RICHMOND FERRY TO BRIDGE TO GREENWAY

COMPLETE STREETS PLAN

February 16, 2021





CITY OF RICHMOND

Ferry to Bridge to Greenway Complete Streets Plan

Adopted by City Council on February 16, 2021

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RICHMOND FERRY TO BRIDGE TO GREENWAY

COMPLETE STREETS PLAN

1. Introduction

PLAN VISION AND PURPOSE

The Richmond Ferry to Bridge to Greenway Complete Streets Plan (F2B2G Plan) provides valuable connections for walking and bicycling to and between the Richmond Ferry, the Richmond-San Rafael Bridge Trail, and the Richmond Greenway. It advances the City's vision for a network of walkable neighborhoods with Complete Streets and a safe, sustainable, well-maintained circulation system as outlined in Richmond's General Plan Circulation Element, Bicycle Master Plan, Pedestrian Master Plan and other previously adopted area Plans.

The F2B2G Plan was begun in early/mid 2019, to build on the recently opened Richmond Ferry service, and in anticipation of a new pedestrian/bicycle trail proposed for the Richmond-San Rafael Bridge. The RSR Bridge trail opened in November 2019 to great fanfare – for the first time, a walker or bicyclist could travel from the East Bay to Marin County.

Through a proactive engagement process with abundant community input and a diverse range of voices directly informing the location and type of improvements proposed, infrastructure improvements outlined in this Plan will connect San Francisco, Contra Costa and Marin counties together for the first time with pedestrian and bicycle facilities that have not existed before. Facilities will connect to the San Francisco Bay Trail leading into Berkeley to the south, as well as to the north to the northern shoreline of Richmond. Improvements will also connect to the Richmond Greenway, leading through the heart of Richmond and connecting directly to two BART stations.

The F2B2G Plan, when implemented, will provide a balance of permanent regional connections and local safety improvements for people of all ages and abilities, including those in disadvantaged and traditionally underserved areas of the City. It will directly serve four City neighborhoods: Marina Bay, Santa Fe, Iron Triangle and Point Richmond, as well as visitors from surrounding places.

Richmond Ferry Terminal (right side of image)


Richmond-San Rafael Bridge


Source: Rails To Trails Conservancy
Richmond Greenway

ORGANIZATION OF THE PLAN

Content in the Richmond Ferry to Bridge to Greenway Complete Streets Plan is organized into the following chapters:

Chapter 1 – Introduction

A description of the Plan's vision and purpose, as well as a brief summary on the organization of the Plan.

Chapter 2 – Existing Conditions

An overview of existing land uses, demographics and transportation services; assessment of existing pedestrian and bicycle infrastructure connecting the Richmond Ferry, Richmond-San Rafael Bridge and Richmond Greenway in the City of Richmond with a summary of improvement needs, and an overview of relevant planning and policy documents.

Chapter 3 – Public Engagement

A primary focus of this Plan involves engaging the community. This includes generating meaningful input from a wide range of organizations and individuals throughout Richmond to ensure that Complete Streets improvements truly reflect the needs of Richmond residents, employees and visitors. Online and in-person interfaces provided multiple opportunities for community members to submit input and stay connected throughout Plan development. This chapter outlines engagement strategies that guided the Plan's generation, as well as a summary of input received from those strategies.

Document Organization

Chapter 4 – Policy Framework

Directly informed by community input, this Chapter details the methodology for developing Plan goals, policies, and actions, which were also informed by existing City transportation policies, existing walking and biking conditions, and nationwide best practices in Complete Streets design. This chapter also forms the framework on how the design concepts were developed in Chapter 5 and prioritized for implementation in Chapter 6.

Chapter 5 – Design Concepts

Walking and biking improvements connecting to the Richmond Ferry, Richmond-San Rafael Bridge and Richmond Greenway are highlighted in this chapter, with concepts illustrated by plan views, sections, and photos to clearly convey the potential results and benefits of the proposed improvements. Each design concept presented in this chapter will also include a reference to a location map for easy reference. Supported by input received during the engagement process, concepts along most roadways in the Plan will include interim improvements that can be built quickly along the existing street right-of-way, allowing for infrastructure to directly benefit Richmond residents, visitors and employees near-term. Additionally, concepts presented in this chapter will also have long-term improvements would require right-of-way adjustments but will ultimately result in more comfortable facilities for all users.

Chapter 6 – Implementation Strategy

Moving forward from planning to implementation, this chapter creates a prioritization strategy for advancing all pedestrian and bicycle design concepts referenced in this Plan to create a safe, connected, and attractive transportation network between the Richmond Ferry, Richmond-San Rafael Bridge, Richmond Greenway and beyond. This prioritization strategy is organized by identifying clear implementation steps from planning to construction, and identifying grant opportunities tailored for projects outlined in the Plan, maximizing opportunities for Richmond to fund, construct and maintain Complete Street infrastructure improvements.

Appendices

Appendices (included in a separate document) provide additional information to augment Chapter 3 (Public Engagement) and Chapter 5 (Design Concepts). The Appendices include:

Appendix A - Public Comments on Draft Pan presents all written comments received between July and December 2020.

Appendix B: 30% Engineering Drawings presents preliminary engineering documents illustrating recommended improvements in a higher level of technical detail and providing a starting point for further engineering efforts leading to construction.

Appendix C: Cost Estimates presents initial cost estimates for the various phases of implementing recommendations from required studies to construction.

RICHMOND FERRY TO BRIDGE TO GREENWAY
COMPLETE STREETS PLAN

2. Existing Conditions

INTRODUCTION

The Richmond Ferry to Bridge to Greenway Complete Streets Plan will develop project recommendations to improve multimodal access to the Richmond Ferry Terminal, the upcoming Richmond-San Rafael Bridge Trail, and the Richmond Greenway. This set of highly implementable projects will enhance neighborhood connectivity to local destinations, integrate with other planned improvements to multimodal infrastructure in Richmond, and tie into the regional multimodal transportation network (e.g., San Francisco Bay Trail and Richmond Greenway leading to the Ohlone Greenway). While emphasizing pedestrian and bicycle connections, the Plan will take a balanced approach to encourage streets that work for all users (e.g., walking, bicycling, driving, and taking transit). The Plan will have regional significance, connecting three counties (San Francisco, Contra Costa and Marin) together for the first time with pedestrian and bicycle facilities. To establish an understanding of existing conditions and key issues and opportunities, this chapter includes the following components:

Plan Area Review includes a physical description, transit, land use and development, demographic characteristics, environmental factors and safety within the Ferry to Bridge to Greenway Plan Area (Plan Area).

Infrastructure Analysis discusses existing studies and proposed improvements on key corridors, design standards for multimodal facilities, and railroad crossings.

Planning Framework provides an assessment of existing local and regional plans, studies and programs that are relevant to the Plan.

Issues and Opportunities discusses some of the specific multimodal transportation issues in key corridors in the Plan Area, as well as opportunities for facility improvements.

PLAN AREA REVIEW

PLAN AREA DESCRIPTION

The Richmond Ferry to Bridge to Greenway Plan focuses on the southern portion of the City of Richmond, which is located adjacent to San Francisco Bay in southwestern Contra Costa County, shown in Figure 2.1. The Plan focuses on key corridors in the City of Richmond leading to the Bridge, Ferry Terminal, and Greenway, including Harbour Way, Hoffman Boulevard, Cutting Boulevard, Garrard Boulevard, Ohio Avenue, and 2nd Street. As shown in Figure 2.2, the Plan Area includes residential neighborhoods such as Point Richmond, Atchison Village, Santa Fe, Coronado, and Marina Bay; employment centers such as Chevron Refinery and the Port of Richmond; and destinations such as Downtown Richmond and Richmond BART Station.

Figure 2.1 Regional Location

Figure 1. Regional Location

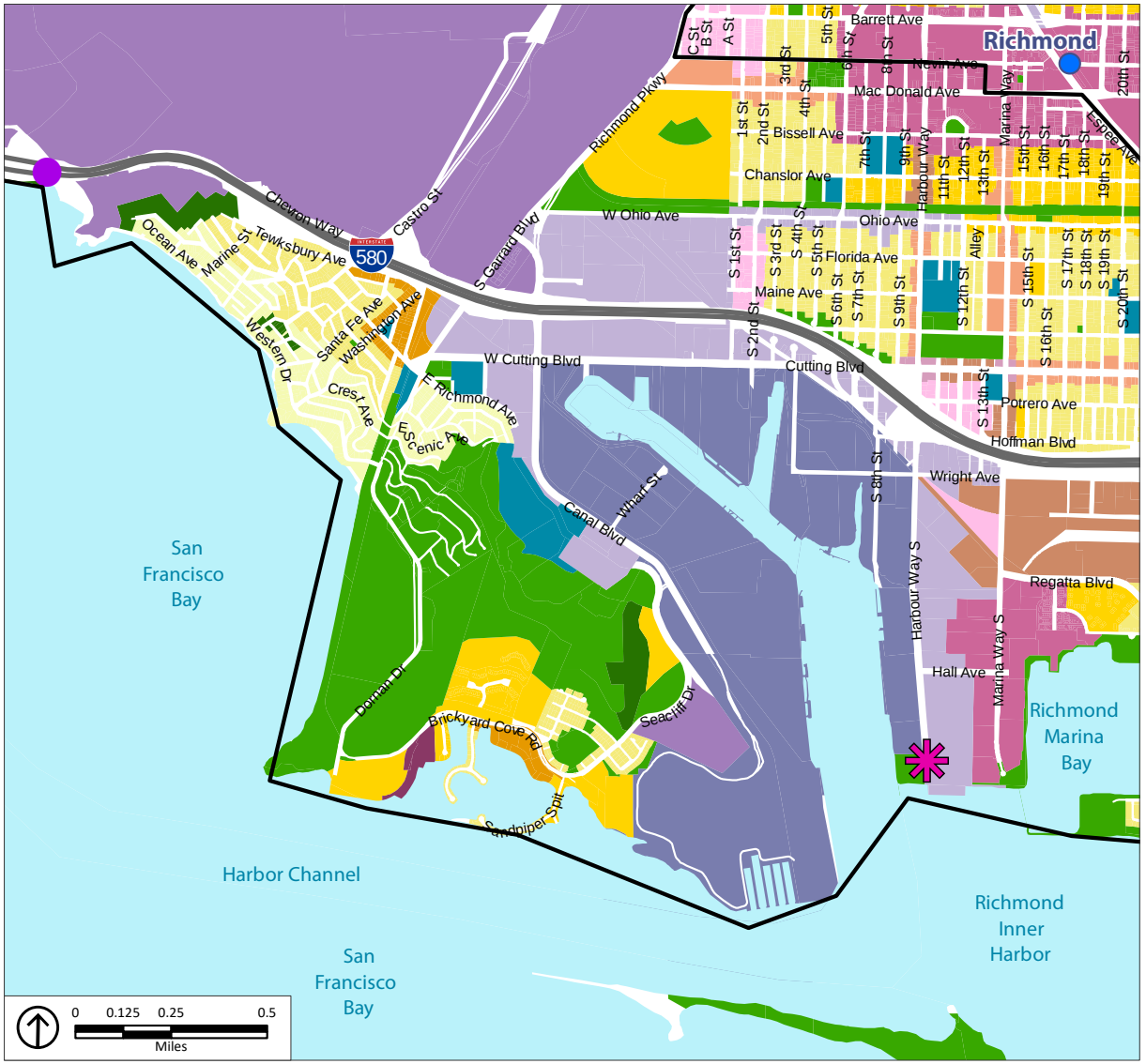
City of Richmond
Study Area Census Tracts
Richmond Ferry Terminal
San Francisco Bay Trail to Bridge Trail
Richmond Greenway and Ohlone Greenway

Figure 2.2 Plan Area

LAND USE AND DEVELOPMENT

The Plan Area is composed of a variety of land uses as displayed in Figure 2.3. As shown in the map, the eastern area north of Interstate 580 (I-580) is primarily composed of single family and multi-family residential uses in the Santa Fe and Iron Triangle neighborhoods. The western area north of I-580 is predominantly industrial, consisting of the Chevron Refinery lands as well as the BNSF rail yards. South of I-580, Point Richmond to the west is primarily residential and regional park land, along with the downtown Point Richmond area with retail and residential mixed uses. The area around the Port of Richmond is industrial and includes boatbuilding and repair along with other industrial uses that need access to shipping. The southeastern edge of the Plan Area contains a mix of single family and multiple family residential uses in the Marina Bay neighborhood. The Plan Area also contains smaller individual areas of public and semi-public uses such as schools.

Figure 2.3 General Plan Land Use



- Study Area Boundary
- Richmond San Rafael Bridge Trail
- Richmond Ferry Terminal
- BART Stations
- Hillside Residential
- Low Density Residential
- Medium Density Residential
- Neighborhood Mixed-Use
- Medium Density Mixed-Use (Residential Emphasis)
- Medium Intensity Mixed-Use (Commercial Emphasis)
- Medium Intensity Mixed-Use (Gateway and/or Community Node)
- High Intensity Mixed-Use (Major Activity Center)
- Live/Work
- Marine and Waterfront Commercial
- Business/Light Industrial
- Industrial
- Port
- Open Space
- Parks and Recreation
- Public, Cultural, and Institutional

Source: Contra Costa County, 2019; PlaceWorks, 2019.

ORIGINS AND DESTINATIONS

In the Plan Area there are both points of origin and points of destination. The residential neighborhoods of Santa Fe, Iron Triangle, Point Richmond, Marina Bay and others are points of origin. Employment centers, transit schools, churches, and transfer points to outside areas are examples of destinations. People who live in the neighborhoods in the Plan Area may commute to work at industrial sites and business parks. Families with children may travel to churches, schools, parks or libraries. Local residents may also ride or walk to points outside the Plan Area using buses, BART or the Ferry. Figure 2.4 shows some of these origins and destinations in the Plan Area.

Figure 2.4 Key Origins and Destinations

UPCOMING DEVELOPMENT PROJECTS

Several development projects are proposed in the near future in parts of the Plan Area. Figure 2.5 shows the locations of these proposed and upcoming development projects in the Plan Area. Several of them are housing developments, but there are also new warehouse projects. It is important to understand the timing and location of these and any future projects because development is often required to upgrade streets and sidewalks in the street right-of-way in front of the project, and it is important to ensure that any improvements match the overall vision for the street, including bicycle and pedestrian improvements.

Figure 2.5 Upcoming Development Projects

The Richmond BART station is located to the northeast of the Plan Area, in close proximity to the Richmond Greenway.

AC Transit Route 74 serves the Richmond Ferry Terminal with a direct connection to the Richmond BART station.

TRANSIT SERVICE

The Plan Area is served by a variety of transit services. Below is the list of transit that either serves the Plan Area or is nearby and accessible to residents, employees or visitors in the Plan Area. The frequency of service for transit as further described in the following pages was offered prior to COVID-19 events. While many of these services have temporarily been reduced or in some cases eliminated, it is anticipated that all transit as described in this Plan will be reinstated long-term.

Rail Service (BART, Amtrak)

- **Bay Area Rapid Transit (BART):** BART operates two regional rail lines serving the Plan Area – Richmond-Daly City/Millbrae and Richmond-Warm Springs/South Fremont. The Richmond BART station is located in the City Central neighborhood—northeast of the Plan Area. BART service at the Richmond Station generally operates from 5:00 a.m. to 12:30 a.m. on weekdays, 6:00 a.m. to 12:30 a.m. on Saturdays, and 8:00 a.m. to 12:30 a.m. on Sundays. Taking bikes on the BART trains is permitted, however bike rules must be observed. There are 32 on-demand BikeLink lockers available at the Richmond Station.
- **Amtrak:** The Richmond Station also serves Amtrak's Capitol Corridor line, providing numerous connections along its Sacramento to San Jose route. Amtrak's California Zephyr line is an interstate route traveling from Emeryville to points north (e.g., Davis, Sacramento, Roseville and Truckee) along its way to Chicago, Illinois. Capitol Corridor trains accommodate bicycles without restrictions or advance reservations; longer-distance trains such as the Coast Starlight and California Zephyr accommodate bicycles with additional fees and restrictions.

Bus Service (AC Transit, WestCAT, Golden Gate Transit)

Numerous public transit operators serve the City of Richmond and the Plan Area. Local and intercity transit is provided by AC Transit, WestCAT, and Golden Gate Transit:

- **AC Transit:** AC Transit operates in Alameda and Contra Costa counties. AC Transit operates eight local bus lines, two Transbay lines, and one late night owl bus line in the Plan Area. These lines stop at the Richmond BART station and Richmond Ferry providing essential public transit connections for residents. AC Transit also operates supplementary bus service to local schools during the school year. All AC Transit buses are equipped with bike racks that hold up to three bikes.
  - Transbay Routes: While lines L and LA run through parts of Richmond and San Pablo, they do not run through the Plan Area.
  - Local Routes that run through the Plan Area: 70, 71, 74, 76, 72, 72M, 72R
  - Supplementary Service Routes: 607, 675, 681, 668
  - Late Night (Owl) Routes: 376
- **WestCAT:** WestCAT operates in western Contra Costa County, serving Richmond and cities in the East Bay region. WestCAT provides the Ferry to Bridge to Greenway (F2B2G) area with five local bus routes with a connection to the Richmond Parkway Transit Center. All WestCAT buses are equipped with bike racks that can accommodate up to two bikes.

- **Golden Gate Transit:** Golden Gate Transit operates transit service primarily in Marin and Sonoma counties. They operate one bus line, the 40/40X in the Plan Area—with occasional express service along the same route. The route runs from the El Cerrito del Norte BART station through Point Richmond to the San Rafael Transit Center. All Golden Gate Transit buses are equipped with bike racks that can hold up to three bikes.

San Francisco Bay Ferry

The San Francisco Bay Ferry officially began passenger service between Richmond and the San Francisco Ferry Terminal on January 10, 2019. Ferries depart the Richmond terminal six times a day from Monday–Friday, with departures occurring at 6:10 a.m., 7:10 a.m., 8:10 a.m., 8:40 a.m., 5:15 p.m. and 6:15 p.m. AC Transit operates bus service to the Richmond Ferry Terminal via Route 74, which provides direct connections from the ferry terminal to the Richmond Transportation Center (BART and Amtrak Station) and Contra Costa College. Service from the San Francisco Ferry Terminal to Richmond Ferry Terminal also occurs six times a day on weekdays, with departures occurring at 6:25 a.m., 7:55 a.m., 4:30 p.m., 5:20 p.m., 6:35 p.m. and 6:50 p.m.

Paratransit

Operated by the City of Richmond, R-Transit is a program that provides low-cost transportation services to people 55 or older or persons with a disability 18 years or older. Patrons must also be residents of the City of Richmond or one of the adjacent communities of East Richmond Heights, El Sobrante, Kensington, North Richmond, Hasford Heights, and Rollingwood. Programs offered include door-to-door individual trips, group trips, and shuttle services. Reservations are required to utilize the above services and can be made up to ten days in advance, with same day service based on availability.

DEMOGRAPHIC AND SOCIOECONOMIC CHARACTERISTICS

A detailed look at the demographics for households in the Plan Area was undertaken. The demographic profile in this chapter references data American Community Survey (ACS) 5-year estimates from 2013–2017 to provide an analysis of current demographic and socioeconomic trends in the Plan Area. This demographic assessment uses data from four census tracts incorporating neighborhoods in the Plan Area such as Santa Fe, Atchison Village, Point Richmond, and Marina Bay. Although the four census tracts extend beyond the neighborhood boundaries to the west and southeast, these areas are sparsely populated; therefore, data presented here provides a meaningful representation of demographic and socioeconomic characteristics in the Plan Area.

To understand the demographic variances between the four Plan Area census tracts, data is further presented in two additional geographic subdivisions: an East Plan Area that includes the Santa Fe, Atchison Village, and Marina Bay neighborhoods, and a West Plan Area that includes Point Richmond.

Population, Age Distribution and Median Income

The estimated population within the four census tracts is about 23,000 (constituting 21 percent of Richmond's total population), with an average household size of 2.7 people. Age distribution in the Plan Area is similar to that of Contra Costa County as a whole (Table 2.1). However, in the West Plan Area that includes Point Richmond, 52 percent of the population is between the ages 35–64 and

Table 2.1: Age Distribution in Plan Area Census Tracts and Contra Costa County (Percent of Population)

AGE DISTRIBUTION	CONTRA COSTA COUNTY	ENTIRE PLAN AREA	EAST PLAN AREA	WEST PLAN AREA (POINT RICHMOND)
Under 5	6%	6%	7%	2%
5 to 17	17%	17%	19%	6%
18 to 34	21%	26%	28%	12%
35 to 64	41%	39%	37%	52%
54 to 84	13%	11%	9%	26%
85 or Older	2%	1%	1%	1%

Source: 2013-2017 American Community Survey (ACS) 5-year estimates

26 percent is between 65–84; the largest age distribution groups in this census tract are older when compared to the County and Plan Area.

ACS data showed a median income in three Plan Area census tracts (excluding the Point Richmond area) of approximately $54,000 per household, which is significantly less than the County's median income of $88,500. Median income in the west census tract (including Point Richmond) was approximately $97,000 per household, which is higher than the County average.

Race and Ethnicity, Language

Table 2.2 describes race and ethnicity for Plan Area census tracts and Contra Costa County as a whole. Approximately 45 percent in the Plan Area identify as Hispanic or Latino, 21 percent identify as White (not Hispanic or Latino), and an additional 21 percent identify as Black or African American. In the West Plan Area that includes Point Richmond, 66 percent identify as White (Not Hispanic or Latino), 15 percent identify as Hispanic or Latino, and 10 percent identify as Asian. In the East Plan Area, a large number identify ethnically as Hispanic or Latino (50 percent). In comparison, in Contra Costa County the three most populous racial groups are White (Non-Hispanic/Latino) (45 percent), Hispanic or Latino (25 percent), and Asian (16 percent).

In the Plan Area, approximately 12 percent of households are considered "Limited English-Proficient." This designation indicates members of a household that are 14 years and over speak a non-English language, with varying degrees of difficulty with English.

Table 2.2: Race and Ethnicity of Residents in Plan Area Census Tracts and Contra Costa County (Percent of Population)

CATEGORY	CONTRA COSTA COUNTY	ENTIRE PLAN AREA	EAST PLAN AREA	WEST PLAN AREA (POINT RICHMOND)
White (Not Hispanic or Latino)	45%	21%	13%	66%
Black or African American	8%	21%	23%	5%
American Indian or Alaska Native	<1%	<1%	<1%	0%
Asian	16%	9%	9%	10%
Native Hawaiian or Other Pacific Islander	<1%	<1%	<1%	0%
Other	<1%	1%	1%	0%
Two or More Races	5%	3%	2%	4%
Hispanic or Latino	25%	45%	50%	15%

Source: 2013-2017 American Community Survey (ACS) 5-year estimates

Table 2.3: Employment by Industry in Plan Area Census Tracts and Contra Costa County (Percent of Population Over the Age of 16)

INDUSTRY	CONTRA COSTA COUNTY	ENTIRE PLAN AREA	EAST PLAN AREA	WEST PLAN AREA (POINT RICHMOND)
Agriculture; forestry; fishing and hunting; mining	8%	1%	1%	0%
Construction	7%	8%	9%	3%
Manufacturing	7%	5%	5%	6%
Wholesale trade	2%	2%	2%	2%
Retail trade	11%	12%	12%	9%
Transportation and warehousing; utilities	5%	4%	4%	6%
Information	3%	3%	3%	5%
Finance and insurance; real estate and rental and leasing	9%	5%	5%	5%
Professional, scientific, and management; administrative and waste management services	16%	18%	17%	23%
Educational services; health care and social assistance	22%	22%	21%	25%
Arts, entertainment, and recreation; accommodation and food services	9%	12%	12%	9%
Other services, except public administration	5%	5%	6%	1%
Public administration	4%	3%	2%	5%

Source: 2013-2017 American Community Survey (ACS) 5-year estimates

Employment

As shown in Table 2.3, the largest employment sector in the Plan Area census tracts is educational services, health care and social assistance, which reflects the county's largest sector. The second-largest employment sector in the Plan Area is professional, scientific, and management, and administrative and waste management services. Approximately 91 percent of the population was employed (9 percent are unemployed).

Means of Transportation and Vehicle Availability

During the time the ACS survey was conducted, 74 percent of residents within the Plan Area stated that they use a car to commute to work, displayed in Table 2.4. Less than one percent stated that they bicycle to work and four percent walk to work. When the Plan Area is compared to the County, bicycle ridership is similarly low, while the walking rate is a little higher. Overall, the West Plan Area that includes Point Richmond is more comparable to the County as a whole. On the other hand, means of transportation in the East Plan Area differ from the County as a whole, with higher use of public transportation, more walking and bicycling, and less reliance on personal vehicles.

As shown in Table 2.5, it is estimated that in the Plan Area 12 percent of households are without access to a vehicle, 43 percent have access to one vehicle, and 46 percent have access to two or more vehicles. Vehicle availability in the Plan Area is significantly lower than countywide, especially in the East Plan Area.

Table 2.4: Means of Transportation to Work in Plan Area Census Tracts and Contra Costa County (Percent of Population)

MEANS OF TRANSPORTATION	CONTRA COSTA COUNTY	ENTIRE PLAN AREA	EAST PLAN AREA	WEST PLAN AREA (POINT RICHMOND)
Car, Truck or Van	80%	74%	74%	76%
Drove Alone	68%	55%	53%	64%
Carpooled	12%	19%	21%	11%
Public Transportation*	10%	15%	16%	11%
Bicycle	<1%	<1%	<1%	<1%
Walked	1.7%	3.7%	4%	2%
Other	1.4%	1.6%	2%	1%
Worked at Home	6%	5%	4%	11%

Source: 2013-2017 American Community Survey (ACS) 5-year estimates

* Public transportation includes transit services such as buses, rail and ferries.

Table 2.5: Vehicle Availability Per Household in Plan Area Census Tracts and Contra Costa County (Percent of Population)

VEHICLE AVAILABILITY	CONTRA COSTA COUNTY	ENTIRE PLAN AREA	EAST PLAN AREA	WEST PLAN AREA (POINT RICHMOND)
No Vehicle Available	6%	12%	13%	9%
One Vehicle Available	28%	42%	43%	38%
Two or More Vehicles	67%	46%	44%	53%

Source: 2013-2017 American Community Survey (ACS) 5-year estimates

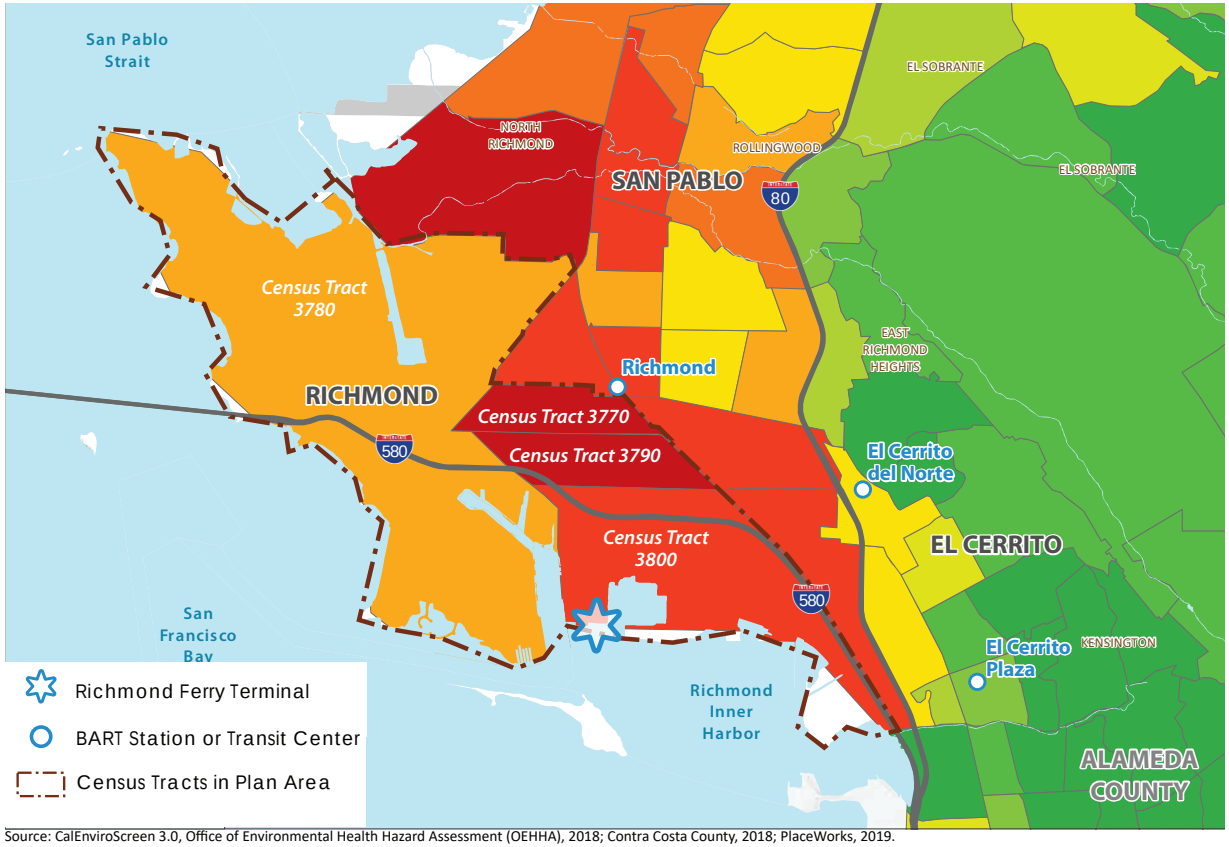
ENVIRONMENTAL CHARACTERISTICS

CalEnviroScreen is a mapping tool that helps identify California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution. The tool was developed by the Office of Environmental Health Hazard Assessment (OEHHA) and the California Environmental Protection Agency (CalEPA). CalEnviroScreen uses environmental, health, and socioeconomic information to rank census tracts, with higher scores suggesting higher pollution burden and vulnerability. Some statewide transportation funding sources, such as the Cap-and-Trade Program and the Active Transportation Program are specifically intended for, or more accessible to, communities identified with this tool.

As shown in Figure 2.6, according to CalEnviroScreen 3.0, two of the four census tracts included in this demographic profile have scores of 91 and above, indicating very high pollution burdens and vulnerability; these two census tracts include the neighborhoods of Santa Fe and Atchison Village. The southern portion of the Plan Area, which includes the neighborhood of Marina Bay, also indicates high pollution burdens and vulnerability with a score above 71. The scoring indicates somewhat-average burdens for the Point Richmond neighborhood. Some CalEnviroScreen criteria, such as pesticide runoff, would not apply in Richmond, so the presence of Disadvantaged Communities in the Plan Area is especially notable.

Key factors contributing to air quality concerns for the Plan Area include large-scale industrial plants (such as the Richmond Chevron Refinery), harbor-area industrial uses, exhaust from ships using the harbor, and motor vehicle exhaust from I-580.

Figure 2.6 CalEnviroScreen Scores – Pollution Burden



Source: CalEnviroScreen 3.0, Office of Environmental Health Hazard Assessment (OEHHA), 2018; Contra Costa County, 2018; PlaceWorks, 2019.

CalEnviroScreen 3.0 Score

0 - 10	51 - 60
11 - 20	61 - 70
21 - 30	71 - 80
31 - 40	81 - 90
41 - 50	91 - 100

SAFETY

A review of 5-year (2014-2018) collision data shows there were 183 reported collisions during that time frame along key Plan Area corridors. Of these collisions, there were seven reported vehicle-pedestrian collisions. This includes one at the intersection of Richmond Parkway and Ohio Avenue, two at the intersection of Canal Boulevard and Cutting Boulevard, one along Cutting Boulevard to the west of Harbour Way, and three on Harbour Way at intersections with Virginia Avenue, Maine Avenue, and Ohio Avenue. There were five reported vehicle-bicycle collisions: one at the intersection of Richmond Parkway and Ohio Avenue, two on Cutting Boulevard, and two on Harbour Way near Hall Avenue. Collisions involving bicyclists and pedestrians are shown in Figure 2.7.

Figure 2.7 Pedestrian- and Bike-Involved Collisions Along Key Plan Area Roadways

*The number of collisions is indicated if there was more than one at a single location

Figure 2.8 Recently Completed or Proposed Transportation Improvements

INFRASTRUCTURE ANALYSIS

KEY CORRIDORS AND PROPOSED IMPROVEMENTS

The text below summarizes existing studies in the Plan Area that support potential improvements and describes proposed and ongoing infrastructure improvements in the area, visible in Figure 2.8. To the benefit of residents and visitors, there are a significant number of studies to improve multimodal connectivity in the Plan Area that are completed or underway. When considering improvements on existing roadways to accommodate bicycle and pedestrian improvements, projects need to assess existing traffic conditions. Projects discussed below have traffic studies that can be reviewed as concepts are developed for the Ferry to Bridge to Greenway Plan.

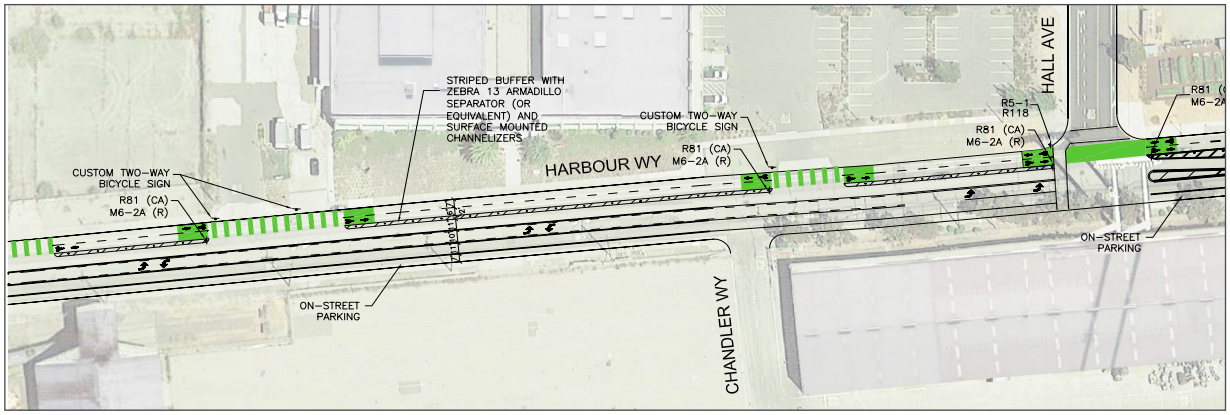
- Cycle Track (Class IV Bikeway) - Interim Richmond-San Rafael Bridge Connections
- Cycle Track (Class IV Bikeway) - Planned
- Cycle Track (Class IV Bikeway) - Proposed or Future Improvements
- Existing Multi-Use Trail (Class I)
- Multi-Use Trail (Class I) - Under Construction
- Shared Route (Class III Bikeway) - Planned
- Planned Intersection Improvements

Harbour Way is a popular route for recreational cyclists, connecting Richmond destinations to the Bay Trail at the street's southern terminus.

The southern segment of Harbour Way is currently striped with Class II bike lanes.

Harbour Way

The Caltrans Active Transportation Grant submitted in 2018 by the City of Richmond included a concept design depicting improvements to Harbour Way from the Ferry Terminal to the Richmond Greenway. It shows a Class IV cycle track on the east side of Harbour Way from the Ferry to Hoffman Boulevard. To the north of Hoffman Boulevard, the concept includes Class II bicycle lanes to the Greenway. Harbour Way south of Cutting Boulevard is designated as a truck route by the City of Richmond. There are two railroad crossings on Harbour Way. The northern crossing at Wright Avenue is a diagonal crossing operated by Burlington Northern Santa Fe (BNSF). The southern crossing near Hall Street has two sets of tracks and is operated by Richmond Pacific Railroad.



A concept design depicting improvements to Harbour Way from the Ferry terminal to the Richmond Greenway was completed in 2018. It included a Class cycle track on the east side of Harbour Way from the Ferry Terminal to Hoffman Boulevard.

Pedestrians face obstacles such as signage in the path of travel and sidewalk gaps over rail tracks.

Hoffman Boulevard

Hoffman Boulevard is a four-lane roadway with on-street parking on the west side of the roadway. Data collected by the City of Richmond in 2016 found that the average daily traffic volume along the roadway is about 3,573 vehicles with a peak hour volume of 408. Of the average daily traffic, about 5.1 percent of these vehicles are single-unit trucks and 7.9 percent are combination trucks. The northeast side of the roadway includes a continuous sidewalk, but the sidewalk along the southwest side is discontinuous. The South Richmond Connectivity Plan provides recommendations for the short- and long-term improvements along the corridor, which include:

- Short-term improvements (2015-2024)
  - Lane reduction/parking removal in the south-east-bound direction and removal of the left-turn pocket at the Hoffman Boulevard/ Harbour Way intersection.
  - Stripe continuous bicycle lanes through each intersection approach.
  - Consider a two-way bikeway on southwest side of Hoffman Boulevard.
  - At the intersection of Hoffman Boulevard and Harbour Way, stripe triple-four trail crossings on the east and south sides of the intersection.
  - At the intersection of Hoffman Boulevard and Harbour Way, stripe queue boxes on the southeast and southwest corners.
- Long-term improvements (2030+)
  - Add to the City's Truck Route Network.
  - Conduct a feasibility study for a shared-use trail parallel to the BNSF rail spur.
- If a parallel trail is not feasible, develop a two-way bikeway on the southwest side of the roadway.
  - At the Cutting Boulevard and Hoffman Boulevard intersection, add a bicycle signal phase.
  - At the Hoffman Boulevard and Harbour Way Intersection, realign the intersection of the EB I-580 on-ramp with Harbour Way S. to reduce speeds.

The City's right-of-way is generally at the back of the sidewalk. The City will soon implement interim bicycle improvements within this area that includes a road diet along Hoffman Boulevard, converting the roadway into two travel lanes with a center left turn lane. The remaining area will become a two-way Class IV protected bike lane facility along the south side.

Hoffman Boulevard has wide travel lanes and a continuous sidewalk on the northeast side.

The intersection of Hoffman Boulevard and Harbour Way lacks bike facilities and high-visibility crosswalks, and its configuration allows high vehicle travel speeds.

Cutting Boulevard at Point Richmond's Judge George D Carroll Park has a pleasant, shaded pedestrian environment between a wide planting strip and the park. However, there are no striped bicycle facilities west of Canal Boulevard.

Cutting Boulevard has narrow Class II bicycle lanes between Canal Boulevard and Hoffman Boulevard, with no buffer separting bicyclists from vehicle traffic. Bicyclists typically use the outer part of the lane to avoid debris and poor pavement conditions.

A two-way cycle track on the north side of Ohio Avenue goes from Richmond Parkway/Canal Boulevard to 2nd Street, connecting to a two-way cycle track on Garrard Boulevard. The "quick build" improvement constructed in 2019 provides enhanced bike connections to the Richmond-San Rafael Bridge bike/pedestrian path.

On Garrard Boulevard, a newly constructed two-way cycle track – an interim improvement constructed in 2019 – provides a safe connection from Ohio Avenue to Point Richmond.

West Cutting Boulevard

West Cutting Boulevard is a four-lane roadway with a two-way left turn lane. East of Canal Boulevard, the street has Class II bicycle lanes. Data collected by the City of Richmond in 2015 found that the average daily traffic volume along the segment of West Cutting Boulevard from I-580 to Garrard Boulevard is about 11,368 vehicles with a peak hour volume of 1,116, meeting the FHWA threshold to consider a road diet. Of average daily traffic, about 9.6 percent of vehicles are single unit trucks and about 2.5 percent are combination trucks. Cutting Boulevard is designated as a truck route in the City of Richmond. The BNSF railroad crosses West Cutting Boulevard at two locations at acute angles.

Ohio Avenue

Ohio Avenue is a two-lane roadway with Class II bicycle lanes. It is designated as a truck route in the City of Richmond. Sidewalks exist on both sides of the roadway except the north side of Ohio Avenue west of South 1st Street. The BNSF railroad crosses West Cutting Boulevard at one location at acute angles. The City has implemented interim bicycle improvements within this area that includes a two-way Class IV protected bike lane facility along the north side of Ohio Avenue.

Garrard Boulevard

Garrard Boulevard is a four-lane roadway that is designated as a truck route in the City of Richmond. The BNSF railroad crosses Garrard Boulevard at one location; the existing grade crossing panels have gaps that pose a risk to bicyclists. The City recently implemented interim bicycle improvements within this area that includes a two-way Class IV protected bike lane facility along the north side of Garrard Boulevard.

Point Richmond

Bicyclists traveling through Point Richmond typically use West Richmond, Railroad and Tewksbury Avenues. Another popular route bicyclists utilize is Park Place and Washington Avenue through the retail center, or through Santa Fe Avenue. The streets are narrow two-lane streets with on street parking; along Railroad Avenue, perpendicular parking exists on the east side of the roadway. The Santa Fe Avenue alternative route is steep. The City recently implemented interim bicycle improvements within this area that includes Class III facilities along East Richmond, West Richmond, and Washington Avenues. Along Tewksbury Avenue, the project features a two-way Class IV protected bike lane facility along the south side of the roadway between Castro Street and Santa Fe Avenue.

Richmond-San Rafael Bridge Bike/ Pedestrian Path Project

The five-mile San Rafael Bridge Bike/Pedestrian Trail – part of the San Francisco Bay Trail – opened in November 2019 for a four-year pilot. The Bay Area Toll Authority (BATA) and the Metropolitan Transportation Commission (MTC) developed a bike/pedestrian dedicated trail along the north side of I-580 on the upper deck of the Richmond-San Rafael Bridge. The bike/pedestrian project provides the first active transportation connection from Marin County to Contra Costa County. The Richmond approach is an off-street multi-use trail that starts at Castro Street and Tewksbury Avenue and extends to Stenmark Drive, then connects with the Bridge Trail.

The Richmond-San Rafael Bridge Bike/Pedestrian Trail (part of the SF Bay Trail) opened in November 2019 for a four-year pilot.

The entrance to the Bridge Trail is accessed by pedestrian and bicycling improvements including striped bike and pedestrian crosswalks and a wide accessible curb ramp.

The Tewskbury Avenue cycle track leads directly to the Bridge Trail.

Tewskbury Avenue's two-way cycle track is an interim improvement constructed in 2019.

Figure 2.9 Types of Bikeways

Class I Multi-Use Trail

Class II Bicycle Lane

Class III Bicycle Route

Class IV Cycle Track

FACILITY DESIGN STANDARDS

The Plan Area features design elements whose design is governed by several design standards, including the following:

- **Class I Multi-Use Trail** - Class I multi-use trails are facilities with exclusive right-of-way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. According to the Highway Design Manual, the minimum paved width of travel way for a two-way bike trail shall be 8 feet with 10 feet highly preferred. The Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) recommend a minimum width of 10 feet. The minimum paved width for a one-way trail shall be 5 feet. When heavy bike and pedestrian volumes are expected, the trail shall be 10 to 12 feet wide. The trail requires a 2-foot wide minimum wide shoulder composed of the same surface material as the trail of an all-weather surface free of vegetation. A Class I multi-use trail must comply with accessibility standards.

- **Class II Bike Lanes** – Class II bike lanes established along streets are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel. Bike lanes are one-way facilities, typically striped adjacent to motor traffic traveling in the same direction. FHWA recommends that a Class II bike lane shall be no less than 5 feet in width. When speeds are posted at 40 miles per hour, the bike lane shall be at least 6 feet wide. A striped buffer of 2 feet between the bicycle lane and the path of travel is recommended to enhance safety and comfort.

- **Class III Bicycle Route** – Class III bikeways, or bike routes, designate a preferred route for bicyclists on streets shared with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network. Bike routes are generally not recommended for roadways with speeds higher than 25 MPH or volumes well in excess of 3,000 vehicles per day. Bike routes are established by placing bike route signs and optional shared roadway markings (sharrows) along roadways.

- **Class IV Cycle Track** – A Class IV separated bikeway, often referred to as a cycle track or protected bike lane, is for exclusive use by bicycles, physically separated from motor traffic with vertical features. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking. Separated bikeways can provide for one-way or two-way travel. By providing physical separation from motor traffic, Class IV bikeways can improve comfort and safety for all types of bicyclists and contribute to an increase in bicycle volumes and mode share. A two-way cycle track should be at least 10 feet wide (12 feet wide is preferred) with a 3-foot buffer (CALTRANS Design Bulletin 89). A one-way cycle track shall be at least 7 feet wide with a 3-foot buffer.

- **Lighting** – Proper lighting is critical to ensure the safety of pedestrians, bicyclists, and motorists. The Illuminating Engineering Society's manual entitled "Roadway Lighting" ANSI/IES RP-8-14 provides recommendations for lighting of roadways documenting factors such as street luminance, intersection illumination, and lighting uniformity. For a collector roadway with a medium pedestrian potential for conflict,

Harbour Way north of Hall Avenue (looking south)

Harbour Way at Wright Avenue (looking north)

Cutting Boulevard at 4th Street (looking east)

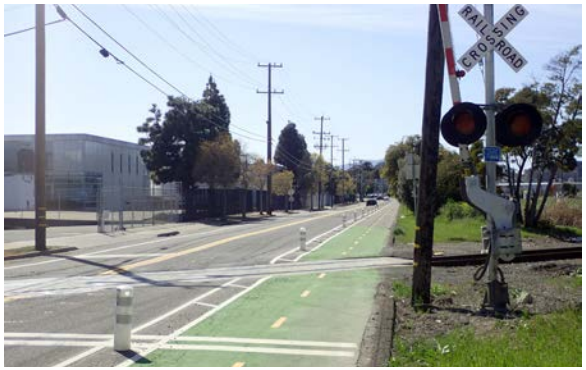
the average value for luminance should be 0.6 foot-candles (FC), average uniformity ratio of 3.5, and maximum informality ratio is 6.0. At intersections, the lighting levels should maintain an average illumination level of 1.8 FC with a maximum uniformity ratio of 4.0.

- **Road Diet –** The reduction of vehicle travel lanes for use as bicycle lanes is known as a road diet. According to the Federal Highway Administration (FHWA), the typical application is the conversion of a four-lane roadway into a three-lane configuration, composed of two through lanes and a twin left turn lane. The typical guidance for this road configuration is that roads with an average daily traffic (ADT) volume of less than 20,000 vehicles per day are good candidates for road diets. During the peak hour, the ADT should be at or below 750 vehicles per hour per direction.

RAILROAD CROSSINGS

There are many active single track railroad crossings in the Plan Area. Some crossings are of key corridors that may warrant bicycle and pedestrian improvements. Many of these crossings are at acute angles, a situation that poses specific challenges for people bicycling because bicycle wheels can get stuck in grooves between tracks. Most of the crossings are owned in fee by the Burlington Northern Santa Fe Railroad (BNSF) including:

- **Harbour Way –** There are two crossing locations. The first site north of Hall Avenue includes a railroad switch requiring the crossing of two tracks (this crossing is operated by Richmond Pacific Railroad). The crossing in the approach direction includes a modern concrete grade panel as well as California Public Utility Commission (CPUC) Standard 9-A, which is a flashing light assembly over the roadway with an automatic gate arm. On the opposite side serving the sidewalk, there are no warning devices. The second crossing at Wright Avenue is diagonal across the intersection creating an acute angle. The crossing in the approach direction includes a modern concrete grade panel but no flashing lights or gates on either approach.
- **West Cutting Boulevard –** There are two crossing locations. The first location at South 4th Street includes a diagonal crossing of West Cutting Boulevard creating an acute angle. The crossing in the approach direction includes a modern concrete grade panel as well as CPUC Standard 9-A. On the opposite side serving the sidewalk, there are no warning devices. The second crossing of West Cutting Boulevard located just west of Canal Boulevard is diagonal across the intersection creating an acute angle. The crossing in the approach direction includes a modern concrete grade panel as well as CPUC Standard 9-A. On the opposite side serving the sidewalk, there are no warning devices.
- **Ohio Avenue –** The diagonal crossing just east of the intersection of Richmond Parkway and Ohio Avenue creates an acute angle. The crossing in the approach direction includes a modern concrete grade panel as well as CPUC Standard 9, which is a flashing light signal assembly with automatic gate arm. On the opposite side serving the sidewalk, there are no warning devices.
- **Garrard Boulevard –** The crossing near Cutting Boulevard includes a steel grade panel with holes and grooves as well as CPUC Standard



Ohio Avenue east of Richmond Parkway/Canal Boulevard near Cutting Boulevard (looking west)

Garrard Boulevard near Cutting Boulevard (looking north)

9-A. On the opposite side serving the sidewalk, there are no warning devices. The holes and grooves in the grade panel pose a hazard to bicyclists.

- **Richmond Avenue at Railroad Avenue (heart of Point Richmond) –** The crossing in the approach direction includes a timber grade panel as well as CPUC Standard 9. On the opposite side serving the sidewalk, there are no warning devices.

At the crossing locations, BNSF maintains a right-of-way of no less than 60 feet in width. All proposed crossing improvements within the railroad right-of-way will require approval from both the California Public Utilities Commission (CPUC) and BNSF. This process is codified by the CPUC 's General Order 88-B "Modification of an Existing Rail Crossing." Improvements within the railroad's right-of-way could include the following:

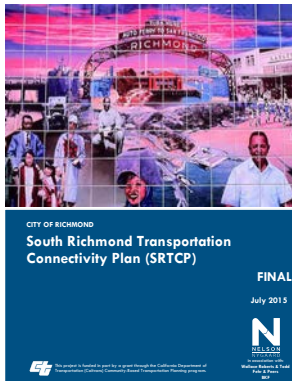
- Modifications to grade crossing panels to comply with the Americans with Disabilities Act and to ensure bicycle safety.
- For crossings that are less than 60 degrees to the tracks, the project could provide striping to align the bicycle facility as close as possible to a 90-degree crossing consistent with the State of California Department of Transportation's Highway Design Manual and guidelines provided by the National Association of City Transportation Officials.
- Provide warning lights and gates at all crossing quadrants consistent with the CPUC and Federal Railway Administration's requirements.

PLANNING AND PROGRAM FRAMEWORK

The City of Richmond and regional agencies have completed several studies and concept plans that provide guidance for the development of bicycle and pedestrian improvements along the routes under consideration for the Ferry to Bridge to Greenway Plan.

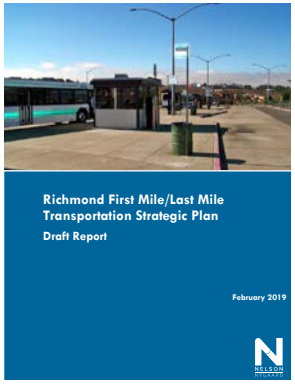
PLANNING DOCUMENTS, STUDIES AND PROJECTS

South Richmond Transportation Connectivity Plan



In 2015, Richmond adopted the South Richmond Transportation Connectivity Plan, which aims to provide a foundation for multimodal infrastructure within the South Richmond neighborhood. The plan's project area is bounded by the I-580 north to Maine Avenue, west to Harbor Channel and S. 6th Street, and east to San Pablo Avenue. The area includes key destinations such as the Ferry Terminal, Richmond Bay Campus, El Cerrito del Norte BART Station, and El Cerrito Plaza BART Station. Through the existing conditions assessment and input from local outreach, the plan developed specific nodes and key corridors within the neighborhood for targeted improvements. The nodes are located at the following intersections: (1) Hoffman Boulevard and Harbour Way, (2) Marina Bay and I-580, (3) Marina Bay and Regatta Boulevard, (4) Bayview Avenue and Carlson Boulevard, (5) and Central Avenue and San Pablo Avenue. With the exception of the Hoffman Boulevard and Harbour Way node with connections to Cutting Boulevard, the nodes and key corridors are not specifically located within the Plan Area. The plan identifies opportunities in the vicinity of the Plan Area and proposes multimodal improvements in the near term and conceptual recommendations in the long range along Cutting Boulevard, Marina Way, Harbour Way, and 23rd Street. The improvements connect to the Ferry Terminal, the Greenway, and the Wellness Trail.

City of Richmond First/Last Mile Transportation Strategic Plan



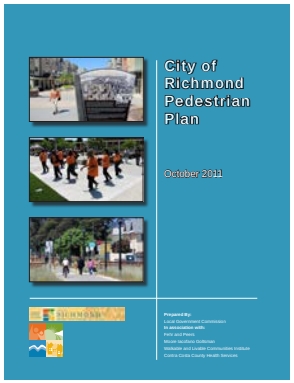
The 2017 Richmond First Mile/Last Mile Transportation Strategic Plan provides an assessment of existing conditions aimed at addressing first mile/last mile gaps to ultimately connect the city's varied transit services and enhance its transportation network. The plan identifies barriers in bicycle, pedestrian and transit networks leading up to the Richmond Ferry Terminal and the Richmond BART Station. Included in the document's assessment is identification of priority corridors relevant to the Ferry to Bridge to Greenway Plan, particularly 23rd Street, Cutting Boulevard, Marina Way, Ohio Avenue, and Harbour Way. The plan evaluates the existing quality of amenities, bicycle and pedestrian facilities, wayfinding/signage, barriers, safety, and beautification elements along each corridor. The plan also provides a blueprint for developing a network that promotes Transit Oriented Development, identifying Macdonald Avenue and the Richmond Ferry Terminal as key opportunity sites.

City of Richmond Bicycle Master Plan

The City of Richmond Bicycle Master Plan (2011) presents policies and action items for completing a 145-mile bikeway network and bicycle parking facilities throughout the City and surrounding areas. Adopted in October 2011, the plan provides an overview of existing conditions, numerous policies that support enhancements to the bikeway network, and a list of recommendations that includes installing bicycle lanes. The plan describes gaps in regional connections, pavement quality, bicycle parking, signage and wayfinding, and multi-modal connections throughout the network. It contains a list of implementation strategies along key corridors in the Ferry to Bridge to Greenway project area, including Cutting

Boulevard, 23rd Street, and Harbour Way. The document also lists the Richmond Greenway as a focus area and details improvements to connect the west and east spans of the trail. For each focus area or key corridor, the plan breaks up the recommended improvements into short-, medium-, and long-term categories while establishing prioritization criteria.

City of Richmond Pedestrian Plan



The City of Richmond Pedestrian Plan, adopted in October 2011, provides recommendations and goals for creating an environment conducive to walking and pedestrian safety with a focus on an area within Central Richmond. The document recommends the adoption of complete street design standards and policies, guided by the California Complete Streets Act of 2008 (AB 1358). The Pedestrian Plan aims to improve walking by adopting complete streets policies, design improvements along walkways, increased pedestrian lighting, and enforcement of traffic laws.

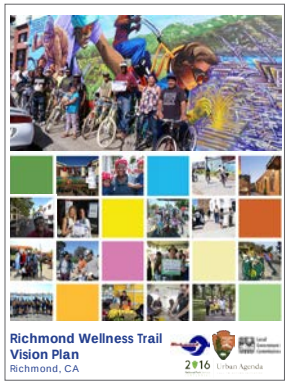
The Pedestrian Plan identifies opportunities and specific applications of active transportation and Complete Street strategies for pedestrian infrastructure and divides its recommendation into 4 categories: key corridors, local streets, trail connectivity, and freeway/interchange connectivity. Specifically of relevance to the Ferry to Bridge to Greenway Plan are Macdonald Avenue, 23rd Street, Cutting Boulevard, Harbour Way, Marina Way, and Ohio Avenue as key corridors. For each corridor, the plan lists existing conditions and proposes improvements. For its section on trail connectivity, the plan identifies the Richmond Greenway as an opportunity site for quality open space and itemizes improvements for connectivity to the Greenway via gaps and weak links.

Yellow Brick Road Iron Triangle Walkable Neighborhood Plan

The Yellow Brick Road Iron Triangle Walkable Neighborhood Plan, enacted February 2015, addresses barriers, issues, and opportunities to implement Complete Streets in the Iron Triangle Neighborhood of Richmond. The plan aims to connect the community's assets (e.g., schools, transportation hubs, parks, etc.) via brightly colored yellow bricks within the Iron Triangle Neighborhood. The area of the plan includes the Richmond Greenway, Richmond BART Station, Harbour Way, Marina Way, Ohio Avenue, and Macdonald Avenue—key destinations and corridors relevant to the Ferry to Bridge to Greenway Plan.

The plan divides the Yellow Brick Road vision into three phases: the "Roots" (Phase 1), the "Trunks" (Phase 2), and the "Branches" (Phase 3). During the Trunks phase, the plan proposes improvements along key intersections leading up to Richmond Greenway, including a raised crosswalk with rectangular rapid flashing beacons, curb extensions, and crossings with a median refuge. Macdonald Avenue, Ohio Avenue, and Harbour Way are corridors identified for improvements during the Branch Phase. Proposals include raised intersections with decorative painting, wayfinding signs, decorative crosswalks, and curb extensions.

Richmond Wellness Trail Vision Plan



The 2016 Richmond Wellness Trail Vision Plan provides a comprehensive plan for a north-south corridor connecting existing transit facilities and key destinations. The locations along the corridor include the Bay Trail, Ferry Terminal, Greenway, Marina Bay, Richmond BART Station and Richmond Kaiser Permanente Medical Center. The plan proposes a series of bicycle enhancements and pedestrian amenities that work in tangent with the city's existing infrastructure and promote public health by converting the corridor that leads up to the Kaiser Medical Facility into one that promotes well-being and physical activity. By proposing design elements along the corridor such as public art and graphic wayfinding coupled with infrastructure improvements, the plan aims to develop a tailored "wellness theme." Using the Pedestrian

Plan and Bicycle Master Plan as a foundation, the Wellness Trail Vision Plan proposes improvements along the north-south corridor. The plan recommends traffic calming features, cycle tracks, and roundabouts near the Ferry to Bridge to Greenway project boundary along Marina Way and the Greenway; the Wellness Trail will compliment and connect to the Ferry to Bridge to Greenway Plan corridors.

Richmond Bay Specific Plan

Adopted in 2016, the Richmond Bay Specific Plan presents the vision for a 320-acre region within Richmond Bay. South Richmond has been designated a planned development area (PDA) and is slated for infill developments and economic investment, including a campus for Lawrence Berkeley National Laboratory. The specific plan proposes access to transit and a network of bikeways and walkways that create an active community in the mixed-use development area. The plan's "sphere of influence" overlaps with the Ferry to Bridge to Greenway Plan Area and highlights the BART Station and Ferry Terminal as key transportation modes. It advocates for enhanced connectivity and identifies barriers to mobility. The plan specifies the adoption of Complete Streets policies and design guidelines for bikeways and walkways in the plan area.

City of Richmond Urban Greening Master Plan

The 2017 City of Richmond Urban Greening Master Plan guides future greening projects throughout the City by advocating for protection, expansion, and management of green streetscapes and the urban forest. The master plan establishes 13 zones for analysis; of the 13 zones, Zone Eleven: Marina Bay Neighborhood is located in the vicinity of the Ferry to Bridge to Greenway Plan Area. The analysis includes an inventory and survey of trees and vegetation within the zone and identification of opportunity sites. The plan identifies Harbour Way and Marina Way as opportunity sites for prioritization of new planting. The plan further identifies greening opportunities leading up Richmond Greenway, particularly Unity Park and a 1.2-mile eastern section of the Richmond Greenway.

Richmond General Plan 2030

Adopted in 2012, the City of Richmond's General Plan presents goals, policies, and actions to guide planning and development to the year 2030 and identifies key corridors in Richmond for active transportation improvements. The General Plan advocates for "Complete Neighborhoods" and recommends adopting Complete Street policies at a comprehensive level. The General Plan's Circulation Element seeks to enhance the City's multimodal transportation network, regional transportation amenities, and provide enhanced bicycle and pedestrian connectivity to destinations.

The City sets forth policies and goals to create a Complete Streets environment by establishing a "place-based" circulation approach rather than a vehicular capacity-based hierarchy for streets. The place-based classification system identifies travel type (e.g., transit, bicycle, pedestrian, etc.) and designates the priority mode by accessway type (e.g., trail, activity street, connector street, freeway, etc.). This integrated method promotes a comprehensive network of Complete Streets throughout the city, providing improved connectivity based on the prioritized modes. The Circulation Element further establishes goals that promote walkable neighborhoods and multimodal circulation systems that aim to improve the experience of travel by foot, bicycle, public transit, and vehicles. In the project boundary, key corridors include 23rd Street, Macdonald Avenue, Cutting Boulevard, Harbour Way, Marina Way, and Ohio Avenue. The Ferry to Bridge to Greenway Plan builds on the policies and goals established in the City's General Plan.

LOCAL GROUPS AND ORGANIZATIONS

- **Trails for Richmond Action Committee (TRAC):** Formed in 1999, TRAC strives to complete the San Francisco Bay Trail in Richmond and ensure development of the trail is linked to neighborhoods, job centers, and local parks. The committee actively promotes the use of the trail to showcase the city's shoreline and the trail's natural history.

- **Friends of the Richmond Greenway (FORG):** FORG is a partnership of local organizations that was formed in 2006 and is composed of 17 member organizations. The collaborative brings together community members and organizations to develop the Greenway through outreach and organized advocacy events. FORG has been actively developing the trail into a space for recreation, art, culture, and pedestrian/bicycle transportation.

- **Rich City Rides (RCR):** Established in 2012, Rich City Rides is a bike shop that offers programs for local community members and youth to build their bike riding and maintenance skills through outdoor activities and workshops. In addition to bike repair clinics and park cleanups, the shop offers the following:
  - Youth Earn-A-Bike Apprentice Program (EAB): Youth members engage in points-based workshops that award points once certain skills and milestones are reached. Participants first earn a helmet, then a set of lights, a lock, and eventually a bike.
  - Youth and Family Social Rides: Every Sunday at 9:30 a.m., participants ride through Richmond trails and neighborhoods to learn the rules of the road and bike safety. The social rides are open to all, and EAB members can even earn points for participating in rides.
  - Commuter Cyclist Program: RCR provides safety courses and bike repair workshops to commuter cyclists who use bicycles as their primary means of transportation.

- **Bike East Bay:** Bike East Bay is an organization that advocates the adoption of the bicycle as a recreation/transportation mode by offering educational classes and organizing events throughout the East Bay region. The organization establishes campaigns for key trails, corridors, neighborhoods, and cities in the region to increase awareness and support for active transportation. As part of their Richmond Bikeways Campaign, the organization partnered with other local non-profits, organizations, advocacy groups, and community members to form the Richmond Bicycle / Pedestrian Advisory Committee (BPAC). The committee meets monthly to discuss opportunities to improve biking facilities in Richmond.

ISSUES AND OPPORTUNITIES

This section introduces key issues and opportunities in the Plan Area. They are illustrated in Figure 2.10 and discussed in further detail below.

ISSUES

Some key considerations regarding infrastructure challenges along the proposed routes include:

- **Harbour Way**
  - Perpendicular parking exists along the east side of the roadway at the Ford Building.
  - Two BNSF railroad tracks cross the roadway north of Hall Avenue. No warning devices exist on the opposing direction of travel.
  - There is an acute angle crossing of the BNSF railway at Wright Avenue, with no warning devices at the approaches.
  - At the westbound I-580 offramp to Harbour Way, poor sight distance and mixing with right turn vehicles exists.
  - The entrance to eastbound I-580 and right turn from Harbour Way to Hoffman Boulevard creates a conflict.
  - The Harbour Way and Hoffman Boulevard traffic signal likely does not detect bicyclists and is missing pedestrian phases along two legs of the intersection.
  - The Harbour Way and Cutting Boulevard signal likely does not detect bicyclists.
  - Harbour Way's pavement contains distress in locations and a steep cross slope. Pedestrian paths of travel do not comply with accessibility requirements at certain driveways, intersections, and within mid-block segments.

Figure 2.10 Issues and Opportunities

Existing Multi-Use Trail (Class I)

Proposed Cycle Track (Class IV)

Issues

Railroad Crossing

Key Safety/Comfort Issue Along Corridor

Opportunities

Potential Intersection Improvements

Potential Corridor Improvements

AREA-WIDE PERSONAL SAFETY ISSUES:

- High Vehicle Traffic Speeds
- Insufficient Lighting in Places
- Lack of "Eyes on the Street"

AREA-WIDE TRANSPORTATION SAFETY ISSUES:

- Sidewalk Gaps
- Railroad Crossings
- Truck Traffic

AREA-WIDE OPPORTUNITIES:

- Wayfinding
- Lighting

- Roadway and intersection lighting may not meet current standards.
- The signalized intersections at both Ohio and Maine Avenues likely do not detect bicyclists within the Class II bicycle lanes.
- In some areas, the pavement has a steep cross slope.

Hoffman Boulevard

- There is a gap in the sidewalk along the west side of the roadway.
- High truck volumes exist along the roadway.
- Roadway and intersection lighting may not meet current standards.

Cutting Boulevard

- There are two acute angle crossings of the BNSF railway along Cutting Boulevard. No warning devices exist on the opposing direction of travel.
- There are gaps in the sidewalks along the south side of Cutting Boulevard.
- Heavy large truck demand exists along the corridor and to access adjacent land uses.
- Pedestrian paths of travel do not comply with accessibility requirements at certain driveways, intersections, and within mid-block segments.
- There are drain inlets located along the roadway, which may pose a challenge for bicyclists.
- Roadway and intersection lighting may not meet current standards.

Cutting Boulevard/Garrard Boulevard Intersection

- The westbound approach includes three lanes. The center lane is offset from the entrance to Mechanics Bank. Based upon observed vehicle volume, travel lanes could be potentially reduced to eliminate the offset. This will require an assessment of the rail crossing of Garrard Boulevard located north of the intersection.
- The pedestrian crossing distance across Garrard Boulevard is long.
- The intersection has low lighting levels.

Garrard Boulevard

- There is no sidewalk on the west side of the roadway.
- While BNSF has recently upgraded the crossing, the crossing panels have grooves and holes that may pose a challenge for bicyclists
- There are drain inlets located along the roadway, which may pose a challenge for bicyclists.
- Roadway and intersection lighting may not meet current standards.

Garrard Boulevard/Ohio Avenue/ Richmond Parkway Intersection

- The north leg currently has no pedestrian phase, although this is planned to be added as part of the interim improvements.
- The intersection has low lighting levels.
- The slip lane located on the southwest quadrant of the intersection is not ideal for pedestrians.

Challenges for pedestrians traveling on Harbour Way (top and middle) and Cutting Boulevard (bottom) include poor pavement conditions, difficult rail crossings, narrow sidewalks adjacent to vehicle travel lanes, and crossings with limited visibility by motorists of pedestrians.

The Ohio Avenue crossing at 2nd Street is very long. Recent improvements including this marked crosswalk have improved safety. More permanent solutions could improve safety further.

Ohio Avenue

- The intersection of 2nd Street and Ohio Avenue is very wide. In similar intersections along Ohio Avenue, high vehicle speeds have resulted in collisions and conflicts between pedestrians and bicyclists.
- There is one acute angle crossing of the BNSF railway. No warning devices exist on the opposing direction of travel.
- There is no sidewalk along the north side of the roadway west of South 1st Street.
- The traffic signal at the Richmond Parkway and Ohio Avenue intersection does not have a pedestrian phase and marked crossing along the north leg.
- There are drain inlets located along the roadway, which may pose a challenge for bicyclists.
- Roadway and intersection lighting may not meet current standards.

2nd Street

- There is one acute angle crossing of the BNSF railway along 2nd Street.
- The intersection of 2nd Street and Ohio Avenue is very wide. In similar intersections along Ohio Avenue, high vehicle speeds have resulted in collisions and conflicts between pedestrians and bicyclists.
- 2nd Street's pavement contains distress in locations and a steep cross slope. Pedestrian paths of travel do not comply with accessibility requirements at certain driveways and intersections, and within mid-block segments.
- The 2nd Street undercrossing of I-580 is poorly lit. The undercrossing is within the State of California Department of Transportation's right-of-way.

Point Richmond

- Sight distance at intersections in certain locations is limited due to vehicle on-street parking too close to the limit line.
- Pedestrian paths of travel do not comply with accessibility requirements at certain driveways, intersections, and within mid-block segments.
- Along East Richmond Avenue, the BNSF crossing panel is timber. Standard angle parking exists east of the BNSF railroad tracks.
- Railroad Avenue perpendicular parking exists along the east side of the roadway.
- Santa Fe Avenue's slope exceeds 5%, creating challenges for bicyclists.
- Roadway and intersection lighting may not meet current standards.

OPPORTUNITIES

There are many opportunities for improvements in the Plan Area. Exciting new multimodal improvements have recently opened, including the Richmond Ferry and Richmond-San Rafael Bridge Trail. Parts of the area are already well served by the San Francisco Bay Trail and the Richmond Greenway. In addition, plans for near-term improvements to connect BART to the Richmond-San Rafael Bridge Trail have been developed and are under construction. Following are some opportunities or next steps to consider:

- As the City implements interim improvements along Ohio Avenue, South Garrard Boulevard, Hoffman Boulevard, West Richmond Avenue, and Tewksbury Avenue, there will be an opportunity to evaluate performance and adjust the design of the final improvements. In addition, the proposed modifications to Harbour Way South are well documented in various studies and grant applications. Additionally, several private developments have been conditioned with making improvements for multimodal connectivity.
- Cutting Boulevard is a long corridor with Class II lanes, and many have asked for it to be improved for bicycle travel. It could potentially be considered for a road diet (lane reduction) to a two-lane roadway with a center left turn lane, providing space for a Class IV protected bike lane facility. The average daily trips on Cutting Boulevard is less than 20,000 vehicles, which normally signifies that it is a candidate for a road diet. However, the street's peak-hour traffic levels and high truck volume may not be consistent with FHWA's guidelines.

Cutting Boulevard can be considered for a lane reduction, as existing traffic may not require two lanes in each direction.

- Based upon the alignment of the BNSF crossings of Cutting Boulevard, the removal of a travel lane in the westbound direction could reduce the number of vehicles stored within the roadway, which may create a vehicle queue that blocks the I-580 or Canal Boulevard intersections. Thus, maintaining the two travel lanes in the westbound direction and removing one travel lane in the eastbound direction is an option to integrate a bicycle facility that minimizes the potential for congestion.
- More analysis needs to be done to determine if a road diet would work on Cutting Boulevard. Thus, we suggest the following:
  - Complete a peak hour count at the intersections of West Cutting Boulevard with Harbour Way South and I-580.
  - Validate the existing vehicle queue that forms at the BNSF railroad right-of-way when the gates close.
- Within Point Richmond, in order to provide excellent facilities, some removal of on-street parking may be needed, and replacement or relocation of some parking could be explored. The project should work with the business community and other community members to address these issues.
- There are many railroad crossings throughout the Plan Area. We suggest commencing the General Order 88B process with the California Public Utilities Commission related to proposed modification at grade railroad crossings. Work within the railroad right-of-way could include modifying panels to eliminate grooves, aligning the crossing to be perpendicular to the track, and verifying that gates provide adequate safety.
- Improved wayfinding signage can greatly enhance bicycling and walking in the area by providing important information about bicycling/walking routes and directions to key destinations. In addition, a wayfinding program for upcoming improvements can develop an identifiable "brand" to highlight the unique set of enhanced bicycle and pedestrian facilities connecting the ferry to the bridge to the greenway. A wayfinding and branding program for ferry to bridge to greenway corridors can be coordinated with existing wayfinding programs (e.g., Bay Trail, Marina Park, and the Ferry Terminal/Ford Building area) and potential future signage for the upcoming Richmond Wellness Trail.

A key improvement could be a network-wide coordinated wayfinding system, which would have graphically compelling signage directing pedestrians and bicyclists to destinations.

On Ohio Avenue, interim improvements completed in mid-2019 provide opportunites to evalutate performance and ensure long-term improvements address challenges seen with interim improvements. For example, long-term improvements could provide wider physical buffers between bicycle/pedestrian infrastructure and vehicle traffic, replacing the interim project's narrow buffer, and long-term improvements could also add pedestrian infrastructure adjacent to the cycle track.

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BIKE ROUTE
Richmond-Ferry 2.2
Marina Bay Park 2.7
Point Isabel 5.3
SAN FRANCISCO
BAY TRAIL
CALIFORNIA REPUBLIC
AVENTON

RICHMOND FERRY TO BRIDGE TO GREENWAY
COMPLETE STREETS PLAN

3. Public Engagement

WHAT WE HEARD FROM THE COMMUNITY

From the Plan's inception in January 2019 through Plan adoption, engagement with the community was a key component of developing policy and infrastructure recommendations. 15 outreach events were conducted for the Plan to maximize input from the community's diverse range of stakeholder groups.

The public engagement strategies for the Plan are discussed below, including outreach media, meetings, and events.

ONLINE ENGAGEMENT AND PRINTED MATERIALS

In addition to conducting outreach at in-person events, robust online engagement was conducted throughout the Plan process, including the creation of a Plan website, an online survey requesting input of existing walking and biking conditions, and e-blasts notifying members of the community of upcoming Plan events and milestones. Complementing the online engagement were printed flyers describing the project.

POP-UP ACTIVITIES

A total of 8 pop-ups at popular community events occurred through the Plan's duration, allowing for a broad range of the public to view and provide input on policies and infrastructure improvements.

- Discussion of Existing Conditions and Plan Vision
  - Ferry Terminal Opening – January 10, 2019
  - MLK Day of Service – January 21, 2019
  - Bike to Work Day (Richmond Ferry Terminal) – May 9, 2019

- Development of Initial Concept Designs
  - Richmond Juneteenth – June 15, 2019
  - National Night Out – August 6, 2019
  - St. Mark's Church – October 6, 2019
- Presentation of Initial Concept Designs
  - Richmond-San Rafael Bridge Path Opening Day– November 16, 2019
  - Rich City Rides Sunday Ride – December 15, 2019

STAKEHOLDER GROUP MEETINGS

Three meetings were conducted with local and regional stakeholder groups throughout the duration of the Plan including:

- 1st Meeting – Discussion of Existing Conditions and Plan Vision – May 23, 2019
- 2nd Meeting – Presentation of Initial Concept Designs – October 15, 2019
- 3rd Meeting – Presentation of Preferred Design Alternatives – April 14, 2020

Stakeholder Meeting – May 23, 2019

NEIGHBORHOOD COUNCIL MEETINGS

Meetings with the following neighborhood councils occurred during the development of Initial Concept Designs.

- Marina Bay – July 10, 2019
- Santa Fe – July 27, 2019
- Point Richmond – July 31, 2019

COMMUNITY WORKSHOP

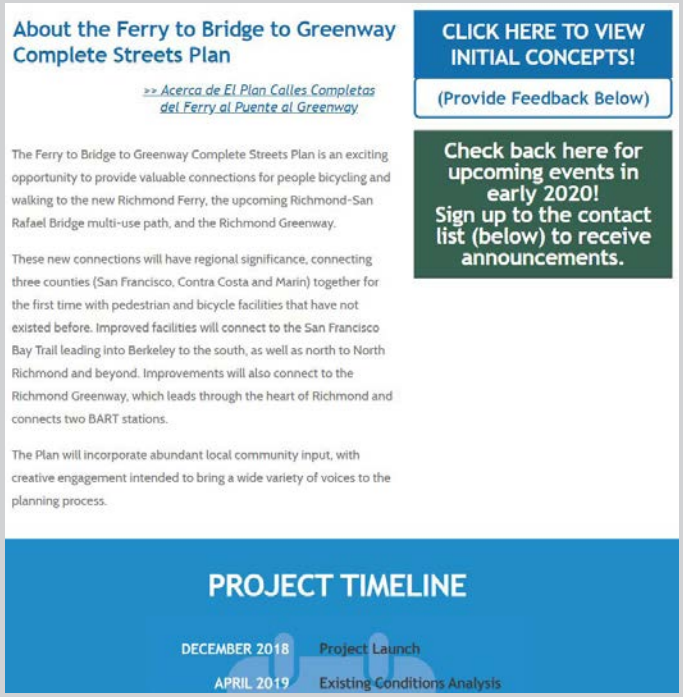
One traditional community workshop was held at Point Richmond Community Center on December 10, 2019 to allow for community members to view and provide feedback on draft concepts.

ONLINE ENGAGEMENT AND PRINTED MATERIALS

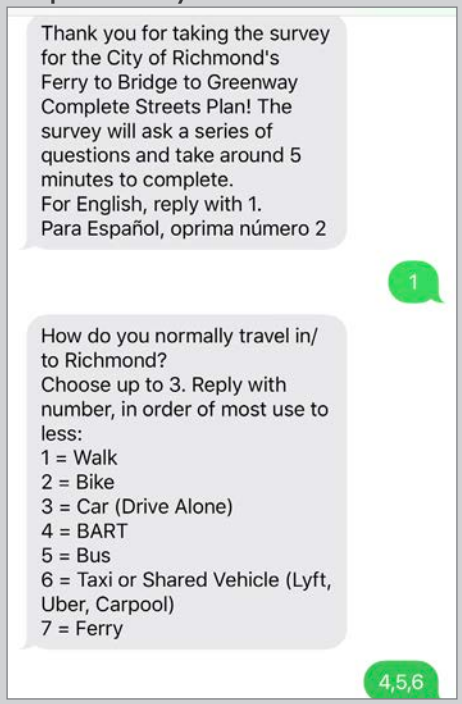
PROJECT WEBSITE

A dedicated website for the Richmond Ferry to Bridge to Greenway Plan (ferry2bridge2greenway.com) was developed in January 2019 to provide information about the Plan to the community. The website included a project description, Plan Area map, key project goals, project timeline, announcements of project-related events, project documents, and weblinks to outside resources.

Screenshot of Project Webpage



Project Survey



A contact form allowed people to sign up to the project email list and to submit questions and comments.

SURVEY ON EXISTING WALKING AND BICYCLING CONDITIONS

A project survey was available in February 2019 for community members and stakeholders to share feedback about existing walking and bicycling conditions in Richmond. Since the survey was conducted before interim bike improvements were constructed along Tewksbury Avenue, Garrard Boulevard, and Ohio Avenue in spring 2019, survey results do not reflect any potential positive (or negative) effects the improvements had on opinions about existing walking and bicycling conditions. The bilingual (English and Spanish) survey was accessed by mobile phone or online through the Plan's website. Participants submitted responses to the survey by either texting numerical responses to question prompts via cell phone or responding to questions online via Survey Monkey. This survey format sought to maximize the number of respondents by making the survey easy, fun, and easily accessible. There were 107 respondents.

Key takeaways from the survey include:

- A majority of respondents felt that walking in Richmond is "somewhat difficult" or "very difficult"
- Key challenges for walking include difficult crossings, long distances between destinations, poor sidewalk conditions, and low perceived safety
- About 50% of respondents felt bicycling is "somewhat difficult" or "very difficult", with about 27% of respondents indicating it was "somewhat easy" and 19% "neutral"
- Key challenges for bicycling include lack of bike lanes, fast-moving vehicle traffic, and motorists not following rules of the road
- About 25% of respondents "regularly" or "sometimes" walked or biked on the Richmond Greenway
- About 70% of respondents "regularly" or "sometimes" walked or biked on the Bay Trail
- About 87% of respondents expressed interest in walking or bicycling along the Richmond-San Rafael Bridge path once it opened
- 30% of respondents had used the Richmond-San Francisco Ferry

PLAN CONTACT LIST AND E-BLASTS

A contact list was maintained throughout the project. People signed up in a myriad of ways, such as: 1) during community and stakeholder engagement events (e.g., pop-up events, neighborhood council meetings, stakeholder meetings, and the public workshop), 2) through the project website sign-up form, and 3) by submitting contact information when completing the project survey. By August 2019, the contact list had over 350 subscribers. Throughout the project, e-blasts provided subscribers with updates on the Plan and notifications of upcoming events, such as the project kick-off e-blast shown in the image to the right.

PRINTED MATERIALS

Bilingual project flyers in English and Spanish were distributed at all community engagement events, made available at Richmond civic locations, and posted to the project website. The flyers were updated at various times to reflect changes in project status.

Example of a Project Eblast

We are excited to announce the City of Richmond has begun to develop the Ferry to Bridge to Greenway Plan, an exciting opportunity to improve bicycling and walking to the new Richmond Ferry, the upcoming Richmond-San Rafael Bridge multi-use path, and the Richmond Greenway!

We would like your help in shaping the Plan's vision and recommendations!

TAKE A QUICK SURVEY about walking and bicycling in Richmond, simply using your cell phone. **Text "active" to 510-900-5861.**

CLICK HERE TO CHECK OUT THE PROJECT WEBSITE to learn about the plan, find out about upcoming meetings and events, and provide additional feedback.

CLICK HERE TO SIGN UP FOR PROJECT UPDATES

We look forward to your input and participation in future project events!

Example of Project Flyers

POP-UP ACTIVITIES

The project team "popped up" at eight popular community events to showcase the Ferry to Bridge to Greenway Complete Streets Plan and to gather input from community members. Pop-ups took place at events that spanned a cross-section of language, geographic, and demographic characteristics. The purpose of these pop-up events was to increase awareness of the ongoing development of the Plan and collect input from community members through direct comments on project boards and other materials.

The pop-up events corresponded to particular stages in the planning process. A total of 8 pop-ups at popular community events occurred through the Plan's duration, allowing for a broad range of the public to view and provide input on policies and infrastructure improvements. Pop-up events were held in conjunction with the following community events:

- **Discussion of Existing Conditions and Plan Vision**
  - Ferry Terminal Opening – January 10, 2019

    PlaceWorks staff interacted with dozens of community members attending the highly anticipated, regionally significant Ferry Terminal Opening event drawing around 400 participants. At a booth set up during the event, attendees from Richmond and throughout the Bay Area region learned about the Ferry to Bridge to Greenway Plan and provided initial input about objectives, concerns, and ideas for improvements, including:

    – Desire for a safe and comfortable bicycling/walking route between Point Richmond and the ferry terminal.

    – Making Cutting Boulevard a more comfortable and safer place to walk and bike, especially given its role as a key connector between the ferry terminal and

Ferry Terminal Opening – January 10, 2019

Point Richmond. Comments about Cutting Boulevard included: existing bike lanes east of Canal Blvd are too narrow; high vehicle traffic speeds make walking and bicycling unpleasant and feel less safe; and narrow sidewalks.

- MLK Day of Service – January 21, 2019

  PlaceWorks attended this popular neighborhood event and set up an informational booth to provide information about the project, engage with local residents, and promote the text survey. The event was well attended by those especially interested in the greenway and bicycling, so learning about the Ferry to Bridge to Greenway project was of interest to many attendees.

  PlaceWorks set up a table that included a large map of the project area, a board display illustrating what "Complete Streets" are, project email sign-up sheets, and project flyers. The PlaceWorks team engaged with approximately 40 local residents, many of whom are actively engaged in the Richmond community, bicycle advocacy, or environmental groups. PlaceWorks introduced participants to the text-based survey and encouraged participants to take the survey using their cell phones.

  Common themes in discussions with attendees included:

  – Desire for safe pedestrian and bicycle connections from the Greenway to other destinations such as the BART station, ferry terminal, Bay Trail, shoreline, and Point Richmond. Participants expressed interest in enhanced facilities that might provide physical separation from vehicle traffic.
  – Interest in extending the Greenway to the west from its current terminus at 2nd Street, especially with a desire for a gap-free connection to the Richmond-San Rafael Bridge.
  – Large support for adding high-quality walking and bicycling connections to the ferry terminal and Bay Trail via Harbour Way and Marina Way.

- Bike to Work Day (Richmond Ferry Terminal)– May 9, 2019

  PlaceWorks exhibited a project map and provided materials at a Bike to Work Day energizer station located at the Richmond Ferry Terminal. PlaceWorks staff interacted with dozens of people riding their bikes to/from the Richmond Ferry Terminal and other people riding the ferry without bicycles. This was largely an opportunity to educate passers-by about the Ferry to Bridge to Greenway Plan and to hear from them about ideas and concerns on bicycling and walking in the area.

MLK Day of Service – January 21, 2019

Bike To Work Day – May 9, 2019

Development of Initial Concept Designs

- Richmond Juneteenth – June 15, 2019

  This event to commemorate African American freedom was held at Nicholl Park. The project team joined the City of Richmond booth to introduce event attendees about the Ferry to Bridge to Greenway Plan and talk to them about their experiences and desires related to walking and bicycling. Visitors were prompted to complete the project survey and to sign up to the project contact list.

- National Night Out – August 6, 2019

  This annual event seeks to enhance the relationships between community members and their local police and fire departments. PlaceWorks set up a booth at the Richmond National Night Out block party held at the Target shopping center at 4500 Macdonald Avenue. The project team interacted with participants about walking and bicycling in their neighborhoods.

- St. Mark's Church – October 6, 2019

  PlaceWorks set up a booth at a community festival held at St. Mark's Church. Bilingual staff interacted with event attendees in both English and Spanish to discuss potential improvements for walking and bicycling, particularly for Santa Fe and Coronado neighborhoods where many of the attendees lived. Participants, many of which spoke Spanish as their primary language, shared many goals including:

  – Safer crossings for people walking
  – Slower vehicle traffic

St Mark's Church – October 6, 2019

  – More bike lanes along area streets, including Ohio Avenue and Cutting Boulevard

Presentation of Initial Concept Designs

- Richmond-San Rafael Bridge Path Opening Day – November 16, 2019

  The bridge opening attracted thousands of people bicycling and walking on the bridge. PlaceWorks set up a booth at a key point directly in front of the path entrance at Tewksbury Avenue and Castro Street in Point Richmond. Attendees viewed posters with the initial concept designs for all Plan focus areas. Over 50 people stopped to look at the concepts and chat with PlaceWorks staff about their preferences and ideas for pedestrian and bicycle improvements. There was significant excitement and support for the concepts and for the project in general.

Richmond-San Rafael Bridge Path Opening – November 16, 2019

Rich City Rides Sunday Ride – December 15, 2019

- Rich City Rides Sunday Ride – December 15, 2019

  SelfCare Sunday Rides are a regular event led by Rich City Rides, a community-based organization that encourages bicycling in the Richmond community to promote sustainable transportation and good health. PlaceWorks joined participants to ride along Ferry to Bridge to Greenway project routes. The group stopped in several key locations to look at the initial concept designs, compare them with existing conditions, and discuss benefits, concerns, and other ideas for improvements. Participants provided valuable feedback including ideas about making the Harbour Way overpass safer to navigate on a bike.

STAKEHOLDER ADVISORY COMMITTEE

A stakeholder group was formed to bring a variety of voices to the planning process, including local agencies (e.g., Bay Area Metro, Caltrans and AC Transit), non/profit community organizations (e.g., Rich City Rides, TRAC and Men and Women of Valor), and members of the business community (e.g., Bridge ArtSpace).

There were three stakeholder meetings held through the development of the Richmond Ferry to Bridge to Greenway Plan. Below are brief summaries of each stakeholder advisory committee meeting.

- **Stakeholder Meeting #1 (May 23, 2019): Discussion of Existing Conditions, Plan Vision, and Community Engagement Strategies**

  The Stakeholder Advisory Committee learned about the project background and schedule, the role of the Committee, existing conditions, input received through the project survey, and considerations for developing project concepts. A key component of the meeting was a discussion amongst Committee members about ideas for when, where, and how to conduct community engagement efforts. This included input on upcoming and future events to participate in, Neighborhood Councils to meet with, and various local resources such as churches and other nonprofit and community based organizations to partner with to spread the word about the Plan. The Committee also discussed key objectives and problem areas in the Plan Area, such as linking Harbour Way and Hoffman Boulevard, providing protected pedestrian and bicycle facilities on streets like Ohio Avenue, Cutting Boulevard, and Hoffman Boulevard, and ensuring the Plan serves the local community including residential areas south of the Richmond Greenway.

- **Stakeholder Meeting #2 – October 15, 2019: Presentation of Initial Concept Designs**

  This meeting began with a recap of community participation to date and a summary of input received from the community, which ultimately determined the focus areas. During the meeting, the Committee reviewed concepts for six locations: 2nd Street, Cutting Boulevard, Hoffman Boulevard, Hoffman Boulevard/Harbour Way intersection, Harbour Way/Wright Avenue intersection, and Point Richmond.

Some key takeaways from the meeting included:

- Support for cutting-edge permanent solutions including raised cycle tracks and multi-use paths
- Concerns over long-term maintenance of pedestrian/bicycle facilities
- Challenges with rail crossings on Harbour Way and Cutting Boulevard
- Strategies for Point Richmond included a cycle track, while also ensuring improvements to transit access throughout the neighborhood

- **Stakeholder Meeting #3 – April 14, 2020: Presentation of Initial Concept Designs**

  The project team presented refined concepts that reflected prior stakeholder and community feedback. The team presented plan views and detailed section diagrams for all Plan focus areas. Stakeholder Advisory Committee members reviewed plan views and detailed section diagrams, and provided feedback during the meeting. Committee members were also able to provide additional feedback by email during the two weeks following the meeting. Feedback was abundant, with over 40 detailed comments received.

NEIGHBORHOOD COUNCIL MEETINGS

In July 2019, PlaceWorks attended three meetings with Neighborhood Councils in the Plan Area. At each meeting, attendees learned about the project through a presentation and shared feedback about Plan objectives and specific interests and concerns. Many attendees signed up to the project email list to stay informed about the projects' progress and further opportunities to participate.

- **Marina Bay Neighborhood Council – July 10, 2019**

  The meeting was well attended, with around 45 attendees. Following the presentation, community members provided feedback on problem areas (e.g., Hoffman Boulevard/ Harbour Way intersection, diagonal rail crossings on Harbour Way and Cutting Boulevard) and shared ideas for improvements such as improved connections to the San Francisco Bay Trail and an enhanced connection between Marina Way and Harbour Way via Hall Avenue.

- **Santa Fe Neighborhood Council – July 26, 2019**

  During this meeting, community members shared concerns and opportunities for walking and bicycling in and around the Santa Fe neighborhood. There were 15 community members in attendance. Concerns included lack of marked crossings in some locations, low levels of comfort and perceived safety for people walking and bicycling across the Harbour Way overpass over I-580, and insufficient maintenance of existing bike and pedestrian facilities.

Community Workshop – December 10, 2019

Opportunities include widening bike lanes on Cutting Boulevard, reducing traffic speeds in some locations (e.g., Cutting Boulevard), and an enhanced pedestrian/bike environment on 2nd Street.

- **Point Richmond Neighborhood Council – July 31, 2019**

  Community members shared opportunities and concerns about walking and bicycling in and around Point Richmond. A significant number of comments responded critically to the recent interim infrastructure projects installed in Point Richmond, especially those along Tewksbury Avenue. There was support for some recent measures such as added traffic controls and the Garrard Boulevard two-way cycle track (an interim improvement). Community members supported lane reductions on Cutting Boulevard to reduce traffic speeds and provide more space for pedestrian and bicycle facilities.

COMMUNITY WORKSHOP

A community workshop was held on December 10, 2019 at the Point Richmond Community Center, providing community members from all areas of the City with an opportunity to view and provide feedback on initial design concepts for pedestrian and bicycle improvements along key routes in the Ferry to Bridge to Greenway Plan Area.

The workshop began with a short presentation summarizing project work to date including:

- Summary of community participation
- Summary of input received

Display board from the community workshop on December 10, 2019

- Initial concept alternatives for three areas: 1) Cutting Boulevard to Harbour Way, 2) Point Richmond, 3) Ohio Avenue and 2nd Street.

During the presentation and the subsequent question-and-answer period, attendees provided some feedback and sought clarifications. Following this discussion, the workshop had an open-house format with four stations where participants viewed, discussed and commented on alternative concepts for each of the concept areas. There was one station for Cutting Boulevard/Harbour Way, one station for Ohio Avenue/2nd Street, and two stations for Point Richmond. Project staff from PlaceWorks and Toole Design facilitated discussion at each station, and feedback was documented on easel pads.

Some key feedback included:

- General support for shorter term (interim) solutions as well as long-term (permanent) solutions.
- Concerns over ease of maintenance of bicycle facilities so that they remain effective over time.
- Support for long-term solutions that are fully separated facilities like Class I multi-use paths.
- Concern over safety at intersections and crossings, especially rail crossings.
- Importance of pedestrian safety where sidewalks may cross bike paths, such as the Point Richmond concept showing a two-way separated bikeway in a location with a high number of pedestrians.

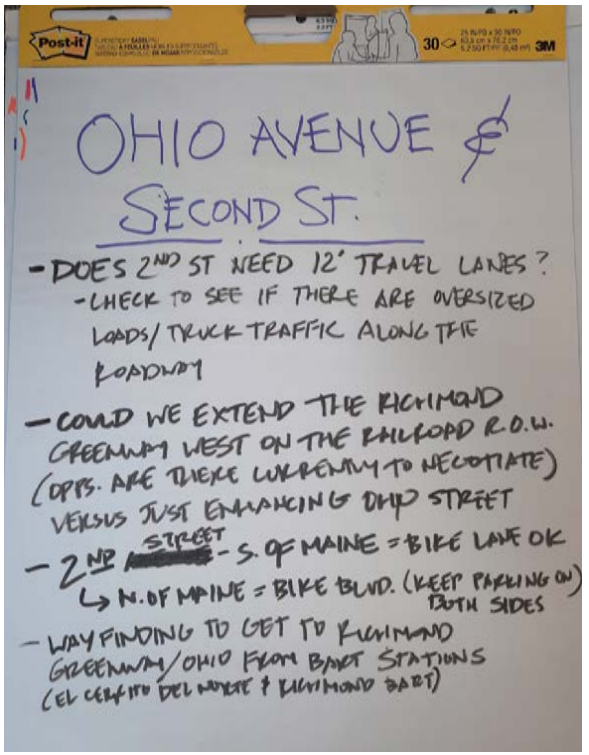
REVIEW OF THE DRAFT PLAN

The Public Review Draft of the Ferry to Bridge to Greenway Complete Streets Plan was posted to the Plan's website on July 14, 2020. An e-blast was sent out to people signed up on the Plan's interest list, and an announcement about the Plan's posting (with weblink to the Plan) was provided in the City Manager's Weekly Report through the month of August 2020. Another announcement of the Plan was provided in September 2020 through Men and Women of Valor, who submitted an e-blast to a variety of community organizations throughout the City of Richmond. A summary of comments received from the Draft Plan is provided in Appendix A.

COVID-19 STATEMENT

The COVID-19 pandemic emerged as the outreach process concluded on the Ferry to Bridge to Greenway Complete Streets Plan. As a result, the majority of community and stakeholder feedback in this plan does not reflect the changes in mobility context, habits, priorities, and challenges due to COVID-19 and formal shelter-in-place orders.

The City of Richmond has decided to adopt this plan in the current context, rather than re-initiate the existing conditions, community outreach, and recommendations processes. While COVID conditions affected the outcome of the evaluation process with outreach on the Draft Plan conducted online, this document has been developed to be flexible and amenable to revision based on return to normal conditions or solidification of "new normal" conditions.



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FERRY

RICHMOND FERRY TO BRIDGE TO GREENWAY
COMPLETE STREETS PLAN

4. Policy Framework

METHODOLOGY OF POLICY FRAMEWORK

Goals, Policies and Actions that will guide pedestrian and bicycle projects in the Richmond Ferry to Bridge to Greenway Complete Streets Plan were developed directly based on extensive community input gathered through a variety of methods, including:

- Comments received from community members at multiple public events and workshops, where project-related information and activities were provided to build interest in the Plan and gain feedback.
- Feedback received from community members through the Ferry to Bridge to Greenway Complete Streets Plan website and online surveys.
- Communication with City Staff and members of the Plan's Stakeholder Advisory Committee throughout the development of the Plan.

From feedback received, goals in this Plan are then organized around the following key guiding principles: expanding accessibility and connectivity, incorporating best practices in engineering design, and expediting the implementation and evaluation of projects to continue to improve the quality and safety of non-motorized infrastructure in Richmond. Each goal, policy, and action in this chapter has been crafted with the focus on improving equity, so people of all ages and abilities can access transportation improvements proposed in this Plan, especially for those within low-income or disadvantaged communities.

The principles mentioned above are inspired by elements supported by organizations nationwide dedicated to the improvement of active transportation, including the League of American Bicyclists and National Safe Routes to School Partnership. The policy framework presented in this chapter also builds on the City of Richmond's robust existing policy framework for a connected, sustainable multi-modal network for all people and neighborhoods in Richmond. When applicable, policies and actions that are directly inspired by existing City goals are highlighted and referenced throughout this chapter.

GOAL 1: ACCESSIBILITY AND CONNECTIVITY

An accessible and connected walking and biking network for all ages and abilities to the Richmond Ferry, Richmond-San Rafael Bridge and Richmond Greenway.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policy 1.1

Provide safe places to walk and bike for seamless connections between the Richmond Ferry, Richmond-San Rafael Bridge and the Richmond Greenway.

Action 1.1a – Improve ADA accessibility of sidewalks and crossings, seeking to provide ADA-compliant pavement surfaces and sidewalk clearances.

Action 1.1b – Prioritize the construction of new sidewalks, bikeways, and multi-use trails where gaps currently exist, including along Cutting Boulevard, Hoffman Boulevard, Harbour Way, 2nd Street, Richmond Avenue, Tewksbury Avenue, Washington Avenue, Park Place, Santa Fe Avenue and Railroad Avenue.

Action 1.1c – Integrate improvements into the Bay Trail network to allow for a continuous connection through the City of Richmond into Marin County and Alameda County as well as improved connections north into Point Molate and communities in western Contra Costa County.

Action 1.1d – Improve roadways with existing sidewalks and bikeways to better accommodate pedestrians and bicyclists, including along Cutting Boulevard, Harbour Way, Ohio Avenue and Tewksbury Avenue.

Policy 1.2

Expand opportunities for safe mobility options within low-income and disadvantaged communities.

Action 1.2a – Prioritize improvements that include connections to neighborhoods north of I-580 with destinations south of I-580.

Action 1.2b – When feasible, combine or consolidate infrastructure projects to expedite pedestrian and bicycle connections to low-income and disadvantaged communities.

Policy 1.3

Provide high-quality, consistent, pedestrian-scale and user-friendly signage directing people walking and biking between the Richmond Ferry, Richmond-San Rafael Bridge and Richmond Greenway.

Action 1.3a – Coordinate with local and regional agencies managing destinations in Ferry to Bridge to Greenway Plan area to provide consistent signage, wayfinding and maps to area destinations, including along the Bay Trail.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policies and actions in Goal 1 link to these existing City of Richmond Goals:

Richmond General Plan 2030 Circulation Element (CR1) – An Expanded Multimodal Circulation System. Make conditions safer and more attractive for all modes of transportation including travel by foot and bicycle, public transit and automobiles.

Richmond General Plan 2030 Circulation Element (CR2) – Walkable Neighborhoods and Complete Streets. In order to make walking and bicycling a more attractive option, enhance connectivity between neighborhoods, schools, the workplace, and daily goods and services so that reaching key destinations is safer and more convenient.

City of Richmond Bicycle Master Plan (Goal #1) – Expand the city's bicycle routes and parking facilities into an extensive, well-connected and well-designed network.

Richmond Bay Specific Plan (Goal #2, Principle #2) – Strengthen North-South and East-West Connections for Improved and Enhanced Connectivity. Establishing stronger connections, particularly for pedestrians and bicyclists, will be essential to opportunities for additional north-south connections. The City should continue to explore future opportunities to consolidate and/or relocate existing rail switching yards in order to enhance connectivity in the area.

City of Richmond Pedestrian Plan (Goal of Increased Equity) – Walking, the cheapest form of transportation, will be a safe, viable and convenient choice for those who cannot afford, are unable, or choose not to drive a car.

South Richmond Transportation Connectivity Plan (Page ES-3) – Accessibility: Ability for people to access the people, places, goods and services they want and need to reach. Legibility: Easily understandable wayfinding signage, maps, instructions, and universal accessibility, are keys to making the transportation system accessible to everyone.

GOAL 2
ENGINEERING DESIGN

Walking and biking facilities in the Richmond Ferry to Bridge to Greenway Complete Streets Plan Area to incorporate best practices in engineering design.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policy 2.1 **Reference best practice manuals when designing and constructing walking and biking facilities.**

Action 2.1a – Incorporate the latest best practices in pedestrian and bicycle facility design, including those presented in existing resources such as the NACTO Bikeway Design Guide, NACTO Urban Street Design Guide, FHWA Separated Bike Lane Planning and Design Guide, and the Caltrans MUTCD.

Action 2.1b – Include Bay Trail design standards along segments that will be incorporated into the Bay Trail network.

Action 2.1c – In locations where bikeways, sidewalks or multi-use trails encounter railroad tracks, incorporate appropriate safety and design standards so people can cross safely.

Policy 2.2 **Provide dedicated and separated facilities for pedestrians and bicyclists, providing consistent facilities to avoid abrupt transitions.**

Action 2.2a – Where possible, provide dedicated and buffered Class-IV facilities or Class I multi-use trails with separated walking paths and bicycle lanes connecting between the Richmond Ferry, Richmond-San Rafael Bridge, Richmond Greenway and other Richmond destinations.

Action 2.2b – In areas where right-of-way does not allow for dedicated and separated facilities for pedestrians and bicyclists, either provide pathways for bicyclists and pedestrians to share facilities or provide signage to direct pedestrians to nearby sidewalks or bicyclists to nearby bike facilities.

Action 2.2c – Install bicycle detection signals and bicycle parking facilities as well as improve lighting and update traffic signals at signalized intersections concurrent with the construction of sidewalks, bikeways and multi-use trails.

Action 2.2d – Incorporate best practices in pedestrian and bicycle design at roadway intersections, including the installation of detectable warning strips, high visibility striping at crossings, protected intersections, and leading pedestrian intervals.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policy 2.3 **Integrate pedestrian and bicycle improvements with transit and stormwater infrastructure, enhancing first-mile and last-mile connections, improving safety and sustainability, and ultimately reducing reliance on the automobile.**

Action 2.3a – Integrate improvements to existing transit stops where they directly interact with pedestrian and bicycle improvements, encouraging the construction of ADA and Section 810-compliant boarding islands and transit shelters.

Action 2.3b – If an existing transit stop needs to be relocated as a result of pedestrian and bicycle improvements, coordinate directly with the operator of that transit service to ensure the relocated stop is compliant with Section 810 and ADA standards.

Action 2.3c – Encourage the incorporation of shared transportation facilities (e.g., bikeshare, scooter share, rideshare) in areas where pedestrian and bicycle improvements are being incorporated, especially in low-income and disadvantaged communities.

Action 2.3d – Integrate pedestrian and bicycle improvements with ongoing City transportation initiatives.

Action 2.3e – Integrate pedestrian and bicycle improvements with City stormwater initiatives, encouraging the installation of drainage basins and bioswales where landscaping is being proposed to improve water quality and reduce pollutants.

Action 2.3f – Incorporate Crime Prevention Through Environmental Design (CPTED) principles into the design of pedestrian and bicycle improvements, so that improvements incorporate design elements. This includes lighting, choice of materials for ease of maintenance, locating facilities to maximize visibility, and eyes on the street to improve personal safety and reduce crime.

Action 2.3g – The City of Richmond and transit agencies to coordinate together to identify areas along bus routes for transit signal priority or queue jumps, and, where appropriate, integrate the use of bicycle and transit signal priority at determined intersections.

Policies and actions in Goal 2 link to these existing City of Richmond Goals:

Richmond General Plan 2030 Circulation Element (CR1) – An Expanded Multimodal Circulation System. Take potential improvement measures ranging from physical design treatment of the street environment to social and programmatic responses appropriate to the particular street context.

Richmond General Plan 2030 Circulation Element (CR5) – Sustainable and Green Practices. Encourage measures to treat and retain stormwater in the design of pedestrian and parking amenities.

City of Richmond Bicycle Master Plan (Goal #3) – Make the streets safer for bicyclists, not only during the day but also at night.

City of Richmond Pedestrian Plan –

- Increased Safety: Streets will be developed and retrofitted to accommodate all types of users. Designs and devices will produce speed moderation, visibility, awareness and communication for motorists and non-motorists alike.
- Improved Security: Streets, trails and other public spaces will be designed and improved to create active places that are watched over, maintained and that project a sense of control and community ownership.
- Increased Sustainability: Walking and bicycling in the city will reduce the number of vehicle miles Richmond residents and visitors travel, and will reduce associated climate change, air and water quality impacts from vehicle emissions. Opportunities will be identified to convert excess paved rights of way to lower impact spaces with trees and landscaping.

South Richmond Transportation Connectivity Plan (Page ES-3) –

- Safety: Reducing the number and severity of collisions between travelers of all modes, and enhancing public safety through crime prevention strategies.
- Sustainability: Focus on long range impacts/benefits, sustaining and enhancing social, economic and environmental resources.

GOAL 3: IMPLEMENTATION AND EVALUATION

A well-funded and maintained Complete Streets network with evaluation measures to determine the effectiveness of implementation.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policy 3.1

Pursue all available grant funding opportunities that support the construction of projects.

Action 3.1a – Prioritize the submission of grant applications for interim improvements as described for roadway segments in this Plan.

Action 3.1b – Support the conversion of all interim improvements along roadway segments into long-term improvements as described in this Plan.

Policy 3.2

Coordinate opportunities to fund Ferry to Bridge to Greenway Design Concepts with other infrastructure projects in the City of Richmond and other jurisdictions.

Action 3.2a – When feasible, dedicate a percentage of budget from the City's Capital Improvement Plan (CIP) to fund infrastructure improvements described in this Plan.

Action 3.2b – Encourage the allocation of development fees from incoming developments to help pay for pedestrian and bicycle improvements proposed in this Plan.

Action 3.2c – Coordinate the implementation of improvements in this Plan with those recommended in other City of Richmond documents, including those in General Plan Circulation Element, Bicycle Master Plan, Pedestrian Master Plan, and five-year street pavement plan.

Action 3.2d – Coordinate with regional, statewide and federal funding opportunities and projects, including those that close Bay Trail gaps and gaps within the City's existing citywide transportation network.

Policy 3.3

Provide routine inspection and maintenance of pedestrian and bicycle facilities, including pavement repairs, restriping, maintenance of traffic control devices, landscape maintenance and sweeping bike lanes and paths.

Action 3.3a – Encourage the development of community programs or business improvement districts to assist in the maintenance of pedestrian and bicycle facilities.

Action 3.3b – Install infrastructure, including any surrounding landscaping, that is durable, attractive and minimizes short-term and long-term maintenance costs.

GOAL
POSITIVE OUTCOME OF IMPLEMENTING THE PLAN

POLICY
METHOD OR STRATEGY TO ACHIEVE A GOAL

ACTION
PRACTICAL STEP TO IMPLEMENT A POLICY

Policy 3.4

Evaluate the progress and effectiveness of pedestrian and bicycle infrastructure installed in the Ferry to Bridge to Greenway Plan area.

Action 3.4a – Regularly conduct pedestrian and bicycle counts utilizing approved regional and statewide guidelines to monitor the use and effectiveness of transportation infrastructure.

Action 3.4b –Consider the installation of permanent automated bicycle and pedestrian counters in places where infrastructure improvements are installed.

Action 3.4c – Concurrent with the collection of pedestrian and bicycle count volumes, also evaluate the number of collisions occurring along roadways to evaluate the safety of transportation infrastructure, making adjustments to that infrastructure if necessary.

Action 3.4d – Update the Capital Improvement Plan (CIP) to prioritize improvements at high volume or high collision locations.

Policies and actions in Goal 3 link to these existing City of Richmond Goals:

Richmond 2030 General Plan Circulation Element (CR3) – A Safe and Well Maintained Circulation System. In order to create a safe and efficient circulation system, emphasize on-going street maintenance and safety improvements that consider all modes of transportation including walking, bicycling and public transit.

Richmond Bicycle Master Plan – Set aside a small amount of funding from each year's capital improvement budget that could serve as local matching funds for grant-funded projects that implement the BMP.

Richmond Bicycle Master Plan – Develop a coordination mechanism with the City's five-year street pavement plan so that appropriate bicycle striping projects outlined in the BMP are installed as part of paving projects.

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RICHMOND FERRY TO BRIDGE TO GREENWAY
COMPLETE STREETS PLAN

5. Design Concepts

The overall guiding principle in the design concepts prepared for the Richmond Ferry to Bridge to Greenway Complete Streets Plan (F2B2G Plan) is to provide comfortable and safe pedestrian and bicycle facilities that will connect community members to and between the Richmond Ferry, the Richmond-San Rafael Bridge Trail, and the Richmond Greenway.

The consensus from outreach to community members and input from the project team is that bicycle facilities should be protected bike lanes wherever possible. They should also be consistent in facility type (e.g., Class I multi-use trail, Class IV protected bike lane, etc.), keeping transitions from one type of facility to another at a minimum. After development of alternatives and community review, we have determined that achieving this goal with Class IV facilities on key corridors throughout the study area is possible in an interim phase, with additional enhancements in a future phase. These facilities will be consistent with and build on the recent quick-build improvements completed on Garrard Boulevard, Ohio Avenue, and Tewksbury Avenue. The F2B2G Plan Concept also includes bicycle facility improvements on streets leading to the protected bicycle network.

Pedestrian access is generally accommodated throughout the study area in the existing condition, except for sidewalk gaps on the south side of Cutting Boulevard near 2nd Street, on the south side of Hoffman Boulevard and on the north side of Ohio Avenue. Along with the need to fill these gaps is a general need for better street crossings and accessibility improvements. Where possible, the Plan proposes facilities that meet Bay Trail design goals of accommodating users of all ages and abilities. In most cases, improvements in the

Figure 5.1 Ferry to Bridge to Greenway Plan Interim Concept

Plan area would either include a Class I multi-use trail, Class IV cycle tracks with adjacent sidewalks, or Class II bicycle lanes with adjacent sidewalks at minimum. Specific improvements that need to be incorporated into pedestrian facilities are noted in the corridor discussion on the following pages, with preliminary engineering drawings and cost estimates of proposed Complete Streets improvements provided in Appendix B and Appendix C of this Plan.

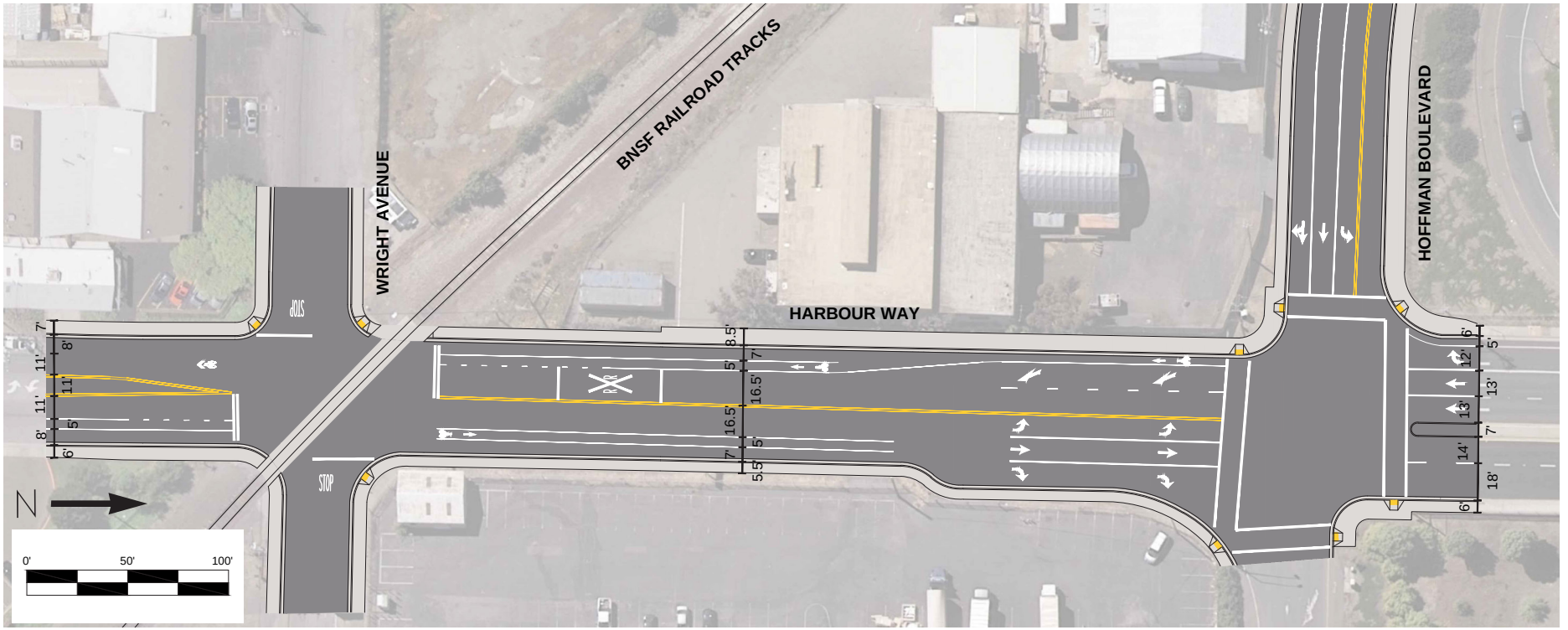
The F2B2G Plan Concept (Figure 5.1) is described by segment in the paragraphs below. In most cases an interim and long-term solution is discussed. Interim improvements are ones that can be done quickly, usually by restriping the street to accommodate bicycle improvements. Long-term concepts are more capital intensive and include things like new sidewalks, curbs, and landscape planters. All interim improvements are designed to seamlessly accommodate the long-term improvements in a future phase.

THE KEY CORRIDORS

1.0 HARBOUR WAY SOUTH FROM THE RICHMOND FERRY TO HOFFMAN BOULEVARD

Harbour Way South is a very straight three-lane street with industrial, research and development, offices, and public uses along it, including the Richmond Ferry terminal. There are sidewalks on both sides, although they are old, and many sections are not ADA accessible. There are also Class II bike lanes on both sides for most, but not all the street. The F2B2G Concept is to provide a two-way Class IV cycle track along the east side of Harbour Way South while improving pedestrian facilities.

Figure 5.2 Harbour Way South - Existing

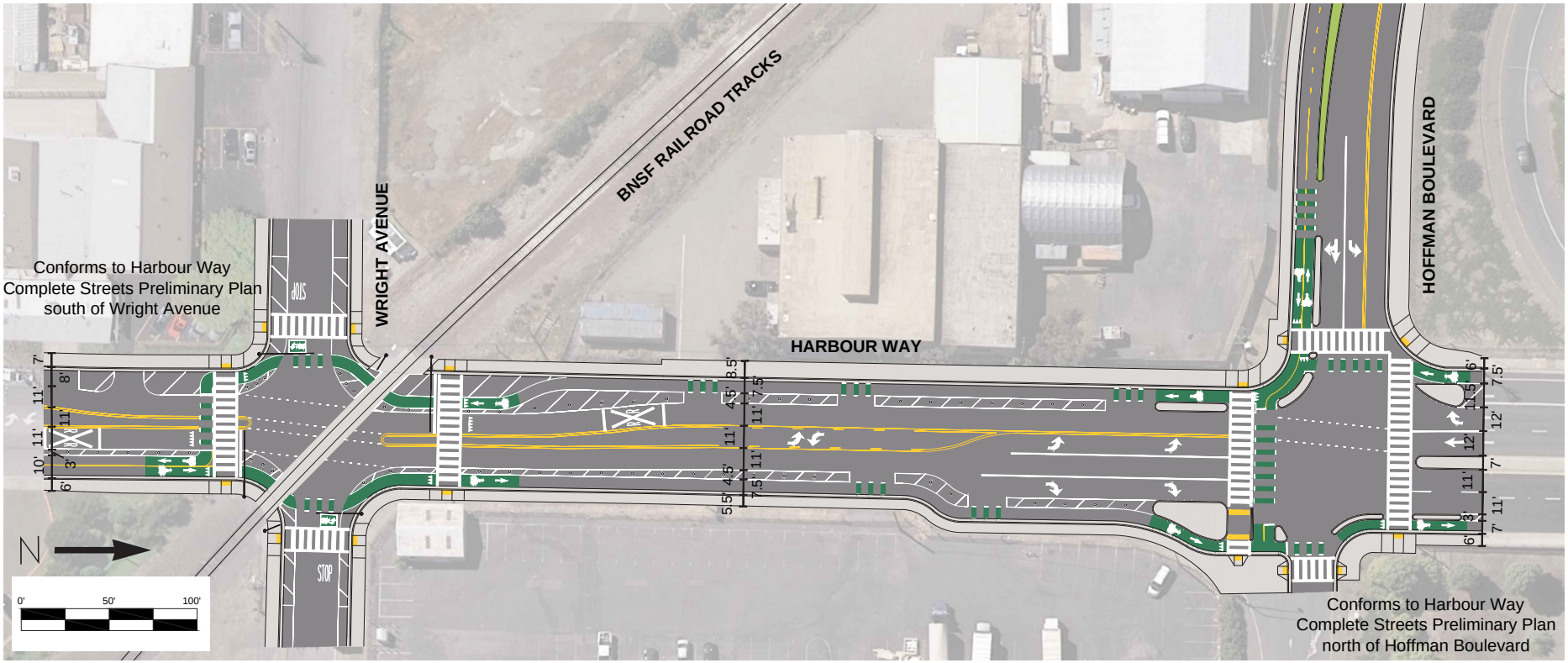


Interim (Figure 5.3): Harbour Way South will have a two-way Class IV cycle track along the east side of Harbour Way from the Ferry terminal to the BNSF Railroad tracks at Wright Avenue, splitting into one-way cycle tracks on both sides up to Hoffman Boulevard. Pedestrians will use the existing sidewalk on both sides of Harbour Way. The Class IV cycle track will be separated from traffic with a striped buffer including soft-hit posts and "armadillos", or short rubber wheel stops. The cycle track will be accomplished by restriping existing Class II lanes and removing parking on one side of Harbour Way. Sidewalks remain unimproved in the Interim phase.

Long Term: In a separate process, a new traffic signal will be installed at the rail crossing on Harbour Way South at Wright Avenue. This will provide an opportunity for a continuous two-way cycle track from the Ferry terminal to Hoffman Boulevard. In addition, the buffer should be made into a landscaped median that can retain and treat stormwater and include shade trees. Finally, the sidewalks should be brought up to modern accessibility standards by removing obstacles and ensuring curb ramps are up to code.

Two-way cycle track with soft-hit posts and "armadillos"

Figure 5.3 Harbour Way South - Interim Concept



2.0. HOFFMAN BOULEVARD FROM HARBOUR WAY SOUTH TO CUTTING BOULEVARD

Hoffman Boulevard is a short but somewhat dangerous stretch of street without on-street bike facilities, used heavily by trucks. It is mostly three lanes and has some on-street parking, but no sidewalk on the south side. The F2B2G Concept is to provide a two-way Class IV cycle track along the south side of Hoffman Boulevard with a new sidewalk on the south side.

Interim (Figure 5.5): In the short-term, Hoffman Boulevard will have a two-way Class IV cycle track with striped buffer on the south side, made possible by removing one vehicular lane. The Class IV cycle track will be separated from traffic with soft-hit posts and armadillos. The cycle track will connect directly to the Cutting Boulevard and the Harbour Way South cycle tracks. The intersection at Cutting Boulevard and Hoffman Boulevard and the intersection at Hoffman Boulevard and Harbour Way South will be protected with striping and bollards which will also accommodate the turning radius of large trucks. In the interim, pedestrians will use the existing sidewalk on the northeast side of Hoffman Boulevard.

Long Term (Figure 5.6): A new sidewalk will be included next to the cycle track on the south side of Hoffman Boulevard. In addition, the striped buffer at the Class IV cycle track will be replaced by a landscaped median that can retain and treat stormwater. The protected intersections at Harbour Way South and Cutting Boulevard will have raised curb medians at bulb-outs.

Figure 5.4 Hoffman Boulevard - Existing

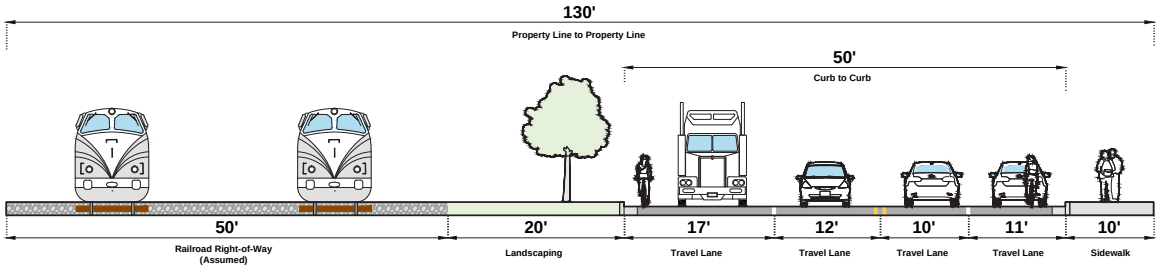


Figure 5.5 Hoffman Boulevard - Interim

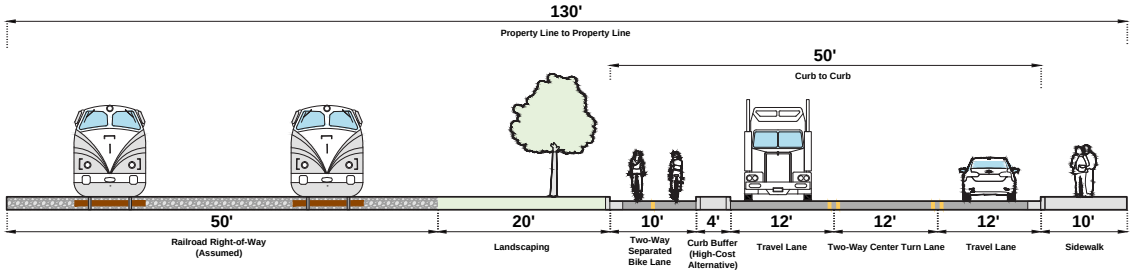
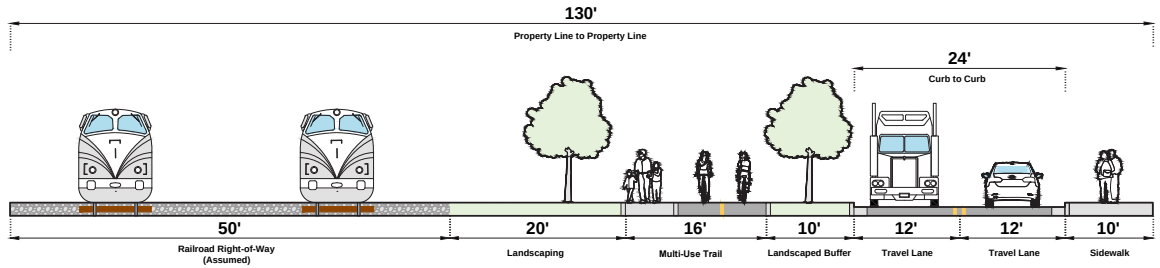


Figure 5.6 Hoffman Boulevard - Long Term



3.0. CUTTING BOULEVARD – FROM EAST TO WEST

Cutting Boulevard is a very long, straight five lane road with a vehicle speed limit of 40 miles per hour. There are Class II bike lanes along some, but not all of the street. According to data there is not very much existing traffic along this stretch of Cutting Boulevard (although there is more traffic to the east, outside of the F2B2G project area). For these reasons, Cutting Boulevard is a good candidate for a vehicle lane reduction. In the F2B2G Concept, Cutting Boulevard will have a continuous Class IV two-way cycle track with a buffer on the south side of the street, with a new sidewalk next to the cycle track where it is currently missing. Because the street section at Cutting Boulevard varies considerably, we discuss in five parts:

3.1 CUTTING BOULEVARD FROM HOFFMAN BOULEVARD TO THE VICINITY OF CHANNEL LUMBER

Interim (Figures 5.7 and 5.9): Cutting Boulevard from the corner of Hoffman Boulevard westward to the location of Channel Lumber does not have a sidewalk on the south side of the street. It also has a crossing of a BNSF rail line. The rail crossing is at an angle to Cutting

Figure 5.7 Cutting Boulevard from Hoffman Boulevard to Channel Lumber Vicinity - Interim

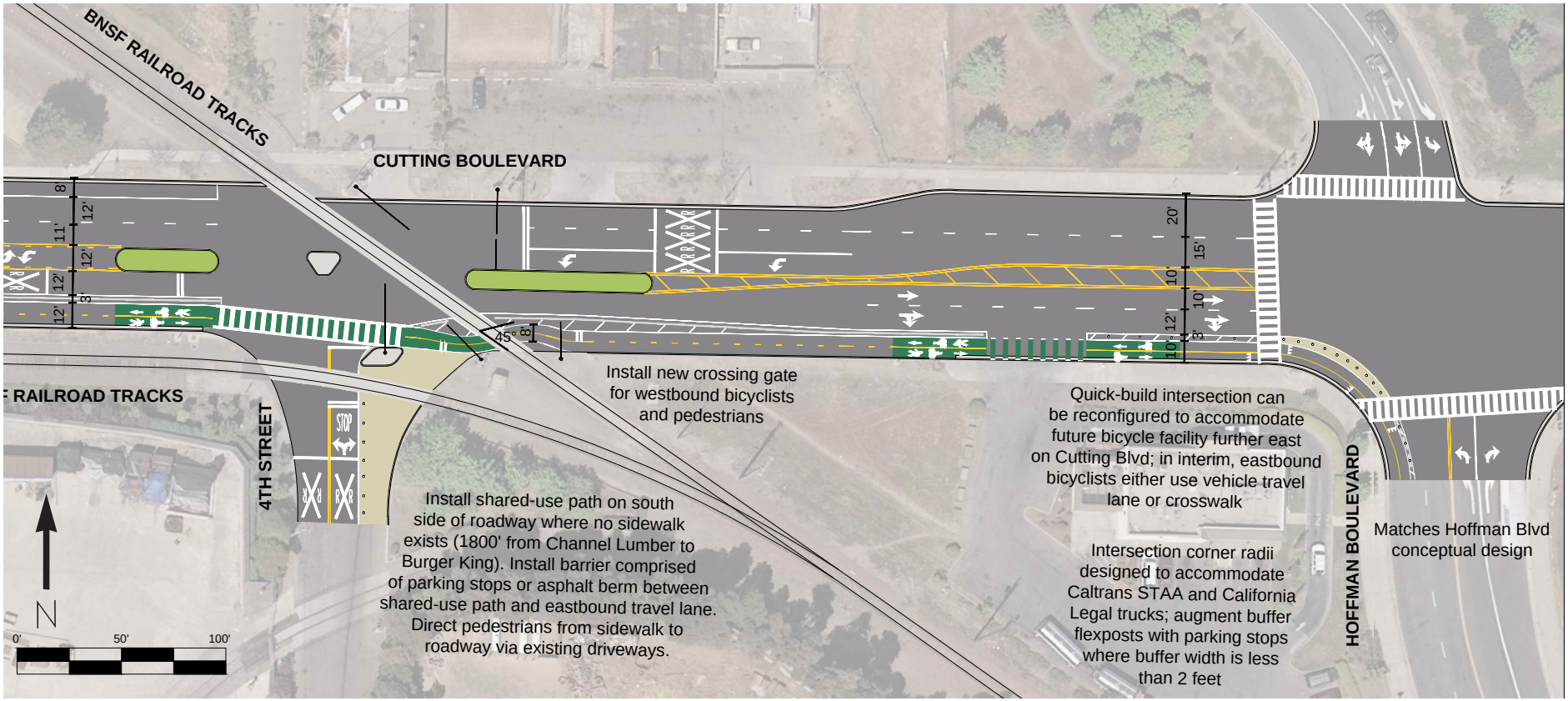


Figure 5.8 Cutting Boulevard (Hoffman Blvd to Channel Lumber) - Existing

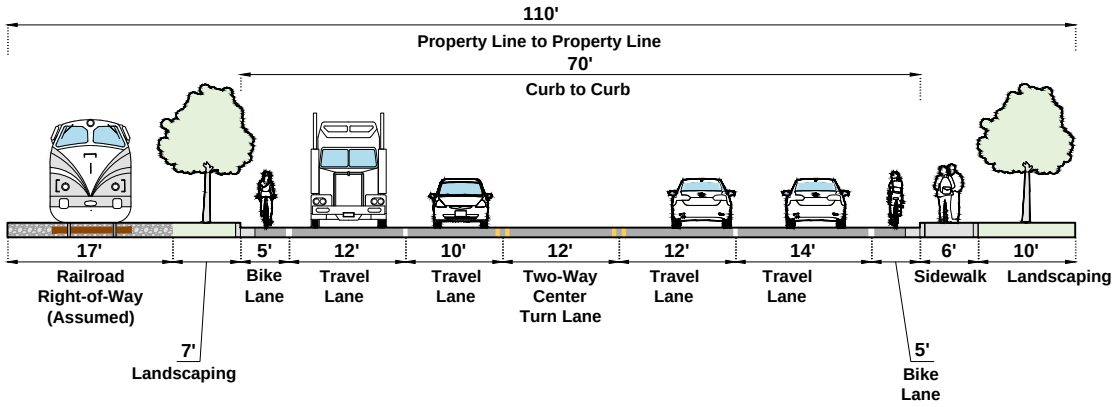


Figure 5.9 Cutting Boulevard (Hoffman Blvd to Channel Lumber) - Interim

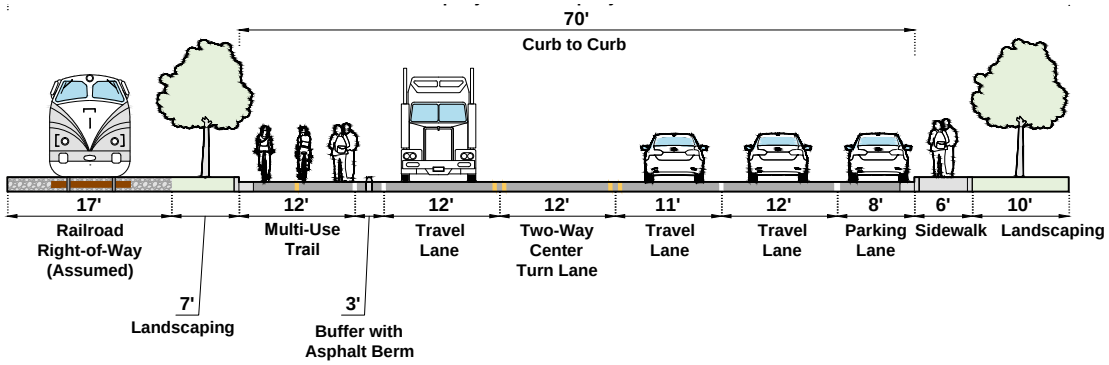
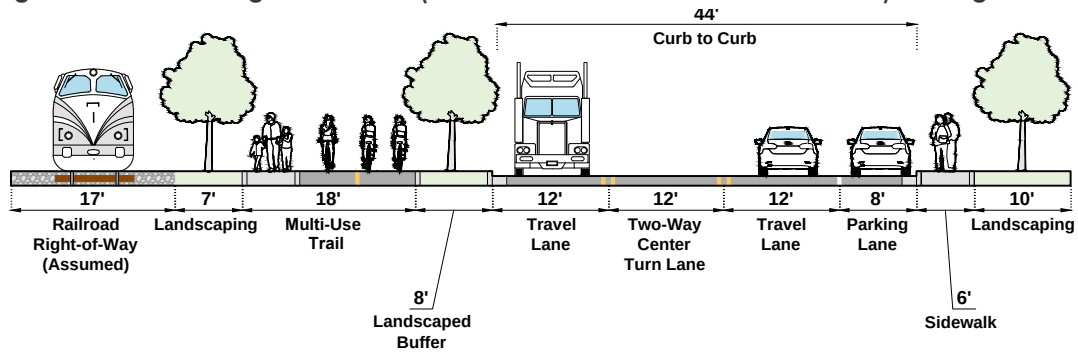


Figure 5.10 Cutting Boulevard (Hoffman Blvd to Channel Lumber) - Long-Term



Boulevard, and there is a raised median on both sides of the rail crossing. The interim solution is to remove one eastbound travel lane and provide a two-way multi-use path on the south side of Cutting Boulevard, with a striped buffer with armadillos and soft-hit posts. At the rail crossing, an "S" shaped striped cycle track will lead bicyclists across the railroad tracks at a safer angle. Where South 2nd Street intersects with Cutting Boulevard, there will be a high-visibility crosswalk, potentially with a user-activated flashing beacon, to connect the cycle track across Cutting Boulevard to the bike lanes and sidewalks on South 2nd Street. For vehicles, there is enough space at the intersection of Cutting Boulevard and Hoffman Boulevard to have a right turn lane as well as the travel lane. The north side of Cutting Boulevard would be unchanged, although the existing Class II bike lane on the north side could be replaced with vehicle parking if nearby businesses are interested.

Long-Term (Figure 5.10): The long-term solution will be to incorporate the multi-use path on the south side of Cutting Boulevard with the addition of a 6-foot-wide sidewalk where none exists currently. The cycle track will be separated by a landscaped median that can retain and treat stormwater. This solution will require the existing median to be reconfigured. Bike lanes on Cutting Boulevard west of Hoffman Boulevard will be provided as part of a separate project.

3.2 CUTTING BOULEVARD FROM CHANNEL LUMBER TO BOAT RAMP STREET

Interim (Figure 5.12): At Channel Lumber, the rail line along the south shoulder of Cutting Boulevard ends and the street widens out to allow on-street parking on the south side. There are sidewalks in good condition on both sides of the street here. The interim solution is to remove one eastbound lane and move the on-street parking over to provide a two-way cycle track protected by on-street parking with the center turn lane remaining. On the north side of Cutting Boulevard, the bike lane may be removed and converted to on-street parking by narrowing the travel lanes, if desired by nearby businesses.

Long-Term (Figure 5.13): The long-term solution will turn the buffer zone into a landscaped median that can retain and treat stormwater.

Figure 5.11 Cutting Boulevard (Channel Lumber to Boat Ramp Street) - Existing

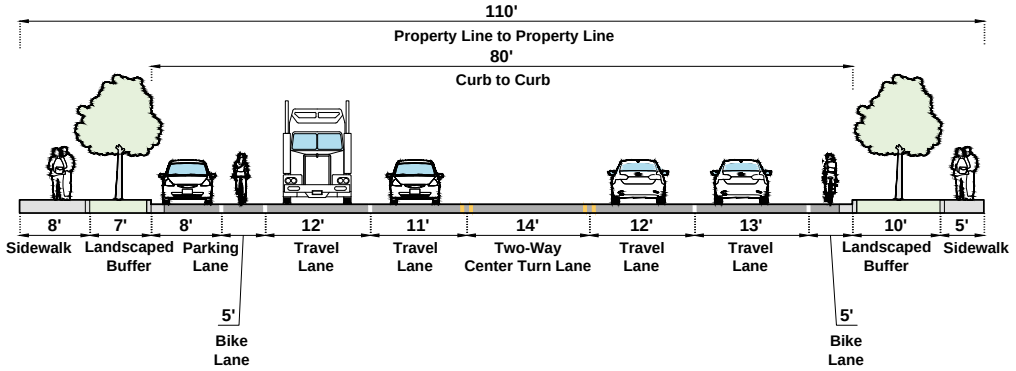


Figure 5.12 Cutting Boulevard (Channel Lumber to Boat Ramp Street) - Interim

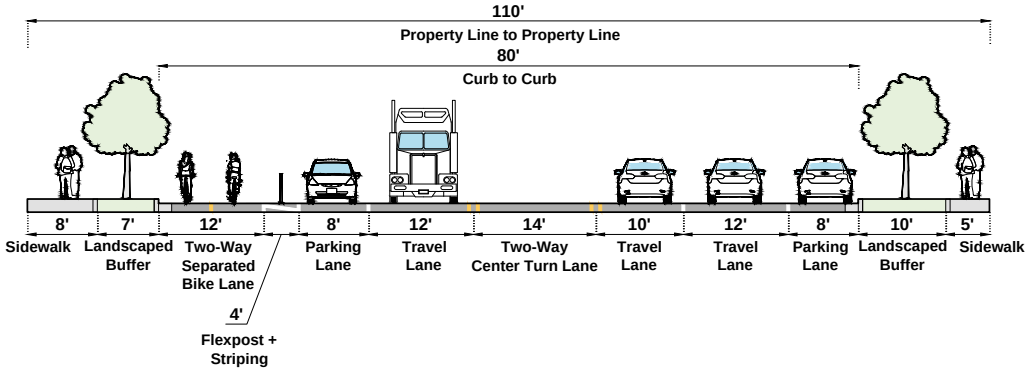
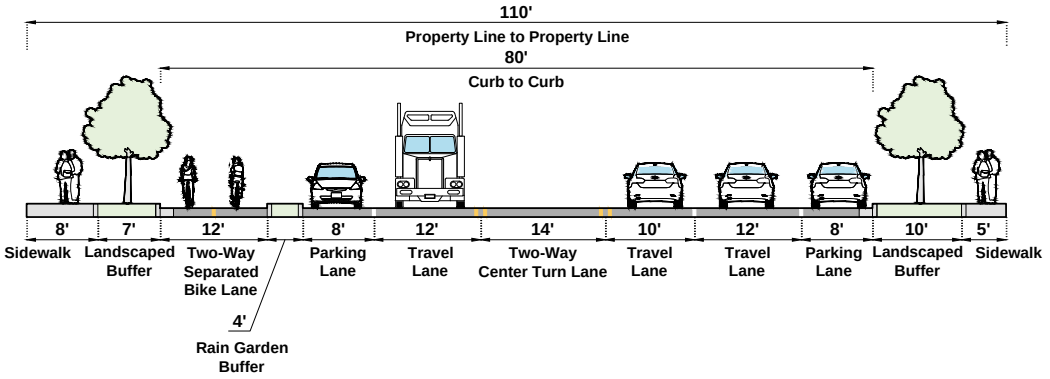


Figure 5.13 Cutting Boulevard (Channel Lumber to Boat Ramp Street) - Long-Term



3.3 CUTTING BOULEVARD FROM BOAT RAMP STREET TO CANAL BOULEVARD

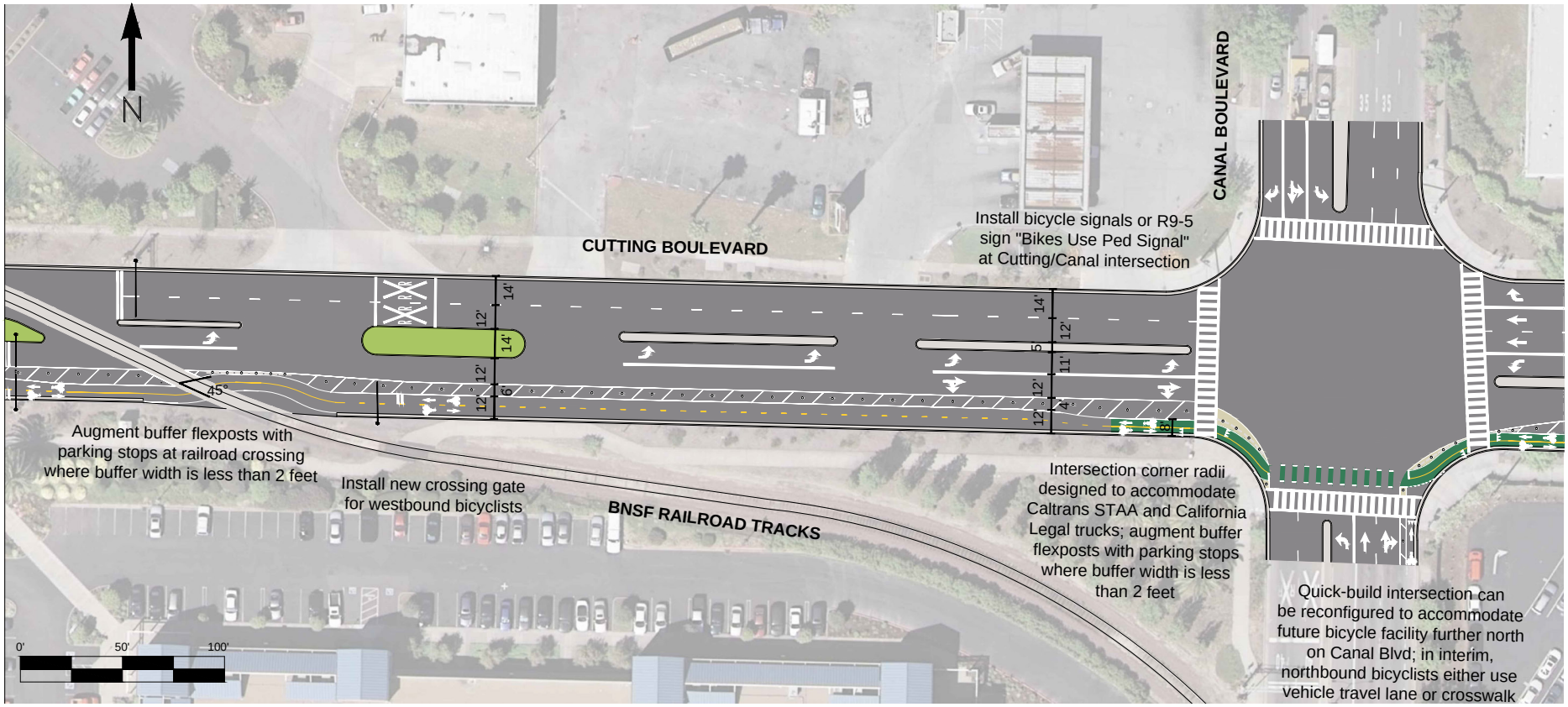
Interim: From Boat Ramp Street to Canal Boulevard, Cutting Boulevard has two travel lanes on both sides with a raised median. There are existing sidewalks on both sides of the street. The interim solution is to remove one eastbound lane and continue the two-way cycle track on the south side of Cutting Boulevard to the intersection with Canal Boulevard. The cycle track will be separated from traffic by a striped buffer with soft-hit posts and armadillos. The north side of Cutting Boulevard would be unchanged.

Long-Term: The long-term solution will turn the buffer zone into a landscaped median that can retain and treat stormwater.

3.4 CUTTING BOULEVARD / CANAL BOULEVARD INTERSECTION AND CUTTING BOULEVARD FROM CANAL BOULEVARD TO WINE STREET

Interim (Figures 5.14 and 5.16): The intersection at Cutting Boulevard and Canal Boulevard will be a protected intersection on the south side with bike activated signals. The section of Cutting Boulevard from Canal Boulevard to Wine Street has a center raised median, sidewalks on both sides of the street, and a rail crossing. The interim solution is to continue the two-way cycle track west on the south side of Cutting Boulevard by removing one eastbound lane of traffic. The cycle track will be skewed to cross the rail tracks at a safe angle. This would leave one eastbound lane (with a left turn lane at Canal Boulevard). The cycle track will be separated from traffic by a striped buffer with bollards. The north side of Cutting Boulevard would be unchanged.

Figure 5.14 Cutting Boulevard and Canal Boulevard - Interim



Long-Term (Figure 5.17): In the future, when Canal Boulevard heading north from Cutting Boulevard has bicycle lanes, the intersection of Canal Boulevard and Cutting Boulevard should be turned into a fully protected intersection. The long-term solution along Cutting Boulevard will be to turn the buffer zone into a landscaped median that can retain and treat stormwater.

Figure 5.15 Cutting Boulevard (West of Canal Boulevard) - Existing

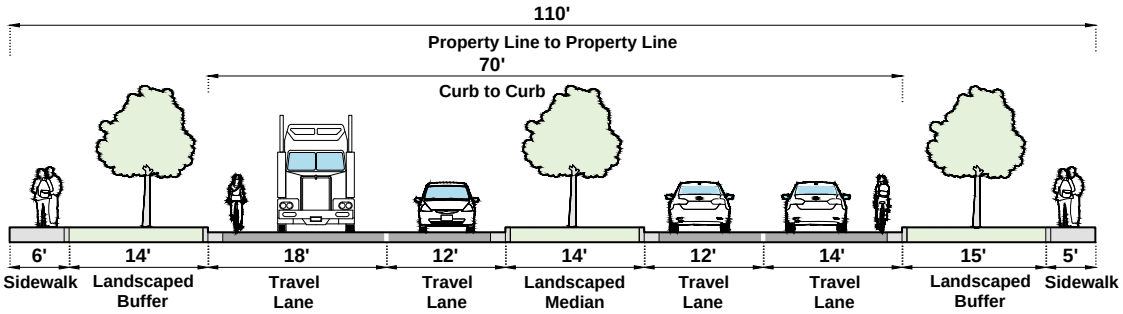


Figure 5.16 Cutting Boulevard (West of Canal Boulevard) - Interim

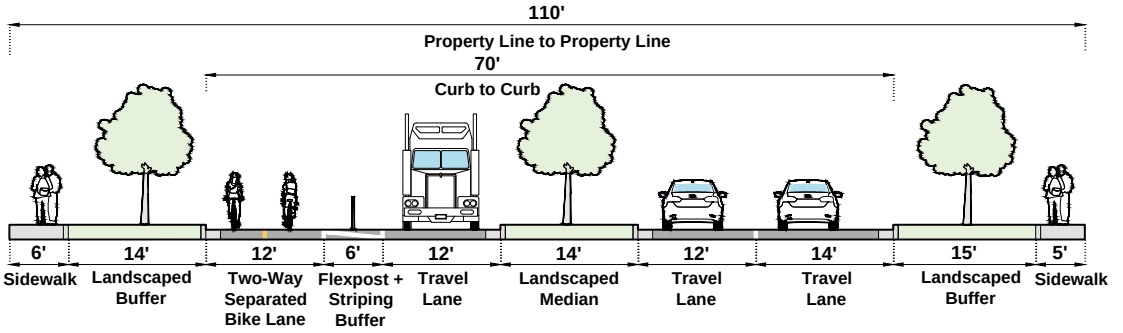
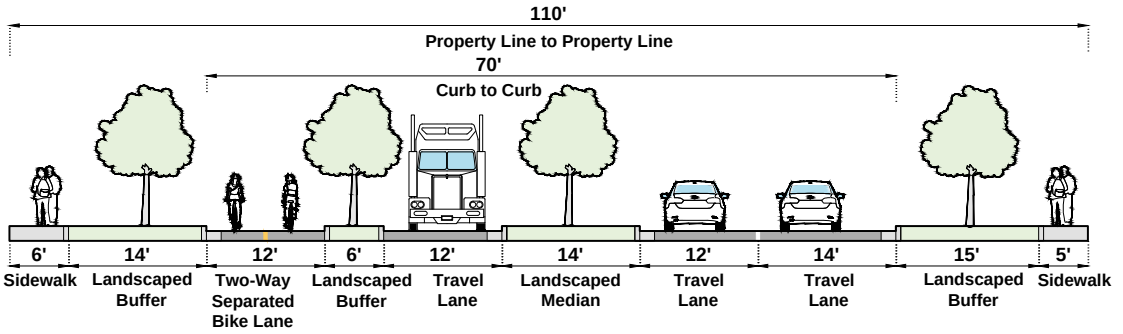


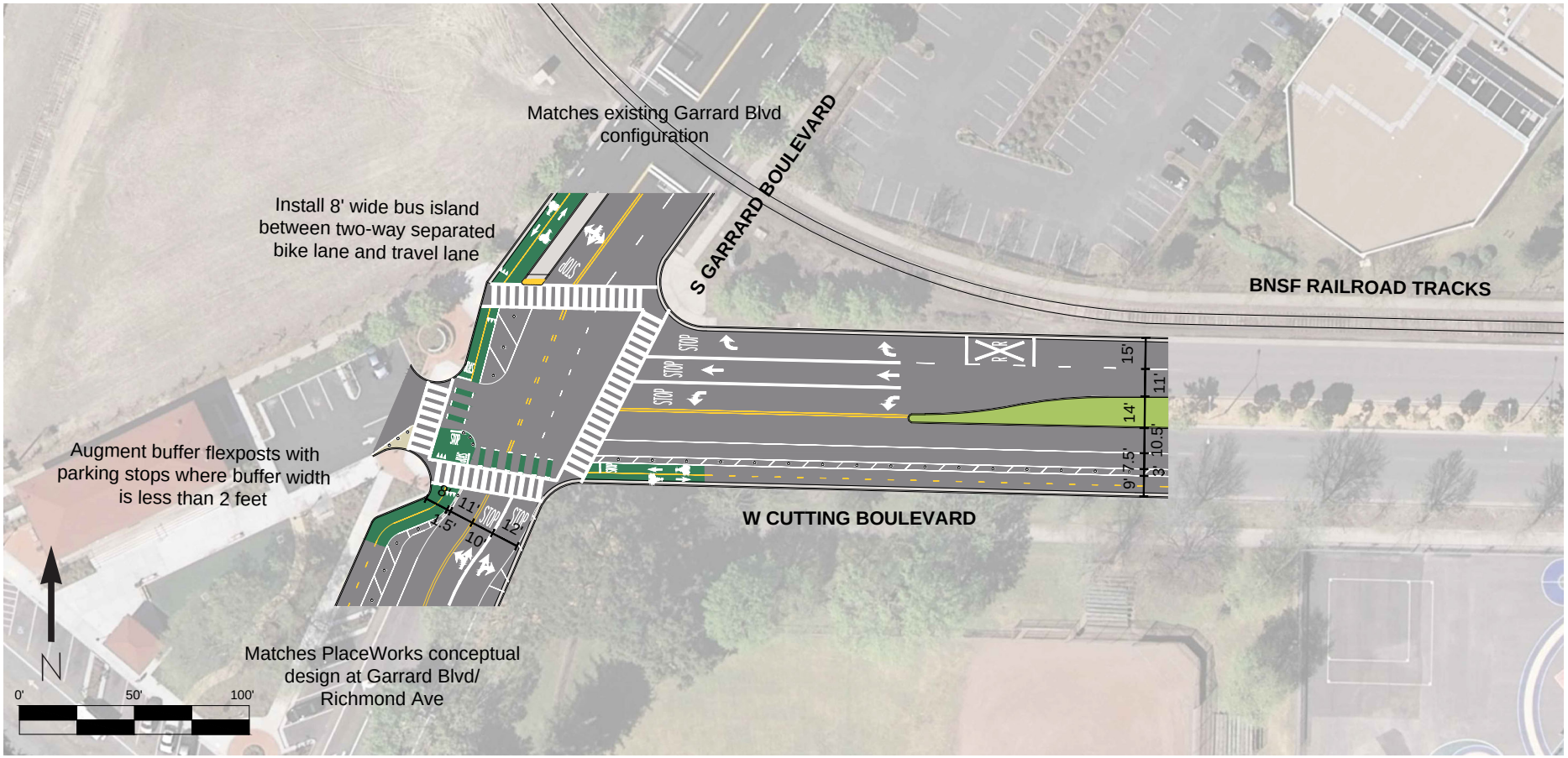
Figure 5.17 Cutting Boulevard (West of Canal Boulevard) - Long-Term



3.5 CUTTING BOULEVARD FROM WINE STREET TO GARRARD BOULEVARD, AND CUTTING BOULEVARD/GARRARD BOULEVARD INTERSECTION

Interim (Figure 5.18 and Figure 5.20): This section of Cutting Boulevard has a center raised median, two traffic lanes in each direction, and a row of parking on the south side of the street. The interim solution is to continue the two-way cycle track west on the south side of Cutting Boulevard by removing one eastbound lane of traffic and moving the parking outside of the cycle track. There will be a buffer between the parked cars and the cycle track. The intersection at Garrard Boulevard and Cutting Boulevard will be a protected intersection with high-visibility crosswalks controlled by stop signs. The AC Transit bus stop on Garrard Boulevard will be moved to a bus boarding island just north of the Cutting Boulevard intersection, with the center lane on Garrard Boulevard striped so that southbound cars will not pass a bus while stopped, which could be a safety hazard to pedestrians.

Figure 5.18 Cutting Boulevard and Garrard Boulevard - Interim



Long Term (Figure 5.21): The edge of the raised landscaped center median at Cutting Boulevard should be moved to the north to provide more width to the cycle track. The buffer zone should be turned into a landscaped median that can retain and treat stormwater.

Figure 5.19 Cutting Boulevard (Wine Street to Garrard Boulevard) - Existing

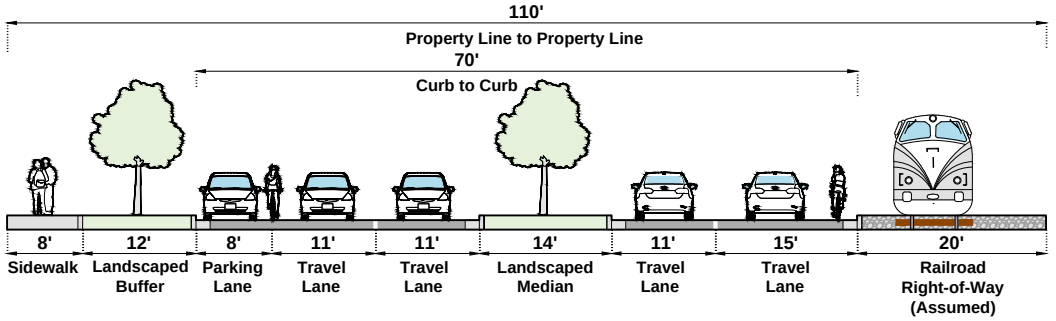


Figure 5.20 Cutting Boulevard (Wine Street to Garrard Boulevard) - Interim

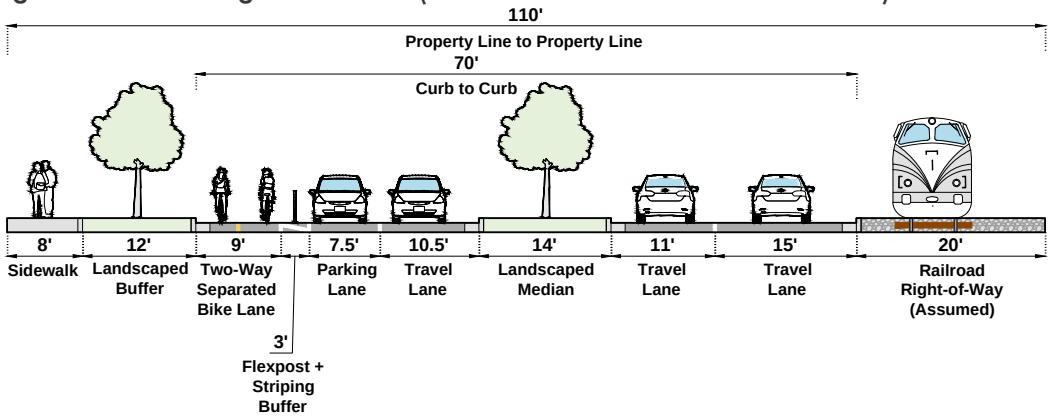
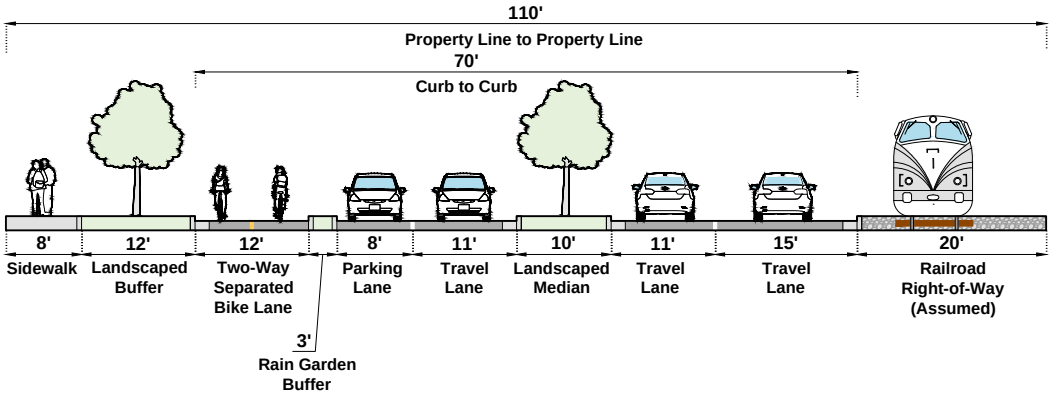


Figure 5.21 Cutting Boulevard (Wine Street to Garrard Boulevard) - Long-Term



4.0 POINT RICHMOND GATEWAY AREA

The triangular area from Garrard Boulevard and Cutting Boulevard around to Richmond Avenue and Railroad Avenue, referred to by some as Point Richmond Gateway, is a public park faced by a bank building and bordered on two sides by diagonal parking. Currently bicycles thread through this busy area on-street or sometimes across the park. The F2B2G Concept is to change the diagonal parking to parallel parking, making way for a two-way cycle track between the parked cars and the sidewalk.

At the corner of Garrard Boulevard and Richmond Avenue, the existing circular plaza will be reconfigured into a new Bay Trail Crossroads Plaza. From this singular location, Bay Trail users can depart to four major San Francisco Bay Trail segments: the Richmond-San Rafael Bridge Trail, the North Richmond Shoreline Trail, the Ferry Point Loop, and the South Richmond Bay Trail, which connects to Berkeley, Emeryville and beyond. This location truly is a crossroads for bicyclists and pedestrians, and the plaza will reflect this by including public art, wayfinding signage, attractive paving and streetscape furnishings.

Interim (Figures 5.22 and 5.23): The diagonal parking should be removed and replaced with a two-way cycle track. Parallel parking with a buffer will protect the cycle track from vehicle traffic and provide needed parking spaces for downtown Point Richmond. By removing the bike lane on the south side of Garrard Boulevard, parallel parking next to the park can be provided there as well. Estimates are that there would be loss of 19 diagonal spaces, replaced by 12 parallel spaces plus 5 parallel spaces along the park, for a total loss of two spaces. Pedestrian improvements

Figure 5.22 Point Richmond Gateway Area - Interim

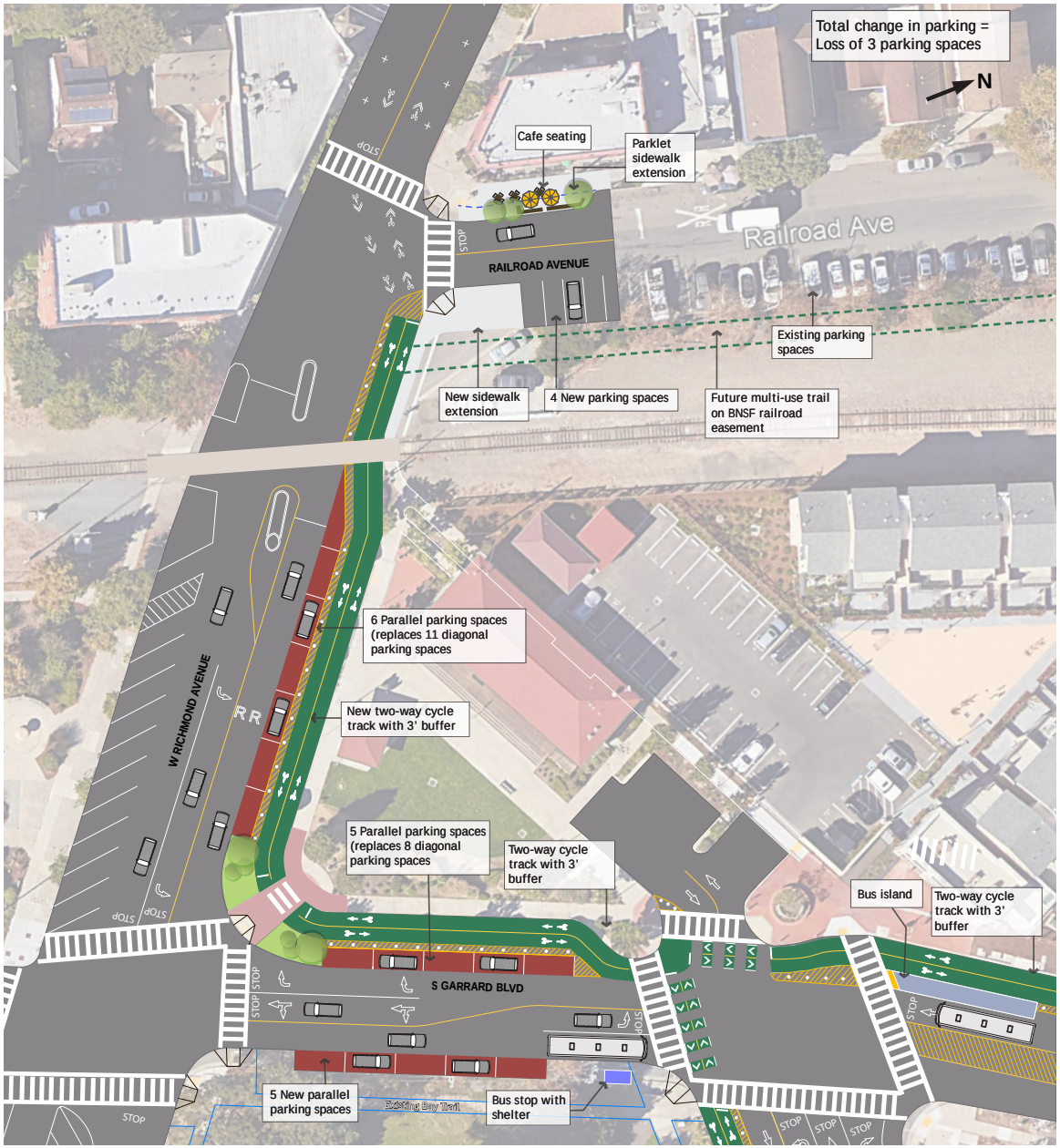
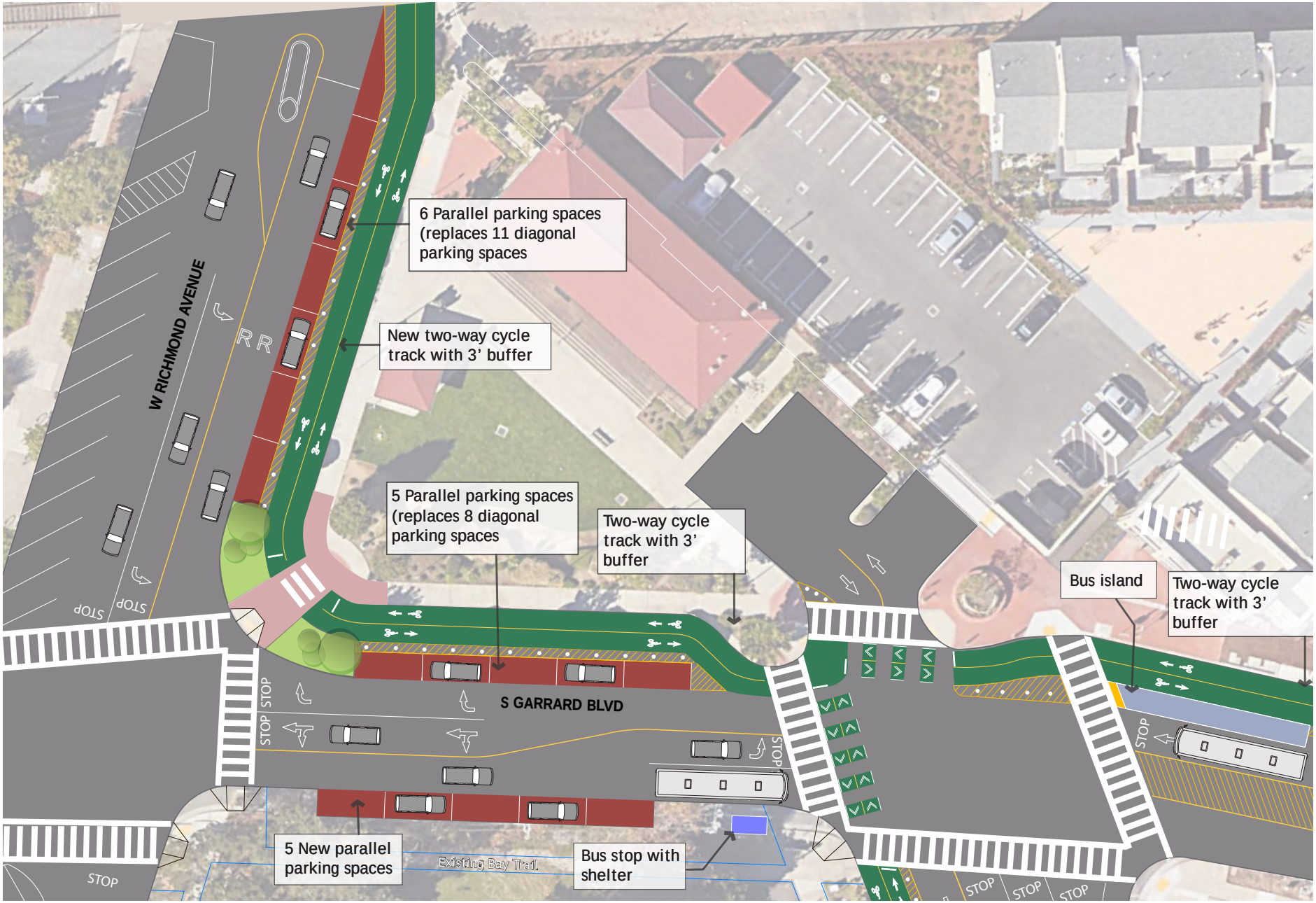


Figure 5.23 Point Richmond Gateway Area (South Area) - Interim



will be incorporated as part of the infrastructure improvements, including high-visibility crosswalks and ADA-compliant curb ramps at all pedestrian crossings.

Long Term: Additional parking for Point Richmond, mentioned often by community members, can be developed along the length of Garrard Boulevard northward from Cutting Boulevard. For convenience, it could be provided on the west side of the street, which would give protection to the existing cycle track and make it unnecessary for parkers to cross Garrard to access downtown Point Richmond. This stretch of Garrard Boulevard is very long, allowing for many new parking spaces.

There is potential for a multi-use trail along the BNSF right-of-way to the east of Railroad Avenue, which will benefit both bicyclists and pedestrians.

5.0 RICHMOND AVENUE AT RAILROAD AVENUE

This busy intersection has a large area of pavement for pedestrians to cross to the north side of Railroad Avenue. The F2B2G Concept is to extend the curb near the railroad tracks to the north, and also extend the curb on the north side of Railroad Avenue, providing a much shorter crossing.

Figure 5.24: A new high visibility crosswalk should be installed across Railroad Avenue. By realigning the parking next to the tracks additional parking spaces can also be achieved. Finally, the curb along the north side of Railroad Avenue should be extended out to create a shorter crossing for pedestrians and to allow for café seating and landscaping along Railroad Avenue in front of the restaurants there.

Figure 5.24 Richmond Avenue at Railroad Avenue

6.0 ROUTES THROUGH DOWNTOWN POINT RICHMOND

The downtown section of Point Richmond is historic and vibrant. However, there is little room along the streets to provide bicycle facilities. However, pedestrian access in this area is good. The F2B2G Concept is two-fold: to create a safe environment to cycle through the downtown as an interim solution, and to secure an easement along the BNSF rail line parallel to Railroad Avenue as a long-term solution (Figure 5.25).

Interim: The best route for bicycles currently is to ride down Richmond Avenue to Park Place or along Washington Avenue and on to Tewksbury Avenue. These streets have slow moving traffic, so it is not unsafe to share the road. The entire downtown area could be thought of as a shared street environment, where bikes and cars share the road equally. New signage and potentially additional markings on the street pavement should be provided that say "Share the Street" with icons of bicycles. Additional signs that note "Share the Streets" should also be provided at Railroad Avenue and West Richmond Avenue, Washington Avenue at West Richmond Avenue, and on Tewksbury Avenue at Washington Avenue. Finally, additional bike parking should be provided (Figure 5.26).

Long-Term: As mentioned, if an easement can be secured from BNSF, a Class I multi-use trail parallel to Railroad Avenue between the parked cars and the railroad tracks would be an ideal solution. The physical space for a Class I trail on the north side of the tracks exists, as proven by the distance from the tracks to the fence at the new apartments on the south side of the tracks.

For cyclists that choose to ride through downtown Point Richmond (many would rather go this route), long-term improvements can be made there as well. For example, Park Place could be made a truly shared street, or "Woonerf" as it is called in Holland. The paving in the street for this short stretch would be changed to brick pavers or similar texture to indicate it is not a vehicle priority street, but rather people, bicycles and vehicles would all share the street equally. Counterintuitively, reducing separation between drivers and pedestrians can improve safety by forcing drivers to slow down and pay attention. Car parking would be delineated by bollards rather than curbs. If the model is a success at Park Place, it could be expanded to include Washington Avenue and part of West Richmond Avenue to make the entire downtown a more walkable area.

Figure 5.25 Potential BNSF Easement

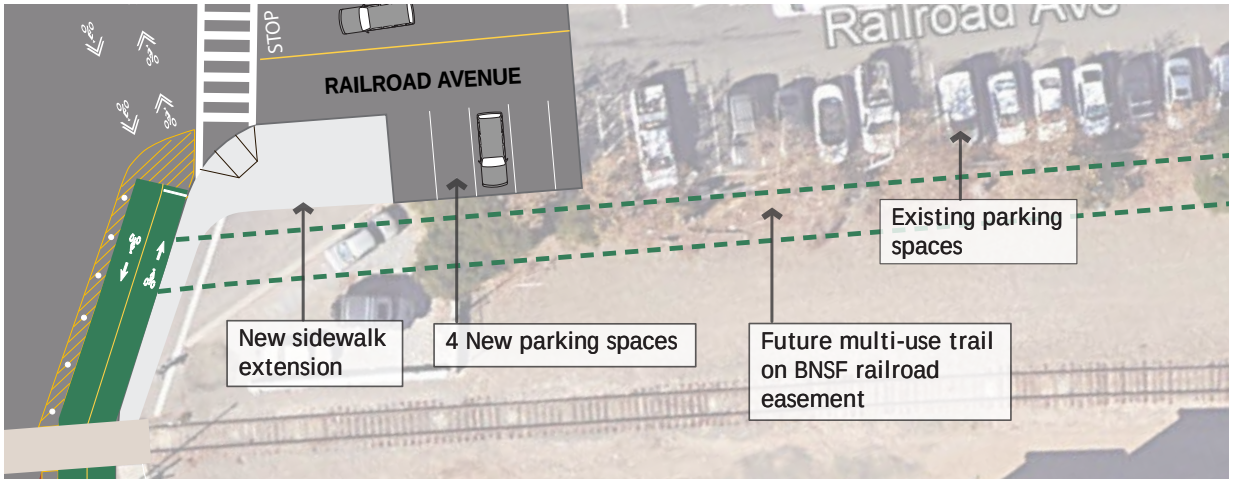
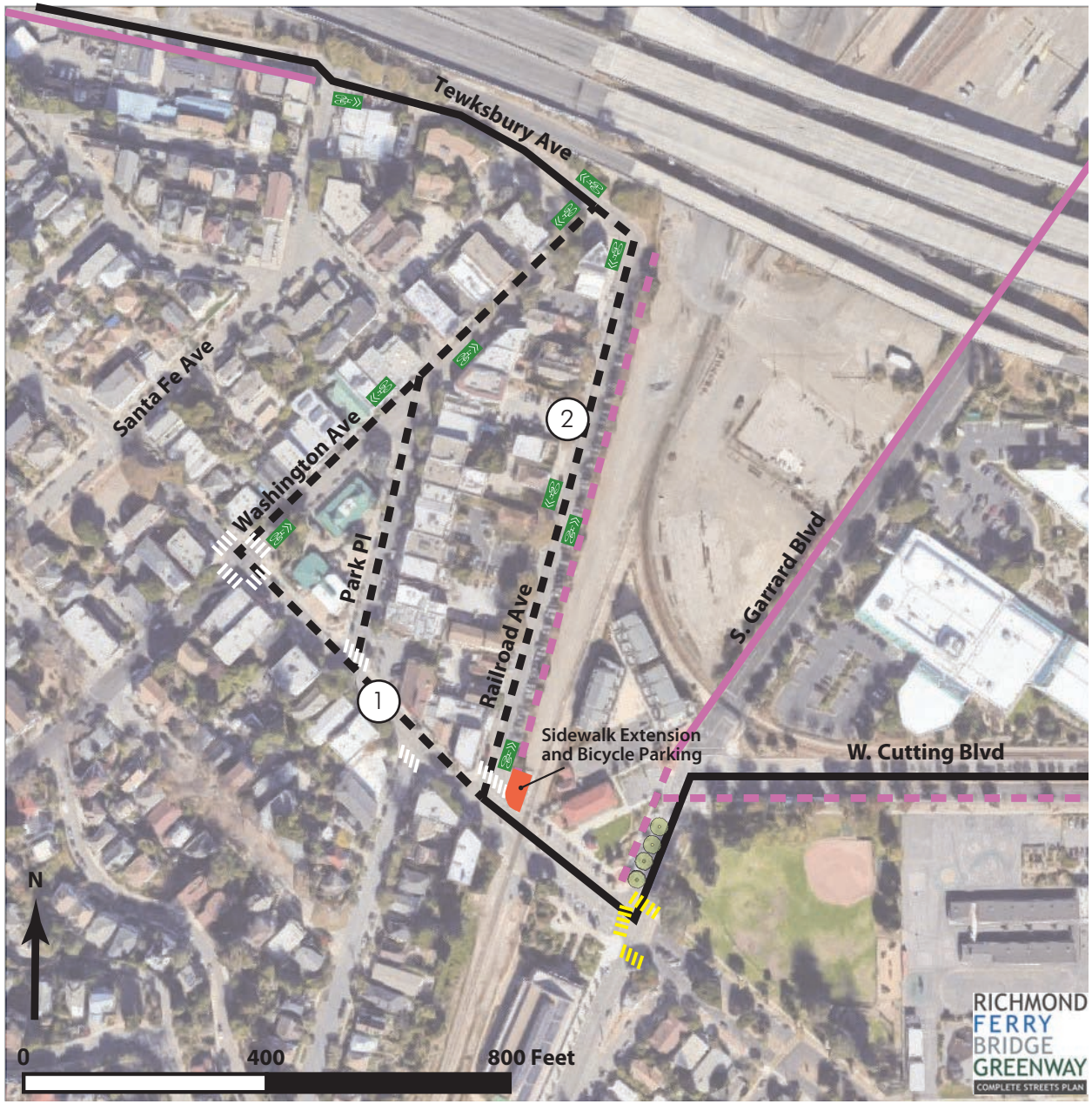


Figure 5.26 Downtown Point Richmond Routes - Interim and Long-Term



1 Interim: Downtown Point Richmond Route

Install "Share the Road" signage and striping. Provide a bicycle corral and/or other solutions for bike parking.

2 Long-Term: Railroad Avenue

Install Class I multi-use trail on the east side, which would require right-of-way easement from BNSF Railroad.

- Ferry to Bridge Route
- Alternative Route
- Proposed Cycle Track
- Existing Cycle Track
- New sidewalk extension and bicycle parking

7.0 TEWKSBURY AVENUE

Tewksbury Avenue is an important connecting corridor to the Richmond-San Rafael Bridge Trail. A two-way cycle track has been installed on part of this street. The F2B2G Concept is to extend the existing cycle track, so it is complete from Washington Avenue in downtown Point Richmond to the entry to the Richmond-San Rafael Bridge Trail at Castro Street.

7.1 TEWKSBURY AVENUE FROM WASHINGTON AVENUE TO SANTA FE AVENUE

Interim: (Figures 5.28 and 5.30) The existing two-way cycle track should be extended to reach from Washington Avenue to Santa Fe Avenue. This will entail changing some existing perpendicular parking into parallel parking and eliminating other parking. Existing parking is about 14 spaces, to be replaced by 4 spaces for a loss of 10 spaces. The cycle track will be separated from traffic by a striped buffer with soft hit posts and armadillos. Pedestrians will use the sidewalk on the south side of Tewksbury Avenue.

Where the Class IV cycle track has been installed, the section is 8' for the cycle track, with 3' for a buffer, 7.5' for parking, 10.5' for an eastbound travel lane and 10' for a westbound travel for a total of 39'. This section will be matched in the new segment.

This interim solution also requires the relocation of the AC Transit bus stop. An improved bus stop solution is to have the eastbound stop (headed to Richmond BART) around the corner on Railroad Avenue, and the existing westbound stop (headed for the terminus) connected across Tewksbury Avenue with a new pedestrian crosswalk and new concrete paved bus waiting area. A new crosswalk across Tewksbury Avenue and a new concrete pad for people waiting for the westbound stop will make this bus stop much improved from the existing condition.

Long-Term (Figure 5.29): The buffer zone at the Class IV cycle track should be turned into a landscaped median that can retain and treat stormwater and provide space for additional street tree planting.

Existing cycle track on Tewksbury Avenue to be extended.

Figure 5.27 Tewksbury Ave (Washington Ave to Santa Fe Ave) - Existing

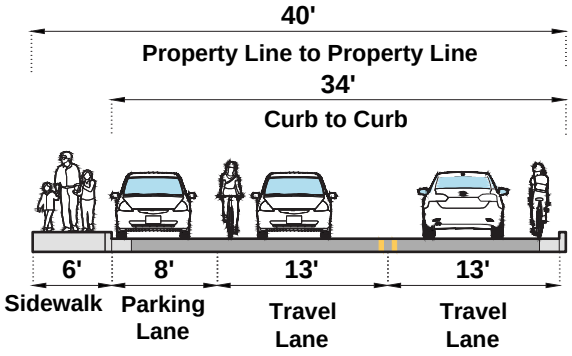


Figure 5.28 Tewksbury Ave (Washington Ave to Santa Fe Ave) - Interim

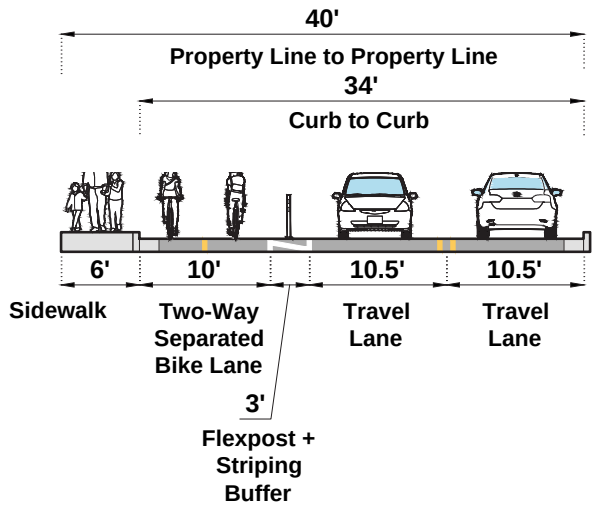


Figure 5.29 Tewksbury Ave (Washington Ave to Santa Fe Ave) - Long-Term

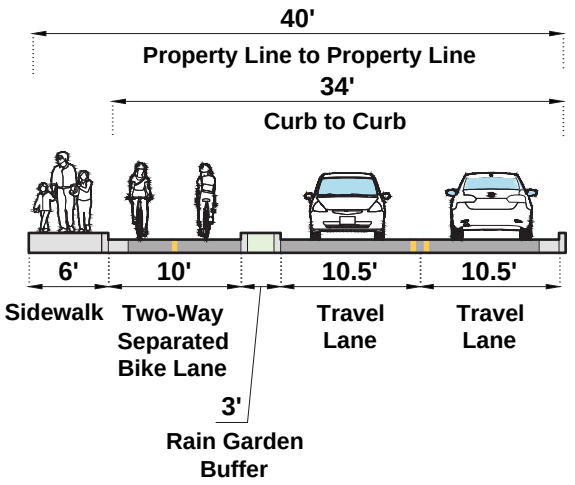
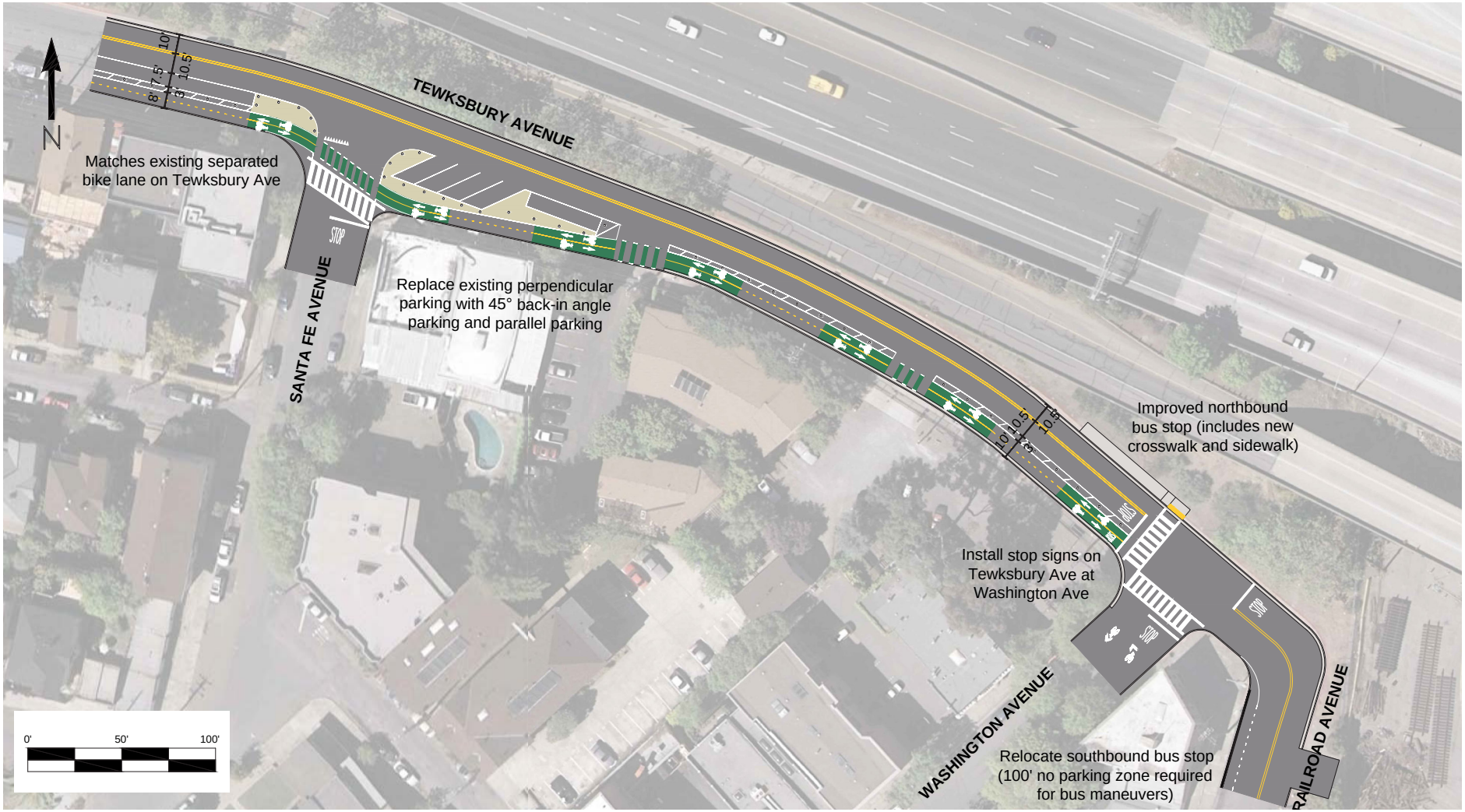


Figure 5.30 Tewksbury Avenue - Interim



7.2 TEWKSBURY AVENUE TERMINUS AT BRIDGE TRAIL

In the long term, there are opportunities to improve the existing cycle track on Tewksbury Avenue between Santa Fe Avenue and Castro Street, as well as the entry to the Bridge Trail at Tewksbury Avenue and Castro Street.

Proposed Improvements (Figure 5.32): Similar to the long-term improvements proposed for the existing Class IV cycle track along Tewksbury Avenue between Santa Fe Avenue and Washington Avenue, it is proposed that the buffer zone be turned into a landscaped median that can retain and treat stormwater and provide space for additional street tree planting.

As some drivers have had trouble navigating the turns at the existing protected intersection at Castro Street and Tewksbury Avenue, it is recommended that the raised curb at the curb extension areas be painted yellow or red, and potentially reconfigured with reflector posts added for better visibility. In addition, vehicle parking for the Richmond-San Rafael Bridge Trail can be accommodated on the north side of Tewksbury Avenue to the west of Castro Street. This parking should be striped, and signage provided.

Existing protected intersection at trailhead to Bridge trail, and opportunity for on-street parking on Tewksbury Avenue along the curb beyond Castro Street.

Figure 5.31 Tewksbury Ave (Castro St to Santa Fe Ave) - Existing

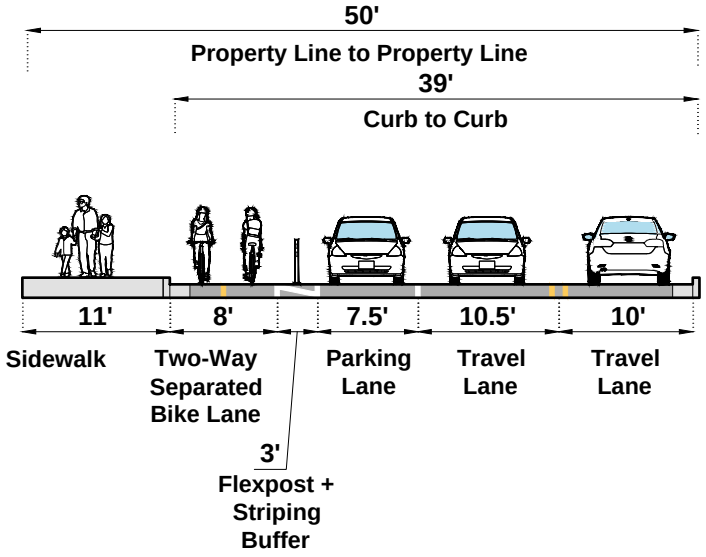
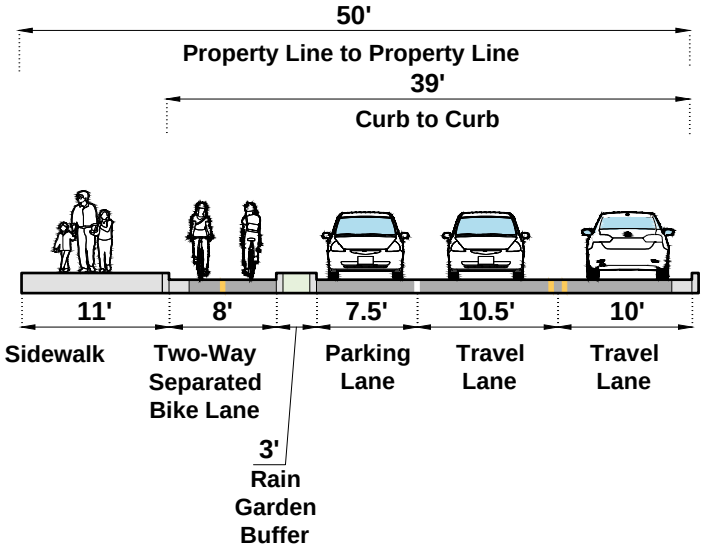


Figure 5.32 Tewksbury Ave (Castro St to Santa Fe Ave) - Proposed



IMPROVEMENTS TO CONNECTING CORRIDORS

8.0 OHIO AVENUE

Ohio Avenue from Garrard Boulevard to 2nd Street has an existing two-way Class IV cycle track with striped buffer on the north side, with two travel lanes on the south side. The Class IV cycle track is fairly narrow and there is no sidewalk on the north side. The F2B2G Concept is to improve this important connection to the Richmond Greenway and add pedestrian facilities.

Interim (Figure 5.33): The existing cycle track is sufficient as an interim condition. The signal at Canal Boulevard and Ohio Avenue should have a bicycle/pedestrian phase installed.

Long-Term (Figure 5.34): the 8′ wide cycle track should be raised up to curb level and made wider by extending to the north four feet to make a 12′ wide cycle track with neighboring sidewalk, and the buffer should become a 3′ landscaped buffer, as shown in the street section below. A new 5′ wide sidewalk north of the cycle track should be also be provided.

An additional long-term goal is to continue the existing Richmond Greenway westward across the BNSF property to connect with the intersection of Ohio Avenue and Canal Boulevard. If an agreement with the railroad could be made, the property could become a public park with Class I multi-use path.

Existing narrow cycletrack along Ohio Avenue: note the absence of sidewalk.

Figure 5.33 Ohio Avenue - Existing/Interim

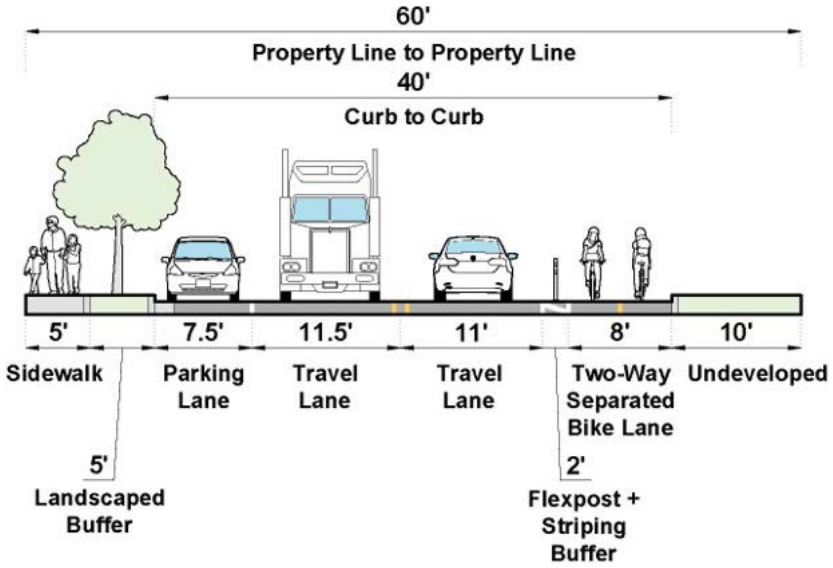
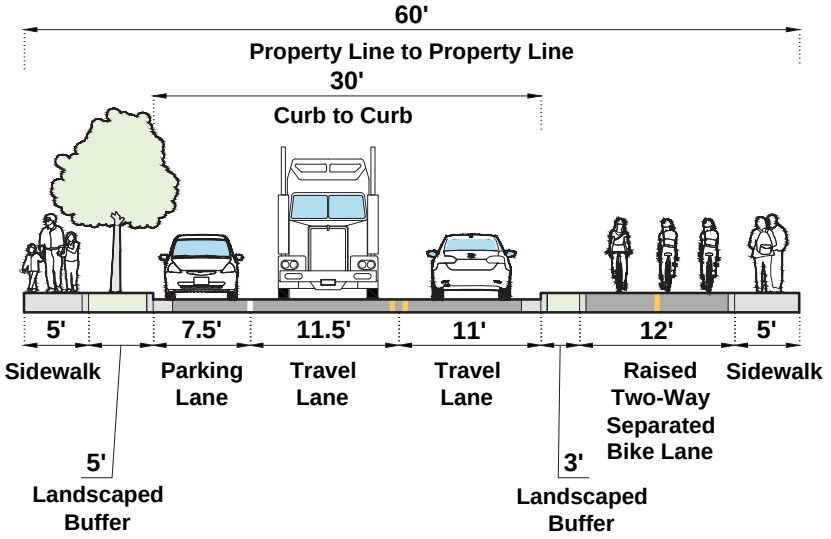


Figure 5.34 Ohio Avenue - Long-Term



9.0 CONNECTIONS TO RICHMOND WELLNESS TRAIL

The Richmond Wellness Trail is a separate project on Marina Way South, just to the east of the F2B2G project area. The Wellness Trail will be a beautiful multimodal connection from the Richmond BART station to the Bay Trail and Marina Bay. The intent of the Wellness Trail is to give the community to the north, which is burdened by health concerns and low-income levels, access to healthy options for walking and bike riding along the bay. The F2B2G Concept recommends the following measures to connect key corridors in the F2B2G project to the Wellness Trail.

9.1 WRIGHT AVENUE FROM MARINA WAY SOUTH TO HARBOUR WAY SOUTH

This small connecting street is in very poor condition. When it is resurfaced, it should include Class II bicycle lanes in both directions.

9.2 HALL AVENUE FROM MARINA WAY SOUTH TO HARBOUR WAY SOUTH

This street has existing Class II bike lanes which should remain. High visibility striping at pedestrian and bicycle crossings at the Hall Avenue/Marina Way South and Hall Avenue/Harbour Way South intersections should be provided. An enhanced connection should be made (with signage and striping) from the east end of Hall Avenue southward to the Class I Bay Trail along the marina.

Rendering of the future Richmond Wellness Trail on Marina Way South.

10.0 HARBOUR WAY NORTH

Harbour Way north of Highway 580 should be improved to provide better access to key corridors in the F2B2G Plan. Multimodal improvements to Harbour Way North were drawn in 2018 in preparation for an Active Transportation Project grant application (Figures 5.35 and 5.36). The F2B2G Concept supports implementation of these improvements.

10.1 HARBOUR WAY NORTH FROM HOFFMAN TO CUTTING (580 OVERPASS)

The on and off ramps to Highway 580 are dangerous for bicycles, as cars are focused more on making the merge than on bicycles. High visibility pavement striping and signage should be provided to help protect cyclists. As a long-term solution, consider eliminating the right turn onramp from southbound Harbour Way onto the southbound Highway 580, this condition is very dangerous to cyclists and it is a redundant onramp, as there is another onramp on the left side headed south on Harbour Way.

10.2 HARBOUR WAY NORTH FROM CUTTING BOULEVARD TO THE RICHMOND GREENWAY

This section has existing Class II bicycle lanes which are in good condition, but the corridor needs to be developed with better crossings and median refuges as proposed in the 2018 drawings prepared for an Active Transportation Project grant application.

Figure 5.35 Previously Proposed Harbour Way / I-580 Overpass Improvements

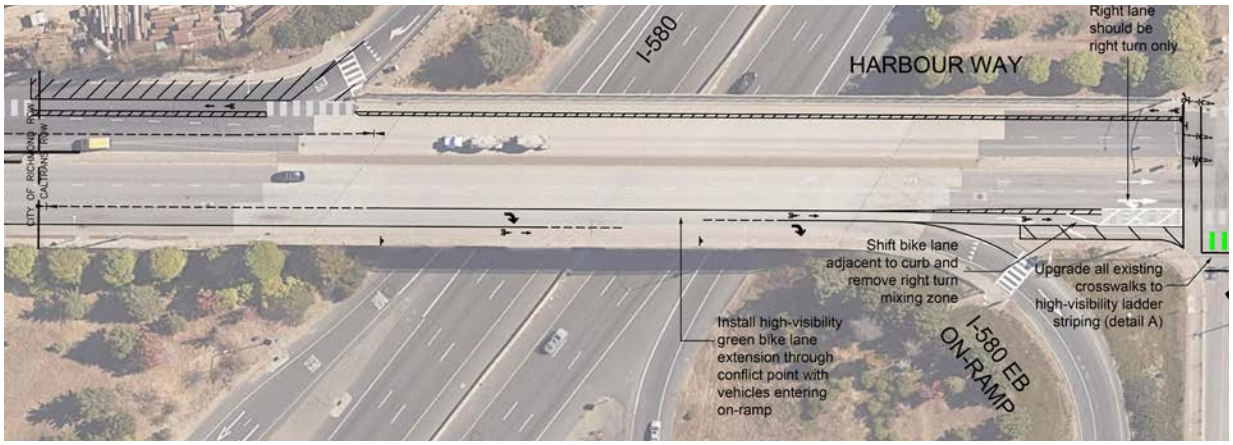


Figure 5.36 Previously Proposed Harbour Way Improvements

11.0 SOUTH 2ND STREET

South 2nd Street is an important connector from the Santa Fe neighborhood down to Cutting Boulevard and other key corridors and destinations, as it is one of only a handful of north-south streets that cross Highway 580. The F2B2G Concept is to improve South 2nd Street to make it safer and more comfortable for community members to use, especially school-age children.

11.1 SOUTH 2ND STREET FROM CUTTING BOULEVARD TO MAINE AVENUE

In this section, South 2nd St should have Class II bike lanes (Figure 5.38). To accomplish this, parking on one side of the street will need to be removed in this industrial area. All neighboring properties have off-street parking, so this should not cause an inconvenience.

Figure 5.37 2nd St (Cutting Blvd to Maine Ave) - Existing

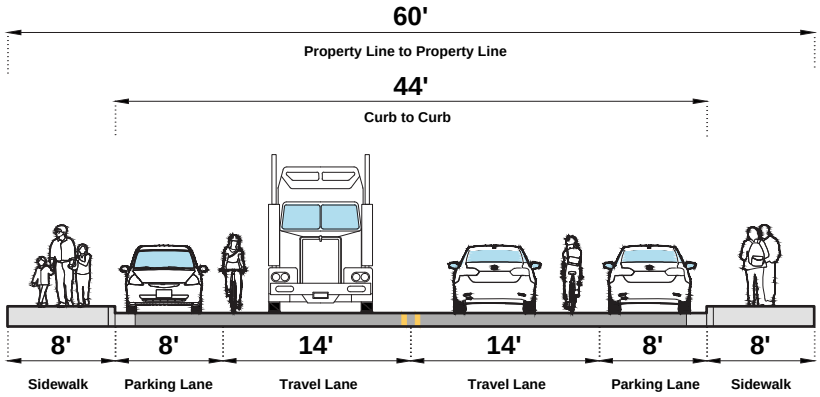
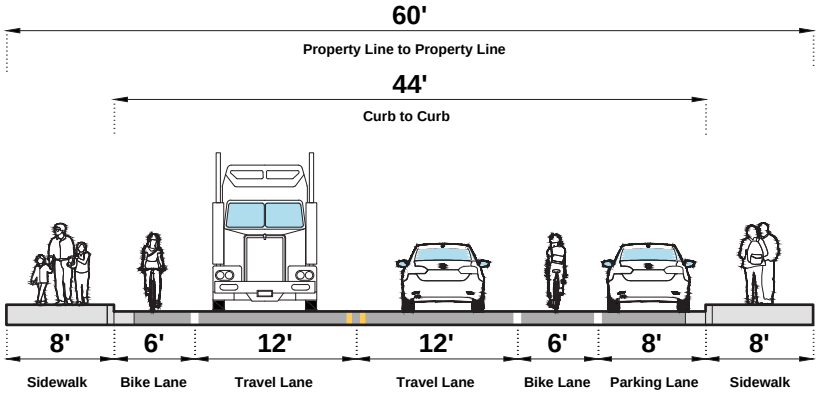


Figure 5.38 2nd St (Cutting Blvd to Maine Ave) - Proposed



11.2 SOUTH 2ND STREET FROM MAINE AVENUE TO THE RICHMOND GREENWAY

North of Maine Avenue, South 2nd Street is a residential neighborhood. Here it should become a "Bike Boulevard" by using striping, signage, and traffic circles at intersections to slow traffic and create a safer environment for cyclists. It is recommended that any bike boulevard improvements should be integrated with stormwater improvements through the Contra Costa County's Clean Water Program.

Example Bike Boulevard treatments.

Example stormwater improvements.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RICHMOND FERRY TO BRIDGE TO GREENWAY
COMPLETE STREETS PLAN

6. Implementation Strategy

This chapter discusses key strategies and processes to move design concepts presented in this Plan forward into constructed projects. A set of implementation steps that are required for most pedestrian and bicycle infrastructure improvements in this Plan are outlined. Following the discussion of implementation steps, a description of funding opportunities targeted to the Plan's design concepts are presented, including a range of competitive grant programs. Components of typical grant applications based on competitive programs are then described.

IMPLEMENTATION STEPS

The following lists the steps needed to prepare, apply and qualify for funding of recommended projects in the Ferry to Bridge to Greenway (F2B2G) Plan.

- **Coordinate with external agencies as needed.** Some of the design options presented in this Plan will require coordination due to right-of-way, especially in case where the pedestrian and bikeway improvements interact with interstate highways, railroad crossings and transit stops.
  - Improvements along Harbour Way as well as the intersection of Hoffman Boulevard at Cutting Boulevard will require coordination with Caltrans adjacent to Interstate 580.
  - Locations where railroad grade crossings interact with pedestrian and bicycle improvements (including those along Cutting Boulevard and Harbour Way South) will require coordination with BNSF Railroad and the California Public Utilities Commission (CPUC). For long-term improvements including changes to railroad crossing signals, a General Order process GO-88B will need to be filed with the CPUC to review proposed improvements.

Implementation Process

1. COORDINATE WITH EXTERNAL AGENCIES
2. PRODUCE CONCEPTUAL ENGINEERING DESIGNS
3. CONDUCT ENVIRONMENTAL REVIEW
4. ENGAGE THE COMMUNITY THROUGH PROJECT COMPLETION
5. PURSUE PROJECT FUNDING
6. COORDINATE CONSTRUCTION NEEDS

- **Produce conceptual engineering designs.** This may include site plans of infrastructure and landscaping, as well as roadway striping plans. While design concepts within the Ferry to Bridge to Greenway Plan area will include conceptual drawings (30% engineering) as part of the Final Draft Plan, if the City decides to consolidate projects in this Plan with other local or regional projects, additional engineering designs may need to be produced prior to or shortly after obtaining funds for implementation.
- **Conduct environmental review, if required.** Determine if the project requires environmental review and follow the process to conduct the review based on anticipated project impacts. Because almost all proposed improvements in the F2B2G Plan are within the existing street right-of-way, it is anticipated that design concepts in this plan are exempt under CEQA, so they would not require environmental review.
- **Continue to engage the community through project completion.** While extensive community engagement has been conducted for this Plan, it is important to continue to proactively engage the public to ensure that the project responds to local conditions and minimize any potential opposition.
- **Pursue project funding.** Many of the improvements identified in this Plan will need to rely on outside sources for implementation. Select improvements may be able to be coordinated with future city roadway maintenance or other projects, which could help to reduce the amount of outside funding necessary for implementation.
- **Coordinate construction needs.** Coordinate with Public Works and other relevant City Departments to determine the availability of construction materials and coordinate construction once approved.

DESCRIPTION OF FUNDING OPPORTUNITIES

Potential funding streams include local, regional, and state programs. The recommended funding sources for each of the corridor improvement options are tailored to the type of project(s) identified for the corridor, as follows:

- **City of Richmond Capital Improvement Program.** Projects selected for funding through the City of Richmond CIP program are lower cost projects that are relatively easy to implement (e.g., striping improvements). Another opportunity to implement projects through existing City funds are to incorporate bicycle striping improvements on roadways that are listed in the City's five year street pavement plan.
- **Developer-Funded Projects.** Projects located in areas where new development is likely and are directly fronting streets where improvements are recommended in this Plan may be fully or partially funded by developer contributions through a condition of approval. The segments most likely for funding of this nature are Cutting Blvd, Harbour Way South, Hoffman Blvd and 2nd Street. Funds collected in this manner are not likely to cover the entire cost of a segment improvement and will need additional funding from other sources in this list.
- **CCTA Measure J Funding.** In 2004, Contra Costa County voters approved a half-cent transportation sales tax that provided funds for a variety of transportation infrastructure projects in the County through the year 2034. While over 80 percent of funds from Measure J have been expended, remaining revenues can be allocated to fixing local streets and supporting

public transportation. While an extension of Measure J was not approved in March 2020, CCTA was planning for a future transportation initiative that would have included up to $187 million in funding for the I-80, I-580 and BART Corridor in Western Contra Costa County. These improvements proposed funding for pedestrians and cyclists to better access the Richmond-San Rafael Bridge, Richmond Parkway, Richmond Ferry Terminal and Richmond BART Station as well as providing incentives for using alternative transportation options. However, it is unclear when CCTA will advance another transportation sales tax extension.

- **Regional Measure 3 Funding.** In June 2018, voters in the nine Bay Area counties approved Regional Measure 3 (RM3), a measure that raises tolls on seven state-owned bridges to finance $4.45 billion in transportation improvements. RM3 funds a package of 35 projects and programs to relieve traffic and enhance public transit in bridge corridors. Transportation enhancements directly impacting the Richmond Ferry to Bridge to Greenway Plan area include funding for Richmond Ferry service and enhancements dedicated to getting to/from and within the Richmond-San Rafael Bridge. However, RM3 funding has not been dedicated at this time due to ongoing litigation. Once litigation is settled on RM3 funding, an estimated $150 million dollars is earmarked for Bay Trail and Safe Routes to Transit improvements.
- **California Active Transportation Program Funding.** The Caltrans Active Transportation Program (ATP) is the leading funding source for installing bicycle, pedestrian, and safe routes to school infrastructure statewide. Many of the design concepts satisfy specific criteria and funding preferences in the grant program. In addition, the majority of the Plan area is within a "disadvantaged" community as defined by CalEnviroScreen 3.0, as referenced in Figure 2.6 of this Plan. Projects that are within these communities have traditionally taken on a greater burden of the state's environmental and economic impacts and thus have a greater chance of receiving project funding from the grant program. A Call For Projects is typically released every other year, with the current cycle's applications due in September 2020 (July 2020 for quick-build projects). Available funding for projects in the current grant cycle is approximately $440 million dollars, with a portion of funds specifically allocated for quick-build projects such as the interim projects proposed in this Plan. Future grant cycles are anticipated to have similar amounts of funding.
- **State Parks Recreational Trails Program.** Projects selected for funding through California State Parks Recreational Trails Program are projects that establish recreational trails or connect two previously disconnected sections of existing trails. Funding for this program is provided through Fixing America's Surface Transportation (FAST) Act and is managed by California State Department of Parks. Focusing primarily on multi-use trails in open space areas, past funding cycles had approximately $10 million dollars in funding available, with the average grant award being $1 million. A 12% local match is required for all application submissions. Grant cycles are typically offered every other year, with the most recent cycle's workshops occurring in September and October 2019 with applications due on February 3, 2020. It is expected that the next cycle will be released in September 2021.
- **Urban Greening Grants.** Administered through the California Natural Resources Agency, in past grant cycles this source funded projects that increased non-motorized access to community destinations concurrently with improving water quality and stormwater management, as well as the planting of shade trees. This funding process also supports projects involving removal of pavement for permeable surfaces. Projects selected for funding are bikeways and pedestrian projects that incorporate best practices in low water use landscaping design, stormwater treatments, and expand access of safe bikeways/pedestrian pathways to disadvantaged communities. Similar to the Caltrans Active Transportation Program, this grant funding source prioritizes distribution of funds to disadvantaged communities.
- **Land and Water Conservation Fund.** This program provides federal support for the acquisition and development of outdoor recreation space, with grant cycles typically occurring on an annual basis. The last grant cycle had $40 million in funding available nationwide, with workshops occurring in September and October 2019 and applications due on April 6, 2020. Awards from the previous grant cycles in California averaged $518,000, with the most recent grant cycle encouraging agencies to submit projects up to $6 million dollars. Submissions requiring acquisitions were seen as the highest priority in the most recent grant cycle.

- **Environmental Enhancement and Mitigation (EEM) Grant Program.** This program is a State fund established by the Legislature and managed by the California Natural Resources Agency to fund beautification improvements to roadsides to mitigate the effects of transportation projects. It offers funding to local, state, and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified public transportation facilities. Grant cycles are released annually, with approximately $7 million dollars in available funding in an average funding cycle, with the average project awarded $467,000. While the upcoming cycle was to have been released in early 2020, it has been delayed to January 2021 due to the impacts of COVID-19. Past cycles have allowed grant application submittals of up $1 million dollars for projects that required acquisition of properties. A 25% local match is required for all application submissions.

STEPS INVOLVED IN THE COMPETITIVE GRANT APPLICATION PROCESS

While funding agencies frequently update grant guidelines, requirements, and individual applications for each funding program's cycle, there are several items that are commonly required in competitive grant applications for pedestrian, bicycle and multi-use trail infrastructure. Key items to accomplish prior to the submittal of a typical transportation infrastructure grant application are listed below. Note that descriptions are based on Caltrans ATP and Urban Greening grant applications in prior funding cycles for reference, and grant application requirements for sources listed in this Plan are subject to change.

- **Resolution from Agency Supporting Project.** Required for the Urban Greening Grant application, not required for Caltrans ATP applications**.**
- **Disadvantaged Community Analysis.** Typically, funding agencies prioritize or require funds to be distributed to areas that are considered to be socioeconomically or environmentally "disadvantaged". The most common formulas used include the top 25 percent of CalEnviroScreen 3.0 Census Tracts, Median Incomes that are lower than 80% of statewide average, or 75 percent of students in project area that qualify for free/reduced lunches. Assessment of disadvantaged communities are required for Caltrans ATP and Urban Greening Grant application.
- **Cost-Benefit Analysis.** Required for all Urban Greening Grant applications, only required for Caltrans ATP grant applications requesting over $7 million dollars in funding.
- **Statement of Project Need.** Required on most competitive grant applications, including Caltrans ATP and Urban Greening Grant applications. Most applications require a short project title (less than 200 characters), followed by an executive-level project description (200 words or less), and a longer statement of need (500-1,000 words).
- **Cost Estimate.** A preliminary estimate is required for most infrastructure project application, with costs often separated into environmental studies & permits (PA&ED), preliminary engineering & pre-construction (PS&E), right-of-way acquisition, and construction (CON). Caltrans ATP applications require that such estimates be prepared by a registered engineer licensed in the State of California.
- **Collision Statistics in Project Area.** Required on the Caltrans ATP application, not required for Urban Greening Grant applications.
- **Bicycle and Pedestrian Counts in Project Area.** Required on Caltrans ATP applications, not required for Urban Greening Grant applications.
- **Community Outreach.** Documentation of outreach may include a brief written description of outreach conducted, sign-in sheets, images of events, and promotional materials of events. Documentation of outreach is recommended for most competitive grant applications and is required on Caltrans ATP and Urban Greening Grant applications.
- **Letters of Support.** Recommended for most competitive grant applications and required on the Caltrans ATP and Urban Greening Grant applications.

Infrastructure grants typically fund the following items:

- **Preliminary Engineering and Pre-Construction.** Includes environmental studies and permits (PA & ED), as well as preparation of plans, specifications, and estimates (PS & E).
  - In the Urban Greening Grant, they require that no more than 25 percent of total project costs go to pre-construction. While the ATP grant has no set guidelines, it is generally assumed that pre-construction costs should stay within 25 percent of total project costs from this funding sources as well.

- **Right-of-Way.** Includes engineering, appraisal, and acquisition.
  - For the Urban Greening Grant, staff costs associated with right-of-way tasks can be no more than $10,000 of the total project budget.
- **Construction.** Includes construction engineering and construction of the project.

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RICHMOND FERRY TO BRIDGE TO GREENWAY

COMPLETE STREETS PLAN