RICHMOND PARKWAY
Transportation Plan

Study funded by Caltrans Sustainable Communities Grant

FINAL DRAFT PLAN
DECEMBER 2024

Caltrans

WCCTC WEST CONTRA COSTA TRANSPORTATION COMMISSION

ACKNOWLEDGEMENTS

Study funded by Caltrans Sustainable Communities Grant #74A1366

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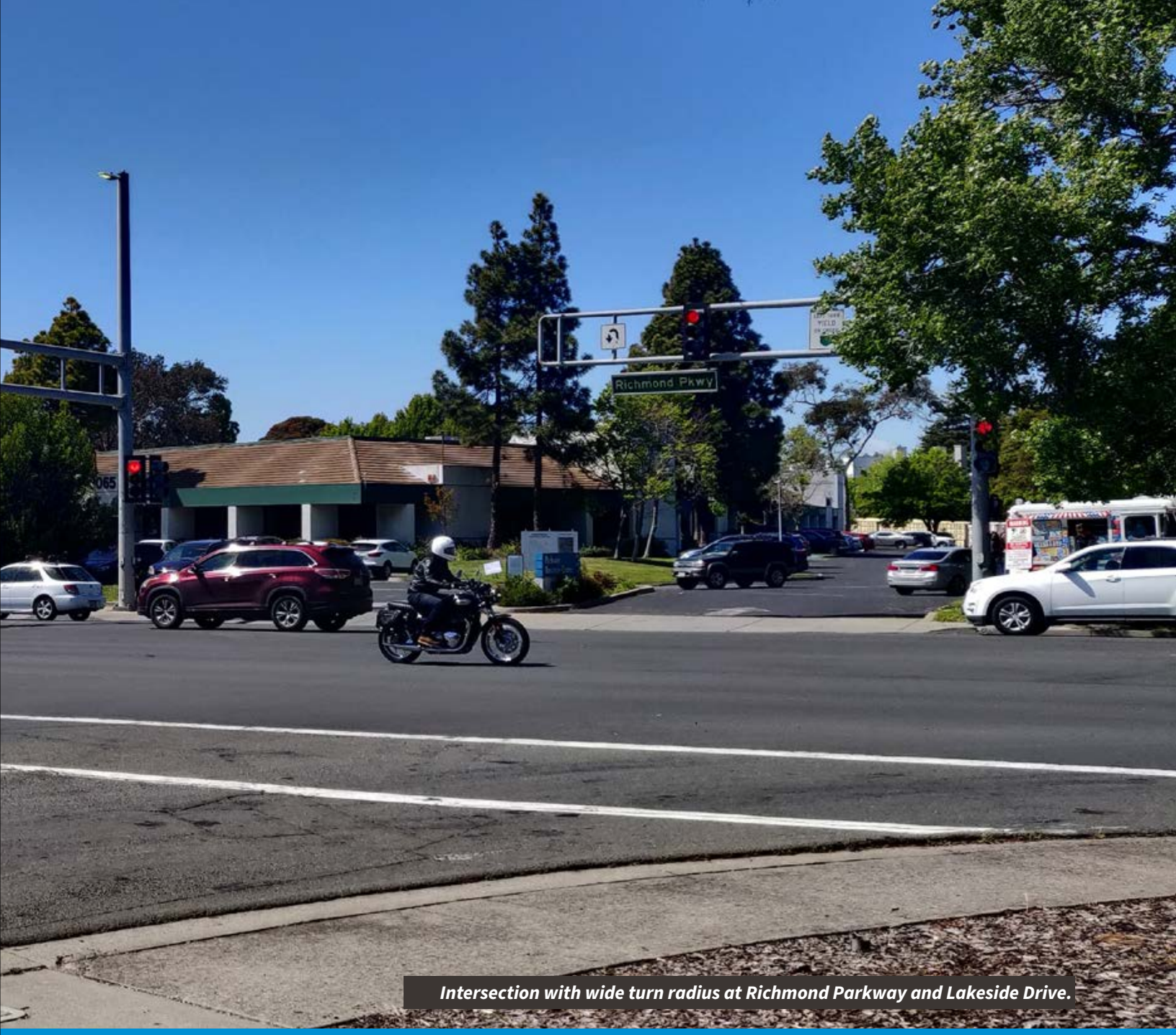


Intersection with wide turn radius at Richmond Parkway and Lakeside Drive.

CHAPTER 1

Introduction

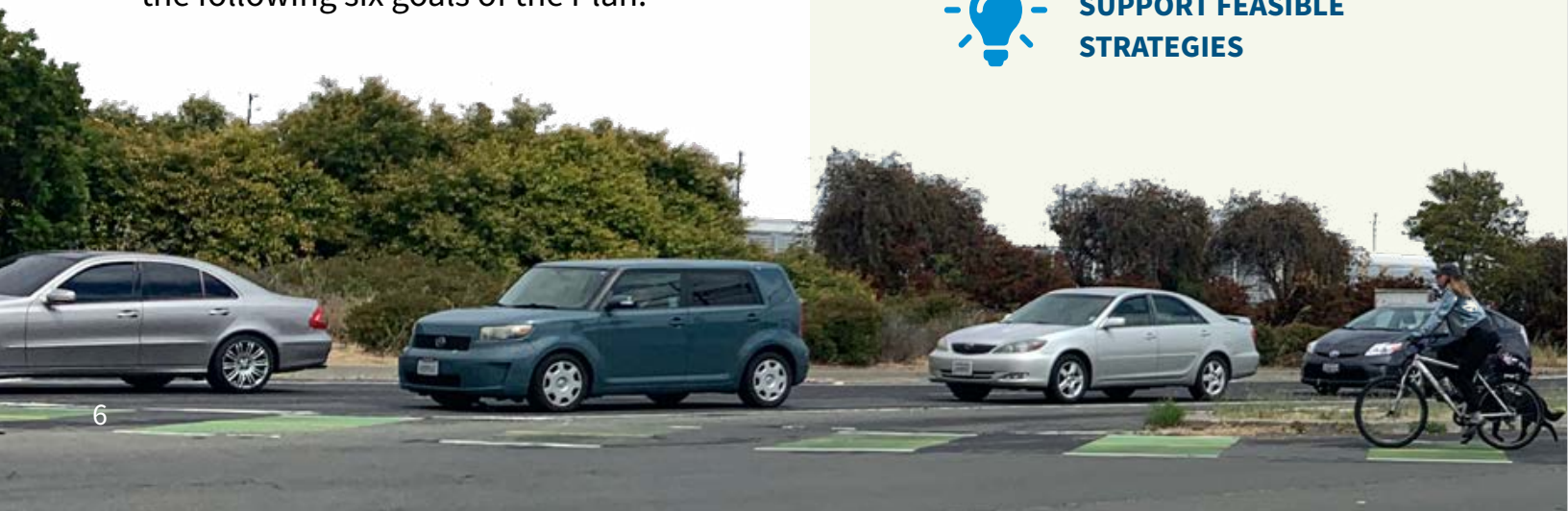
ABOUT THIS PLAN

THE RICHMOND PARKWAY TRANSPORTATION PLAN ("PLAN") DEVELOPS A STRATEGIC VISION FOR THE FUTURE OF THIS MAJOR MULTI-JURISDICTIONAL ROADWAY BETWEEN I-580 AND I-80, EXTENDING TO FITZGERALD AVENUE.

The focus of the plan is a set of targeted strategies for WCCTC and partner agencies to advance in the next 10 years. The strategies were developed in close collaboration with project partners, technical advisors, and members of the public and are responsive to both the Plan-identified transportation needs (summarized in **Chapter 2**) and feedback received via public engagement (summarized in **Chapter 3**). The strategies (summarized in **Chapter 4**) are projects, programs, and policies that collectively aim to address the following six goals of the Plan:

Plan Goals

- **IMPROVE SAFETY FOR ALL USERS**
- **ADVANCE PLACEMAKING**
- **INCREASE ACCESS TO KEY DESTINATIONS**
- **ENHANCE TRAVEL TIME RELIABILITY AND EFFICIENCY**
- **IMPROVE HEALTH**
- **SUPPORT FEASIBLE STRATEGIES**



Of the full list of strategies, ten are considered priority strategies for WCCTC and partner agencies to implement. These priority strategies best align with the Plan goals and reflect engagement participant preferences. The priority strategies are described in **Chapter 5**, including the lead implementation agency, goals alignment, benefits, and graphics of the top strategies. **Chapter 6** introduces the implementation time frame and funding sources for the priority strategies.

Figure 1 shows the project timeline, which spanned nearly two years between March 2023 and January 2025.

Figure 1: Plan Timeline

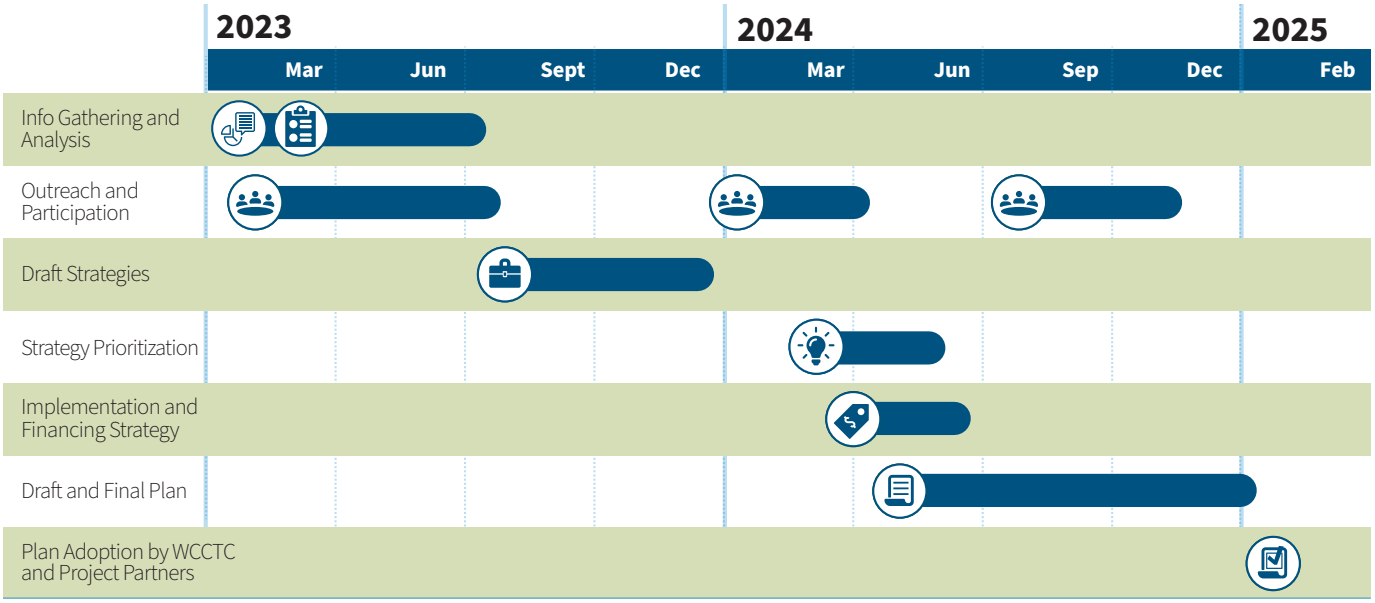


Photo: Bicyclists crossing the wide intersection at Richmond Parkway and W Ohio Avenue.

THE STUDY AREA

Richmond Parkway is a major road linking I-80 and I-580 and a primary route connecting to the the Richmond-San Rafael Bridge. The Parkway is located in both the City of Richmond and unincorporated Contra Costa County (North Richmond), as shown in **Figure 2**. Combined with Castro Street, a parallel roadway at the southern end of the corridor, the study corridor is approximately nine miles in length. At the northeastern end in the City of Pinole, Richmond Parkway becomes Fitzgerald Avenue.

It serves many functions of regional and local importance: a goods movement (truck and rail) corridor connecting to the Port of Richmond and local industrial uses, a regional commuter corridor, a critical segment of the San Francisco Bay Trail—a 500-mile long regional walking and biking path network looping around San Francisco Bay—and a connector to the Richmond Parkway Transit Center served by AC Transit and WestCAT.

Richmond Parkway and Castro Street travel through the City of Richmond and unincorporated Contra Costa County for

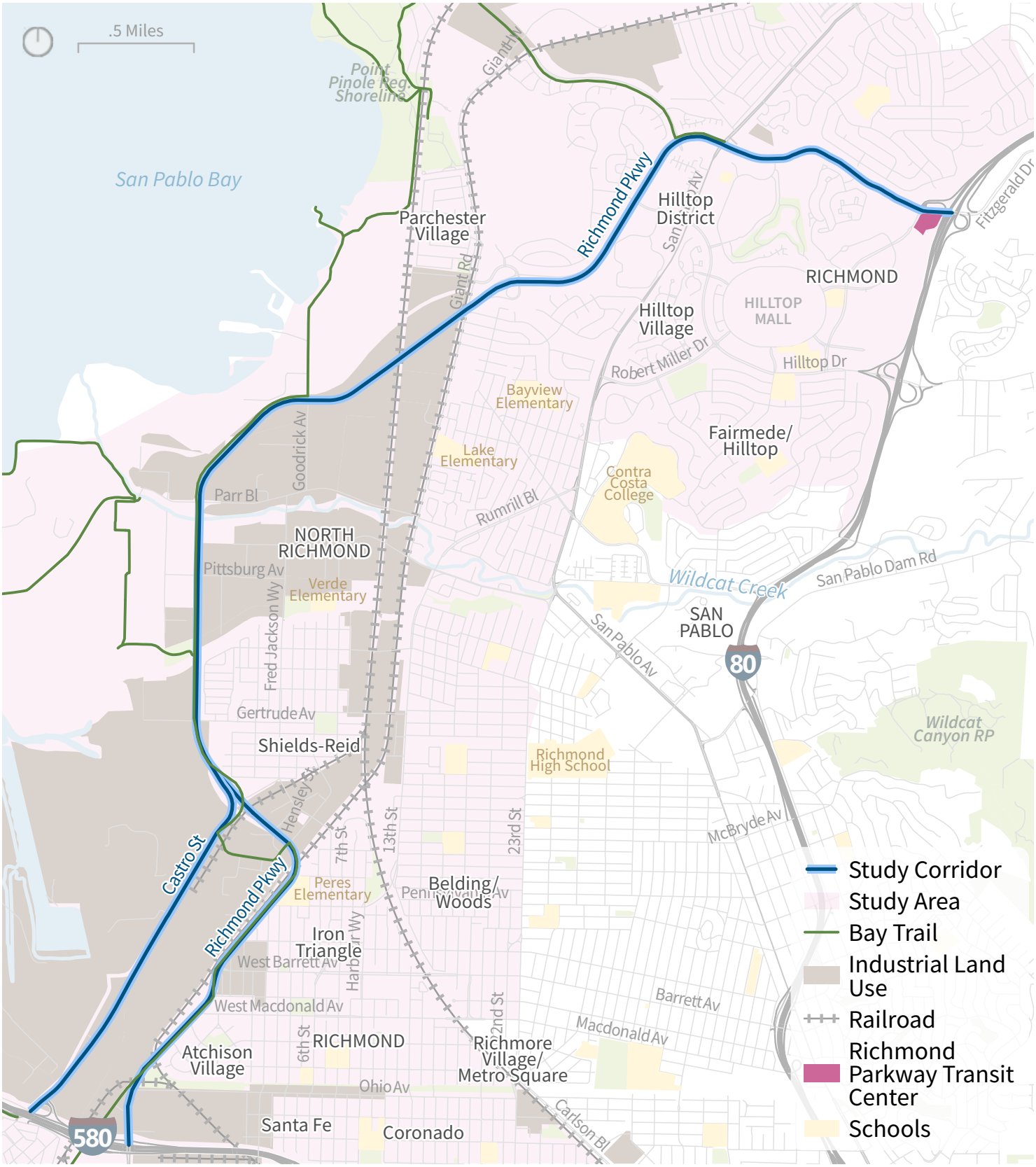
9 MILES.

A third of the corridor is adjacent to the Bay Trail.

Richmond Parkway intersects Wildcat Creek and is adjacent to several nearby schools and parks, including Point Pinole Regional Park. As shown in **Figure 3**, industrial land uses line most of the corridor, particularly along Castro Street and along the Parkway in North Richmond. The Parkway also serves residential areas in Atchison Village, Iron Triangle, North Richmond, and nearby Hilltop. As new industrial and residential growth continues along the Parkway, this Plan presents an opportunity to design for better corridor access and mobility before existing challenges are exacerbated.

Figure 2: Jurisdictions in Study Area

Figure 3: Map of Study Corridor



Source: Fehr & Peers (2023).

1. Community engagement at the North Richmond Earth Day Festival.

2. Cars traveling along the Parkway at RIchmond Parkway and San Pablo Ave.

3. Community engagement at the North Richmond Flea Market.

Signage along the Bay Trail at Richmond Parkway and Gertrude Avenue.

CHAPTER 2

Existing Conditions

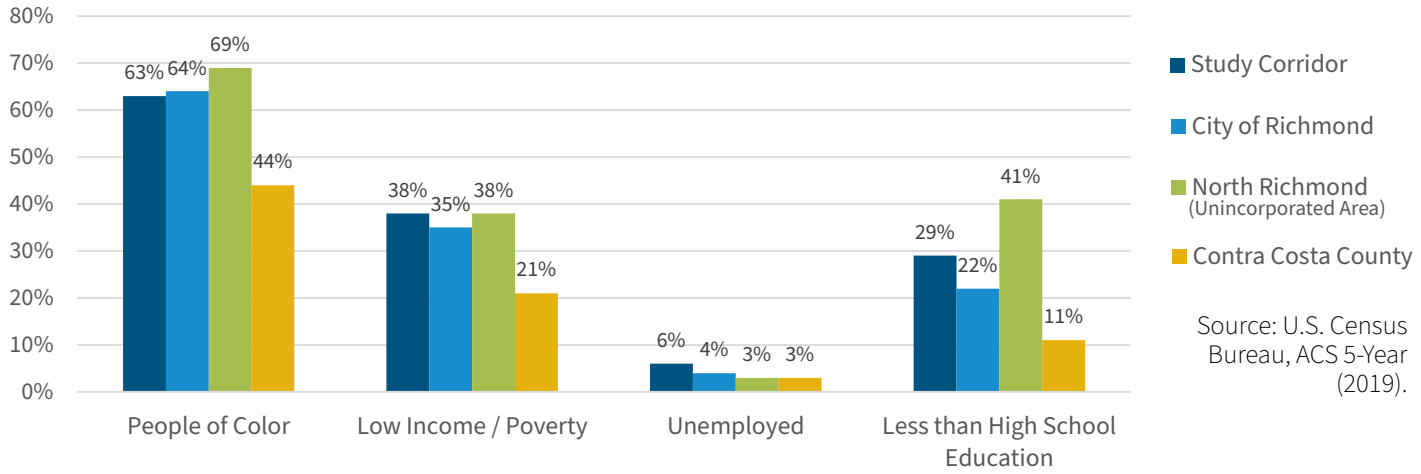
This chapter introduces how Richmond Parkway is used today and the wide range of existing challenges for all types of users. On average, 25,000 vehicles use the Parkway every day to reach local destinations, including as a connection between I-580 and I-80 and to the Richmond-San Rafael Bridge. Residents living near the corridor are largely Hispanic/Latino with lower incomes and are exposed to the large volumes of traffic, vehicle emissions, pollution, and noise. Despite the availability of the Bay Trail, many sections can feel uncomfortable for pedestrians and bicyclists, particularly when crossing the Parkway. Speeding is a major concern and is the most common collision factor.

CORRIDOR COMMUNITIES

Compared to the Contra Costa County population as a whole, residents living in the study area tend to have higher rates of unemployment and lower education attainment, as seen in **Figure 4**. The majority of residents living near the corridor are Hispanic/Latino, 16% have limited English proficiency, and nearly 38% are below the federal poverty level (US Census, ACS 5-Year Estimates, 2019).

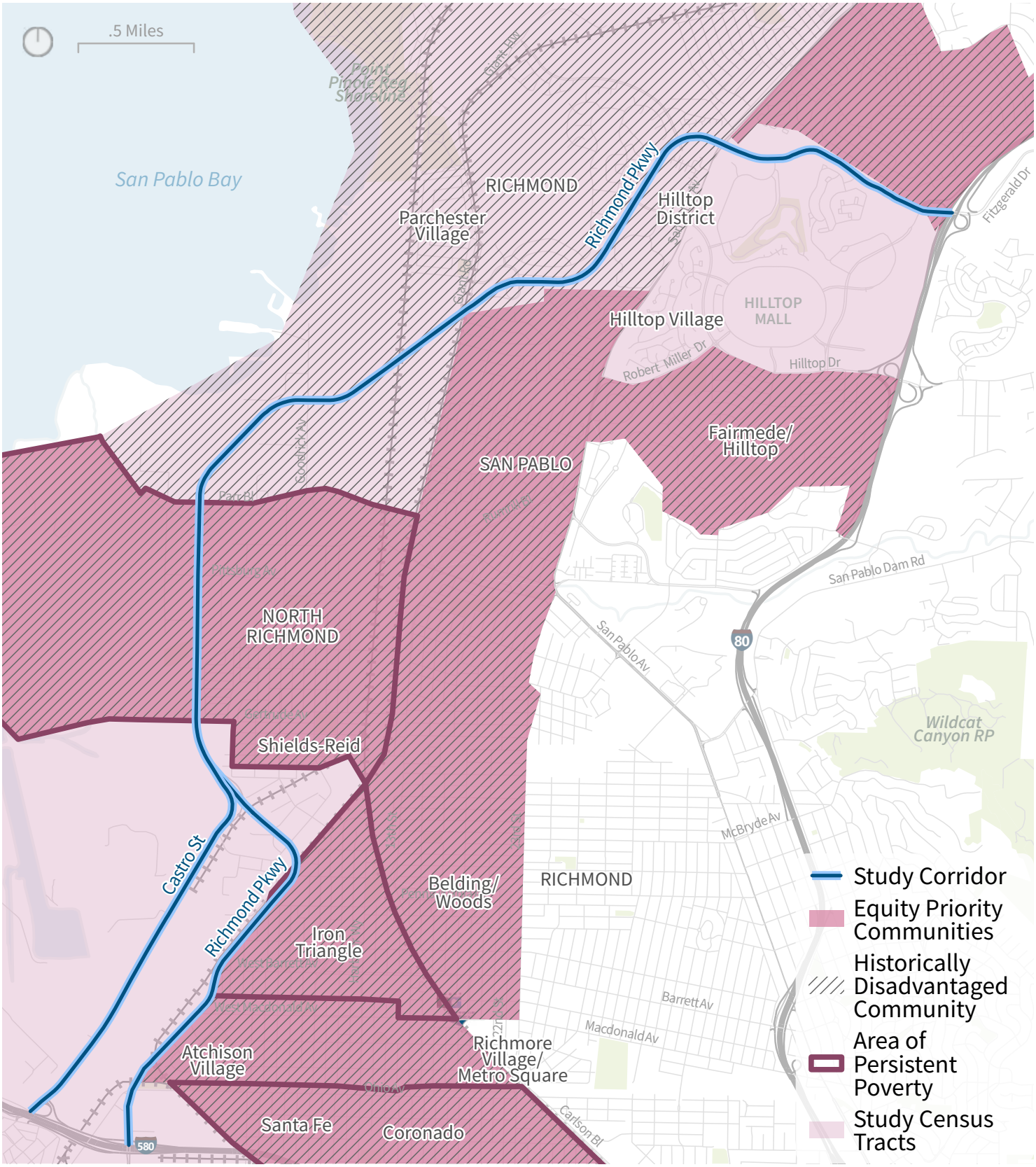
Overall, these groups have less access to opportunities and are at greater risk of displacement (ESA, 2023; Urban Displacement Project, 2015). Given that people living near the study corridor reflect demographics of historically underserved populations, most census tracts within the study area fall within regionally or federally-defined equity priority areas, including MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and USDOT Areas of Persistent Poverty (**Figure 5**). Chapter 3 presents outreach methods for engaging historically marginalized populations during the planning process.

Figure 4: Corridor Population Characteristics



Source: U.S. Census Bureau, ACS 5-Year (2019).

Figure 5: Map of Equity Priority Areas in Study Area



Source: Fehr & Peers (2023); MTC (2018), USDOT (2021).

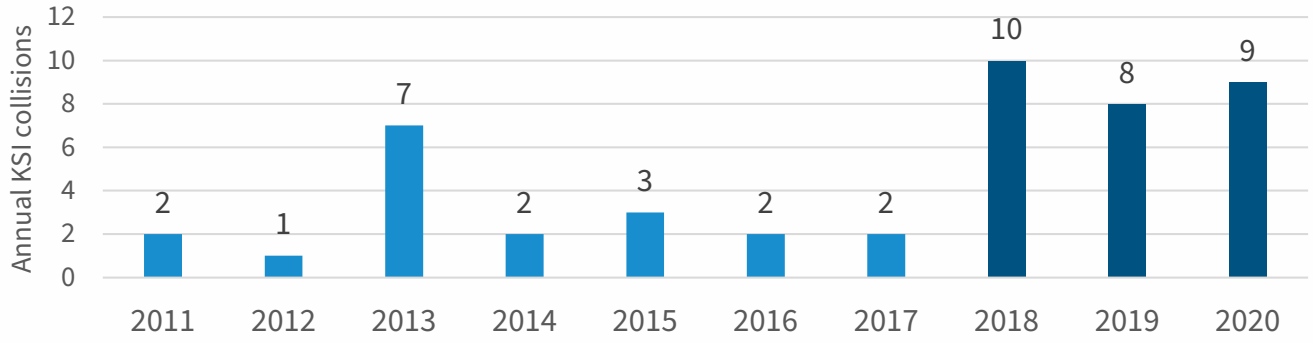
SAFETY FOR ALL ROAD USERS

Collisions on the Parkway

From 2011 to 2020, there were 322 traffic collisions on the corridor that resulted in injury, including 46 Killed and Severe Injury (KSI) collisions. Of these KSI collisions, 21 resulted in a severe injury and 25 resulted in a fatality (Transportation Injury Mapping System (TIMS), 2011-2020). This is an average of 4-5 KSI collisions per year, and collisions are increasing—between 2011 and 2017, there was an average of 3 KSI collisions per year, however, the average jumped to 9 between 2018 and 2020 (**Figure 6**).

There were increases in KSI collisions involving unsafe speeds, traffic signal and sign violations, driving under the influence, and driver violations of the pedestrian right-of-way. Concentrations of collisions occur in areas along the corridor that have higher intersection density, near railroad crossings, and at major arterials where there is more interaction between vehicles and Bay Trail users. Considering these locations for redesign can reduce collisions and are considered in Strategies (**Chapter 4**).

Figure 6: KSI Collisions by Year, 2011-2020



Source: TIMS, 2011 – 2020

Photo: Students crossing the Richmond Parkway and Lakeside Drive intersection next to Make Waves Academy.

Unsafe Speeds

Unsafe speed is the most common primary collision factor making up 45% of all injury collisions and 28% of KSI collisions. The next most common factors in KSI collisions are failure to obey traffic signals and signs (15%) and driver violations of the pedestrian right-of-way (15%).

Although the posted speed limit on the Parkway is typically 45 miles per hour (mph), most of the corridor sees off-peak 85th percentile speeds over 50 miles per hour as shown in **Figure 7** (Wejo, 2019). The maximum observed speeds during this period rise to nearly 100 mph along the elevated segment of the Parkway between North Richmond and Hilltop.

Nighttime Collisions

While only 32% of all injury collisions occurred at night, 52% of all KSI collisions and 75% of pedestrian KSI collisions occurred in dark conditions. Although existing street lights were reported at most of these KSI collision locations, reducing unsafe speeds and improving pedestrian-scale lighting and crosswalk striping could address these types of collisions.

Bicyclists and Pedestrians

KSI collision locations are shown in **Figure 8**. Although bicycle and pedestrian collisions represent only 6% of all injury collisions, they make up 20% of all KSI collisions and 24% of fatal collisions, highlighting the safety disparity for more vulnerable bicyclists and pedestrians along the corridor. Studies show that for vulnerable users, collisions have a higher likelihood of serious injury or death, particularly at high speeds.

45%

of collisions on the Parkway are caused by unsafe speed.

24%

of fatal collisions on the Parkway involved a bicyclist or a pedestrian compared to only 6% of all injury collisions.

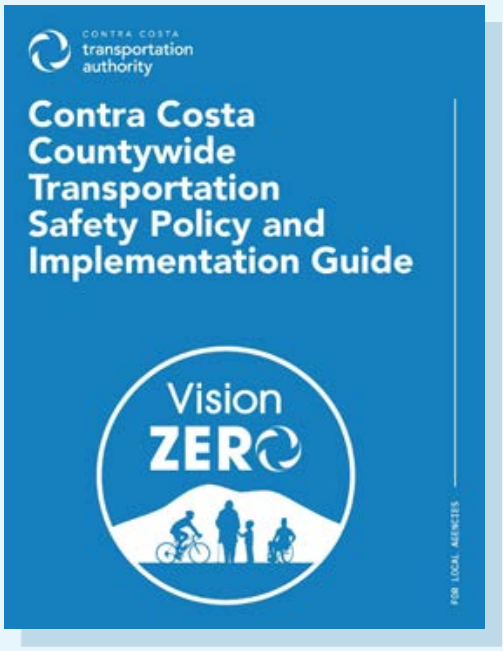
Photo: Vehicles on Richmond Parkway crossing San Pablo Avenue.

Figure 7: Map of 85th Percentile 7PM-6AM Weekday Speeds

Source: Wejo (2019).

Figure 8: Map of KSI Collisions

Source: TIMS (2011 – 2020).

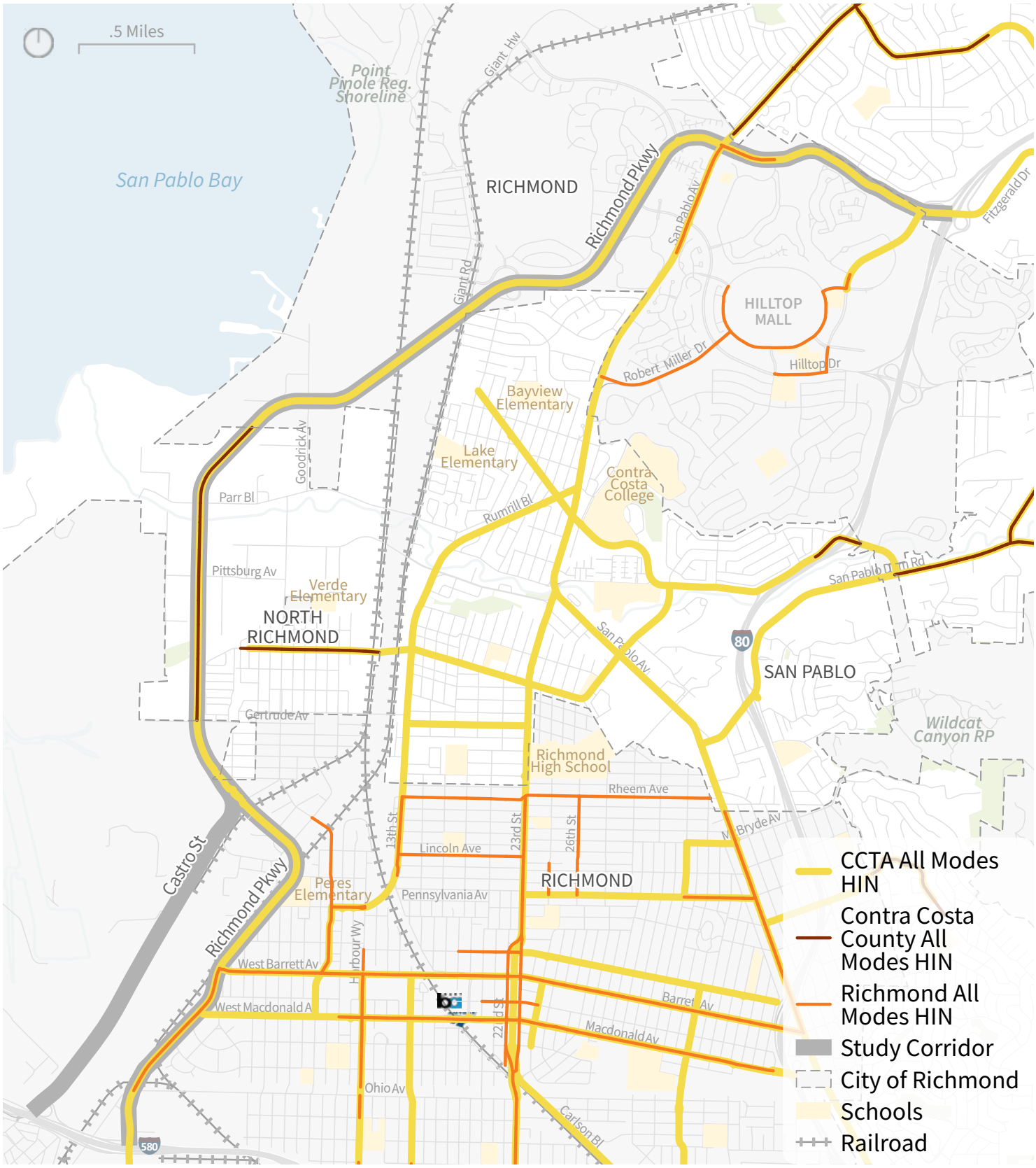


Previous Safety Studies

The Contra Costa Transportation Authority (CCTA) Contra Costa Countywide Transportation Safety Policy and Implementation Guide (2021), Contra Costa County Vision Zero (2022), and City of Richmond Local Roadway Safety Plan (2022) have all identified Richmond Parkway as a corridor on the High-Injury Network (HIN).

This means that Richmond Parkway sees higher concentrations of KSI collisions as compared to other areas of Richmond and Contra Costa County. However, Castro Street is not included on the HIN. **Figure 9** maps the HIN of each agency.

Figure 9: Map of High Injury Networks



Source: Contra Costa Transportation Authority (2021); Contra Costa County (2022); City of Richmond (2022).

BIKING AND WALKING

Poor pavement quality, gaps, proximity to fast-moving traffic, long infrequent pedestrian crossings, and lack of shade, lighting, signage, and vegetation buffers make Richmond Parkway unwelcoming to walk or bike on today. There is a range of opportunities to improve the comfort of people using the Bay Trail, bikeways, sidewalks, and crossings.

The Bay Trail

The Bay Trail is a critical regional path that generally traverses the Parkway's west side from the southern end to Goodrick Avenue in North Richmond. The Bay Trail is on the east side of the corridor between Hensley Street and Gertrude Avenue, and the City of Richmond has proposed to realign this section to the west side for better connectivity. While the Bay Trail connects users to destinations like Point Pinole, Point Richmond, and beyond, there are few crossing locations and they lack basic safety enhancements. Many parts of the Bay Trail along the study corridor are in need of repair, with cracked and uneven pavement and overgrown landscaping. Regular maintenance to remove trash and vegetative overgrowth to improve user experience is needed. The Bay Trail also has limited lighting, wayfinding signage, and shade, and a narrow or nonexistent buffer from fast-moving traffic on the Parkway. The Bay Trail also connects to Wildcat Creek Trail, which crosses beneath the Parkway and floods several times throughout the year.

Biking and Walking Experience along the Parkway

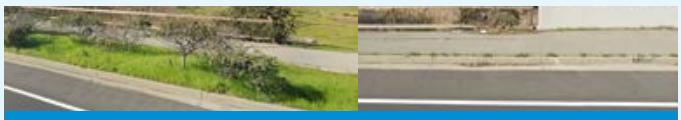
Poor Bay Trail pavement quality

Limited shade in hot conditions

Lack of trail lighting

No signage indicating shared-use path

Trail gaps force people onto high-stress routes like Hensley Street

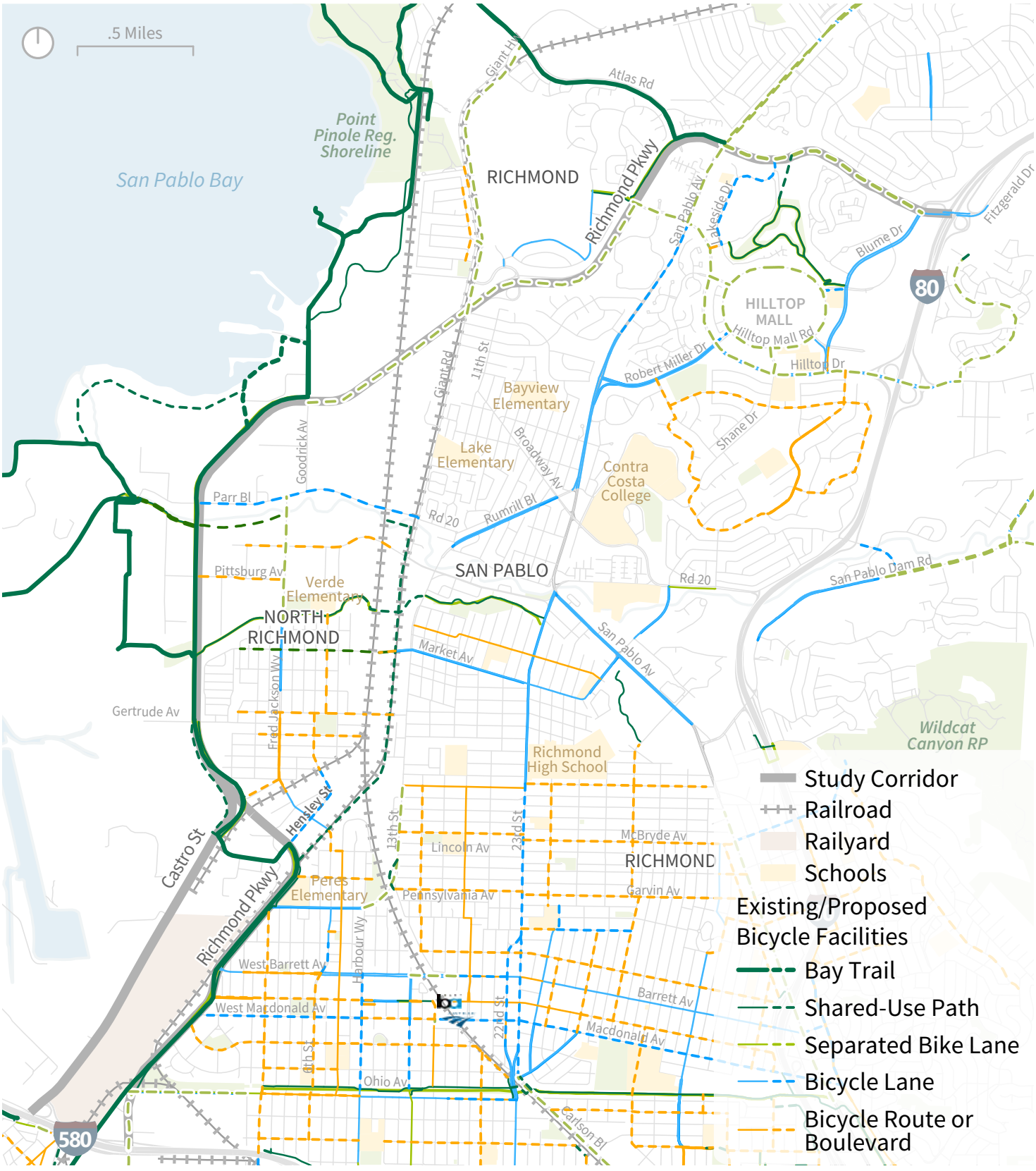


Inconsistent buffer between bike trail and roadway

Small buffer between sidewalk and fast traffic

Missing sidewalks near more active land uses

Figure 10: Map of Existing and Proposed Bikeways



Source: Fehr & Peers (2023); Richmond BPAP (2023); Contra Costa County ATP (2022); CCTA Countywide Bicycle and Pedestrian Plan (2018)

Closing the Gaps

There are also several gaps in the bikeway and walkway infrastructure on the corridor. **Figure 10** (previous page) identifies the existing and proposed bikeways. There are currently about three miles of bikeway gaps along the Parkway where there are no plans for the Bay Trail and no bicycle facilities exist. Though there are no active fronting land uses consistently across the corridor, there are 2.6 miles of sidewalk gaps on the west side of the corridor and 3.4 miles on the east side.

3

miles of new bikeways are needed.

67%

of intersections along the Parkway are missing pedestrian countdown signals.

Safety at Intersections

Most intersections are large in size with curb radii that enable turns at high speeds and make for long pedestrian and bicycle crossing distances.

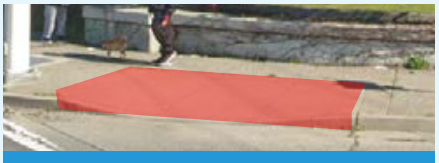
About 70% of the signalized intersections do not have bicycle detection and 65% are missing pedestrian countdown timers, leaving pedestrians unsure of how much time is left to safely cross the street. Both bicycle detection and pedestrian countdown timers are state requirements per the California Manual on Uniform Traffic Control Devices (MUTCD).

These gaps in pedestrian and bikeway infrastructure along the corridor are critical to address given safety and speeding concerns along the corridor.

Example Safety Improvement Needs

Bent crosswalks

Corner sight distance issues



ADA non-compliant ramps

Outdated push buttons

Faded markings

High vehicle turn speeds

DRIVING AND GOODS MOVEMENT

Richmond Parkway is a major road linking I-80 and I-580 and serves industrial truck traffic, regional commuters, and local trips. The Parkway carries between 19,000 and 37,000 vehicles every weekday, 7% of which are trucks. Truck volumes are highest along the southern section of Richmond Parkway and Castro Street, ranging between 5%-13% of total daily vehicle volumes. Truck volumes on San Pablo Avenue in Contra Costa County, a comparable arterial, range only between 2%-3% of total daily volumes (Caltrans, 2022). Many of these vehicle and truck trips serve regional destinations along the corridor, such as the Contra Costa Landfill, UPS and Amazon distribution centers, Whole Foods Market Food Distribution Center, and the Chevron Refinery.

Speeds and Signals

Along most of the corridor, signals are not coordinated. This negatively impacts air quality and does not optimize vehicle flow. Slowdowns are worst in the northbound direction in the afternoon commute period with average speeds around 30 mph as shown in **Figure 11** (Wejo, 2019). The slowest segment is north of the Castro Street and Richmond Parkway merge where speeds are less than 25 mph for nearly a mile. To keep traffic moving, green times along the Parkway can be 30 seconds longer compared to other signals in Richmond, which results in more delay for all users entering or crossing the Parkway. Travel times are expected to double in the future, given planned and anticipated growth along the corridor. On average, traffic volumes are expected to grow about 50%-60% by 2040.

Up to

37,000

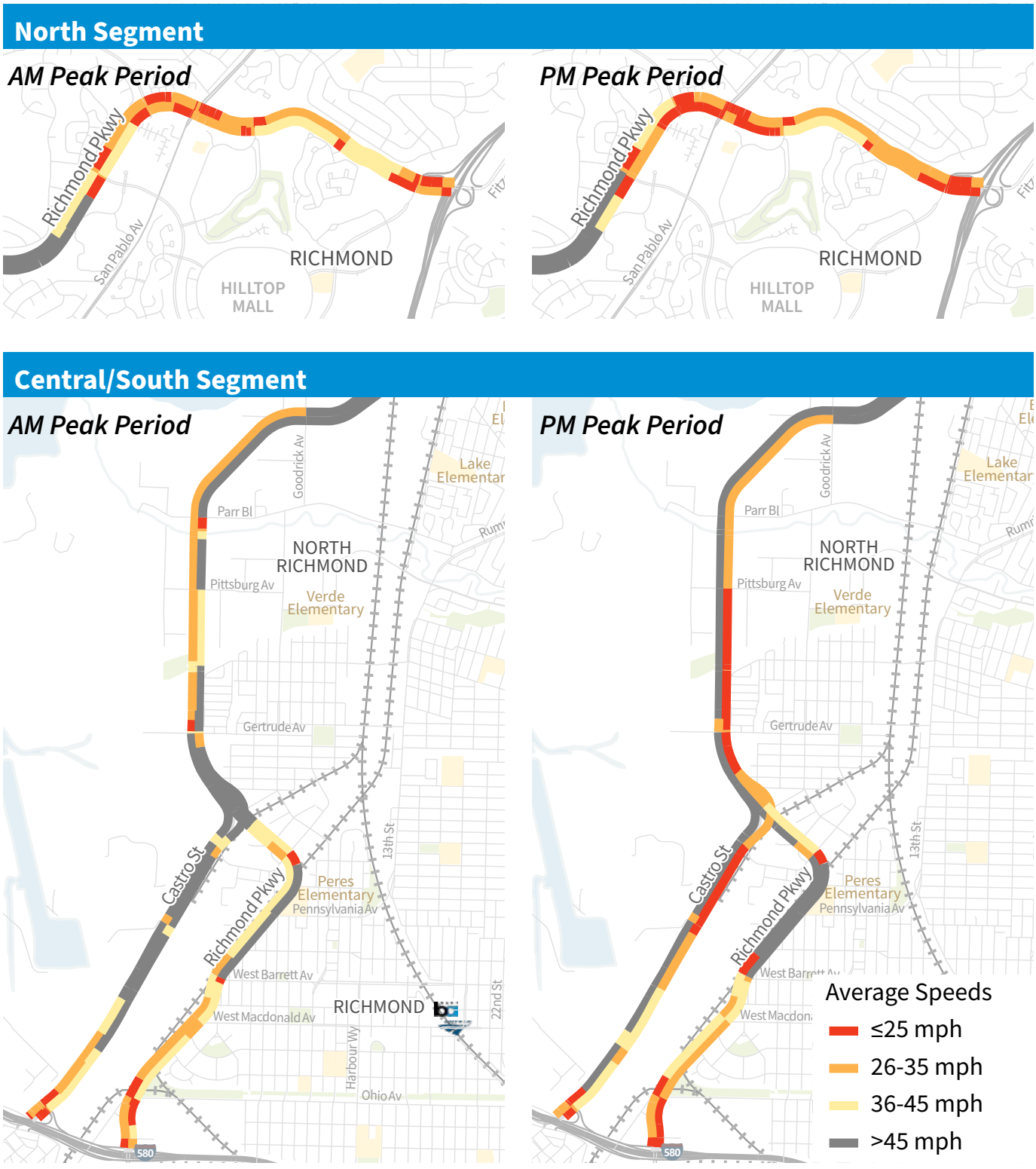
vehicles take the Parkway on weekdays.

7%

of vehicles are trucks.

Photo: Congestion causing queue spillover at San Pablo Avenue and and Richmond Parkway.

Figure 11: Map of Slowdowns During 7-9AM and 4-6PM Peak Periods



Source: Wejo (2019).

Travel Patterns

Drivers typically use the Parkway for trips that start or end in the study area rather than as a freeway-to-freeway connector. In the afternoon peak period, less than a third of northbound car drivers travel from the I-580 interchange and get onto I-80 (Streetlight, 2022). This pattern is similar for daily truck trips.

Over 60% of trucks getting onto the Parkway from I-80 or I-580 travel to destinations along the corridor. These destinations are often sources of regional economic activity and services, and include the aforementioned distribution centers, landfill and recycling yards, hazardous waste disposal plants, water reclaim plants, and more. For northbound trucks that stop along the corridor, the most popular destinations are in North Richmond via Parr Boulevard, Pittsburg Avenue, and Hensley Street, as shown in **Figure 12**. Southbound truck trips are more dispersed, with 21% continuing on to the Port of Richmond as shown in **Figure 13**.

Over

50%

of northbound trucks turn off the Parkway into North Richmond, most of which use Hensley Street.

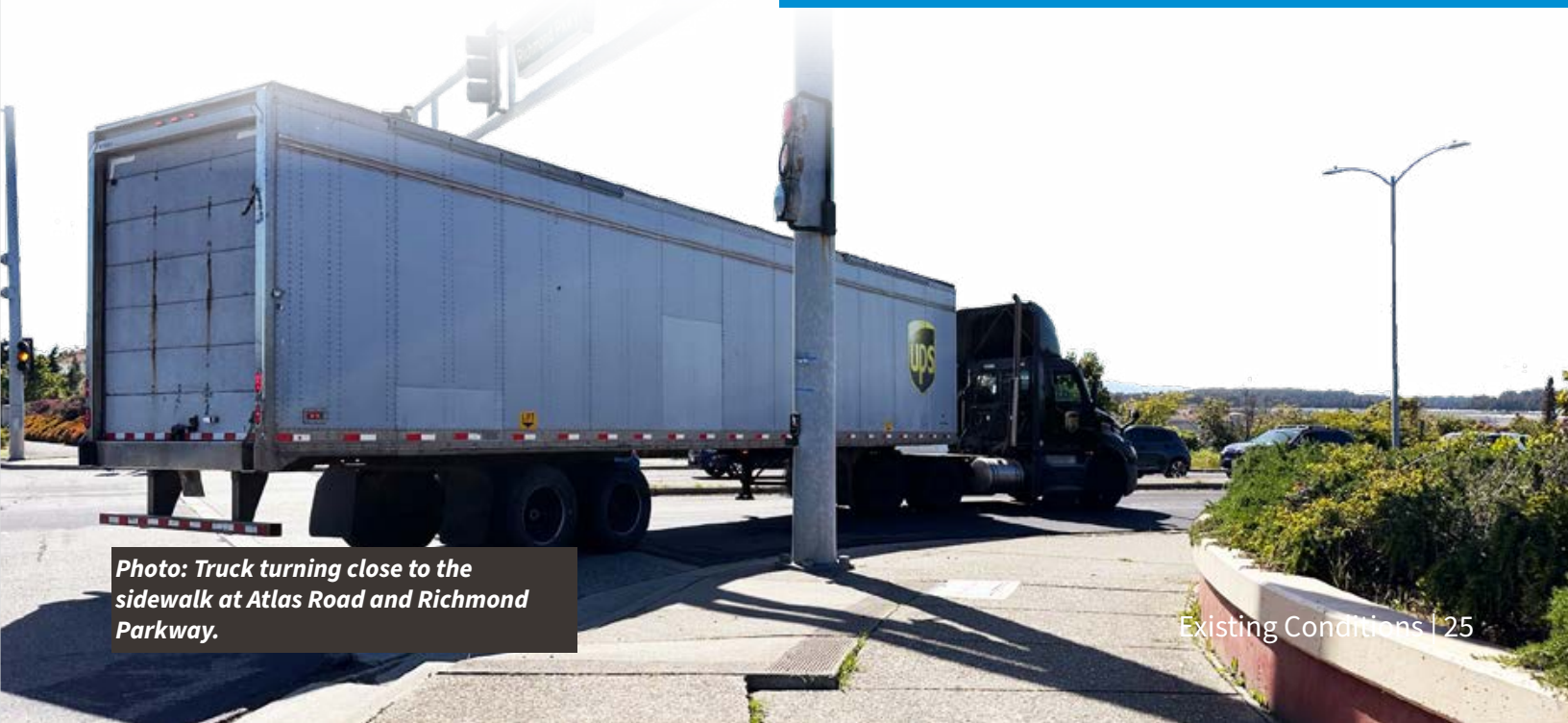
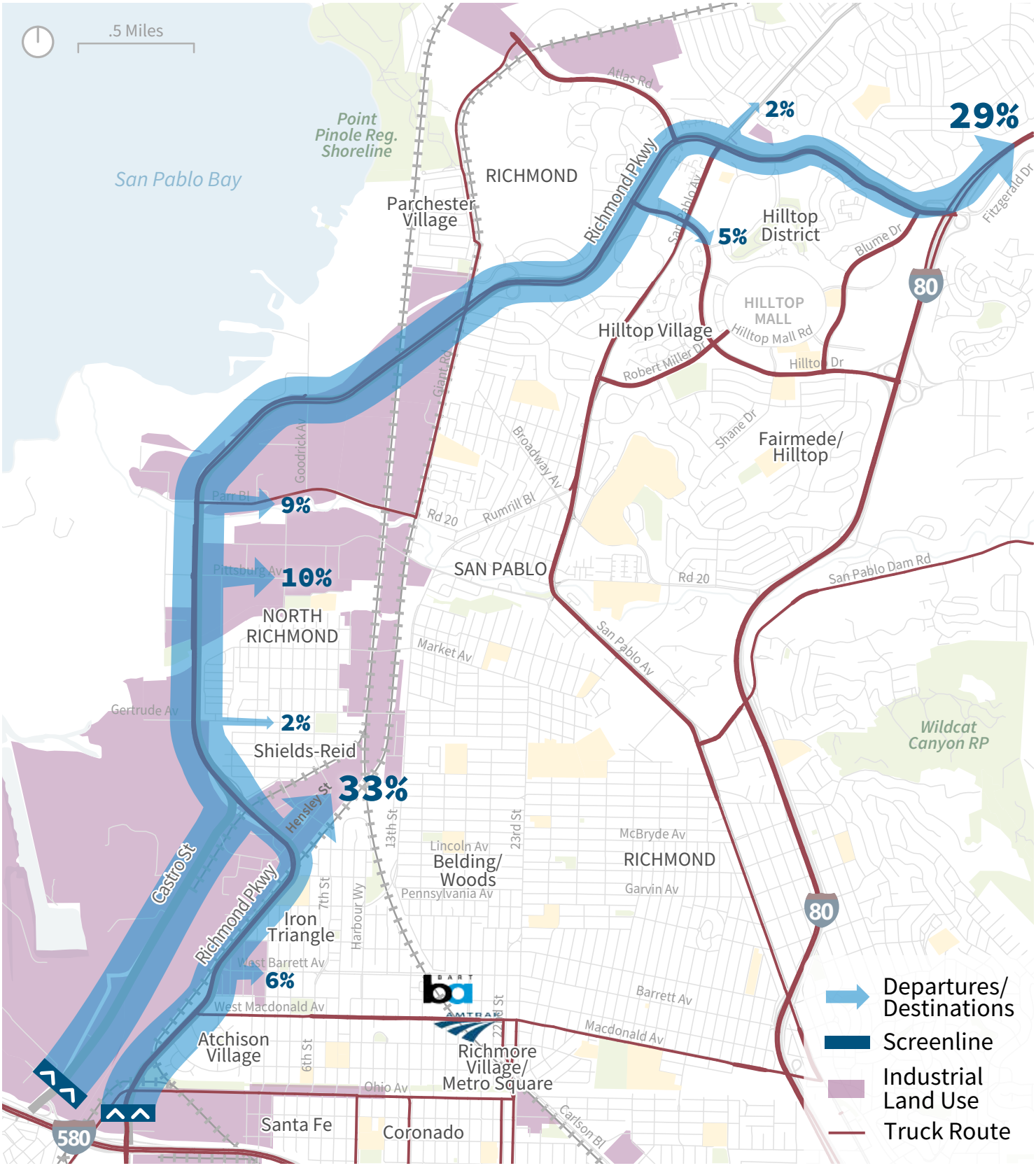


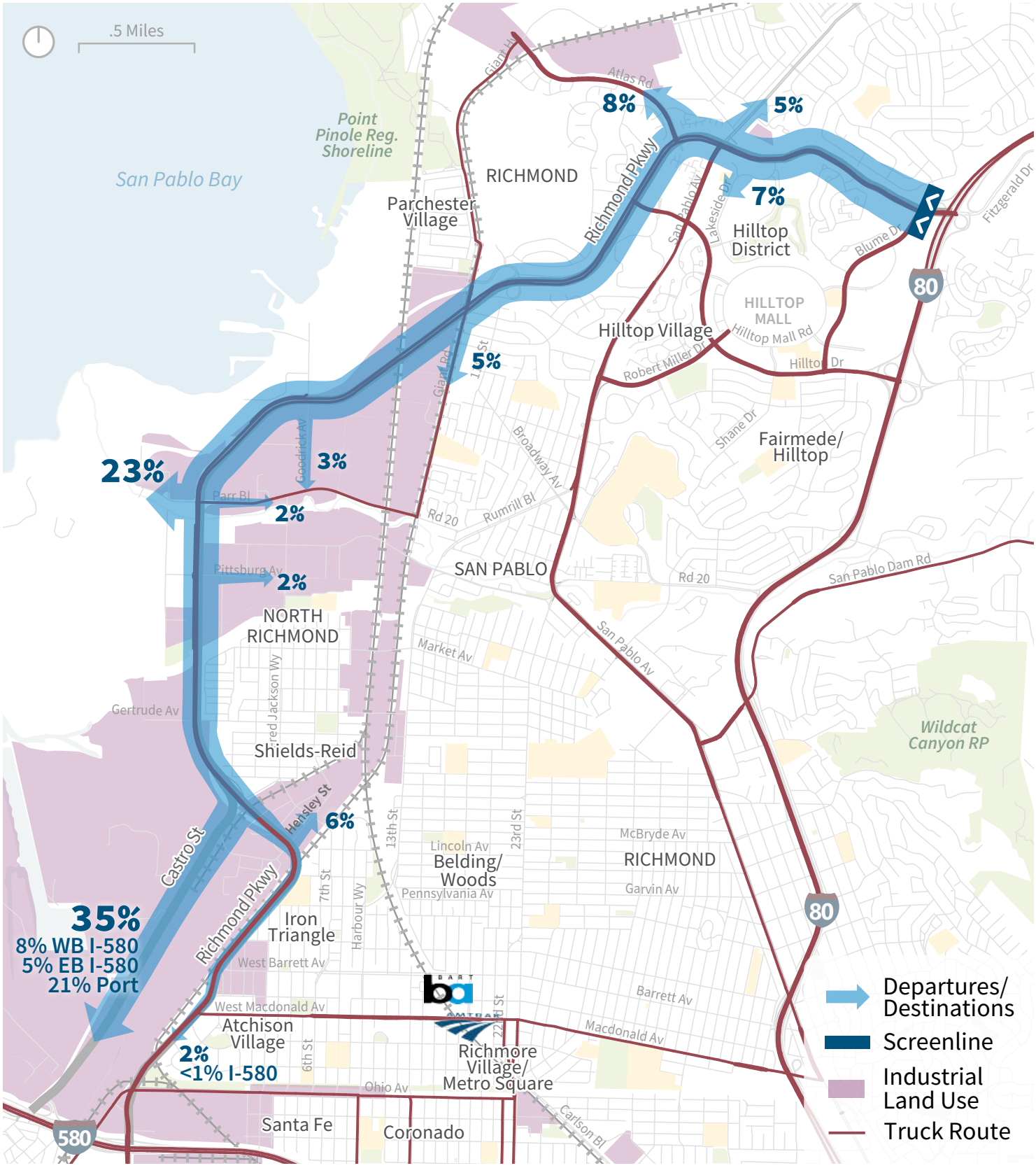
Photo: Truck turning close to the sidewalk at Atlas Road and Richmond Parkway.

Figure 12: Map of Northbound Daily Truck Distribution



Source: Streetlight (2022).

Figure 13: Map of Southbound Daily Truck Distribution



Source: Streetlight (2022).

PUBLIC HEALTH

Local and regional sources of pollution, noise, and increasing threat from climate change hazards affect public health and environmental quality for communities along the corridor.

Pollution

Diesel particulate matter (diesel PM), is a carcinogenic air contaminant produced by the exhaust of trucks, trains, ships, and equipment with diesel engines. Given the industrial and goods movement uses along Richmond Parkway, diesel PM concentrations near the corridor range from 0.08 to 0.98 tons per year. This is greater than 78% of communities statewide (California Office of Health Hazard Assessment, 2021).

Some census tracts adjacent to Richmond Parkway have diesel particulate matter concentrations higher than

78%

of all census tracts in California.

Climate

Increasing concentrations of greenhouse gas (GHG) emissions are the primary cause of global warming. This change in the earth's climate systems will increase the severity, frequency, and duration of climate hazards, including extreme heat, wildfire, drought, and sea level rise. Forecasts anticipate up to 12 inches of sea level rise by 2050, and 36 inches by 2100, directly affecting the area west of the corridor (Adapting to Rising Tides, Bay Area Sea Level Rise Analysis and Mapping Project, 2017). This would increase flood risk, affecting roadways, property, utilities and critical infrastructure, emergency services, and evacuations.

Vulnerable populations and neighborhoods subject to GHG emissions will be disproportionately affected by climate change, including people of color, children, seniors, individuals with disabilities, and households without access to a vehicle (Contra Costa County Local Hazard Mitigation Plan, 2018; Fehr and Peers, 2023; ESA, 2023). The burden of pollution can be visualized through the CalEnviroScreen tool, as shown in **Figure 14**.

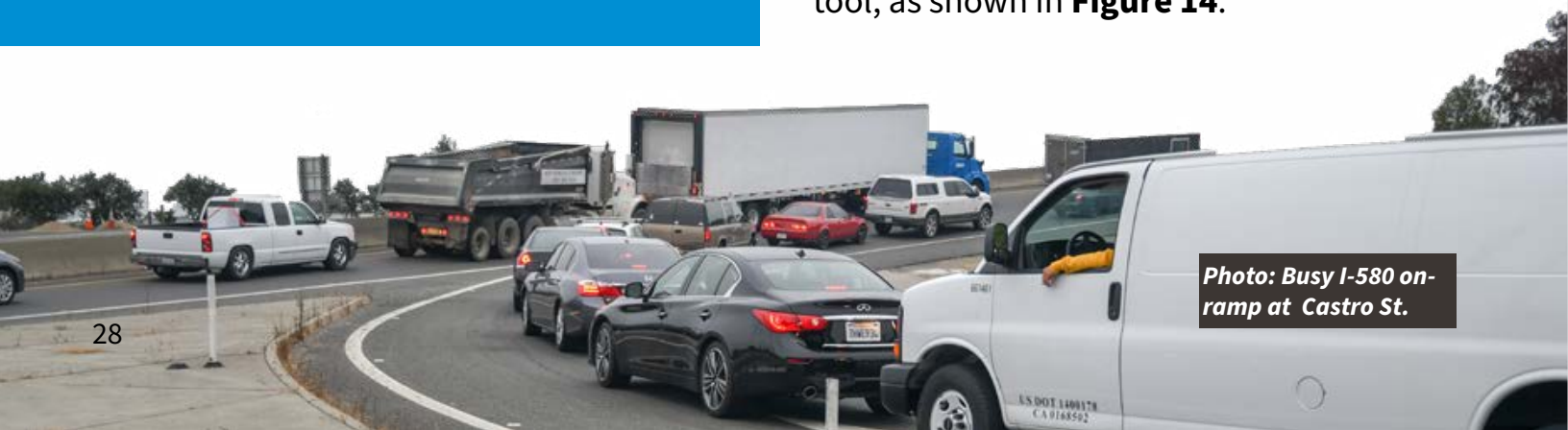
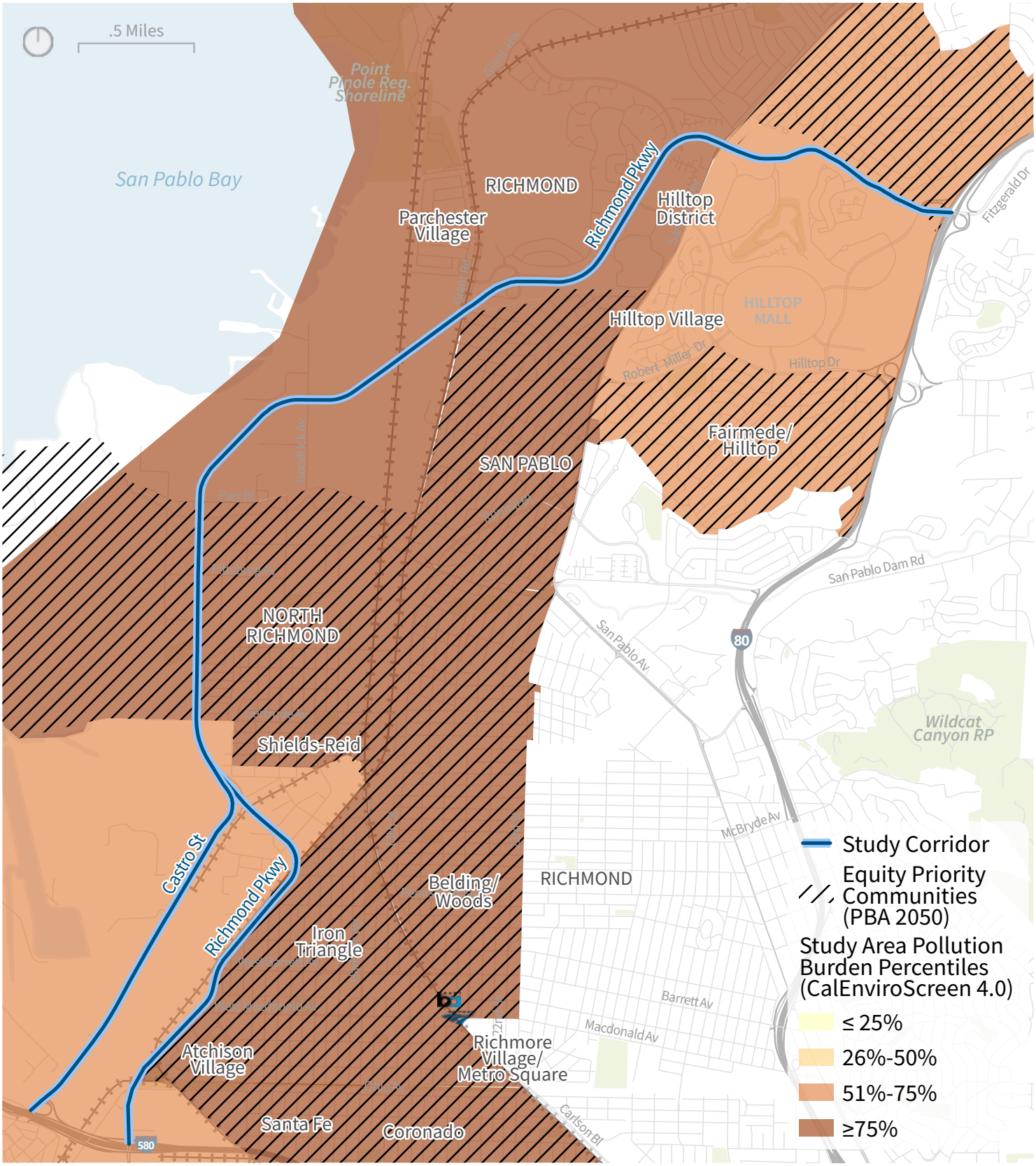


Photo: Busy I-580 on-ramp at Castro St.

Figure 14: Map of Pollution Burden in Study Area



Source: California Office of Environmental Health Hazard Assessment (2021).

Health Impacts

Poor environmental conditions contribute to public health issues, including asthma, cardiovascular disease, cancer, and low birth weight. The highest rates of asthma attacks based on Emergency Room admissions near the corridor are in North Richmond and the Iron Triangle neighborhood.

The asthma rate in Iron Triangle is greater than 99% of other census tracts statewide, and North Richmond's rate is greater than 98% of other census tracts statewide as shown in **Figure 15** (California Office of Environmental Health Hazard Assessment, 2021).

Iron Triangle has an asthma rate higher than

99%

of all census tracts in California.

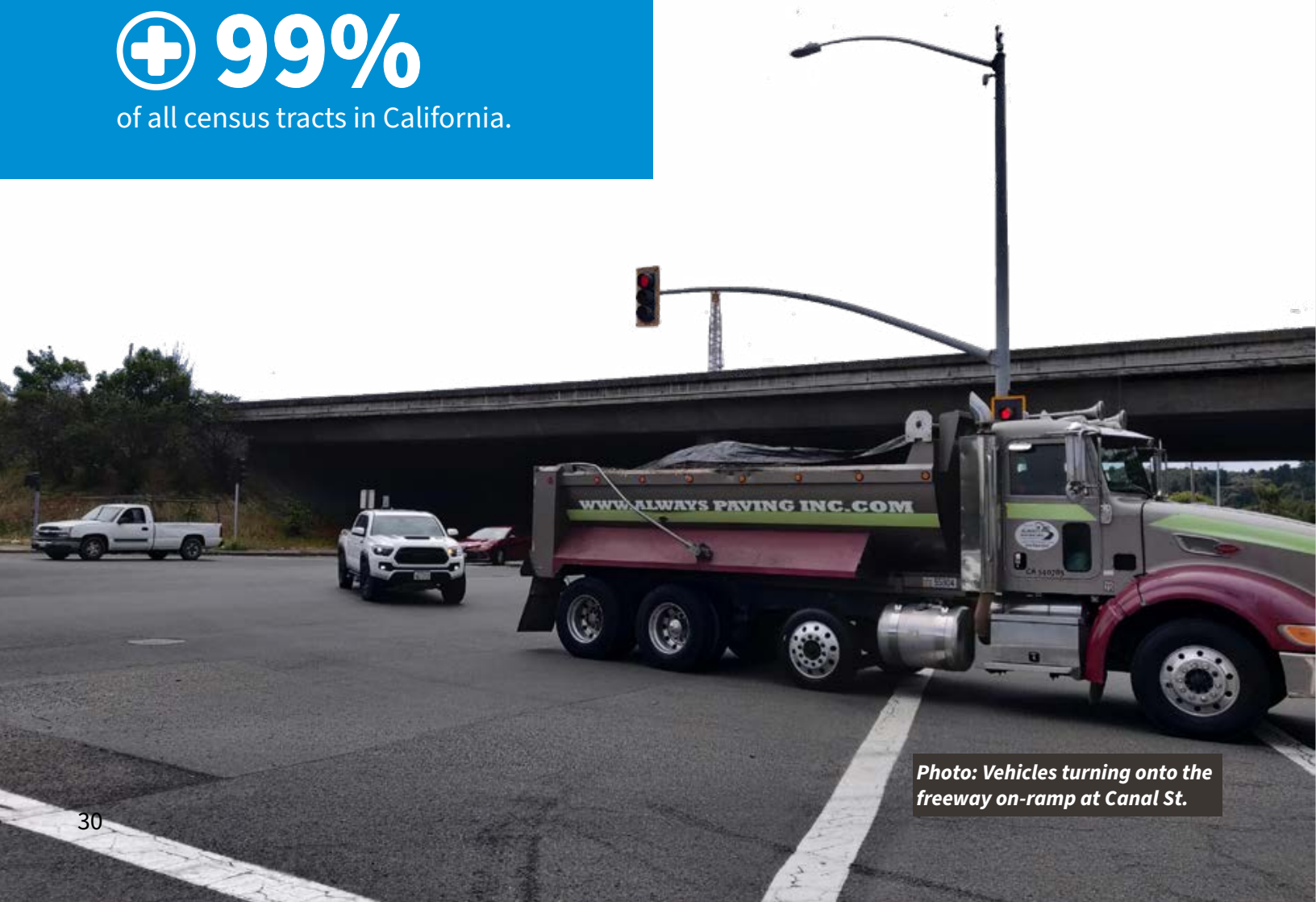
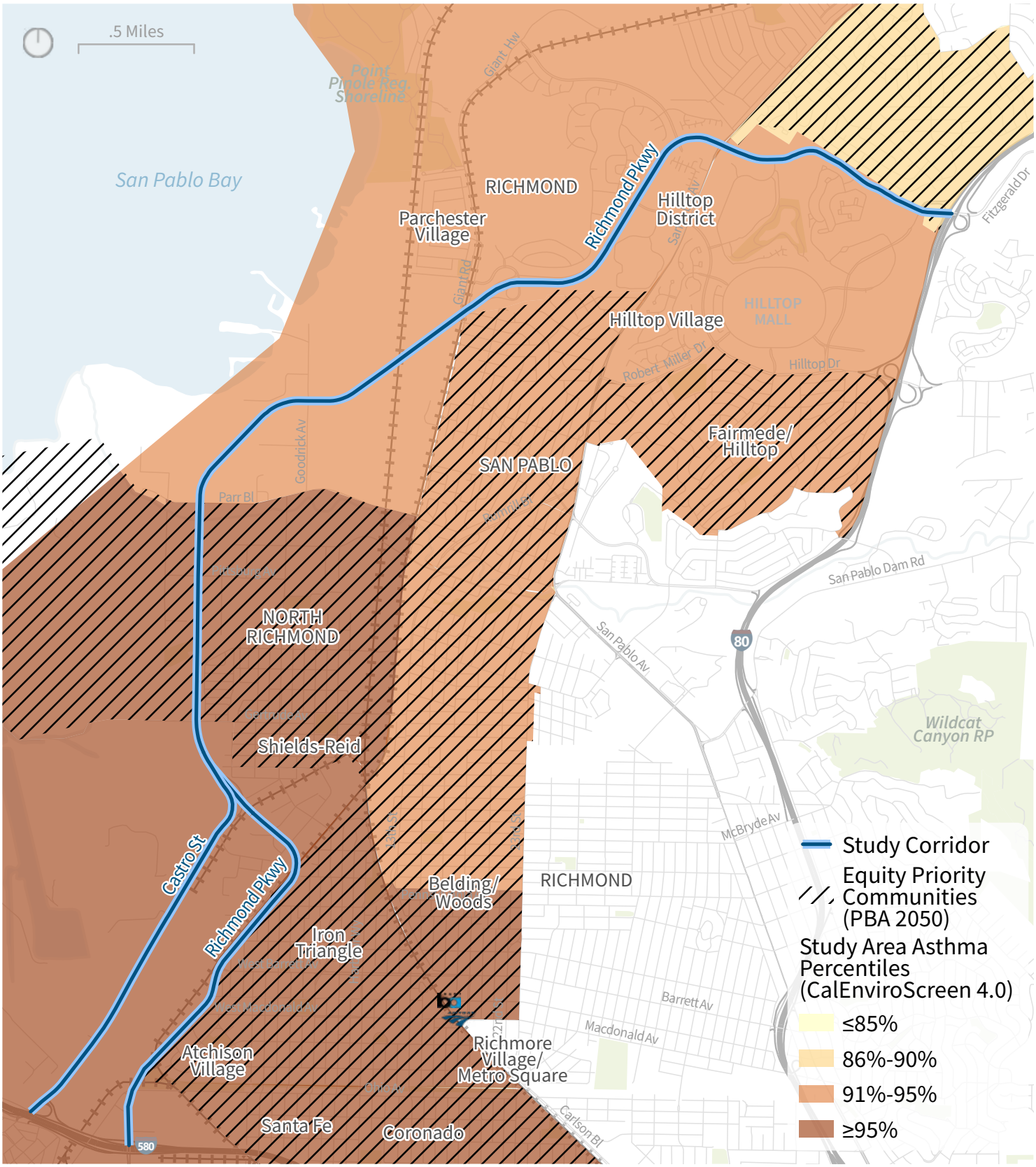


Photo: Vehicles turning onto the freeway on-ramp at Canal St.

Figure 15: Map of Asthma Rate in Study Area



Source: California Office of Environmental Health Hazard Assessment (2021).

TRANSIT SERVICE

Limited transit service operates on the corridor. Although there are 11 local and regional routes, they only travel on the northern and southern sections of the Parkway, including at the Richmond Parkway Transit Center (RPTC), but none run along the full length of the corridor. Study area routes and community destinations like schools, hospitals, and supermarkets are shown in **Figure 16**. Many transit routes that serve corridor residents run through residential neighborhoods and to community destinations instead of directly on the Parkway, which has fewer active uses.

9%

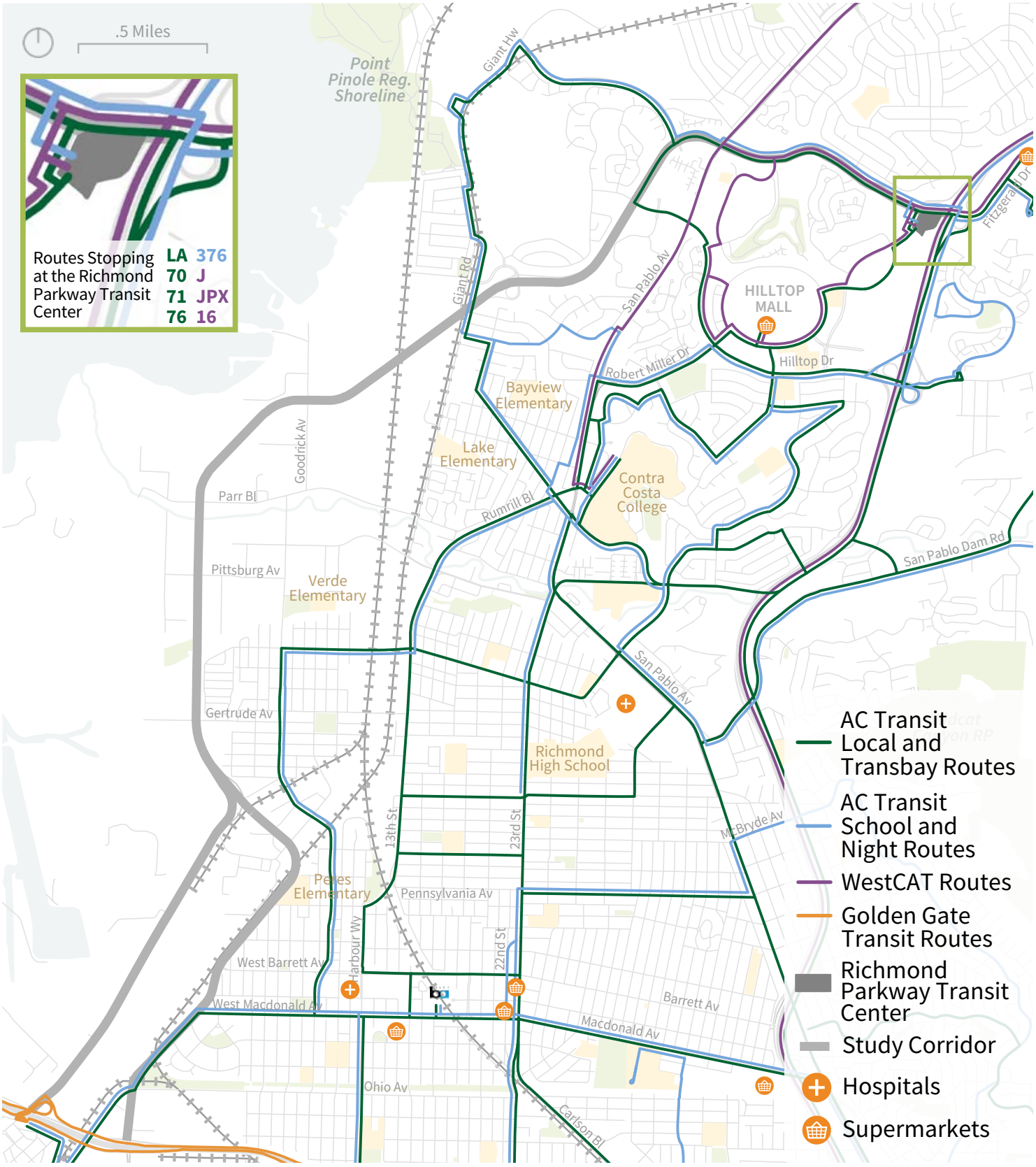
of households in the study area do not own a car, compared to 5% across Contra Costa County.

Bus Connections

About 28% of total morning peak period trips starting in the study area use the Richmond-San Rafael Bridge in the westbound direction. While there are several bus routes that take riders north and south of Richmond, there is only one route that takes riders across the Richmond-San Rafael Bridge: the Golden Gate Transit 580 Route that stops at Tewksbury Avenue and Castro Street. Today, there are limited connections between the study area and this bus stop via the 607 and 72M. The 607 is a school route with only one run on weekdays, and the 72M only connects residents living in the southern portion of the corridor. Many lines run about every 30 minutes, providing limited service to hospitals, supermarkets, and connections like the Richmond BART station.

Photo: Buses waiting at the Richmond Parkway Transit Center.

Figure 16: Map of Transit Routes in Study Area

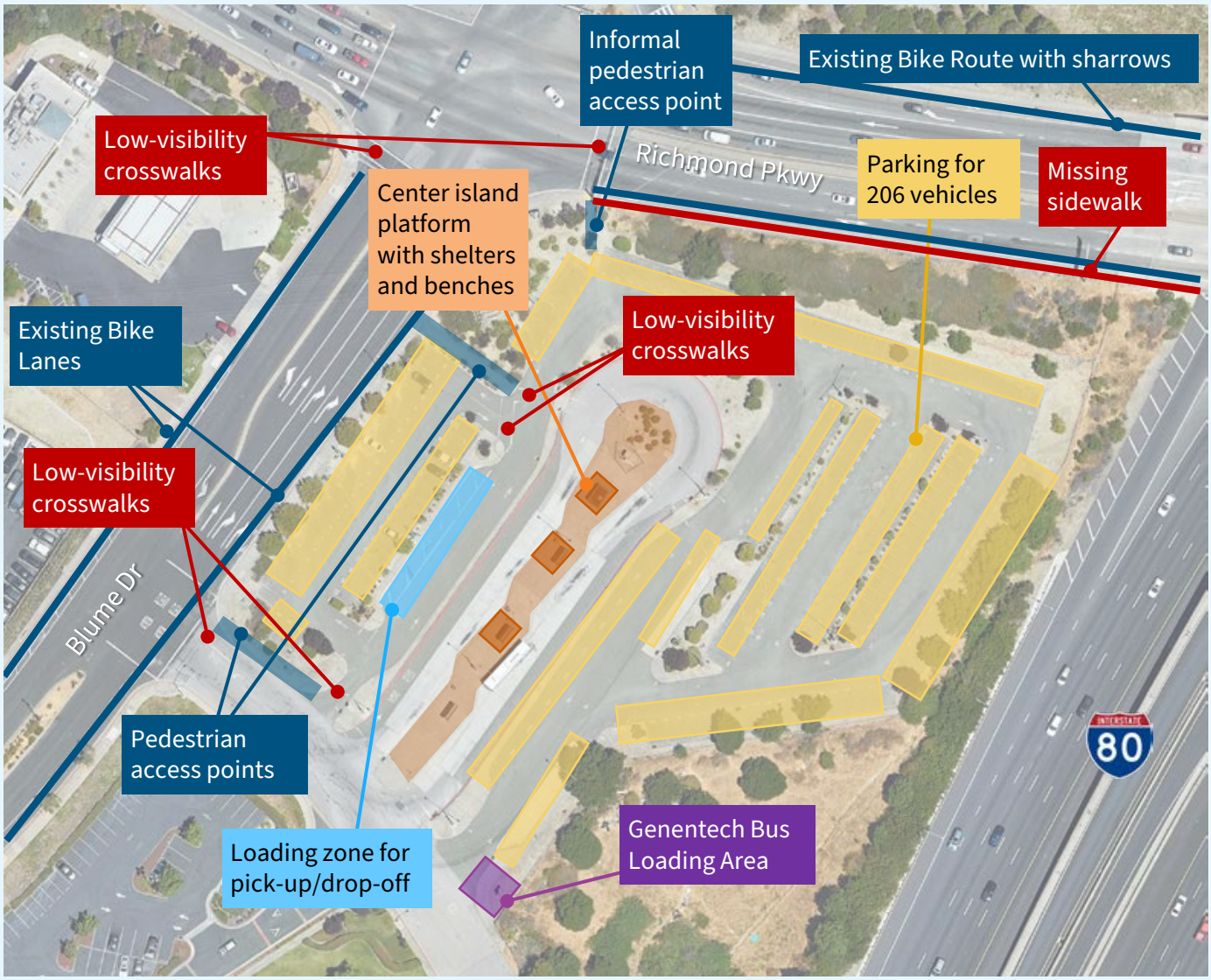


Source: AC Transit (2023); WestCAT (2023); Golden Gate Bridge Highway & Transportation District (2023).

Richmond Parkway Transit Center

The RPTC includes a park-and-ride lot and serves five AC Transit and three WestCat bus routes that connect West County communities to Richmond, Hercules, San Pablo, El Cerrito, and Downtown San Francisco. However, the layout of the Transit Center requires several minutes of diversion time, which adds up to over 13,000 annual rider hours for WestCAT express routes. There is also limited bicycle and pedestrian infrastructure connecting to the transit center as shown in **Figure 17**.

Figure 17: Map of Richmond Parkway Transit Center Existing Conditions



Source: Richmond Parkway Transit Center Existing Conditions Review (AC Transit, 2011); Fehr & Peers (2023).

Community engagement at the North Richmond Flea Market.

CHAPTER 3

Engagement

A robust community engagement process provided critical input to the Plan's recommendations. This chapter summarizes the stakeholder groups, engagement methods, and feedback received. **Appendix A** contains the engagement approach and feedback summaries.

STAKEHOLDER GROUPS

WCCTC engaged a variety of stakeholder groups, ranging from project partners who will help deliver the Plan's recommendations to members of the public. Key stakeholder groups were:

General Public

Residents and users of the Parkway were reached through in-person and online activities. To ensure engagement from marginalized residents living within the study area, in-person methods focused on presenting at community meetings and tabling at events/pop-ups in adjacent neighborhoods, including North Richmond, Parchester Village, and Iron Triangle. To get the word out, opportunities were advertised through social media ads and flyers and engagement information was distributed to all members of the WCCTC Board, PAG, and Technical Advisory Committee. Because over 48% of people living in the area speak Spanish at home, Spanish-speaking staff attended each pop-up event and interactive boards, flyers, and social media ads were translated into Spanish. Online engagement was conducted through an online platform that enabled translation into any language.

Public Advisory Group (PAG)

The PAG served as community liaisons to review and confirm the Public Engagement Plan, share information with community members, and provide input on the strategies. The Public Advisory Group consisted of representatives from the Port of Richmond, Richmond

Neighborhood Coordinating Council, Trails for Richmond Action Committee, Urban Tilth, Watershed Project, Groundwork Richmond, Bike East Bay, North Richmond Municipal Advisory Council, Community Housing Development Corporation, Bay Area Outreach and Recreation Program, and the California Trucking Association. Four PAG meetings were convened through the process.

WCCTC Board

The Board was continually updated throughout the project and provided strategic direction on the Plan. Board members consisted of elected officials representing the cities of Hercules, Pinole, Richmond, San Pablo, and El Cerrito, as well as AC Transit, BART, WestCAT, and Contra Costa County.

Project Partners

WCCTC partnered with the City of Richmond and Contra Costa County to deliver this Plan. Project partners participated in project management team meetings on a bi-weekly basis and were involved in key decisions throughout the study. Their feedback is foundational to this Plan, as agencies that operate the local right-of-way will ultimately deliver many of the strategies and recommendations included in this Plan.

Technical Advisory Committee (TAC)

The Technical Advisory Committee (TAC) facilitated coordination among various agencies and organizations, allowing key stakeholders to provide input and technical guidance. The TAC included representatives from the cities of Hercules, Pinole, Richmond, and San Pablo, as well as AC Transit, BART, WestCAT, Contra Costa County, the Metropolitan Transportation Commission, the East Bay Regional Parks District, and the West County Wastewater District.

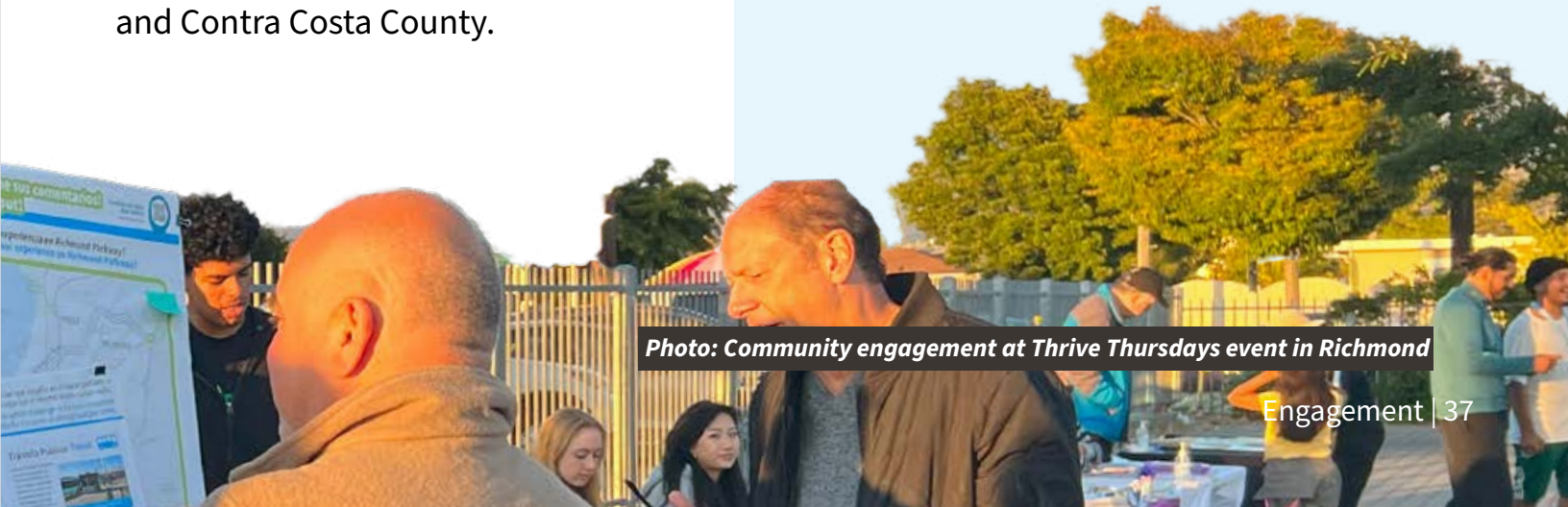


Photo: Community engagement at Thrive Thursdays event in Richmond

ENGAGEMENT SUMMARY

The public engagement plan was developed with input from the PAG. After the first engagement phase was completed, the PAG confirmed the rest of the engagement plan was on-track.

Engagement efforts resulted in...

- **5 POP-UPS**
  - WITH **142** PEOPLE PROVIDING FEEDBACK
  - **71** PEOPLE WERE SPANISH SPEAKERS
- **3 ONLINE ENGAGEMENT TOOLS**
  - WITH **268** RESPONSES
  - FROM **235** CONTRIBUTORS
- **7 COMMUNITY MEETINGS**
- **4 PAG MEETINGS**
- **5 TAC MEETINGS**
- **4 WCCTC BOARD MEETINGS**

1. Understand Needs

The first engagement phase focused on identifying needs and vision for the Parkway and confirming understanding of existing challenges and experiences using the Richmond Parkway.

Pop-Up Engagement

- August 6, 2023: North Richmond Flea Market (North Richmond)
- August 10, 2023: Thrive Thursdays (Coronado)
- August 19, 2023: Walmart (Hilltop)

Community Meetings

- September 5, 2023: North Richmond Municipal Advisory Council
- September 12, 2023: Parchester Village Neighborhood Council
- September 20, 2023: Iron Triangle Neighborhood Council

Online Webmap

- June 15 through September 4, 2023

PAG Meetings

- June 8, 2023
- September 21, 2023

WCCTC Board Meetings

- May 26, 2023
- September 29, 2023

2. Explore Strategies

Then, stakeholders provided input on draft strategies responding to identified needs and issues. Community priorities for solutions were identified.

Pop-Up Engagement

- March 24, 2024: North Richmond Flea Market
- April 20, 2024: North Richmond's Earth Day Festival

Community Meetings

- March 12, 2024: Parchester Village Neighborhood Council
- April 2, 2024: North Richmond Municipal Advisory Council
- April 6, 2024: City of Richmond District 2
- April 17, 2024: Iron Triangle Neighborhood Council

Online Survey

- March 11 through April 29, 2024

PAG Meeting

- February 22, 2024

WCCTC Board Meeting

- March 22, 2024

3. Refine Solutions

Comments on the priority strategies and Draft Plan were collected.

Public Draft Online Survey

- November 4th through November 29th, 2024

PAG Meeting

- October 9, 2024

WCCTC Board Meeting

- October 25, 2024

Richmond Council Meeting

- November 19, 2024

Contra Costa County Board of Supervisors Transportation, Water, and Infrastructure Committee (TWIC)

- December 9, 2024

PHASE 1: UNDERSTAND NEEDS

To kick off the Plan, WCCTC asked participants to share their challenges and experiences using the Richmond Parkway via an online webmap of the corridor and by providing input in-person. Participants provided feedback on experiences related to safety, public health, transit, biking and walking, and vehicles and goods movement.

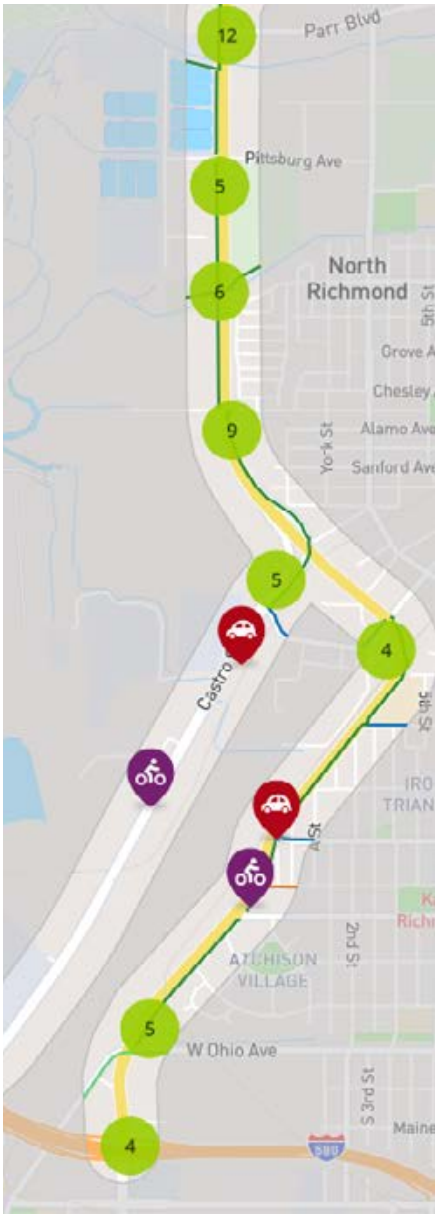


Photo of Phase 1 pop-up at North Richmond Flea Market, 2024, and images of Phase 1 online webmap and social media ads.

What We Heard

Respondents cited safety as their top concern, particularly related to speeding along the Parkway. Nearly a third of all responses related to biking and walking, a majority of which noted comfort and safety challenges while using the Parkway and the Bay Trail. Biking and walking comments also indicated concerns about existing infrastructure, such as missing sidewalks and curb ramps and poor accessibility to trails. Participants also brought up peak period congestion throughout the corridor, with specific issues at intersections like San Pablo Avenue, Giant Road, and Castro Street. Maintenance was an important theme, specifically concerning deteriorating pavement, illegal dumping, and overgrown trees. The distribution of need-related topics heard can be seen in **Figure 18.**

Feedback on needs and desired improvements was used as a basis for the development of draft strategies presented in **Chapter 4.**

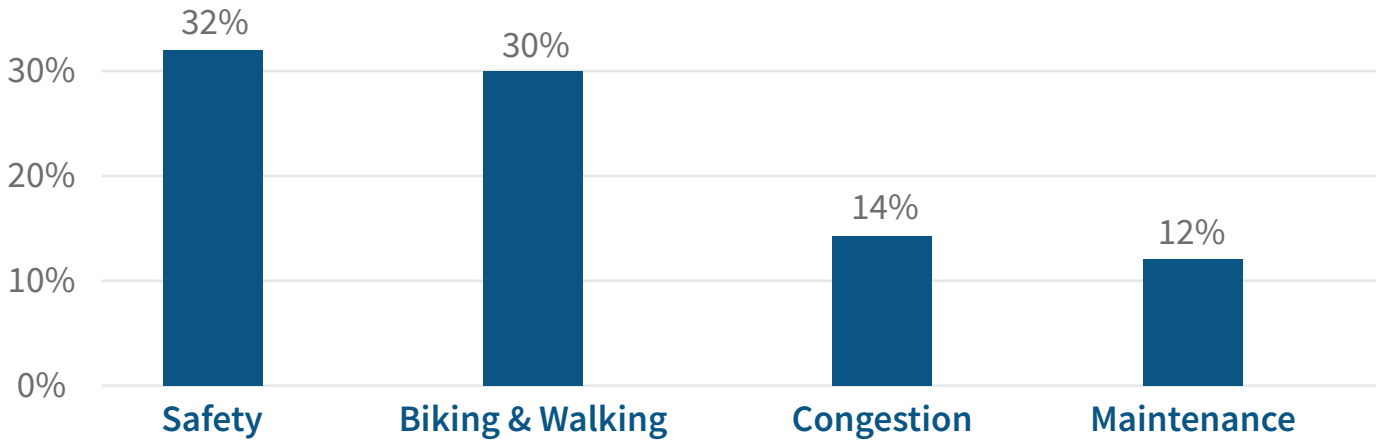
"Walking across the Parkway is super scary."

"The stretch where Parkway opens up from 2 lanes to 4 is crazy! It turns into a speedway!"

"Making the Parkway look like it's being cared for will go a long way towards making people feel safe."

"It's a deadly rat race road that I prefer not to drive on anymore."

Figure 18: Distribution of Need-Related Topics Heard



Note: Percentages add up to more than 100% due to the open-ended nature of comments received. More than one topic could be discussed in each comment.

PHASE 2: EXPLORE STRATEGIES

A list of over 30 strategies, organized into six different overarching topics, was developed to address the issues previously identified through existing conditions analysis, existing plans and policies, and engagement. Stakeholders reviewed each strategy and provided a sense of relative priority.

Strategy Categories

Public Health

Strategies that reduce neighborhood truck traffic and reduce or mitigate vehicle emissions.

Safety

Strategies that reduce speeding and expand emergency vehicle access.

Walking and Biking

Strategies that improve walking and biking experience on the Richmond Parkway and the Bay Trail.

Driving and Goods Movement

Strategies that address congestion and improve wayfinding.

Maintenance

Strategies that address corridor and trail maintenance and illegal dumping.

Transit

Strategies that address transit reliability, service, comfort, and access.

In this phase of engagement, participants were asked to provide feedback on the draft strategies. Participants ranked strategies via an online survey, in-person verbally, or in-person on interactive boards. Participants could also provide open-ended feedback on the draft strategies or suggest strategies that they felt were missing. Since the Parkway is also a regional facility serving a broader community whose preferred solutions may look different from residents living along the corridor, it was important to supplement the results of digital engagement strategy with in-person feedback from nearby residents.

Photo of Phase 2 pop-up at North Richmond Earth Day Festival, 2024.

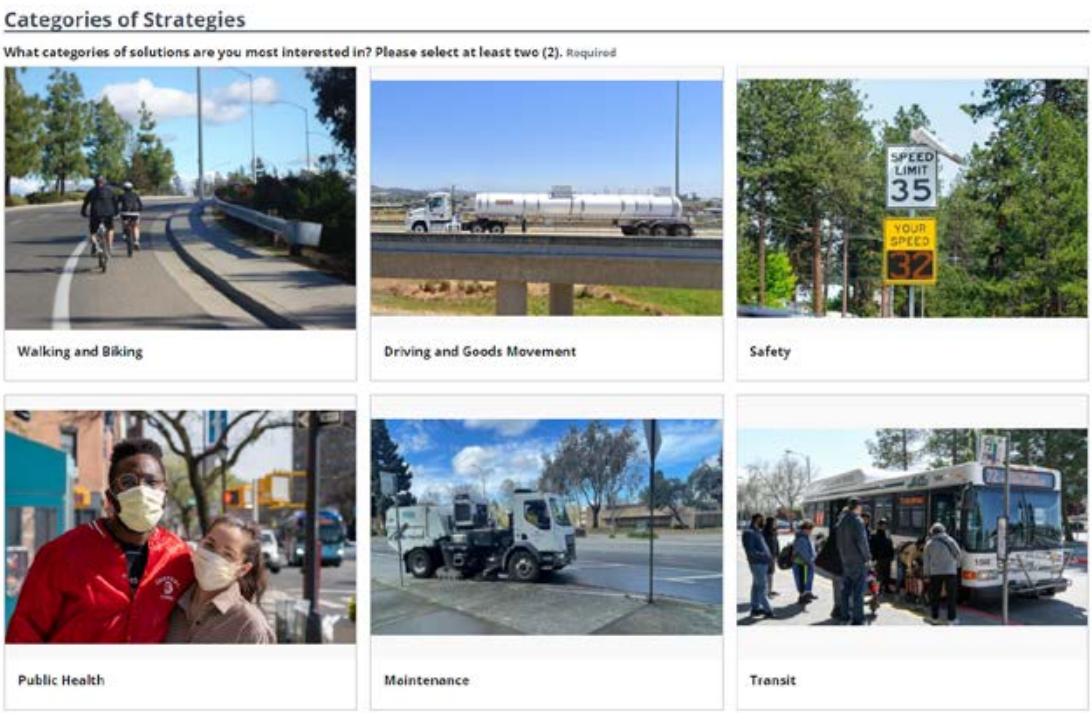
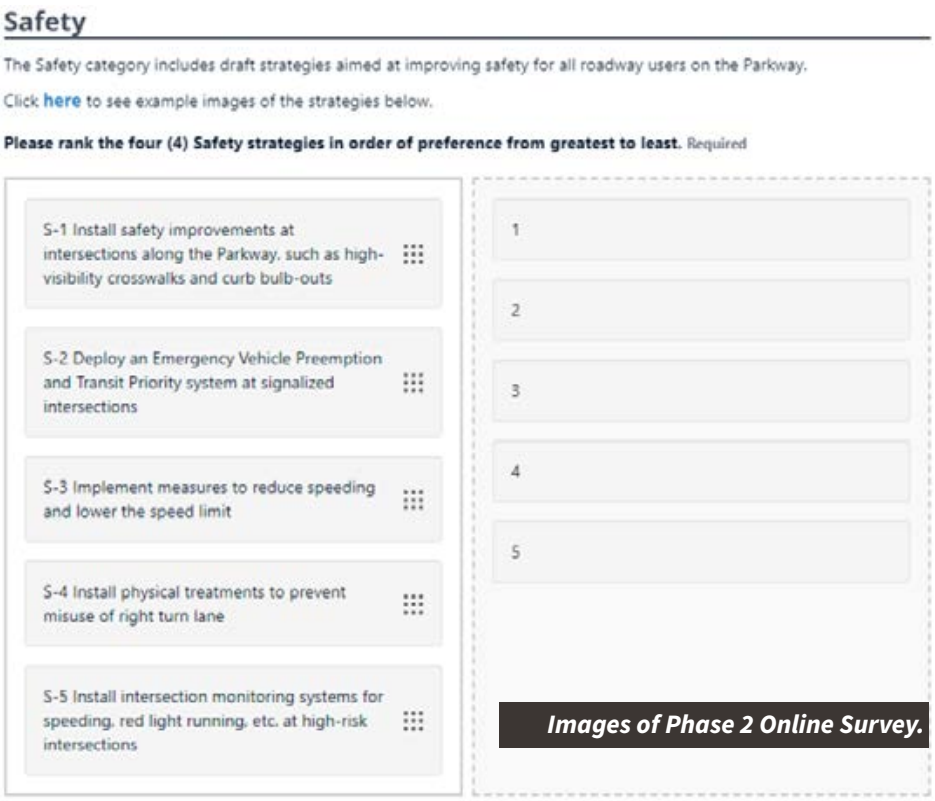


Photo of Phase 2 pop-up at North Richmond Flea Market, 2024.



Images of Phase 2 Online Survey.

What We Heard

Figure 19 summarizes the pop-up and online survey results, and highlights the top strategy categories identified. The top four draft strategy categories were public health, safety, maintenance, and walking and biking. Top strategies were ranked within each category based on the level of support.

The top strategy categories differed between online survey respondents and pop-up participants. Pop-up participants more strongly represented Equity Priority Communities living along the corridor compared to online survey respondents, who represented the broader community of regional Parkway users. Almost half of pop-up interactions occurred in Spanish. Pop-up participants ranked public health as the top strategy, followed by maintenance and safety, while online respondents ranked walking and biking as their top strategy, followed by safety and maintenance.

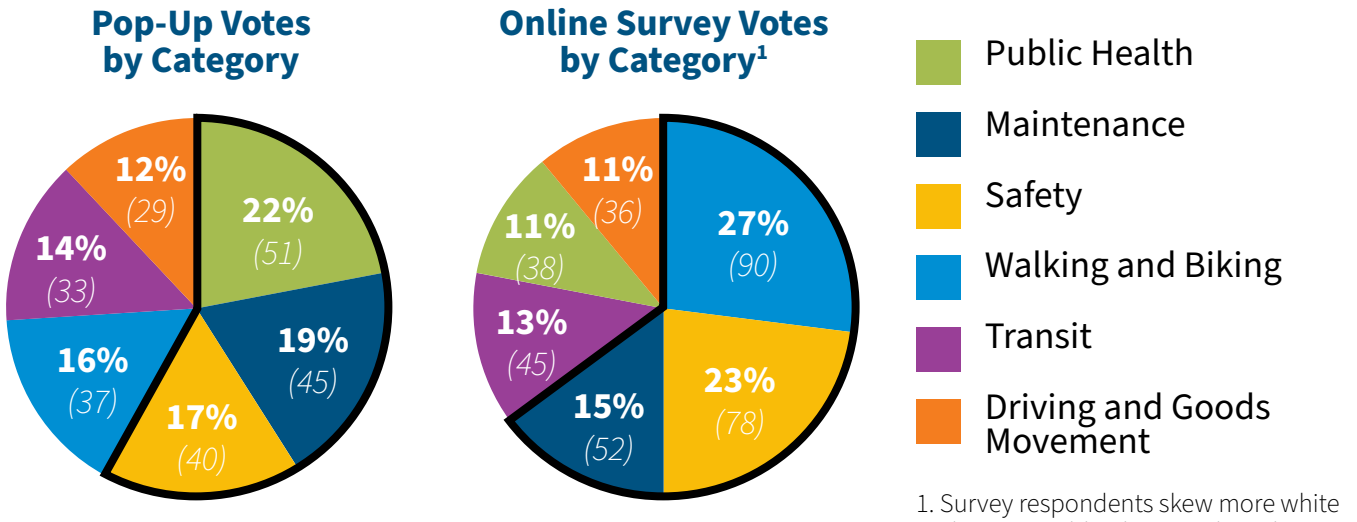
Public health strategies that received the most support were strategies restricting trucks from driving through neighborhoods and parking or idling near sensitive land uses, as well as the strategy to mitigate emissions through urban greening. Safety strategies, particularly measures to reduce speeding and address high risk intersections, were desired. Under maintenance, strategies addressing ongoing roadway maintenance and illegal dumping received support from all audiences. Popular strategies related to walking and biking included upgrading on-street bikeways and sidewalks and constructing a new crossing for Wildcat Creek Trail.

Photo of Phase 2 pop-up at North Richmond Flea Market, 2024.

Feedback received during this phase confirmed the responsiveness of draft strategies to community needs and identified the top strategies for implementation.

Strategies in the highest-ranking categories were given greater consideration during the identification of Priority Strategies described in **Chapter 5**.

Figure 19: Distribution of Draft Strategy Category Votes



Public Health, Maintenance, Safety, and Walking & Biking were the most popular strategy categories.

1. Survey respondents skew more white and more wealthy than residents living along the Parkway.

Note: Pop-Up events were held on March 24, 2024 and April 20, 2024. The Online Survey was open from March 11 through April 29, 2024.

PHASE 3: REFINE SOLUTIONS

A subset of ten priority strategies were identified based on their ability to fulfill the Plan's six goals outlined in **Chapter 1**, issues identified in **Chapter 2**, and feedback from previous community engagement phases. Details about the priority strategies can be found in **Chapter 5**.

In this phase of engagement, the Draft Plan was disseminated to the public, project partners, PAG, TAC, WCCTC Board, Richmond City Council, and the Contra Costa County Board of Supervisors Transportation, Water, and Infrastructure Committee. In an online survey, participants were asked to provide feedback on the responsiveness of all the strategies to participant needs and which priority strategy they wanted to see advanced first. Participants could also provide open-ended feedback on the Draft Plan. The ranking of community priority strategies is listed in **Figure 20**.

Feedback heard during the PAG and public meetings confirmed the importance of implementing the priority strategies in response to existing needs and challenges along the corridor, while also identifying sources of funding that acknowledge the regional benefit of the Parkway. The regional-serving nature of the Parkway is described in **Appendix B**.

The feedback on the Draft Plan was incorporated into the Final Draft Plan, which was recirculated to project partners. The adoption of the Final Plan by WCCTC, the City of Richmond, and Contra Costa County is expected to occur in early 2025. Social media ads will be used to share the Final Plan.

Figure 20: Top Five Priority Strategies Survey Ranking

WB-1 ☑ **18 VOTES**
Upgrade bikeways and connect sidewalk gaps

S-1 ☑ **11 VOTES**
Safety improvements at intersections

PH-2 **8 VOTES**
Trees and green infrastructure

S-2 ☑ **7 VOTES**
Reduce speeding

M-1 ☑ **7 VOTES**
Implement cross-jurisdictional maintenance program

92%
of survey respondents **agreed or strongly agreed** that the Plan strategies responded to their needs and challenges along the corridor.

Photo of Phase 2 pop-up at North Richmond Flea Market, 2024.

CHAPTER 4

Strategies

A major outcome of this Plan is a recommended list of strategies that represent projects, policies, or programs related to transportation or transportation impacts along the corridor for WCCTC and project partners to advance.

IDENTIFYING STRATEGIES

The Plan identifies 29 final strategies that address the Plan's six goals, issues identified through existing conditions analysis (**Chapter 2**), and community engagement feedback (**Chapter 3**). The strategies are organized into six categories described in **Figure 21** below.

Figure 21: Strategy Categories

Public Health
Strategies that reduce truck cut-through traffic and reduce or capture vehicle emissions.

Safety
Strategies that reduce vehicle speeds, address intersection conflict points, and prioritize emergency vehicle access.

Walking and Biking
Strategies that support comfortable walking and biking on the Parkway and the Bay Trail.

Driving and Goods Movement
Strategies that encourage carpooling, optimize signal timing, and improve wayfinding for drivers.

Maintenance
Strategies that holistically address corridor and Bay Trail maintenance and reduce illegal dumping.

Transit
Strategies that improve access and circulation at the Richmond Parkway Transit Center and support and encourage transit ridership.

Implementing these strategies will require coordination between WCCTC and partner agencies and organizations. The top 10 are identified as Priority Strategies (**Chapter 5**) to be advanced first. WCCTC and partner agencies may draw from the larger list of strategies as conditions change or as new funding or capacity opportunities arise.

To measure the Plan's performance, each strategy was evaluated against the Plan's goals, as shown in **Table 1**. Consideration of equity was incorporated by more heavily weighting goals that would have a disproportionate benefit to Equity Priority Communities living along the corridor. **Appendix C** lists the effectiveness of each strategy in meeting the Plan's goals.

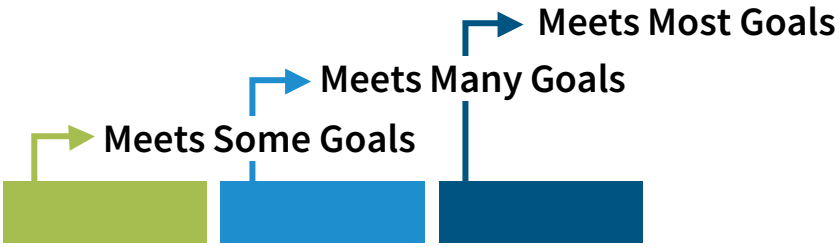
Based on the goal alignment metrics, each strategy met **Some Goals**, **Many Goals**, or **Most Goals**, as pictured in **Figure 22.** The full list of 29 strategies is presented in **Table 2**.

Table 1: Qualitative Goal Alignment Metrics

Goal	Metric
Improve Safety for All Users*	**1a** Reduce severe and fatal injury collisions
Increase Access to Key Destinations*	**2a** Increase quality of connections **2b** Expand connectivity to key destinations
Improve Health*	**3a** Decrease emissions **3b** Reduce cut-through traffic
Advance Placemaking*	**4a** Improve maintenance and street beautification **4b** Address key topics heard during engagement
Enhance Travel Time Reliability and Efficiency	**5a** Reduce vehicle delay **5b** Increase vehicle occupancy
Support Feasible Strategies	**6a** Advance already adopted strategies **6b** Near- to Medium-term implementation

*Goal weighted more heavily given disproportionate benefit to local Equity Priority Communities.

Figure 22: Goals Alignment Ranking



All strategies meet at least some of the Plan's goals, and **63%** meet many or most goals.

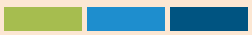
Table 2: Full List of Strategies

ID	Topic	Subtopic	Strategy Name	Goals Alignment
PH-1*	Public Health	Trucks	Implement new truck routes	
PH-2*	Public Health	Urban Greening	Trees and green infrastructure	
PH-3*	Public Health	Air Quality	Prohibit truck parking and idling in neighborhoods	
PH-4	Public Health	Trucks	Encourage clean trucks	
PH-5	Public Health	EV/AV Adoption	Encourage private electric vehicle adoption and usage	
PH-6	Public Health	Noise	Improve sound wall	
PH-7	Public Health	Air Quality	Air filtration systems at sensitive locations	
S-1*	Safety	Street Design	Safety improvements at intersections	
S-2*	Safety	Speeding	Reduce speeding	
S-3	Safety	Monitoring	Monitor high-risk intersections for speeding, red light running, etc.	

*Priority Strategies with an implementation plan in Chapter 5.

Description
Update designated truck routes in North Richmond, which is surrounded by industrial use, to ensure connections between truck-generating uses and the Parkway avoid residential neighborhoods to the extent feasible. Install cameras for legal automated monitoring and enforcement of heavy vehicles exceeding vehicle size limits.
Incorporate trees and green infrastructure into all capital projects where feasible.
Place no truck parking and no idling zones judiciously to reinforce but not overburden truck operations. Install signs in strategic locations such as residential areas and near sensitive receptors (schools, hospitals, parks) indicating no-idling zones and displaying the associated fines.
Encourage clean trucks to the maximum extent feasible through new development requirements.
Add electric vehicle charging infrastructure for vehicles and provide education on electric vehicle (EV) subsidy or rebate/incentive programs.
Improve the sound wall by increasing size or effectiveness of the sound barrier.
Identify publicly-owned buildings within the study area exposed to emissions levels beyond the Bay Area Air Quality Management District thresholds of significance and prioritize these locations for installation and regular maintenance of high-quality air filtration systems.
Install safety treatments per the Intersection Safety Recommendations in **Chapter 5**. These treatments include but are not limited to: • Lighting, which includes roadway lighting, visiblity of signage, reflectivity, and lighting of pedestrians and bicyclists; ensure bike lanes and intersections are adequately illuminated, particularly in high-traffic areas • High-visibility crosswalks, curb ramps, and curb extensions • Conflict zone markings for bicycle crossings • Geometric changes • Accessible pedestrian push buttons, pedestrian countdown signals, and bicycle detection at signalized intersections
Add speed limit signs and radar speed feedback signs at high speed locations. Study opportunity to follow through on the legal process for speed limit reduction. When legalized, implement pilot of speed safety cameras.
Install monitoring systems for near-miss events, speeding, red light running, etc. at high-risk intersections.

Table 2: Full List of Strategies (cont.)

ID	Topic	Subtopic	Strategy Name	Goals Alignment
WB-1*	Walking and Biking	Street Design	Upgrade bikeways and connect sidewalk gaps	
WB-2*	Walking and Biking	Wildcat Creek Trail Crossing	On-street Wildcat Creek Trail crossing	
WB-3	Walking and Biking	New Technology	Test innovative bicycle and pedestrian detection at intersections	
WB-4	Walking and Biking	Shared Mobility	Expand electric bike share program	
DG-1*	Driving and Goods Movement	Cycle Length	Upgrade and coordinate traffic signals	
DG-2	Driving and Goods Movement	Congestion	Add carpool lane on segments with high congestion	
DG-3	Driving and Goods Movement	Street Design	Redesign Richmond Parkway/ Castro Street merge	
DG-4	Driving and Goods Movement	Signage/ Wayfinding	Signage for blind turns	
DG-5	Driving and Goods Movement	Signage/ Wayfinding	Install wayfinding for drivers	

*Priority Strategies with an implementation plan in Chapter 5.

Description
Upgrade the Bay Trail to align with Bay Trail Design Guidelines, including adding clear and visible signage, particularly where the Bay Trail transitions to bikeways on Richmond Parkway. Realign Bay Trail between Hensley St and Gertrude Ave to western side of Castro St and Richmond Parkway. Create buffers to physically separate bicyclists from motor vehicle traffic using landscaping to enhance bicyclist comfort and safety. Coordinate with the San Francisco Bay Restoration Authority on the Living Levy project plans to improve pedestrian and operations access along Pittsburg Ave.
Install bike facilities, independent of the Bay Trail, with physical buffers to separate bicyclists from motor vehicles and improve bicyclist comfort and safety. Ensure bike lanes and intersections are adequately illuminated, particularly in high-traffic areas.
Install new sidewalks to close sidewalk gaps. Where sidewalk is missing on one side of the street along inactive land uses, condition future developers to install sidewalks.
Develop at-grade signalized multi-use crossing of Wildcat Creek Trail, install lighting, and add wayfinding signage to indicate distance traveled or what facilities are provided/nearby. In the long-term, consider a grade-separated overcrossing for the Wildcat Creek Trail over the Richmond Parkway.
Test new technologies (e.g. LiDAR, AI) that can help a traffic signal predict the arrival of a bicyclist or pedestrian and maintain signal protection until they have exited the intersection.
Support expansion of Richmond's bikeshare program.
Implement signal coordination along the Parkway in the peak period and optimize corridor-wide cycle lengths. Consider signal operations, pedestrian delay, and impact on speed. Install a connected battery backup system and a central signal management system. Upgrade signal hardware and software to allow automated traffic signal performance measures. Investigate, test, and deploy a system that allows for emergency vehicle preemption and transit prioritization at signalized intersections. Consider an adaptive traffic signal system.
Study the conversion of the northbound right turn lane into a high-occupancy vehicle (HOV) lane for bus, carpool, and right turn only in the afternoon peak period. Implement recommendations in MTC's I-580 Richmond Parkway Interchange Operational Improvements project.
Study reallocating merge capacity through restriping Richmond Parkway at the Castro Street merge to be one lane or introduce metering on Castro Street to control queues. Improve guidance for drivers through signage and striping.
Add a yield or prepare to stop sign/signal ahead of blind turns.
Install gateway and wayfinding signage directing drivers on which lanes to use to access key destinations.

Table 2: Full List of Strategies (cont.)

ID	Topic	Subtopic	Strategy Name	Goals Alignment
M-1*	Maintenance	Roadway	Implement cross-jurisdictional maintenance program	
M-2	Maintenance	Encampments	Keep sidewalks and paths clear near encampments	
M-3	Maintenance	Illegal Dumping	Discourage illegal dumping	
T-1*	Transit	Richmond Parkway Transit Center	Improve access to the Richmond Parkway Transit Center	
T-2	Transit	Transit Bus/Shuttle	Improve bus stop comfort	
T-3	Transit	Transit Bus/Shuttle	New transit service to Marin County	
T-4	Transit	Transit Bus/Shuttle	Increase bus frequency	
T-5	Transit	Transit Bus/Shuttle	On-demand shuttle service	
T-6	Transit	Parking	Parking lot for transit to Marin County	
T-7	Transit	Accessibility	Publicize transit options/ information	

*Priority Strategies with an implementation plan in Chapter 5.

Description
Implement a consistent management program assigned to upkeep the Parkway and provide a plan on what maintenance is, how it is performed, how it can be budgeted, and why it is needed. County and the City to approve an MOU for advancement by providing a statement of staff time commitments, legal resources, actual support from elected officials, and review process. Identify a cross-jurisdictional maintenance manager to implement the program to rehabilitate and maintain pavement quality and striping along the corridor, as well as maintenance to extend the service life of shared use path pavement. This program would also apply to signage, tree, debris, and signal maintenance.
Partner with advocacy group for unhoused, such as SOS Richmond and Contra Costa Health, Housing and Homeless Services, to encourage people experiencing homeless to keep sidewalks and paths clear.
Reduce illegal dumping on the corridor via fencing and provide education on how to properly dispose of waste.
Develop formal pedestrian connection between the northwest corner of the Richmond Parkway Transit Center and Richmond Parkway. Upgrade faded crosswalk markings within the Transit Center. Install bike lockers at the Richmond Parkway Transit Center consistent with the Association of Pedestrian & Bicycle Professionals guidance. Install bus pullout stops to allow buses to directly serve the Transit Center from the Parkway as recommended in the WCCTC Express Bus Implementation Plan (2020).
Enhance bus stops with features like seating, shelters, lighting, and real-time displays.
Study a bus line that connects Central/North Richmond and Hilltop to Marin across the Richmond-San Rafael Bridge.
Increase frequencies of AC Transit buses serving the corridor subject to AC Transit's Realign Plan.
Support continued operation and expansion of Richmond Moves on-demand shuttle, including to jobs centers.
To serve the large number of residents in the corridor commuting to the North Bay, study park-and-ride opportunities supporting transit service into Marin County.
Make transit schedules more accessible, expand education for Clipper Card usage, and publicize different transit options.

1. Pedestrian and bicycle crossing at W Ohio Ave and Garrard Blvd.

2. Flooded Wildcat Creek Trail tunnel.

3. Informal pedestrian access point to the Richmond Parkway Transit Center currently subject to inclement weather.

One of the priority strategies is to implement safety treatments at intersections, such as protected right-turn phases at Richmond Parkway and Ohio Avenue.

CHAPTER 5

Priority Strategies

The Plan identifies ten priority strategies to advance first based on their ability to address the Plan's six goals outlined in **Chapter 1**, issues identified in **Chapter 2**, and community engagement feedback in **Chapter 3**. All the priority strategies shown in **Table 3** meet many or most goals and received the most support through the online survey, pop-ups, and community meetings on the strategies. This chapter provides cutsheets describing the strategies' associated actions, benefits, timeframes, lead and coordinating agencies, and cost ranges shown below. Cost ranges of each priority strategy are included in the subsequent cutsheets. Funding and implementation are further discussed in **Chapter 6**.

$ = **<$1M**

$$ = **$1M-5M**

$$$ = **$6M-$10M**

$$$$ = **$11M+**

Table 3: Priority Strategies

ID	Topic	Strategy Name	Goals Alignment
PH-1	Public Health	Implement new truck routes	■ ■ ■
PH-2	Public Health	Trees and green infrastructure	■ ■ ■
PH-3	Public Health	Prohibit truck parking and idling in neighborhoods	■ ■
S-1	Safety	Safety improvements at intersections	■ ■ ■
S-2	Safety	Reduce speeding	■ ■
WB-1	Walking and Biking	Upgrade bikeways and connect sidewalk gaps	■ ■ ■
WB-2	Walking and Biking	On-street Wildcat Creek Trail crossing	■ ■
DG-1	Driving and Goods Movement	Upgrade and coordinate traffic signals	■ ■
M-1	Maintenance	Implement cross-jurisdictional maintenance program	■ ■ ■
T-1	Transit	Improve access to the Richmond Parkway Transit Center	■ ■

■ ■ = Meets Many Goals ■ ■ ■ = Meets Most Goals

PH-1 PUBLIC HEALTH

$$$$

Implement new truck routes

Goals Alignment
Meets Most Goals

Lead Agency
Contra Costa County: Planning, Public Works

Coordinating Agency
WCCTC, CHP, CalTrans, City of San Pablo, City of Richmond

Completion Timeframe
0 to 2 years

Actions

Update designated truck routes

Update designated truck routes in North Richmond, where there are large industrial-use generators, to ensure connections between truck-generating uses and the Parkway avoid residential neighborhoods to the extent feasible.

Enforce designated truck routes

Install cameras for legal automated monitoring and enforcement of heavy vehicles exceeding vehicle size limits.

Benefits

Improved neighborhood sound quality

Reducing truck-related noise pollution, which can be damaging above **85 decibels 50 feet** away, can decrease stress and improve sleep quality.[1]

Reduced exposure to emissions

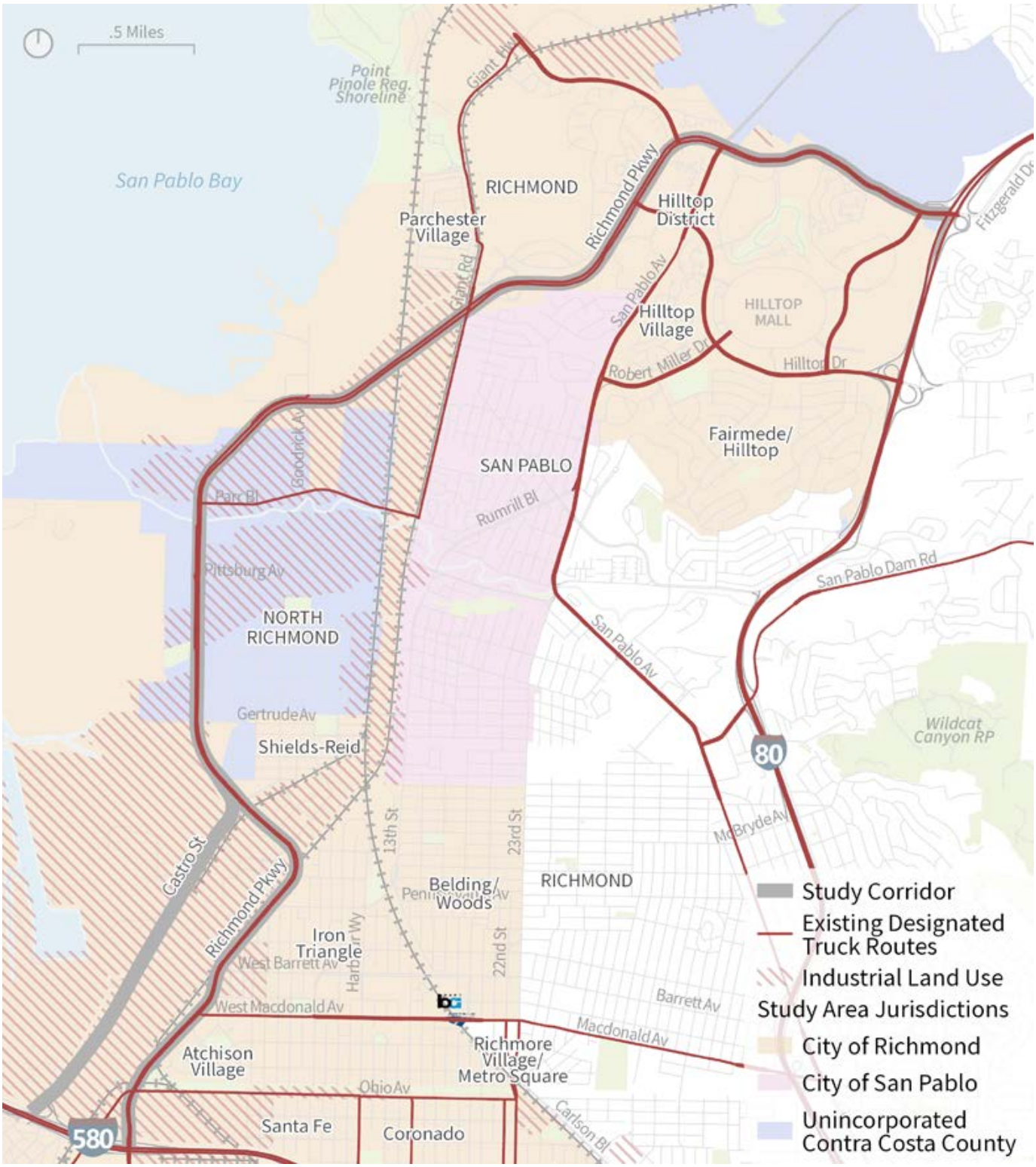
Trucks emit pollutants at a rate of **1.15 times** more than passenger vehicles, which contributes to respiratory and cardiovascular diseases.[2] Redirecting truck traffic from sensitive sites and residential neighborhoods reduces exposure to these emissions, leading to **better air quality and fewer health issues**, such as asthma.[3]

1. Community and Environmental Defense Services, "Truck Stops & Neighborhood Quality of Life," 2024.
2. EPA, US EPA Archive Document on Idling Reduction; EPA, 2024.
3. OEHHA, 2021.

Figure 23:

Map of Existing Designated Truck Routes

PH-1



Source: Richmond General Plan 2030, 2016. Industrial land use areas include land that is used for the manufacturing, storage, processing, or packaging of goods and materials.

PH-2 PUBLIC HEALTH

$$$$

Trees and green infrastructure

Goals Alignment
Meets Most Goals

Lead Agency
City of Richmond: Public Works, Contra Costa County: Public Works

Coordinating Agency
Groundwork Richmond, Contra Costa County: Planning

Completion Timeframe
Ongoing

Actions

Incorporate trees and green infrastructure

Incorporate trees and green infrastructure, such as bioretention planters, into all capital projects where feasible.

Benefits

Improved air quality

Planting trees along sections of the nine-mile corridor would improve local air quality by capturing **213.6 metric tons** of CO2 by 2050, the equivalent of removing **46 cars** from the road driving a combined **529 thousand miles** annually.[1]

Increased tree cover and lower temperatures

Adding about 800 trees to the tree cover will provide shade along the entire corridor. This strategy can lower surface temperatures by up to **11 degrees Fahrenheit**, which has the potential to save lives as climate change increases the frequency of extreme heat episodes.[2]

Improved drainage and water quality

Bioretention planters provide, on average, **56% to 89% stormwater volume reduction** and are proven to **filter pollutants** from stormwater, reducing flooding along the corridor and improving water quality.[3]

1. ESA, 2024.
2. Rx FOR HOT CITIES, 2023.
3. EPA, NPDES: Stormwater Best Management Practice—Bioretention (Rain Gardens), 2021.

Additional Details

PH-2

Street trees

Increased tree cover improves air quality by removing particulate matter, and reduces surface temperatures by providing shade and increasing moisture in the air. Trees also help manage runoff, reduce erosion caused by rain, and promote infiltration, which all work to reduce potential flooding.[1]

Public domain image.

Bioretention planters

Installing bioretention planters helps manage stormwater runoff by capturing, treating, and absorbing runoff from the street, while recharging the local groundwater supply.

Image source: City of Raleigh.

1. ESA, " Soak Up the Rain: Trees Help Reduce Runoff," 2024.

PH-3 PUBLIC HEALTH

$$$$

Prohibit truck parking and idling in neighborhoods

Goals Alignment
Meets Many Goals

Lead Agency
Contra Costa County: Planning, City of Richmond: Public Works, BAAQMD

Coordinating Agency
City of Richmond: Planning, Contra Costa County: Planning, CHP

Completion Timeframe
0 to 2 years

Actions

Install signage prohibiting truck activity

Place no truck parking and no idling zones judiciously to reinforce but not overburden truck operations. Install signs in strategic locations such as residential areas and near sensitive receptors (e.g. schools, hospitals, parks) indicating no-idling zones and displaying the associated fines.

Benefits

Improved air quality

Trucks idle at a rate of **1 gallon of diesel** per hour on average, which releases more than **500 pounds of CO2 emissions** per day.[1] This strategy would reduce local exposure to these truck emissions.

Reduced health risks

Higher CO2 levels contribute significantly to the prevalence of asthma and the risk of heart and lung disease. Reducing emissions will positively affect the **99th and 98th percentile asthma rates** near the Parkway in the North Richmond and the Iron Triangle neighborhoods.[2]

1. EPA, US EPA Archive Document on Idling Reduction; EPA, 2024.
2. California Office of Environmental Health Hazard Assessment, 2021.

Additional Details

No-idling signage

No-idling signs are enforcement signs regarding truck parking or idling and can include associated fines. Detering this truck activity can improve the local air quality.

Image source: Traffic Signs.

S-1 SAFETY

$$$$

Safety improvements at intersections

Goals Alignment
Meets Most Goals

Lead Agency
Contra Costa County: Public Works, City of Richmond: Public Works

Coordinating Agency
Caltrans, MTC, West County Wastewater, CCTA, BNSF

Completion Timeframe
6 to 10 years

Actions

Install safety enhancements

Install safety treatments per the following Intersection Safety Recommendations pages. These treatments include but are not limited to: high visibility crosswalks, curb ramps and curb extensions/ bulbouts, turn delineators to slow down left turn speeds, conflict zone markings for bicycle crossings, pedestrian refuge islands, removing slip lanes, and lighting (overhead lighting, pedestrian- and bicyclist-scale lighting, bus stop lighting, visiblity and reflectivity of signage). Ensure bike lanes and intersections are adequately illuminated, particularly in high-traffic areas.

Improve safety at signalized intersections

Install safety treatments per the following Intersection Safety Recommendations pages. These treatments include but are not limited to: accessible pedestrian push buttons, pedestrian countdown signals, bicycle detection, striped trail crossings, and No Right Turn on Red signage.

Benefits

Safer streets for all

This strategy could lead to a **7% reduction** in all collisions.[1]

Safer streets for bicyclists and pedestrians

This strategy could lead to a **43% reduction** in injury collisions involving bicyclists or pedestrians.[1]

1. Caltrans, Local Roadway Safety Manual, 2024; City of Richmond Bicycle and Pedestrian Action Plan, 2023; City of Richmond General Plan, 2012; City of Richmond Local Road Safety Plan, 2023; Contra Costa County General Plan, 2005; Fehr and Peers, 2024; FHWA, CMF Clearinghouse, 2024; San Pablo General Plan, 2011.

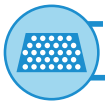
Figure 24:

Intersection Safety Recommendations

TREATMENTS AT EVERY INTERSECTION

HIGH-VISIBILITY CROSSWALKS

Mark all crosswalks with high-visibility striping and advance stop bars to improve pedestrian crossing visibility.



ACCESSIBLE CURB RAMPS

Install directional ADA curb ramps.

ACCESSIBLE PEDESTRIAN SIGNALS

Install audible pedestrian signals and accessible push buttons at crossings.

REFLECTIVE BACKPLATES

Install reflective backplates on signals to enhance the visibility of traffic signals.

BIKE DETECTION

Install bike detection at signalized intersections.

LIGHTING AND REFLECTIVITY

Improve overhead, pedestrian-scale, and bus stop lighting to increase visibility of all road users. Increase visibility and reflectivity of all signage.

TREATMENTS AS NEEDED

STRAIGHTEN CROSSWALKS

Straighten crosswalks to improve sightlines and shorten pedestrian crossing distances.

TIGHTEN CURB RADII

Reduce curb radii to slow down vehicle turning speeds, shorten pedestrian and bicyclist crossing distances, and provide more sidewalk space for pedestrians and bicyclists.

RAISED CROSSWALKS

Install a raised crosswalk in the right-turn slip lane to reduce turning speeds.

INSTALL PORKCHOP ISLAND WITH RAISED CROSSWALK

Where large vehicles must turn, install a porkchop island to reduce crossing distances and provide a raised crosswalk to reduce speeds.

MAJOR BIKE INTERSECTION IMPROVEMENTS

Install protected intersection to support bicyclist turning movements and create slower interactions and clear sightlines.

MINOR BIKE INTERSECTION IMPROVEMENTS

Enhance or create new active transportation connection between bike facility and the Parkway with lighting and maintenance.

ENFORCE RIGHT-TURN ONLY LANES

Promote self-enforcement of right-turn only lane by installing a far-side bulbout and enhancing related signage.

NO RIGHT-TURN ON RED

Prohibit vehicle right-turn on red at path and separated bikeway crossings of the minor street to reduce conflicts.

PROTECTED RIGHT-TURN PHASE

Provide protected right-turn phase to remove vehicle-bike and vehicle-pedestrian conflicts in time.

PEDESTRIAN COUNTDOWN SIGNALS

Install pedestrian countdown timers to display the crossing time remaining.

MEDIAN REFUGE ISLANDS

Provide pedestrians a place to wait if they are unable to finish crossing an intersection.

RAILROAD CROSSING ARMS

Install railroad crossing arms for pedestrian and bicyclist safety.

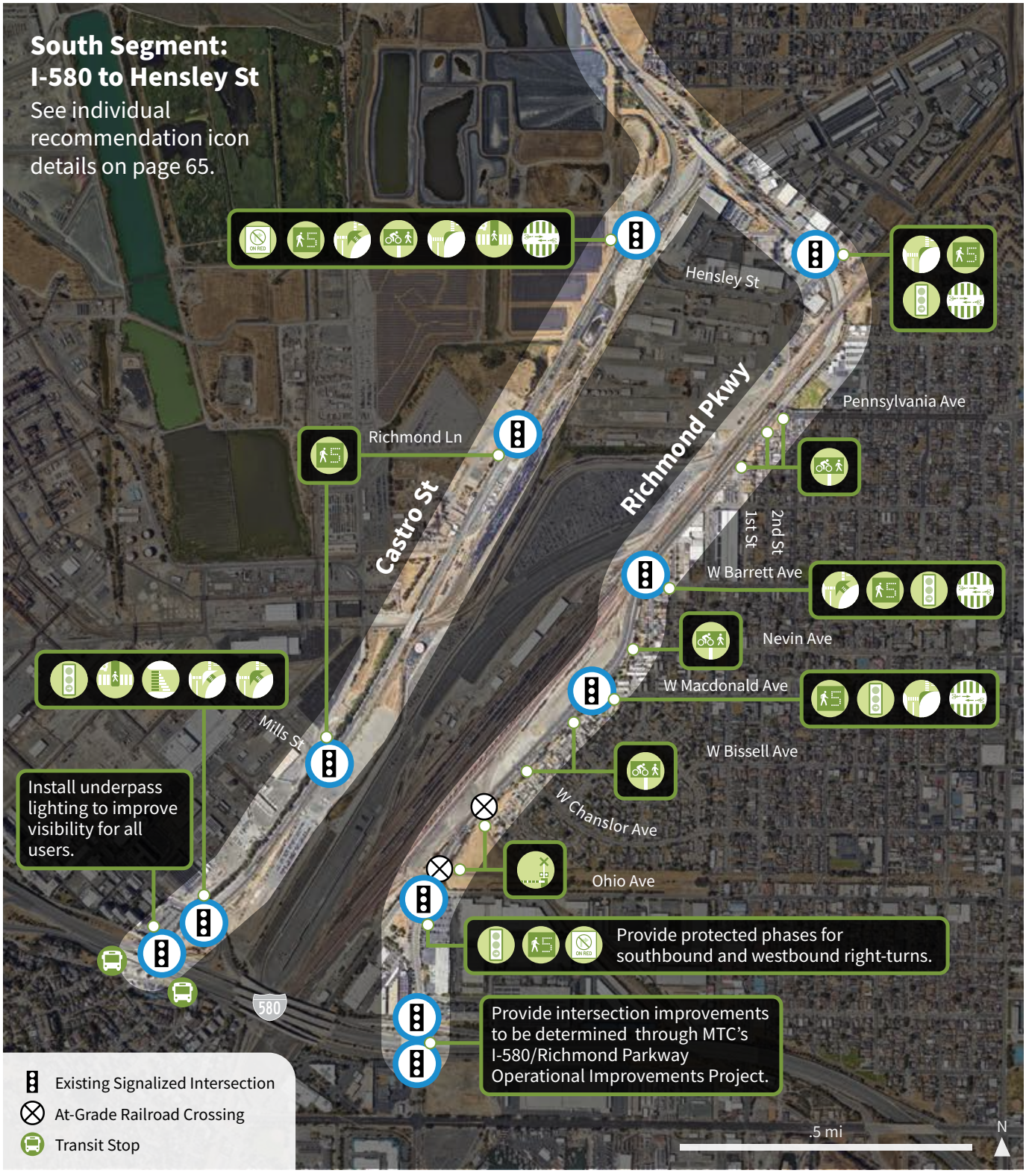
STRIPE TRAIL CROSSING

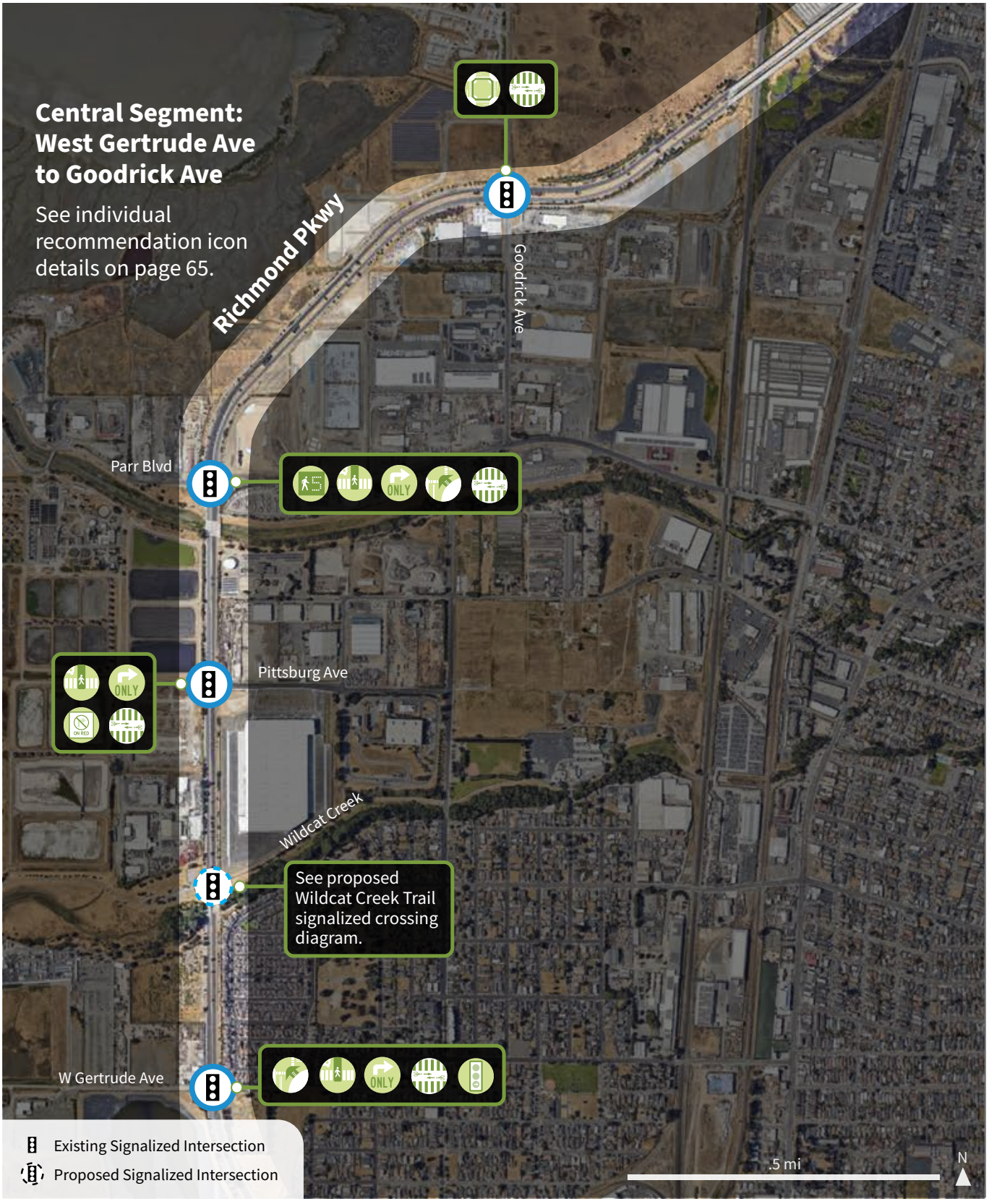
Stripe crosswalk to indicate trail crossing and improve user visibility.

Figure 25:

Intersection Safety Recommendations (Cont.)

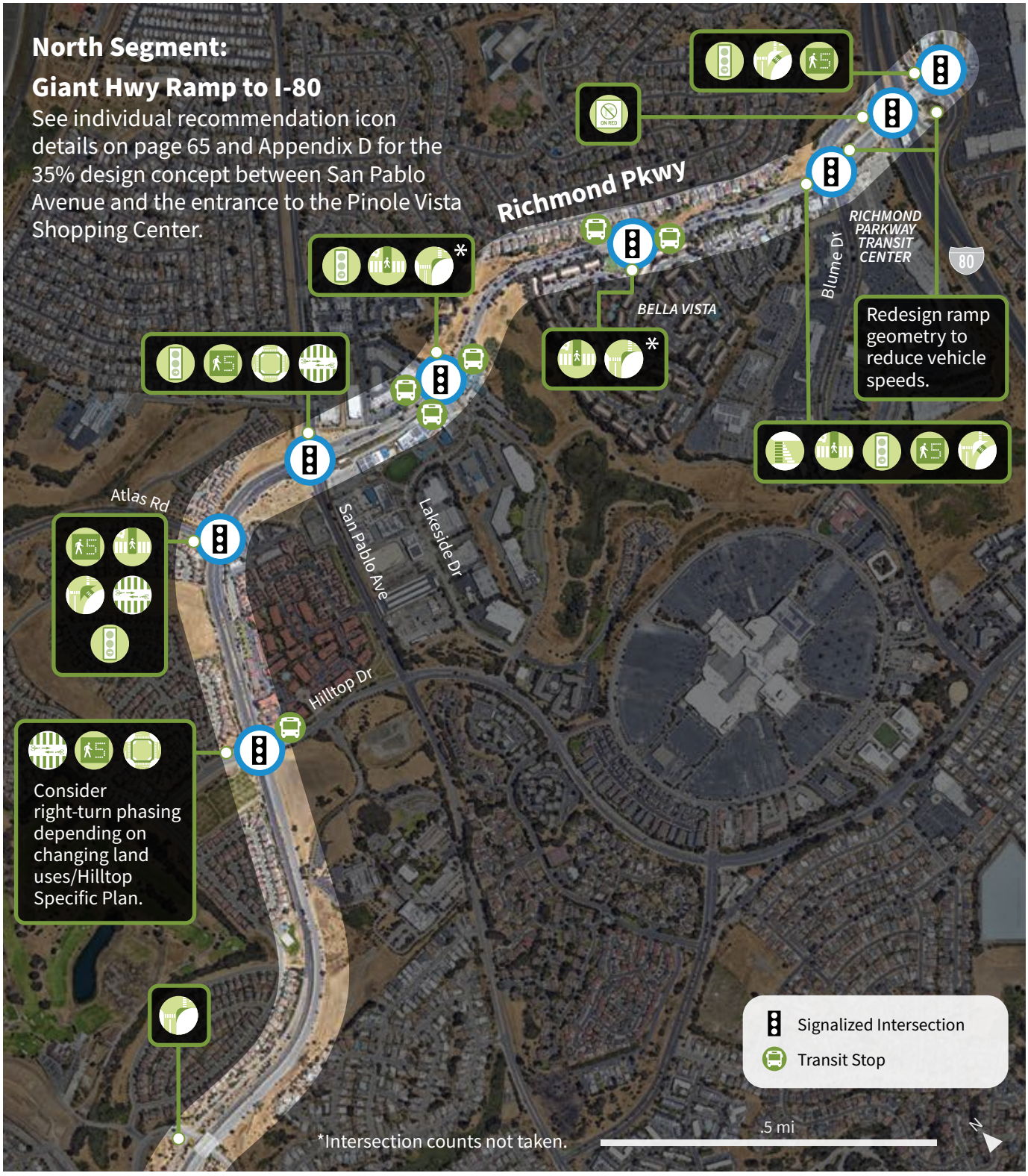
S-1




Central Segment:
West Gertrude Ave
to Goodrick Ave
See individual recommendation icon details on page 65.
Richmond Pkwy
Goodrick Ave
Parr Blvd
Pittsburg Ave
Wildcat Creek
See proposed Wildcat Creek Trail signalized crossing diagram.
W Gertrude Ave
ONLY
Existing Signalized Intersection
Proposed Signalized Intersection
.5 mi
N

Intersection Safety Recommendations (Cont.)

S-1



S-2 SAFETY

$$$$

Reduce speeding

Goals Alignment
Meets Many Goals

Lead Agency
City of Richmond: Public Works, Contra Costa County: Public Works

Coordinating Agency
City of Richmond: PD; California Highway Patrol

Completion Timeframe
3 to 5 years

Actions

Install speed-monitoring systems

Add radar speed feedback signs or implement pilot of speed cameras at high speeding locations. Speed cameras are currently not allowed under state law, but legislation passed in 2023, Assembly Bill 645, authorizes six designated cities across California to implement a speed camera pilot program.

Indicate speed limits

Add speed limit signs and lower the speed limit throughout the Parkway if allowed under state law.

Benefits

Safer streets for all

This strategy could lead to a **20% reduction** in all collisions.[1]

1. Caltrans, Local Roadway Safety Manual, 2024; FHWA, CMF Clearinghouse, 2024.

Additional Details

Radar speed signs

Radar speed feedback signs are cost-effective traffic calming solutions that reduce average vehicle speeds and slow speeding drivers.

Image Source: Trafficalm.

WB-1 WALKING AND BIKING

$$$$

Upgrade bikeways and connect sidewalk gaps

Goals Alignment
Meets Most Goals

Lead Agency
City of Richmond: Public Works, Contra Costa County: Public Works

Coordinating Agency
MTC, CCTA, WCCTC, City of Pinole, EBRPD

Completion Timeframe
6 to 10 years

Actions

Upgrade Bay Trail facilities

Upgrade the Bay Trail to align with Bay Trail Design Guidelines, including adding clear and visible signage, particularly where the Bay Trail transitions to bikeways on Richmond Parkway. Realign Bay Trail between Hensley St and Gertrude Ave to western side of Castro St and Richmond Parkway. Create buffers to physically separate bicyclists from motor vehicle traffic using landscaping to enhance bicyclist comfort and safety. Coordinate with the San Francisco Bay Restoration Authority on the Living Levy project plans to improve pedestrian and operations access along Pittsburg Ave.

Install high-quality on-street bikeways

Install bike facilities, independent of the Bay Trail, with physical buffers to separate bicyclists from motor vehicles and improve bicyclist comfort and safety. Ensure bike lanes and intersections are adequately illuminated, particularly in high-traffic areas.

Close sidewalk gaps

Install new sidewalks to close sidewalk gaps. Where sidewalk is missing on one side of the street along inactive land uses, condition future developers to install sidewalks.

Benefits

Increased access for pedestrians

Creates a more direct and usable path for pedestrians along the entire Parkway, improving connections to bus stops, Richmond Parkway Transit Center, nearby parks, schools, and community services.

Increased access for bicyclists[1]

Within 20 minutes, residents near the North segment would be able to access up to...

2x more amenities[2]
3x more jobs
3x more park area by biking

Within 20 minutes, residents near the Central segment would be able to access up to...

5x more amenities[2]
2.5x more jobs
4x more park area by biking

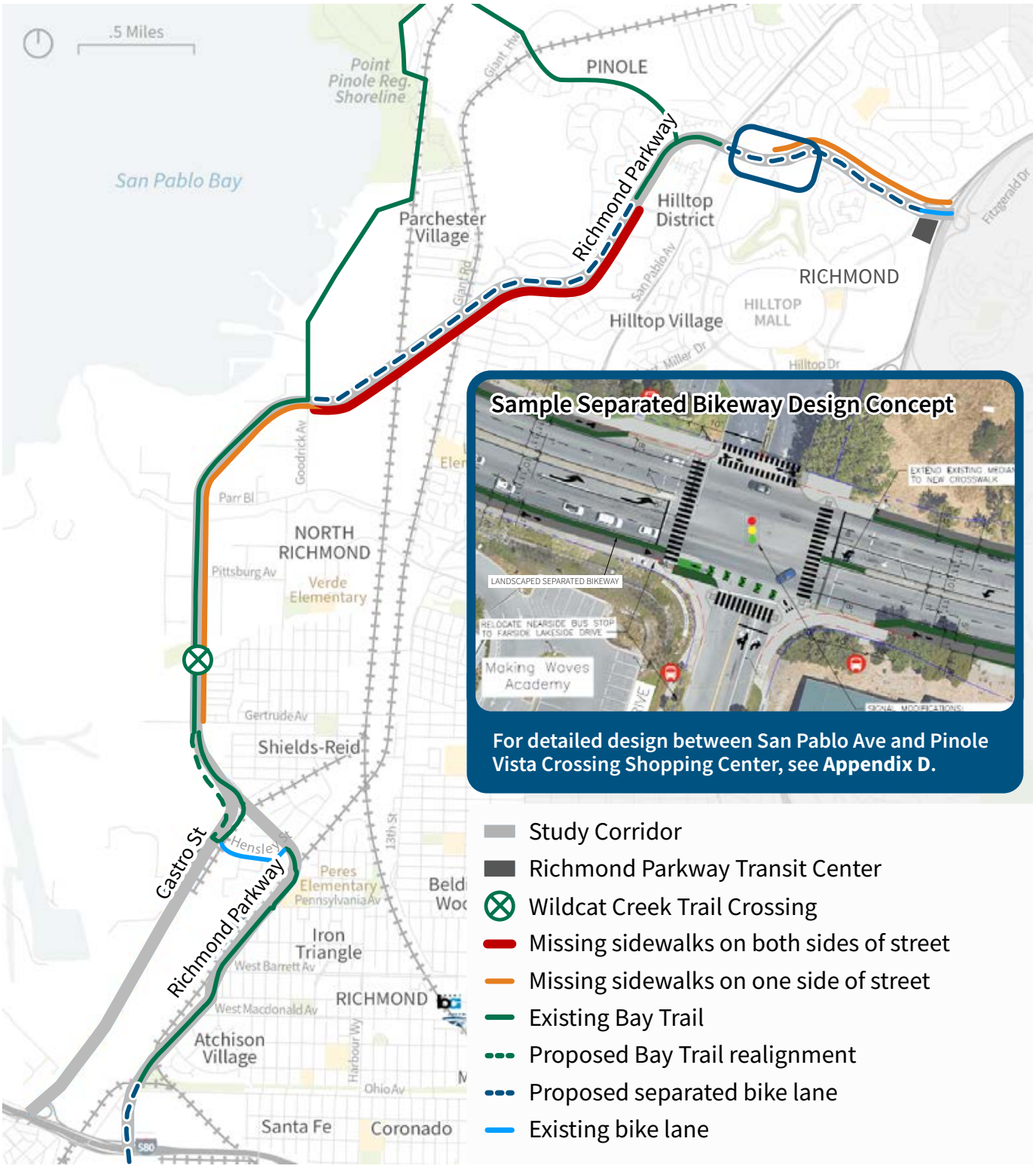
Within 20 minutes, residents near the South segment would be able to access up to...

10% more amenities[2]
20% more jobs
5% more park area by biking

1. ESA, 2024; TravelAccess+, Fehr and Peers, 2024; LEHD, 2023. North segment includes areas east of San Pablo Ave and north of El Portal Dr, covering Tara Hills, Hilltop Village, Hilltop District, and Rollingwood. Central segment includes areas west of San Pablo Ave and north of Gertrude Ave/Costa Ave, covering San Pablo, North Richmond, and Parchester Village. South segment includes areas south of Gertrude Ave/Costa Ave, including Shields-Reid, Iron Triangle and Santa Fe.
2. Amenities include day cares, hospitals, schools, supermarkets and emergency services.

Figure 26:

Sidewalk Gaps and Recommended Bikeways



Source: Richmond Bicycle and Pedestrian Action Plan, 2023.

WB-2 WALKING AND BIKING

$$$$

On-street Wildcat Creek Trail crossing

Goals Alignment
Meets Many Goals

Lead Agency
Contra Costa County: Public Works

Coordinating Agency
EBRPD, City of Richmond: Public Works, MTC, West County Wastewater, WCCTC

Completion Timeframe
3 to 5 years

Actions

Add a signalized crossing

Develop at-grade signalized multi-use crossing of Wildcat Creek Trail, install lighting, add signage along Wildcat Creek Trail to indicate distance traveled or what facilities are provided/nearby.

Benefits

Increased multimodal access

Improving the Wildcat Creek Trail Crossing through near-term improvements would connect nearly 1 mile of trail east of the Parkway with 1.4 miles of trail west of the Parkway when the underpass is flooded, resulting in a total of **2.2 miles of low stress bicycle facilities**.[1]

Improved crossing usage and experience

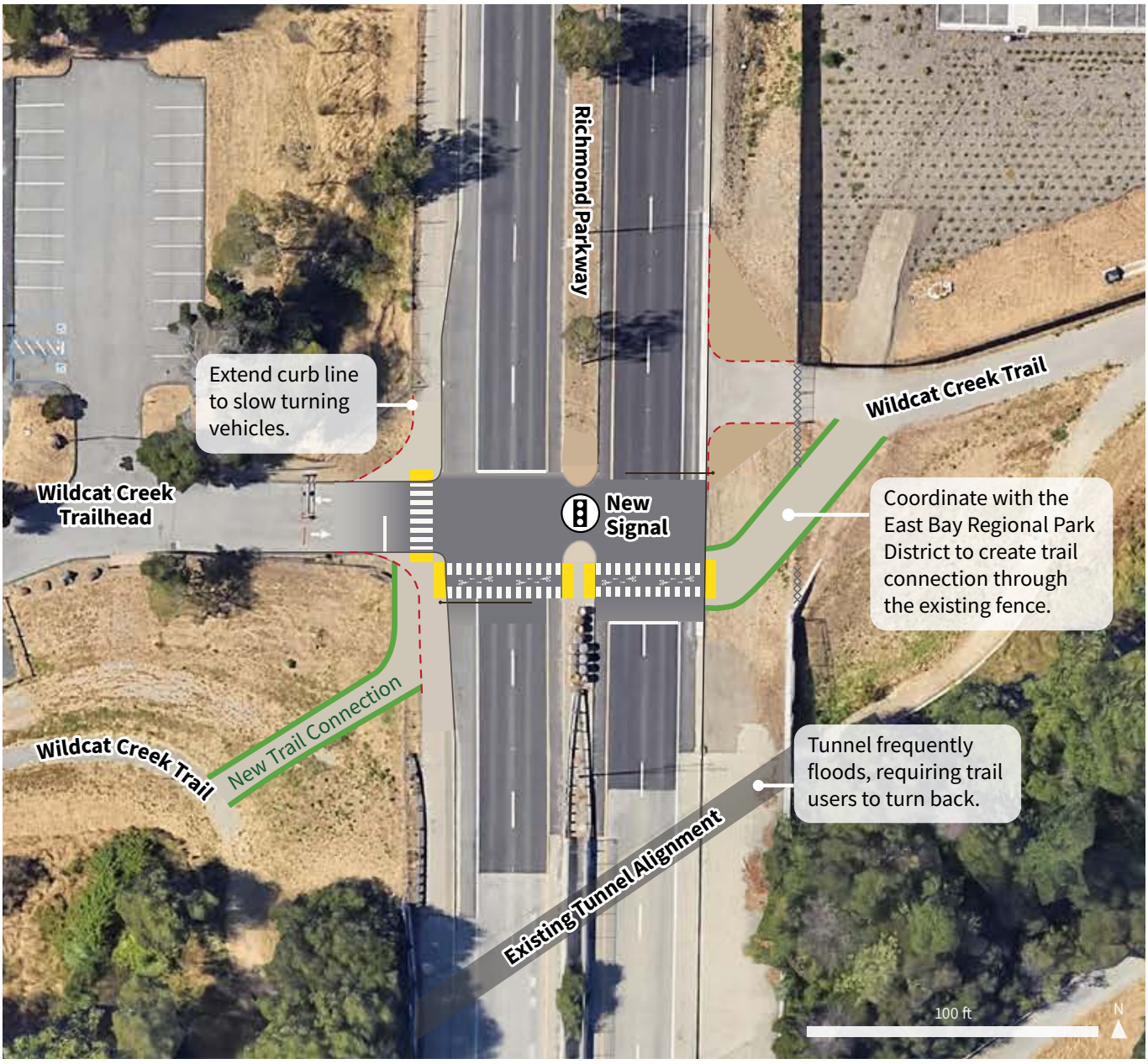
Provides a **functioning, year-round crossing** resilient to sea level rise effects and resolves the current flooding of the existing tunnel.

1. Fehr & Peers, 2024.

Previous planning efforts, such as the **San Francisco Estuary Partnership's Restoring Wildcat Creek: Community-Led Watershed Health Update and Priority Project Implementation** project, have identified a community desire for a grade-separated crossing at this location. The Richmond Parkway Transportation Plan recommends installing a signalized crossing to improve conditions in the nearer term as overcrossing costs are significant and will require a longer time horizon to fund and construct.

Figure 27:

Proposed Signalized Crossing at Wildcat Creek Trail



DG-1 DRIVING AND GOODS MOVEMENT

$$$$

Upgrade and coordinate traffic signals

Goals Alignment
Meets Many Goals

Lead Agency
City of Richmond: Public Works; Contra Costa County: CCTA

Coordinating Agency
Caltrans, MTC

Completion Timeframe
3 to 5 years

Actions

Implement signal coordination

Implement signal coordination along the Parkway in the peak period and optimize corridor-wide cycle lengths. Consider signal operations, pedestrian delay, and impact on speed.

Upgrade signal infrastructure

Install a connected battery backup system and a central signal management system. Upgrade signal hardware and software to allow automated traffic signal performance measures. Investigate, test, and deploy a system that allows for emergency vehicle preemption and transit prioritization at signalized intersections. Consider an adaptive traffic signal system.

Benefits

Travel time savings[1]

Coordinating the signals along the Parkway could save drivers up to...

13 minutes
in the **northbound** direction in the **afternoon** peak period.

3 minutes
in the **southbound** direction in the **morning** peak period.

Reduced idling

Time travel savings may reduce vehicle **emissions and driver frustrations** from sitting at lights, improving local air quality and discouraging dangerous driving actions such as running red lights, speeding, and driving on the shoulder lane.

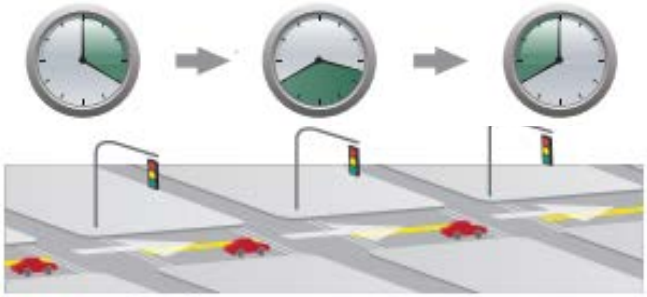
Improved emergency services and bus reliability

Signal priority for emergency services or transit at signalized intersections can **improve the speed** of emergency responders in reaching a scene and **increase the time available** for making critical decisions, as well as improve or increase **bus reliability** along the corridor.

1. Fehr & Peers, SimTraffic Model, 2024. Travel time savings are greater in the northbound direction since it is more heavily impacted by existing traffic congestion, particularly during the evening commute period as discussed in Chapter 2.

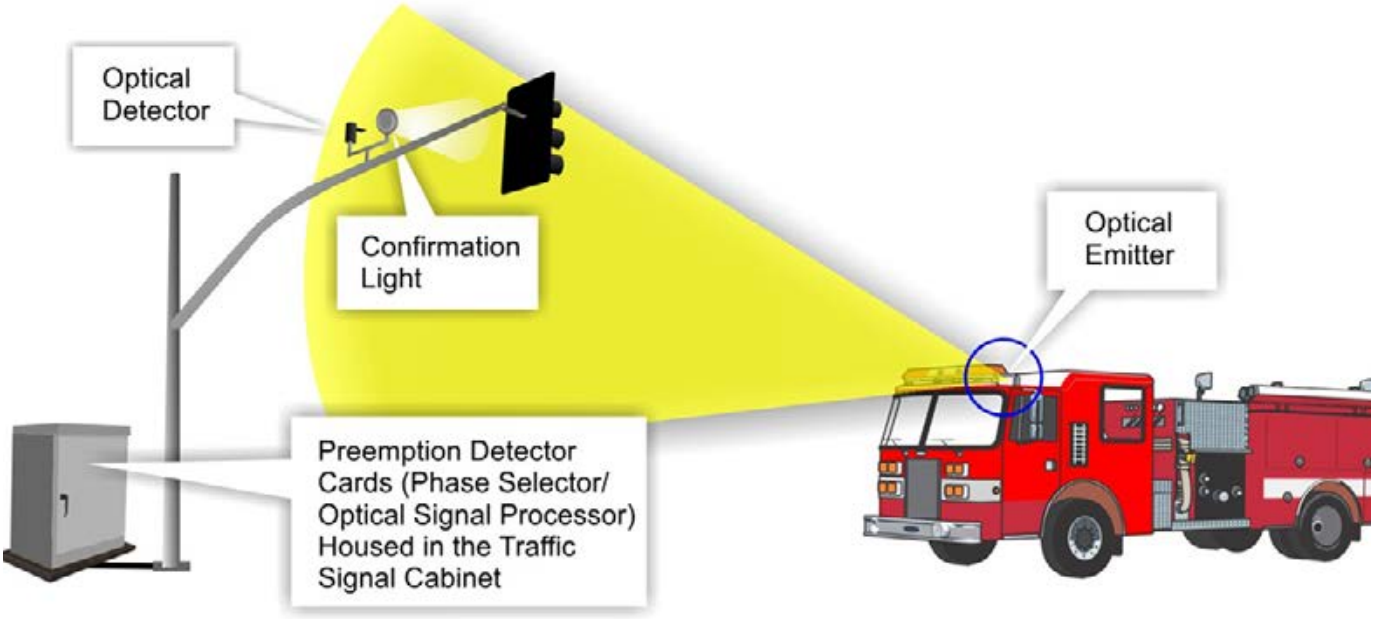
Additional Details

Traffic signal coordination



Coordinating traffic signals synchronizes the timing of multiple intersections to improve traffic flow and reduce delays. This can result in less braking, improve goods movement efficiency, and discourage neighborhood cut-through traffic. Contra Costa Transportation Authority (CCTA) is currently leading a Smart Signals Project to upgrade and coordinate traffic signals at over 300 intersections throughout the county to optimize traffic flow and reduce congestion, providing a potential avenue for traffic signal funding on the Parkway.

Image source: UDOT.



Emergency vehicle preemption (EVP) technology

EVP technologies allow signals to modify their signal timing to provide a green light as soon as possible for an approaching emergency vehicle.

Image source: Maripoca Association of Governments.

M-1 MAINTENANCE

$$$$

Implement cross-jurisdictional maintenance program

Goals Alignment
Meets Most Goals

Lead Agency
Contra Costa County: Public Works, City of Richmond: Public Works

Coordinating Agency
CCTA, WCCTC

Completion Timeframe
0 to 4 years

Actions

Implement a corridor-wide maintenance program with a maintenance manager

Implement a consistent management program assigned to upkeep the Parkway and provide a plan on what maintenance is, how it is performed, how it can be budgeted, and why it is needed. The County and the City first need to approve an MOU for advancement by providing a statement of staff time commitments, legal resources, actual support from elected officials, and review process.

The program will need to determine the feasible maintenance level, associated analyses, and implementation costs for, but not limited to, the following items: roadway pavement, striping, shared use path pavement, signage life, signals, street lights, street sweeping, drainage systems, and vegetation. Following program development, which may be developed with the assistance of a maintenance consultant, identify a cross-jurisdictional maintenance manager for implementation.

Benefits

Reduced emissions and costs to drivers

Improved pavement conditions could save drivers up to **4%-10%** of fuel consumption, repair and maintenance, and tire wear. Reducing fuel consumption and tire wear reduces emissions and microplastics, improving air and water quality and protecting the environment by reducing the use of natural resources.[1,2]

Improved safety

Improved pavement friction at intersections provides numerous benefits: improved driver control, reduced stopping distances, reduced skidding, and a **20% reduction** in total intersection crashes.[3]

Improved coordination and response

Consolidating maintenance responsibilities under one central manager allows for improved coordination between agencies, cost savings due to consolidation, and a **more timely response** to concerns.

1. SMOOTHNESS MATTERS, Asphalt Pavement Alliance, 2008.

2. Reynolds, R. L., Molden, N., Kokaly, R. F., Lowers, H., Breit, G. N., Goldstein, H. L., et al. (2024). Microplastic and associated black particles from road-tire wear: Implications for radiative effects across the cryosphere and in the atmosphere. Journal of Geophysical Research: Atmospheres, 129, e2024JD041116.

3. How Pavement and Bridge Conditions Affect Transportation System Performance, FHWA, 2023.

Additional Details

Pavement Condition Index (PCI) Scores

Consistent pavement maintenance helps extend the useful life of pavement. PCI scores measure the health of a road's pavement, ranging from 0 (worst) to 100 (best). A PCI score of at least 70 is desired. Factors that affect a PCI score include the age of the pavement/when the roadway was last paved, climate and precipitation, traffic loads, and available maintenance funding. Keeping the Parkway in good pavement condition will require more constant maintenance due to consistent heavy truck traffic; this may include pavement milling and overlaying with digouts, slurry sealing, and practices that better accommodate the weight of trucks. Regularly maintaining the roadway is less costly than major pavement reconstruction.

MTC's StreetSaver software includes network PCI data as well as projected PCI information, assuming various maintenance scenarios, to help jurisdictions make maintenance decisions. The current PCI scores across different segments of Richmond Parkway range from 3 to 92. Segments with low PCI scores would require reconstruction of the pavement surface whereas segments with a high PCI score could be treated with a slurry seal.

Castro Street approaching Richmond Lane in good pavement condition (high PCI score) in 2013.

Image source: AA Roads, 2013.

T-1 TRANSIT

$$$$

Improve access to the Richmond Parkway Transit Center

Goals Alignment
Meets Many Goals

Lead Agency
AC Transit, City of Richmond: Public Works, MTC[1]

Coordinating Agency
Caltrans, CCTA, WestCAT, WCCTC

Completion Timeframe
3 to 5 years

Actions

Support transit access

Install bus pullout stops on Richmond Parkway for Richmond Parkway Transit Center (RPTC) routes and shift eastbound bikeway south of the bus stops. These bus bays would allow southbound buses traveling from I-80 or eastbound buses from Richmond Parkway to serve riders without turning onto Blume Drive and circulating within the Transit Center, saving a significant amount of time (northbound or westbound buses would still be required to enter the Transit Center).[1]

Support pedestrian access

Develop formal pedestrian connection between the northwest corner of the RPTC and Richmond Parkway. Upgrade faded crosswalk markings within the Transit Center.

Provide bicycle storage

Install bike lockers at the RPTC consistent with the Association of Pedestrian & Bicycle Professionals guidance.

Benefits

Improve transit reliability

Access enhancements would reduce travel time delays associated with buses circulating within the RPTC, saving approximately **13,000 annual rider hours** for WestCAT express routes. Time travel savings across operators would be greater.[2]

Support potential mode shift

Providing secure bicycle lockers for **long term parking (2+ hours)** encourages bicycle owners to bike to transit as a first/last mile connection.[3]

Improve pedestrian experience

Creating a direct formal pedestrian connection from the Parkway would **enhance comfort and access** for users who currently walk through landscaping or take a less direct route from Blume Drive to enter the RPTC. Providing a marked crosswalk will also **improve visibility** of these pedestrians.

Additional Details

Richmond Parkway Transit Center Access Enhancement

Improvements would install three new curbside bus stops, a rerouted separated bikeway, and a direct pedestrian connection for users coming in and out of the RPTC.

Source: West Contra Costa County Express Bus Implementation Plan, WCCTC, 2020.

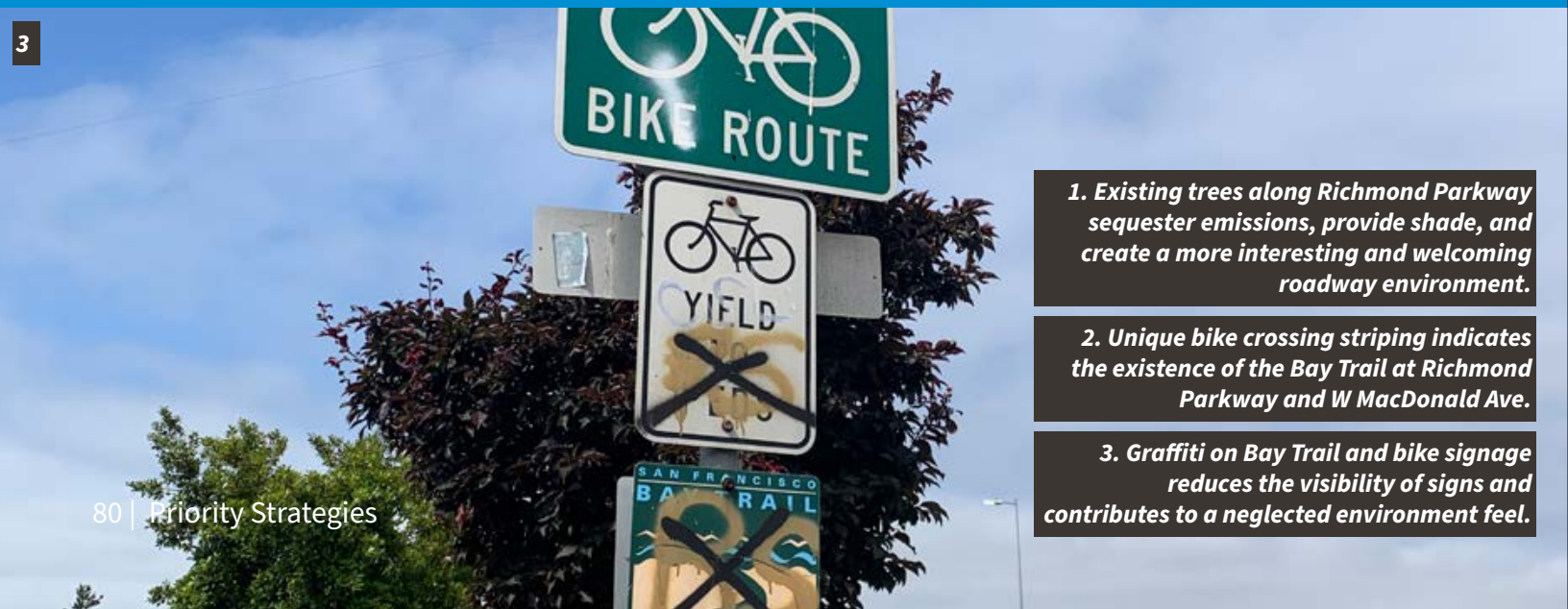
Bike lockers

Providing bike lockers will provide safe storage areas for people to store their bicycles, supporting a potential mode shift, as secure bicycle storage does not currently exist at the Richmond Parkway Transit Center.

1. MTC is considering the implementation of this strategy as part of its Bay Bridge Forward work along I-80.
2. West Contra Costa County Express Bus Implementation Plan, WCCTC, 2020.
3. Bicycle and Transit Integration, A Practical Transit Agency Guide to Bicycle Integration and Equitable Mobility, APTA, 2018.

1

2



3

1. Existing trees along Richmond Parkway sequester emissions, provide shade, and create a more interesting and welcoming roadway environment.

2. Unique bike crossing striping indicates the existence of the Bay Trail at Richmond Parkway and W MacDonald Ave.

3. Graffiti on Bay Trail and bike signage reduces the visibility of signs and contributes to a neglected environment feel.

Additional funding is needed to upgrade the Bay Trail along Richmond Parkway to align with Bay Trail Design Guidelines, as outlined in the priority strategies.

CHAPTER 6

Implementation and Funding

IMPLEMENTING THE PRIORITY STRATEGIES

Given the regional and economic importance and 9-mile span of the Parkway, implementation will require multi-jurisdictional efforts and substantial funding. **Table 4** highlights partnership opportunities and jurisdictional responsibility for each of the priority strategies introduced in **Chapter 5**. For each priority strategy, lead agencies, coordinating agencies, cost estimates, and completion timeframes for delivering the strategy are listed.

Table 4: Priority Strategies Implementation Plan

Category	ID	Strategy Name	Lead Agencies
Public Health	PH-1	Implement new truck routes	Contra Costa County: Planning, Public Works
	PH-2	Incorporate trees and green infrastructure	City of Richmond: Public Works; Contra Costa County: Public Works
	PH-3	Prohibit truck parking and idling in neighborhoods	Contra Costa County: Planning; City of Richmond: Public Works
Safety	S-1	Install safety improvements at intersections	Contra Costa County: Public Works; City of Richmond: Public Works
	S-2	Reduce speeding	City of Richmond: Public Works; Contra Costa County: Public Works
Walking and Biking	WB-1	Upgrade bikeways and connect sidewalk gaps	City of Richmond: Public Works; Contra Costa County: Public Works
	WB-2	Install on-street Wildcat Creek Trail crossing	Contra Costa County: Public Works
Driving and Goods Movement	DG-1	Upgrade and coordinate traffic signals	City of Richmond: Public Works; CCTA
Maintenance	M-1	Implement cross-jurisdictional maintenance program	Contra Costa County: Public Works; City of Richmond: Public Works
Transit	T-1	Improve access to the Richmond Parkway Transit Center	AC Transit; City of Richmond: Public Works; MTC

Completion timeframe covers program development. Additional costs will vary depending on program development.
1. Assumes a 4% inflation rate with construction occurring in 2030. Some costs may be duplicated across strategies, such as landscaping under PH-2 and landscape separated bikeways under WB-1, and cameras under PH-1 and traffic signal upgrades under DG-1. 2. See **Appendix F** for more details on cost estimates. 3. Funding already secured via CNRA Urban Greening Grant for tree

Agencies identified as lead are charged with advancing the assigned strategies and ensuring adequate funding and staffing for implementation. Coordinating agencies may have prior planning knowledge or funding streams valuable for implementation, be working on similar efforts or efforts affected by the strategy, or have a role in post-implementation operation. For example, MTC and East Bay Regional Parks District (EBRPD) could have a role in identifying funding for Bay Trail improvements in strategy WB-1. These priority strategies will bring substantial improvements to the corridor and lead agencies can look for opportunities to initiate these strategies immediately regardless of target completion timeframe.

Coordinating Agencies	Cost Estimate[1,2]	Completion Timeframe Target
WCCTC, CHP, Caltrans, City of San Pablo, City of Richmond	Planning: $40,000 Truck monitoring/enforcement camera: $30,000 per location, a total of 23 signals along the corridor	0-2 years
Groundwork Richmond, Contra Costa County: Planning	$2,900,000 to $7,420,000 per mile[2, 3]	Ongoing
BAAQMD, City of Richmond: Planning, Contra Costa County: Planning, CHP	Planning: $5,000 Sign installation: $700 per sign	0-2 years
Caltrans, MTC, West County Wastewater, CCTA	$1,100,000 per intersection	6-10 years
City of Richmond: PD, CHP	Speed limit study: $10,000 Speed signs: $55,000 per location[4]	0-2 years
MTC, CCTA, WCCTC, City of Pinole, EBRPD	Sidewalks: $4,400,000 per mile Separated Bikeways: $18,000,000 per mile Bay Trail: $7,960,000[5]	6-10 years
EBRPD, City of Richmond: Public Works, MTC, West County Wastewater, WCCTC	$2,560,000	3-5 years
Caltrans	$5,500,000 for the corridor (23 intersections)	3-5 years
CCTA, WCCTC	Pavement treatment: $32,790,000 General maintenance: $483,100 annually	0-4 years
Caltrans, CCTA, WestCAT, WCCTC	Parkway bus stops and pedestrian connection: $1,297,000 Bicycle lockers: $55,500	3-5 years

planting along Richmond Parkway adjacent to Atchison Village and in North Richmond. Other segments require funding. Low end of range assumes general landscaping only, while high end of range assumes bioretention with landscaping.
4. Speed cameras currently not permitted under state law. Costs to be determined when legalized. 5. Includes cost of Bay Trail realignment between Gertrude Avenue and Hensley Street and path widening between Parr Boulevard and Gertrude Avenue.

To advance the priority strategies in the near-term, **Table 5** includes immediate next steps for lead agencies to undertake as well as future steps. WCCTC and CCTA may assist with preparing grant applications, but lead agencies should also consider short-term mitigation measures for safety and accessibility through existing City/County programs. Due to the length of the corridor, capital improvement strategies should be grouped by corridor segment and assembled as packages for funding applications. For example, **Appendix D** includes a 35% design concept for a landscape separated bikeway on the northern segment of Richmond Parkway, which incorporates multiple priority strategies. Lead agencies can use the design concept to pursue funding in the near-term to address several existing challenges on this segment, including a concentration of speed-related injury collisions, absence of separated bikeways connecting to the Richmond Parkway Transit Center (RPTC), and an indirect bus connection to the RPTC.

Table 5: Priority Strategies Implementation Next Steps

Action	Priority Strategy ID(s)	Next Steps	Future Steps
Advance 35% design concept for northern segment of Richmond Parkway[1]	PH-2, S-1, S-2, WB-1, WB-2, T-1	Pursue grant funding sources that cover multiple strategy categories, such as RAISE Grant, RM3, and OBAG, to finalize design and construct project.[2]	Pursue funding for concept development for remaining segments of the Parkway and Bay Trail.
Implement new truck routes	PH-1	Given low implementation cost, assess existing staffing capacity and City/County funding sources to advance planning component.	Apply for funding if needed.[2]
Prohibit truck parking and idling	PH-3		
Upgrade and coordinate traffic signals	DG-1	Confirm previously-studied recommendations from the 2019 Program for Arterial System Synchronization (PASS) Report.	Apply for funding[2] and advocate for inclusion in CCTA's Countywide Smart Signals Project.
Implement Roadway Pavement and Maintenance Management Program	M-1	Confirm the City and County's interest in pursuing the action by approving an MOU to advance the program.	Negotiate agreement and determine guidelines for program development.

1. Segment includes Richmond Parkway between San Pablo Avenue and the entrance to the Pinole Vista Shopping Center. The segment carries multiple bus routes and bike lanes, connects to the Richmond Parkway Transit Center, and borders Equity Priority Community census tracts. See **Appendix D** for the 35% design concept. 2. List of potential funding sources by priority strategy is provided in **Appendix E.** WCCTC and CCTA may assist with preparing grant applications.

POTENTIAL CURRENT FUNDING SOURCES

To fully implement the many strategies in this plan, substantial funding will be needed. A full list of potential funding sources is provided in **Appendix E**. A sample of current federal, state, and regional funding sources that are aligned with multiple priority strategy categories are presented below. Changes in presidential administrations may effect the availability of some funding sources.

Rebuilding American Infrastructure with Sustainability and Equity Grant Program (RAISE)

RAISE grants are awarded to surface transportation projects that are consistent with the Department's strategic goals and will have significant local or regional impact.

Next Cycle: FY2025

When to Apply: Early 2025

Maximum Amount: $25M per project

Funding Source:

Federal

State

Regional

Administered By:

U.S. Department of Transportation Office of the Secretary

Lead Agencies:

Contra Costa County

City of Richmond

Applicable Strategies:

S-1 WB-1 DG-1 T-1

Bay Trail at the intersection of Hilltop Drive and Richmond Parkway.

Local Highway Safety Improvement Program (HSIP)

The HSIP Program funds work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that improves the safety for its users.

Next Cycle: Cycle 13

When to Apply: As early as May 2026

Maximum Amount: $10M per project

Funding Source:

Federal **State** Regional

Administered By:

Caltrans Division of Local Assistance

Lead Agencies:

Contra Costa County

City of Richmond

Applicable Strategies:

S-1 S-2 WB-1

Regional Measure 3 (RM3)

RM3 provides funding for a comprehensive suite of highway and transit improvements through an increase of tolls on the San Francisco Bay Area's seven state-owned toll bridges. RM3 has about $10 million that could be allocated to the priority strategies.

Next Cycle: Monthly

When to Apply: Monthly

Maximum Amount: $160M for Goods Movement, $150M for Bay Trail and Safe Routes to Transit

Funding Source:

Federal State **Regional**

Administered By:

Metropolitan Transportation Commission

Lead Agencies:

Contra Costa County

Contra Costa Transportation Authority

City of Richmond

Applicable Strategies:

PH-1 S-1 WB-1

WB-2 DG-1 T-1

Local Partnership Program Formula & Competitive Programs (LPP)

The LPP Program provides funding to local and regional agencies to improve aging infrastructure, road conditions, active transportation, transit and rail, and health and safety benefits.

Next Cycle: 2026

When to Apply: Fall 2026

Maximum Amount: $25M per project

Funding Source:

Administered By:

Caltrans Division of Local Assistance

California Transportation Commission

Lead Agencies:

Contra Costa Transportation Authority

City of Richmond

Applicable Strategies:

S-1 WB-1 WB-2 M-1 T-1

One Bay Area Grant Program (OBAG)

The One Bay Area Grant (OBAG), now in its third iteration, distributes federal transportation funding from the Federal Highway Administration to projects and programs that improve safety, spur economic development and help the Bay Area meet climate change and air quality improvement goals.

Next Cycle: OBAG 4

When to Apply: As early as 2026

Maximum Amount: $47.3M for Contra Costa County for 2023-2026

Funding Source:

Administered By:

Metropolitan Transportation Commission

Contra Costa Transportation Authority

Lead Agencies:

Contra Costa County

Contra Costa Transportation Authority

City of Richmond

Applicable Strategies:

PH-2 S-1 WB-1 WB-2 DG-1 T-1

POTENTIAL FUTURE FUNDING SOURCES

Since the Richmond Parkway is a regional facility, funding streams paid for by regional users should be considered. Potential future funding sources may include a new sales tax, regional measure, Enhanced Infrastructure Financing District (EIFD), and/or Benefit Assessment District. These options are described on the following pages. These tools could provide long-term, stable funding sources for priority strategies that require ongoing efforts, such as maintenance. Electeds and staff at the City of Richmond, Contra Costa County, and WCCTC will need to continue to advocate for project inclusion in future expenditure plans.

Faded crosswalk and degraded pavement at Goodrick Avenue and Richmond Parkway.

Transportation Sales Tax

A new Contra Costa transportation sales tax would generate stable funding for capital and operating uses laid out in an Expenditure Plan. Approval of the sales tax requires a ballot measure with two-thirds voter support.

Potential Sponsors:

Contra Costa Transportation Authority

City of Richmond

Applicable Strategy Categories:

Public Health | Safety | Walking and Biking | Driving and Goods Movement | Maintenance | Transit

Contra Costa County Measure J

In November 2004, Contra Costa voters approved Measure J with a 71% vote. The measure provided for the continuation of the county's half-cent transportation sales tax for 25 more years beyond the original expiration date of 2009. The tax revenues fund a voter-approved Expenditure Plan of transportation programs and projects. Measure C, the precursor to Measure J passed in 1988, was used to construct the Parkway.

Source: Smart Signal Project, Contra Costa Transportation Authority (2024)

Regional Measures

A new Bay Area-wide regional measure such as a sales tax, property tax, or increased tolls could fund transportation projects included in an Expenditure Plan.

Potential Sponsors:

Metropolitan Transportation Commission

Contra Costa Transportation Authority

Applicable Strategy Categories:

Safety | Maintenance | Walking and Biking | Transit | Driving and Goods Movement

Potential Regional Transportation Measure for 2026

A new transportation revenue measure for the Bay Area is being crafted and may be on a future ballot as early as November 2026. The measure is expected to generate at least $1 billion annually and is currently considering a wide range of options for its revenue source.

Source: Toll station, East Bay Times (2023)

Enhanced Infrastructure Financing District (EIFD)

EIFDs allow for a separate government entity to be created by a city and/or county within a defined area to finance infrastructure projects with community-wide benefits. EIFDs use tax increment financing to reallocate a portion of future property taxes to fund infrastructure projects, meaning this option does not increase taxes or require voter approval. Further analysis is needed to understand the costs and benefits of this funding option.

Potential Sponsors:

Contra Costa County

City of Richmond

Applicable Strategy Categories:

Public Health | Walking and Biking | Maintenance | Transit

City of Placentia/County of Orange EIFD

The City of Placentia and County of Orange formed the first city and county partnership EIFD in 2019. The EIFD was formed to fund transit-supportive and housing-supportive infrastructure in the communities to the north and south of the upcoming Placentia Metrolink Station.

Source: Placentia Metrolink Station rendering, City of Placentia EIFD StoryMap, SCAG (2024)

Benefits Assessment Districts

Benefit Assessment Districts are established for a specific geographic area that receives a special benefit from public improvements and services, such as lighting and landscaping. Districts are funded through a property assessment and as a result require majority voter approval from impacted property owners.

Potential Sponsors:

City of Richmond

Contra Costa County

Applicable Strategy Categories:

Public Health | Maintenance

Hilltop Landscape Maintenance Assessment District

The City of Richmond's Hilltop Landscape Maintenance Assessment District provides maintenance and servicing of landscaping in three zones located in the northern area of Richmond. This section of Lakeside Drive just south of Richmond Parkway is part of the District and serviced by this Benefit Assessment District.

Source: Lakeside Drive, Google Maps (2022)

Appendix B:
Overview of Regional Influence

Appendix B

Overview of Regional Influence

Richmond Parkway is an important transportation corridor in the San Francisco Bay Area with state and national significance for commerce. The Parkway facilitates access to the Port of Richmond, railroads, distribution centers, and a multitude of other regional utilities, establishing physical connections that enable services well beyond the local area.

Key Connection Enabling Regional Economic Hubs and Services

The Parkway links parts of Richmond to I-580, I-80, and the Richmond-San Rafael Bridge, providing crucial access to regional destinations such as San Francisco, San Rafael, Oakland, North Richmond, unincorporated Contra Costa County, and other parts of the East Bay.

Richmond Parkway provides direct access to the Port of Richmond and regional-serving warehouse distribution centers, facilitating regional trade. The Port of Richmond ranks #1 in liquid bulk and automobile tonnage among the five ports on San Francisco Bay, and in 2019 alone, trade totaled $9.51 billion for the five city-owned terminals and ten privately-owned terminals.[1] The Port is also served by the two largest transcontinental railroads, BNSF Railway and Union Pacific, which hold a duopoly on freight rail lines in the Western, Midwestern and West South Central United States.

Other major employment hubs and industrial sites that draw workers from throughout the region and are accessed via Richmond Parkway include the following:

- Richmond Chevron Refinery;
- UPS and Amazon distribution centers near Point Pinole;
- Landfill and recycling yards, which serve the region;
- Hazardous waste disposal plants;
- Water reclaim plants;
- West County Wastewater in North Richmond;
- Tow yards and tire recycling centers;
- Iron manufacturers;
- Building materials distribution centers;
- Large-scale construction equipment rental centers; and
- Future developments, including over 1.2 million square feet of manufacturing and warehouse space and 537,000 square feet of office space.

As a transportation backbone for these sites and services, Richmond Parkway supports significant vehicle and truck traffic that serves not only the local area but the entire region, state, and country. The Parkway carries between 19,000 and 37,000 vehicles every weekday, with 7% being truck traffic along the corridor. Truck volumes along the southern segments of Richmond Parkway and Castro Street range between 5%-13% of total daily vehicle volumes while truck volumes on San Pablo Avenue, a comparable

1. California Association of Port Authorities, 2024, https://californiaports.org/ports/port-of-richmond/.

arterial, range between 2%-3% in Contra Costa County.[2] Truck traffic causes significant wear to the road that requires consistent proactive maintenance for pavement upkeep.

Despite the corridor's wide-reaching importance, maintenance responsibilities fall solely on the City and County. The constant flow of heavy trucks accelerates wear and tear on the roadway, yet current maintenance funding is insufficient to keep it at an appropriate level of care. Without additional support, the City and County face challenges in meeting the maintenance needs to ensure the Parkway remains reliable and safe for its users.

Originally intended to be constructed as a Caltrans facility, the Parkway was developed by local officials when the state did not implement it. However, a lack of funds and the urgency to build the Parkway sooner rather than later has resulted in a facility that would require hundreds of millions of dollars to bring to a condition required for Caltrans to adopt into its network.

Regional Multimodal Access and Public Health Effects

Walking and Biking

The Bay Trail, a 360 mile-long bicycle and pedestrian trail that travels along the shoreline of San Francisco Bay, partially travels along Richmond Parkway. The corridor connects to the Richmond-San Rafael (I-580) Bridge path, the Richmond Greenway, and major recreational destinations, including Point Richmond, Point Pinole Regional Shoreline, and Wildcat Canyon Regional Park. Existing limited and poor east-west access points should be enhanced to allow residents in and around the Parkway better access to the Bay Trail and regional recreational facilities.

Transit

Richmond Parkway provides a direct connection to the Richmond Parkway Transit Center and 11 transit routes stop on the corridor. This access to public transit enhances mobility for individuals without cars, as 9% of households near the study corridor do not own vehicles. Additionally, express bus service to job centers along the corridor significantly improves access to employment opportunities for low-income residents and Equity Priority Communities. Furthermore, the Parkway facilitates access to the Richmond Ferry and BART, further connecting residents to vital regional transportation options and enhancing overall mobility in the area.

Regional Public Health Effects

Given the industrial and goods movement uses along Richmond Parkway, diesel PM concentrations near the corridor range from 0.08 to 0.98 tons per year. This is greater than 78% of communities statewide. Exposure to emissions contributes to public health issues, including asthma, cardiovascular disease, cancer, and low birth weight.[3] The negative health impacts of these emissions is exacerbated when trucks avoid using the Parkway; the lack of timed signals push trucks to take "cut through" shortcuts through local neighborhoods for more efficient routes. Coordinating signals along the Parkway would dissuade this behavior as well as reduce unsafe speeding rooted in driver frustrations with signals, improving health and safety for the region.

2. Caltrans Traffic Census Program, AADT Truck Volumes, 2022.

3. California Office of Health Hazard Assessment, 2021.

Photo of pop-up event during Phase 1 of engagement in the Hilltop neighborhood.

Appendix C:

Plan Strategies Goals Alignment

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Table C-1: Strategies Evaluation Framework

Each strategy was qualitatively assessed against metrics associated with each goal as described in Table C-1. Each strategy was assigned a High, Medium, or Low goal alignment assessment.

Goal	Metric	Qualitative Evaluation Method (High, Medium, Low)
Improve Safety for All Users[1,2]	• Reduce severe and fatal injury collisions	H = Includes substantial active transportation improvements (e.g. crossing visibility, sidewalk bulb-outs, protected bikeway, etc.) OR strategy that slows down speeding vehicles M = All other road safety improvement strategies L = All other strategies
Increase Access to Key Destinations[1]	• Increase quality of connections • Expand connectivity to key destinations	H = Close an active transportation gap between existing facilities with Class I or Class IV bikeway OR increase access through transit frequency/reliability M = Improve quality of sidewalks, crossings, bus stops, or Bay Trail OR provide access through/over a barrier L = All other strategies
Improve Health[1]	• Decrease in GHG emissions and other pollutants • Reduce cut-through traffic	H = Strategies that reduce neighborhood cut-through traffic OR that promote ZE technology or GHG reduction OR support active travel M = Multimodal and transit strategies L = All other strategies
Advance Placemaking[1]	• Maintenance and street beautification • Community support	H = Strategy with placemaking elements (e.g. public art, beautification, greening, lighting, traffic calming, etc) and maintenance (e.g. removing litter, improving pavement/markings, reducing illegal dumping) OR reduce truck throughput and parking in residential areas M = Addresses other key concern raised during Phase 1 community engagement process (i.e. safety, biking and walking, and congestion) L = All other strategies
Enhance Travel Time Reliability and Efficiency	• Reduce vehicle delay • Increase vehicle occupancy	H = HOV/Express lane strategies OR Transit-priority strategies (e.g. bus lane, signal priority) M = Signal or capacity efficiency improvements OR all other transit service strategies L = All other strategies
Support Feasible Strategies	• Advance feasible strategies • Develop cost-effective transportation solutions	H = Strategy can be delivered in the the next 5 years depending on staffing and priority levels (includes first phase of capital projects or quick-build version of strategies where applicable) OR recommended in an adopted plan M = Strategy can be delivered in the next 6-10 years L = All other strategies

1. Goal identified as one that would disproportionately benefit Equity Priority Communities along the corridor. These goals are given greater weight in total goal alignment assessment.
2. Note that the entire corridor is on the CCTA High Injury Network. Typically safety projects located on the HIN may score higher, but in this case, that would be the entire corridor.

Table C-2: Strategy Goals Alignment Assessment

ID	Topic	Subtopic	Strategy Name
DG-1*	Driving and Goods Movement	Signals	Upgrade and coordinate traffic signals
DG-2	Driving and Goods Movement	Congestion	Add carpool lane on segments with high congestion
DG-3	Driving and Goods Movement	Street Design	Redesign Richmond Parkway/Castro Street merge
DG-4	Driving and Goods Movement	Signage/Wayfinding	Signage for blind turns
DG-5	Driving and Goods Movement	Signage/Wayfinding	Install wayfinding for drivers
M-1*	Maintenance	Roadway	Implement cross-jurisdictional maintenance program
M-2	Maintenance	Encampments	Keep sidewalks and paths clear near encampments
M-3	Maintenance	Illegal Dumping	Discourage illegal dumping
PH-1*	Public Health	Trucks	Implement new truck routes
PH-2*	Public Health	Urban Greening	Trees and Green Infrastructure
PH-3*	Public Health	Air Quality	Prohibit truck parking and idling in neighborhoods
PH-4	Public Health	Trucks	Encourage clean trucks
PH-5	Public Health	EV/AV adoption	Encourage private electric vehicle adoption and usage
PH-6	Public Health	Noise	Improve sound wall
PH-7	Public Health	Air Quality	Air Filtration Systems at sensitive locations

*Priority Strategies with an implementation plan in Chapter 5.

1. Improve Safety for All Users	2. Increase Access to Key Destinations	3. Improve Health	4. Advance Placemaking	5. Enhance Travel Time Reliability and Efficiency	6. Support Feasible Strategies	Goals Alignment
M	L	L	M	M	H	Meets Many Goals
L	H	H	M	H	M	Meets Most Goals
L	L	L	M	M	H	Meets Some Goals
M	L	L	M	L	H	Meets Some Goals
L	L	L	H	L	H	Meets Some Goals
M	M	H	H	L	H	Meets Most Goals
M	M	H	H	L	H	Meets Most Goals
L	L	L	H	L	H	Meets Some Goals
M	L	H	H	L	H	Meets Most Goals
L	M	H	H	L	H	Meets Most Goals
L	L	H	H	L	H	Meets Many Goals
L	L	H	L	L	H	Meets Some Goals
L	L	H	L	L	M	Meets Some Goals
L	L	L	L	L	L	Meets Some Goals
L	L	H	L	L	M	Meets Some Goals

Table C-2: Strategy Goals Alignment Assessment (continued)

ID	Topic	Subtopic	Strategy Name
S-1*	Safety	Street Design	Safety improvements at intersections
S-2*	Safety	Speeding	Reduce speeding
S-3	Safety	Monitoring	Monitor high-risk intersections
T-1*	Transit	Richmond Parkway Transit Center	Improve access to the Richmond Parkway Transit Center
T-2	Transit	Bus/Shuttle	Improve bus stop comfort
T-3	Transit	Bus/Shuttle	New transit service to Marin County
T-4	Transit	Service	Increase bus frequency
T-5	Transit	Bus/Shuttle	On-demand shuttle service
T-6	Transit	Parking	Parking lot for transit to Marin County
T-7	Transit	Accessibility	Publicize transit options/information
WB-1*	Walking and Biking	Street Design	Upgrade bikeways and connect sidewalk gaps
WB-2*	Walking and Biking	Wildcat Creek Trail Crossing	On-street Wildcat Creek Trail crossing
WB-3	Walking and Biking	New Technology	Test innovative bicycle and pedestrian detection at intersections
WB-4	Walking and Biking	Shared Mobility	Expand electric bike share program

*Priority Strategies with an implementation plan in Chapter 5.

	1. Improve Safety for All Users	2. Increase Access to Key Destinations	3. Improve Health	4. Advance Placemaking	5. Enhance Travel Time Reliability and Efficiency	6. Support Feasible Strategies	Goals Alignment
	H	M	H	M	L	M	Meets Most Goals
	H	L	L	H	L	M	Meets Many Goals
	H	L	L	M	L	M	Meets Some Goals
	L	H	H	M	L	M	Meets Many Goals
	L	H	M	H	L	H	Meets Most Goals
	L	H	M	M	M	H	Meets Most Goals
	L	H	M	M	M	H	Meets Most Goals
	L	H	M	M	M	H	Meets Most Goals
	L	H	M	L	M	M	Meets Many Goals
	L	L	M	M	L	H	Meets Some Goals
	H	H	H	M	L	M	Meets Most Goals
	H	M	H	M	L	L	Meets Many Goals
	H	L	H	M	L	L	Meets Many Goals
	L	L	H	L	L	H	Meets Some Goals

Photo of community meeting during Phase 2 of engagement in the Santa Fe neighborhood.

Appendix D:

Separated Bikeway 35% Design Concept for Northern Segment of Richmond Parkway

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Richmond Parkway 35% Plans

Key Improvement Types

The following treatments are detailed in the 35% plan set and will be critical for project success on the corridor.

Carrall Street, Vancouver, Canada

Separated bike lanes will be elevated to the sidewalk level to physically separate bicyclists from motor vehicle traffic, enhance bicyclist comfort and safety, and provide new landscaping and/or bioretention opportunities in the buffer.

Walnut Avenue, Fremont

Raised driveways at private intersections will provide a continuous, flat surface for pedestrians and cyclists. Where driveways are within the public right-of-way or where future driveways are developed, signs and design features will alert drivers that they are crossing a pedestrian/bike facility.

El Portal Drive, San Pablo

Bioretention facilities may be installed in the roadway buffers or landscaping. The next design phase will determine appropriate treatments.

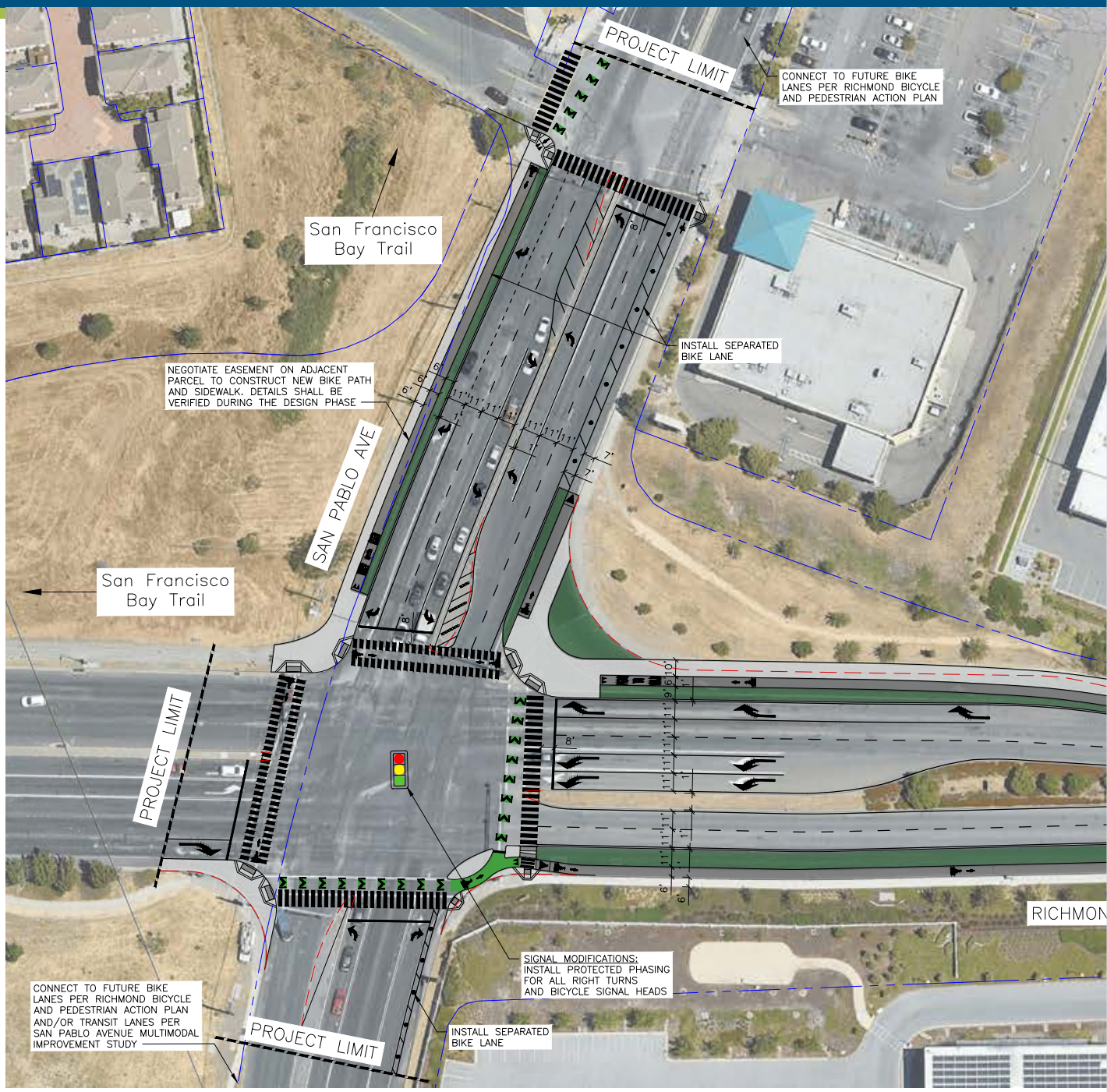
Webster Street, Alameda

Walnut Avenue, Fremont

Protected intersections are designed to keep bicyclists fully separate from vehicles until the intersection, enhancing visibility and safety by reducing right-turning vehicle speeds and giving bicyclists a head start in crossing the street. These will be combined with protected right-turn signal phasing for vehicles to enhance safety for cyclists and pedestrians by separating them in time from conflicting vehicle traffic.

Telegraph Avenue, Oakland

Bus boarding islands separate waiting riders from the separated bike lane, which is routed behind the island to reduce bike/pedestrian conflicts.



GENERAL NOTES:

1. AT ALL SIGNALIZED INTERSECTIONS, INSTALL PEDESTRIAN COUNTDOWN SIGNALS.
2. EXISTING SIDEWALK TO REMAIN UNLESS OTHERWISE NOTED. SIDEWALK GAPS TO BE INSTALLED WITH FUTURE PROJECTS/DEVELOPMENT.
3. ALL EXISTING AND PROPOSED STRIPING AND CURBS ARE SHOW AS APPROXIMATE. A FURTHER AND MORE IN-DEPTH EVALUATION SHALL BE MADE TO VERIFY LENGTHS SHOWN.
4. THE CURB RAMPS ARE SHOWN GENERICALLY AS SINGLE DIRECTIONAL RAMPS AND GRADING DESIGN SHALL BE VERIFIED DURING THE DESIGN PHASE.
5. REMOVE ANY EXISTING CONFLICTING STRIPING, PAVEMENT MARKERS, MARKINGS, AND DELINEATORS.
6. ALL STRIPES AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
7. REPAVING AND DRAINAGE CONSIDERATIONS SHALL BE VERIFIED DURING THE DESIGN PHASE.
8. ADD STOP SIGN AND BIKE/PED WARNING SIGNAGE TO EXITS OF UNSIGNALIZED PRIVATE DRIVEWAYS.

LEGEND:

- INSTALL NEW TYPE I ARROW
- INSTALL NEW TYPE II (L)/(R) ARROW
- INSTALL NEW TYPE II (B) ARROW
- INSTALL NEW TYPE III (L)/(R) ARROW
- INSTALL NEW TYPE IV (L)/(R) ARROW
- INSTALL NEW TYPE VII (L)/(R) ARROW
- BIKE PER
- INSTA PER
- INSTA
- INSTA STRIP
- INSTA (ASPH
- INSTA OR L

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

N

1:40

LANE ARROW AND BIKE LANE SYMBOL CALTRANS STD PLANS A24A AND A24C

LL NEW BIKE LOOP DETECTOR SYMBOL CALTRANS STD PLAN A24C.

LL NEW YIELD MARKINGS

LL NEW GREEN THERMOPLASTIC ING

LL RAISED SEPARATED BIKE LANE IALT)

LL GREEN INFRASTRUCTURE AND/ ANDSCAPING WITH STREET TREES

INSTALL NEW CONCRETE SIDEWALK

INSTALL NEW STAMPED CONCRETE

REMOVE EXISTING CURB

PARCEL LINES

EXISTING SIGNALS TO BE MODIFIED

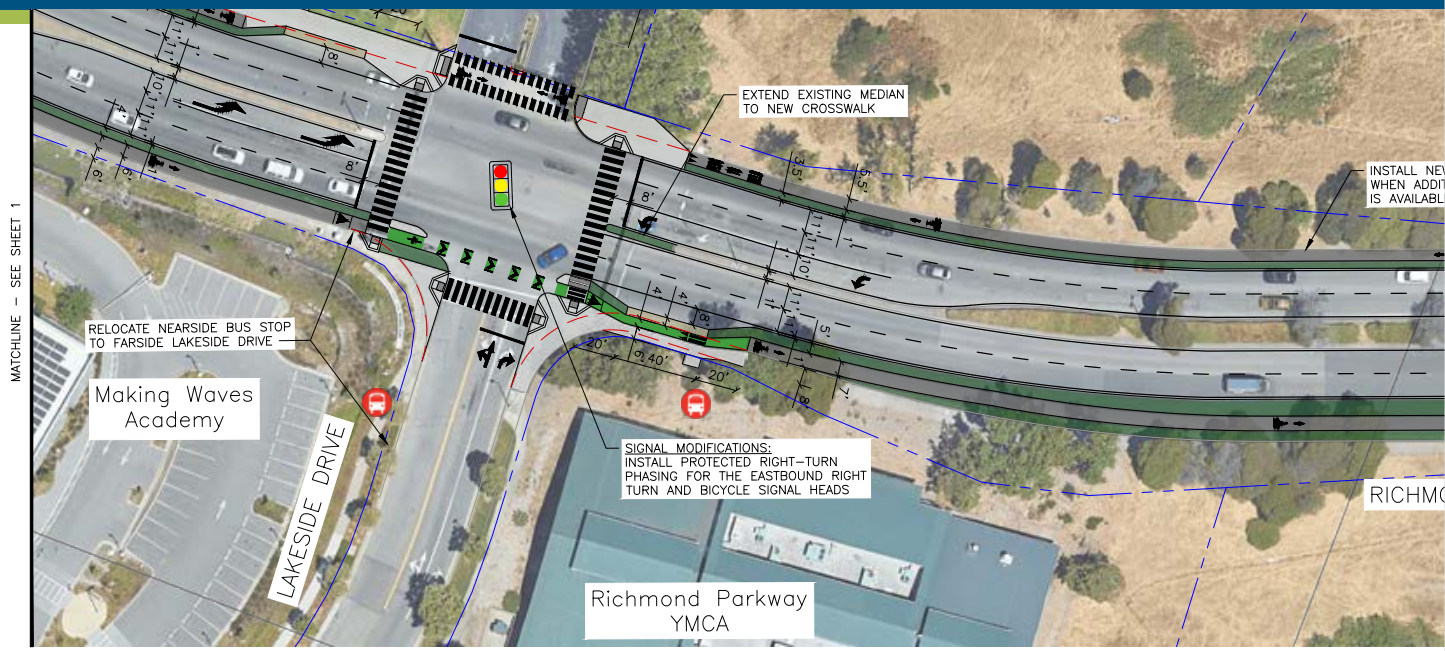
INSTALL NEW SPEED BUMP

INSTALL NEW PLASTIC POST

BUS STOP

Sheet 1 of 4

Richmond Parkway
San Pablo Avenue to Fitzgerald Drive
Bikeway Concept Plan



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6. ALL STRIPES AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
7. REPAVING AND DRAINAGE CONSIDERATIONS SHALL BE VERIFIED DURING THE DESIGN PHASE.
8. ADD STOP SIGN AND BIKE/PED WARNING SIGNAGE TO EXITS OF UNSIGNALIZED PRIVATE DRIVEWAYS.

LEGEND:

- INSTALL NEW TYPE I ARROW
- INSTALL NEW TYPE II (L)/(R) ARROW
- INSTALL NEW TYPE II (B) ARROW
- INSTALL NEW TYPE III (L)/(R) ARROW
- INSTALL NEW TYPE IV (L)/(R) ARROW
- INSTALL NEW TYPE VII (L)/(R) ARROW
- BIKE PER
- INSTA PER
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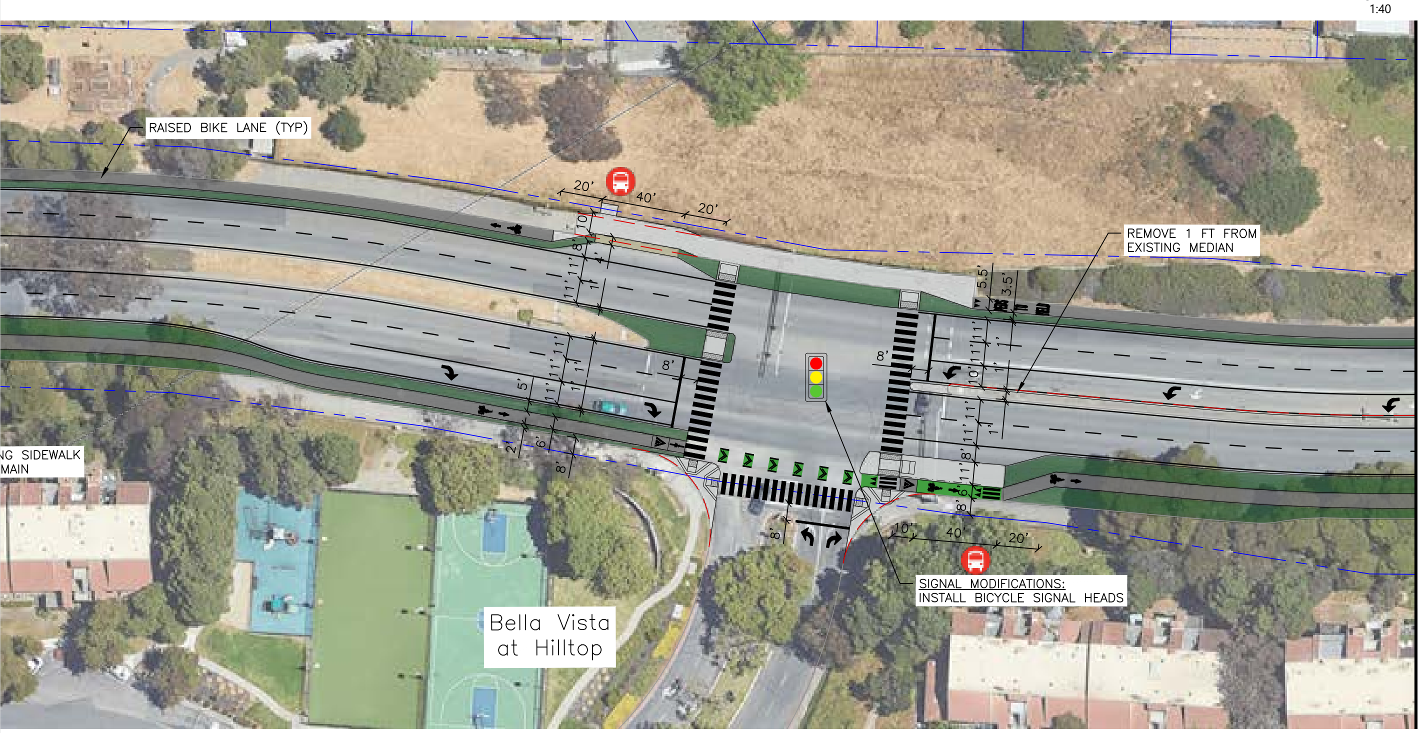
CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



LANE ARROW AND BIKE LANE SYMBOL
CALTRANS STD PLANS A24A AND A24C

LL NEW BIKE LOOP DETECTOR SYMBOL
CALTRANS STD PLAN A24C.

LL NEW YIELD MARKINGS

LL NEW GREEN THERMOPLASTIC
ING

LL RAISED SEPARATED BIKE LANE
HALT)

LL GREEN INFRASTRUCTURE AND/
ANDSCAPING WITH STREET TREES

INSTALL NEW CONCRETE SIDEWALK

INSTALL NEW STAMPED CONCRETE

REMOVE EXISTING CURB

PARCEL LINES

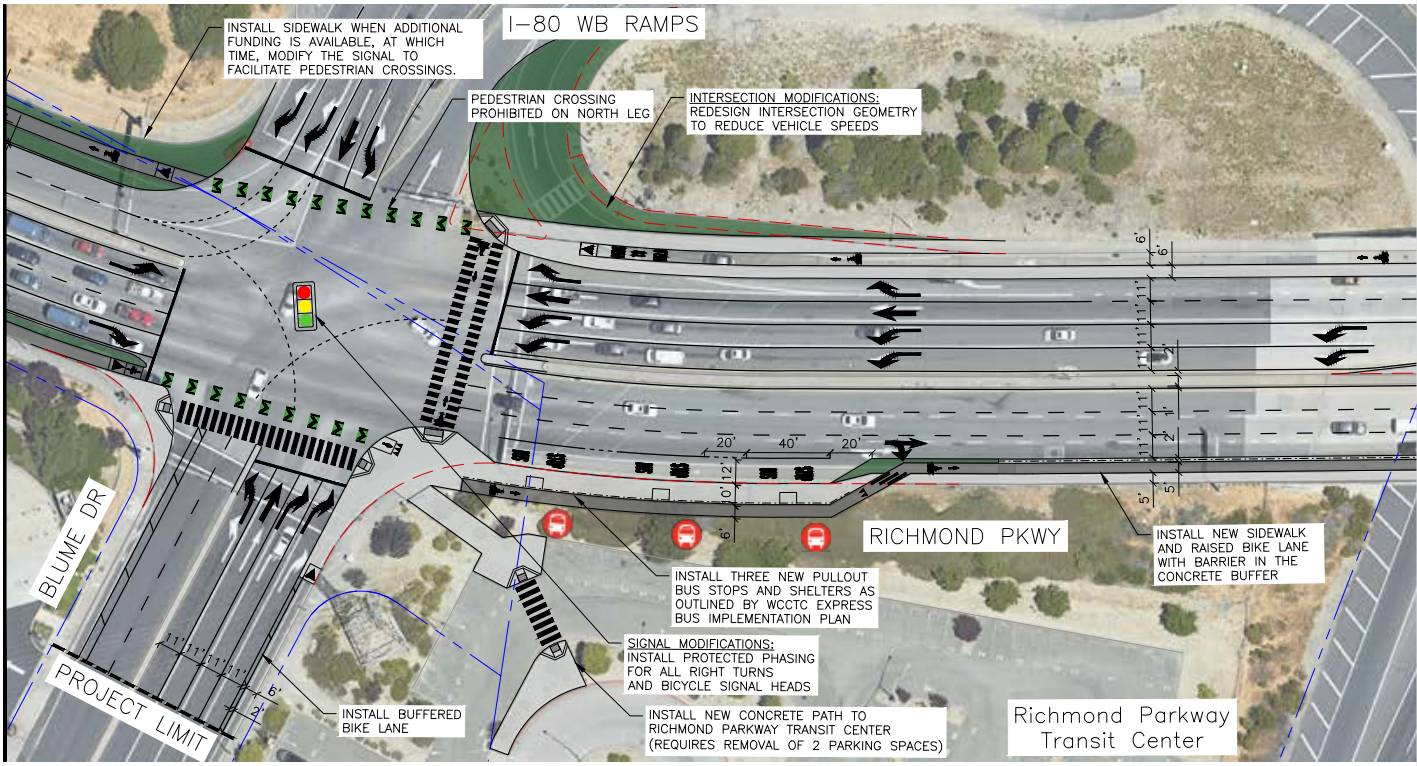
EXISTING SIGNALS TO BE MODIFIED

INSTALL NEW SPEED BUMP

INSTALL NEW PLASTIC POST

BUS STOP

Sheet 2 of 4
Richmond Parkway
San Pablo Avenue to Fitzgerald Drive
Bikeway Concept Plan



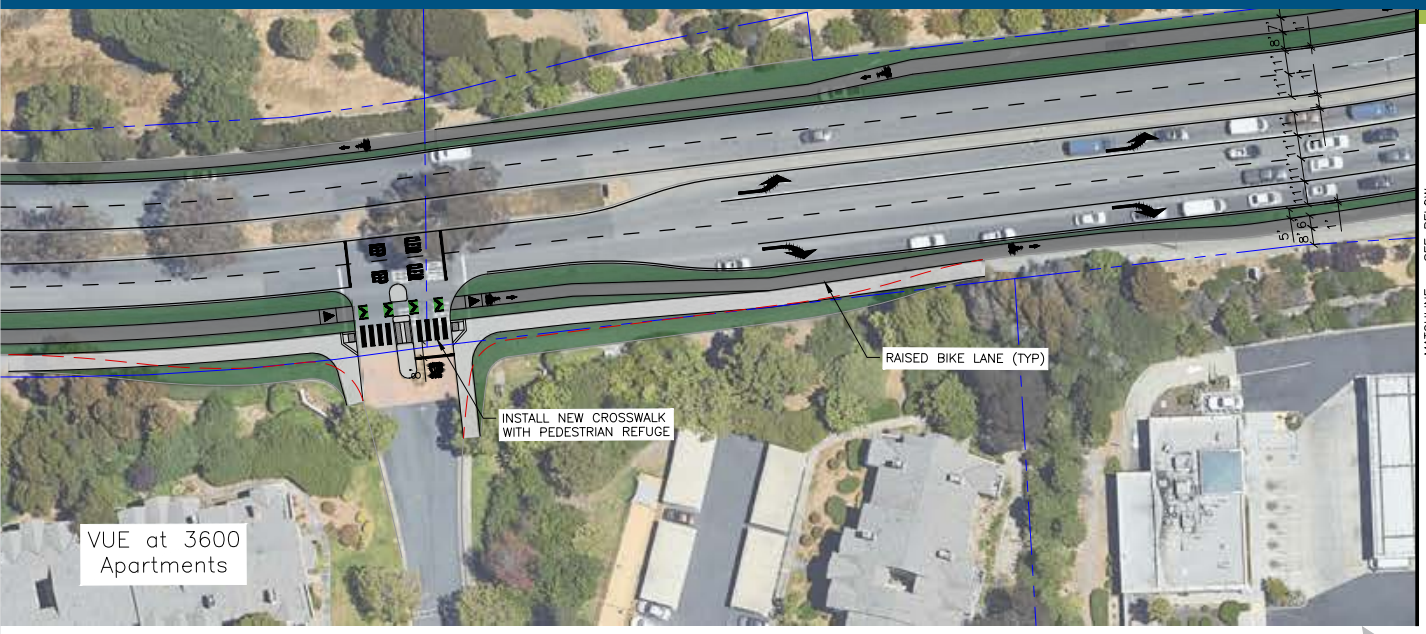
GENERAL NOTES:

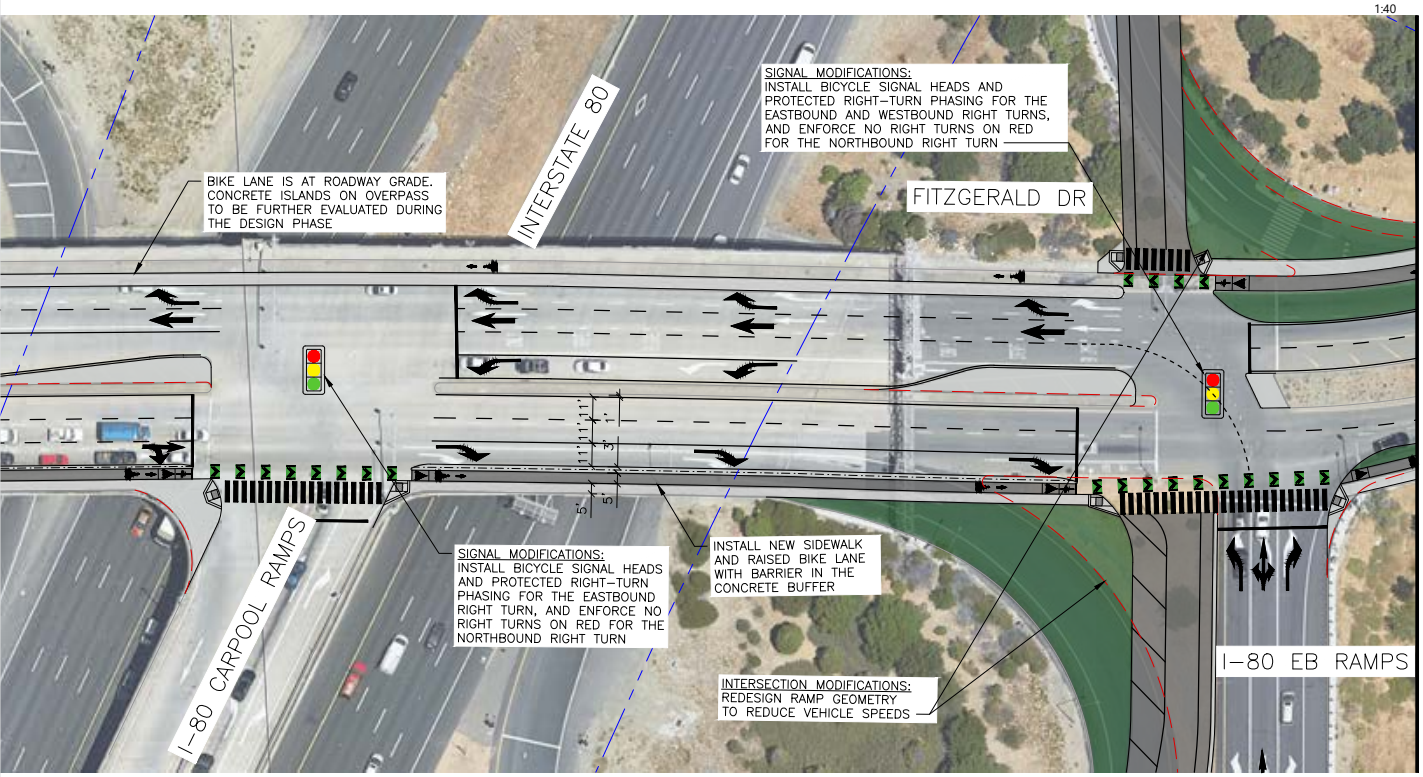
1. AT ALL SIGNALIZED INTERSECTIONS, INSTALL PEDESTRIAN COUNTDOWN SIGNALS.
2. EXISTING SIDEWALK TO REMAIN UNLESS OTHERWISE NOTED. SIDEWALK GAPS TO BE INSTALLED WITH FUTURE PROJECTS/DEVELOPMENT.
3. ALL EXISTING AND PROPOSED STRIPING AND CURBS ARE SHOW AS APPROXIMATE. A FURTHER AND MORE IN–DEPTH EVALUATION SHALL BE MADE TO VERIFY LENGTHS SHOWN.
4. THE CURB RAMPS ARE SHOWN GENERICALLY AS SINGLE DIRECTIONAL RAMPS AND GRADING DESIGN SHALL BE VERIFIED DURING THE DESIGN PHASE.
5. REMOVE ANY EXISTING CONFLICTING STRIPING, PAVEMENT MARKERS, MARKINGS, AND DELINEATORS.
6. ALL STRIPES AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
7. REPAVING AND DRAINAGE CONSIDERATIONS SHALL BE VERIFIED DURING THE DESIGN PHASE.
8. ADD STOP SIGN AND BIKE/PED WARNING SIGNAGE TO EXITS OF UNSIGNALIZED PRIVATE DRIVEWAYS.

LEGEND:

- INSTALL NEW TYPE I ARROW
- INSTALL NEW TYPE II (L)/(R) ARROW
- INSTALL NEW TYPE II (B) ARROW
- INSTALL NEW TYPE III (L)/(R) ARROW
- INSTALL NEW TYPE IV (L)/(R) ARROW
- INSTALL NEW TYPE VII (L)/(R) ARROW
- BIKE PER
- INSTA PER
- INSTA
- INSTA STRIP
- INSTA (ASPH
- INSTA OR L

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.





LANE ARROW AND BIKE LANE SYMBOL CALTRANS STD PLANS A24A AND A24C

LL NEW BIKE LOOP DETECTOR SYMBOL CALTRANS STD PLAN A24C.

LL NEW YIELD MARKINGS

LL NEW GREEN THERMOPLASTIC ING

LL RAISED SEPARATED BIKE LANE IALT)

LL GREEN INFRASTRUCTURE AND/ ANDSCAPING WITH STREET TREES

INSTALL NEW CONCRETE SIDEWALK

INSTALL NEW STAMPED CONCRETE

REMOVE EXISTING CURB

PARCEL LINES

EXISTING SIGNALS TO BE MODIFIED

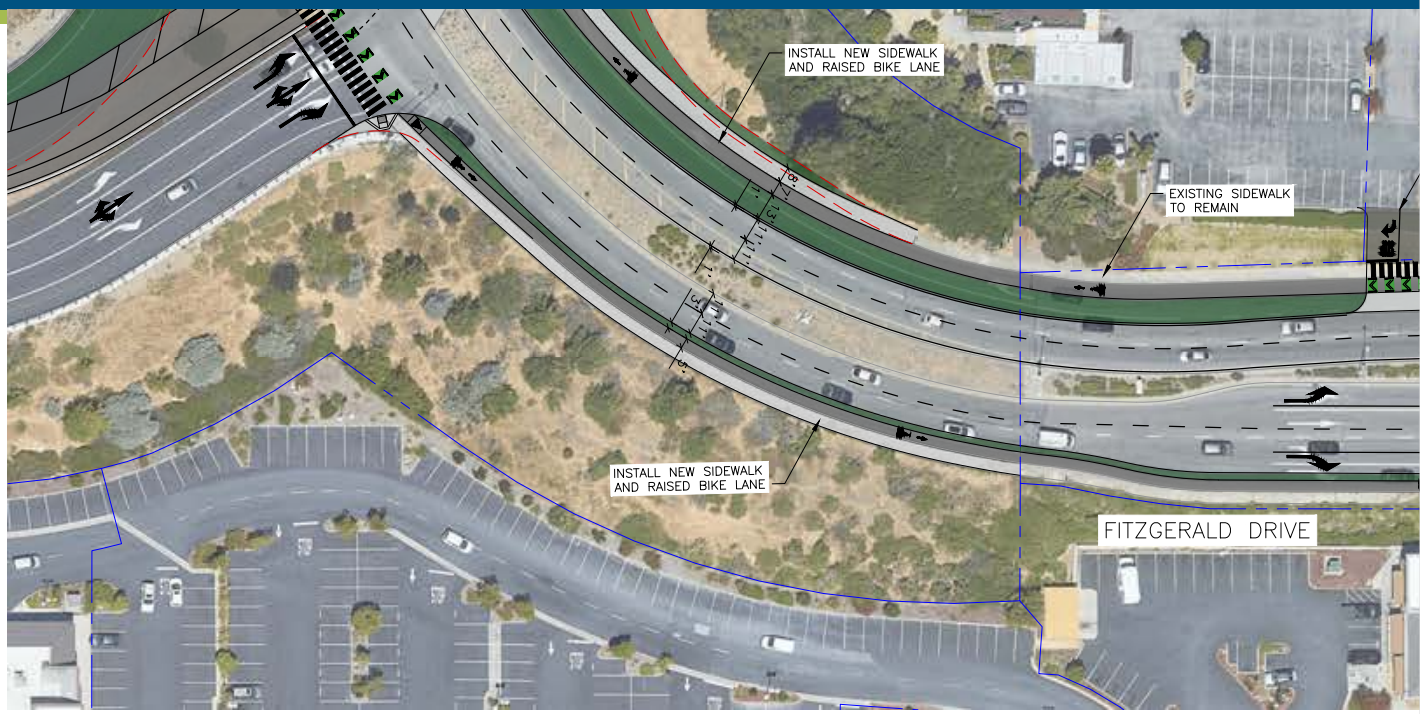
INSTALL NEW SPEED BUMP

INSTALL NEW PLASTIC POST

BUS STOP

Sheet 3 of 4

Richmond Parkway
San Pablo Avenue to Fitzgerald Drive
Bikeway Concept Plan



GENERAL NOTES:

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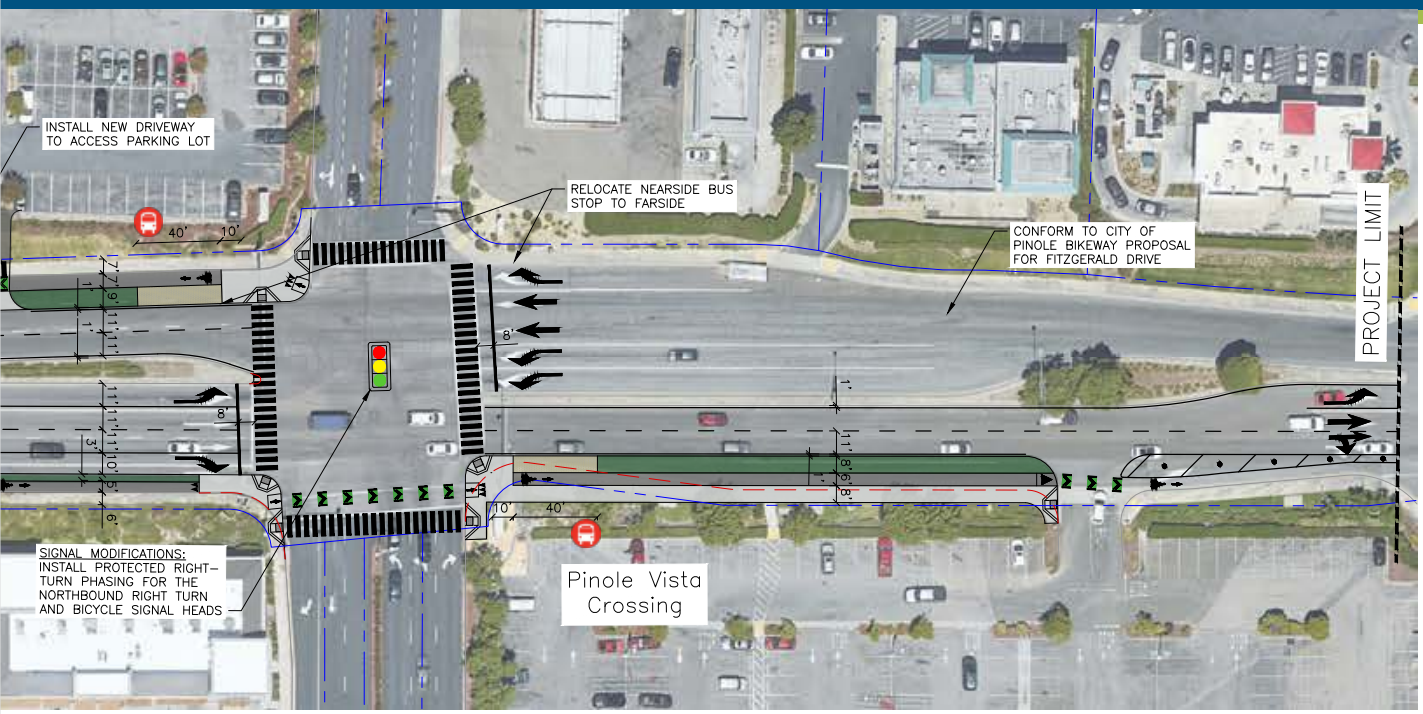

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Sheet 4 of 4

Richmond Parkway
San Pablo Avenue to Fitzgerald Drive
Bikeway Concept Plan

Photo of Earth Day pop-up event during Phase 2 of engagement in North Richmond.