to create a more bicycle-friendly environment. Several studies have shown that a community's interest in biking can be increased by providing comfortable streets with lower-stress environments.[8]

8 Jennifer Dill and Nathan McNeil, "Revisiting the Four Types of Cyclists: Findings from a National Survey," Transportation Research Record: Journal of the Transportation Research Board, 2587: 90-99, 2016.



LEVEL OF TRAFFIC STRESS

Level of traffic stress (LTS) is a way to evaluate the stress a bike rider will experience while riding on the road. It is used to categorize roads by the types of riders above who will be willing to use them based on:



LTS 1 Most children can feel safe riding on these streets.

LTS 2 The mainstream "interested but concerned" adult population will feel safe riding on these streets.

LTS 3 Streets that are acceptable to "enthused and confident" riders who still prefer having their own dedicated space.

LTS 4 High-stress streets with high speed limits, multiple travel lanes, limited or non-existent bikeways, and long intersection crossing distances.

Figure 10
Cycling Comfort and Level of Traffic Stress (LTS)

Existing Pedestrian Facilities

Pedestrian facilities include shared-use facilities, sidewalks, and crosswalks.

Shared-Use Facilities

Class I bikeways, frequently known as shared-use paths or trails, are shared by both pedestrians and cyclists. These facilities are described earlier in this chapter.

Sidewalks

Sidewalks are paved areas immediately adjacent to the vehicular right-of-way for the exclusive use of pedestrians and may be used by people riding bicycles unless prohibited. Existing sidewalks in the county may include concrete, asphalt, or decomposed granite surfaces. Unlike shared-use paths, they are directly adjacent to the main right-of-way.

Crosswalks

A legal crosswalk, whether marked or unmarked, in California is designed as the extension of the sidewalk as a desire line across the road at an intersection. Marked crosswalks feature striping and other enhancements to delineate a street crossing for pedestrians. Two types of marked crosswalks include:

- Controlled: This type of crosswalk is located at stop-signs and traffic signals. They provide the most protection for pedestrians since they require drivers to come to a complete stop for to people in the crosswalk. Opportunities for enhancement may include adding pedestrian countdowns during the "Flash Don't Walk" signal phase; providing the walk phase during each signal cycle without having to press the push button (also referred to as "pedestrian recall"); prohibiting right turn on red; and automatically giving pedestrians a leading pedestrian interval (LPI) at crossings.
- Uncontrolled: This is a type of crosswalk that is not located at stop-signs or traffic signals. In some cases, uncontrolled crosswalks are also found in the middle of a larger block to provide quicker access between streets.
- Sharks teeth, or yield markings, are typically installed before a marked crossing to notify motorists to stop and yield to pedestrians

A pedestrian crossing the street in Contra Costa Centre

The shoreline at Port Costa

Pedestrian Priority Areas

The 2018 CBPP identified countywide pedestrian priority areas (PPAs) that met at least one of the following criteria:

- High residential density
- High combined residential and retail employment density
- High combined total employment and retail employment density
- High total employment density
- Within a Priority Development Area[9] with higher forecast growth
- Within ½ mile of a Major Transit stop, as defined by MTC's Infill Opportunity Zones[10]
- Within ¼ miles of a public school
- Within 500 feet of the highest concentration (top 10 percentile) of pedestrian collisions over the past 10 years

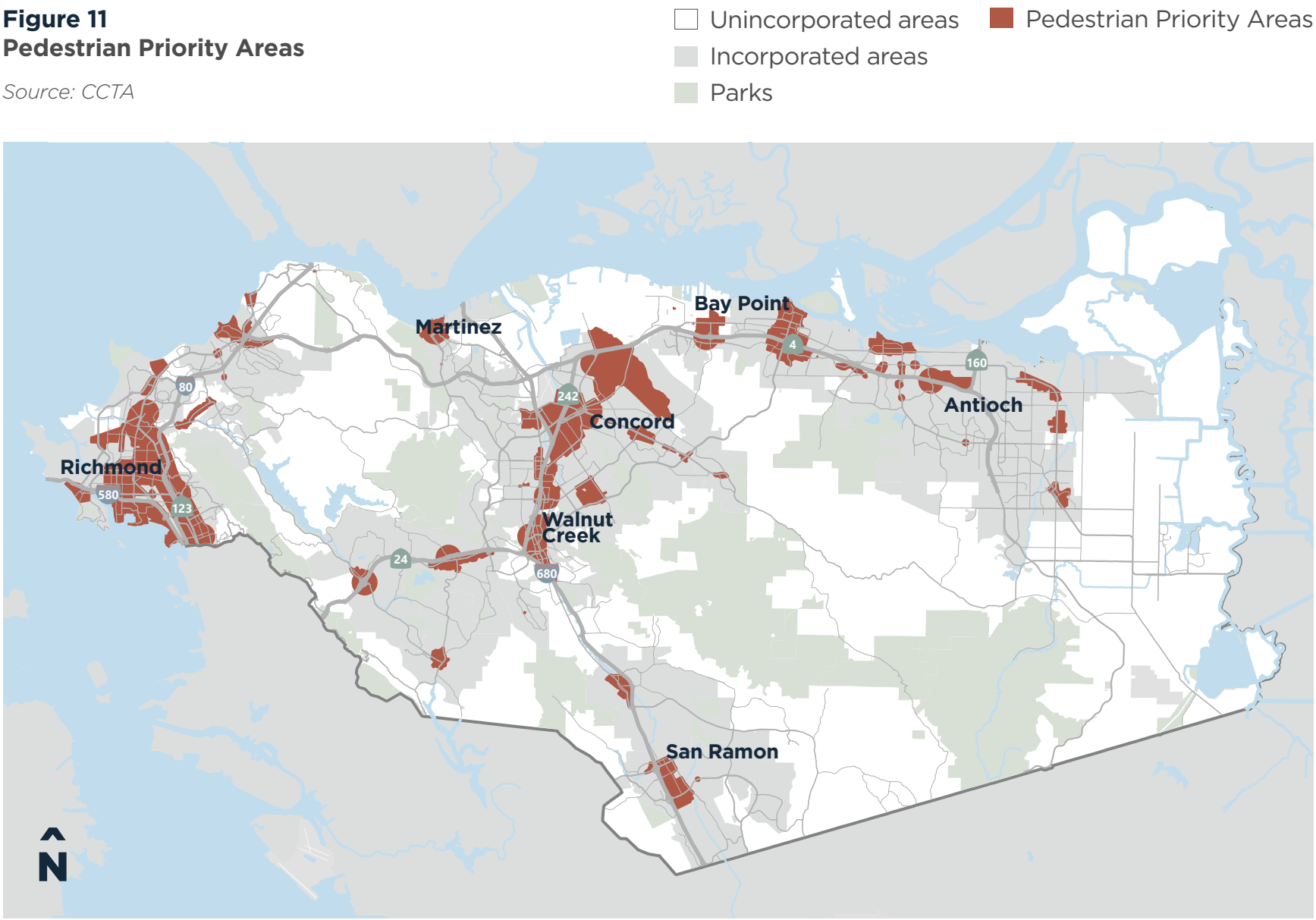
These locations identified in **Figure 11** highlight areas where conflicts with vehicles and pedestrians are greatest - where residential, employment, transit, or retail densities are highest. The PPAs identified in the 2018 CBPP lay the foundation for the implementation of continuous and safe pedestrian networks that provide the first and last mile connections to transit and key destinations.

9 Priority Development Area (PDA) is identified by the Metropolitan Transportation Commission (MTC) as places near public transit that are planned for new homes, jobs, and community amenities. Accessed at: https://mtc.ca.gov/planning/land-use/priority-development-areas-pdas

10 MTC (2017). Infll Opportunity Zone Eligibility. Accessed at: https://mtc.maps.arcgis.com/home/item.html?id=-c50040747a804c35b8f4e12dd04d0f05

Figure 11
Pedestrian Priority Areas

Source: CCTA



Pedestrians at the Pleasant Hill/Contra Costa Centre BART Station

Connections with Transit and Carpooling

Other transportation options, including bus stops, park and ride lots, and rail stations, are available within unincorporated Contra Costa County. All the services below offer bicycle racks or allow bicycles on board.

Central Contra Costa Transit Authority (County Connection, CCCTA)

County Connection buses are operated by the Central Contra Costa Transit Authority (CCCTA) and serve 11 jurisdictions that include unincorporated areas of central Contra Costa County. The service includes 25 weekday routes, 8 express routes, and 7 weekend routes; the service frequency on most routes ranges between 30 and 90 minutes. County Connection also provides public paratransit services throughout Central Contra Costa. Contract services for various business parks, business, schools, and airports are available with first- and last-mile connections, along with the Altamont Corridor Express (ACE) Shuttle which operates between central County park and ride lots and the Pleasanton ACE train station.

Eastern Contra Costa Transit Authority (ECCTA, Tri-Delta Transit)

Tri-Delta Transit is operated by the Eastern Contra Costa County Transit Authority (ECCTA). Tri-Delta serves Pittsburg, Antioch, Oakley, Brentwood, and the unincorporated areas of east Contra Costa County, including Bay Point. Tri-Delta operates 14 local bus routes Monday-Friday, 5 local bus routes on weekends and holidays, 7 Tri MyRide vans, door-to-door bus service for senior citizens and people with disabilities, and shuttle services for community events. All buses have bicycle racks and are wheelchair accessible. Tri-Delta Transit also offers Tri MyRide OnDemand Transit that operates from 5:00 AM to 9:00 PM on weekdays.

Western Contra Costa Transit Authority (WestCAT)

WestCAT was established to provide transit connections between western Contra Costa County and the cities of Hercules and Pinole with 14 weekday routes and 4 routes on weekends. Their Lynx service from the Hercules Transit Center to the Salesforce Transit Center runs weekday service between 5:00 AM until 9:20 PM. WestCAT also provides ADA Paratransit services, Senior Dial-A-Ride, and four express routes to El Cerrito Del Norte BART.

Alameda-Contra Costa Transit District (AC Transit)

AC Transit serves 13 cities and adjacent unincorporated areas of Contra Costa and Alameda Counties, with local bus lines within the East Bay and Transbay bus lines across the bridges into San Francisco and the Peninsula. AC Transit is the third largest bus system in California, connecting with nine other public and private transit systems, 21 BART stations, six Amtrak stations, and three ferry terminals.

Bay Area Rapid Transit (BART)

BART provides regional transit service to major job centers in the Bay Area. One BART station is located in unincorporated Contra Costa County – the Pleasant Hill/ Contra Costa Centre Station, while the Pittsburg/Bay Point Station is located just off the border of unincorporated Contra Costa County and directly serves many Bay Point residents. Additionally, many unincorporated communities in Contra Costa are also served by BART stations located in neighboring cities. Richmond and El Cerrito Plaza Stations serve neighborhoods in West County; Walnut Creek, Concord, and North Concord/Martinez Stations serve Central County (along with Pleasant Hill/Contra Costa Center); and Antioch Station serves East County.

- **Pleasant Hill/Contra Costa Centre Station** The Pleasant Hill/Contra Costa Centre Station is located in a pocket of unincorporated County, just north of Walnut Creek and east of Pleasant Hill. This station is within a half-mile of Interstate 680 and the regional Iron Horse Trail and serves as a hub for various transit providers serving the Bay Area. The various apartments, retail spaces, and commercial spaces provide continuous sidewalks to access the station. To the east of the station along Jones Road, the pedestrian bridge and Iron Horse Trail provide a Class I path to access the station. Roadways near the station due to receive new bicycle facilities include Treat Boulevard to the south and Las Juntas Way to the north.
- **Pittsburg/Bay Point Station** Pittsburg/Bay Point Station is a major commuter station located at the intersection of Highway 4 and Bailey Road. Pittsburg/Bay Point has a large park and ride facility and is accessible on foot via Bailey Road and W Leland Road in the City of Pittsburg. Both streets have Class II bike lanes and sidewalks. The Delta de Anza Trail comes very near the station entrance. However, due to the large parking lot, long driveways, and proximity to highway off-ramps, station access on foot and by bike can be challenging.

Mode Share

American Community Survey: Means of Transportation to Work

The American Community Survey (ACS) collects statistics on Means of Transportation to Work for every Census geography level larger than a block. This dataset estimates the local share of home-based work travel for workers 16 years and older by foot and bike as well as other modes. Because the ACS only polls a representative sample of residents in each geography level per year (on average, about 1% of the local population), its metrics are constrained by a margin of error. This existing conditions analysis only refers to the ACS mode share metrics at the unincorporated community ("Census-designated place", or CDP) level, where sample sizes are large enough and margins of error small enough for reasonably precise analysis. The ACS Means of Transportation to Work dataset is undoubtedly useful for understanding home-based work commute mode share in residential areas, but it is less appropriate for estimating active mode share for all trip types and beyond residential areas. For example, the ACS metrics will fail to reflect recreational active travel in rural areas, active travel by students from homes to schools, and work-related active travel to residential areas by domestic workers. See **Table 2** for the active transportation mode shares for home-based work trips in CDPs countywide. This information will contribute to an assessment of active transportation needs in each unincorporated community.

Table 2 Means of Transportation to Work (2019 5-Year Average)

Geography	Population (2020)	Means of Transportation to Work by Workers 16+ Years old		
		Transit	Walked	Bicycle
Unincorporated Contra Costa County	174,257	9.35%	1.18%	0.41%

Source: Population from the California Department of Finance Demographic Research Unit, Commute data from the U.S. Census American Community Survey 2019 5-Year Estimates: means of transportation to work, Contra Costa County

California Household Survey: Countywide Mode Split

The 2018 CBPP included countywide analysis of travel patterns by trip type and length. Contra Costa residents drive alone or carpool for most of the trips they take; of all trips, only 15% are made by walking, biking or transit[11] (see **Table 3**). For commute trips only, most Contra Costa residents drive alone, with about 20 percent of residents using non-auto transportation (transit, walking, biking).

Contra Costans, however, are more likely to walk for shorter trips, less than one mile in length, and are more likely to bike for trips less than three miles long (see **Table 3**). For the majority of short trips, however, residents still primarily drive, along or in a carpool. Some of these trips less than one-mile-long have the potential to be converted to walking or biking trips, and those less than three-miles-long could potential be converted to bicycle trips.

The 2018 CBPP bicycle backbone network along with the recommendations included in Chapter 6, will help to create barrier connections (freeways, waterways, etc.), improve safety, reduce modal conflicts, link to transit, and support bicycling. By creating safe and connected networks, additional trips may be converted to those of active transportation modes, rather than drive-alone trips.

Table 3
Contra Costa Mode Split by Trip Type and Length

Mode	All Trips	Commute Trips Only	Short Trips 1 mile or less	Short Trips 1 to 3 miles
Drive Alone	42%	73%	32%	43%
Carpool	42%	8%	38%	51%
Transit	4%	15%	0%	1%
Walk	10%	3%	27%	2%
Bicycle	1%	1%	3%	2%
Other	1%	0%	0%	1%
Total	**100%**	**100%**	**100%**	**100%**

Source: CA Household Travel Survey (CHTS) 2012, Fehr & Peers

11 2018 Contra Costa Countywide Bicycle and Pedestrian Plan. California Houshold Survey (CHTS), conducted February 2012 to January 2013. https://ccta.net/wp-content/uploads/2018/10/5b8ec26192756.pdf

A pedestrian with a dog using an enhanced crosswalk to cross Danville Blvd in Alamo

Strava Data

The County Public Works Department has access to Strava data through an agreement with the Strava Metro platform. Strava is an app and Internet service used for tracking bicycling, walking, and running trips through GPS data. The Metro tool aggregates and anonymizes this data at a countywide scale and can provide a perspective on where and how frequently users are riding within a given region. Historically, Strava data can overrepresent recreational trips, particularly bicycle trips done by "Strong and Fearless" style riders. However, it can still provide a useful perspective on where people choose to walk or ride and increases or decreases in trips over time.

Data is provided at a countywide scale for the entirety of Contra Costa County, included incorporated areas. **Figures 12** and **13** show the number of total trips and individual users who used Strava within the County for each month from 2018 through 2021. The significant uptick of trips taken in 2020 as compared to prior years is likely due to the impact of COVID-19, with many residents seeking ways to recreate and exercise within their communities during statewide travel restrictions.

VMT Reduction

Senate Bill 743 (SB 743) changes how the impacts of land use and transportation projects and plans are measured under the California Environmental Quality Act (CEQA). The state has determined that vehicle miles traveled (VMT) will be the metric used to determine these impacts. Projects and plans that increase VMT will have impacts under CEQA. Active transportation can be an alternative to decrease vehicle travel to reduce or offset increases in VMT, and thus mitigate impacts.

Table 4
Strava Countywide Summary of Active Travel Participants by Year

	2018	2019	2020	2021
Bike	20,066	20,217	34,774	33,438
Walk	22,357	22,267	43,935	50,810

Source: Strava Metro 2022, Fehr & Peers

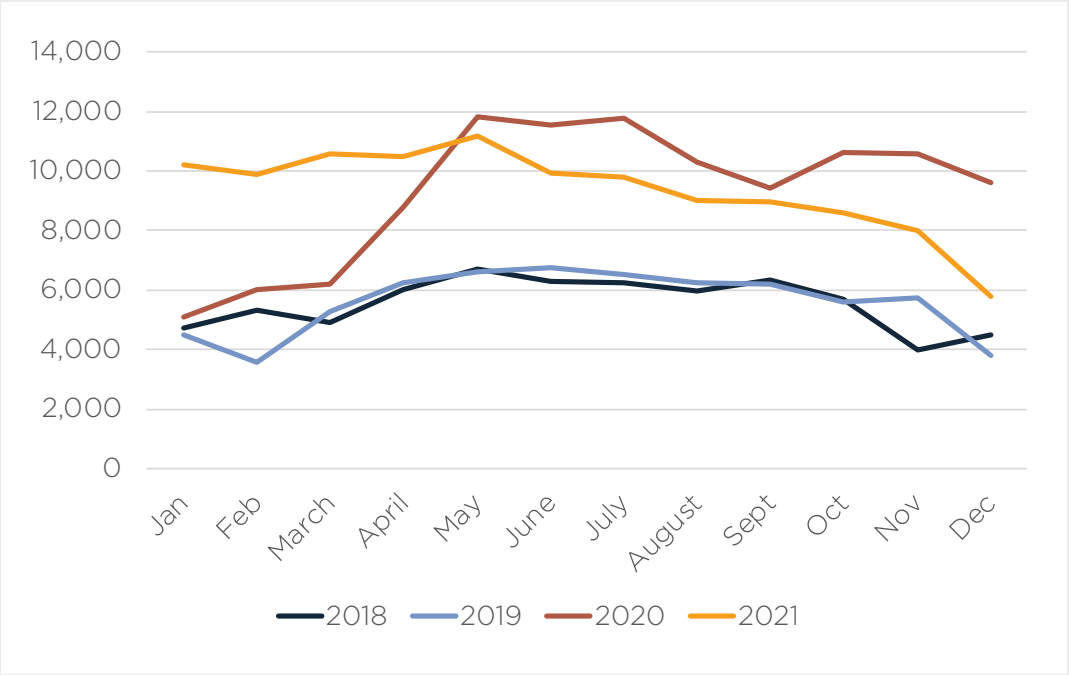


Figure 12
Individual Users by Month/Year - Bike

Source: Strava Metro 2022, Fehr & Peers

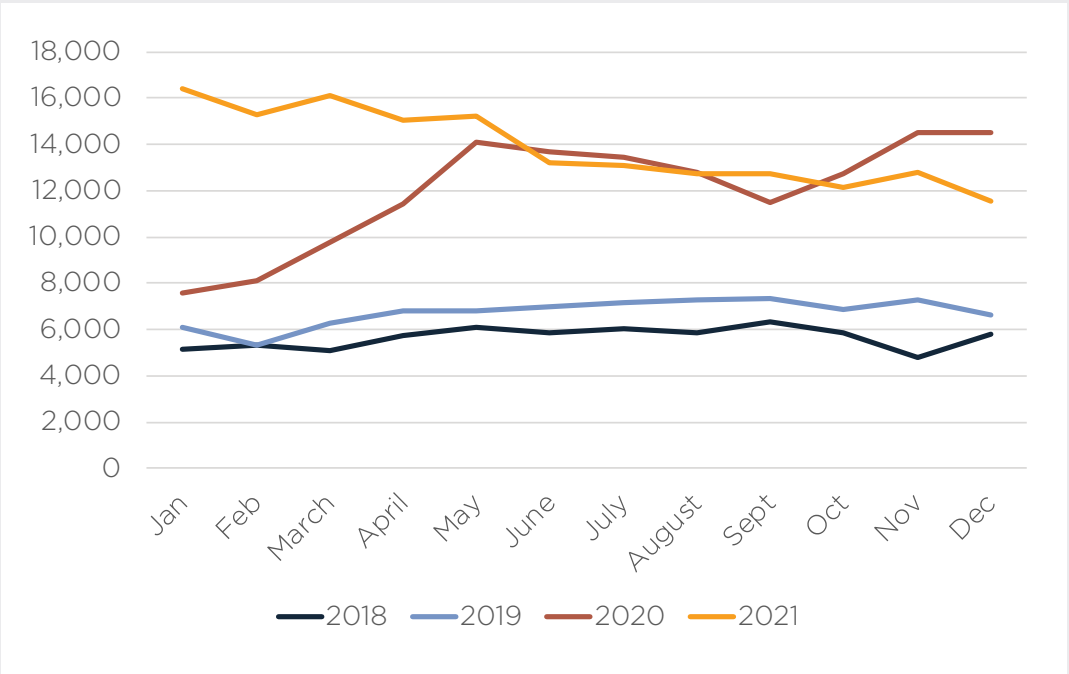


Figure 13
Individual Users by Month/Year - Walk/Hike/Run

Source: Strava Metro 2022, Fehr & Peers

A pedestrian crossing the street in Contra Costa Centre

Collision Analysis

In 2021, the County undertook a comprehensive evaluation of safety and collisions as part of their Vision Zero effort (expected adoption in 2022). High level trends for pedestrians and bicyclists are also presented here, with more details available in the Vision Zero Action Plan.

Table 5
Collisions by Mode and Location, 2014-2018

Severity	Pedestrian			Bicyclist			Motor Vehicle		
	Number	Share of Modal Collisions	Share of All Collisions	Number	Share of Modal Collisions	Share of All Collisions	Number	Share of Modal Collisions	Share of All Collisions
Fatalities	11	9.6%	0.5%	5	2.8%	0.2%	47	2.4%	2.1%
Severe Injuries	22	19.1%	1.0%	24	13.5%	1.1%	158	8.0%	7.0%
All collisions*	115	-	5.1%	178	-	7.9%	1,963	-	87.0%

**All collisions includes all collisions resulting in fatalities or injuries of any severity*
Source: Transportation Injury Management System, 2021; Fehr & Peers, 2021.

Table 6
Collisions by Year, 2014-2018

Year	Pedestrian	Bicyclist	Motor Vehicle
2014	18	36	359
2015	24	34	340
2016	19	42	425
2017	30	39	404
2018	24	27	435

Source: Transportation Injury Management System, 2021; Fehr & Peers, 2021

Annual Collision Trends

Annual collision trends show a rise in collisions since 2014. The total number of collisions across all modes rose from 413 in 2014 to 486 in 2018. Fatal and severe injury (KSI) collisions dipped in 2016, but show an upward trajectory. Fatal collisions peaked in 2015 and 2018, with 17 and 19 fatalities, respectively.

Motor vehicle KSI collisions experienced a dip in 2016 but have increased since then. Bicycle-involved KSI collisions decreased from 2015 to 2016, remained constant between 2016 and 2017, and peaked in 2018 with eight KSI collisions. Pedestrian-involved KSI collisions saw a spike between 2016 and 2017, with KSI collisions jumping from four in 2016 to ten in 2017. Pedestrian and bicycle-involved collisions account for 23% of all KSI collisions.

Figure 14
KSI Collisions by Year and Mode

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

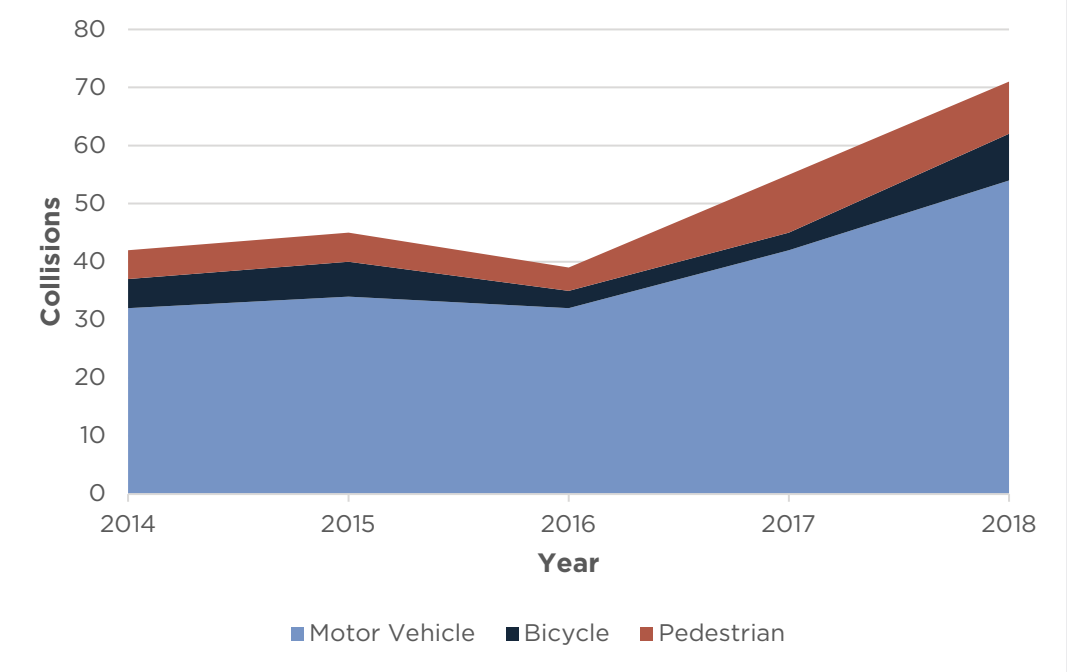
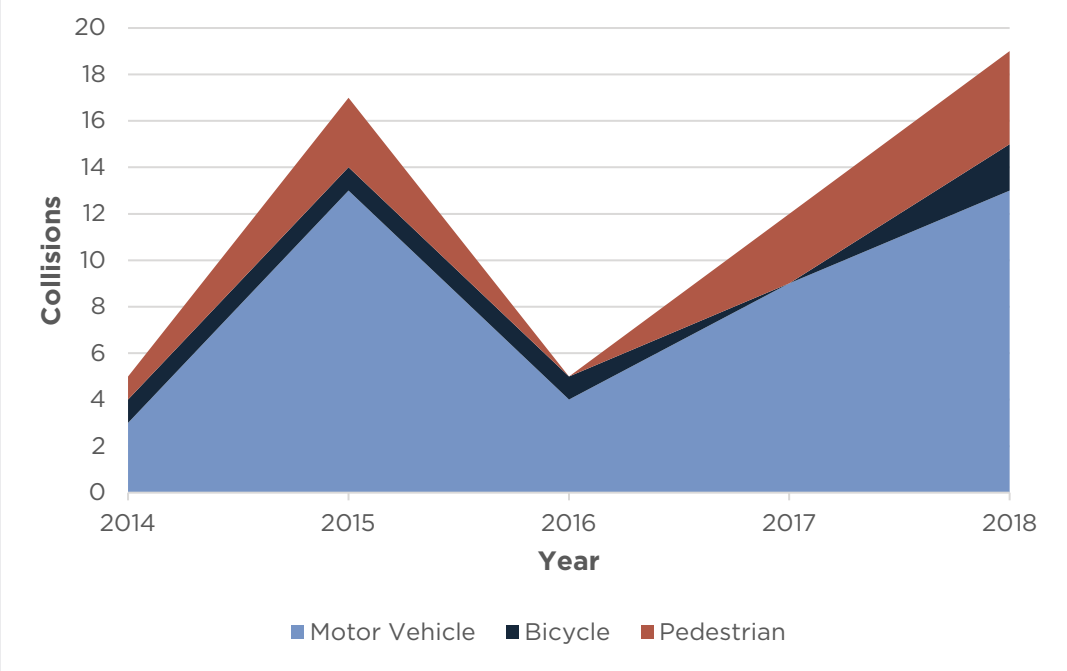


Figure 15
Fatal Collisions by Year and Mode

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)



- The number of KSI collisions for all modes decreased in 2014, but saw an especially steep increase in KSI collisions from 2016 through 2018 (**Figure 14**).

- The number of annual fatal collisions fluctuated from 2014 through 2018, with five fatal collisions in 2014 and 2016, a spike of 17 fatal collisions in 2015 and an increase from 15 to 19 fatal collisions between 2017 and 2018 (**Figure 15**).

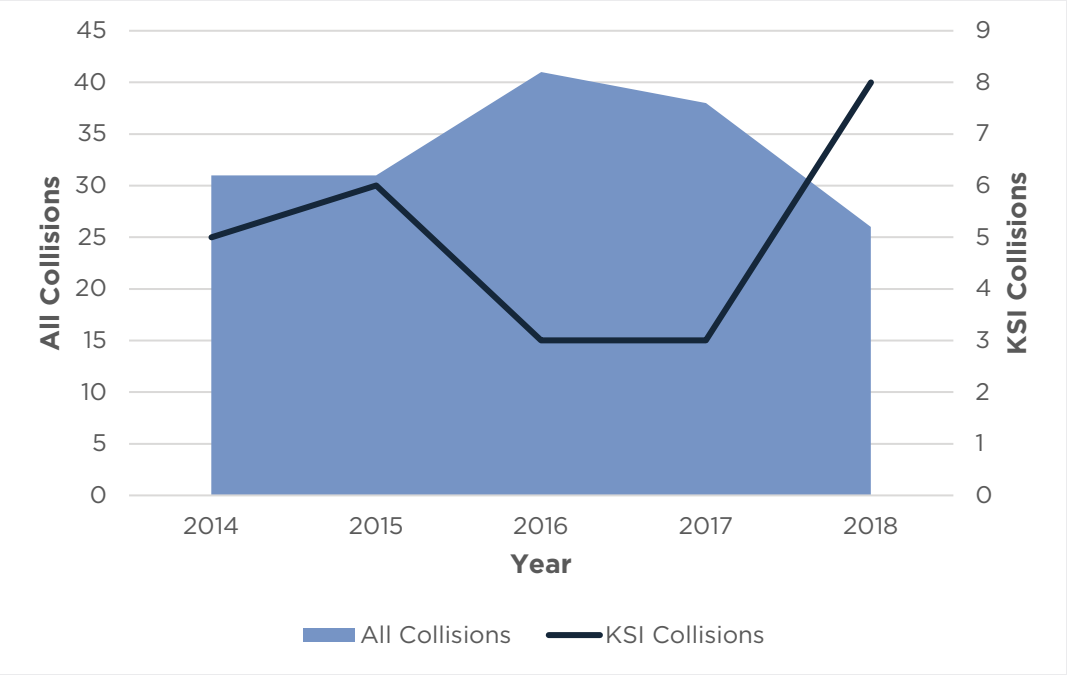


Figure 16
Bicycle-Involved Collisions by Year

Source: Contra Costa County Systemic Safety Analysis Report (February 2021)

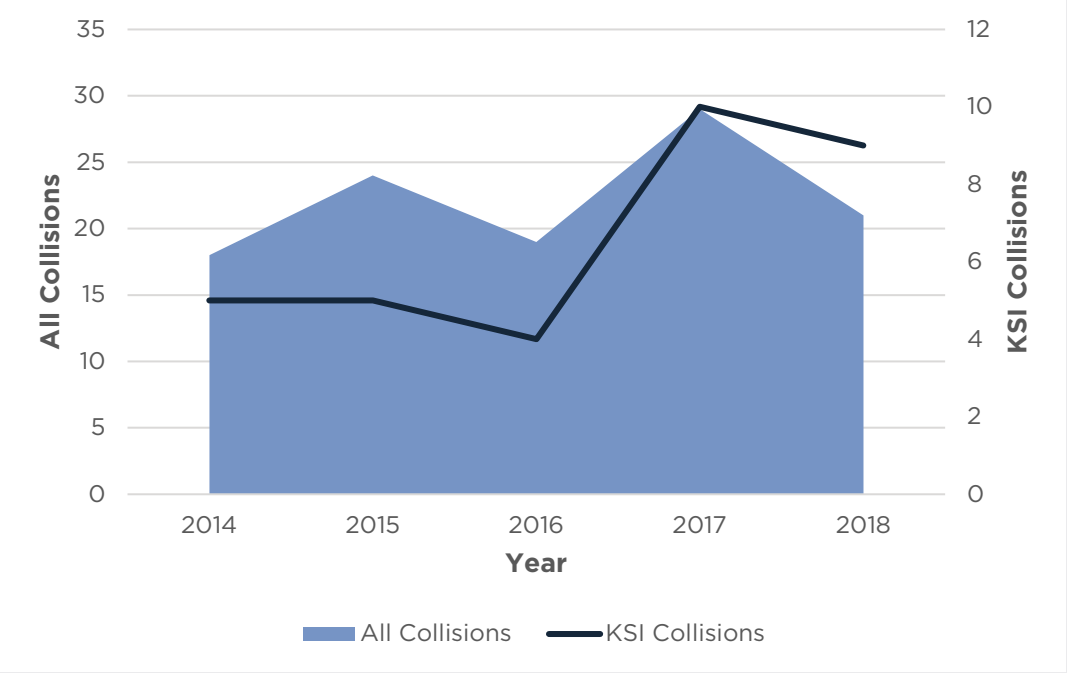
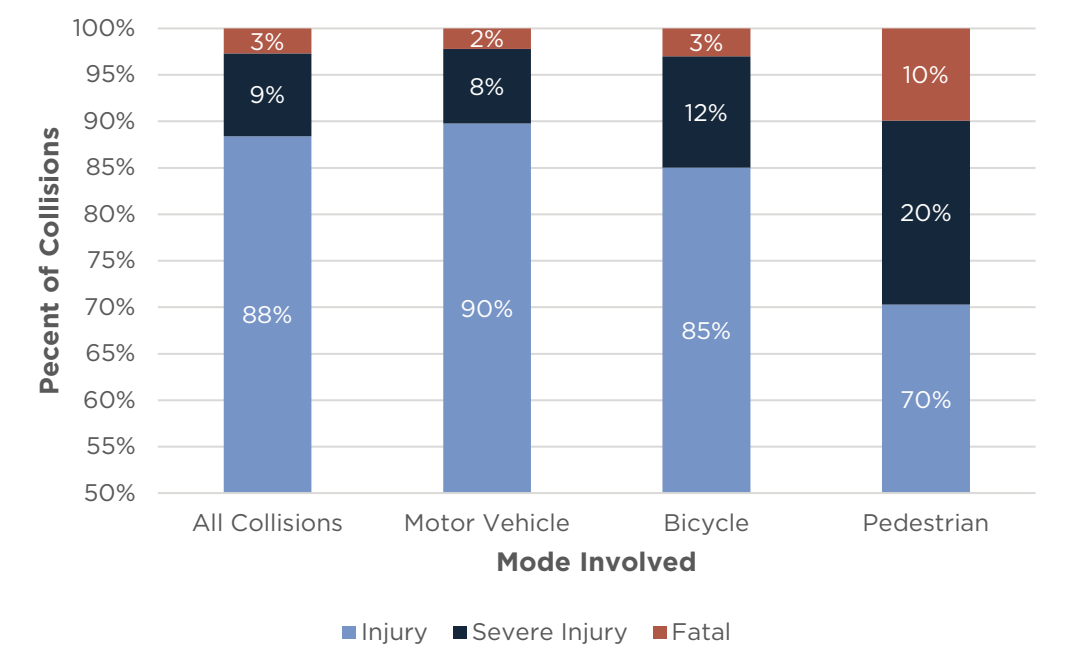


Figure 17
Pedestrian-Involved Collisions by Year

Source: Contra Costa County Systemic Safety Analysis Report (February 2021)

Figure 18
Collision Severity by Mode

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)



Collision Severity

Vulnerable road users, including bicyclists and pedestrians, are more susceptible to fatal or severe injury collisions. In terms of collision mode, pedestrian-involved collisions led to the highest percentage of KSI collisions at 30%, with 10% of those collisions being fatal. KSI collisions comprised 10% of motor vehicle collisions and 15% of bicycle-involved collisions.

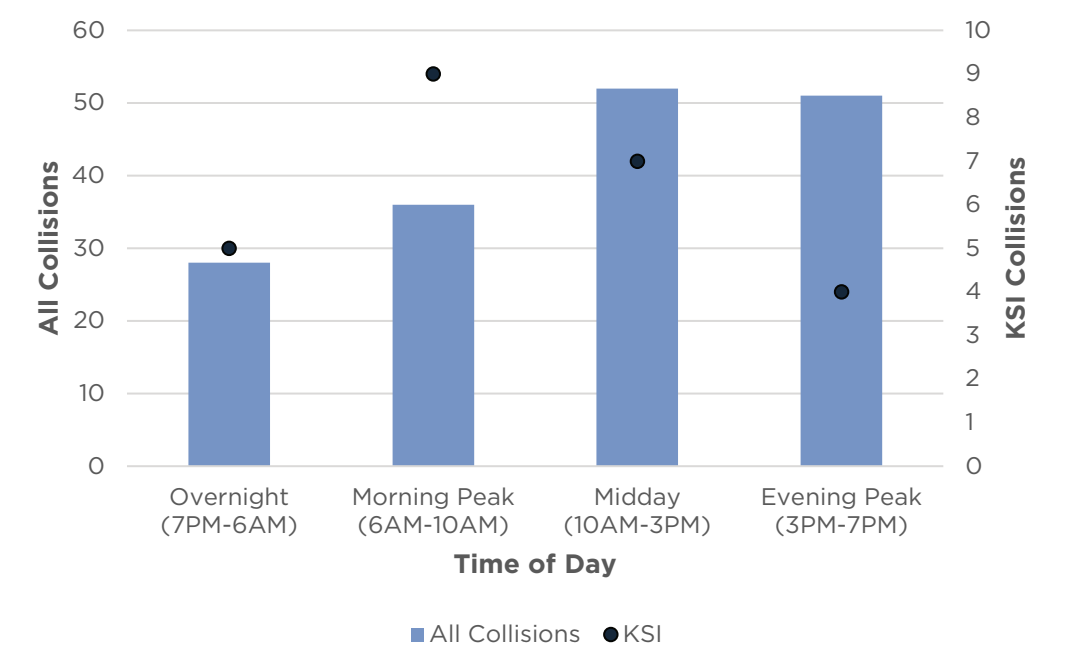


Figure 19
Bicycle-Involved Collisions by Time of Day

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

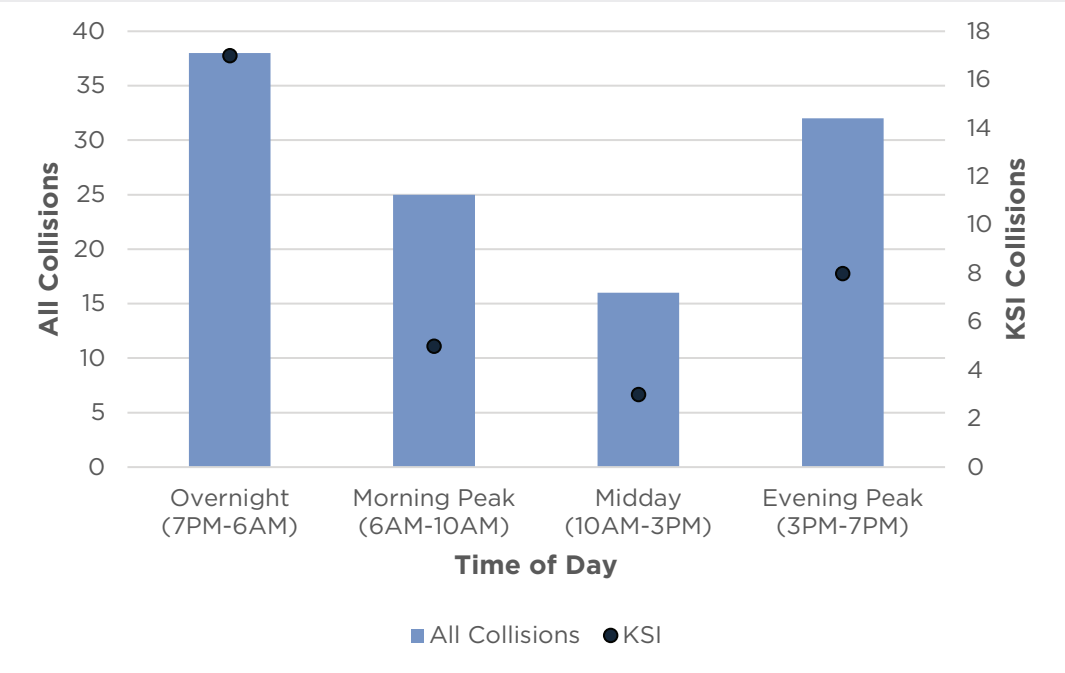


Figure 20
Pedestrian-Involved Collisions by Time of Day

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

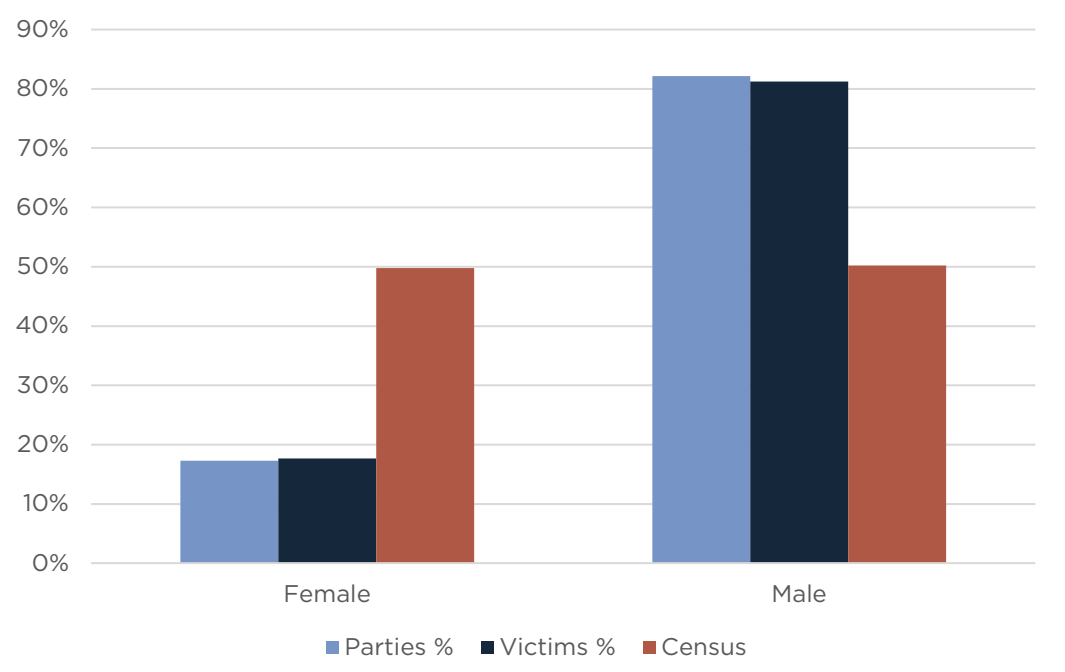


Figure 21
Male and Female* Involvement in Bicycle-Involved Collisions

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

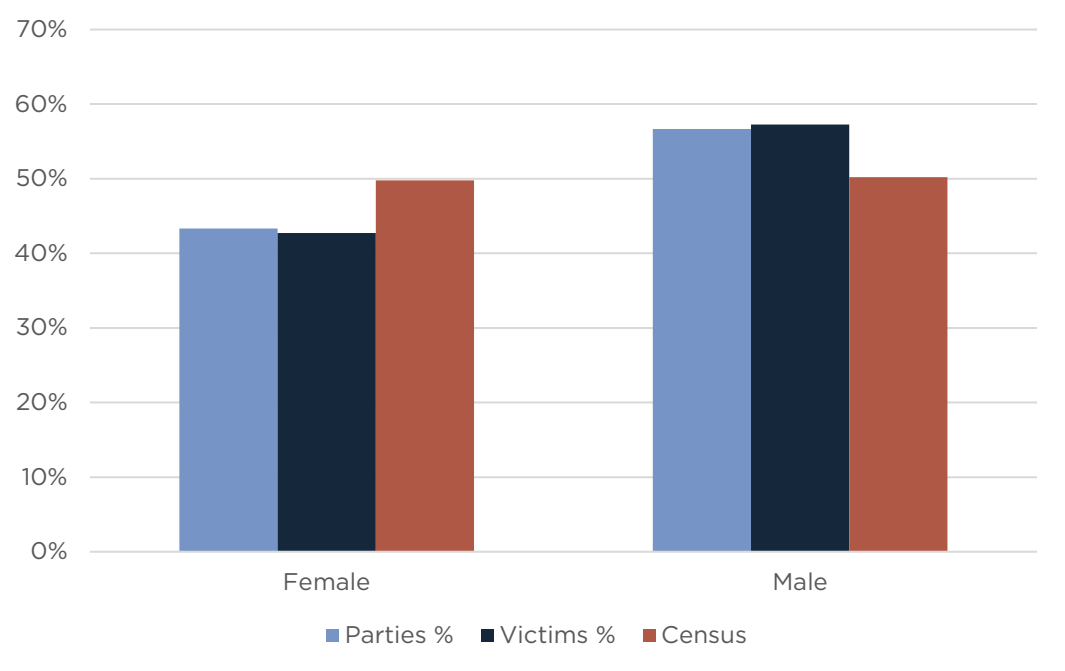


Figure 22
Male and Female* Involvement in Pedestrian-Involved Collisions

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

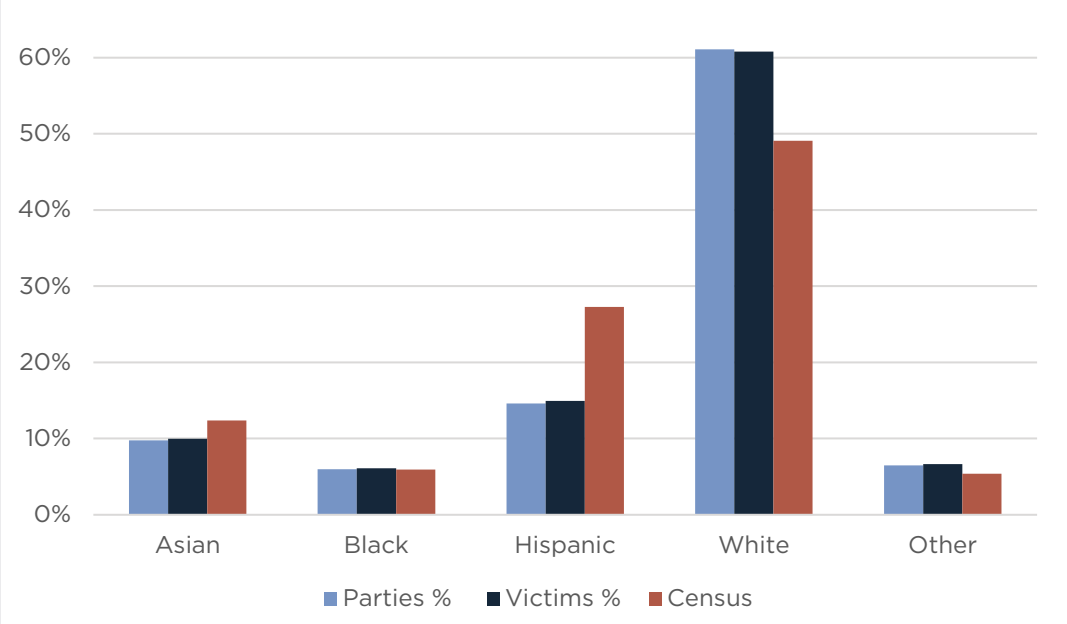


Figure 23
Race/Ethnicity of Parties and Victims for Bicycle-Involved Collisions

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

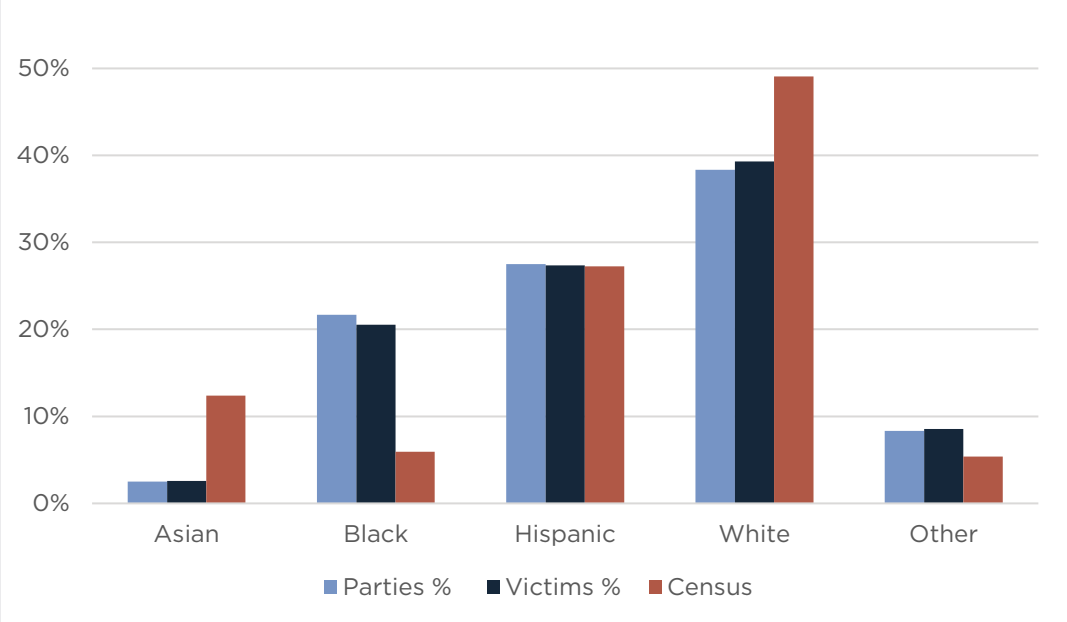


Figure 24
Race/Ethnicity of Parties and Victims for Pedestrian-Involved Collisions

Source:
Contra Costa County Systemic Safety Analysis Report (February 2021)

Bike infrastructure along
San Pablo Dam Road

Street scene in Port Costa

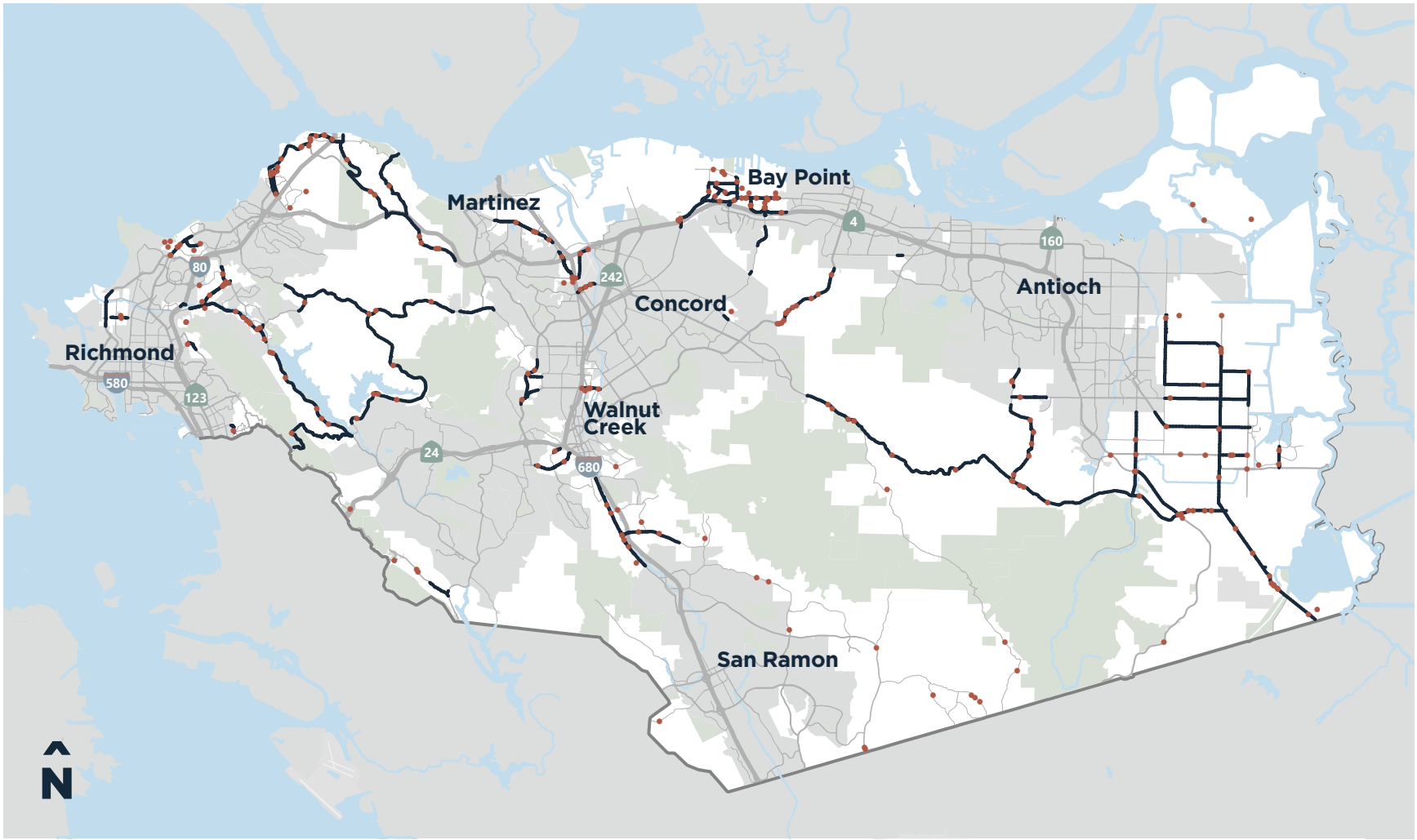
High-Injury Network

A high-injury network (HIN), as mapped in **Figure 25**, was created to highlight roadways with a high concentration of severe injuries and fatalities across all modes within the County. This HIN accounts for 143 miles of roadway, representing 22% of the 651 miles of roadways the County maintains, and 12% of the 1,150 miles of non-freeway roads in unincorporated Contra Costa County. The number of non-freeway collisions that occurred in the study area between 2014 and 2018 was 2,174. The high-injury network captures 70%, or 1,528, of these collisions: 252 of the 2,174 non-freeway collisions were either killed or severely injured (KSI), and 73% of these collisions, or 184, are captured on the HIN.

Building on the HIN, a series of collision systemic profiles were developed to summarize the notable trends across the HIN and extrapolate to similar locations within the County. These profiles supported the development of the County's Safety Action Plan. The bicycle and pedestrian profiles are further detailed in **Appendix C**, and were also used to develop the project list and recommendations as part of this ATP.

Figure 25
High Injury Network

Source: Fehr & Peers



A pedestrian crossing equipped with an RRFB in downtown Rodeo

Relationship to Other Plans & Programs

This ATP builds on various existing Plans and Programs. Key takeaways including supporting goals, policies, and projects are included below.

Contra Costa County General Plan

Contra Costa County's current General Plan was adopted in 2005 and includes goals, policies, and implementation measures to guide decisions on future growth, development, and the conservation of resources through 2020. The General Plan is currently undergoing an update that will provide an overview of the County's plans to address land use, transportation, housing, climate change, environmental justice, and other prominent issues over the next 20 years.

The 2020 General Plan's Transportation and Circulation Element includes the following Fundamental Concept and specific goals and policies related to active transportation. When the County's 2040 General Plan is adopted, goals and policies from that plan shall supersede those that follow.

Fundamental Concept

Streets should be designed, maintained according to the "Complete Streets" philosophy, which accomplishes the following:

- Specifies that 'all users' includes pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities.
- Aims to create a comprehensive, integrated, connected network.
- Recognizes the need for flexibility: that all streets are different and user needs will be balanced.
- Is adoptable by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards.
- Directs that complete streets solutions fit in with context of the community.
- Establishes performance standards with measurable outcomes.

Goals

5-A: To provide a safe, efficient, and integrated multimodal transportation system.

5-G: To provide access to new development while minimizing conflict between circulation facilities and land uses.

5-I: To encourage use of transit.

5-J: To reduce single-occupant auto commuting and encourage walking and bicycling.

5-K: To provide basic accessibility to all residents, which includes access to emergency services, public services and utilities, health care, food and clothing, education and employment, mail and package distribution, freight delivery, and a certain amount of social and recreational activities.

5-L: To reduce greenhouse gas emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.

Policies

Circulation Phasing and Coordination

5-3: Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public rights of way where feasible.

Circulation Safety, Convenience and Efficiency

5-11: The use of freeways for community circulation shall be minimized by prioritizing transit circulation, safe, direct non-motorized routes, and secondarily by additional arterials and expressways.

5-13: The use of pedestrian and bicycle facilities shall be encouraged. Proper facilities shall be designed to accommodate bikes, pedestrians, and transit.

5-14: Physical conflicts between pedestrians, bicyclists, and vehicular traffic, bicyclists, and pedestrians shall be minimized.

5-15: Adequate lighting shall be provided for pedestrian, bicyclist, and vehicular, safety, consistent with neighborhood desires.

5-16: Curbs and sidewalks shall be provided in appropriate areas.

5-21: New development shall contribute funds and/or institute programs to provide adequate bicycle and pedestrian facilities where feasible.

5-22: New subdivisions should be designed to permit convenient pedestrian access to bus transit and efficient bus circulation patterns.

Alternative Transportation/Circulation Systems

5-23: All efforts to develop alternative transportation systems to reduce peak period traffic congestion shall be encouraged.

5-24: Use of alternative forms of transportation, such as transit, bike, and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.

5-25: Improvement of public transit shall be encouraged to provide for increased use of local, commuter and intercity public transportation.

5-30: Street systems shall be designed and/or modified to discourage additional through traffic in existing residential areas, but not at the expense of efficient bus transit or bikeways.

Climate Action Plan

The County's Board of Supervisors adopted the Climate Action Plan (CAP) in December 2015. The CAP is comprised of polices and measures that, when implemented, will enable the County to meet its target for greenhouse gas emission reductions. The CAP includes the following transportation and land use strategies for implementing the bicycling and walking network as a strategy to reduce greenhouse gas emissions from what would otherwise have been trips in private automobiles. The following, included in the 2015 CAP, relate directly to the Active Transportation Plan.The County is currently updating its CAP, expected to be complete in late 2022.

Goal: Reduce transportation emissions

Action Items

- Improve transit services to help alter long-term patterns of automobile dependence

Goal: Reduce vehicle miles traveled

Action Items

- Collaborate with BART and other transit providers to increase ridership in the County
- Prioritize alternative mode access to BART and other transit stations

Goal: Maintain and expand access to goods, services, and other destinations through increased transportation alternatives (mobility improvements) and improved proximity (land use improvements).

Action Items

- Collaborate with local transportation, land use agencies, nonprofits, and other stakeholders to expand bicycle and pedestrian facilities and existing public transportation (BART, Amtrak, AC Transit, County Connection, and Tri Delta Transit)
- Work with the Contra Costa Transportation Authority, local school districts, and advocacy organizations such as the East Bay Bicycle Coalition to encourage bicycle safety classes in all schools
- Update County road standards, as opportunities arise, to accommodate all modes of transportation in local street designs (i.e., complete streets). Implement standards as part of routine maintenance and striping.
- Through periodic updates to the Contra Costa Transportation Authority's Countywide Bicycle and Pedestrian Plan, identify opportunities to improve access to community-wide bicycle and pedestrian networks by closing gaps in the network, removing barriers, and providing additional bike- and pedestrian-oriented infrastructure
- Establish a 2020 mode share goal for bicycling by a Board of Supervisors resolution, identify specific actions to reach the goal, integrate the goal into future General Plan updates, and appeal to other agencies to adopt the same goal
- Identify funding sources to support increased walking and bicycling activity

Contra Costa County Ordinance Code

The County's Ordinance Code includes ordinances that address how development should occur within the County. Multiple sections are relevant to this plan, as they provide guidance and requirements on topics such as the installation of sidewalks, bicycle parking, and the implementation of transportation demand management (TDM) programs. Guidance on TDM is intended to further the transportation goals of the County General Plan, the Measure C Growth Management Program, Contra Costa County's Congestion Management Program, and the Bay Area Clean Air Plan.

Chapter 96-8 Sidewalks and Paths
Article 96-8.404 Width and Thickness [of sidewalks and paths]

Sidewalks shall be at least four feet wide, exclusive of curbs, and not less than three and five-eighths inches thick. If sidewalks are less than six feet in width they shall not be obstructed by utility installations, mailboxes, or by planting

Chapter 82-16 Off-Street Parking
Article 82-16.412 Bicycle Parking

Depending on the respective land use, long-term and short-term bicycle parking must meet the requirements included in this section. Additional requirements include the following:

- Bicycle parking must be located near every terminus of dedicated bicycle trails or routes, or at locations that are accessible by bicycles, and if no bicycle trails or routes terminate on the lot to be served by the bicycle parking, the parking must be located as close as possible to main entrances and exits of buildings, structures, or facilities without obstructing any door, entry way, path, or sidewalk.
- The bicycle parking must be located in an area that is visible from vehicle parking or circulation areas, or pedestrian circulation areas.
- The bicycle parking location must be identified with guide signs or wayfinding signs that meet the requirements of sign type "3" in sign series "D4" of the then current Manual of Uniform Traffic Control Devices.
- Long-term bicycle parking must be accessible and usable by tenants, employees, or other occupants of the building or facility that it serves.

Chapter 82-32 Transportation Demand Management

The purpose of this chapter is to implement the provisions of the general plan to promote a more balanced transportation system that takes advantage of all modes of transportation by:

- Incorporating pedestrian, bicycle, and transit access into improvements proposed in development applications;
- Incorporating the overall intent and purpose of this chapter into the land use review and planning process;
- Allowing requests for reductions in the off-street parking requirements for residential or nonresidential projects that have a conceptual TDM Program;
- Providing information to residents on opportunities for walking, bicycling, ridesharing and transit.

MTC Regional Active Transportation Plan

MTC's Regional Active Transportation Plan, currently underway, will help guide investments in infrastructure and regional policy development and implementation supporting Plan Bay Area 2050.

The key elements of the Active Transportation Plan include:

- Development of a regional active transportation network, a Plan Bay Area Blueprint strategy, that builds off adopted state, regional, county, and local bicycle / pedestrian / trail plans;
- Stakeholder engagement through a Technical Advisory Committee and community-based organizations;
- Policy and program analysis, updated with an equity and Vision Zero focus, including the review and update of MTC's Complete Streets Policy (MTC Resolution 3765);
- Funding analysis to identify the constraints and potential future funding scenarios to build-out a regional active transportation network and implement the Plan Bay Area 2050 strategies; and
- Creation of a prioritized 5-Year Implementation Plan, in coordination with Plan Bay Area 2050's Implementation Plan, that will include actions to support active transportation in response to the COVID-19 pandemic's transportation-related needs.

Contra Costa County Safety Action and Vision Zero Plans

In 2020, the County kick-started a safety planning process for unincorporated areas of Contra Costa County, which began as a Safety Action Plan (funded as a Systemic Safety Analysis Report, SSAR, from Caltrans) and evolved into a Vision Zero Action Plan. CCTA's Vision Zero Framework served as the base for the CCC Vision Zero Plan's HIN, also used for this report. To provide the latest information, five years of the most recent collision data were analyzed to create a collision landscape analysis, high-injury network (HIN), and collision profiles, which was then matched with countermeasures to reduce these types of collisions on County roadways. This analysis was presented to a stakeholder advisory group to solicit feedback and identify an engineering-focused project list for the County to use when applying for grant funding.

Community feedback was also collected as part of the Safety Action Plan, where feedback was gathered around safety when walking, biking, and driving in the County.

The Vision Zero Plan focused on implementation strategies that fall under the Vision Zero Core Elements: Leadership and Commitment, Safe Roadways and Safe Speeds, and Data-Driver Approach, Transparency, and Accountability. Additional safety countermeasures were identified to include road users and post-crash care, supplementing the Safety Action Plan's engineering-focused countermeasures on roadway design and speed reduction. The countermeasures were organized under five categories: safe road users, safe speeds, post-crash care, equity considerations, and emerging technologies. The Vision Zero Plan also included a list of existing programs, funding sources, and an action plan for the County. The Action Plan strategies to reduce KSI collisions on County roadways identified the party/parties responsible for leading the action and supporting agencies.

The Safety Action and Vision Zero Plans identified locations throughout the County with high concentrations of collisions, including a special emphasis on bicycle- and pedestrian-involved collisions. The findings from these plans allowed the ATP team to identify key issues and risk factors associated with these locations and take a systemic approach to identify other locations throughout the County with similar risk profiles.

CCTA Bicycle and Pedestrian Plan

CCTA's Bicycle and Pedestrian Plan, adopted in 2018, focused on creating a plan to encourage and support walking and biking in Contra Costa County. Elements of this Plan included a County Baseline Report to better understand the on-the-ground conditions in each sub-region along with webmaps that allow local jurisdictions to edit their bicycle and pedestrian networks and coordinate regionally significant facilities. The Plan covers topics such as low-stress bikeway networks, connectivity to transit, bicycle super highways, advanced treatments for pedestrian and bicycle design, and a level of traffic stress (LTS) analysis for the highest ranked priority projects. The proposed bicycle and pedestrian backbone network and pedestrian priority areas were used as a starting point for many of the projects outlined in this plan.

Caltrans District 4 Bicycle and Pedestrian Plans

Caltrans District 4's Active Transportation Plan identifies and prioritizes pedestrian needs along and across the State Highway System (SHS) to guide future infrastructure investments. The Plan includes maps and charts that describe the walking conditions and connections to transit along the SHS in District 4. A prioritized list and map of location-based pedestrian needs is provided, accompanied by a toolkit and implementation strategy to address these needs with local partners and the public. The list of recommended projects in the Plan will overlap with active transportation projects to be constructed through the State Highway Operation and Protection Program (SHOPP).

While the Caltrans plans focus on state-owned facilities, the District 4 Plan has some overlap with projects in this ATP, and close coordination and collaboration will be needed for successful implementation. Examples include: additional Class I trail improvements at Bailey Rd and Highway 4, reconstruction of the Hilltop Drive/I-80 interchange to improve bicycle and pedestrian access, and a trail connection along Highway 4 between Concord and Bay Point.

CHAPTER 4

COMMUNITY INPUT AND COLLABORATION

Engagement Strategy

This section provides an overview of the public outreach process that was central to the development of the recommendations in this plan.

Hearing from a diverse and representative group of County residents and stakeholders was vital for the development of this Active Transportation Plan (ATP). Using in-person and virtual engagement methods the project team made reasonable efforts to reach a diverse group of Contra Costa County residents and stakeholders while following appropriate health and safety protocols in relation to the COVID-19 pandemic. An example of this effort includes installing temporary decals throughout the County that included a QR code to the Plan's website. Digital engagement materials were made available in English and Spanish. Specific engagement and advertising methods are detailed in the following sections. The ATP included a two-phase engagement process:

Phase 1

Phase 1 focused on listening to the community and soliciting feedback on existing conditions, access to key destinations, and community concerns about accessibility and comfort for people walking, biking, and rolling. This phase of the project lasted from March through July 2021, to accomplish the following goals:

- Develop a shared vision and goals for active transportation in Contra Costa County
- Identify key corridors and destinations, active transportation infrastructure gaps, and opportunities for improvement

Phase 2

Phase 2 presented draft infrastructure recommendations to the community. Draft recommended improvements were presented to the community for review and comment. Phase 2 was completed between the months of September 2021 and January 2022. Phase 2 had the following goals:

- Ensuring all stakeholders were provided with information about the draft project recommendations
- Receiving feedback on desired adjustments to draft project recommendations

Engagement Events and Activities

A multi-pronged approach of events and activities was used to increase participation from the community at large with a focus on historically underserved communities. Phase 1 of community engagement included two virtual community workshops, an interactive webmap on the project website, an online survey, and three virtual stakeholder meetings. Phase 2 included one virtual community workshop, an interactive webmap containing project recommendations, five community pop-up events, and presentations at six targeted community meetings.

Community Engagement Themes

Throughout both phases of the ATP's community engagement process, several key themes emerged from County residents and stakeholders:

- Need to improve safety, especially for safe routes to schools
- Need to improve access to essential destinations like parks, trails, and grocery stores
- Desire to use trails as low-stress connectors between unincorporated areas and cities
- Need to prioritize transit access, especially walking improvements (sidewalks and crossings) around bus stops
- Need to provide more separated bikeways and trails throughout the County because they provide the most separation from vehicles
- Need to provide traffic calming and more direct walking and biking options
- Need to provide secure bike parking at community destinations across the County
- Need to improve walking- and bicycle-focused wayfinding signs, especially along trails
- Need to provide more amenities (benches, water fountains, lighting, etc.) along trails
- Need to provide educational programs and opportunities, including driver education
- Desire from cities and other jurisdictions to coordinate with the County on maintenance (capital and scheduling)
- Need to address large or asymmetrical intersections, multilane roadways, and high-speed traffic on local and mountain roads, which can be mental and physical barriers for walking, biking, and rolling.

Community outreach at Hercules Branch Library

Phase 1 Outreach

Community Workshops

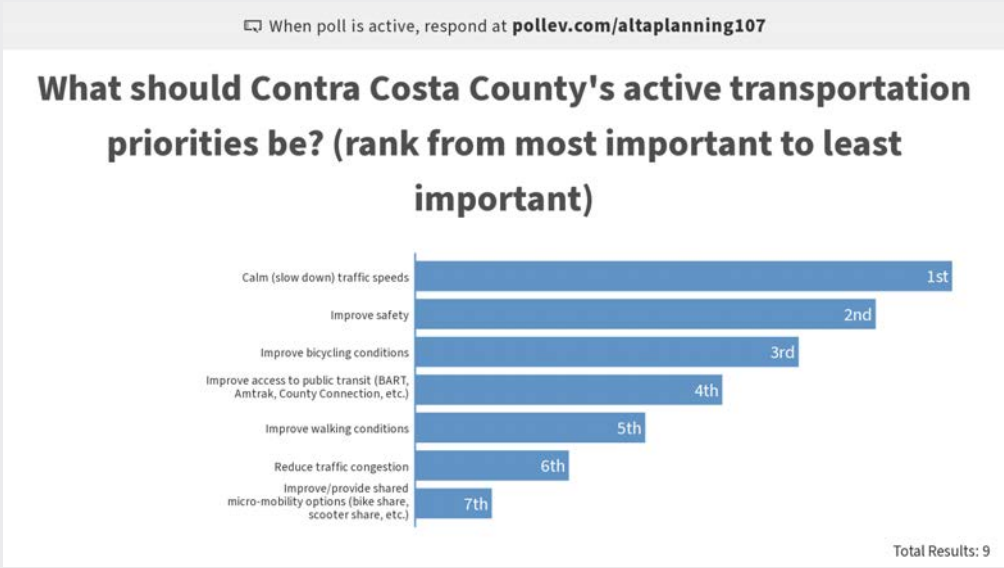
Two virtual community workshops were hosted during the month of May 2021. The workshops were held virtually under strict COVID-19 health and safety protocols. The project team promoted the workshops using Contra Costa County Public Works social media and through community partners.

During the workshops, attendees shared their thoughts on walking, bicycling, and rolling in unincorporated Contra Costa County, places they walk and roll to, and what their priorities and vision for the future are. Workshop attendees highlighted the need for better connections to destinations, including the following:

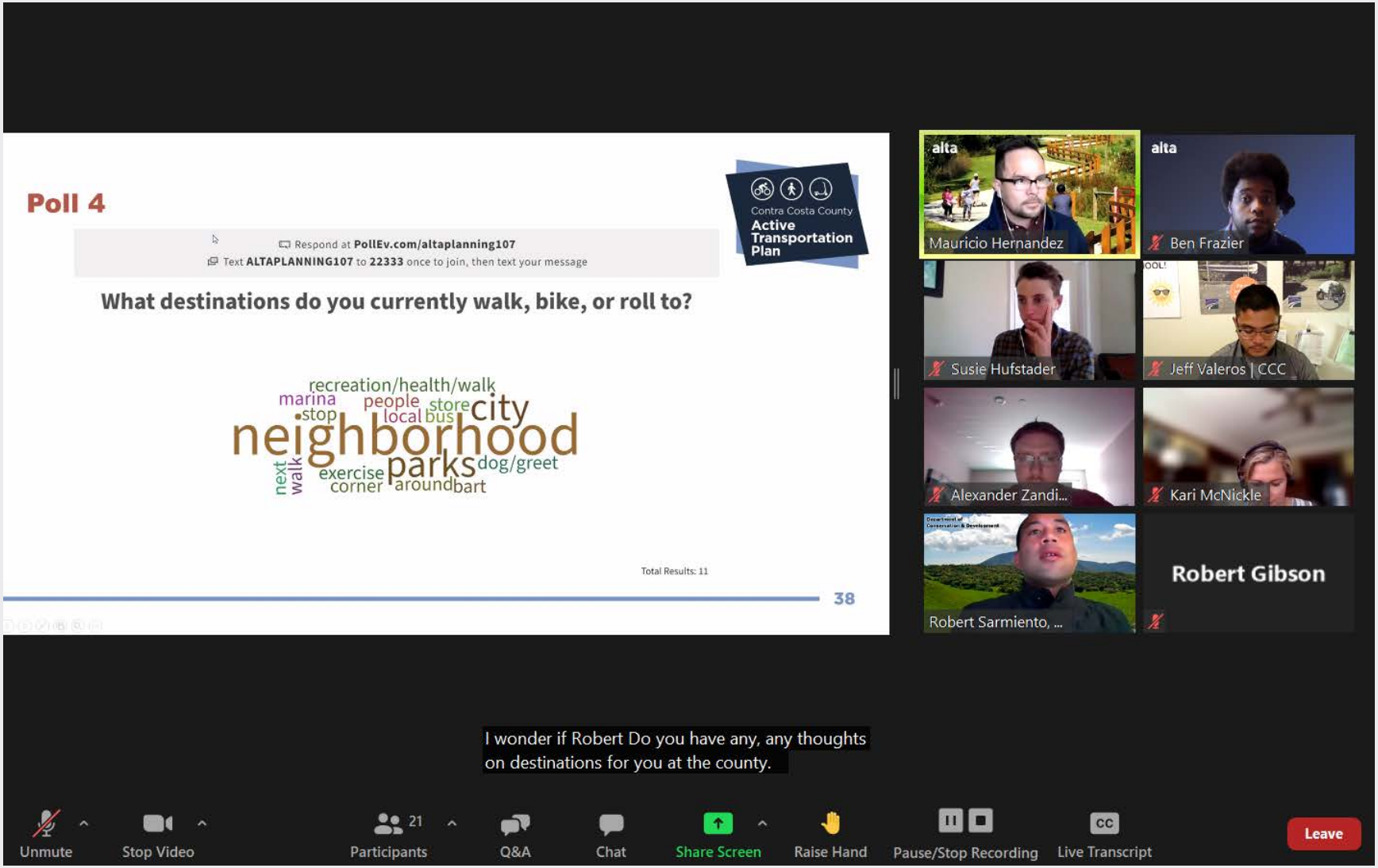
- Parks, recreational centers, and community centers
- Transit including BART and bus stops
- Schools
- Retail areas, including grocery stores
- The Bay Trail, the shoreline, and other open space areas

Other high priorities for residents included the need for traffic calming, especially on residential streets and cross-county corridors (e.g., San Pablo Dam Road), and the need for more separated and off-street facilities for users of all ages and abilities.

Evening workshop interactive PollEverywhere question.



Afternoon workshop interactive PollEverywhere question

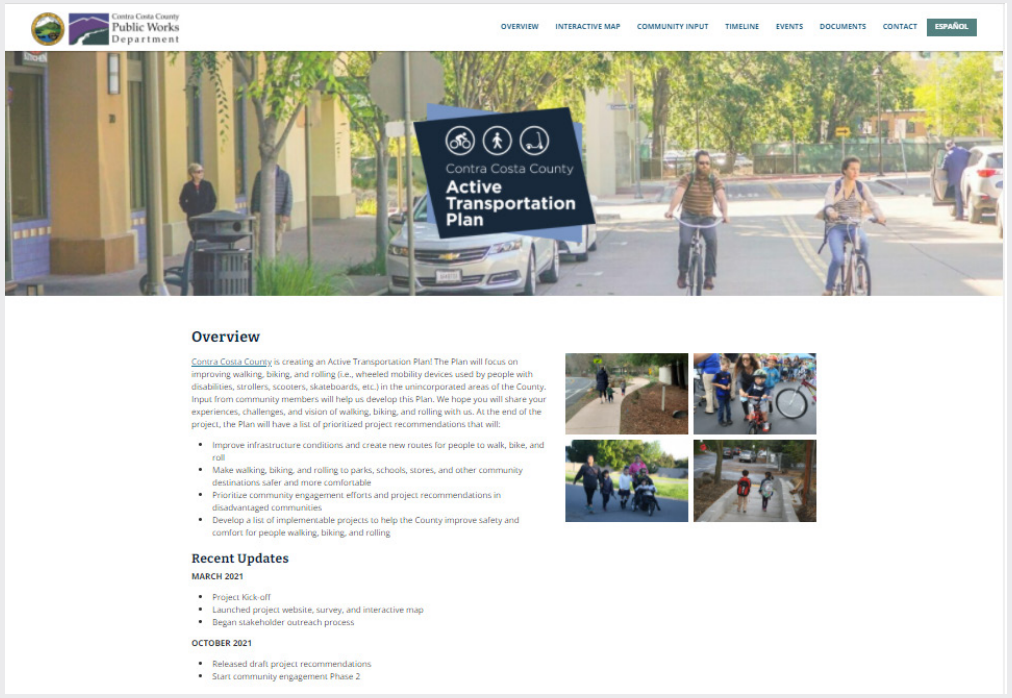


Screenshot from the afternoon workshop.

Project Website and Interactive Webmap

A project website (www.activecontracosta.org) and interactive webmap were created to provide a central location where the community could review the goals of the project, learn about upcoming events, and provide input on specific issues found throughout the County roadways. The interactive webmap allowed users to drop points at specific locations where they found safety and connectivity concerns, as well as draw current or potential routes that they would consider walking, biking, or rolling. To provide additional context, the existing bicycle and pedestrian networks were included in the map showcasing the network throughout unincorporated areas. The community provided 97 comments; fellow website users liked/disliked those comments 170 times. The community provided ten narrative comments via the "contact us" form. Within unincorporated areas, comments focused on the following key themes:

- Cross-county corridors like San Pablo Avenue, San Pablo Dam Road, Alhambra Valley Road, and Appian Way are, in some cases, the only practical way to move between destinations. However, these corridors prioritize cars and are stressful for bicyclists and pedestrians
- The County should complete sidewalks and improve intersection safety around schools
- Gaps in the Bay Trail should be closed, and with better access provided to the Bay Trail, canal trails, and other separated facilities



Active Contra Costa Website

Online Survey

The community survey was available on the project website from April through August 2021. It requested information from residents about their current travel behavior, comfort levels walking and biking, and allowed the general public to provide additional feedback about general active transportation issues in Contra Costa County. The survey was completed by 226 community members.

A high percentage (76%) of respondents indicated they walk multiple times a week, and 54% said they bike numerous times a week. Respondents used public transit occasionally, with only 14% regularly riding public transit, but 69% reported riding the bus or train occasionally. 84% percent of respondents said they walk or bike for their health and "enjoy walking/biking." 75% of respondents said they currently walk or bike "for fun/exercise" and to parks and stores.

Respondents also provided information about their comfort while walking, biking, or rolling around Contra Costa County. Currently, 71% of respondents feel comfortable walking around their community, and 43% feel comfortable biking in their community. 53% of all respondents felt that more/better bike lanes, greater separation from vehicles, more sidewalks, and safer ways to cross the street would encourage them to walk, bike, and roll more around their communities.

Stakeholder Meetings

The County facilitated three virtual stakeholder meetings. Each meeting included stakeholders around three thematic groups: community-based organizations (CBOs), schools, and partner agencies. The following organizations and agencies participated in stakeholder meetings:

- City of San Ramon
- City of Orinda
- City of San Pablo
- City of Antioch
- City of Richmond
- City of Walnut Creek
- BART
- AC Transit
- CCTA
- John Swett Unified School District
- District 1 Supervisor's Office
- Bike East Bay
- WCCTAC
- 511 Contra Costa County
- Mobility Matters

Takeaways from stakeholder meetings included the following:

- Need to improve access to community destinations like parks, schools, and community centers (for all ages and abilities)
- Need to build better first-last mile connections to major transit stops and stations
- Need to improve the existing walking and bicycling facilities to help increase the number of active and shared trips across the County
- Need for the County to partner with community organizations and other County agencies to promote and educate the community about walking and biking options
- Need to slow vehicle speeds to make walking, rolling, and bicycling more comfortable

Community outreach at Alamo Farmer's Market

Community outreach at Bay Point Branch Library

Phase 2 Outreach

The second phase of outreach began in October 2021 and focused on gathering feedback on the proposed projects to be included in this plan.

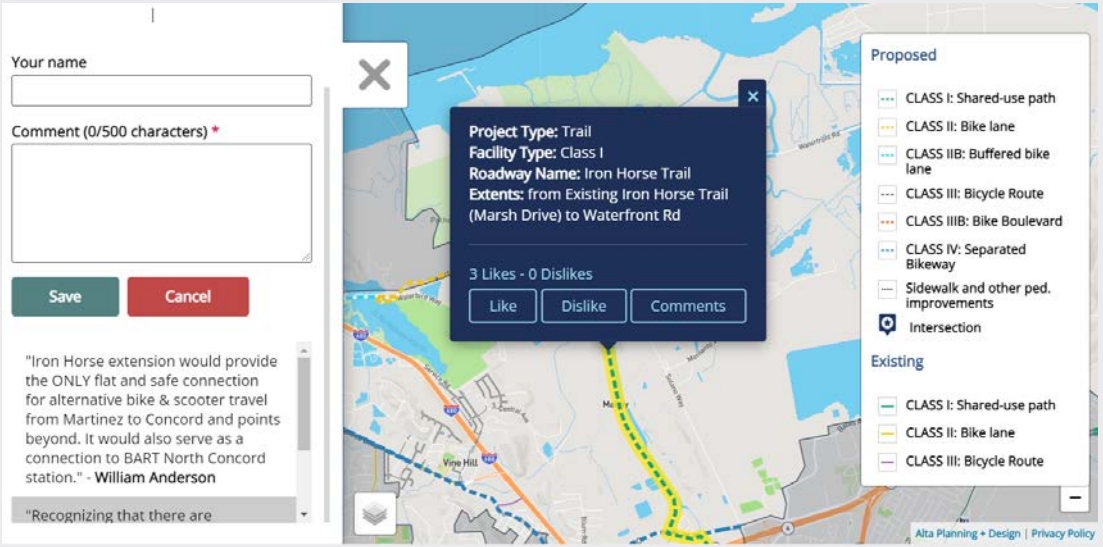
Interactive Webmap

In October 2021, the interactive webmap was updated to include the draft recommendations for the pedestrian and bicycle networks. Users were able to like, dislike, and leave comments on draft proposed projects. The webmap also allowed users to trace additional recommendations along roadways in need of sidewalk and/or improved bicycle facilities for the project team to consider. The Contra Costa County Public Works Facebook and Instagram pages as well as complementary social media ads were used to promote the project website. The County ran focused ads, in English and Spanish, on Facebook and Instagram in unincorporated areas of the County to increase participation and reach a larger share of the community. The County also ran targeted ads in disadvantaged communities and communities with lower exposure to other engagement methods. Ads were shown to over 32,000 people, resulting in almost 800 website visits from ads alone. Between September and December 2021, about 1,400 stakeholders visited the project website (over 2,100 visits over the project's life). Users provided over 150 likes/dislikes and 23 comments on project recommendations. Users also added 35 different roadway segments for the project team to consider for additional project recommendations. The top three community-liked projects included:

- Danville Boulevard Buffered Bike Lanes
- Stone Valley Road Buffered Bike Lanes
- San Pablo Dam Road Separated Bikeway

An example of the social media ad on Facebook.

The project recommendations interactive map showing the Stone Valley Road recommendation.



Likes and comments on the Iron Horse Trail extension recommendation.

Community Pop-Up Events

The County hosted pop-up tables at five different community spaces: Lefty Gomez Park in Rodeo, Alamo Certified Farmers' Market, Pittsburg/ Bay Point BART Station, Bay Point Brach Public Library, and Hercules Branch Public Library. Brief descriptions of each event follow.

Lefty Gomez Park – Rodeo

Project staff hosted a pop-up table at Lefty Gomez Park at the Rodeo 2021 Chili and Salsa Cookoff and Car Show (11 AM – 3 PM). The event included food, entertainment, dozens of vehicles, and vendors. The project team prepared countywide maps to gather feedback on walking and bicycling conditions throughout the unincorporated County. The project team also promoted the project website. Project staff engaged with about 30 residents during the event.

Community members talking to project staff during the event and a collection of comments left on the plotted map.

Image source: Alta and Fehr & Peers

Alamo Certified Farmers' Market – Alamo

Project staff hosted a pop-up event at the Alamo Certified Farmer's Market during Sunday morning and afternoon (9 AM – 1:30 PM) on October 17, 2021. Project staff presented draft recommendations to the public and handed out business cards to direct people to the project website containing proposed network recommendations. The team engaged with over ten residents during the event.

The Farmer's Market booth allowed residents to point out areas they wanted to discuss across the County.

Image sources: Alta and Fehr & Peers.

Pittsburg/Bay Point BART Station – Bay Point

On Wednesday, October 20th, 2021 the project team distributed business cards promoting the project website at the Pittsburg/Bay Point BART Station during the evening commute period (4-7 PM). The project team distributed over 200 business cards and answered all questions people had regarding the Active Transportation Plan and recommendations process.

The project team distributed business cards (right image) to BART riders entering and leaving the station.

Image sources: Alta.

Bay Point Branch Public Library – Bay Point

Project staff hosted a table at the Bay Point Public Library during the afternoon school pick-up (2:15 – 4:45 PM) on Tuesday, October 26, 2021. Project staff presented draft recommendations and distributed business cards to direct people to the updated project website and interactive webmap. The team engaged with over 50 elementary, middle, and high school students, along with a handful of school staff during the event.

Project staff gathering student feedback about their walking and bicycling routes to school.

Image sources: Contra Costa County.

Hercules Branch Public Library – Hercules

Project staff hosted a pop-up table in front of the Hercules Public Library during the afternoon (2 PM to 6 PM) on Tuesday, November 9, 2021. The project team engaged with 38 elementary and middle school students and their parents who were heading to and from the library. The project team presented draft recommendations and distributed business cards to direct people to the updated project website and interactive map during the event.

At the library events, younger children could color walking and biking-related drawings while older children and adults discussed project recommendations.

Image sources: Alta.

Presentations at Community Meetings

The project team also presented draft project recommendations to six different community committees:

- Countywide Bicycle and Pedestrian Advisory Committee (CCTA) – September 27, 2021
- Senior Mobility Advisory Council – October 25, 2021
- North Richmond Municipal Advisory Council (MAC) – October 5, 2021
- Bay Point MAC – October 5, 2021
- Rodeo MAC – October 28, 2021
- El Sobrante MAC – November 10, 2021

During these meetings, project staff shared prior community feedback, presented draft project recommendations, listened to feedback from committee/council members, and promoted the interactive map on the project website. These meetings were open to the public, and community members were invited to comment on the ATP during the public comment period.

Community outreach at
Bay Point Branch Library

CHAPTER 5

PROJECT DEVELOPMENT AND SUPPORT PROGRAMS

This Chapter discusses the planned bicycle and pedestrian projects, as well as supporting programs for unincorporated Contra Costa County.

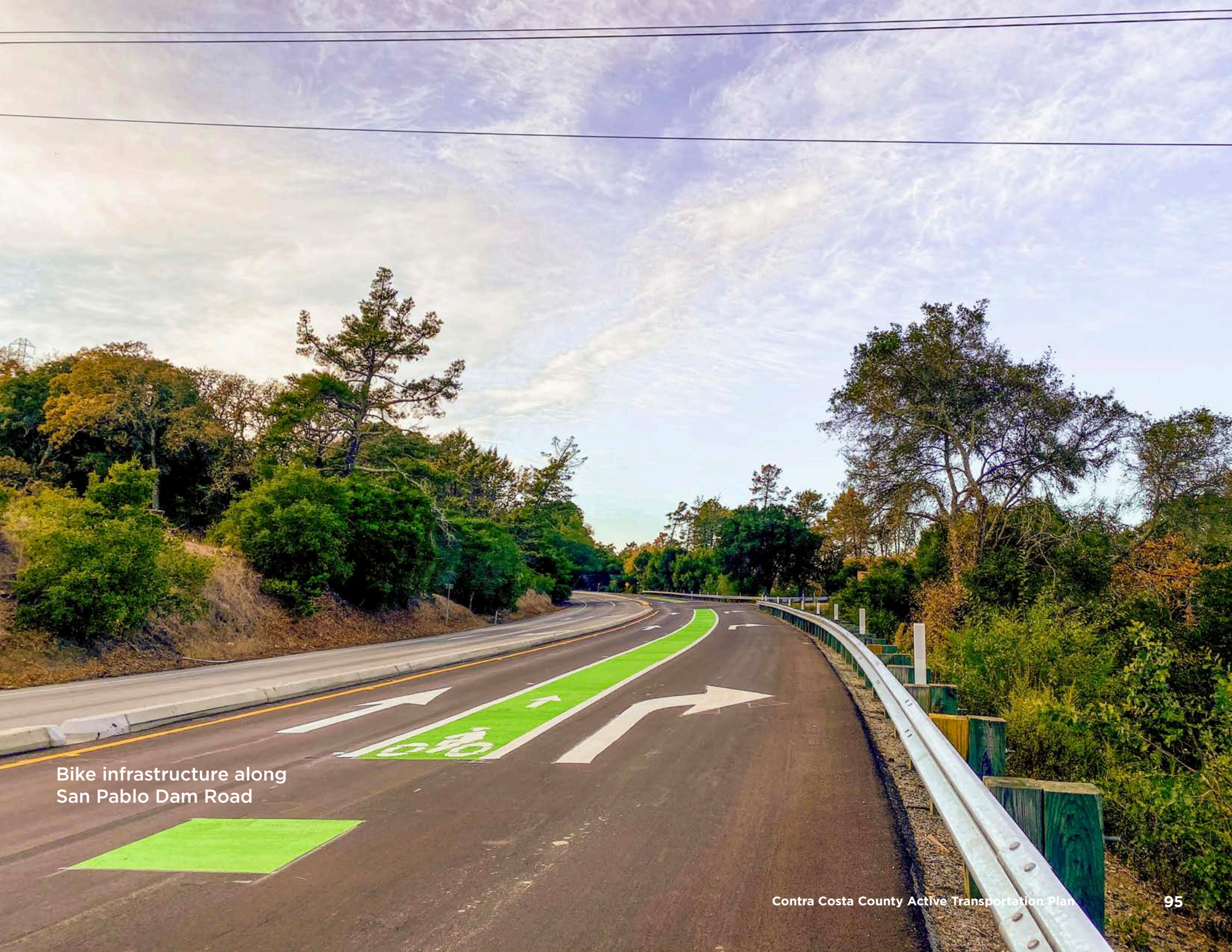
Project Development

The plan was developed to implement the goals outlined in Chapter 2; namely, to promote mode shift by improving the safety and comfort of pedestrians and bicyclists, increase connectivity and close gaps in the network, improve access to schools and community facilities, enhance equity for communities that are disproportionately impacted by collisions and have seen less infrastructure investment, and foster collaboration between key stakeholders and neighboring jurisdictions to create regionally significant projects. Projects included in this plan were developed and prioritized based on a variety of factors including:

- Killed or Severely Injured (KSI) collision history
- Location within a CCTA Pedestrian Priority Area or along the CCTA Bicycle Backbone Network
- Recommendations from previous regional efforts identified in plans from Contra Costa County, CCTA, and Caltrans
- Feedback from key stakeholders and the community
- Proximity to key destinations such as schools, affordable housing, senior centers, post offices, libraries, parks, transit stops, etc.
- Location within impacted communities as identified by MTC's Equity Priority Areas, the Healthy Places Index, CalEnviroScreen, ACS data, the Community Air Risk Evaluation Program, and the California Department of Education
- Ease of constructability of project

Each of these factors were identified by the project team, key stakeholders, and the public as criteria needing to be met when identify a robust project list, that includes 6 near-term priority projects.

The planned bicycle and pedestrian networks and associated projects were shared for public review during Phase 2 outreach activities (detailed in **Chapter 2**) and subsequently updated based on the community feedback received.



Bike infrastructure along
San Pablo Dam Road

Walk Audits

A series of walk audits were conducted to assess bicycling and walking facilities within impacted communities of unincorporated Contra Costa County. The audits focused on identifying existing issues and concerns and identifying potential improvements. Each audit involved touring roadways around at least one school, existing trail, and/or community amenity, as well as locations flagged as challenging for bicycling or walking by community members and key stakeholders. Audits were conducted by the project team, with support from advocacy groups, community members, and County staff from the Public Works, Public Health, and Conservation and Development Departments.

- Bay Point: Riverview Middle School, Pacifica Avenue, Port Chicago Highway, Delta de Anza Trail, Bella Vista Avenue, and Hanlon Way
- North Richmond: Shields-Reid Community Center, Verde Elementary School, Wildcat Creek Trail, and Richmond Parkway
- Rodeo: Rodeo Hills Elementary School, Lefty Gomez Recreation Center, Rodeo Creek Trail, and the Bay Trail

Observations from the walk audits directly informed the development of the project recommendations.

Bicyclists at Lefty Gomez Park

Planned Bicycle and Pedestrian Networks

Planned bicycle and pedestrian facilities are shown in **Figures 26-32**. The build out of these networks is a long-term vision for active transportation facilities within the unincorporated County. The network includes accessibility and sidewalk improvements for pedestrians; bike lanes, bicycle boulevards, and separated bikeways for bicyclists; and crossing improvements, shared-use paths, and trails to benefit both bicyclists and pedestrians. The proposed networks are designed to provide connection within and between communities, to key destinations, and to serve as recreational assets. A complete list of the projects that constitute this plan can be found in **Appendix A**.

Table 7 New Miles of Planned Bicycle & Pedestrian Facilities

Type	Total Miles
Sidewalks*	10.8
Class I Multi-Use Paths and Trails	62.0#
Class II Bike Lanes	36.2
Class II Buffered Bike Lanes	24.7
Class III Bike Routes & Bike Boulevards	42.7
Class IV Separated Bikeways	24.3

Notes:
* Per side of street: that is, one mile of street with sidewalks on both sides would count as two miles of sidewalks.
# This total includes future regional trails to be led by partner agencies. See Chapter 6 for more details.
Source: Fehr & Peers, 2022.

Figure 26
Proposed Bicycle and Pedestrian Facilities (Countywide)

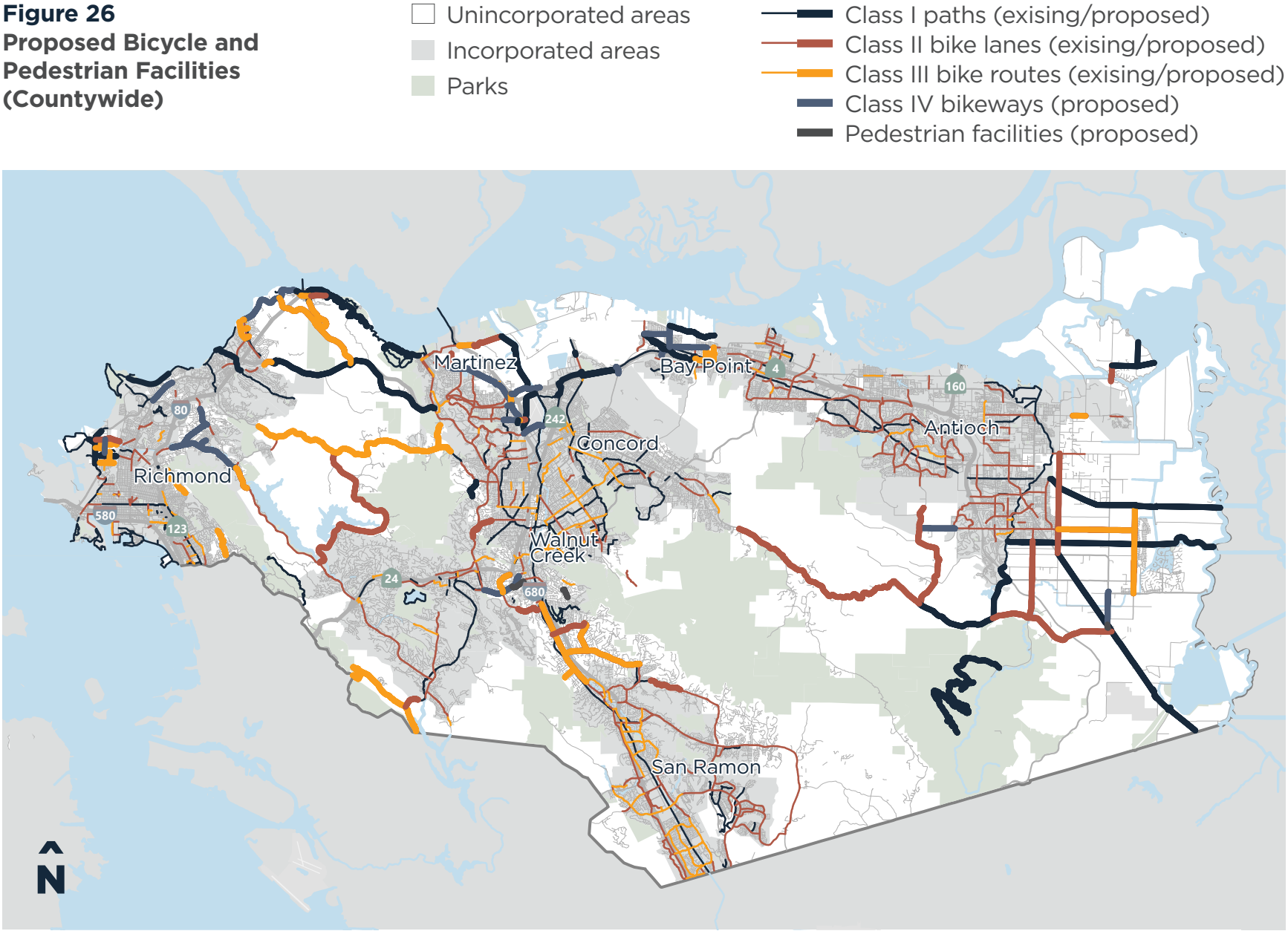


Figure 27
Proposed Bicycle and Pedestrian Facilities (North Richmond/El Soberante area)

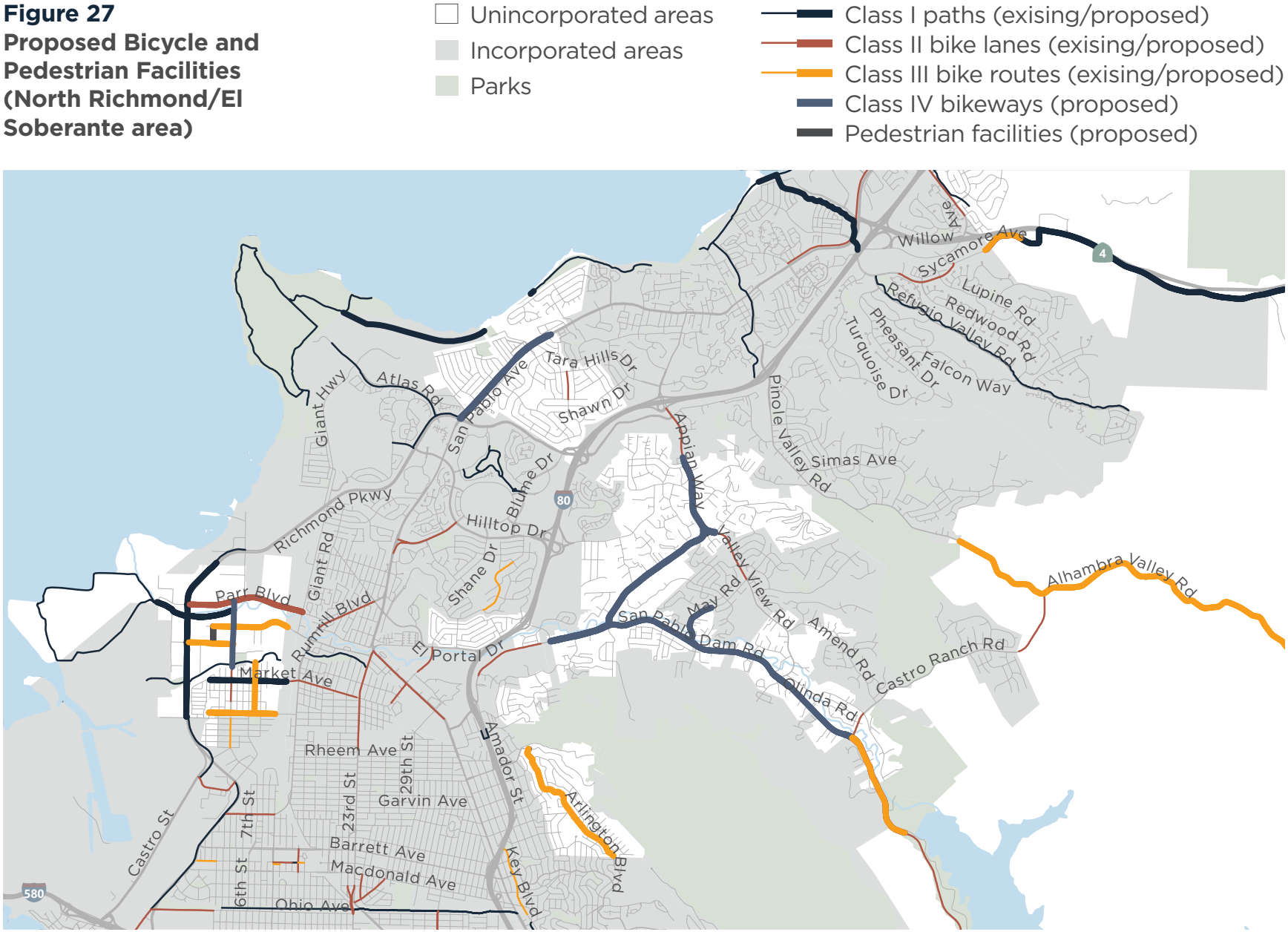


Figure 28
Proposed Bicycle and Pedestrian Facilities (Rodeo/Crockett area)

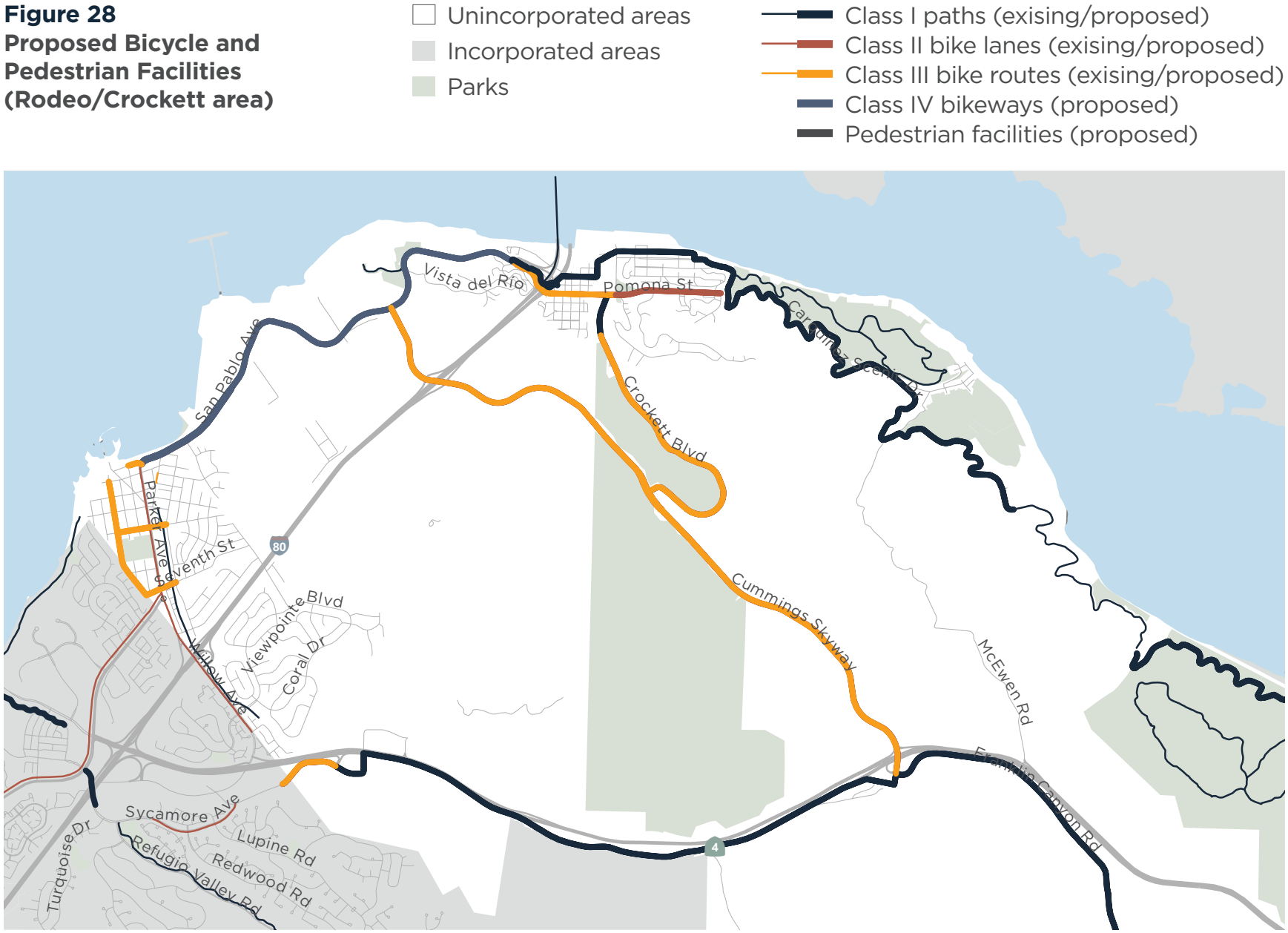


Figure 29
Proposed Bicycle and Pedestrian Facilities (Martinez/Pacheco area)

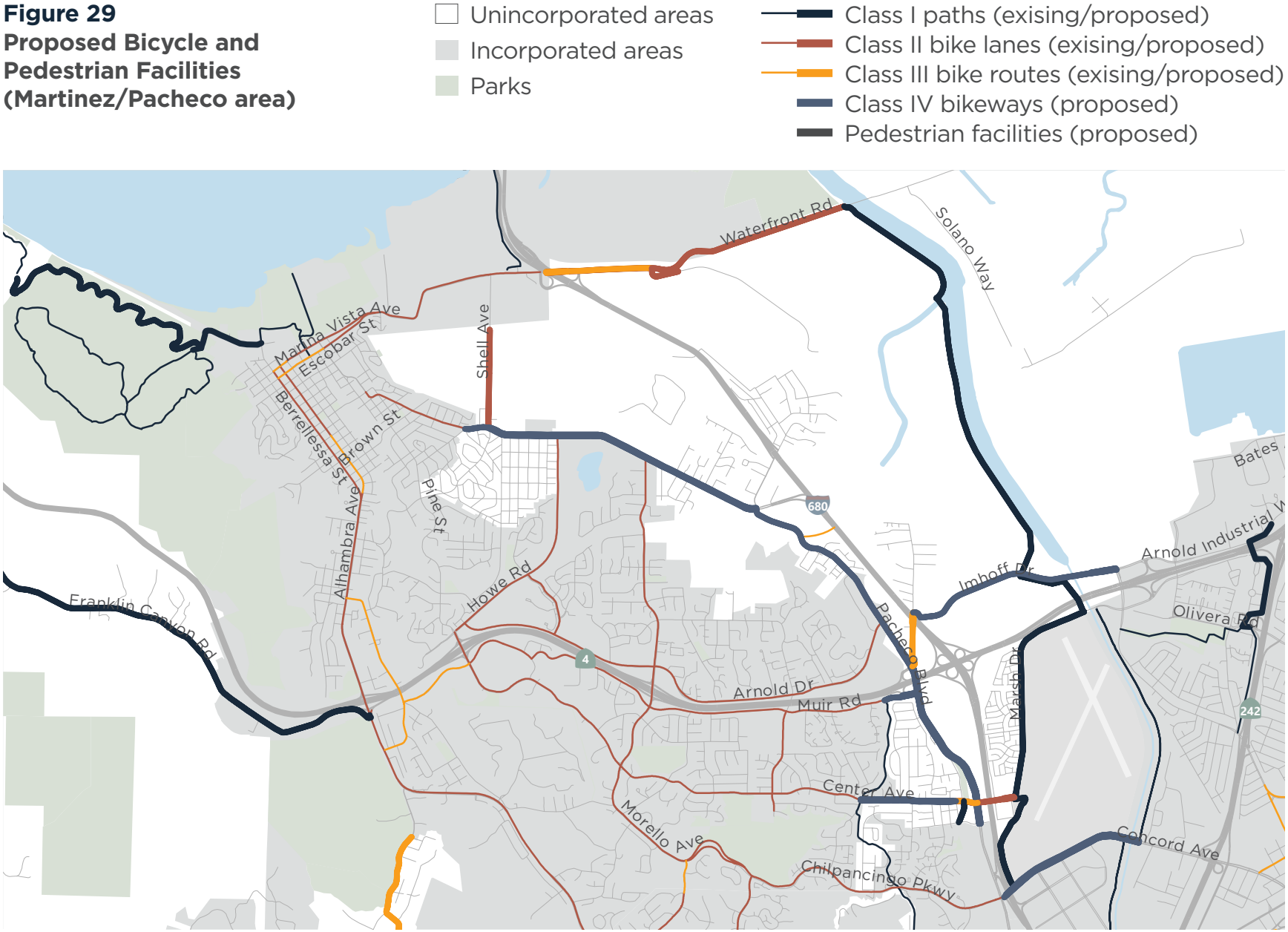


Figure 30
Proposed Bicycle and Pedestrian Facilities (Bay Point/Port Chicago area)

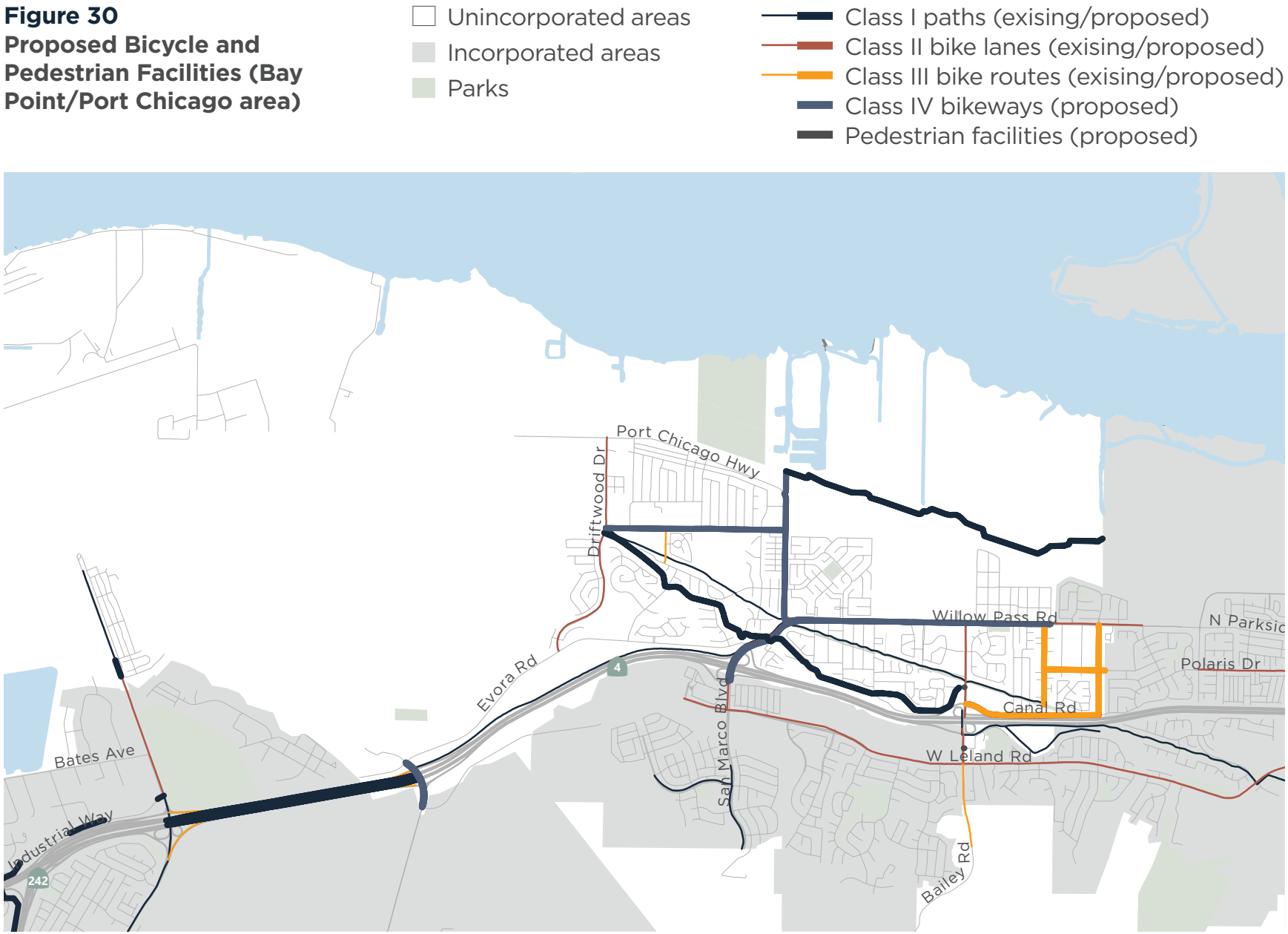


Figure 31
Proposed Bicycle and Pedestrian Facilities (Tri-Valley area)

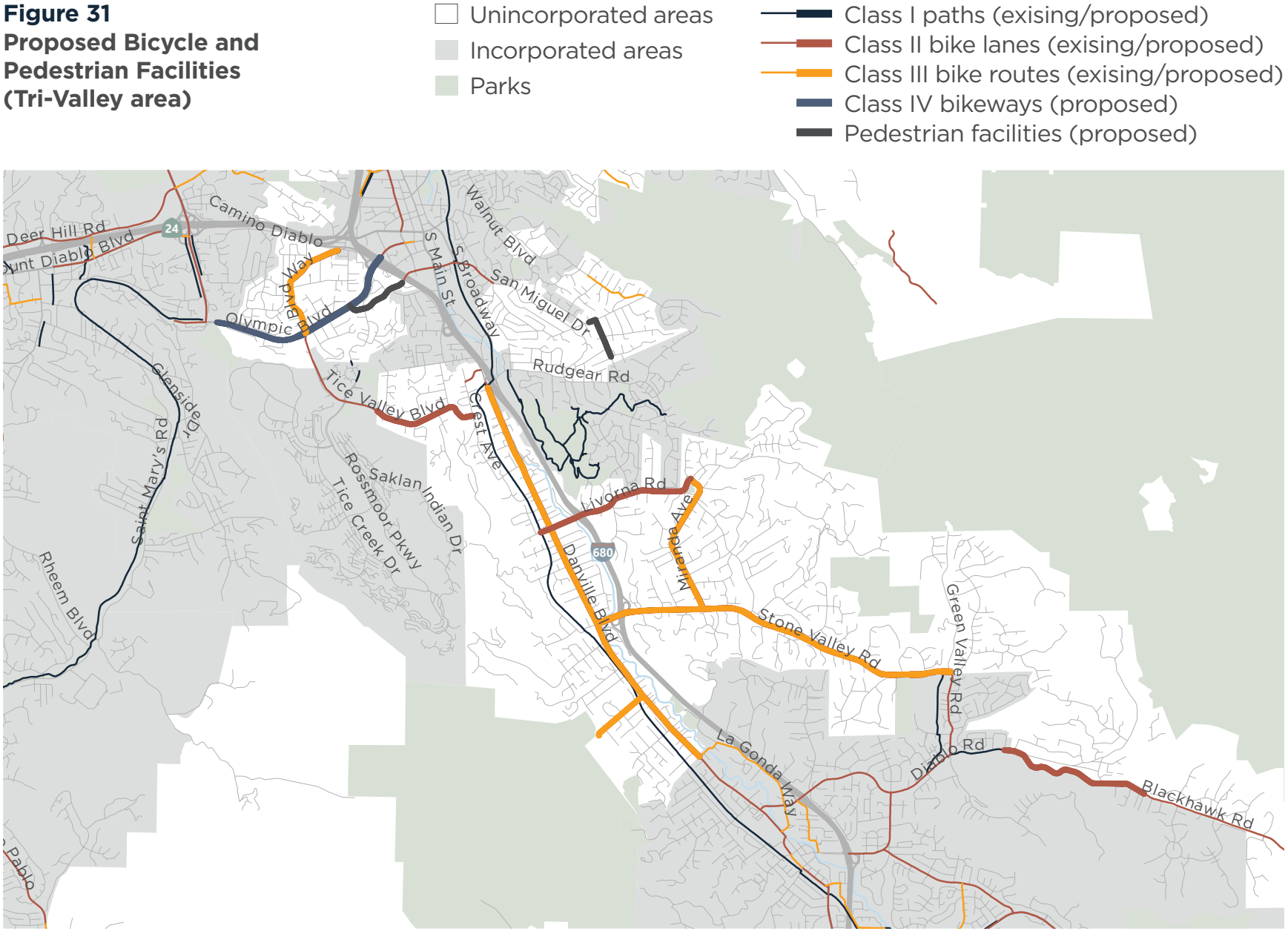
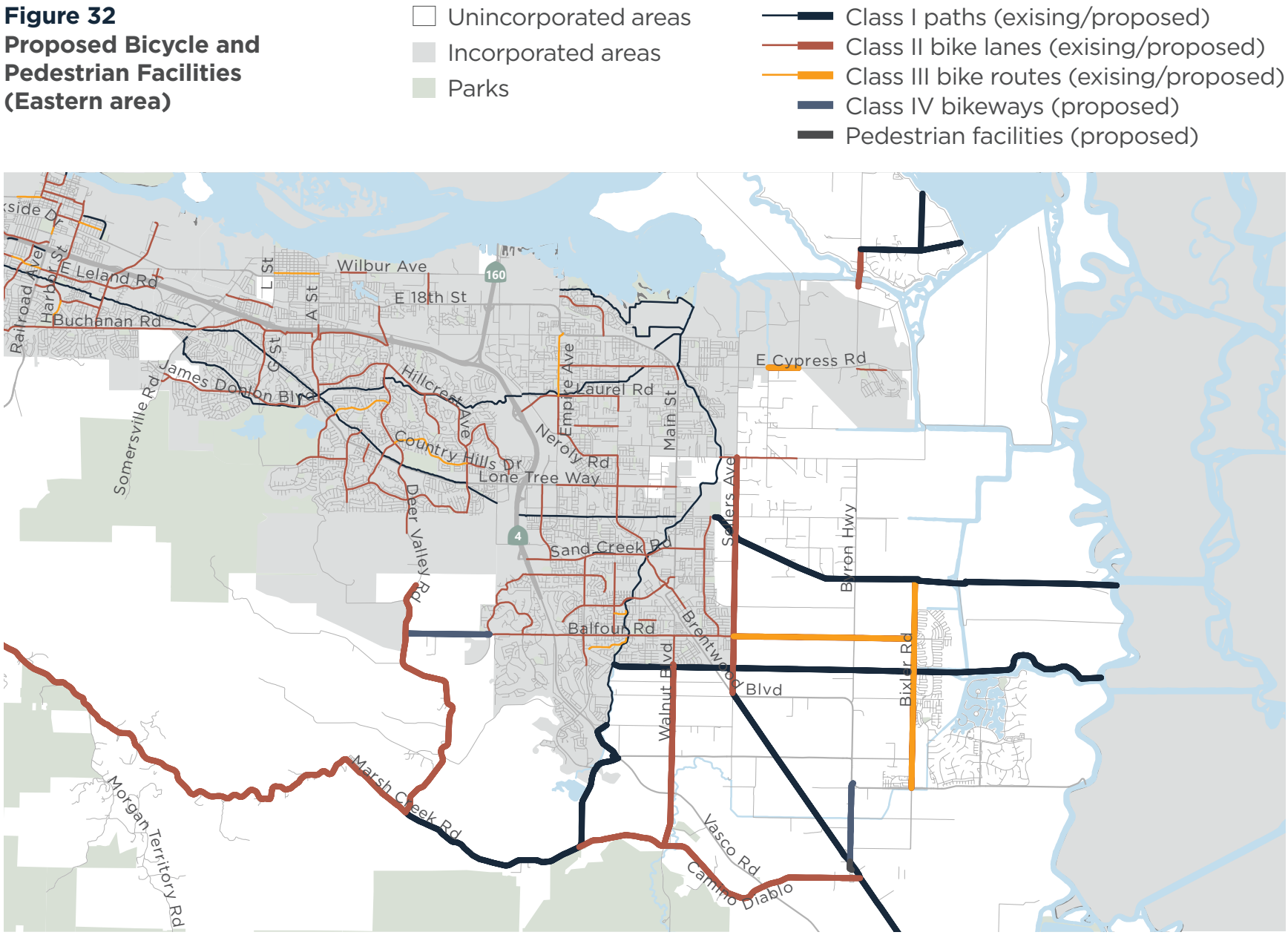


Figure 32
Proposed Bicycle and Pedestrian Facilities (Eastern area)



Overview of Improvements

Future walking and bicycling trips will depend on a number of factors such as the availability of well connected facilities, appropriate education and promotion programs designed to encourage walking and bicycling, and location, density, and type of future land development. With appropriate bicycling and walking facilities in place and implementation of employer trip reduction programs, the number of people walking or biking to work, school, or to shop could increase above its current rate.

CCTA's 2018 Countywide Bicycle and Pedestrian Plan[12] provides guidance on corridor improvements with context sensitive design in *Appendix C, Best Practices: Pedestrian and Bicycle Treatments* and acknowledges a need for trade-offs across competing modal demands. A layered network approach balances tradeoffs by prioritizing certain modes on identified streets and providing continuity for the chosen mode while accommodating other modes or encouraging use on parallel streets. In planning for a countywide plan such as this one, this approach was taken for project recommendations by providing select treatments for a prioritized mode while ensuring increased safety for all modes.

Once recommendations are implemented, the active transportation network will provide safer and more direct travel paths throughout the County. Improvements are in line with the following criteria:

- **Connection to Activity Centers:** Schools, community facilities, the library, the community center, parks, open space, and neighborhood commercial districts should be accessible by foot or bicycle. Residents should be able to walk or bike from home to both local and regional destinations.
- **Comfort & Access:** The system should provide safe and equitable access from all areas of the County to both commute and recreation destinations and should be designed for people of all levels of ability.
- **Purpose:** Each link in the system should serve one or a combination of these purposes: encourage bicycling for recreation, improve facilities for commuting, and provide a connection to the Countywide bike network. On street facilities should be continuous and direct, and off-street facilities should have a minimal number of arterial crossings and uncontrolled intersections.
- **Connection to Regional Networks:** The system should provide access to regional bikeways, regional trails, and routes in adjacent communities.

12 Contra Costa Transportation Authority. Contra Costa Countywide Bicycle and Pedestrian Plan – Appendix C: Pedestrian and Bicycle Treatments. July 2018. https://ccta.net/wp-content/uploads/2018/10/5b86dd3529524.pdf

Crossing and Intersection Improvements

Several crossing improvements are recommended, either as standalone spot improvements or as part of broader projects to increase safety and comfort for pedestrians, as well as bicyclists at certain trail crossings. The decision to install a marked crosswalk at an uncontrolled location should be based on engineering judgement, engineering study, or other considerations as appropriate for each individual case. Some of these considerations may include the following:

- Pedestrian travel demand, typically 20 pedestrians per hour or more
- Service of a facility or use that generates higher pedestrian travel or serves a vulnerable population (for example children, elderly, or persons with disabilities). This may include schools, hospitals, senior centers, recreation/ community centers, libraries, parks, and trails. Service of such facilities can justify pedestrian improvements to areas of less demand than 20 pedestrians per hour.
- Sight distance requirements, using appropriate stopping sight distance guidance from AASHTO's A Policy on Geometric Design for Highways and Streets or Caltrans' Highway Design Manual
- Delay to pedestrian movements
- Distance to nearest crossing
- Guidance of the California Manual on Uniform Traffic Control Devices (MUTCD)

Additional improvements for crossings at uncontrolled locations, such as the use of high visibility markings, median refuges, and curb extensions, should be considered as appropriate. Further design guidance on the determination of crossing treatments can be found in Appendix C, Best Practices: Pedestrian and Bicycle Treatments of the 2018 CCTA Countywide Bicycle and Pedestrian Plan and the FHWA STEP Guide.[13]

Signalized intersections are typically large with multiple lanes of traffic in each direction, especially where arterial and/ or collectors roadways meet. At these locations, crosswalks are typically marked, but have long crossing distances. In some cases, intersections may have slip lanes, further lengthening crossing distances for pedestrians and bicyclists; these lanes are not signalized, allowing vehicles to make these turns at higher speeds. At all-way stop controlled intersections, vehicles stop and give the right-of-way

13 Federal Highway Administration. Safe Transportation for Every Pedestrian (STEP). https://safety.fhwa.dot.gov/ped_bike/step/resources/

to pedestrians and bicycle crossing the street.

Some all-way stop controlled intersections do not have marked crosswalks. Vehicles may encroach into the intersection at these locations, impeding the pedestrian travel way and cause sight distance issues for those crossing.

Recommendations to enhance safety for pedestrians and bicyclists at controlled crossings include:

- Ensuring pedestrian walk speeds of 3.5 feet/second at signalized crossings and walk speeds as low as 2.5 feet/second at select locations, such as near schools, parks, and senior centers.
- Installing countdown signals at signalized intersections where missing
- Installing advanced stop bars in advance of each crosswalk
- Enhance accessibility with directional curb ramps (two per corner) instead of diagonal ramps and ensuring that all are ADA compliant
- Marked crosswalks on all legs of the intersection that serve a key desire line
- Median refuge islands and thumbnails, as width and path of turn maneuvers allow
- Good and unobstructed sightlines
- Slip lane removal, where feasible, and mitigation for pedestrian safety where they remain with a raised crosswalk or protected right-turns
- Far-side bus stops, instead of locations on the near-side of the intersection or in front of mid-block crossings
- Minimized cycle lengths at signalized intersections
- Protected turn phasing instead of permitted across marked crosswalks
- Installing pedestrian and traffic preemption
- Installing bike boxes at signalized intersections, cohesive with surrounding bicycle facilities

Intersection Redesign

In some cases, full intersection reconstruction is needed to address safety and access issues for people walking and biking. Examples may include skewed intersections, intersections that need slip lane removal, or locations that are significantly overbuilt and require re-purposing of space for walking and biking. With Complete Streets corridor projects like road diets, intersection re-design can also support speed management and access to intersecting bicycle and pedestrian facilities. Intersection design in these cases can include:

- **Roundabout** The types of conflicts that occur at roundabouts are different from those occurring at conventional intersections; namely, conflicts from crossing and left-turn movements are not present in a roundabout. The geometry of a roundabout keeps the range of vehicle speed narrow, which helps reduce the severity of crashes when they do occur. Pedestrians only have to cross one direction of traffic at a time at roundabouts, thus reducing their potential for conflicts. When considering roundabouts, designers should assess opportunities to include bikeways and consider pedestrian desire lines.
- **Protected Intersections** Protected intersections use corner islands, curb extensions, and colored paint to delineate bicycle and pedestrian movements across an intersection. Slower driving speeds and shorter crossing distance increase safety for pedestrians. This intersection design separates bicycles from pedestrians and should be considered at signalized intersections with separated Class IV bikeways or Class I paths.

Supportive Infrastructure and Programs

To ensure comfortable trips for bicyclists and pedestrians, supporting infrastructure is needed at intersections and along roadways to make the trip safe and comfortable for all users, wayfinding is needed to help users reach and identify destinations, and for bicyclists, secure bicycle parking is needed at destinations.

Wayfinding

Wayfinding signage can be used on both bicycle and pedestrian facilities to guide users to connecting facilities and destinations. Good wayfinding signs can also encourage bicyclists and pedestrians to visit local businesses. These signs provide the most value when installed at trail junctions, intersections of key bicycling and walking routes, and at navigation decision points. Chapter 9B of the California

MUTCD provides guidance on sign design and installation.

A limited number of wayfinding signage has been installed in conjunction with regional trails, such as the Bay Trail. The County will be adopting an updated signage program that includes directional/wayfinding signs. Working in conjunction with the operators of regional trails, the County will install additional signage directing users to businesses districts, schools, and community facilities. Including the distance in miles to nearby destinations on signs can encourage additional walking and bicycling to those destinations. Because the County has many boundaries with neighboring cities, the wayfinding program should ideally collaborate with cities on design and format of signage. This will improve legibility and consistency of the bike and pedestrian network as a whole. This collaboration should also include regional entities like CCTA, the East Bay Regional Park District and Bay Trail.

Bicycle Parking

Having a secure location to store your bike once you reach your destination is an important part of making a bike trip feasible. Bicycle parking is typically installed by developers as part of residential and commercial projects. The County's Municipal Ordinance Code outlines long-term and short-term bicycle parking requirements for residential, cultural/educational, commercial, and industrial/ manufacturing land uses. The Code does not currently outline requirements for County-owned facilities, such as hospitals, clinics, parks, libraries, and community centers. Bicycle parking should be installed as appropriate at all these locations.

Near bicycle parking locations, installing fix-it stations allows bicyclists to quickly repair their bicycle if needed. Repair stations promote bicycle commuting and provide cyclists with amenities to make their experience better and safer.

Street Amenities

Sidewalk amenities such as benches, shade structures (manmade or street trees), parklets, public art, and other landscaping feature make a location more inviting and comfortable. These amenities allow pedestrians and bicyclists to take breaks throughout their journey, provide shade throughout the trip, and create a welcoming space.

Pilot Projects

When planning new pedestrian and bicycle facilities, the County could coordinate with community advocates and nonprofits to consider, if funds are available, temporary infrastructure improvements on a pilot basis. These pilot projects, also known as "living previews" or "tactical urbanism," can be built using inexpensive materials, and may be short-term or for specific events. Pilot projects provide hands-on experience new ways to use public space. can help test concepts and built support for active transportation investments.

Maintenance

The County has an informal maintenance policy in place for bicycle and pedestrian facilities, and often relies on citizen reports for issues, including through the County's Mobile Citizen app.[14] While this is acceptable for some maintenance issues such as pedestrian signals and other facilities that need infrequent maintenance, more formal policies would provide benefits for other issues. Additionally, responsibility for maintenance of sidewalks fall on the owners of fronting property, as opposed to the County. Thus, implementation of a formal maintenance policy that addresses both incidental and periodic maintenance of frequently used facilities would encourage good practices and address other ongoing or periodic maintenance issues.

Multiple public comments spoke to concerns about debris, glass, and overgrown vegetation on County facilities, including existing shared-use paths. This can be particularly problematic for wheelchair and mobility device users, who may be unable to use some facilities or be forced to travel in the roadway due to these obstructions. Bicyclists may be required to move into vehicle traffic or be deterred from riding.

To address these concerns, the County could add policies for regular shoulder or bike lane sweeping on corridors frequently used by bicyclists or other users, especially where there are no sidewalks, and incidental sweeping policies to address debris that may accumulate. Similarly, a regular program of vegetation maintenance along shared-use paths under the County's purview would reduce these concerns.

The addition of new facilities within the County, including Class IV Separated Bikeways, may necessitate investments in street sweeping vehicles that can navigate the smaller widths of these bikeways. The County could also consider entering into a cooperative agreement with other jurisdictions throughout the county to share costs or the usage of such vehicles.

14 https://www.contracosta.ca.gov/7875/Mobile-Citizen

Speed Limit Policies & Programs

Crossing and Intersection Improvements

In October 2021, California Assembly Bill (AB) 43 was approved by the Governor. This bill highlights methodology to lower speed limits on additional corridors. AB 43 features the following five major components, focused on providing local jurisdictions more flexibility in setting speed limits, especially regarding vulnerable road users:

- **Engineering & Traffic Survey (E&TS)** option to extend how long an E&TS remains valid to 14 years
- **Post E&TS** agency can elect to retain current or the most recent past speed limit.
- **Speed Limit Reduction** reduction of additional 5 mph based on several factors, including designation of local "Safety Corridors"
- **Prima Facie Speed Limits** options for 15 or 20 mph in certain zones
- **Business Activity Districts** option for 25 mph in any business or residence district

The County should look for opportunities to reduce speed limits with this methodology, prioritizing locations on the high-injury network and/or those with high activity levels and vulnerable communities.

Data-Driven Speed Management

To identify and prioritize locations that could benefit from speed limit reductions and/or design changes, a holistic analysis of speed differentials between prevailing speed and target speed could be instructive. Wejo Travel Speed and Driving Events Data allows users to understand travel speeds of vehicles on roadways. This data, combined with the development of target speeds based on context, is a mapping exercise that could be moved forward to assist the county with prioritizing locations for speed limit modifications.

Non-Infrastructure Programs

To build public support and use of active transportation infrastructure investments, the County will support and collaborate with partners on outreach, engagement, and education activities. Public Works can use existing programs as venues for project outreach and to educate community members about new and planned facilities. Non-infrastructure programs also need ongoing support and funding. Because many infrastructure grant programs also include opportunities for non-infrastructure or supportive program components, Public Works will coordinate with staff from existing programs to identify opportunities for joint funding.

Existing programs that present opportunities for collaboration include:

- **Safe Routes to School** programs are led through partnerships including Street Smarts Diablo, 511 Contra Costa, and Contra Costa Health Services. Public Works can coordinate with Safe Routes to Schools programs to identify and refine plans for school safety infrastructure projects.
- **Bicycle Education** programs provided by Bike East Bay are encouragement classes for adults, youth, and families. Programs may take the form of on- or off-the-bike safety trainings, bike mechanics classes, theft prevention workshops, social rides, learn-to-ride classes, and more. The County can partner with Bike East Bay to seek funding to provide or support free classes in tandem with infrastructure plans and projects. Bike East Bay also provides driver-focused education classes about operating safely around people bicycling and walking. Classes may be targeted toward transit, delivery, or other professional drivers, or for teen learners.
- **The Concord Bike Kitchen** is a community bike shop and youth education program led by Bike Concord located at Olympic High School in Concord. Because Olympic High serves students from a large area including unincorporated areas, it is an excellent venue for outreach and collaboration on funding opportunities.
- **Bay Area Bike Mobile** is a regional program that provides mobile bicycle repair for schools and communities. Community events where the Bike Mobile is in attendance are good venues for local outreach on infrastructure projects.

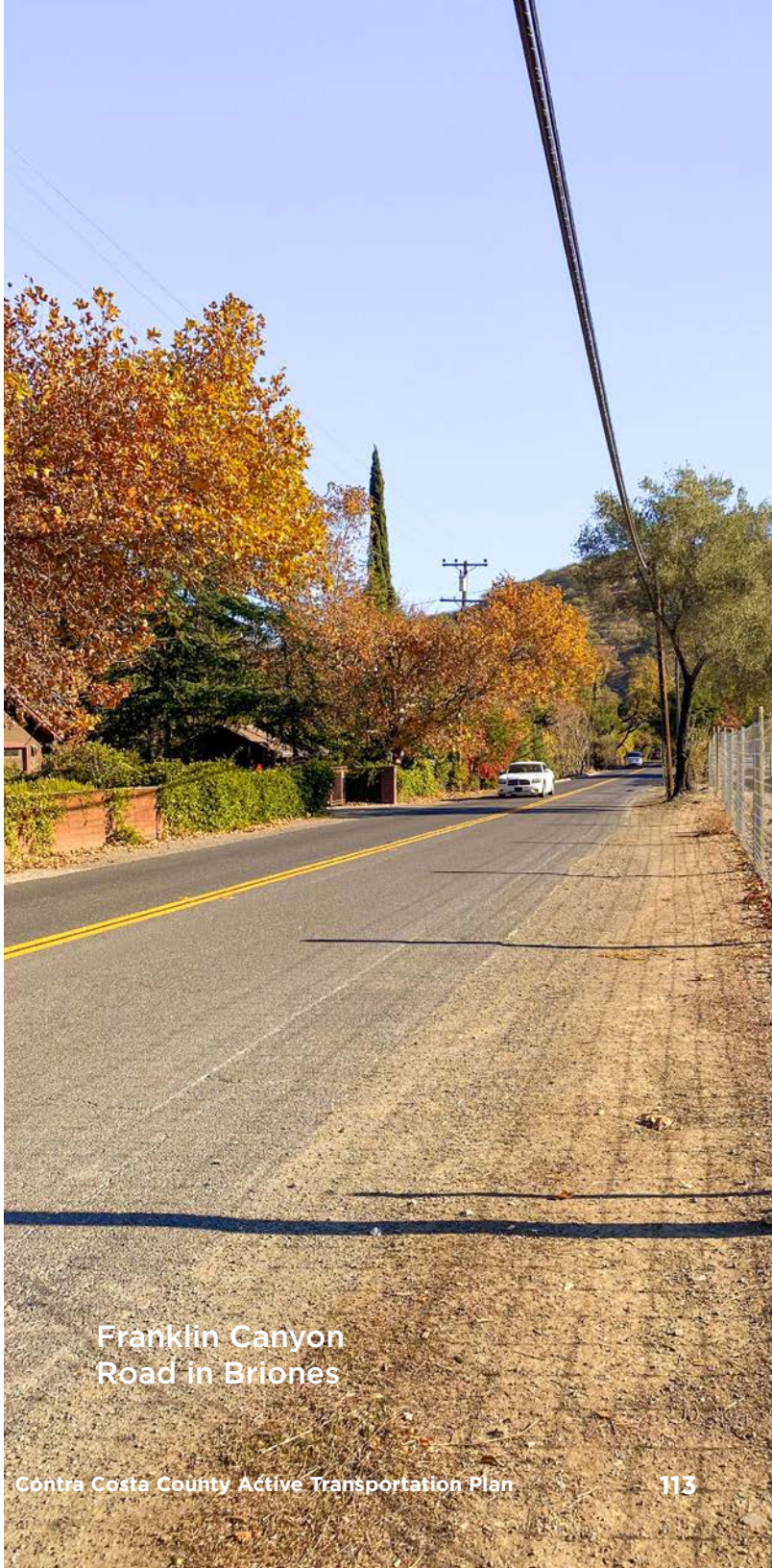
Other non-infrastructure programs that Public Works will take a lead role in include:

Walking and Bicycling Audits

Walking and bicycling audits identify barriers for travel between home and key destinations. They generally include a tour of a school area or neighborhood where participants identify issues related to walking and biking, followed by a debriefing and brainstorming session to rank concerns and identify potential solutions. Audits are typically completed by planners, engineers, and other staff with experience in pedestrian and bicycle issues. They often include input from stakeholders like school faculty and/ or administrators, district or community program staff, parents, and students. The stakeholders systematically document conditions that impact people walking or bicycling to and from school or other destinations and note specific locations on a map. The County will routinely conduct walk and bike audits when planning infrastructure projects in school zones, business districts, and near other key destinations.

Bay Area Bike to Work Day (BTWD)

Bay Area BTWD, recently renamed to “Bike to Wherever Day” during the COVID-19 shelter in place orders, is a celebration of bicycles as a fun and healthy way to get to work. The County will participate in BTWD by hosting energizer stations on various trails or at BART Stations. The energizer stations provide participants with refreshments, giveaways, and bicycle information during the morning and evening commutes. BTWD is part of National Bike Month in May.



Franklin Canyon Road in Briones

CHAPTER 6

IMPLEMENTATION

Given the scope of projects within this plan, implementation will take many years to complete. Implementation of each project is dependent upon the availability and acquisition of funding. Improvements associated with work on adjacent roadways or maintenance projects can be undertaken in a relatively easier and lower cost fashion than if implemented separately. In these cases, some lower priority improvements may be implemented before higher-priority improvements, depending on the location. Projects requiring land acquisition, utility relocation, or substantial drainage modifications may require extra time to implement. Detailed feasibility and design studies based on local conditions will also be necessary for the implementation of many projects.

Implementation of this plan is expected to occur:

- through active transportation projects and grants pursued to implement this plan
- in conjunction with maintenance and improvement projects, such as slurry seals, pavement reconstruction, roadway widening, or sidewalk rehabilitation projects
- in conjunction with adjacent land development projects

Completion of projects in this plan will be reported by staff to the County Board of Supervisors and on the County's website. The County will periodically update this plan, ideally on a five-year timeline, to reflect evolving needs and progress toward completion.

Costs and Funding

This plan includes a wide range of projects with varying degrees of cost. Project cost estimations were developed to give a general idea of the anticipated cost for each proposed project. The cost estimates were based solely on construction costs and do not include other typical soft costs associated with projects. These include but are not limited to design, environmental, and permitting costs, traffic control, mobilization, SWPP (Stormwater Pollution Prevention), construction management, and inspection. Projects were divided into categories based on similar project descriptions. For corridor projects, a detailed cost estimate was prepared for one "guiding" project in each category. This analysis yielded a low-end and high-end total project cost and per linear foot cost for the guide projects. The guide project low/high-end per linear foot estimates were averaged and then applied to the similar

projects in their corresponding categories. For intersection and spot improvement projects, estimations were calculated from recent project cost data. Each project was grouped into one of four cost range categories denoted by one-to-four-dollar signs as shown in Appendix A.

The categories are listed as follows:

- "$" for projects costing less than $500,000
- "$$" for projects between $500,000 and $1,500,000
- "$$$" for projects between $1,500,000 and $5,000,000
- "$$$$" for projects over $5,000,000.

Multiple federal, state, regional, county, and local organizations provide funding for pedestrian and bicycle projects and programs. A summary of funding sources is provided in **Appendix B, Funding Sources.**

Pedestrian using a push button

Construction Considerations

During a development's construction period, construction zones may encroach on sidewalks, crosswalks, or bicycle lanes. Both pedestrians and bicyclists may find themselves having to make detours that may feel unsafe, difficult to navigate, or both. This can be especially dangerous for children, the elderly, those with disabilities, and others who rely on a well-maintained and well-marked path for safe mobility or for bicyclists who may encounter sudden pavement changes or construction debris in their path.

FHWA provided guidance on pedestrian and bicycle safety in work zones in a webinar hosted by the Pedestrian and Bicycle Information Center.[15]

Alternative access routes should include the following:

- Route located on the same side of street if feasible
- Smooth, continuous surface – no abrupt changes in curb or grade of roadway
- Maintain existing width of sidewalk or bike lane
- Work zone communications should be audible and/or detectable
- Protect and separate pedestrians and bicyclists with devices that maintain accessibility and protect users from equipment
- Install temporary traffic control devices with wayfinding messaging, and provide workers with high-visibility apparel
- Provide a temporary bus stop location if a project impedes access
- Avoid or remove obstacles on sidewalks, paths, and bicycle lanes

Through a project's review process, County staff should also review site plans and traffic control plans to ensure adequate access and safety are maintained through the duration of construction.

15 FHWA, Pedestrian and Bicycle Information Center. Improving Pedestrian and Bicyclist Safety in Work Zones. December 4, 2019.

Potential Outcomes

Following implementation of the planned networks and supporting programs, substantial improvements may be achieved in the number of active transportation users within the County. **Table 8** presents a comparison of bicycle, walk, and transit trips by commuters for counties with similar populations, land use, or geographic traits. By increasing the facilities available to users, mode share may increase to levels seen in other comparable counties, which could easily result in doubling the number of commute trips made on bicycle or by walking. Because these numbers do not include shopping, school, recreational, or other non-work trips, the actual number of trips may be higher than these comparisons.

Table 8
Countywide Bicycle and Pedestrian Commuter Mode Share Comparison

County	Pedestrian	Bicyclist	Transit
Contra Costa	**0.5%**	**1.6%**	**10.9%**
Alameda	1.9%	3.5%	15.8%
Marin	1.3%	3.4%	9.6%
Napa	1.1%	4.0%	1.7%
Sonoma	1.0%	2.7%	1.8%
Solano	1.3%	0.3%	3.4%
Monterey	0.6%	2.9%	1.6%

Source: U.S. Census American Community Survey 2019 5-Year Estimates: means of transportation to work

Priority Projects

Through the prioritization process noted in **Chapter 5**, seven projects were identified as near-term priorities for further study and implementation. Each group of projects will contribute to growing the backbone network of facilities for low-stress bicycling and walking, and/or remedy important deficiencies or needs in the network.

An overview of each project group, including a discussion on challenges and project features, is provided in the following pages. Although these projects were identified as top priority, it is important to note that additional feasibility and design studies may be needed prior to implementation. Further community input and engagement is anticipated as these projects come to be developed.

PROJECT

1

North Richmond Neighborhood Network

Project Information

1.6 MILES
LENGTH

NEIGHBORHOOD COMPLETE STREETS
PROJECT TYPE

$8,500,000
ESTIMATED COST
There is an additional $2,100,000 in estimated project development costs for a total estimated project cost of $10,600,000.

1
SCHOOLS IN PROJECT AREA

2
PARKS IN PROJECT AREA

3
PEDESTRIAN COLLISIONS*

2
BICYCLE COLLISIONS*

N/A
CURRENT LTS

YES
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

North Richmond is a small neighborhood with two key destinations for pedestrians and bicyclists: Verde K-8 School, located at the northern terminus of Giaramita Street, and Shields-Reid Park and Community Center, located at the southern end of the neighborhood in the City of Richmond and bounded by Chesley Avenue, Kelsey Street, Cherry Street, and Alamo Avenue. In particular, students walk and bicycle each day from school to after school programs, and to/from their homes in the neighborhood.

The North Richmond Neighborhood Network project focuses on providing traffic calming, sidewalks, safer crossings, and bicycle access for people walking and biking between Verde K-8 School, Shields-Reid, and other community destinations on Giaramita Street, Market Avenue, Chesley Avenue.

Key Challenges

- Children biking to Verde K-8 School lack a low-stress bicycle facility.
- No bicycle facilities exist on Market Avenue or Chesley Avenue, two key corridors for access in and out of North Richmond.
- Existing crosswalks at uncontrolled locations lack safety enhancements and do not correspond with pedestrian desire lines between Shields-Reid Community Center and Verde Elementary.
- Long stretches of neighborhood streets without traffic controls allow vehicles to pick up speed and do not support a comfortable walking and biking environment. Grove Avenue and Silver Avenue lack stop controls in all directions.
- Many existing sidewalks are narrow and do not provide a comfortable walking experience for pedestrians.

Project Features

- On Market Avenue, narrow overall curb to curb width and widen sidewalk on one side to 10 feet to provide a multi-use path.
- On Market Avenue, build curb extensions at all intersections, and provide mini roundabouts or neighborhood traffic circles at the intersections at 1st Street and 2nd Street for speed reduction.
- On Giaramita Street and Chesley Avenue, construct bicycle boulevards with traffic calming and pedestrian access improvements. The design will include neighborhood traffic circles and/or speed humps, as well as curb extensions to provide a gateway to the neighborhood street.
- Build crosswalks across Chesley Avenue at Giaramita Street
- Construct complete sidewalks, closing all gaps in access on both sides of all three streets.


Verde K-8 School
Market Ave (corridorwide)
Widen sidewalk on one side to multi-use path
Curb extensions at all intersections
Mini roundabouts at 1st St and 2nd St
Sidewalk Improvements
Close all sidewalk gaps on both sides on all three streets
Market Ave
Market Ave
Chesley Ave & Giaramita St (corridorwide)
Implement bike boulevards with pedestrian access and traffic calming improvements such as traffic circles, speed humps, and curb extensions
1st St
2nd St
Fred Jackson Way
Truman St
4th St
5th St
Giaramita St
6th St
Chesley Ave & Giaramita St Intersection
Add crosswalks across Chesley Ave
N
Chesley Ave
Chesley Ave

PROJECT

2

Port Chicago Highway Complete Corridor

Project Information

0.5 MILES
LENGTH

ARTERIAL CORRIDOR COMPLETE STREETS
PROJECT TYPE

$3,600,000
ESTIMATED COST
There is an additional $900,000 in estimated project development costs for a total estimated project cost of $4,500,000.

0
SCHOOLS IN PROJECT AREA

1
PARKS IN PROJECT AREA

0
PEDESTRIAN COLLISIONS*

1
BICYCLE COLLISIONS*

3
CURRENT LTS

NO
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

A key north-south corridor in Bay Point, Port Chicago Highway connects Willow Pass Road with Pacifica Avenue, providing access to multiple schools, neighborhood food shopping at Shore Acres Shopping Center, and from the Delta de Anza Trail to homes on either side of the corridor. With five vehicle lanes, narrow bike lanes, long stretches with no crosswalks, Port Chicago Highway is an uncomfortable place to walk and bike.

The Port Chicago Highway Complete Streets project would study and implement a road diet to reduce the roadway to one lane in each direction, provide separated Class IV bikeways or a shared use path to improve bike connections to the Delta de Anza Trail, and upgrade pedestrian crossings to improve access between residential neighborhoods in Bay Point.

Key Challenges

- Long stretches of roadway without traffic control encourage speeding and limit pedestrian crossing opportunities between neighborhoods.
- Existing narrow bike lanes alongside high-speed traffic are uncomfortable and present safety concerns, especially for children and less experienced bike riders. A high level of exposure to vehicle traffic results in a harsh and challenging environment for people walking and biking to neighborhood destinations.
- Incomplete crosswalks and long crossing distances at Willow Pass Road impede access to and from the Delta de Anza Trail

Project Features

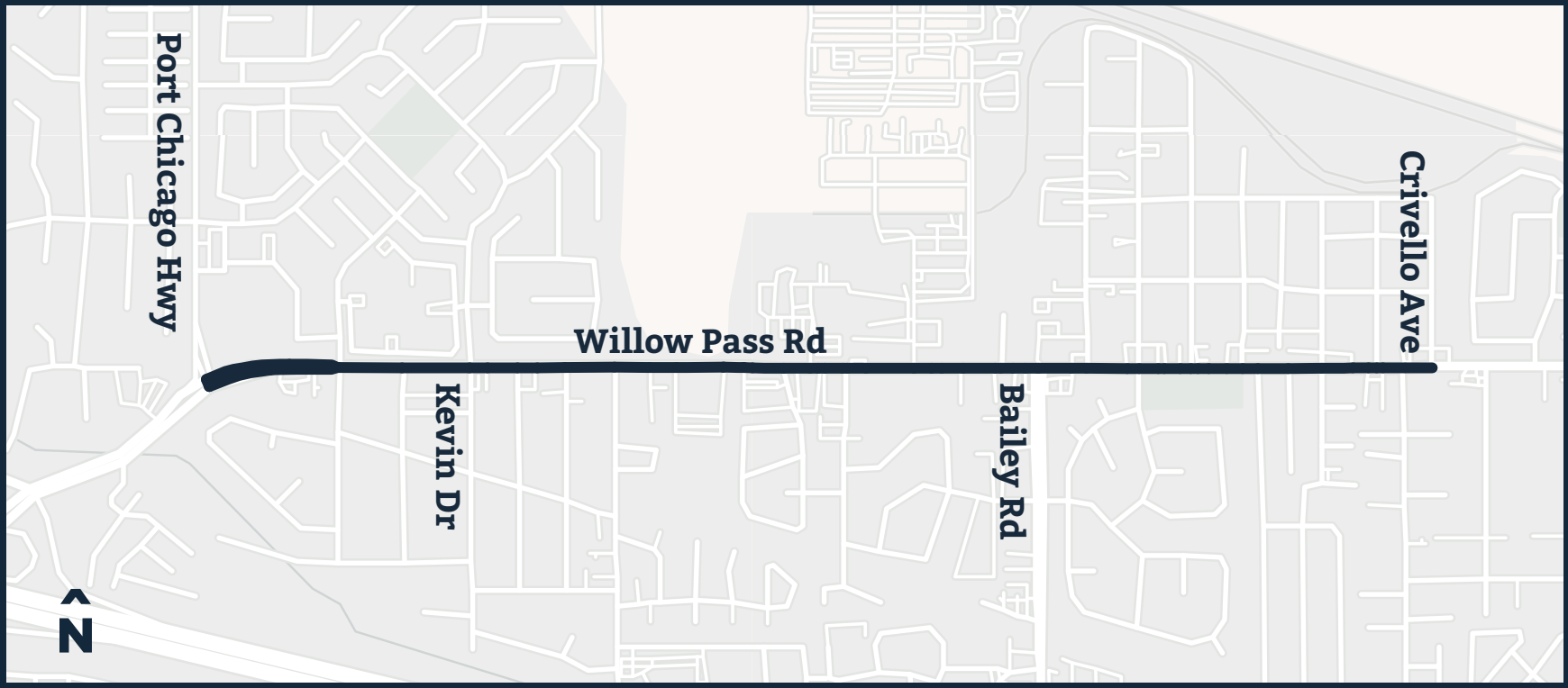
- Study and implement five lane to three lane road diet and construct Class IV separated bike lanes or a Class I shared use path.
- Upgrade signalized intersections to include ADA-compliant curb ramps and signals, protected left turn phasing, leading pedestrian intervals, and high-visibility crosswalks.
- Study the potential addition of a marked crosswalk across the northern leg at Kevin Drive, with high-visibility striping and enhancements for visibility. Depending on ultimate speed limit of the segment, a treatment such as an RRFB may be considered.
- Reconstruct the intersection of Port Chicago Highway, Willow Pass Road, and the Delta de Anza Trail. Provide a high-visibility multi-use trail crossing on the west leg, and provide a pedestrian crosswalk at all legs of the intersection. The southbound slip lane should be closed, but if this is not feasible, a raised crosswalk can be provided to slow down traffic, although this may impact heavy truck traffic.
- Provide shade trees and landscaping to mitigate summer heat.


Kevin Dr
(outside of map)
Add high-visibility crosswalk on north side
Landscaping
(corridorwide)
Landscaping and street trees
Port Chicago Hwy
Signalized Intersections
(corridorwide)
High-visibility crosswalks
ADA-accessible ramps and signals
Add protected left turn phasing
Add LPI
Riverside Dr
Road Diet
(corridorwide)
Implement 5- to 3-lane road diet with Class I or Class IV bike facilities
Willow Pass Rd/
De Anza Trail
Close the south-bound slip lane or construct raised crosswalk
Crosswalk at every intersection leg
High-visibility trail crossing on west leg
Willow Pass Rd
N

PROJECT

3

Willow Pass Road Complete Streets Corridor



Project Information

1.5 MILES
LENGTH

ARTERIAL CORRIDOR COMPLETE STREETS
PROJECT TYPE

$7,600,000
ESTIMATED CONSTRUCTION COST
There is an additional $1,900,000 in estimated project development costs for a total estimated project cost of $9,500,000.

0
SCHOOLS IN PROJECT AREA

2
PARKS IN PROJECT AREA

7
PEDESTRIAN COLLISIONS*

7
BICYCLE COLLISIONS*

3
CURRENT LTS

YES
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

Willow Pass Road is the main east-west arterial connection between Bay Point and the City of Pittsburg. It is the main transit and commercial corridor in Bay Point and home to Anuta Park and Ambrose Community Center and Garden. Willow Pass Road is also a difficult place to walk and bike, despite a high need for access. With five vehicle lanes, people using the narrow bike lanes and exposed sidewalks need to navigate long distances between crossings and walk or bike alongside fast-moving traffic. It is a high-injury corridor for both pedestrians and bicyclists, with a history of fatal and severe injury collisions.

The Willow Pass Road Complete Streets Corridor project will include a feasibility study for a road diet, with the goal of reimagining this multi-modal corridor as a place that is safe and comfortable to walk, bike, take the bus, and drive. With potential to reduce the number of travel or turn lanes or narrow the travel lanes, the project will take a holistic approach to the corridor, aiming to upgrade existing bike lanes to a low stress bicycle facility, provide improved pedestrian crossings, and create a comfortable environment for access to transit. The project will also create a connection to the future Class IV facility on Bailey Road to the Bay Point BART Station.

Key Challenges

- Willow Pass Road is on the high-injury network for bicycle and pedestrian collisions, with hot spots at intersections and uncontrolled crosswalk locations.
- Narrow bike lanes are stressful for bicycling and are not appropriate for children or new bike riders to access neighborhood destinations.
- Previous outreach efforts have indicated area residents and businesses have concerns about the potential loss of street parking.
- There are a high number of existing driveways along the corridor.

Project Features

- Road diet feasibility study along the corridor with the goal of constructing a Class IV separated bikeway.
- Enhance existing uncontrolled marked crosswalk locations, including Clearland Drive, Solano Avenue, Madison Avenue, and Bella Vista Avenue. These could include rapid rectangular flashing beacons or pedestrian hybrid beacons based on speed and yielding conditions.[16] The outcome of the road diet study will determine the final crosswalk enhancements.
- Enhance signalized intersections. Stripe high-visibility crosswalks at all legs of intersections with pedestrian destinations. Signal updates should include northbound and southbound protected or split left turn phasing at Kevin Drive, upgraded clearance intervals at all signals, and leading pedestrian intervals at Bailey Road and Kevin Drive. Pedestrian safety countermeasures should be implemented along with potential protected intersections with Class IV bikeway design and construction.

16 Use the FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations to determine final design.


N
Signalized Intersections (corridorwide)
High-visibility crosswalks at every leg of intersection
Updated clearance intervals for signals
ADA-accessible ramps and signals
Add LPI
Kevin Dr (outside of map)
Add northbound turn pocket and implement protected left turn phasing
Road Diet (corridorwide)
Implement road diet with a Class IV bikeway and provide low-stress bike and pedestrian facilities throughout
Uncontrolled Crosswalks (corridorwide)
Enhance with RRFBs or PHBs on speed and yielding conditions
Broadway Ave
Solano Ave
Willow Pass Rd
Bailey Rd

PROJECT

4

San Pablo Avenue Complete Streets (Crockett to Rodeo)

Project Information

3 MILES
LENGTH

ARTERIAL CORRIDOR COMPLETE STREETS
PROJECT TYPE

$8,300,000
ESTIMATED COST
There is an additional $2,100,000 in estimated project development costs for a total estimated project cost of $10,400,000.

0
SCHOOLS IN PROJECT AREA

0
PARKS IN PROJECT AREA

0
PEDESTRIAN COLLISIONS*

2
BICYCLE COLLISIONS*

4
CURRENT LTS

NO
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

With a new segment of the Bay Trail now open from Hercules to Lone Tree Point in Rodeo, just a few gaps still impede a seamless, low stress bike ride from the Alameda County-Contra Costa County border to the Carquinez Bridge and destinations beyond in Sonoma and Napa Counties. One such gap is a three-mile stretch of San Pablo Avenue between Crockett and Rodeo, where bicyclists climb past refineries and alongside semi-trucks to access the continuation of the Bay Trail.

In 2016, Contra Costa County conducted a feasibility study and community outreach to identify a preferred design alternative for providing bicycle and pedestrian access along this section of San Pablo Avenue.[17] The result was a recommendation for a road diet and installation of a two-way shared use path along one side of the roadway. This high priority project for funding and implementation will improve safety and connectivity on this critical connector.

17 https://www.contracosta.ca.gov/6006/San-Pablo-Avenue-Complete-Streets-Project

Key Challenges

- San Pablo Avenue between Crockett and Rodeo is a critical gap in the Bay Trail and regional bicycle and pedestrian network.
- Truck traffic from neighboring refineries creates a high stress environment for bicycling with safety risks.
- Current refinery operations along San Pablo Avenue.

Project Features

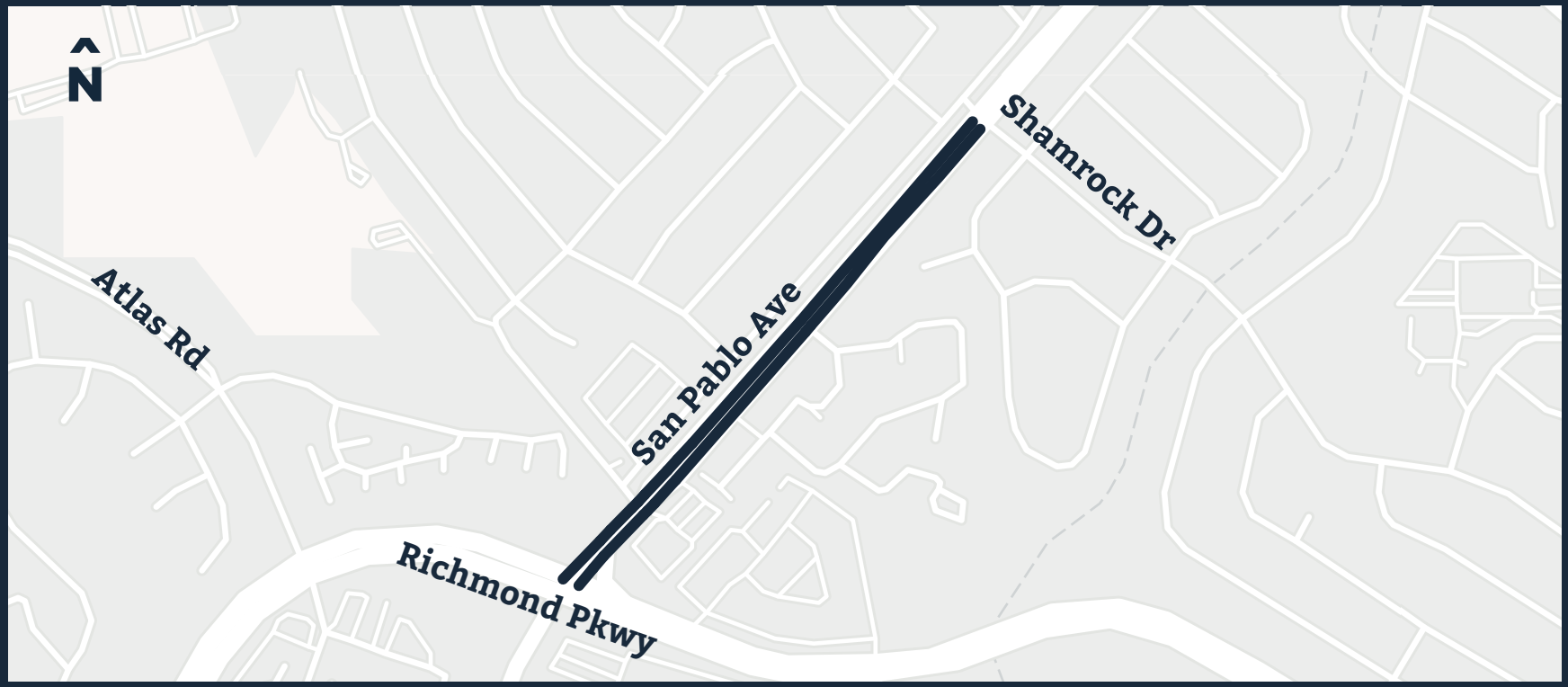
- Implement a road diet, converting the roadway to one travel lane in each direction with left turn pockets, medians, or truck climbing lanes
- Construct a dedicated shared-use path for people biking and walking with a concrete barrier to separate vehicle traffic.
- Add striping on Parker Avenue to facilitate access to and from the new shared-use path, including signage and green-backed sharrows to direct bicyclists to the trail at Lone Tree Point Include two-way bike crossings where two-way facilities transition to one-way bike lanes. Use green conflict striping where needed.
- Modify lane configuration and crossing markings at Pomona Street to provide connection from existing Class II bike lanes to and from new shared-use path, including new detection loops, signage, pavement markings and minor traffic signal modifications Include two-way bike crossings where two-way facilities transition to one-way bike lanes. Use green conflict striping where needed.


N
Pomona St
Enhance bike lanes that access the new path
Road Diet (corridorwide)
Implement road diet to one lane in each direction with left turn pockets, medians, or truck climbing lanes
Dedicated shared-use path, with a concrete barrier to separate vehicle traffic from bikes and pedestrians
Parker Ave
Add green-backed sharrows to the trail at Lone Tree Point
San Pablo Ave
San Pablo Ave
Parker Ave

PROJECT

5

San Pablo Avenue Gap Closure (Tara Hills)



Project Information

0.5 MILE
LENGTH

ARTERIAL CORRIDOR COMPLETE STREETS
PROJECT TYPE

$1,600,000
ESTIMATED COST
There is an additional $400,000 in estimated project development costs for a total estimated project cost of $2,000,000.

2
SCHOOLS IN PROJECT AREA

0
PARKS IN PROJECT AREA

3
PEDESTRIAN COLLISIONS*

0
BICYCLE COLLISIONS*

4
CURRENT LTS

YES
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

San Pablo Avenue is the only street with direct access to and through Tara Hills between Hilltop and Pinole. While some bicycle lanes and sidewalks are present, the corridor currently has narrow sidewalks with obstacles to ADA accessibility and narrow, discontinuous bike lanes. The corridor has a history of severe and fatal pedestrian collisions.

The San Pablo Avenue Complete Streets project for Tara Hills will study the construction of a Class I pathway, close sidewalk gaps, and upgrade pedestrian crossings.

Key Challenges

- Class II bike lanes are discontinuous.
- Sidewalks are narrow and deteriorating, with non-compliant ADA ramps.
- Long crossing distances and significant conflicts with turning vehicles exist at signalized crosswalks, presenting safety concerns.
- There is currently no wayfinding or direct, low-stress connection to the existing shared-use path on Richmond Parkway from neighborhoods along San Pablo Avenue. This limits access to Point Pinole and other recreational destinations.

Project Features

- Study feasibility to implement a Class I shared-use path on the west side, upgrading and continuing the existing path.
- Design and construct a protected intersection at Richmond Parkway, providing high visibility crosswalks, direct connection to the Bay Trail segment on Richmond Parkway, and signal timing to facilitate bicycle and pedestrian access.
- Upgrade all curb ramps for ADA accessibility
- Stripe high-visibility crosswalks and add advance stop bars at all legs of signalized intersections for more direct access to bus stops and neighborhood destinations.
- In addition to providing shared-use path, close Class II bike lane gaps for more confident cyclists. Study a road diet for traffic calming and upgrades to buffered or Class IV bike lanes in addition to a complete shared-use path on the west side.
- For speed management, study a road diet, narrow lanes and adjust signal timing to discourage speeding.


Signalized Intersections (corridorwide)
Crosswalk and advance stop bars at every leg of signalized intersections
Adjust signal timings to include protected left turn phasing and LPIs
ADA-compliant curb ramps
Shamrock Dr
San Pablo Ave
Class I Shared-Use Trail
Class I trail on west side by upgrading and extending the existing path
On-Street Bike Facilities (corridorwide)
Narrow lanes
In addition to trail, close gaps in Class II bike lanes
Study feasibility of road diet to create Class IV bikeway
Richmond Pkwy
Richmond Pkwy
Tighten intersection to provide space for bikes and pedestrians to wait
High-visibility crosswalk with trail connection
Signal timing to facilitate bicycle and pedestrian access
N

PROJECT

6

Pacifica Avenue Safe Routes to School

Project Information

1 MILE
LENGTH

NEIGHBORHOOD COMPLETE STREETS
PROJECT TYPE

$1,800,000
ESTIMATED COST
There is an additional $500,000 in estimated project development costs for a total estimated project cost of $2,300,000.

4
SCHOOLS IN PROJECT AREA

1
PARKS IN PROJECT AREA

3
PEDESTRIAN COLLISIONS*

1
BICYCLE COLLISIONS*

1
CURRENT LTS

YES
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

Pacifica Avenue is a key connection to schools and community destinations in Bay Point. With four schools on the corridor, a community garden, the YWCA, health centers, the library, and multiple faith organizations, Pacifica Avenue is a critical corridor for walking and biking. On the west end, it also connects to a County-maintained canal trail.

Because of the history of bicycle and pedestrian collisions, the County has already implemented countermeasures at uncontrolled crossing locations and provided Class II bike lanes. The Pacifica Avenue Safe Routes to Schools project will build on existing efforts to provide enhanced bicycle and pedestrian connectivity with a phased approach.

Key Challenges

- Narrow sidewalks and bike lanes provide limited space for groups of students to walk and bike to school.
- There are gaps in the sidewalks, and drivers frequently park on the walkway where there is no sidewalk.
- Uncontrolled crosswalks have had some enhancements, but drivers still go fast in the school zone with continued issues with yielding.
- The EBMUD Aqueduct Trail comes near schools on Pacifica Avenue, but additional wayfinding and on-street bicycle and pedestrian improvements are needed to connect to the front door of the schools.

Project Features

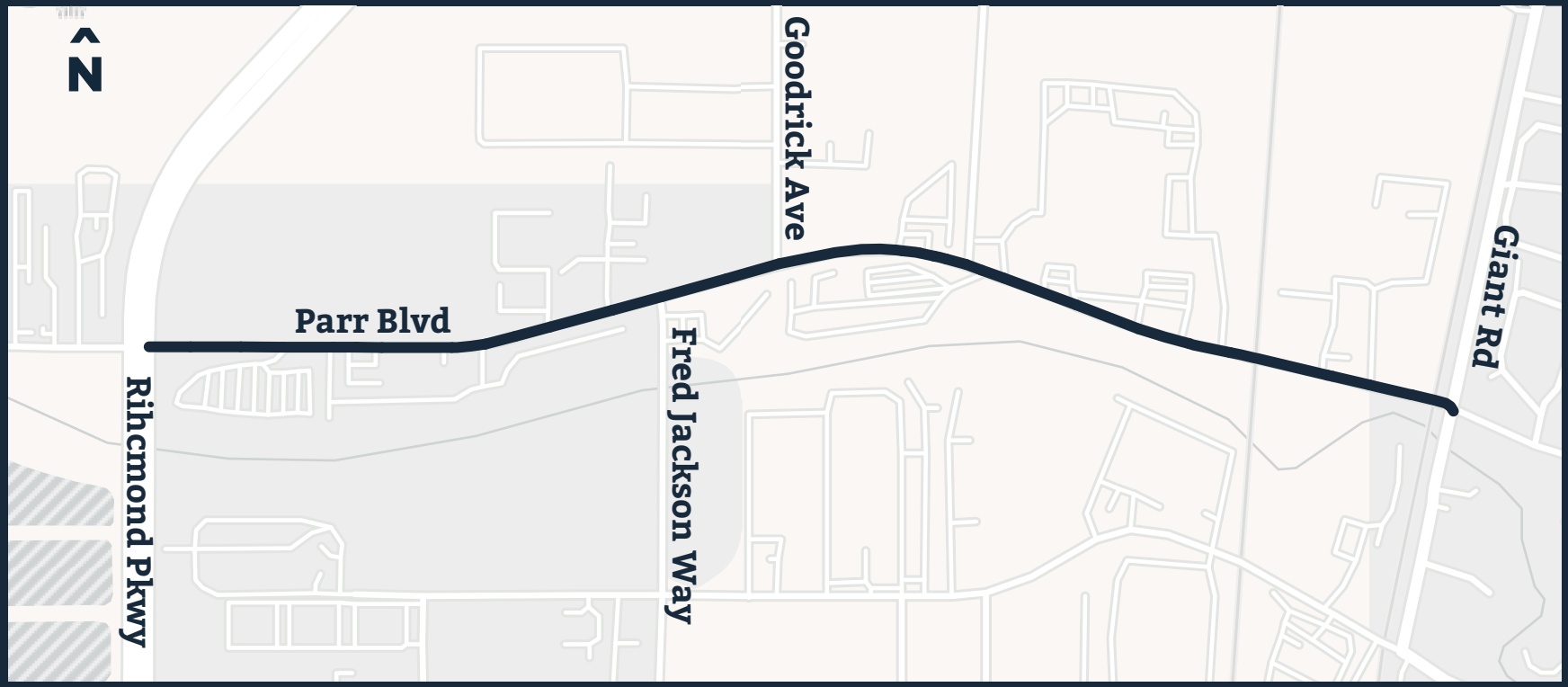
- In the near term, close sidewalk gaps with temporary physical separation like an asphalt berm.
- Provide additional enhancements at uncontrolled crossing locations, including the potential for a raised crosswalk at each school.
- In the medium term, narrow travel lanes and construct a two-way Class IV separated bikeway on the south side of the street to provide dedicated space for children biking between Port Chicago Highway and Riverview Middle School.
- In the long term, constructs a two-way Class IV separated bikeway or Class I shared use path on the south side of the street between Port Chicago Highway and Driftwood Drive. Coordinate with the School District and Tri-Delta Transit to separate curb uses and users.
- Provide wayfinding and crossings for improved access to the EBMUD Aqueduct Trail.


Canal Dr
Bay Dr
Near Term Improvements (corridorwide)
Add temporary sidewalks with asphalt berm at sidewalk gaps
Add raised crosswalks at schools
Wayfinding
Add wayfinding to access for Aqueduct Trail
Pacifica Ave
Medium and Long Term Improvements (corridorwide)
In the medium term, narrow travel lanes and build two-way Class IV bikeway on south side of street from Port Chicago Hwy to Riverview MS.
In the long term, extend Class IV bikeway to Driftwood Dr
to Driftwood Dr and Rio Vista ES
to Port Chicago Hwy
Riverview MS
Anchor Dr
N

PROJECT

7

Parr Boulevard Complete Streets



Project Information

1 MILE
LENGTH

NEIGHBORHOOD COMPLETE STREETS
PROJECT TYPE

$2,600,000
ESTIMATED COST
There is an additional $700,000 in estimated project development costs for a total estimated project cost of $3,300,000.

0
SCHOOLS IN PROJECT AREA

1
PARKS IN PROJECT AREA

0
PEDESTRIAN COLLISIONS*

0
BICYCLE COLLISIONS*

4
CURRENT LTS

NO
SEGMENT ON HIN?

YES
IN EQUITY PRIORITY COMMUNITY?

* DATA FROM 2014-2018

Project Background

Parr Boulevard is a two-lane road that runs from the Wildcat Marsh Trail in North Richmond to Giant Road in San Pablo. Within North Richmond, Parr Boulevard intersects with the Richmond Parkway, the San Francisco Bay Trail, and Fred Jackson Way. With industrial land uses, Parr Boulevard has multiple large employers, making it a key connection to park space and jobs. Parr Boulevard currently has no sidewalks, bicycle facilities, or shoulders.

The Parr Boulevard Complete Streets project will provide bicycle and pedestrian facilities between the Richmond Parkway/Bay Trail and the Union Pacific railroad tracks. This enhanced east-west bicycle and pedestrian route will provide access to future industrial development, the City of San Pablo, and recreational trails along the San Pablo Bay Shoreline, including a proposed future low-stress facility on Giant Road in San Pablo.

Key Challenges

- No sidewalks
- No bicycle facilities
- No shoulders for walking and bicycling

Project Features

- Study feasibility of separated Class IV and install Class IV or Class II bicycle facility pending feasibility study.
- Construct sidewalk on both sides of the street.
- Install crosswalks at all intersections.
- At Richmond Parkway, install crossing improvements including high-visibility crossing, new ramps and curb extensions, and consider bike loop detectors or other passive actuation for bicyclists.


Richmond Pkwy
High-visibility crosswalks at every leg of intersection
Curb extensions to shorten crossing distance
Bike loop detectors or other passive actuation for bicyclists
Bike Improvements (corridorwide)
Implement Class II or Class IV bike facilities depending on feasibility
Intersection Improvements (corridorwide)
Add sidewalks on both sides
Crosswalk at every intersection
Parr Blvd
Richmond Pkwy
Fred Jackson Way
N

Regional Corridors

Because Contra Costa County's unincorporated areas have unusual borders interspersed with neighboring cities and towns, close coordination with partner agencies is critical for the implementation and maintenance of a continuous bikeway and trail network. Regional arterial and trail corridors are critical for connectivity across barriers and for access to destinations.

The following set of projects represents these key connections. Some are existing bike lane or trail corridors, while others are new. All are part of CCTA's low-stress backbone network and have significant opportunity for cross-jurisdictional collaboration.

Arterial Corridors

- **San Pablo Avenue** As the key north-south arterial corridor in West Contra Costa, San Pablo Avenue provides multi-modal access from Alameda County up to the Carquinez Bridge in Crockett. Priority projects are listed above for segments in Tara Hills and from Crockett to Rodeo.
- **Appian Way** Linking San Pablo Avenue in Pinole to San Pablo Dam Road in El Sobrante, Appian Way is a key connection in the regional bicycle network. Projects will close network gaps with upgraded Class IV bike lanes and a critical safety project at Appian Way and Valley View Road.
- **Pacheco Boulevard** As a main route between Martinez, Pacheco, and Concord, Pacheco Boulevard is an important connection to destinations in Central Contra Costa County. Projects will study and aim to close gaps with Class IV separated bikeways and provide pedestrian safety and connectivity improvements.
- **Concord Avenue** A top priority project from the County's Vision Zero program, Concord Avenue is a key connection and there is currently a significant gap in bicycle and pedestrian access between Downtown Concord and major destinations like Diablo Valley College and the Sun Valley Shopping Center. The recommended project will study a road diet in collaboration with the City of Concord and provide crossing enhancements, a bikeway connection, and safety improvements for all users.

Danville Boulevard
through downtown Alamo

- **Danville Boulevard** Running parallel to the Iron Horse Trail between Walnut Creek and Danville, Danville Boulevard is a major thoroughfare for road cyclists in Contra Costa County. Recommended projects focus on improving bicycle and pedestrian connections at the intersections of Rudgear Road, Livorna Road, and Stone Valley Road.
- **Treat Boulevard** A key east-west connection that provides access to Pleasant Hill/Contra Costa Center BART, Treat Boulevard is an important connection for people walking and biking across I-680 and to transit. The I-680/Treat Blvd Bicycle & Pedestrian Improvements project is currently funded and slated for construction in 2024.
- **San Pablo Dam Road** Stretching from San Pablo Avenue in the City of San Pablo to Bear Creek Road in Orinda, San Pablo Dam Road is the only corridor providing access between West Contra Costa, El Sobrante, and the bikeway network entering Orinda and Moraga. The corridor has segments in urban, suburban, and rural areas, with discontinuous bicycle and pedestrian facilities. Recommended projects focus on providing targeted safety improvements at key intersections, connecting bike lanes along the corridor, and providing sidewalk gap closures for access to destinations and transit.
- **Olympic Boulevard** As the primary route between Lafayette and Walnut Creek, Olympic Boulevard represents a significant gap in the trail network between the Lafayette-Moraga Trail and the Iron Horse Trail. Recommended projects for Contra Costa County would implement recommendations of the Olympic Corridor Trail Connector Study in collaboration with neighboring jurisdictions.[18]

18 https://www.contracosta.ca.gov/DocumentCenter/View/44097/Olympic-Connector-Preferred-Alignment?bidId=

- **Bailey Road** Running north and south from Bay Point to Concord, Bailey Road is an important regional facility that connects multiple community destinations, trails, and the Pittsburgh/Bay Point Bart Station. Recent projects have improved bicycle and pedestrian access along the roadway by providing continuous sidewalks and bike lanes through the State Route 4 interchange. Projects in this plan around Bailey Road focus on leveraging these investments to further improve crossings and access to trails, schools, and community destinations.

The intersection of San Pablo Dam Road and El Portal Drive in El Sobrante

Trail Corridors

Contra Costa County has an excellent existing trail network that provides low-stress bicycle and pedestrian access within communities as well as beyond county lines. Many of these trails are continuing to undergo improvements and expansions. Projects focus on upgrading trail quality, providing more comfortable crossings with safety countermeasures, and closing gaps with on-street facilities. Long-term plans for new trails will require regional coordination and collaboration. The East Bay Regional Park District Master Plan map shows existing and planned regional trail alignments.[19]

Trail projects should include wayfinding consistent with local and regional branding for visual consistency. Refer to the wayfinding section for additional detail.

The existing trail corridors associated with projects in this plan include:

- **Iron Horse Trail** One of the longest trails in the Bay Area, the Iron Horse Trail extends from Livermore in Alameda County all the way to Concord. With multiple segments in unincorporated Contra Costa, the County plays a key role in maintaining and supporting this regional connection. Recommended projects include an extension to Waterfront Road (to be implemented with regional partners like the East Bay Regional Park District) and local trail crossing enhancements. All Iron Horse Trail crossings of local streets should be considered for raised crossings and visibility enhancements will all routine paving projects.
- **Contra Costa Canal Trail** In a large horseshoe shape, the Contra Costa Canal Trail serves Central County and intersects many local parks and other trails, including the Iron Horse Trail. The County can support and coordinate with the East Bay Regional Park District on the long-term plan to connect the Contra Costa Canal Trail with the Delta de Anza Trail, connecting Concord with Bay Point through the Concord Naval Weapons Station.
- **Delta de Anza Trail** An east-west trail spanning most of East Contra Costa, the Delta de Anza Trail forms the backbone of the bicycle network for Bay Point, Pittsburg, and Antioch. Recommended projects include trail crossing enhancements at key

19 https://www.ebparks.org/sites/default/files/master_plan_map.pdf

locations like Bailey Road and Willow Pass Road. The County can support and collaborate with the East Bay Regional Park District in extending the Delta de Anza Trail to the west to connect with the future extension of the Iron Horse Trail along Walnut Creek to Waterbird Way.

- **Bay Trail** With over 350 miles already open, the vision for the Bay Trail is a complete 500-mile trail corridor ringing the Bay. Contra Costa County can support the complete vision with key trail connections along Richmond Parkway and San Pablo Avenue, and by moving forward local projects that provide access to the Bay Trail.

Potential new trail corridors that are associated with projects in this plan include:

- **Marsh Creek Trail** Along Marsh Creek Road in eastern Contra Costa County, a feasibility study is currently underway to evaluate options for a new trail that roughly follows the alignment of Marsh Creek Road. The study area stretches from Clayton city limits at the western end, to the Round Valley Regional Preserve at the eastern end. Due to topographical and environmental constraints within the area, along with adjacent private property limitations, it is anticipated that the proposed alignment would include a mix of on- and off-street separated facilities. Collaboration with EBRPD, Save Mount Diablo, and local property owners will be required for implementation.

- **Great California Delta Trail** The California Delta Protection Commission is leading the planning and development of the Great California Delta Trail, a continuous regional recreation corridor extending around the Delta, including the shorelines of five Delta counties, and linking trail systems from Sacramento to the San Francisco Bay. In Contra Costa County, the completed trail would connect the existing Lafayette-Moraga and Marsh Creek Trails with the Bay Trail at Carquinez Strait Regional Shoreline. Projects along Carquinez Scenic Drive in Port Costa and in Bay Point will support and connect to the future Great California Delta Trail. The County can proactively engage with the Delta Protection Commission and the East Bay Regional Park District to collaborate on opportunities to move the long-term plans forward.

APPENDIX A

PROJECT LIST

This appendix provides lists of prioritized projects, including lengths and costs. Chapters 5 and 6 provide additional details on how project costs and priorities were identified and developed.

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
4th St	Garretson Ave	Vaqueros Ave	0.28	Rodeo	Complete Streets	Class IIIB	Enhance crosswalks especially where hilly terrain creates challenging sight lines. Consider median islands at uncontrolled crossings with poor sight lines. Implement traffic calming and bicycle boulevard.	$$	High	5
7th Street	Willow Ave	Garretson Ave	0.11	Rodeo	Complete Streets	Class III	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1-2 neighborhood traffic circles and speed humps along the extent. Update sidewalks and corners as needed for ADA accessibility.	$	High	5
Appian Way	San Pablo Dam Rd	Valley View Rd	1.19	El Sobrante	Complete Streets	Class IV	Upgrade existing sidewalk for ADA compliance. Install new Class IV bicycle facilities. Provide bicyclist and pedestrian crossings through traffic signal modifications or installation of a roundabout at intersection with Valley View Road.	$$$	High	1
At Canal/Mims and Delta de Anza Trail		--	--	Bay Point	Intersection	--	Install crosswalk on north leg at the Canal Road intersection, update clearance intervals and install advanced dilemma zone detection at Canal Road, coordinate (or cluster) Canal Road and the De Anza Trail crossing. Coordinate with Class IV bikeway on Bailey Rd. At Mims, enhance existing crosswalk with high-visibility striping, implement signal modifications like leading pedestrian interval and consider prohibiting eastbound RTOR. Add traffic calming at corner to slow right turning vehicles.	$$	High	5
Bella Vista Ave	Willow Pass Rd	End/Delta de Anza	0.45	Bay Point	Complete Streets	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1-2 neighborhood traffic circles and speed humps along the extent. Long-term project would complete continuous sidewalk on one side.	$	High	5
Brookside Dr	Central St	UPRR	0.64	North Richmond	Complete Streets	Class III	Construct sidewalk on one side, stripe shared lane bikeway markings, and install high-visibility crosswalks at intersections.	$$$	High	1
Canal Rd	Bailey Rd	County Limit	0.75	Bay Point	Bike	Class IIB	Calm traffic and upgrade bike lane to class IIB, improve intersection at Bailey Rd with leading pedestrian interval and two-stage bike turn boxes.	$	High	5
Central Street	Brookside Dr	Pittsburg Ave	0.14	North Richmond	Pedestrian	--	Install new sidewalk to close gaps along Central Street.	$$	High	1
Chesley Ave	Ruby Ave	County boundary	0.55	North Richmond	Complete Streets	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 2-3 neighborhood traffic circles and speed humps along the extent. Long-term project would widen sidewalk to a consistent width of 7-8 ft.	$	High	1
Concord Ave	I-680	Iron Horse Trail/Walnut Creek	0.84	Pacheco	Complete Streets	Class IV	Study road diet along Concord Ave in coordination with the City of Concord. Consider protected bike lanes, protected intersections, and removal of slip lanes, as well as realignment of crosswalks to provide shorter crossing distances. Install protected left turn phasing at John Glen Dr and New Dr.	$$$	High	4
Contra Costa Canal Trail	Driftwood Dr	Bailey Rd	2.49	Bay Point	Trail	Class I	Construct new Class I trail along canal to connect with existing trail. Install high-visibility raised crossings at neighborhood streets and wayfinding signage to bikeway network.	$$$$	High	5
Cummings Skyway	San Pablo Ave	Franklin Canyon Rd	4.21	Rural	Bike	Class IIB	Close bike lane gaps, widen and buffer bike lanes. Stripe conflict markings through intersections.	$$$	High	5
Fred Jackson Way	Wildcat Creek Trail	Parr Blvd	0.53	North Richmond	Complete Streets	Class IV	Construct streetscape improvements to include new/wider sidewalks, street trees, bike lanes, pedestrian path	$$$	High	1
Giaramita St.	Chesley Ave	Wildcat Creek Trail	0.42	North Richmond	Complete Streets	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1-2 neighborhood traffic circles and speed humps along the extent. Long-term project would widen sidewalk to a consistent width of 7-8 ft on west side of roadway.	$	High	1
Market Ave	Jade St	County boundary	0.64	North Richmond	Complete Streets	Class I	Install pedestrian improvements and traffic calming improvements along Market Ave between Fred Jackson Way and 7th Street. Potential to construct wide shared use path/sidewalk on one side for bicycle and pedestrian access. Consider 2-3 raised crosswalks at key desire line intersections.	$$$	High	1
Pacifica Ave	Port Chicago Hwy	Driftwood Dr	1.00	Bay Point	Bike	Class IV	Short term project: asphalt berms to close sidewalk gaps, uncontrolled crossing enhancement. Long term project: two-way cycle track on south side- trail to trail connection and safe route to school. Includes concrete sidewalk gap closures.	$$$	High	5

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
Parr Blvd	Richmond Parkway	BNSF Rail	0.97	North Richmond	Complete Streets	Class II	Construct sidewalk on one side, stripe Class II bike lanes, and install high-visibility crosswalks at intersections where needed for access to destinations	$$	High	1
Pittsburg Ave	Richmond Parkway	Fred Jackson Way	0.37	North Richmond	Complete Streets	Class III	Construct sidewalk on one side and install shared lane bikeway markings. Install wayfinding signage between trail segments from Wildcat Creek Trailhead when undercrossing at Richmond Parkway is flooded.	$$	High	1
Pomona St	San Pablo Ave	I-80	0.25	Crockett	Bike	Class IIB	Stripe Class IIB buffered bike lanes to connect San Pablo Ave to Crockett.	$	High	5
Pomona St	San Pablo Ave	I-80	0.38	Crockett	Trail	Class I	Repave, widen, and provide improved wayfinding for path under I-80	$$	High	5
Port Chicago Hwy	Pacifica Ave	McAvoy Rd	0.20	Bay Point	Complete Streets	Class IV	Add separated bikeway and sidewalk connecting to Bay Point Regional Shoreline and future Great Delta Trail.	$	High	5
Port Chicago Hwy	Willow Pass Rd	Pacifica Ave	0.53	Bay Point	Complete Streets	Class IV	Study and implement road diet to install Class IV separated bikeways, intersection safety improvements, and high-visibility crosswalks. Study slip lane closure at Port Chicago/Willow pass with trail crossing to Delta de Anza Trail.	$$	High	5
Richmond Pkwy	County limit (north)	Pittsburg Ave	0.76	North Richmond	Trail	Class I	Upgrade and widen existing Class I path, with ADA and crossing improvements	$$$	High	1
Richmond Pkwy	Pittsburg Ave	W. Gertrude Ave	0.63	North Richmond	Trail	Class I	Upgrade and widen existing Class I path, with ADA and crossing improvements	$$	High	1
San Marco Blvd	Willow Pass	County border/Hwy 4	0.22	Bay Point	Complete Streets	Class IV	Improve safety at interchange. Construct Class IV bikeways and coordinate with City of Pittsburg and Caltrans to make bicycle and pedestrian connection to Leland.	$	High	5
San Pablo Ave	Richmond Parkway	County Boundary (Pinole)	1.04	Tara Hills	Complete Streets	Class IV	Study on-street low-stress bikeway or off-street path. Upgrade sidewalks to meet ADA standards. Close sidewalk gap on east side of roadway from Richmond Parkway to Kay Road.	$$$	High	1
San Pablo Ave	Parker Ave	Pomona Street/I-80 on ramps	2.86	Crockett/Rodeo	Bike	Class IV	Implement road diet and install new two-way barrier-separated shared-use path along roadway to serve as a connection between Bay Trail segments.	$$$$	High	5
San Pablo Ave	Rodeo Ave	Parker Ave	0.08	Rodeo	Bike	Class III	Add green-back sharrows and wayfinding to connect Bay Trail terminus to San Pablo Ave bike lanes.	$	High	5
San Pablo Creek Trail	Richmond Pkwy	Fred Jackson Way	0.38	North Richmond	Trail	Class I	Construct Class I path along south side of San Pablo Creek	$$	High	1
San Pablo Creek Trail	Wildcat Marsh Trail	Richmond Pkwy	0.28	North Richmond	Trail	Class I	Construct Class I path along south side of San Pablo Creek	$$	High	1
San Pablo Dam Rd	El Portal Dr	Appian Way	1.24	El Sobrante	Complete Streets	Class IV	Complete Streets corridor project including low-stress bicycle facility and intersection improvements.	$$$	High	1
Wildcat Creek Trail	At Richmond Pkwy	--	--	North Richmond	Trail	Class I	Upgrade trail undercrossing to prevent flooding or provide at-grade trail crossing	$$	High	1
Willow Pass Rd	Port Chicago Hwy	Crivello Ave	1.47	Bay Point	Complete Streets	Class IV	Complete Streets corridor project, including installation of class IV separated bikeways, intersection safety improvements, crosswalk enhancements, and sidewalk gap closures.	$$$	High	5
Willow Pass Rd	Evora Rd	Port Chicago Hwy	0.25	Bay Point	Bike and Ped	Class IV	Construct two-way Class I bike path or Class IV cycle track and sidewalk on south side of Willow Pass Rd.	$$	High	5
7th Street	Creek Trail	Willow Ave	0.07	Rodeo	Bike	Class IIB	Stripe Class IIB buffered bike lanes.	$	Medium	5
Alhambra Valley Rd	County limit	County limit	9.42	Briones	Bike	Class III	Rural route safety project: mark bike lanes and shared lanes, calm traffic (speed feedback/edge lines), provide safety measures like warning or speed feedback signs at key locations.	$$$	Medium	1, 5
Appian Way	Valley View Rd	County Boundary	0.69	El Sobrante	Complete Streets	Class IV	Upgrade existing sidewalk for ADA compliance. Install new Class IV bicycle facilities.	$$	Medium	1
Appian Way	At Valley View Rd	--	--	El Sobrante	Intersection	--	Reconstruct intersection with new signal OR roundabout. Remove slip lanes and provide bicycle and pedestrian safety improvements.	$$	Medium	1
Appian Way	At Santa Rita Rd	--	--	El Sobrante	Intersection	--	Uncontrolled crosswalk safety improvements - evaluate countermeasure (RRFB or PHB) and potentially include with Appian Complete Streets project.	$$	Medium	1
Arlington Blvd	McBryde Ave	Aqua Vista Rd	1.23	East Richmond Heights	Bike	Class III	Install traffic calming and shared lane markings. Traffic calming may include edgeline striping, safety signage, and speed feedback signs.	$$	Medium	1
Arlington Blvd	Amherst Ave	Highland Blvd	1.10	Kensington	Bike	Class III	Install traffic calming and shared. lane markings. Traffic calming may include edgeline striping, safety signage, and speed feedback signs.	$$	Medium	1

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
Arlington Blvd	At McBryde	--	--	East Richmond Heights	Intersection	--	Intersection improvements: stripe crosswalks, close slip lane, study for three-way stop.	$$	Medium	1
Bailey Rd	At Maylard St	--	--	Bay Point	Intersection/ Pedestrian	--	Stripe all four legs of crosswalk with high-visibility, upgrade ramps. Coordinate ped improvements with City of Pittsburg.	$$	Medium	5
Balfour Rd	Deer Valley Rd	Heritage HS	1.40	East County	Bike	Class IV	Install Class IV bike lanes along Balfour Rd.	$$$	Medium	3
Bay Trail/CSSLT	I-80	Carquinez Scenic Dr. Existing Class I	4.69	Crockett/Port Costa	Trail	Class I	Construct Class I path. Alignment includes segments on Loring Dr. and Carquinez Scenic Dr.	$$$$	Medium	5
Bay Trail/CSSLT	Carquinez Scenic Dr. Existing Class I	County boundary (Martinez)	1.69	Martinez	Trail	Class I	Construct Class I path. Alignment includes segments on Carquinez Scenic Dr.	$$$	Medium	5
Bixler Rd	Orwood Rd	Hwy 4	3.46	East County/Disco Bay	Bike	Class IIB	Upgrade existing bike lanes to Class II buffered. Pave shoulders and stripe bike lanes where missing	$$	Medium	3
Blum Rd	Pacheco Blvd	Imhoff Dr	0.31	Martinez	Bike	Class III	Stripe shared lanes and improve intersections with high visibility crosswalks.	$	Medium	5
Boulevard Way	Garden Ct	Olympic Blvd	0.47	Saranap	Complete Streets	Class IIIB	Construct traffic calming, close sidewalk gaps, and mark shared lane.	$$	Medium	2
Brentwood Blvd/UP tracks/Byron Hwy	Main Canal	County Limit	8.90	East County	Trail	Class I	Construct Class I path along Union Pacific tracks.	$$$$	Medium	3
Buchanan Field Path	Marsh Dr	Concord Ave	0.62	Pacheco	Trail	Class I	Identify alignment and construct Class I path through golf course to Concord Ave.	$$	Medium	4
Byron Hwy	Hwy 4	Camino Diablo	1.31	East County/Byron	Bike	Class IV	Pave shoulders and construct Class II or Class IV bikeway. Construct pedestrian safety improvements in developed areas such as constructing a sidewalk on the west side and high-visibility crosswalks on the stretch between Byers and Holway. Provide traffic calming and multi-modal safety improvements at intersection of Byron Hwy and Holway Dr.	$$$	Medium	3
Camino Diablo	Marsh Creek Rd	Byron Hwy	5.20	East County	Bike	Class II	Add Class II/shoulder bike lanes along Camino Diablo	$$$	Medium	3
Center Ave	Blackwood Dr	Contra Costa Canal	0.53	Pacheco	Complete Streets	Class IV	Close sidewalk gaps, widen sidewalks, upgrade pedestrian crossings, and construct Class IV separated bikeway. Potential for two-way cycle track on south side with fewer driveways and connection to trails. Narrow curb to curb roadway significantly to calm traffic.	$$	Medium	2, 5
Center Ave	Pacheco Blvd	Blackwood Dr	0.12	Pacheco	Complete Streets	Class IIB	Stripe buffered bike lanes and close sidewalk gaps. Widen sidewalks and construct accessible ramps	$	Medium	2, 5
Center Ave	Marsh Dr	Pacheco Blvd	0.21	Pacheco	Complete Streets	Class II	Stripe Class II bike lanes and close sidewalk gaps. Provide improved lighting in freeway overpass for pedestrian comfort and personal security.	$	Medium	2, 5
Crockett Blvd	Crockett Ranch Trailhead	Cummings Skyway	1.71	Crockett	Bike	Class IIB	Stripe Class IIB or Class IV bike lane.	$$	Medium	5
Crockett Blvd	Pomona St	Crockett Ranch Trailhead	0.22	Crockett	Trail	Class I	Construct Class I path connecting Pomona St. and schools to Crockett Ranch Trailhead	$	Medium	5
Crockett Blvd	At Pomona St	--	--	Crockett	Intersection	--	Update intersection with ADA ramps, crosswalks, and bicycle connections.	$$	Medium	5
Danville Blvd	El Portal Dr	Rudgear Rd	3.70	Alamo	Complete Streets	Class IIB	Upgrade to buffered bike lanes and improve intersections to continue bikeways. Design and implement dedicated bicycle facilities at Rudgear Rd, Livorna Rd, and Stone Valley Rd. Implement project recommendations from Vision Zero, including intersection improvements, sidewalk gap closures, and crossing improvements.	$$$	Medium	2
Deer Valley Rd	Antioch city limits	Marsh Creek Rd	4.69	East County	Bike	Class II	Add Class II bike lanes along Deer Valley Rd.	$$$	Medium	3
Diablo Rd	Calle Arroyo	San Andreas Dr	1.30	Blackhawk/Diablo	Bike	Class II	Install Class II bike lanes to close gap.	$$	Medium	2
Franklin Canyon Rd	Cummings Skyway	Alhambra Ave	4.36		Trail	Class I	Study feasibility of a Class I side path. Coordinate with regional partners on potential alignments.	$$$$	Medium	5
Garretson Ave	4th St	1st St	0.29	Rodeo	Bike	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1-2 neighborhood traffic circles and speed humps along the extent. Include wayfinding to Bay Trail.	$	Medium	5

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
Garretson Ave	7th St	4th St	0.39	Rodeo	Complete Streets	Class IIIB	Study school access. Potential to convert parking to angled on one side only with a shared use path. Project assumes significant reconfiguration and some sidewalk construction to address school access and safety.	$$	Medium	5
Great Delta Trail	County Limit (east)	McAvoy Rd	1.94	Bay Point	Trail	Class I	Support planning and construction of the Great Delta Trail in collaboration with the Delta Protection Commission and the East Bay Regional Park District.	$$$	Medium	5
Hanlon Way	Bella Vista Ave	County Limit	0.34	Bay Point	Complete Streets	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1-2 neighborhood traffic circles and speed humps along the extent. Long-term project would complete continuous sidewalk on one side.	$	Medium	5
Hwy 4	Willow Pass Rd	Port Chicago Hwy	1.42	Bay Point	Trail	Class I	Multi-jurisdictional effort needed to close major gap between Central and East County. Opportunity to collaborate with Caltrans via bike superhighway process. Alignment under study as part of the Great California Delta Trail process.	$$$	Medium	5
Imhoff Dr	Blum Rd	Solano Way	1.22	Pacheco/Concord	Bike	Class IV	Construct Class IV separated bikeway. Coordinate with connection to future Iron Horse Trail extension and connection along Hwy 4.	$$$	Medium	5
Iron Horse Trail	Existing Iron Horse Trail (Marsh Drive)	Waterfront Rd	2.96	Martinez	Trail	Class I	Complete Iron Horse Trail to Waterfront Rd in coordination with the East Bay Regional Park District and other regional partners.	$$$$	Medium	5
Livorna Rd	Iron Horse Trail	Miranda Ave	1.39	Alamo	Bike	Class II	Close Class II bike lane gaps and improve crossings at freeway interchange.	$$	Medium	2
Loftus Rd	Canal Rd	Willow Pass RD	0.50	Bay Point	Complete Streets	Class IIIB	Construct bicycle boulevard with robust traffic calming for pedestrian comfort. Design expected to include 1 neighborhood traffic circles (Hanlon project overlap) and speed humps along the extent. Long-term project would complete continuous sidewalk on one side.	$	Medium	2, 4
Main Canal	Marsh Creek	County Limit	8.44	East County	Trail	Class I	Construct Class I path along both sides of Main Canal up to Bixler Rd. and on north side up to county limit.	$$$$	Medium	3
Marsh Creek Rd	Clayton city limits	Deer Valley Rd	9.14	East County	Bike	Class II	Add Class II bike lanes along Marsh Creek Rd	$$$$	Medium	3, 4
Marsh Dr	Iron Horse Trail	Center Ave	1.25	Pacheco	Trail	Class I	Construct Class I path along Buchanan Field.	$$$	Medium	4, 5
May Rd	San Pablo Dam Rd	County border	0.39	El Sobrante	Bike	Class IV	Road diet with Class II buffered or Clas IV separated bike lanes, including Safe Routes to School component. Include intersection safety improvements.	$$	Medium	1
McAvoy Rd	Port Chicago Hwy	Great Delta Trail	0.13	Bay Point	Complete Streets	Class IV	Construct sidewalks and Class IV bikeways connecting to future Great Delta Trail. Time project with planning of Great Delta Trail.	$	Medium	5
Muir Rd	County limit (Contra Costa Canal Trail)	Pacheco Blvd	0.19	Pacheco	Bike	Class IV	Study connection from Contra Costa Canal Trail to Pacheco Blvd. Provide safe crossing of Hwy 4 ramps.	$	Medium	5
Newell Ave	Olympic Blvd	I-680	0.53	Saranap	Pedestrian	--	Close sidewalk gaps between Walnut Creek and Olympic Blvd.	$$	Medium	2
Olympic Blvd	Pleasant Hill Blvd	I-680	1.71	Saranap	Complete Streets	Class IV	Implement Olympic Boulevard Corridor Trail Connector (2018 study) with Class IV bikeway. Implement pedestrian crossing and sidewalk gap improvements with project.	$$$	Medium	2
Pacheco Blvd	Blum Rd	2nd Ave S	0.99	Pacheco	Complete Streets	Class IV	Complete Streets corridor project, including Class IV separated bikeways, intersection safety improvements, crosswalk improvements, sidewalk gap closures. Construct protected intersections or bikeway striping at intersections of bike facilities.	$$$	Medium	4, 5
Pacheco Blvd	Martinez Ave	Arthur Rd	1.73	Martinez	Complete Streets	Class IV	Complete Streets corridor project including Class IV separated bikeways, intersection safety improvements, crosswalk improvements, and sidewalk gap closures.	$$$	Medium	5
Pacheco Blvd	Arthur Rd	Blum Rd	1.29	Pacheco/North Concord	Complete Streets	Class IV	Complete Streets corridor project, including Class IV separated bikeways, intersection safety improvements, crosswalk improvements, sidewalk gap closures. Construct protected intersections or bikeway striping at intersections of bike facilities.	$$$	Medium	5
Pinehurst Rd	County limit	County limit	5.05	Canyon	Bike	Class III	Rural route safety project: mark bike lanes and shared lanes, calm traffic, adding speed feedback signs, and provide safety measures at key locations such as widened shoulders in some areas, and potentially some grading changes with repaving.	$$$	Medium	2

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
Pomona St	I-80	2nd Ave	0.20	Crockett	Bike	Class III	Stripe Class II bike lane in uphill direction. Update wayfinding signage and implement traffic calming including speed feedback and safety signage in downhill direction.	$	Medium	5
Pomona St	2nd Ave	Rolph Ave	0.20	Crockett	Bike	Class IIB	Upgrade existing Class II bike lanes to buffered bike lanes.	$	Medium	5
Port Chicago Hwy	Sussex St	Medburn St	0.10	Clyde	Trail	Class I	Close gap in existing trail.	$	Medium	5
Richmond Pkwy	At Parr	--	--	North Richmond	Trail	Class I	Install crossing improvements including high-visibility crossing, new ramps, and curb extensions. Include passive actuation for bicyclists.	$$	Medium	1
San Pablo Ave	At Willow Ave	--	--	Rodeo	Intersection	--	Install intersection improvements for bicycle and pedestrian safety. Coordinate with Hercules on bicycle and pedestrian connections. Stripe high-visibility crosswalks, study slip lane closure on north and south corners. Provide enhanced bicycle facilities including two-stage turn boxes.	$$	Medium	5
San Pablo Dam Rd	Valley View Rd	Castro Ranch Rd	0.77	El Sobrante	Complete Streets	Class IV	Complete Streets project including Class IV bicycle facility and intersection improvements. Close sidewalk gaps.	$$$	Medium	1
San Pablo Dam Rd	May Rd	Valley View Rd	0.86	El Sobrante	Complete Streets	Class IV	Complete Streets project including road diet, Class IV bicycle facility, uncontrolled crosswalks at bus stops, and intersection improvements. Close sidewalk gaps.	$$$	Medium	1
San Pablo Dam Rd	Castro Ranch Rd	Existing Bike Lane (37.942893, -122.266069)	0.95	El Sobrante	Complete Streets	Class IIB	Install buffered bike lane to connect to existing bicycle facility.	$	Medium	1
Shell Rd	County limit (north)	Pacheco Blvd	0.53	Martinez	Bike	Class II	Pave shoulder and stripe bike lane in uphill direction. Coordinate with Martinez to connect to Marina Vista Ave.	$$	Medium	5
Stone Valley Rd	Danville Blvd	Green Valley Rd	3.09	Alamo	Bike	Class IIB	Upgrade to buffered bike lanes.	$$	Medium	2
Tice Valley Blvd	Tice Valley Ln	Crest Ave	0.89	Alamo	Bike	Class II	Extend Class II bike lanes to Crest Ave.	$$	Medium	2
Valley View Rd	San Pablo Dam Rd	County limit at De Anza High School	0.65	El Sobrante	Bike	Class II	Study road diet, lane narrowing, and/or parking removal to close bike lane gaps for school access. Provide minimum Class II buffered bike lanes. Widen and buffer existing bike lanes.	$	Medium	1
Walnut Blvd	Armstrong Rd	Camino Diablo	3.05	East County	Bike	Class II	Add Class II bike lanes along Walnut Blvd.	$$$	Medium	3
Willow Pass Rd	Avila Rd	Evora Rd	0.29	Bay Point	Bike	Class IV	Coordinate with Caltrans on a bicycle safety project through interchange.	$	Medium	5
Willow Pass Rd	At Evora Rd and Willow Pass Ct (west)	--	--	Bay Point	Intersection	Class I	With extension of Delta de Anza Trail, reconstruct intersection with trail crossing.	$$	Medium	5
Willow Pass Rd	At Evora Rd and San Marco Blvd (east)	--	--	Bay Point	Intersection	--	Reconstruct, potentially as a protected intersection. Provide bike/ped crossings on all legs. With Willow Pass cycle track project, construct two-way bike crossings.	$$	Medium	5
Balfour Rd	Sellers Ave	Bixler Rd	3.01	East County	Bike	Class IIB	Upgrade to buffered Class II bike lanes where possible.	$$	Low	3
Bear Creek Rd	Alhambra Valley Rd	San Pablo Dam Rd	8.30	Rural	Bike	Class II and III	Rural route safety project: mark bike lanes where space in shoulder and shared lanes where not, calm traffic, adding speed feedback and warning signs, and provide safety measures at key locations such as widened shoulders in some areas. Repair pavement where needed for safety. Coordinate with neighboring jurisdictions where ROW is not continuous.	$$$$	Low	1
Bethel Island Rd	Wells Rd	Gateway Rd	0.63	Bethel Island	Complete Streets	Class II	Consider road diet and install Class II or Class IV bike lanes. Close sidewalk gaps and enhance pedestrian crossings.	$	Low	3
Boulevard Way	County limit Del Hambre Cir	Garden Ct	0.48	Saranap	Complete Streets	Class IIB	Implement road diet, upgraded pedestrian crossings, and buffered bike lanes.	$	Low	2
Canyon Rd	Pinehurst Rd	Valle Vista trailhead	0.66	Canyon	Bike	Class II	Close bike lane gap between Valle Vista trailhead and Pinehurst Rd.	$	Low	2
E Cypress Rd	Knightsen Ave	Jersey Island Rd	0.50	East County/Oakley	Bike	Class IIB	Repave and stripe Class II bike lanes, and upgrade buffered bike lanes where ROW permits.	$	Low	3
Franklin Canyon Rd	Sycamore Ave	Cummings Skyway	3.51	Rural		Class I	Study feasibility of a Class I side path. Coordinate with regional partners on potential alignments. Potential Class I connection along Hwy 4 with Caltrans partnership.	$$$$	Low	5
Gateway Rd	Bethel Island Rd	Stone Rd	1.68	Bethel Island	Trail	Class I	Construct Class I shared use path on north side.	$$$	Low	3

Roadway Name	From	To	Miles	Neighborhood/ Area of Benefit	Project Type	Bikeway Type	Project Description	Cost Estimate	Priority	Supervisor District
Grayson Creek Trail	2nd Ave	Aspen Dr	0.12	Pacheco	Trail	Class I	Pave existing path and coordinate with Concord to connect trail corridor.	$	Low	4
Hemme Ave	Danville Blvd	End (Ringtail Cat Staging Area)	0.50	Alamo	Complete Streets	Class IIIB	Complete sidewalks on north side between Danville Blvd and La Sonoma Way. Provide bike boulevard traffic calming along entire length, including speed humps and shared lane markings. Enhance and traffic calm Iron Horse trail crossing and strip high visibility crosswalks at Danville Blvd.	$	Low	2
Holway Dr	Byron Hwy	Main Street	0.17	Byron	Pedestrian	--	Construct sidewalk on one side, with high-visibility crosswalks at Main St and close sidewalk gap on Main St between the intersection and the post office.	$$	Low	3
Los Vaqueros Watershed Trail	Walnut Blvd	Los Vaqueros Blvd	11.11	East County	Trail	Class I	Coordinate with Contra Costa Water District to provide bicycle/pedestrian access through watershed.	$	Low	3
Marsh Creek Rd	Deer Valley Rd	Vasco Rd	5.11	East County	Trail	Class I	Construct Class I path along Marsh Creek Rd	$$$$	Low	3
Marsh Creek Trail	Concord Ave	Marsh Creek Rd	0.76	East County	Trail	Class I	Complete Marsh Creek Trail.	$$$	Low	3
Miranda Ave	Stone Valley Rd	Livorna Rd	1.24	Alamo	Bike	Class IIB	Upgrade to buffered bike lanes.	$$	Low	2
Mokelumne Coast to Crest Trail	Garin Pkwy	County Limit	7.07	East County	Trail	Class I	Construct Class I path along pipeline right of way.	$$$$	Low	3
Mountain View Blvd	Palmer Rd	Mynah Ct	0.06	Rudgear	Pedestrian	--	Close sidewalk gaps and provide crosswalks for access to bus stops.	$$	Low	4
Pacheco Blvd	At Arthur Rd	--	--	Vine Hill	Intersection	--	Intersection safety project including high-visibility crosswalks, curb ramps, and potentially slip lane closure with further study.	$$	Low	5
Palmer Rd	Mountain View Blvd	Holly Hill Dr	0.33	Rudgear	Pedestrian	--	Close sidewalk gaps on one side and provide high-visibility crosswalks at Mountain View Blvd, Hawthorne Dr, and Holly Hill Dr where needed to transition between sidewalks. Prioritize sidewalk connections to bus stops.	$$	Low	4
Piper Rd	Gateway Rd	Willow Rd	0.95	Bethel Island	Trail	Class I	Construct Class I shared use path on east side.	$$$	Low	3
Pleasant Hill Rd	Camino Verde	Rancho View Dr	1.09	West Pleasant Hill	Bike	Class II	Close gaps for continuous Class II bike lane on Pleasant Hill Rd and study protected/off-street facilities	$$	Low	2, 4
Pleasant Hill Rd	At Taylor Blvd	--	--	Pleasant Hill	Intersection	--	Reconfigure intersection to improve bicycle and pedestrian safety. Provide controlled and separated crossings.	$$	Low	2, 4
Pomona St	Rolph Ave	Baldwin Ave	0.59	Crockett	Bike	Class II	Install traffic calming and uphill bike lanes. Update wayfinding signage and implement traffic calming including speed feedback and safety signage in downhill direction.	$	Low	5
Reliez Valley Rd	County limit (near Brookwood)	Alhambra Valley Rd	0.57	Briones	Bike	Class III	Rural route safety project: mark bike lanes and shared lanes, calm traffic (speed feedback/edge lines), provide safety measures like warning signs at key locations.	$	Low	5
Reliez Valley Rd	Grayson Rd	Gloria Ter	0.70	West Pleasant Hill	Trail	Class I	Construct Class I path along Reliez Valley Rd	$$	Low	2
Sellers Ave	Delta Rd	Brentwood Blvd	3.93	East County	Bike	Class II	Pave shoulder and stripe Class II bike lanes. Upgrade to buffered bike lanes where feasible within existing right of way. Coordinate with Brentwood on implementation.	$$$$	Low	3
Sycamore Ave	Franklin Canyon Rd	County Border	0.35	Hercules	Bike	Class IIB	Stripe Class IIB buffered bike lanes to connect to Franklin Canyon Trail.	$	Low	5
Waterbird Way	Waterfront Rd	Meadowlark Ridge Loop	0.18	Martinez	Bike	Class II	Stripe bike lanes.	$	Low	5
Waterfront Rd	I-680	Waterbird Way	0.59	Martinez	Bike	Class IIB	Pave shoulder and stripe Class II buffered bike lanes. Connect to the Iron Horse Trail extension and the planned Pacheco Marsh Park.	$	Low	5
Waterfront Rd	Waterbird Way	Future Iron Horse Trail	1.15	Martinez	Bike	Class II	Extend bike lanes on Waterfront Rd to future Pacheco Marsh Park.	$$	Low	5

APPENDIX B

FUNDING SOURCES

This appendix provides an overview of funding sources available for project implementation from federal, state, and local sources.

SB 1 Funding

California's Senate Bill 1 (SB 1), also known as the Road Repair and Accountability Act of 2017, is a landmark transportation investment to rebuild California by fixing neighborhood streets, freeways, and bridges in communities across California and targeting funding toward transit and congested trade and commute corridor improvements.

The largest portion of SB 1 funding goes to California's state-maintained transportation infrastructure. With this funding, Caltrans has a goal of repairing or replacing 17,000 miles of pavement in 10 years, spending $250 million annually for congestion solutions, over $700 million for better transit commutes, and supporting freight improvements. The other portion of SB 1 funding will go to local roads, transit agencies, and expanding the state's pedestrian and cycle routes. SB 1 funds various grant programs.

Local Partnership Program (LPP)

The Local Partnership Program's purpose is to provide local and regional transportation agencies that have passed sales tax measures, developer fees, or other imposed transportation fees, with a funding of $200 million annually from the Road Maintenance and Rehabilitation Account to fund aging infrastructure, road conditions, active transportation, and health and safety benefits projects. LPP funds are distributed through a 50% statewide competitive component and a 50% formulaic component. Both programs are eligible to jurisdictions with voter approved taxes, tolls, and fees dedicated solely to transportation and the competitive program.

Local Streets and Roads Program (LSRP)

California has dedicated approximately $1.5 billion per year appointed by the State Controller (Controller) to cities and counties for basic road maintenance, rehabilitation, and critical safety projects on the local streets and roads system. Cities and counties must submit a proposed projects list adopted at a regular meeting by their board or council that is then submitted to the California Transportation Commission (Commission). Once reviewed and adopted by the Commission, eligible cities and counties receive funding from the Controller and an Annual Project Expenditure Report is sent to the Commission to be transparent with program funding received and expended.

Active Transportation Program (ATP) Funding

The Active Transportation Program (ATP) was created by Senate Bill 99 to encourage increased use of active modes of transportation such as walking and biking. The goals of the ATP include, but are not limited to, increasing the proportion of trips accomplished by walking and biking, increasing the safety and mobility of non-motorized users, advancing efforts of regional agencies to achieve greenhouse gas reduction goals, enhancing public health, and providing a broad spectrum of projects to benefit many types of users, including disadvantaged communities. SB 1 directs $100 million annually to the ATP, with more than 400 of the funded projects being Safe Routes to School projects and programs that encourage a healthy and active lifestyle throughout students' lives.

Caltrans Sustainable Transportation Planning Grants

The Sustainable Transportation Planning Grants include two parts: Sustainable Communities Grants and Strategic Partnerships Grants. The Sustainable Communities Grants have $29.5 million set aside to encourage local and regional planning goals and best practices cited in the Regional Transportation Plan Guidelines. The Strategic Partnerships Grants set aside $4.5 million to identify and address statewide, interregional, or regional transportation deficiencies on the state highway system in partnership with Caltrans. These grants were released for Fiscal Year 2020-21 and applications were due October 17, 2019. Grant award announcements were made in June 2020. There is the possibility of another grant on the horizon, but Caltrans has not released any new information yet.

Safe Routes to School (SRTS) Funding

Safe Routes to School (SRTS) is a program promoting walking and bicycling to school through infrastructure improvements, tools, safety education, and incentives to encourage these modes of travel. Nationally, 10% to 14% of car trips during the morning rush hour are for school travel. SRTS can be implemented at the state, community, or local school district level. Competitive federal funding is available through the Fixing America's Surface Transportation Act (FAST Act). Depending on the existing infrastructure, SRTS may require that education, transportation, public safety, and city planning agencies coordinate their effort.

Transportation Development Act (TDA)

Article 3 TDA Article 3 is perhaps the most readily available source of local funding for bicycle projects. TDA funds are derived from a statewide quarter-cent retail sales tax. This tax is returned to the county of origin and distributed to the cities and county on a population basis. Under TDA Article 3, two percent of each entity's TDA allocation is set aside for pedestrian and bicycle projects; this generates approximately $3 million in the Bay Area annually. Eligible projects include the design and construction of walkways, bicycle paths and bicycle lanes, and safety education programs. According to MTC Resolution 875, these projects must be included in an adopted general plan or bicycle plan and must have been reviewed by County's bicycle advisory committee.

California Office of Traffic Safety (OTS) Grant Programs

OTS administers traffic safety grants in the following areas: alcohol impaired driving, distracted driving, drug-impaired driving, emergency medical services, motorcycle safety, occupant protection, pedestrian and bicycle safety, police traffic services, public relations, advertising, and roadway safety and traffic records.

California Cap-and-Trade Funding

The Global Warming Solutions Act of 2006 (AB 32) directed the California Air Resources Board (ARB) to institute programs to reduce greenhouse gas (GHG) emissions. The Cap-and-Trade Program, a key element of the ARB's plan to reduce emissions, funds several programs that support the goals of AB 32. Several of these programs relate to transportation and mode shift. The Affordable Housing and Sustainable Communities Program (AHSC), for one, provides funding to support active transportation and complete streets initiatives, among other project types.

California State Parks Recreational Trails Program (RTP)

The Recreational Trails Program (RTP) provides funds for recreational trails and trails-related projects, including Class I Bicycle Paths. The program is administered at the state level by the California Department of Parks and Recreation (DPR) and the Caltrans Active Transportation Program (ATP). The County would be responsible for obtaining a match amount that is at least 12% of the total project cost.

Transformative Climate Communities (TCC) Program

The TCC Program funds community-led development and infrastructure projects that strive to make major advances in environmental, health, and economic benefits in California's most disadvantages communities. Eligible improvements for this funding source include active transportation and public transit projects, transit ridership programs and passes for low-income riders, and encouraging education and planning activities to promote increased use of active modes of transportation.

Transportation for Livable Communities

MTC created the Transportation for Livable Communities (TLC) program in 1998. MTC uses this program to finance pedestrian, bicycle and streetscape improvements near public transit in cities around the Bay Area. The purpose of TLC is to support community-based transportation projects that bring new vibrancy to downtown areas, commercial cores, neighborhoods and transit corridors, making them places where people want to live, work and visit. Pedestrian- and transit-friendly developments are hallmarks of the program. The TLC program has been incorporated into the One Bay Area Grant (OBAG) program.

Signage at the entrance of Kennedy Grove Recreation Area along San Pablo Dam Road

Transportation Fund for Clean Air (TFCA)

TFCA is a grant program administered by the Bay Area Air Quality Management District (BAAQMD) and funded through a surcharge on motor vehicles registered in the Bay Area. The Air District offers funding to public agencies for trip reduction, bikeways and bicycle parking, and clean air vehicle projects. A subprogram of the TFCA is the Bikeways, Roads, Lanes and Paths program, which offers funding for bicycle parking and bikeway projects (Class I-IV). Funding will be offered on a first-come, first-served basis until the funds are spent. Bicycle projects may also be funded through the TFCA's County Program Manager Fund. Under this subprogram, 40% of TFCA revenues collected in each Bay Area county is returned to that county's congestion management agency (CMA) for allocation. Applications are made directly to the CMAs, but must also be approved by the BAAQMD.

One Bay Area Grants (OBAG)

Currently preparing for January 2022 adoption of its third funding round, OBAG uses federal STBG and CMAQ funds to maintain MTC's commitments to regional transportation priorities while also advancing the Bay Area's land-use and housing goals. Cities and counties can use these OBAG funds to invest in bicycle and pedestrian improvements, Safe Routes to School projects, TLC projects and planning for Priority Development Areas among other uses. MTC distributes OBAG funds to county Congestion Management Agencies in each Bay Area County. The CMAs are then responsible for selecting eligible projects within each county.

Bay Trail Grants

The San Francisco Bay Trail Project—a non-profit organization administered by the Association of Bay Area Governments—provides grants to plan, design, and construct segments of the Bay Trail. The amount, and even availability, of Bay Trail grants vary from year to year, depending on whether the Bay Trail Project has identified a source of funds for the program. As of 2016, the Bay Trail Project is not currently offering grants, but may in the future.

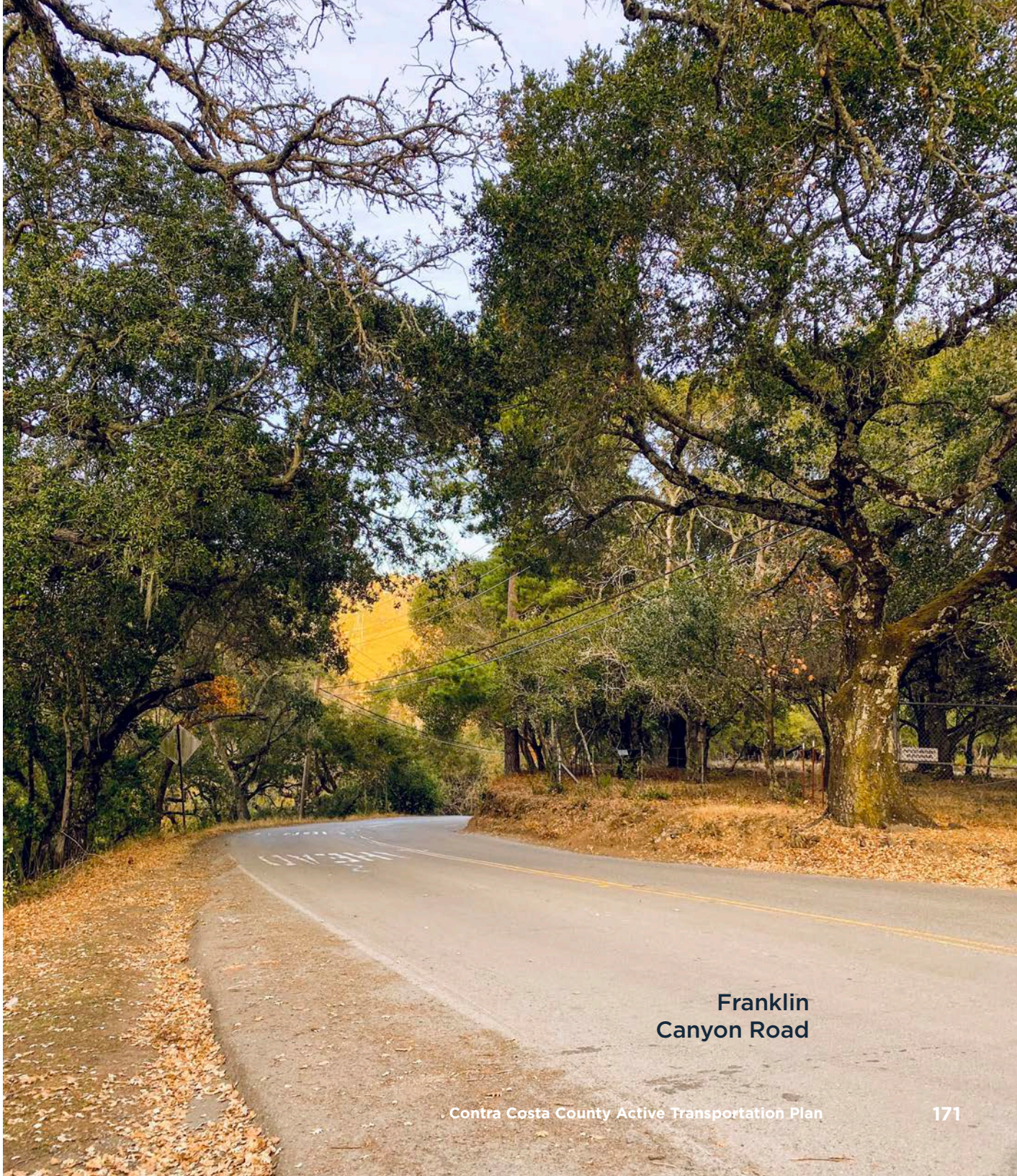
Measure J

In November 2004, Contra Costa voters approved Measure J, which extended Measure C (approved 1988), the county's half-percent sales tax for transportation, until 2034. The most explicit source of funding for pedestrian and bicycle projects is through Measure J's Pedestrian, Bicycle and Trail Facilities (PBTF) program, which funds projects identified in the CBPP. The Measure J Transportation for Livable Communities (TLC) program also supports mixed-use, walkable and transit-accessible development and projects that encourage walking and bicycling as its primary goals. The measure also encourages jurisdictions to fund bicycle and pedestrian facilities through other Measure J programs including their shares of the 18% return to-source funds. Measure J also requires local jurisdictions comply with the County's Growth Management Program (GMP), which is described below, to be eligible for funding through two of the measure's programs.

Measure J requires that local jurisdictions comply with CCTA's Growth Management Program (GMP) to be eligible for funding through two of the Measure's programs. Among the requirements of the GMP is that each jurisdiction "incorporate policies and standards into its development approval process that support transit, bicycle and pedestrian access in new developments." The Authority has been implementing the GMP since the adoption of Measure C in 1988. The GMP requires jurisdictions to work together to address regional and countywide transportation issues. CCTA works with RTPCs to implement a Regional Transportation Mitigation Program, which is built from the fees and impact programs adopted by individual RTPCs. CCTA requires jurisdictions to adopt standards for evaluating the impacts of new development on walking, bicycling and transit and also develops and maintains computer models and develops methodologies for analyzing the effects of land use changes and transportation improvements.

VMT Mitigation Fees

Robust and safe active transportation networks are necessary to increase walking and bicycling to existing destinations and new development. A VMT impact fee is an option to ensure new developments are paying their fair share for improvements needed to create these networks. This fee could be based on vehicle trip generation, trip length, and the share of new trips per land use type. This fee could provide a local source of funding and contribute to the local match required for various funding sources. For some projects, alternatives to reducing VMT may be limited, and a fee benefiting active transportation projects may be a viable option to offset VMT increases.



Franklin Canyon Road

APPENDIX C

COLLISION PROFILES

The CCC Vision Zero Plan includes a series of collision profiles to summarize the trends across the countywide High Injury Network. Profiles 6-11 pertain to bicycle and pedestrian collisions and are included in the following pages. Each collision profile includes a description of the profile, a map of the relevant collisions, and identification of applicable countermeasures for feasibility and implementation consideration.

PROFILE 6

Bicycle-Involved Collisions Along Rural Roadways Where Bicycle Facilities Do Not Exist

Recreational bicyclists commonly travel on rural roadways throughout the County, especially on weekends, and many of these roadways do not provide dedicated bicycle facilities. This profile highlights these rural roadways where 13 bicycle KSI collisions occurred, accounting for 45% of all bicycle KSI collisions. Installing dedicated bicycle facilities is the primary focus of the profile, which may include Class II bike lanes, or widened shoulders. Countermeasures to consider include bike signage, shoulder maintenance, and a need to implement traffic calming and speed reduction treatments along rural roadways.

Potential Countermeasures

Profile Statistics

10

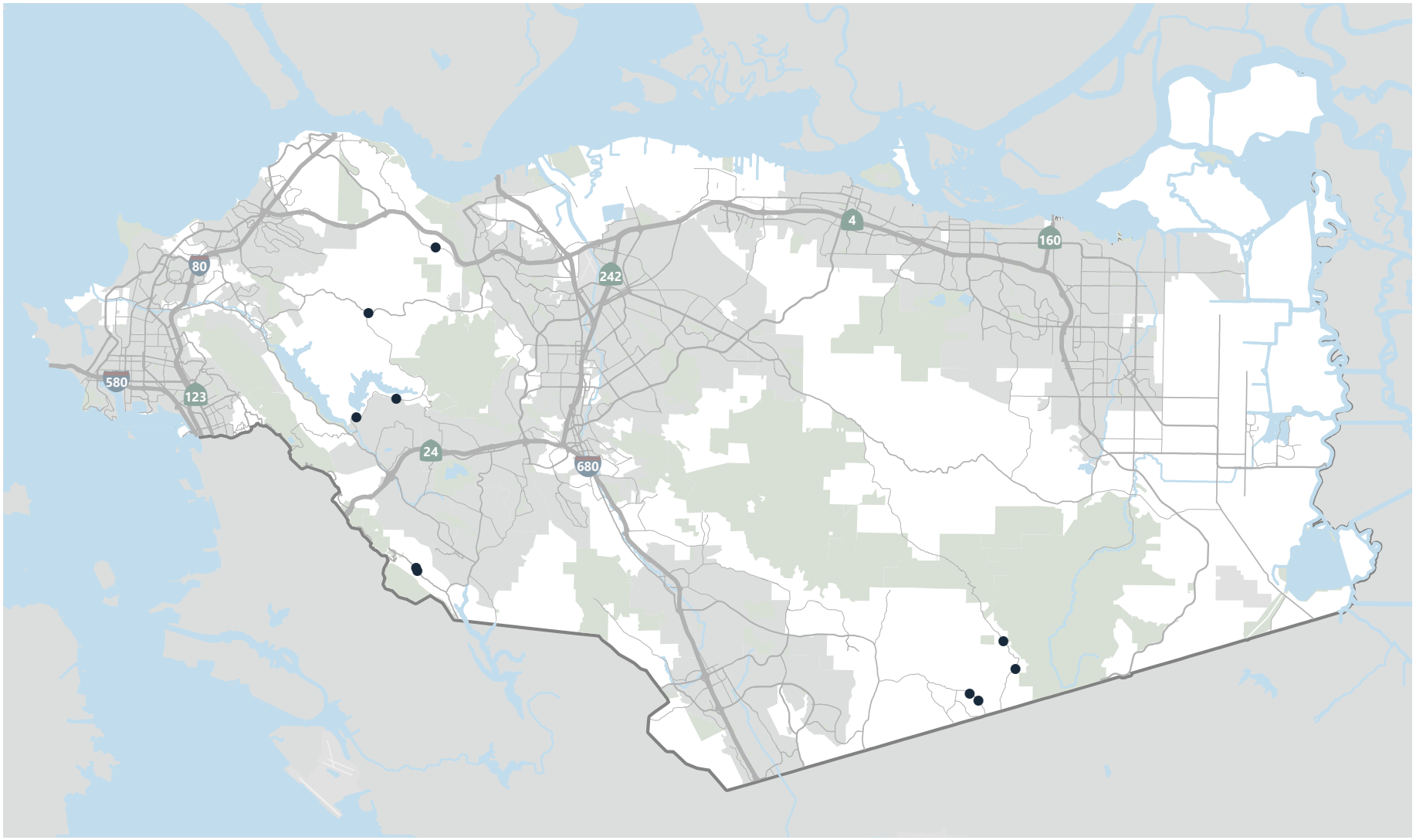
KSI COLLISIONS FIT THIS PROFILE

40%

SHARE OF BICYCLE KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 6, 2014-2018

• RURAL COLLISIONS

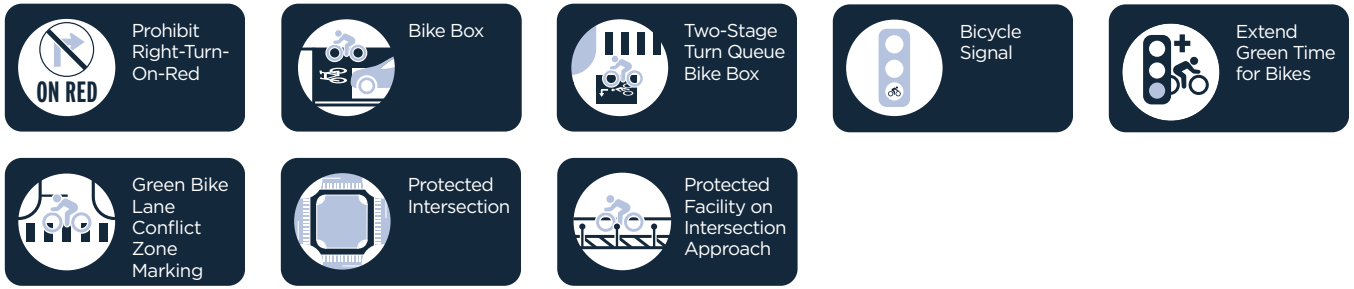


PROFILE 7

Bicycle-Involved Broadside Collisions at Urban Intersections

This profile focuses on bicycle-involved broadside collisions at urban intersections. All four KSI collisions occurred where Class II bike facilities are present, and resulted from conflicts between bicyclists and turning traffic. This profile suggests countermeasures such as extending green time for bicyclists, striping green conflict zone markings, and installing bike boxes.

Potential Countermeasures



Profile Statistics

4

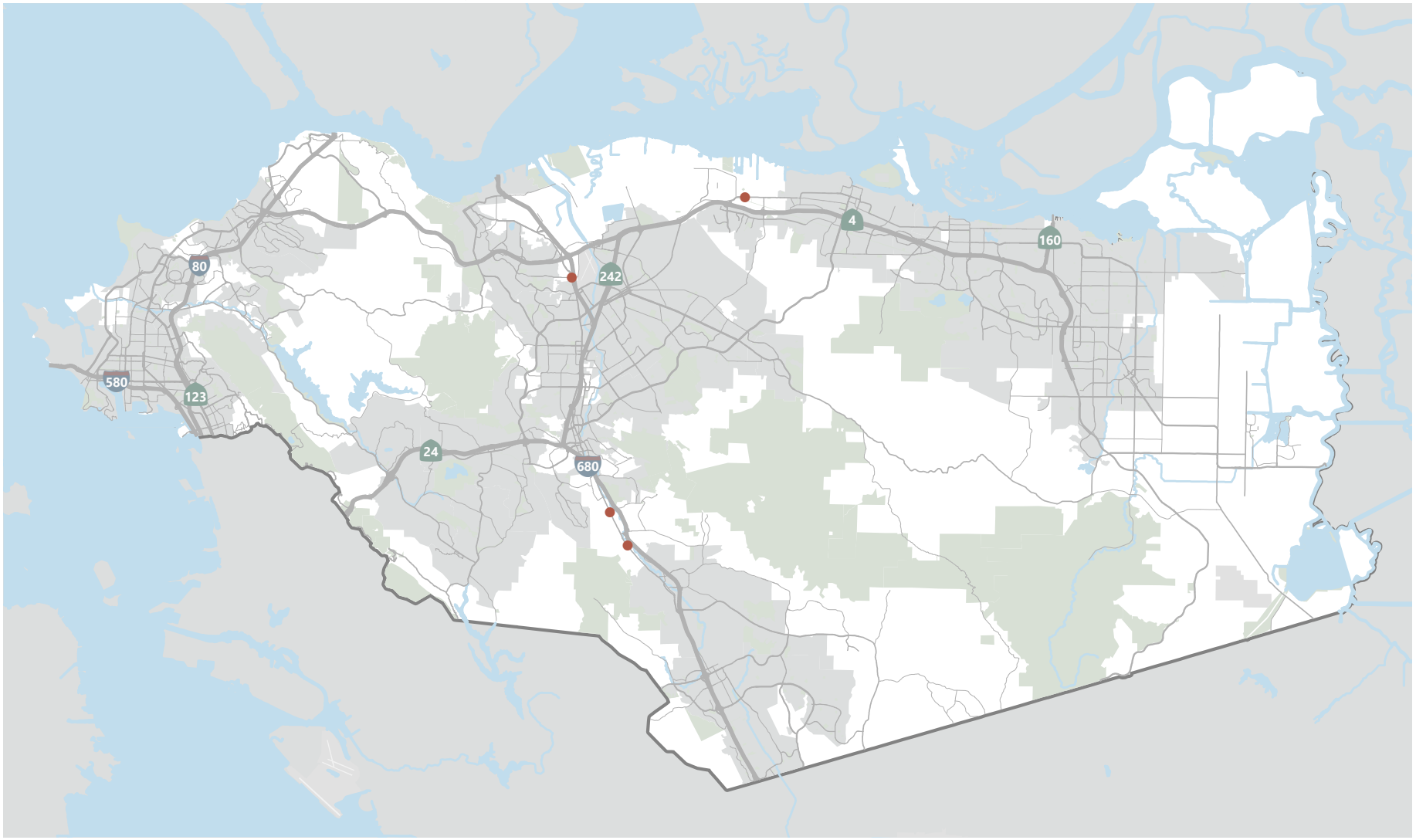
KSI COLLISIONS FIT THIS PROFILE

16%

SHARE OF BICYCLE KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 7, 2014-2018

• URBAN COLLISIONS



PROFILE 8

Pedestrian-Involved Collisions on Rural Roads Where No Sidewalk or Marked Crosswalks are Present

On rural roads where no sidewalk or marked crosswalks are present, pedestrians must walk along the roadway and cross when they see a gap in oncoming traffic. Four rural KSI collisions fit this profile, which comprises all of the rural pedestrian KSI collisions in unincorporated Contra Costa County. Three collisions occurred at night. Recommendations for this profile include an evaluation to assess why pedestrians are walking along these roadways, where they are going, and how to increase the visibility of pedestrians. Countermeasures to consider include installing pedestrian paths (which may include shoulder widening along with installing delineator posts, bollards, or landscaping for physical protection), installing enhanced crosswalks, and pedestrian-scale lighting.

Potential Countermeasures

Profile Statistics

4

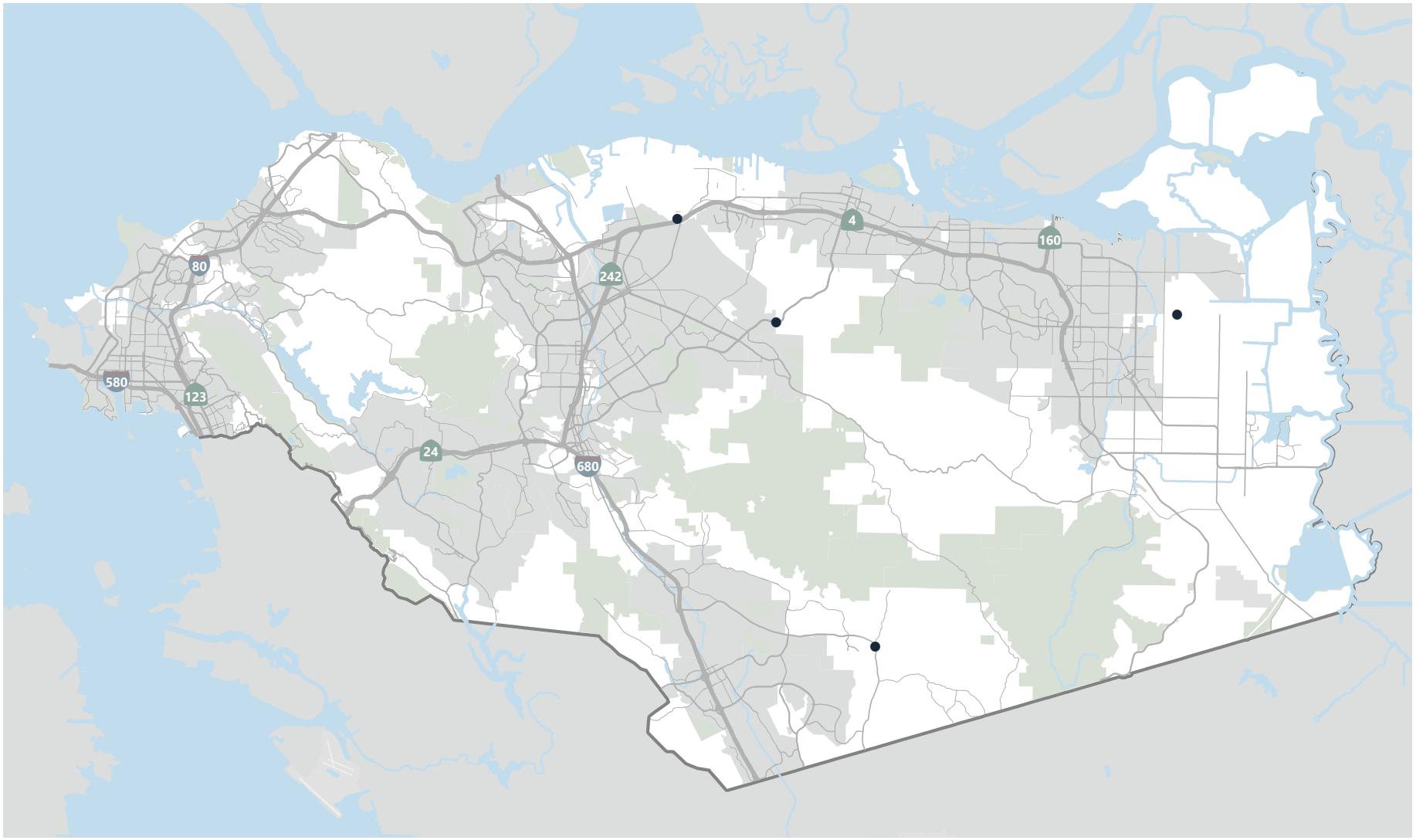
KSI COLLISIONS FIT THIS PROFILE

12%

SHARE OF PEDESTRIAN KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 8, 2014-2018

• RURAL COLLISIONS



PROFILE 9

Pedestrians Crossing Urban Roadways Midblock Outside Marked Crosswalks

This profile focuses on pedestrian midblock crossings on urban roadways outside of marked crosswalks. Six out of eight KSI collisions that fit this profile occurred at night. Many factors may contribute to these collisions including a need for enhanced crossings at key desire lines or removing sight-line obstructions. Potential countermeasures to consider are installing pedestrian paths, installing raised pedestrian crossings, installing high-visibility crosswalks, installing an RRFB or a PHB, and installing pedestrian scale lighting and signage.

Potential Countermeasures

Profile Statistics

8

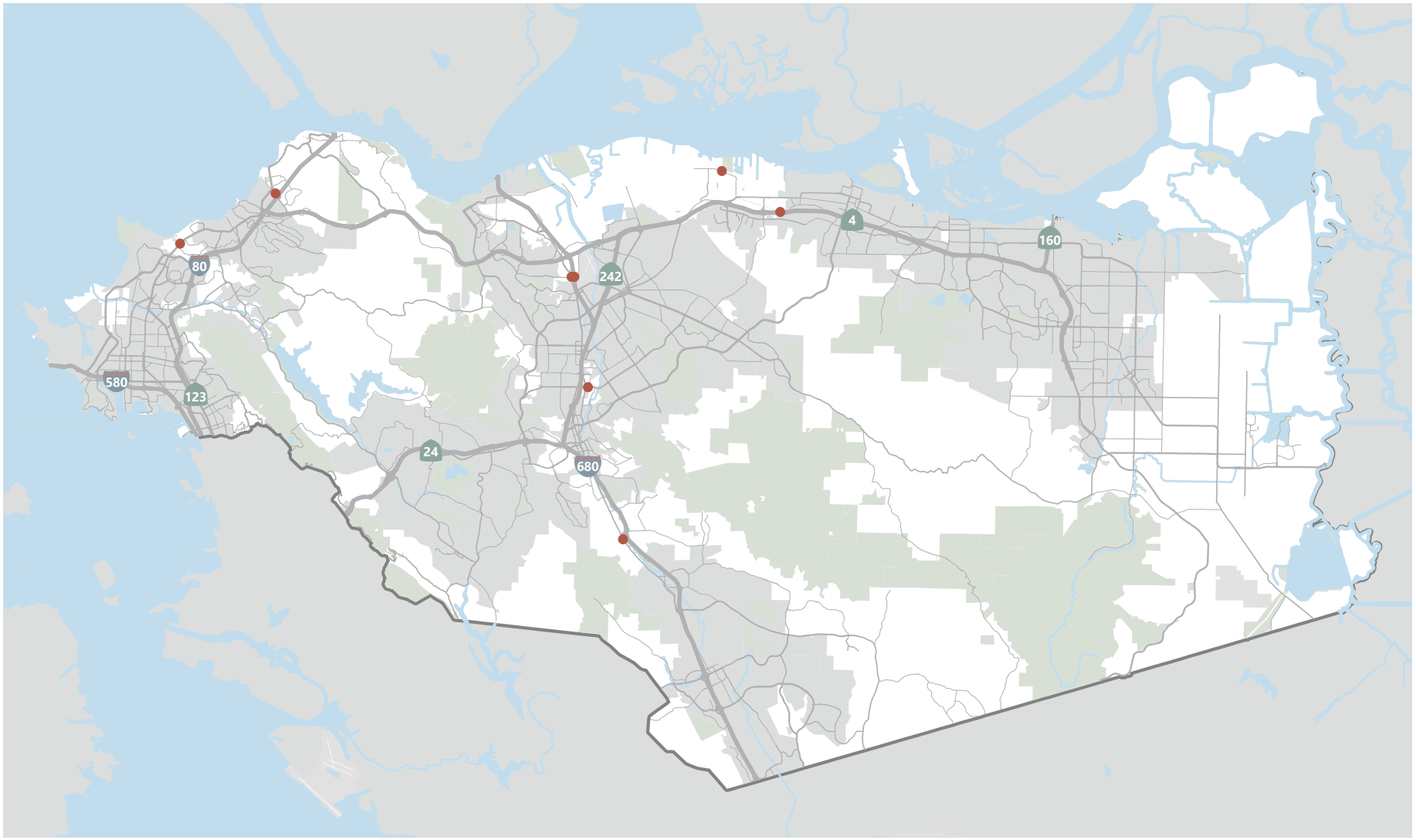
KSI COLLISIONS FIT THIS PROFILE

24%

SHARE OF PEDESTRIAN KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 9, 2014-2018

• URBAN COLLISIONS

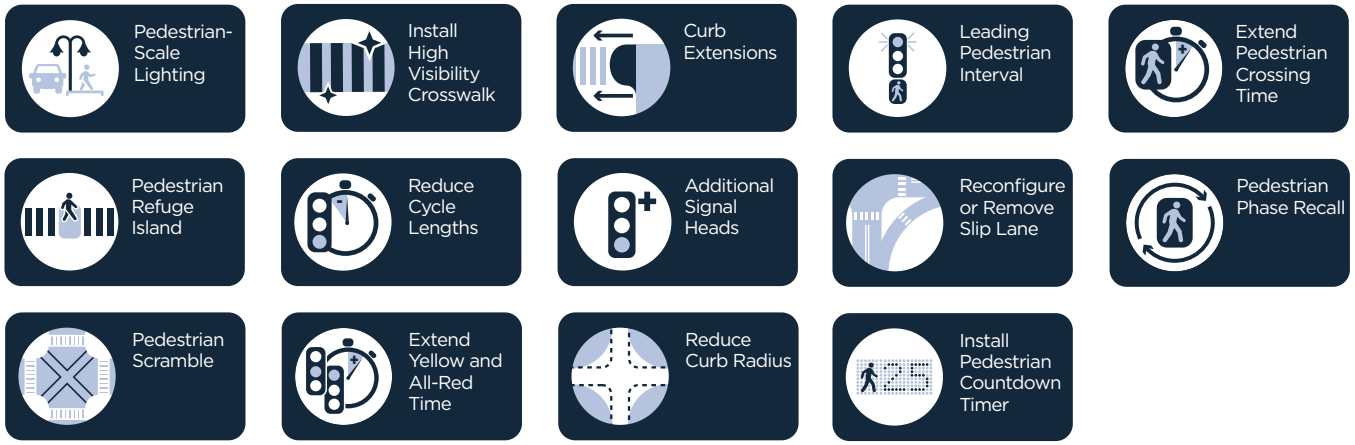


PROFILE 10

Pedestrian-Involved Collisions at Signalized Urban Intersections

Pedestrian-involved collisions at signalized urban intersections make up 12% of pedestrian KSI collisions on Contra Costa County roads. All of these collisions occurred at night. Suggested countermeasures for this profile include separating roadway users, addressing channelized rights, addressing dual turning movements, improving pedestrian visibility, and reducing exposure by installing crosswalks where absent, installing leading pedestrian intervals, installing curb extensions, and extending pedestrian crossing times.

Potential Countermeasures



Profile Statistics

4

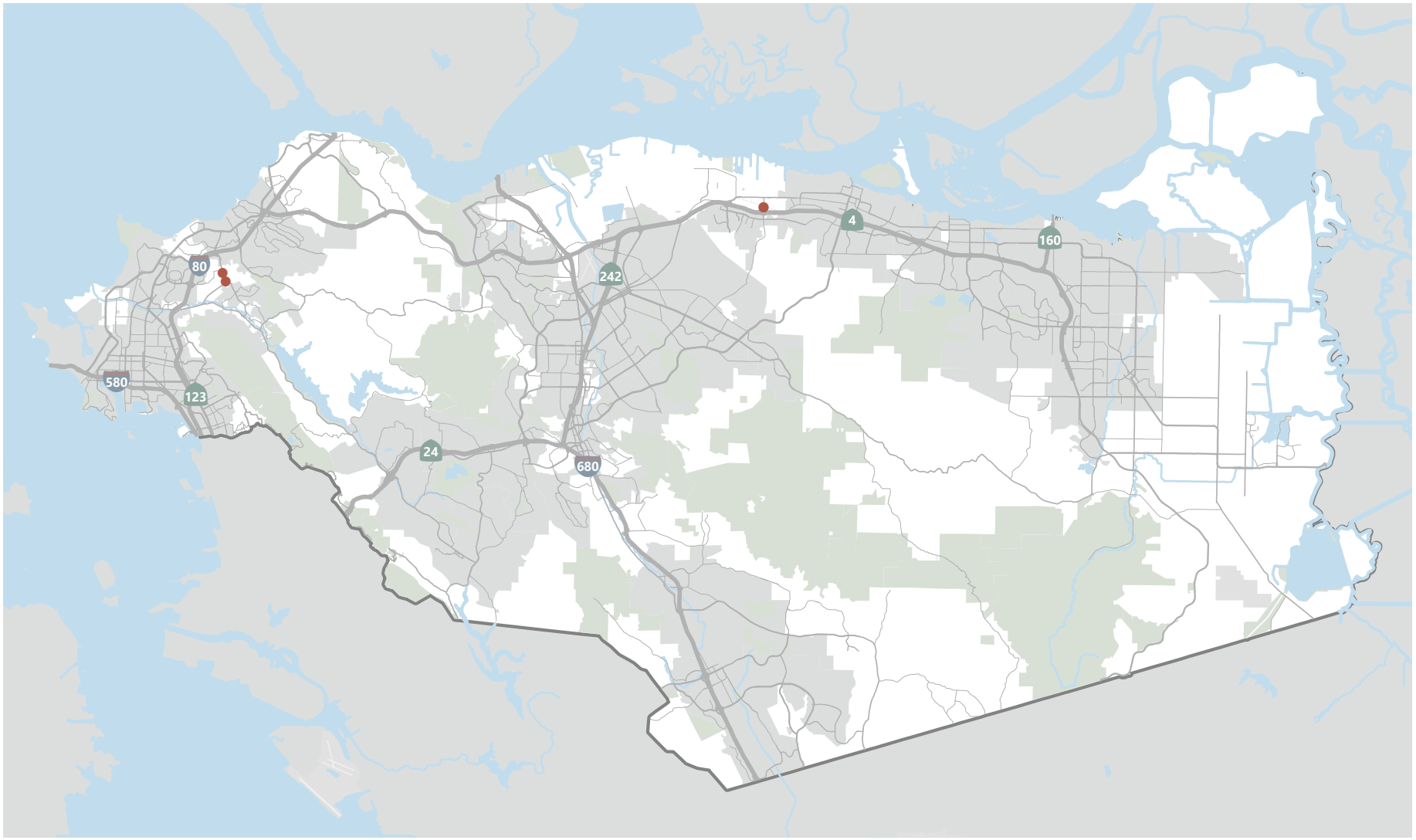
KSI COLLISIONS FIT THIS PROFILE

12%

SHARE OF PEDESTRIAN KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 10, 2014-2018

• URBAN COLLISIONS

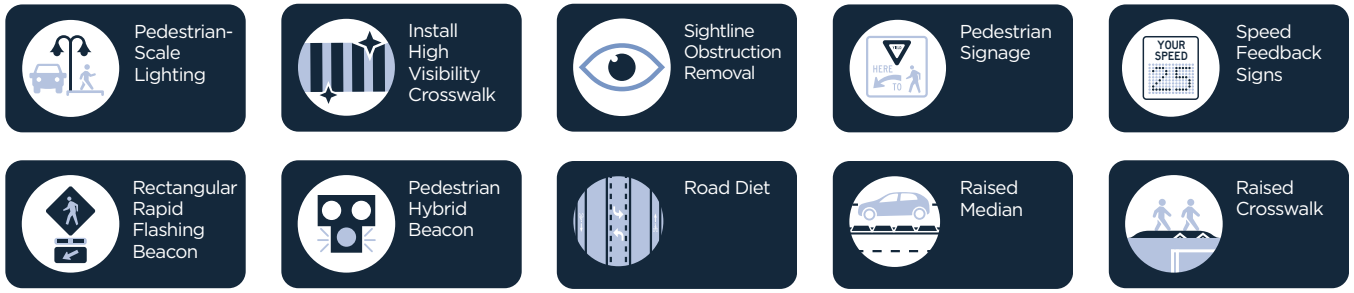


PROFILE 11

Pedestrian-Involved Collisions at Unsignalized Urban Intersections

Pedestrian-involved collisions at unsignalized urban intersections with crosswalks make up 18% of pedestrian KSI collisions on Contra Costa County roads. Five out of six of these collisions occurred at night. This profile suggests an evaluation of crossing improvements to improve pedestrian visibility and driver compliance including striping high-visibility crosswalks, installing medians, installing raised crosswalks, a road diet, and installing pedestrian-scale lighting.

Potential Countermeasures



Profile Statistics

6

KSI COLLISIONS FIT THIS PROFILE

18%

SHARE OF PEDESTRIAN KSI CRASHES

KSI COLLISIONS ASSOCIATED WITH PROFILE 11, 2014-2018

• URBAN COLLISIONS