FEHR PEERS

Memorandum

Date: June 10, 2022

To: Beverly Choi, ESA

From: Rob Rees and Karina Schneider, Fehr & Peers

Subject: Hilltop Specific Plan – Transportation Existing Conditions Memo

OK22-0455

Opportunity and Constraints Takeaways

This memorandum presents information on existing multimodal transportation conditions for the Hilltop Specific Plan Area (Plan Area) in the City of Richmond. The following key constraints and opportunities were identified through this existing condition assessment:

- Constraints
    - Richmond Parkway Transit Center serves as a nearby transit hub but is about one mile from the Plan Area which is a long walking distance to access transit.
    - Changes to the Richmond Parkway Transit Center site, such as installation of long-term bike parking, and to the I-80 interchanges requires coordination with Caltrans.
    - Existing travel demand in the Plan Area is low due to limited activities on the site and so existing travel assessments provide little insight into what demand could look like given increased future activity.
    - The surrounding land use pattern is largely suburban, reducing the potential for walking and bicycling trips between the Plan Area and the nearby neighborhoods.

    - The street system serving the Plan Area is made up of large blocks and arterial streets with little if any land uses.
    - The adjacent I-80 freeway is highly congested over multiple hours of the day.
- Opportunities
    - Closure of sidewalk gaps, crosswalk installation, and other pedestrian improvements surrounding the Plan Area encourages and supports walking.
    - Closure of gaps in the bikeway network and installation of high-quality bicycle infrastructure better connects bicycle riders in the area.
    - Installation of additional bike racks and lockers in and near the Plan Area encourages and supports bicycle trips, particularly at the Richmond Parkway Transit Center.
    - Shuttle coordination with Richmond Parkway Transit Center encourages transit use.
    - Focus on local transportation infrastructure because nearby destinations of varying land uses see more than half of its visitors coming locally from Richmond and neighboring cities.
    - Support efficient goods movement due to the proximity to I-80 and the City's existing truck network.

1. Introduction

This memorandum explores existing conditions related to transportation around the Hilltop Mall and is divided into four sections:

- **Regulatory Setting**: overview of existing state, regional, and local regulations pertaining to the area.
- **Existing Networks**: summary of circulation, public transit, bicycle, pedestrian, and goods movement network surrounding the Plan Area.
- **Existing Travel Characteristics**: general assessment of existing traffic volumes, trip distribution, and vehicle miles traveled within and near the Plan Area.
- **Planned Improvements**: overview of recommended and planned improvements in the vicinity of the Plan Area.

Project Description

The City of Richmond is embarking on an exciting opportunity to re-envision an approximately 143-acre site that consists of the Hilltop regional shopping mall and areas immediately surrounding it to the south and east through the development of the Hilltop Horizon Specific Plan. The site is located within the Hilltop Priority Development Area (PDA) and situated south of

Richmond Parkway, between San Pablo Avenue and Interstate 80, in Richmond, CA. The Hilltop Plan Area is show on **Figure 1**~~**Figure 1**~~.

The Specific Plan will guide the development of the 143-acre site to support the City's General Plan vision to promote the transformation of the Plan Area from a low-intensity auto-oriented retail center to a higher intensity, mixed use regional destination. The overarching goal of the Specific Plan is to develop a comprehensive plan to guide future development that will attract people, businesses, and investments. The intended result is to create a shovel ready development framework to allow the revitalization of the Plan Area after the adoption of the Specific Plan and environmental document. The ultimate mix of uses and development program will be determined as part of the planning process that will involve and be informed by community and stakeholder engagement (activities to be scheduled).

Figure 1: Plan Area

SOURCE: City of Richmond, 2022; ESA, 2022

2. Regulatory Setting

The transportation infrastructure within and surrounding the Plan Area are part of state, regional, and local circulation networks. The transportation infrastructure within and surrounding the Plan Area are part of state, regional, and local circulation networks. This section summarizes the relevant state, regional, and local regulatory settings.

State

Senate Bill (SB) 743

On September 27, 2013, California Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process that changed the way transportation impact analysis is conducted as part of California Environmental Quality Act (CEQA) compliance. These changes include elimination of automobile delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. According to SB 743, these changes are intended to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

In December 2018, the State Office of Planning and Research (OPR) completed an update to the CEQA Guidelines to implement the requirements of SB 743. The Guidelines state that VMT must be the metric used to determine significant transportation impacts. The Guidelines require all lead agencies in California to use VMT-based thresholds of significance in CEQA documents published after July 2020. VMT in the Plan Area is described in Section 4.

California Department of Transportation

Interstate freeways and State Routes are under the jurisdiction of the California Department of Transportation (Caltrans). The Plan Area is located near Interstate 80 (I-80) and so Caltrans will be interested in reviewing the environmental documentation for the project.

Regional

Metropolitan Transportation Commission (MTC)

The majority of Federal, State, and local financing available for transportation projects is allocated at the regional level by MTC, the transportation planning, coordinating, and financing agency for the nine-county Bay Area. Integrated with the Association of Bay Area Government's (ABAG's) regional land use plan, the current regional transportation plan, *Plan Bay Area 2050*, was adopted

by MTC and ABAG in October 2021. *Plan Bay Area 2050* specifies a detailed set of investments and thirty-five strategies throughout the region through the year 2050 to maintain, manage and improve the surface transportation system and to integrate transportation investments with project housing and job growth. *Plan Bay Area 2050* also specifies how strategies will be implemented and how to secure revenue sources. Planned improvements in the Plan Area are described in Section 5.

Contra Costa Transportation Authority (CCTA)

The Contra Costa Transportation Authority (CCTA) is Contra Costa County's designated Congestion Management Agency (CMA). It is responsible for implementing programs to ensure traffic levels remain manageable. As the CMA, CCTA is in charge of coordinating land use, air quality, transportation planning among local jurisdictions, and maintains the Countywide Model.

The CCTA adopted their Countywide Comprehensive Transportation Plan (CTP) in 2017 providing a review of transportation issues in the county and an implementation plan to meet the county's goals. The CTP also knits together five action plans developed by the Regional Transportation Planning Committees. Every other year the CCTA prepares and adopts a Congestion Management Program (CMP) with the latest update occurring in 2021. The 2021 CMP focuses primarily on bringing the required seven-year Capital Improvement Program (CIP) up-to-date, while also responding primarily to technical changes and corrections from the 2019 CMP including Level of Service (LOS) standards.

CCTA's *Growth Management Program* (February 2021)[1] includes five project-level VMT screening criteria which lead agencies can apply to screen projects out of conducting a detailed project-level VMT analysis. Even if a project satisfies one or more of the screening criteria, lead agencies may still require a VMT analysis if there is evidence that the project has characteristics that might lead to a significant amount of VMT. The five screening criteria include:

- Screening Criteria 1 – CEQA Exemption: Any project that is exempt from CEQA is not required to conduct a VMT analysis.
- Screening Criteria 2 – Small Projects: Small projects can be presumed to cause a less-than-significant VMT impact. Small projects are defined as having 10,000 square feet or less of non-residential space or 20 residential units or less.
- Screening Criteria 3 – Local-Serving Use: Projects that consist of Local-Serving Uses can generally be presumed to have a less-than-significant impact absent substantial evidence to the contrary, since these types of projects will primarily draw users and customers from

[1] CCTA, Growth Management Program Implementation Documents: Implementation Guide, February 2021, https://ccta.net/wp-content/uploads/2021/08/GMP_Implementation_Guide_FINAL_02172021.pdf

a relatively small geographic area that will lead to short-distance trips and trips that are linked to other destinations.

- Screening Criteria 4 – Projects Located in Transit Priority Areas: Projects located within a TPA can be presumed to have a less-than-significant impact absent substantial evidence to the contrary.
- Screening Criteria 5 – Projects Located in Low VMT Areas: Residential and employment-generating projects located within a low VMT-generating area can be presumed to have a less than-significant impact absent substantial evidence to the contrary.

A low VMT area is defined as:

- For housing projects: Cities and unincorporated portions within CCTA's five subregions that have existing home-based VMT per capita that is 85% or less of the existing County-wide average.
- For employment-generating projects: Cities and unincorporated portions of CCTA's five subregions that have existing home-work VMT per worker that is 85% or less of the existing regional average.

West Contra Costa Transportation Advisory Committee (WCCTAC)

The West Contra Costa Transportation Advisory Committee (WCCTAC) is one of four sub-regional transportation planning committees created in 1988 to advise the CCTA on Measure C expenditures and transportation concerns specifically related to the Cities of Richmond, El Cerrito, Hercules, Pinole and San Pablo, and the following transit agencies serving these cities: AC Transit, WestCAT and BART. WCCTAC also assists in designing and implementing improvement projects and programs related to local and regional transportation services. As part of the CCTA CTP, the West County Action Plan was developed by WCCTAC. The West County Action Plan identifies a system of Regional Routes, including I-80, Richmond Parkway, and San Pablo Avenue, and Action Plan goals, including:

- Provide efficient and effective local and regional transit services
- Expand high-capacity transit in West County
- Increase use of active transportation modes
- Complete and expand the regional trail system
- Implement Complete Streets enhancements identified in local plans
- Pursue and sponsor transportation demand management programs to reduce single-occupant vehicle travel
- Actively manage growth to support regional land use and transportation goals
- Improve the efficiency of highway and arterial options
- Maintain existing transportation facilities in adequate condition to provide safe and effective service

- Support and improve quality of life in communities impacted by rail transport

Local

The City of Richmond adopted the CCTA VMT methodology in 2021. The CCTA VMT methodology is described above in the Regional section. The following sections describe the applicable policies from the *Richmond General Plan* (2012), *Bicycle Master Plan* (2011), and *Pedestrian Plan* (2011).

Richmond General Plan (2012)

The Circulation Element of the *Richmond General Plan* (2012) provides a vision and policy framework for transportation planning in Richmond. Richmond has a robust multimodal transportation environment that can foster trips across various travel modes: walking, bicycling, rolling (skating, scooting, or using mobility devices), public transportation (bus, commuter rail, heavy rail, and ferry), and driving. In this vision, the City's transportation network strives to balance the efficiency and needs of all travel modes, with traffic calming, sidewalks, trails, and dedicated bicycle facilities supporting safe and comfortable conditions for all modes, especially people walking, bicycling, and rolling.

The Circulation Element outlines a place-based circulation classification system tailored to surrounding land use, street function, and desired character. This classification system assigns modal priorities to each accessway type and provides design recommendations for each one. While the General Plan does not include a transportation safety analysis, goals, policies, and actions in the Circulation Element set safety as a high priority:

- Goal CR-1: An Expanded Multimodal Circulation System
    - Policy CR1.5 safe and convenient walking and bicycling.
    - Action CR1.C the development and implementation of Bicycle and Pedestrian Plans.
- Goal CR-2: Walkable Neighborhoods and Complete Streets
    - Action CR2.F: explore the potential to lower speed limits around schools, parks, and public gathering spaces.
- Goal CR-3: A Safe and Well-Maintained Circulation System
    - Policy CR3.1 safety and accessibility, with a focus on walking, bicycling, and transit. The policy also emphasizes at-grade railroad safety, with a dedicated action item for rail crossing improvements.
    - Action CR3.B implement traffic calming on streets that experience speeding or cut-through traffic.

In addition to safety-focused policies and actions, the General Plan also included ones that focus on improving conditions for active transportation users:

- Goal CR-1: An Expanded Multimodal Circulation System
    - Policy CR1.1: encourage multiple circulation options and equitable transit access/service throughout the City.
    - Policy CR1.2: provide interconnected streets that adequately serve roadway users' needs.
    - Policy CR1.3: enhance linkages within Richmond and beyond to neighboring cities and areas and improved connections to public transportation.
    - Policy CR1.6: develop a comprehensive network of multi-use trails throughout the City and region.
    - Action CR1.E: expand multi-use trails and greenways within Richmond to improve connections to existing and future trails and improve connectivity to trails from more neighborhoods across the city.
    - Action CR1.K: develop station area plans around major transit hubs, including improving active transportation connectivity.
- Goal CR-2: Walkable Neighborhoods and Complete Streets
    - Policy CR2.1: improve access and connectivity within neighborhoods and to major City destinations.
    - Policy CR2.2: mixed-use urban streets designed with complete street policies that balance the needs of all roadway users.
    - Action CR2.B: work with school districts, transit providers, and other partners to develop a Safe Route to School Program.

The *Richmond General Plan* additionally identifies goods movement as a goal of its circulation element. The policies and actions described by the goal include:

- Goal CR-4: Efficient Movement of Goods
    - Policy CR4.1: promote the safe and efficient movement of goods to support Port of Richmond operations and industrial uses. The city strives to provide adequate infrastructure and maintenance improvements while minimizing the impacts on neighborhoods and other sensitive land uses.
    - Policy CR4.2: develop long-term strategies and plans that will support efficient operations of the Port.
    - Action CR4.A: work with business operators to develop and regularly update a citywide goods movement plan to integrate Port operations, rail movement, and truck routes.

- Action CR4.B: work with business operators and other stakeholders to re-route diesel trucks away from neighborhood streets and sensitive uses.

Richmond Bicycle Master Plan (2011)

The City of Richmond *Bicycle Master Plan* (2011) (BMP) sets forth the blueprint for developing and implementing bikeways and support facilities within the City of Richmond. The Plan focuses on improving inter-and intra-neighborhood connectivity, safe routes to schools, and access to major destinations such as employment centers, stores and shops, parks, trails, and open space areas.

The BMP outlines four primary goals:

- Goal 1: Expand bicycle facilities and parking facilities;
- Goal 2: Increase the number of people of all ages and backgrounds who bicycle for any trip purpose;
- Goal 3: Make Richmond's streets safer for bicyclists during the day and at night; and
- Goal 4: Incorporate the needs and concerns of cyclists in all transportation and development projects.

The BMP proposes over 104 miles of bikeways (30 miles of Class I, 32 miles of Class II, and 42 miles of Class III). Bicycle recommendations are concentrated in three focus areas: Hilltop, Central Richmond, and El Sobrante. Since 2011, 24 miles (23%) of bike facilities have been installed in Richmond. While the high priority corridors all received bikeway project recommendations in the *Bicycle Master Plan*, new design best practices including Class IV bikeways are not reflected in the network, though the City is currently developing a Bicycle and Pedestrian Action Plan that will propose additional network changes. The new Bicycle and Pedestrian Action Plan (2022) expands on the BMP recommendations including Class IV bikeways. Key hot spot corridors have also undergone in-depth safety and Complete Street studies.

Richmond Pedestrian Plan (2011)

Completed in 2011, the *Richmond Pedestrian Plan* aims to improve the safety, convenience, and appeal of walking throughout the City. The Plan focuses on Central Richmond, comprised of Downtown, Civic Center, a transit center, and several historic mixed-income and low-income neighborhoods. The Pedestrian Plan includes the following goals:

- Safety: develop and retrofit streets to accommodate all types of users.
- Security: design and improve streets, trails, and public spaces.
- Connectivity: develop strategies and solutions to address physical barriers to walking.
- Equity: make walking a safe, viable, and convenient mode choice.
- Health: make walking and bicycling desirable alternatives for trips to daily destinations.

- Sustainability: mode shift to reduce climate change, air, and water quality impacts from vehicle emissions.
- Revitalizing neighborhoods and downtown Richmond: make improvements to streets to beautify the public realm.

The *Pedestrian Plan* also includes a list of fundamental principles to guide street design:

- Strengthen Richmond's existing street network
- Establish right-sized roadways
- Establish compact intersections to encourage cautious auto turning movements
- Provide curb extensions at intersections
- Consider the use of roundabouts and mini circles at intersections
- Provide crosswalk treatments and tools at all intersections
- Consider mid-block crossings for large streets
- Provide ADA-compliant curb ramps on all intersection corners
- Install bicycle lanes

3. Existing Networks

This section provides an overview of the existing circulation, transit, bicycle, pedestrian, and goods movement network.

Circulation Network

The *Richmond General Plan* classifies roadways as freeways, regional connector streets, community connector streets, community activity streets, neighborhood streets, residential streets, and multi-use trails. The vehicle circulation network is shown on **Figure 2~~Figure 2~~,** which is consistent with the circulation network evaluated for the *Richmond General Plan* Circulation Element. Descriptions of the Plan Area streets are provided below, along with a discussion of key issues pertaining to these streets.

Freeways

As defined in the *Richmond General Plan*, freeways only permit automobiles, motorcycles, buses, and trucks. The primary intent of freeways is to efficiently move vehicles.

The only freeway near the Plan Area is I-80:

- **Interstate 80** (I-80) is an east-west transcontinental freeway that crosses the United States from downtown San Francisco to Teaneck, New Jersey. I-80 is a major goods movement corridor, as described in greater detail in the Goods Movement Network

section below. The speed limit is 65 miles per hour (mph) near the Plan Area. Through Richmond, I-80 provides four to five lanes in each direction including a high occupancy (HOV) lane for vehicles with three or more passengers. Access between I-80 and the Plan Area is provided via interchanges at Hilltop Drive which is half a mile away to the east. At the Hilltop Drive on-ramps, peak period congestion levels are high with vehicle speeds reaching below 25% of free flow speeds going westbound in the morning and below 20% of free flow speeds going eastbound in the afternoon.[2] At the Richmond Parkway on-ramps about one mile to the north, peak period congestion levels are moderate-to-high with vehicle speeds reaching below 40% of free flow speeds going westbound in the morning and below 15% of free flow speeds going eastbound in the afternoon.

Regional Connector Streets

Regional connector streets provide access to freeways and accommodate trucks, automobiles, public transit, bicycles, and pedestrians. Regional connector streets have the potential for 4-6 travel lanes, a parking lane, and sidewalks on each side of the street. Development along these streets generally include industrial or office uses. The main regional connector street that serves the Plan Area is Richmond Parkway located about ½ mile to the west via Hilltop Drive.

- **Richmond Parkway** is a 7-mile long north-south road. Richmond Parkway consists of 2-3 lanes in each direction divided by a median with limited landscaping. The speed limit is 50 mph. A sidewalk is not readily available along the entire road. There is a Class I bike path along Richmond Parkway near Point Pinole. Richmond Parkway connects drivers to I-580 towards Marin County and I-80 towards Solano County. The road bypasses Central Richmond providing access to North Richmond and the Hilltop neighborhood. AC Transit line 376 and WestCAT line JL/JR operate on Richmond Parkway near the Plan Area.

Community Connector Streets

Community connector streets link neighborhoods to other parts of the City and prioritize public transit routes. These streets accommodate public transit buses, automobiles, bicycles, pedestrians, and occasionally trucks. Common characteristics of these streets include wider rights-of-way, medians, and the potential of 2-4 travel lanes to aid with traffic flow. Parking lanes, wider sidewalks, large streets, and traffic signals are available along these streets. Development includes

[2] I-80 Design Alternatives Assessment, Technical Memorandum, 2022: Traffic data collected for April and May of 2019.

higher-density housing and mixed-uses. The main community connector streets that serve the Plan Area are San Pablo Avenue, Hilltop Drive, Blume Drive, and Robert Miller Drive.

- **San Pablo Avenue** is a four-lane divided north-south roadway that extends from downtown Oakland to Crockett through Berkeley, El Cerrito, Richmond, Pinole, and Hercules. The road from I-580 in Oakland to I-80 in South Richmond at Cutting Boulevard is considered California State Route 123. The remaining portion from South Richmond to Crockett is excluded from the state route designation. San Pablo Avenue is less than ½ mile west of the Plan Area via Hilltop Drive. The speed limit on San Pablo Avenue is between 30-40 mph and a sidewalk is not provided on both or one side of the street in the vicinity of the Plan Area. There is limited landscaping and occasional medians along the roadway. There are some Class II and Class III bike lanes between South Richmond the Plan Area. Transit lines that operate on San Pablo Avenue near the Plan Area include AC Transit lines 72, 72R, 74, 76, 671, and L and WestCAT lines C3, and JL/JR.
- **Hilltop Drive** is a 4-6 lane roadway divided by medians with some landscaping. The speed limit is 35 mph. Hilltop Drive is located within the immediate Plan Area. A sidewalk is provided on the southside of the street. There is a Class II bike lane on both sides of the street. Hilltop Drive serves as a community connector street between I-80 to the east and Richmond Parkway to the west. The street provides access to nearby neighborhoods in the Plan Area and connections to El Sobrante to the east of I-80. AC Transit lines 72, 74, 76, LA, 672, 376 and WestCAT lines JL/JR operate on Hilltop Drive through the Plan Area.
- **Blume Drive** is a four-lane roadway divided by medians with landscaping. This community connector street is on the east side of the Plan Area. The speed limit is 35mph. This roadway connects Hilltop Drive to Richmond Parkway near the Hilltop Drive and Richmond Parkway interchanges with I-80. Blume Drive provides access to the commercial shopping center at Hilltop Plaza, the Richmond Parkway & I-80 Transit Center and the Park and Ride facilities, and the Auto Plaza. There is a mix of Class II, including buffered bike lanes, and Class III bike facilities on Blume Drive. There are sidewalks on both sides of the street along the majority of the roadway except for the area of Blume Drive between the south end of Klose Way and the north end of Auto Plaza. AC Transit lines 70, 71, 76, LA, 376 and WestCAT lines 16, 19, JR/JL, and JPX operate on Blume Drive.
- **Robert Miller Drive** is a four-lane roadway connecting San Pablo Avenue to Hilltop Drive. This street is located to the southwest of the Plan Area. The street is divided by a median with some landscaping. The speed limit is 40 mph. There are Class II bike lanes provided along the roadway and sidewalks on both sides of the street between Hilltop Drive and Hillview Drive. AC Transit line 74 operates on this street.

Community Activity Streets

Community activity streets link various neighborhoods together and link neighborhoods to other parts of the City serving as destinations and the City's "main streets". These streets accommodate all types of travel on 2-4 lanes including public transit, automobiles, walking, and biking. Traffic typically moves slowly on these streets due to high volumes. These streets can include wide sidewalks, large trees, plazas for pedestrian activity, and wider rights-of-way. Development typically includes high-density housing and mixed-uses. There are a limited number of community activity streets in the Plan Area.

- **Hilltop Mall Road** is a four-lane circular roadway serving as a community activity street around the Hilltop Mall area. This roadway provides access to commercial, industrial, and school sites within the Plan area. The roadway is divided with minimal landscaping and has five connection points to the street network serving Richmond. There are no stop signs or signals throughout the entire roadway despite the mix of vehicle and pedestrian activity. The speed limit is 25 mph. There are sidewalks on the outer portion of the street between Hillview Drive and Klose Way (along the residential and commercial frontages) but none along the Hilltop Mall parking lot boundary. There is only one ADA-compliant crosswalk across Hilltop Mall Road approximately 60 feet west of Shane Drive. Bike lanes are absent throughout the entire roadway. AC Transit routes 72, 74, 76, LA, and 376 and WestCAT lines 19 and JL/JR operate on Hilltop Mall Road.

Neighborhood Streets

Neighborhood streets connect different parts of a neighborhood prioritizing walking and biking. These streets tend to have slightly less traffic than major roadways and consist of two travel lanes, occasional bike lanes in each direction, and parking with sidewalks on both sides of the street. Neighborhood streets serve residences, mixed-uses, schools, parks, public facilities, and other community amenities. Neighborhood streets are provided within the neighborhoods in/near the Plan Area. Shane Drive south of the Plan Area, Garrity Way southeast of the Plan Area, and Hillview Drive west of the Plan Area are considered neighborhood streets due to their function connecting to residential streets while also having less traffic than community activity streets.

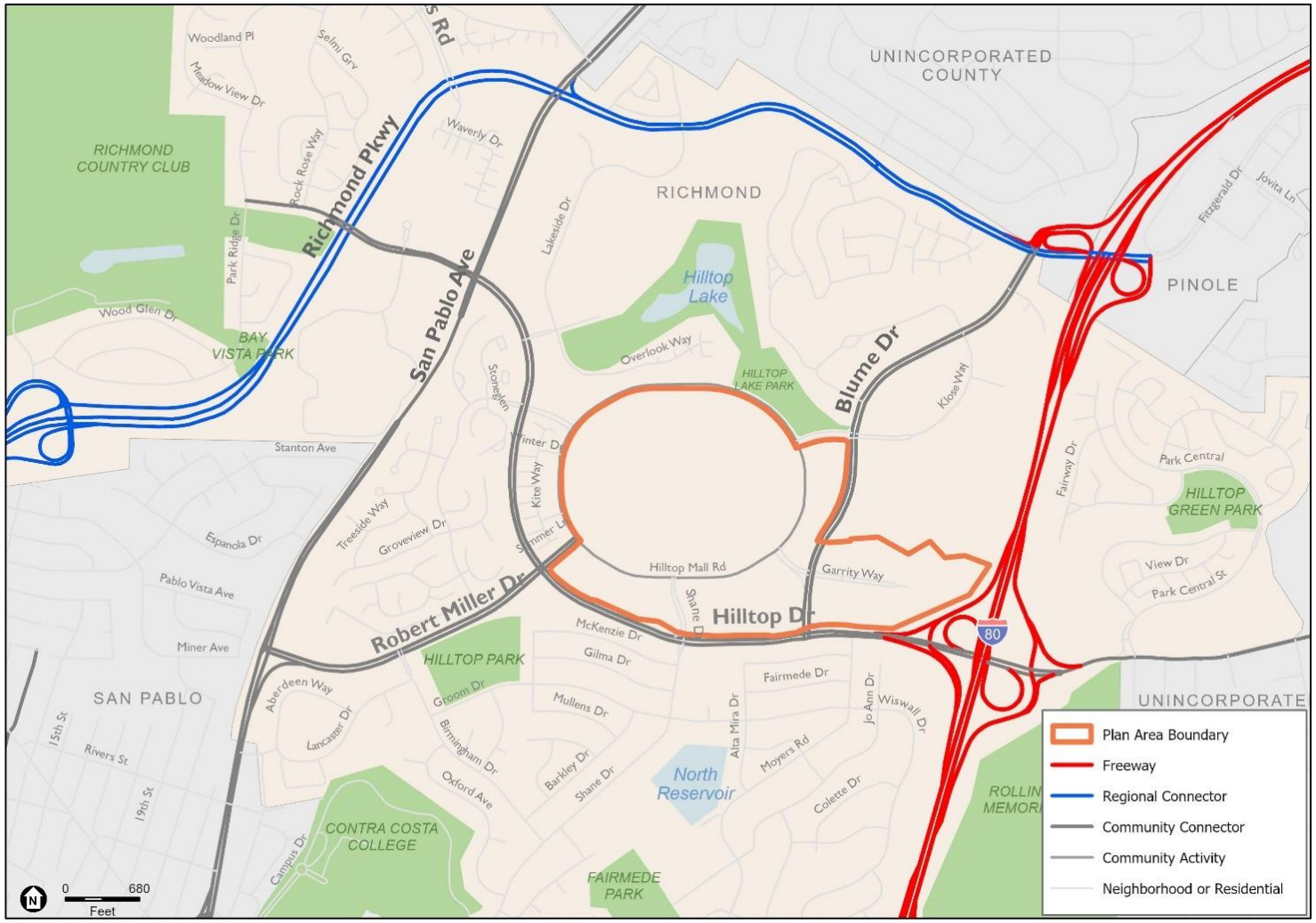
Residential Streets

Residential streets are located within neighborhoods and provide safe environments for families and children by supporting pedestrian and bicyclist activities. These streets accommodate slow moving traffic on 2 travel lanes and provide sidewalks and parking on each side of the street. Automobile traffic is minimized through traffic calming techniques. Residential streets are provided within the residential neighborhoods of the Plan Area including Kite Way, Summer Lane, and Groom Drive located west and south of the Plan Area.

Multi-Use Trails

Multi-use trails refer to bicycle and pedestrian trails, paths, and routes that are separated from other modes of travel. Multi-use trails such as the San Francisco Bay Trail are located primarily in open space areas and along the shoreline. Multi-use trails promote recreation, while providing citywide connections to employment centers, community amenities, parks, schools, transit stops, and public facilities. There is one multi-use trail near the Plan Area around Hilltop Lake Park described in the Bicycle Network section below.

Figure 2: Circulation Network



SOURCE: City of Richmond, 2022; ESA, 2022

Public Transit Network

Transit service in the Plan Area includes Alameda-Contra Costa Transit District (AC Transit) and Western Contra Costa County Transit (WestCAT), which provide local and Transbay bus service; Bay Area Rapid Transit (BART) which provides regional rail service; and SolTrans and The Vine which provide regional express routes along I-80 to El Cerrito and/or San Francisco.

To the northeast of the Plan Area at Blume Drive and Richmond Parkway, the Richmond Parkway Transit Center serves as a local and regional transit stop for AC Transit and WestCAT buses. Transit riders can make transfers at the Transit Center or use the available park-and-ride lot besides the Transit Center to park their vehicles and get on transit. The Richmond Parkway Transit Center is accessible via Richmond Parkway and Fitzgerald Drive with an eastbound and westbound high occupancy vehicle (HOV) lane for buses to merge directly onto the HOV lanes on I-80 West and East. **Figure 3**~~**Figure 3**~~ shows the existing transit services provided within the Plan Area. Each service is described below.

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AC Transit

AC Transit is the primary bus service provider for thirteen cities and adjacent unincorporated areas in western portions of Alameda and Contra Costa counties. AC Transit operates local bus lines, rapid bus lines, and Transbay service connecting the East Bay to San Francisco, San Mateo, and Santa Clara counties. AC Transit operates ten bus routes within the Plan Area. In comparing average daily ridership during the 2019-2020 fiscal year (FY19/20) and FY20/21, AC Transit saw an average 55% decrease on the ten routes operating in the Plan Area. The LA transbay route in particular saw over a 90% decrease with the onset of work-from-home mandates during the pandemic. The characteristics of the AC Transit routes operating in the Plan Area are summarized in **Table 1**~~**Table 1**~~ and reflect current service conditions.

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Table 1: AC Transit Service Summary

Line	Route	Weekday		Weekend		FY20/21 Avg Daily Ridership	Avg Daily Ridership % Change FY 19/20 Vs. FY 20/21
		Hours	Headway	Hours	Headway		
70	Richmond Parkway Transit Center to Richmond BART	6:50AM to 7:50PM	1 hour	6:53AM to 7:53PM	1 hour	328	-54.8%
71	Richmond Parkway Transit Center to El Cerrito Plaza BART	6:20AM to 8:20PM	1 hour	6:25AM to 8:25PM	1 hour	407	-62.9%
72	Hilltop Mall to Jack London Square	5:26AM to 9:25PM	30 min	5:10AM to 9:40PM	30 min before 7:45PM, 40 min after 7:45PM	1,957	-39.6%
72R	Contra Costa College to Jack London Square	6:00AM to 7:00PM	12 – 15 min	6:59AM to 6:58PM Saturdays, 7:03AM to 7:02PM Sundays	15 min	2,500	-41.3%
74	Castro Ranch Road/Hilltop Mall to Harbour Way South (Richmond Marina)	5:10AM to 9:43PM	30 min	7:45AM to 07:45PM	1 hour	452	-58.8%
76	Richmond Parkway Transit Center to El Cerrito Del Norte BART Station	5:32AM to 7:33PM	30 min	6:33AM to 7:33PM	30 min	1,013	-49.6%
376	Fitzgerald Dr/Best Buy to El Cerrito Del Norte BART Station	8:18PM to 3:18AM	30 mins	8:15PM to 3:17AM	30 min	165	-32.8%
671, 676	De Anza High School to Contra Costa College	7:47AM, return 1:34PM and 2:49PM	1 departing route only, 2 returning routes in the evening	N/A	N/A	671: N/A 676: 16	671: N/A[1] 676: -88.2%

Line	Route	Weekday		Weekend		FY20/21 Avg Daily Ridership	Avg Daily Ridership % Change FY 19/20 Vs. FY 20/21
		Hours	Headway	Hours	Headway		
672	Soskin Middle School (El Sobrante) to La Puerta Dr/San Pablo Ave	7:40AM to Soskin Middle	1 departing route only	1:34PM and 2:49PM to La Puerta Dr.	1 returning route only	13	-69.2%
LA	Hilltop Park and Ride to Salesforce Transit Center (San Francisco)	6:37AM to 7:34AM to San Francisco	1 hour	5:25PM to 6:35PM to Hilltop	20 – 25 min	43	-93.9%

Notes:
1. Average ridership for 2020 is not available for line 671 because the route was temporarily suspended in March 2020.

Source: AC Transit, February 2022; Fehr & Peers, 2022.

Western Contra Costa County Transit (WestCAT)

WestCAT is a public transit service provider in west Contra Costa County. It serves the cities of Martinez, Hercules, Pinole, Richmond, and El Sobrante and the unincorporated areas of Crockett, Rodeo, and Montalvin Manor. WestCAT provides local and express service between Martinez and Richmond, and Transbay services (Lynx buses) between Hercules and San Francisco. WestCAT operates seven bus routes within the Plan Area as summarized in Table 2~~Table 2~~. The routes reflected below were last updated September 2021.[3] In comparing annual ridership between FY19/20 and FY20/21, WestCAT saw an average 55.6 % decrease on the seven routes operating in the Plan Area.

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Table 2: WestCAT Transit Service Summary

Line	Route	Weekday		Weekend		FY20/21 Annual Ridership[1]	Annual Average Change FY 19/20 Vs. FY 20/21[1]
		Hours	Headway	Hours	Headway		
16	Richmond Parkway Transit Center to Pinole	5:33AM to 7:20PM	30 min	N/A	N/A	19,990	-58.1%
19	Hercules Transit Center to Hilltop Mall	N/A	N/A	8:59AM to 8:47PM	45 – 50 min	2,079	-25.8%

[3] WestCAT, System Map with All Routes, 2021, https://www.westcat.org/home/SchedSysMap.

Line	Route	Weekday		Weekend		FY20/21 Annual Ridership[1]	Annual Average Change FY 19/20 Vs. FY 20/21[1]
		Hours	Headway	Hours	Headway		
C3	Hercules Transit Center to Contra Costa College	7:06AM to 07:41PM	30 min	N/A	N/A	24,288	-53.1%
JL	Hercules to El Cerrito Del Norte BART Station via Hilltop Mall	4:24AM to 10:21PM	1 hour	7:10am to 8:30PM	80 min	86,167	-60.8%
JR	Hercules to El Cerrito Del Norte BART Station via Richmond Parkway Transit Center	4:54AM to 10:51PM	1 hour	7:50AM to 7:50PM	80 min	86,167	-60.8%
JX/ JPX	Hercules Transit Center to El Cerrito Del Norte BART Station via Richmond Parkway Transit Center	9:10AM to 04:10PM	40 min	N/A	N/A	49,115	-56.5%
Lynx	Hercules Transit Center and/or Rodeo Park and Ride to San Francisco Salesforce Transit Center via I-80	5:00 AM to 07:25PM	20 – 40 min	N/A	N/A	69,477	-74%

Notes:

1. JL/JR data is combined on WestCAT's Passenger & Productivity Statistical Report.

Source: WestCAT September 2021, Fehr & Peers, 2022.

Regional Express Routes

Two additional transit agencies operate express bus service in the City of Richmond along I-80, but do not exit at either the Richmond Parkway or the Hilltop Drive interchanges. The Vine and Solano County Transit (Soltrans) provide express bus services starting north of the Plan Area and make their final stop at the El Cerrito Del Norte BART station or continue to San Francisco as described in **Table 3~~Table 3~~**.

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The Vine transit is operated by the Napa Valley Transportation Authority (NVTA) serving Napa and Solano counties with one route serving the El Cerrito Del Norte BART station. Soltrans provides public transportation for south Solano County through local and express routes. Soltrans operates twelve local routes and three express routes connecting to El Cerrito Del Norte BART, Walnut Creek BART, and San Francisco.

Table 3: Regional Express Transit Service Summary

Agency	Line	Route	Weekday		Weekend	
			Hours	Headway	Hours	Headway
The Vine	29	Napa to El Cerrito Del Norte BART Station	4:30AM to 5:20PM	30 min before 9AM and after 3:50PM, every hour between 9AM and 3PM	N/A	N/A
Soltrans	R	Suisun City/Fairfield/Vallejo to El Cerrito Del Norte BART Station	4:30AM to 11:00PM	1 hour	7:00AM to 9:53PM Saturday Only	1 hour
Soltrans	82	Vallejo Transit Center to San Francisco Ferry Terminal	5:15AM and 9:18PM	2x a day	N/A	N/A

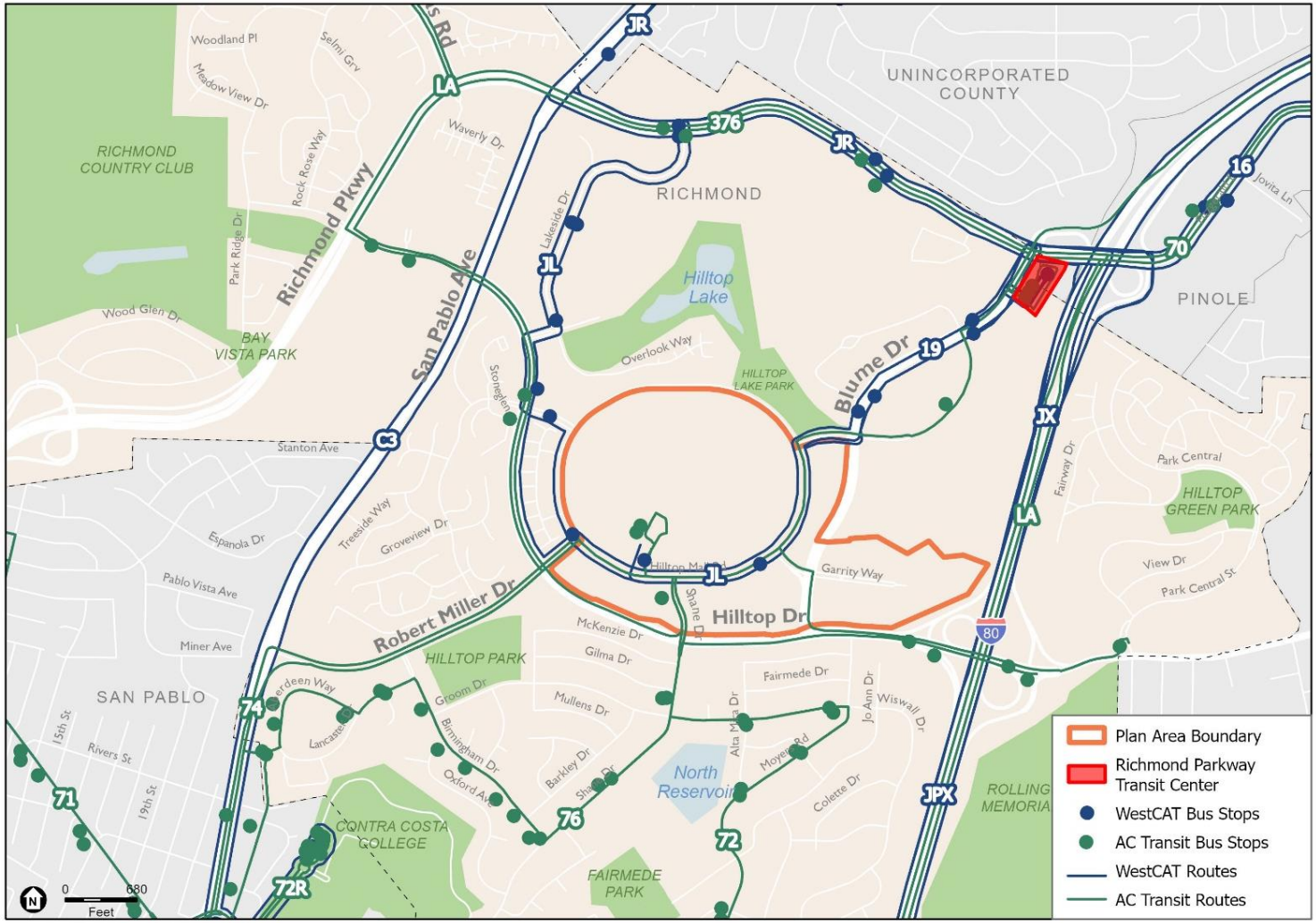
Source: The Vine, November 2021; Soltrans, April 2022.

BART

The Plan Area does not include a BART station. There are AC Transit routes and WestCAT routes in the Plan Area providing service to the nearest BART stations at Richmond BART and El Cerrito Del Norte BART. The Richmond BART Station is located about four miles to the south and is accessible by AC Transit routes 74 and 76. The El Cerrito Del Norte BART station is located 5 miles to the south and is accessible using routes 72, 76, 376 on AC Transit, and routes JL/JR using WestCAT.

Both Richmond and El Cerrito Del Norte BART stations are served by two BART lines: the orange Richmond – Berryessa North San Jose line and the red Richmond – SFO/Millbrae lines. The orange line operates at a frequency of 15 minutes from 5:00AM to 8:00PM on weekdays, 20 – 30 minutes from 8:00PM to midnight on weekdays, and every 30 minutes on weekends from 6:19AM to midnight on Saturdays, and every 30 minutes from 7:20AM to midnight on Sundays. The red line operates at a frequency of 15 minutes from 5:00AM to 7:00PM on weekdays, 30 minutes from 6:00AM to 5:30PM on Saturdays, and 7:30AM to 7:00PM on Sundays. Evening to late evening service to SFO/Millbrae is provided via the orange line and transferring to the yellow line Antioch/SFO train or the yellow to orange line to return to Richmond. Both the red and orange lines follow the same path south to Downtown Oakland doubling the frequency of trips along this segment of the BART corridor at a frequency of 7-8 minutes.

Figure 3: Existing Transit Services



Bicycle Network

The *Richmond Bicycle Master Plan* (BMP) (November 2011) classifies bicycle facilities according to the Caltrans guidelines and design standards documented in "Chapter 1000: Bikeway Planning and Design" of the Highway Design Manual (HDM, 5th Edition, California Department of Transportation, January 2001). The current BMP includes three facility types, although the Caltrans standards now include four types. The Caltrans standards describe the four distinct bikeway facilities below:

- **Class I Bikeways (Multi-Use Path)** are facilities with exclusive right-of-way for bicycles and pedestrians where crossflow with vehicles is minimized.
- **Class II Bikeways (Bike Lanes)** are established along streets where there is significant bicycle demand. Bike lanes provide a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Vehicle parking and vehicle/pedestrian crossflow are permitted.
- **Class III Bikeways (Bike Route)** are shared facilities which serve to designate preferred routes through high demand corridors or provide continuity to other bicycle facilities. Bike routes provide for a right-of-way designated by signs or pavement markings for shared use with motor vehicles. While a basic Class III route may simply have signs and markings, a Bicycle Boulevard is a special type of shared route that optimizes bicycle travel. **Bicycle boulevards** can have a variety of traffic calming elements to improve safety and comfort for bicyclists.
- **Class IV Bikeways (Separated Bikeway)** is a bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and vehicular traffic. The separation may include, but is not limited to, grade separation, flexible or inflexible posts, on-street parking, or inflexible barriers. This facility is not included in the current BMP, but it is included in the current Caltrans HDM.

Bicycle access within the Plan Area is characterized by Class II bikeways with one Class III bikeway connecting Hilltop Drive to Blume Drive near Garrity Way. Existing bicycle facilities within the Plan Area are shown on **Figure 4~~Figure 4~~.** The gaps in the existing bikeway network in the vicinity of the Plan Area include:

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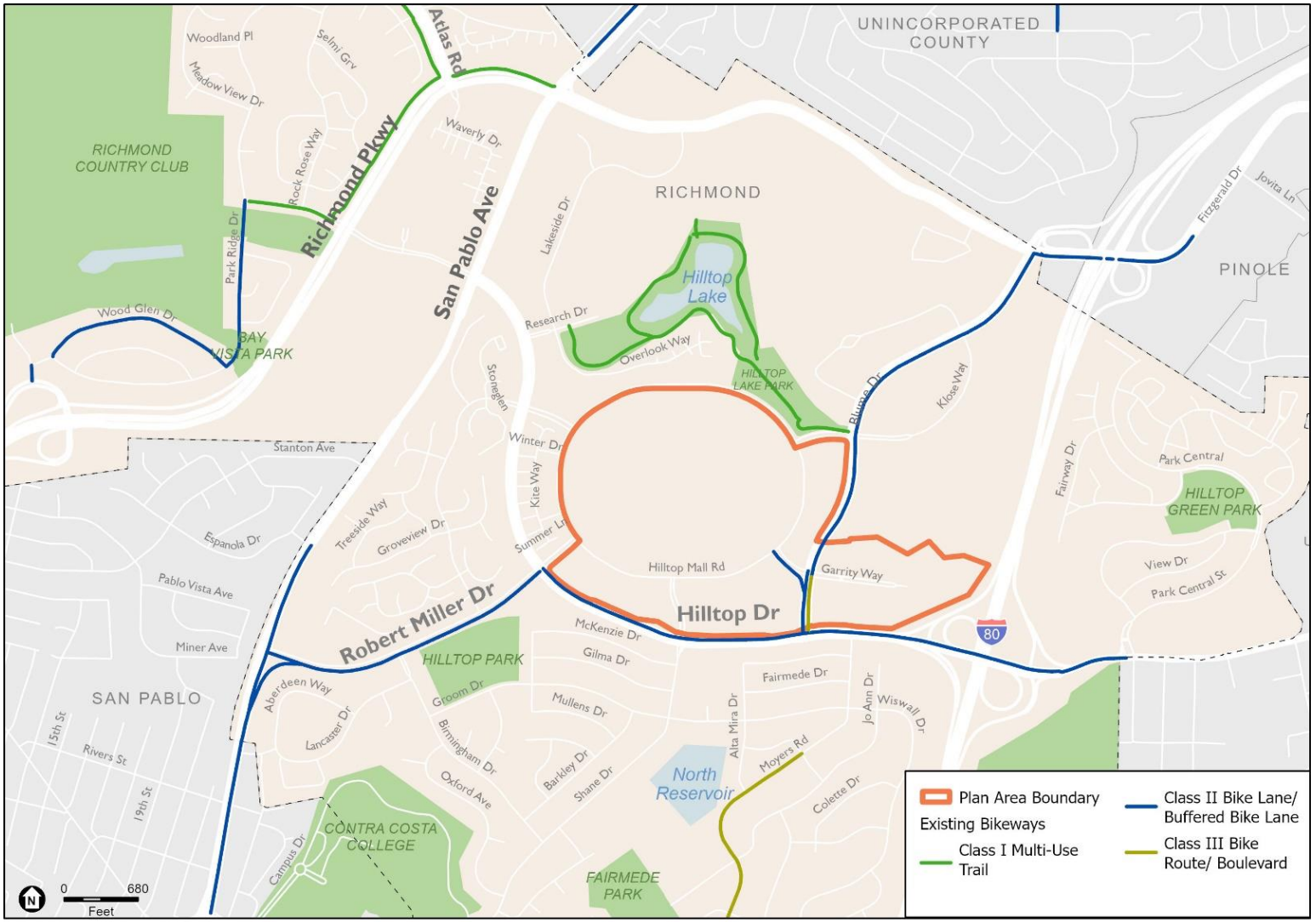
- Hilltop Drive from Robert Miller Drive to Richmond Parkway for the Bay Trail connection
- San Pablo Avenue from La Puerta Road to Kay Road
- Lakeside Drive from the Hilltop Lake Path to the Richmond Parkway Bay Trail Connection
- Moyers Road from Benjamin Drive to Hilltop Drive
- Flannery Road through Tara Hill Drive connecting to San Pablo Avenue

Figure 4: Existing Bicycle Network



SOURCE: City of Richmond, 2022; ESA, 2022

Pedestrian Network

Pedestrian facilities within the Plan Area include sidewalks and crosswalks as shown on Figure 5~~Figure 5~~**.** The Plan Area is centered on the Hilltop Mall area, and the major corridors near the Plan Area include Hilltop Mall Road and Hilltop Drive.

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The northern portion of Hilltop Mall Road between Hillview Drive and Klose Way is missing both sidewalks and the remaining portion of the street south of Hillview Road and Klose Way are missing at least one sidewalk. For existing one-sided sidewalks on Hilltop Mall Road, they are generally seven feet wide. Hilltop Mall Road between Hillview Drive and Blume Drive is missing at least one sidewalk – those present are 4 to 9 feet wide. Pedestrians must cross up to five lanes on Hilltop Mall Road creating long crossing distances over 90 feet. Similarly, pedestrians must cross up to five lanes on Hilltop Drive creating long crossing distances typically over 100 feet in length.

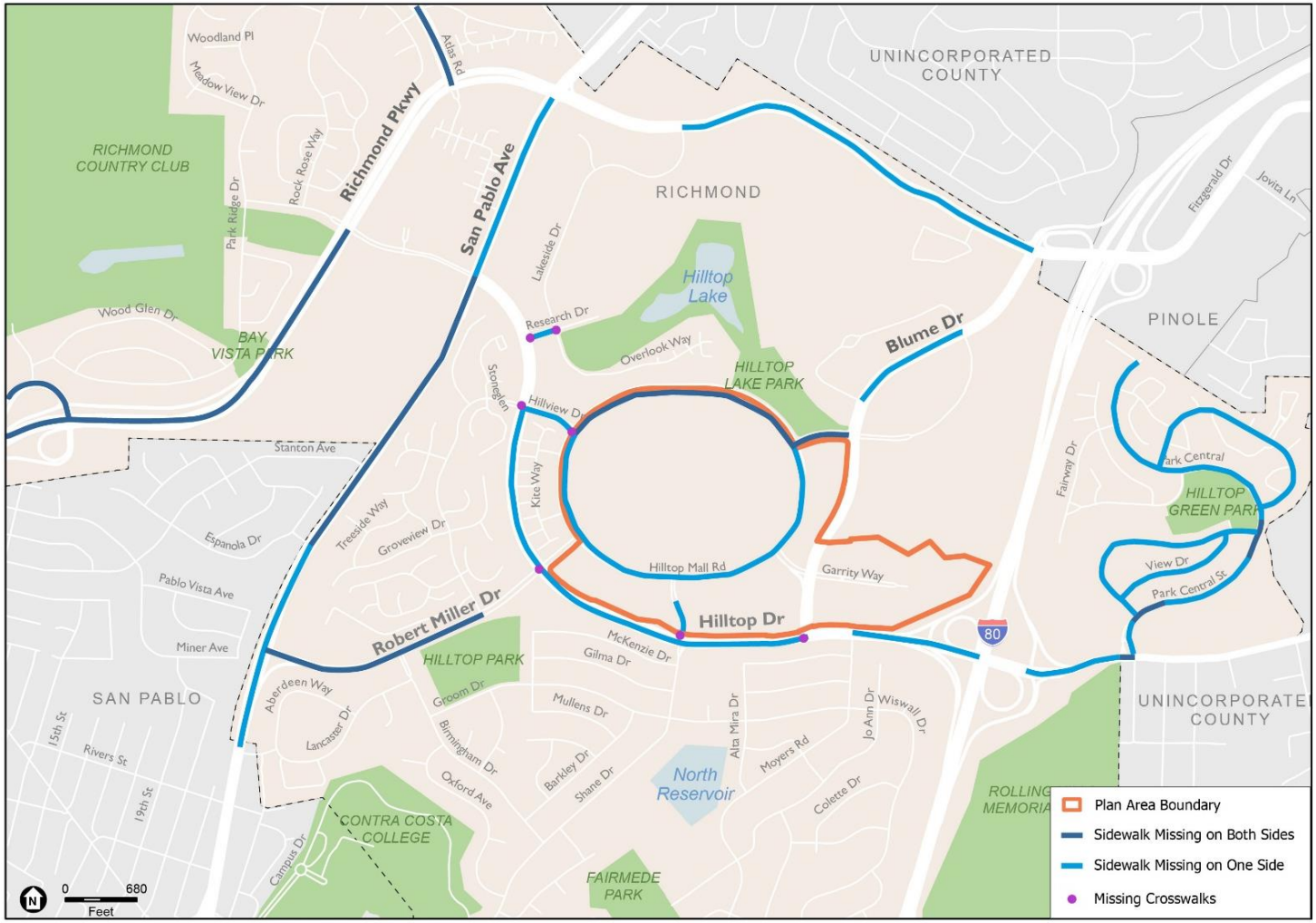
Notable gaps in the pedestrian network include lack of crosswalks, non-standard intersection crossings, and traffic signal failures requiring integral crossing improvements for pedestrians. Generally, there is a lack of crosswalks across Hilltop Mall Road except for a midblock school crosswalk near Shane Drive, preventing a direct crossing for pedestrians traveling from adjacent streets to the Hilltop Mall site. The intersection at Hilltop Drive/Shane Drive and at Hilltop Drive/Robert Miller Drive have non-standard crosswalks, non-standard traffic signals, and pork chop pedestrian refuge islands. The intersection at Hilltop Drive/ Shane Drive has a diagonal crosswalk through the intersection. The Hilltop Drive/ Robert Miller Drive traffic signal is in critical need of an overhaul due to frequent signal failures.

The north side of Hilltop Drive has a sidewalk between San Pablo Avenue and Hillview Drive where a sidewalk gap begins and continues to Blume Drive. East of Blume Drive the sidewalk on the north side of the street continues to the I-80 interchange. The south side of Hilltop Drive has a continuous sidewalk from San Pablo Avenue to Blume Drive. East of Blume Drive, the sidewalk on the south side of Hilltop Drive disappears approaching Moyers Drive. There are a limited number of crosswalks crossing Hilltop Drive and they include a signalized crossing to the east at the westbound I-80 off-ramp as well as one signalized crosswalk at Blume Drive, Shane Drive, Robert Miller Drive, Hillview Drive, and San Pablo Avenue and no crosswalks at Research Drive.

Other major sidewalk gaps in the vicinity of the Plan Area include:

- Hillview Drive between Hilltop Drive and Hilltop Mall Road which is missing both sidewalks
- Klose Way between Hilltop Mall Road and Blume Drive is missing one sidewalk on the north side of the street
- San Pablo Avenue, to the west of the Plan Area, between Robert Miller Drive and Richmond Parkway is missing one or both sidewalks

Figure 5: Pedestrian Network Gaps



SOURCE: City of Richmond, 2017, 2020, 2022; ESA, 2022; Fehr & Peers, 2022

Goods Movement Network

The *City of Richmond General Plan* describes the goods movement connections between the City's port, industrial areas, truck routes, and railroads. The City of Richmond has twenty-eight designated truck routes – many of which are located south of Interstate 580 (I-580) near the port terminals. Those located near the Plan Area include Hilltop Road, Blume Drive, Robert H. Miller Drive, Richmond Parkway, San Pablo Avenue, and I-80. Truck routes are illustrated on **Figure 6**~~**Figure 6**~~ below.

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As a Strategic Interregional Corridor[4] for the San Jose/ San Francisco Bay Area – Sacramento – Northern Nevada area, I-80 is designated as a National Network Surface Transportation Assistance Act (STAA) Route given its importance as an interstate truck corridor.[5] The California Freight Mobility Plan (CFMP) defines I-80 as a multimodal freight route, connecting several maritime ports and airport facilities, and running parallel to rail lines.

[4] Caltrans. Strategic Interregional Corridors, https://www.caltrans-itsp2021.org/corridor-text, accessed December 17, 2021.
[5] Caltrans. CA Truck Network Maps, https://dot.ca.gov/programs/traffic-operations/legal-truck-access/truck-network-map, accessed on December 17, 2021.

Figure 6: Truck Routes

SOURCE: City of Richmond, 2022; ESA, 2022

4. Existing Travel Characteristics

This section provides an overview of general travel characteristics near the Plan Area. Because the Plan Area is largely comprised of the mostly vacant Hilltop Mall and the low-intensity uses on other parcels of the Plan Area, the travel conditions at this location are expected to shift significantly following high-activity development. Given that an existing travel assessment provides little insight into what demand could eventually look like, a cursory assessment of existing traffic volumes, trip distribution, and vehicle miles traveled in the area was completed and is described below.

Traffic Volumes

To assess general traffic demand on streets near the Plan Area, Fehr & Peers used peak hour pre-COVID (2020) traffic count data as traffic conditions have not returned to pre-COVID levels as of 2022. Thus, counts at the 2020 level, pre-COVID, provide a conservative estimate.Table 4Figure 7. The data was utilized from two sources: *Making Waves Academy Expansion Project* (2017)[6] and the *Richmond Country Club Residential Project* (2020)[7]. The traffic counts from the *Making Waves Academy Expansion Project* were collected in 2016. To make the data comparable to 2020 counts from the *Richmond Country Club Residential Project*, Fehr & Peers grew the 2016 counts to 2020 levels by using a one percent per year conservative compounding formula.[8] The resulting traffic volumes are shown in **Table 4~~Table 4~~** and **Figure 7~~Figure 7~~**.

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The segments with the highest volumes are along Richmond Parkway (Segments #2, #3, #6, and #8), which can reach over 2,000 vehicles in the weekday peak periods and over 25,000 vehicles daily. Segments along Hilltop Drive (Segments #7, #10, #12, and #13) see volumes between 10,000 and 30,000 vehicles daily. The higher traffic volumes on Richmond Parkway and Hilltop Drive occur because these roadways have interchange connections with I-80.

[6] City of Richmond, *Making Waves Academy Expansion Project Initial Study* (2017). http://www.ci.richmond.ca.us/DocumentCenter/View/42024/Making-Waves-Expansion-Initial-Study?bidId=

[7] City of Richmond, *Richmond Country Club Residential Project* (2020). http://www.ci.richmond.ca.us/3977/Richmond-Country-Club-Residential-Project

[8] The MTC travel demand model (MTC Travel Model One V6) was used for the I-80 DAA Project which includes West Contra Costa County. The area traffic growth from the model was roughly 0.7% per year between forecast years 2020 and 2026. To be conservative, 1% was used.

Table 4: Existing Segment (Two-Way) Traffic Volumes

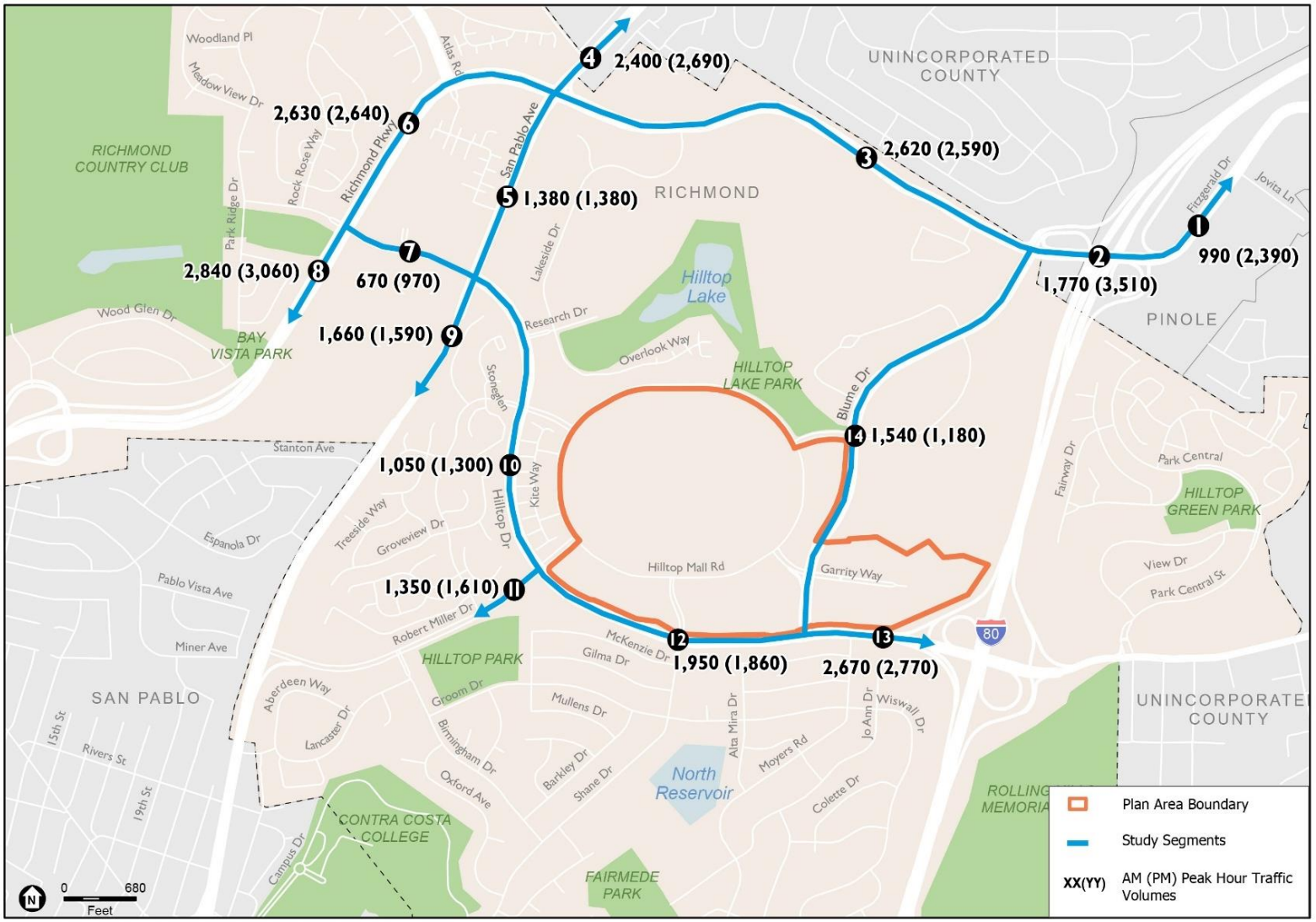
ID	Street	Location	AM Peak Hour [1]	PM Peak Hour [1]	Daily [2]
1	Fitzgerald Dr	East of I-80 NB Ramp	990	2,390	26,290
2	Richmond Pkwy	I-80 NB Ramp to Blume Dr	1,770	3,510	38,610
3	Richmond Pkwy	Blume Dr to San Pablo Ave	2,620	2,590	28,490
4	San Pablo Ave	North of Richmond Pkwy	2,400	2,690	29,590
5	San Pablo Ave	Hilltop Dr to Richmond Pkwy	1,380	1,380	15,180
6	Richmond Pkwy	Hilltop Dr to San Pablo Ave	2,630	2,640	29,040
7	Hilltop Dr	San Pablo Ave to Richmond Pkwy	670	970	10,670
8	Richmond Pkwy	South of Hilltop Dr	2,840	3,060	33,660
9	San Pablo Ave	South of Hilltop Dr	1,660	1,590	17,490
10	Hilltop Dr	Robert Miller Dr to San Pablo Ave	1,050	1,300	14,300
11	Robert Miller Dr	South of Hilltop Dr	1,350	1,610	17,710
12	Hilltop Dr	Blume Dr to Robert Miller Dr	1,950	1,860	20,460
13	Hilltop Dr	East of Blume Dr	2,670	2,770	30,470
14	Blume Dr	Hilltop Dr to Richmond Pkwy	1,540	1,180	12,980

Notes:

1. The AM peak hour is defined as the one hour between 7AM and 9AM on weekdays with the highest traffic volume and the PM peak hour is defined as the one hour between 4PM and 6PM on weekdays with the highest traffic volume.
2. Average Daily Traffic calculated using a 1:11 ratio of PM Peak Hour trips to Daily trips based on 2019 Streetlight data collected at three locations near the Plan Area (see Gateways in Figure 8). Therefore, Average Daily Traffic = PM Peak Hour Traffic x 11 .

Source: City of Richmond, *Making Waves Academy Expansion Project Initial Study* 2017 & *Richmond Country Club Residential Project* 2020; Streetlight Data, 2019; Fehr & Peers, 2022.

Figure 7: Segment Traffic Volumes



SOURCE: City of Richmond, 2017, 2020, 2022; ESA, 2022; Fehr & Peers, 2022

Trip Distribution

Analysis was performed using location-based service cell phone data from Streetlight to determine trip distribution to the Plan Area, as well as to nearby destinations of various land uses. This analysis examined 2019 weekday trips during the months of March, April, May, September, and October during the 7am – 9am peak period and the 4pm – 6pm peak period. These land use analysis zones were created to determine possible trip distributions for future land uses at the Plan Area. The land use analysis zones include:

- Distribution Center: Amazon Distribution Center located two miles northwest of Plan Area,
- Office Park: office park consisting of several non-profit organizations, medical laboratories, and mailing services located a mile north of the Plan Area,
- Retail: Pinole Vista Crossing retail shopping center located two miles northeast of the Plan Area,
- Multi-family housing: Bella Vista Apartments and Vue 3600 located a mile and a half north of the Plan Area, and
- Single-family housing: homes in the Hilltop neighborhood located one mile south of the Plan Area.

Trips coming from and going to four major areas were assessed: Local Area, the North Area (using I-80 and CA-4), the West Area (using I-580), and the South Area (using I-80 and I-580). The North Area includes cities north of Richmond such as Pinole, Hercules, Rodeo, and other areas of Solano County. The West Area includes Marin County and trips made across the Richmond-San Rafael Bridge. The South Area includes the peninsula, San Francisco, trips made across the Bay Bridge, and cities south of Richmond such as Berkeley, Oakland, and San Leandro. The area east of the Richmond-San Rafael Bridge, north of El Cerrito, and southwest of Pinole make up the Local Area.

The trip distribution zones are shown below in **Figure 8**~~**Figure 8**~~. **Table 5**~~**Table 5**~~ shows the weekday peak period distribution for the land use analysis zones and origin/destination areas. **Table 6**~~**Table 6**~~, **Table 8**~~**Table 8**~~, and **Table 7**~~**Table 7**~~ show percent of trips using the local arterial gateways of Richmond Parkway and San Pablo Avenue, which are also shown on **Figure 8**~~**Figure 8**~~.

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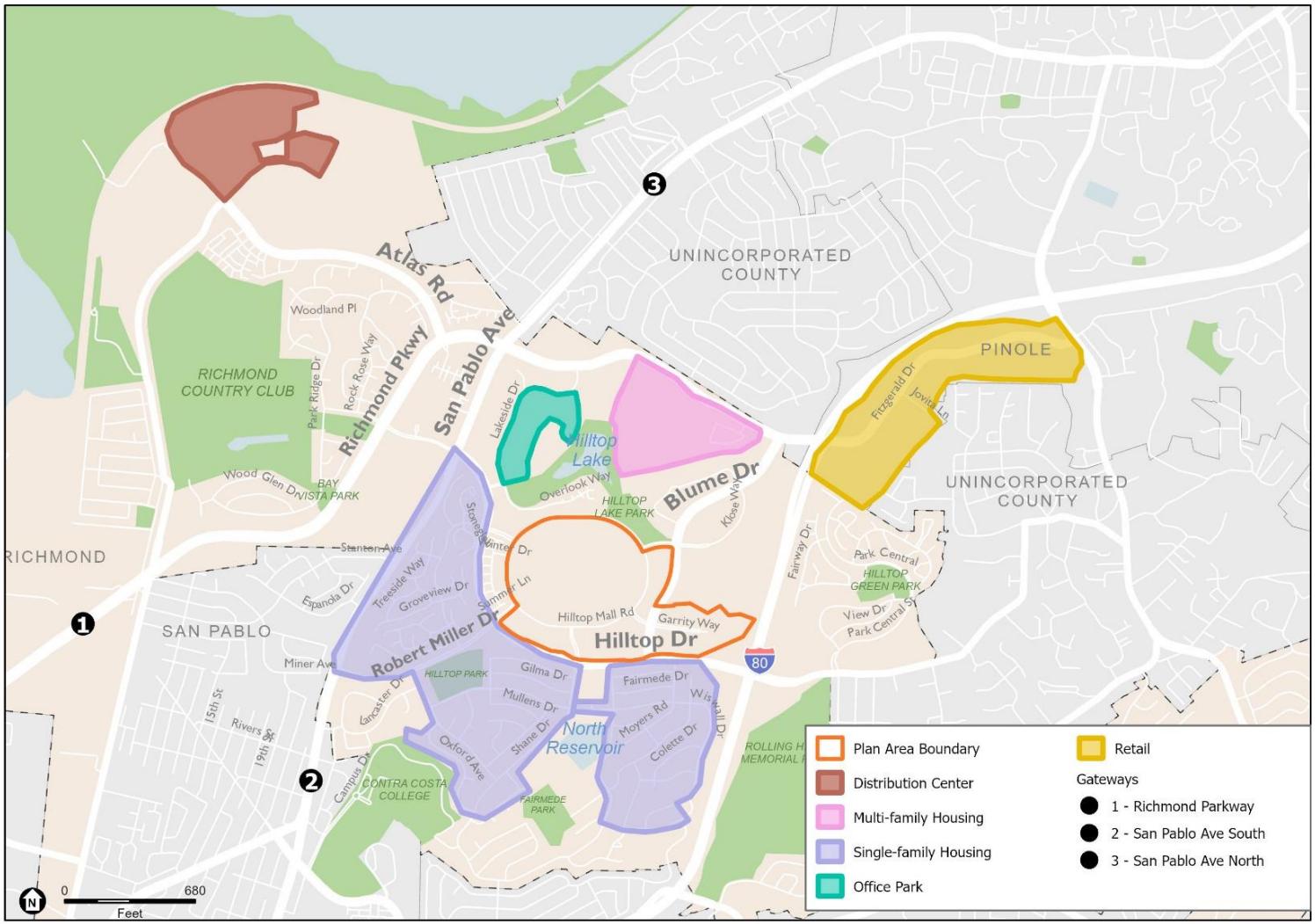
Figure 8: Trip Distribution Zones



SOURCE: City of Richmond, 2022; ESA, 2022

The majority of trips involving each of the land use analysis zones start or end within the Local Area. Currently, the local distribution percentage is highest for the Plan Area at 68 percent, followed by Office at 67 percent. About a third of trips related to Multi-family Housing start or end in the South Area, and nearly 30 percent of Retail trips start or end in the North Area.

Table 5: Weekday AM and PM Peak Period Distribution of Land Uses

	Local Area	North Area (I-80/CA-4)	South Area (I-80/I-580)	West Area (I-580)
Plan Area	68%	16%	15%	1%
Single-Family Housing	62%	11%	25%	2%
Multi-Family Housing	53%	12%	33%	2%
Office	67%	19%	13%	1%
Retail	60%	28%	11%	1%
Distribution Center	51%	23%	20%	6%

Source: Streetlight, 2019; Fehr & Peers, 2022

Most trips coming from or going to the West Area use Richmond Parkway regardless of the land use zone. For the Multi-Family Housing zone, nearly 20 percent of local trips and South Area trips use Richmond Parkway.

Table 6: Percent of Weekday AM and PM Peak Period Trips Traveling Through Gateway #1 Richmond Parkway

	Local Area	South Area (I-80/I-580)	West Area (I-580)
Plan Area	6%	7%	100%
Single-Family Housing	4%	8%	87%
Multi-Family Housing	19%	19%	100%
Office	3%	3%	0%
Retail	5%	8%	100%
Distribution Center	10%	16%	69%

Source: Streetlight, 2019; Fehr & Peers, 2022

A quarter of local trips involving the Plan Area use the San Pablo Avenue South gateway, while 10 percent or more of Housing and Office zone trips use the San Pablo Avenue South gateway. A fifth of the Single-Family Housing zone trips starting or ending in the West Area take San Pablo Avenue.

Table 7: Percent of Weekday AM and PM Peak Period Trips Traveling Through Gateway #2 San Pablo Avenue South

	Local Area	South Area (I-80/I-580)	West Area (I-580)
Plan Area	25%	8%	12%
Single-Family Housing	17%	13%	20%
Multi-Family Housing	10%	6%	2%
Office	12%	8%	0%
Retail	6%	4%	7%
Distribution Center	1%	1%	0%

Source: Streetlight, 2019; Fehr & Peers, 2022

Nearly 40 percent of trips involving the Office zone use San Pablo Avenue coming from or going to the North Area, while just over 15 percent of Single-Family Housing zone trips and Distribution Center zone trips use San Pablo Avenue coming from or going to the North Area.

Table 8: Percent of Weekday AM and PM Peak Period Trips Traveling Through Gateway #3 San Pablo Avenue North

	Local Area	North Area (I-80/CA-4)
Plan Area	2%	7%
Single-Family Housing	4%	16%
Multi-Family Housing	3%	12%
Office	7%	38%
Retail	2%	1%
Distribution Center	3%	17%

Source: Streetlight, 2019, Fehr & Peers, 2022

Vehicle Miles Traveled (VMT)

CEQA documents are required to use VMT to identify the potential impacts of a land use project on transportation. This section presents existing VMT per capita for residential uses and VMT per worker for the Plan Area. The CCTA VMT thresholds would apply to this project and are discussed above in the Regional Regulatory Setting section.

The CCTA Travel Demand Model is a four-step, trip-based model that encompasses the entire nine-county Bay Area region, with additional zonal and network detail within Contra Costa

County. The CCTA maintains a detailed database of land use and demographic data that is used in the model, based on census-tract-level forecasts prepared by the Association of Bay Area Governments (ABAG). This analysis uses the latest version of the CCTA Model, which was released in 2019.

VMT is typically an output from travel demand models and is calculated based on the number of vehicles multiplied by the distance traveled by each vehicle. This analysis uses three different VMT metrics, all estimated by the CCTA Model. Each metric tracks VMT based on the Traffic Analysis Zone (TAZ) of the trip origin and/or destination, and tracks trips throughout the regional network on a typical weekday.

- **Home-based VMT per capita**, appropriate for evaluating residential projects. Home-based VMT is defined as all VMT generated by passenger vehicles making home-based trips where the home end is in a TAZ of interest. The home-based VMT is divided by the number of residents in that TAZ.
- **Commute VMT per worker**, appropriate for evaluating for employment-generating projects. Commute VMT, also called home-work VMT, is defined as all VMT generated by passenger vehicles making home-based work trips (trips from a home to a workplace for the purpose of commuting) where the work end is located in a TAZ of interest. The commute VMT is divided by the number of employees in that TAZ.
- **Total VMT per service population**, appropriate evaluating for regional-serving projects. Total VMT is defined as all VMT generated by both passenger and commercial vehicles making trips of any purpose where either trip end is located in a TAZ of interest. The total VMT is divided by the service population, defined as the sum of the population and the employment in the TAZ.

Table 9~~**Table 9**~~ summarizes the VMT estimates for the TAZs in the Plan Area under 2020 conditions. **Figure 9**~~**Figure 9**~~ shows the TAZs within the Plan Area. For residential uses, the average home-based VMT per resident in the Plan Area is about 10.9, which is lower than the countywide (17.3) and Bay Area region (13.3) averages.

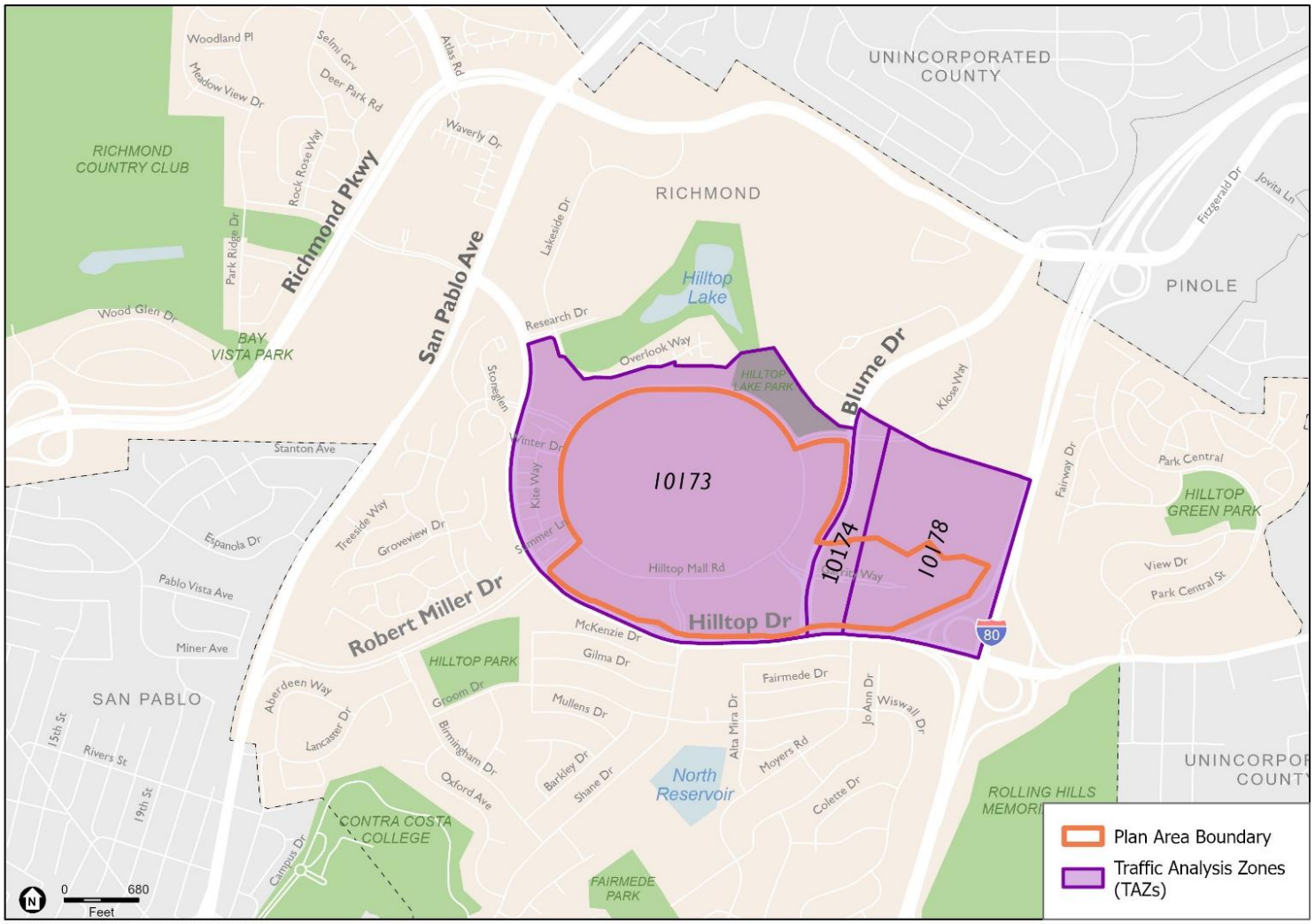
For non-residential uses, the commute VMT per worker for the Plan Area is about 11.4, which is below all the countywide VMT average per worker of 14.9. Lastly, the total VMT per service population for the Plan Area is about 78.2, which is significantly higher than all other compared averages per service population, which is likely due to the shopping mall in TAZ 10173 attracting trips from further distances.

Table 9: Weekday VMT Comparison by Area

TAZ	Home-based VMT per Capita	Commute VMT per Worker	Total VMT per Service Population
10173	10.8	11.2	91.5
10174	12.5	13.1	46.3
10178	10.7	17.5	18.8
All Project TAZs	10.9	11.4	78.2
Contra Costa County	17.3	14.9	30.0
Bay Area Region	13.3	15.6	26.2

Source: CCTA Travel Demand Model, 2020; Fehr & Peers, 2022.

Figure 9: Plan Area Traffic Analysis Zones



SOURCE: City of Richmond, 2022; ESA, 2022

5. Planned Improvements

Fehr & Peers reviewed planning documents to identify recommended and planned transportation improvements within and around the Plan Area. The documents reviewed include:

- Plans and studies with applicable planned or proposed improvements:
    - Richmond Bicycle and Pedestrian Action Plan (Ongoing)
    - I-80 Design Alternatives Assessment (Ongoing)
    - Richmond Capital Improvement Program (2022)
    - Contra Costa County Comprehensive Transportation Project List (2022)
    - Contra Costa Transportation Expenditure Plan (2020)
    - West Contra Costa County Express Bus Implementation Plan (2020)
    - West Contra Costa High-Capacity Transit Study (2017)
    - Richmond Bicycle Master Plan (2011)
    - West Contra Costa Transit Enhancement and Wayfinding Plan (2011)
    - Richmond Parkway Transit Center Planning and Conceptual Design Study (2005)
- Plans and studies without applicable planned or proposed improvements:
    - MTC Transportation Improvement Program (2021)
    - CCTA Quarterly Project Status Report (October – December 2021)
    - First Mile / Last Mile Transportation Strategic Plan (2019)
    - Contra Costa Countywide Bicycle and Pedestrian Plan (2018)
    - CCTA Express Bus Study (2017)
    - Richmond General Plan (2012)
    - Richmond Pedestrian Plan (2011)

Planned or proposed improvements that apply to our Plan Area are detailed below.

Circulation Network Improvements

The CCTA *Transportation Expenditure Plan* (TEP) includes transportation-related projects and programs to be planned, designed, funded, constructed, and/or delivered in Contra Costa County. Of these projects and programs, relieving congestion on highways, interchanges, and major roads is of critical importance to CCTA. Near the Plan Area, CCTA is reserving funding for improvements along I-80 through strategies like expanding intelligent transportation systems, increasing express

bus service, and implementing managed lanes strategies.[9] The I-80 Design Alternatives Assessment (I-80 DAA), which is currently underway, is set to recommend circulation improvements throughout the entirety of the I-80 corridor between Contra Costa and Alameda counties. Some of these improvements may include HOV lane access restrictions, HOV/ bus queue jump lanes, updates to the HOV operating policies, HOV conversion to express lanes, and transit strategies.

The CCTA Comprehensive Transportation Project List (CTPL) is a database of transportation projects for which jurisdictions and agencies are seeking federal or State funding. The CTPL includes circulation projects along Richmond Parkway:

- Atlas Road Interchange: Construct new interchange
- I-80 Interchange: Pavement, signal and vehicle detection upgrades
- Vehicle Detection: Upgrade signals, interconnects and controllers, add video detection at all intersections

For the fiscal year 2020-2021, the City of Richmond's Capital Improvement Program includes the San Pablo Avenue Complete Streets Project—a joint project between the City of San Pablo and City of Richmond.[10] The first phase of the project between Rumrill Boulevard and La Puerta Road has completed construction, while the second phase between La Puerta Road and Hilltop Drive is currently shovel-ready but unfunded. Key elements of the project include modification of the existing road to add Class II bike lanes in each travel direction, sidewalk installation, traffic control, and traffic signal modifications.

Transit Network Improvements

Regional Transit Improvements

The West Contra Costa High-Capacity Transit Study was developed by WCCTAC to evaluate multimodal high-capacity transit options that would enhance transit connectivity and accessibility in West County and to plan for future growth.[11] The Study proposes five medium- to long-term regional transit alternatives for further study, four of which are relevant to the Plan Area:

1. **Express Bus on I-80**: The Express Bus alternative includes freeway-flyer express service on I-80 operating from the Hercules Transit Center (at the I-80/State Route 4 interchange)

[9] Contra Costa Transportation Authority, Transportation Expenditure Plan, p. 22, https://ccta.net/wp-content/uploads/2019/09/CCTA_TEP_Draft24_final_090419_lowres.pdf.
[10] City of Richmond, San Pablo Avenue Complete Streets Project, 2018, https://www.ci.richmond.ca.us/3601/San-Pablo-Ave-Complete-Streets.
[11] WCCTAC, West Contra Cost High-Capacity Transit Study, 2017, https://www.wcctac.org/files/managed/Document/472/WCCTAC%20Final%20Report_20170606.pdf

south to Berkeley, Emeryville, and Oakland. The proposed service has intermediate stops at the Richmond Parkway Transit Center.

2. **San Pablo/Macdonald Bus Rapid Transit (BRT)**: The BRT improvements on San Pablo and Macdonald Avenues approximate the existing 72R Rapid Bus that run along these two streets. The proposed project would introduce BRT service from downtown Oakland to the Richmond Parkway Transit Center, with a potential stop at the Hilltop Mall, and extend Rapid Bus from the Richmond Parkway Transit Center north to the Hercules Transit Center.
3. **23rd Street BRT**: The 23rd Street BRT is a north-south running alignment that serves the planned Richmond Ford Point Ferry Terminal and the Richmond Field Station in the south, runs through downtown Richmond on 23rd Street, continuing through the City of San Pablo's business district, where it transitions to San Pablo Avenue. Continuing north on San Pablo Avenue, the BRT would serve Contra Costa College, Hilltop Mall, and the Hercules Transit Center.
4. **BART Extension from Richmond BART Station**: Two alignments for extending service from the Richmond Station north to a new Hercules Station were considered. Both of the alignments would follow the I-80 corridor, to the east of Richmond Parkway, and would have a potential station at the Hilltop Mall or Richmond Parkway Transit Center. The Study noted concern about the high cost of extending BART service and that securing funding for this effort would be the greatest barrier.

The BRT alternatives listed above are included in the CCTA CTPL. The managed lane strategies in the CCTA TEP can also benefit transit through increased travel time reliability along the I-80 corridor.

Richmond Parkway Transit Center

The *West Contra Costa County Express Bus Implementation Plan*[12], *West Contra Costa Transit Enhancement Strategic and Transit Wayfinding Plan*[13], and the Richmond Parkway Transit Center Planning and Conceptual Design Study[14] provide strategies to enhance the Richmond Parkway Transit Center, including:

[12] WCCTAC, West Contra Costa County Express Bus Implementation Plan, 2020, https://www.wcctac.org/files/managed/Document/876/WCCTAC%20Final%20Draft_2020.02.25_Body%20only_small.pdf

[13] WCCTAC, West Contra Costa Transit Enhancement Strategic Plan and West Contra Costa/Albany Transit Wayfinding Plan, 2011, https://www.wcctac.org/wp-content/uploads/2007/10/Draft-Final-Transit-Enhancement-Wayfinding.pdf

[14] RPTC Planning Group, Richmond Parkway Transit Center Planning and Conceptual Design Study, 2005, https://www.actransit.org/sites/default/files/2020-11/Final-Report-020205.pdf

- On-Site:
    - Improve waiting area with benches, bus shelters and landscaping, as well as public bathrooms.
    - Provide dedicated passenger drop-off area for casual carpoolers to reduce traffic congestion and provide for safe pick-up.
    - Provide bicycle parking spaces and lockers.
    - Develop pedestrian connection between northwest corner and Richmond Parkway.
    - Clear marked walking routes at the transit center.
    - Provide 404 additional stalls through parking structure with 549 stalls and at-grade parking with 61 stalls.
    - Provide electric vehicle charging.
- Off-Site:
    - Provide bus pull-out area on eastbound Richmond Parkway and new transit island.
    - Restripe I-80 westbound off-ramp.
    - Lengthen eastbound right-turn lane on Richmond Parkway to Blume Drive.
    - Convert eastbound #3 lane on Richmond Parkway to HOV right-turn lane on I-80 westbound Direct Access Ramp approach.
    - Add HOV lane on I-80 eastbound on-ramp.
    - Install Shane Drive/Hilltop Drive Transit/Bus Signal Priority Treatment.
    - Install Blume Drive/Klose Way Transit/Bus Signal Priority Treatment.

The Richmond Parkway Transit Center Parking and Access Improvements is a project in CCTA's CTPL and includes signal reconfiguration or timing, improved bus access, 700- to 800-space parking facility, and security improvements at Hilltop Drive park-and-ride lot.

Pedestrian Network Improvements

In addition the on-site Richmond Parkway Transit Center pedestrian improvements listed in the transit section above, the WCCTAC *Transit Enhancement and Wayfinding Plan* and the Richmond Parkway Transit Center Planning and Conceptual Design Study list improvements near the Richmond Parkway Transit Center to address existing issues of high-speed traffic and neglected pedestrian infrastructure. The listed improvements near the Plan Area include:

- Multi-use path connecting the Richmond Parkway Transit Center to the intersection of Richmond Parkway/Blume Drive
- Sidewalks on Richmond Parkway
- Sidewalks on Blume Drive, Garrity Way, Park Central, and Hilltop Drive

- Improved crossings on the west and south edges of the Richmond Parkway Transit Center
- Improved crossings surround I-80 interchanges
- Formal crossing to Hilltop Plaza
- Traffic signals at Blume Drive intersections at Richmond Parkway Transit Center and Hilltop Plaza access roads

The City of Richmond is currently in the process of improving citywide roadway safety through the Travel Safe Richmond, which consists of a *Bicycle and Pedestrian Action Plan* (BPAP) and a *Local Roadway Safety Plan* (LRSP). The BPAP will serve as the blueprint for improving walking and bicycling conditions in the City of Richmond for the next five years.[15] This Plan will consolidate recommendations from the LRSP and coordinate with other Richmond planning efforts to provide near-term bicycle and pedestrian infrastructure recommendations. The draft proposed crossing improvements near the Plan Area include:

- Construct curb extensions at:
    - Hilltop Drive/San Pablo Drive
    - Hilltop Drive/Research Drive
- Remove free right turn lanes at:
    - Hilltop Drive/Robert Miller Drive
    - Hilltop Drive/Shane Drive
    - Hilltop Drive/Blume Drive

Bicycle Network Improvements

The City of Richmond's *Bicycle Master Plan* (2011) proposes bikeway improvements within and near the Plan Area. The City of Richmond determined these proposed routes based on the comfort and access they provide all bicycle riders and on connections to other key locations. For the Plan Area, the City proposes access improvements to the Bay Trail, neighboring jurisdictions, nearby transit hubs, and Central Richmond.

The City of Richmond's ongoing Bicycle and Pedestrian Action Plan will include an updated bicycle and pedestrian network recommendation focused on closing existing gaps, a list of near-term (1-3 year) infrastructure projects focused on bicycle and pedestrian safety and comfort, and an implementation strategy and guidelines for the development of bicycle facilities and off-street

[15] City of Richmond, Travel Safe Richmond, 2022, https://travelsaferichmond.org/

paths. Proposed bicycle improvements surrounding the Plan Area are listed in **Table 10~~Table 10~~** and shown on **Figure 10~~Figure 10~~.**

Table 10: Proposed Bikeway Improvements

Name	From	To	Class
Richmond Parkway	Collins Avenue	Hilltop Drive	IV
Richmond Parkway	San Pablo Avenue	Blume Drive	IV
San Pablo Avenue	La Puerta Drive	Hilltop Drive	II
San Pablo Avenue	Hilltop Drive	Richmond Parkway	IV
Hilltop Drive	Richmond Parkway	Park Central Street	IV
Birmingham Drive	Robert Miller Drive	Oxford Avenue	III
Oxford Avenue	Birmingham Drive	Shane Drive	III
Shane Drive	Oxford Drive	Fordham Street	III
Moyers Road/Drive	Hilltop Drive	Fordham Street	III
Parker Road	Moyers Road/Drive	Wiswall Drive	III
Wiswall Drive	Parker Road	Moyers Road/Drive	III
Groom Drive	Moyers Road/Drive	Birmingham Drive	III
Park Central Street	Hilltop Drive	Park Central Court	IV
Lakeside Drive	Richmond Parkway	Research Drive	II
Research Drive	Lakeside Drive	Hilltop Drive	III
Hillview Drive	Hilltop Mall Road	Hilltop Drive	IV
Robert Miller Drive	Hilltop Mall Road	Hilltop Drive	II
Hilltop Mall Road	Hilltop Mall Road	Hilltop Mall Road	IV
Klose Way	Hilltop Mall Road	Blume Drive	II
Shane Drive	Hilltop Mall Road	Hilltop Drive	IV

Note: This includes the draft proposed network from the Bicycle and Pedestrian Action Plan and is subject to change.
Source: Richmond Bicycle Master Plan, Appendix A: Proposed Bicycle Routes, 2011; Bicycle and Pedestrian Action Plan, 2022.

As discussed in the Transit section above, short-term and long-term bicycle parking is recommended in the Richmond Parkway Transit Center. This is included in the following bicycle parking projects related to the Plan Area in the CCTA CTPL:

- Richmond Pkwy Transit Center: Install bike lockers/racks at the Richmond Parkway Transit Center.

- San Pablo Avenue Bike Parking: Install bike rack on each side of the street every approximately 1/8 mile - or as needed along 11 miles of roadway.

Figure 10: Planned Bikeways