

3

ACCESS AND MOBILITY

The vision for the Plan Area emphasizes improved pedestrian and bicycle connectivity, active streets, and safe connections for all modes of transportation. The primary purpose of this chapter is to further the implementation of previously-approved access and mobility projects in the Plan Area and to propose additional improvements to encourage walking, biking, and taking transit.

This chapter begins by summarizing the policy context and existing conditions that have informed the Station Area Plan, including the policy background, existing circulation network, and planned station access. Following the background information, the chapter describes future improvements in the Plan Area. The chapter: 1) compiles improvements that have been established in other planning documents; and 2) identifies additional improvements. This chapter presents the improvements by mode of travel—pedestrian, bicycle, bus, auto—and a complete list can also be found in Appendix C. Finally, this chapter demonstrates how potential improvements could look with Complete Streets. Potential funding mechanisms are discussed in Chapter 5.

3.1 CONTEXT

This section briefly summarizes existing City policies and existing conditions relevant to access and mobility in the Plan Area.

EXISTING POLICIES

The existing policy documents, listed below and described further in Appendix A, serve as the basis for most of the recommendations for bicycle, pedestrian, and bus infrastructure improvements in the Plan Area, presented in this Station Area Plan.

- **Fremont’s General Plan Land Use Element (2011).** Identifies the Plan Area as a Priority Development Area (PDA) for future growth, creating the potential for increased bus and BART transit ridership and future development that is pedestrian- and bicyclist-friendly.
- **General Plan Mobility Element (2011).** Includes policies to ensure convenient access and intermodal transfer to and from BART

stations, including policies to strengthen pedestrian connections to all BART stations and coordinate scheduling for intermodal connections, and design of the Irvington BART Station for intermodal transfers.

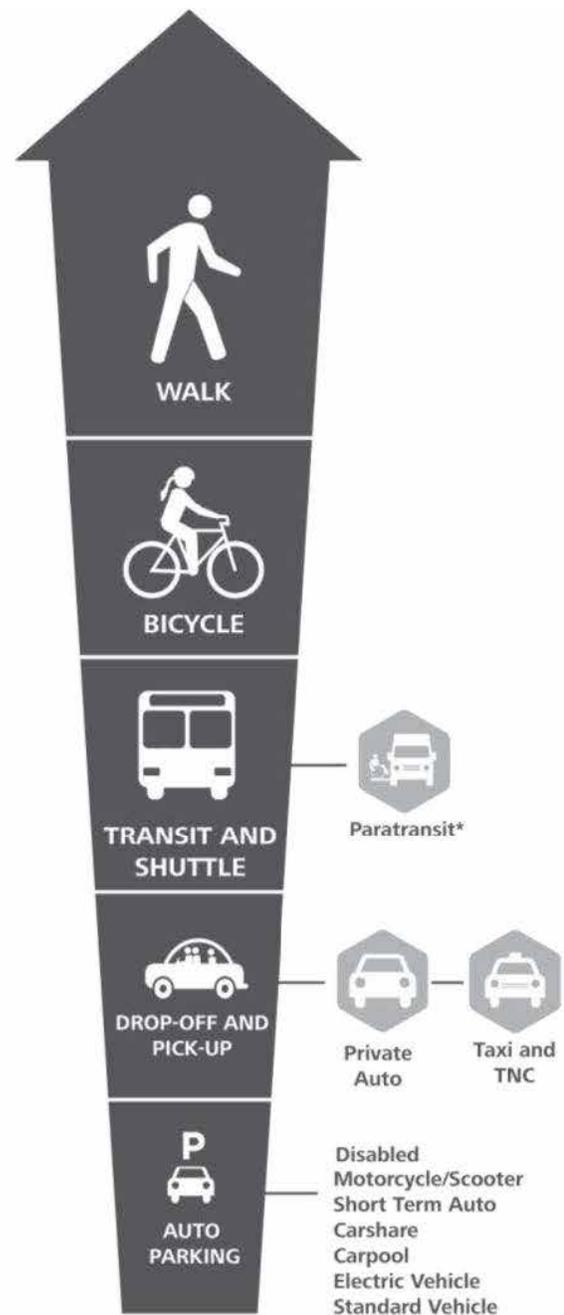
- **City of Fremont Complete Streets Policy (2013).** Establishes Fremont’s commitment to comprehensive and integrated streets designed for all users.
- **Vision Zero 2020 (2016).** Identifies safety as the highest priority for the design and operation of the transportation system.
- **Pedestrian Master Plan (PMP) (2016).** Includes programmatic improvements and specific projects to inspire people of all ages and abilities to walk.
- **Bicycle Master Plan (BMP) (2018).** Includes programmatic improvements and specific projects to create a bicycle network that is pleasant, safe, convenient, and comfortable.
- **Americans with Disabilities Act (ADA) (1990).** The ADA requires all newly constructed and altered facilities, including sidewalks and transit stations, to be accessible to persons with disabilities.

Additionally, BART’s Station Access Policy has informed the Station Area Plan. The Irvington BART Station will be a neighborhood-serving origin station and will prioritize pedestrian access, consistent with BART’s Station Design Hierarchy (shown in Figure 3-1). The Station Area Plan uses the hierarchy as a guideline to provide appropriate connectivity to the BART station, while serving everyone throughout the Plan Area.

EXISTING CONDITIONS

In anticipation of the Irvington BART Station, the City has completed significant improvements to the transportation network within the Plan Area, with the most significant being the Washington Boulevard and Paseo Padre Parkway Grade Separation, which created the Washington Boulevard overpass, realigned the Union Pacific Railroad (UPRR) track and raised the

Figure 3-1 BART Station Design Hierarchy



Source: BART Station Access Policy, 2016

Washington Boulevard/Osgood Road/Driscoll Road intersection to align with the new overpass. In addition, the City reconstructed Osgood Road south of Washington Boulevard adding sidewalks, bike lanes and some median landscaping along Osgood Road. The City has also installed some sidewalks along Roberts Avenue.

The following section describes existing access

and mobility conditions for the Plan Area, including the street network, current circulation, and planned BART service in Fremont.

STREET NETWORK

Primary local roads serving the Plan Area are shown in Figure 3-2 and include:

- **Washington Boulevard.** A four-lane primary arterial with buffered Class II bicycle lanes west of Roberts Avenue, Class II bicycle lanes east of Roberts Avenue, and continuous sidewalks.
- **Fremont Boulevard.** A four-lane primary arterial with a bicycle lane in each direction and continuous sidewalks.
- **Osgood Road.** A four-lane primary arterial that has a bicycle lane in each direction and continuous sidewalks.
- **Driscoll Road.** A four-lane minor arterial with a bicycle lane in each direction and continuous sidewalks.
- **High Street.** A two-lane collector street that shares the roadway with bicycles (a Class III bicycle route), has sidewalk gaps, and provides on-street parking in each direction.
- **Main Street.** A two-lane collector street with a Class III bicycle route on a small stretch, sidewalk gaps, on-street parking in each direction.
- **Roberts Avenue.** A two-lane collector street with a Class III bicycle route, continuous sidewalks, and on-street parking in each direction.

Interstate Highway (I)-680 provides regional access to the Plan Area via Washington Boulevard. I-680 is approximately 0.75 miles east of the station.

EXISTING PLAN AREA ACCESS

This section describes existing access to and through the Plan Area for each mode of transportation.

Pedestrian and Bicycle Access

Pedestrian Network and Facilities

Fremont's existing pedestrian system primarily consists of sidewalks, with some recreational trails (mostly in parks). The Town Center Subarea is a well-established environment for pedestrians, with many businesses fronting the sidewalk. Bay Street is especially pedestrian-friendly, with features such as street furniture, lighting, and crosswalks. However, other streets within the Plan Area have gaps in the sidewalk network (as shown in Figure 3-5), narrow sidewalks, or sidewalks with utility obstructions. The City's PMP identifies about 17 miles of sidewalk gaps within Fremont, 1.3 miles of which are within the Plan Area. Pedestrian access to many of the commercial buildings in the Plan Area is also constrained, as buildings are set back from the street and surrounded by parking, not easily accessible for pedestrians.

Bicycle Network and Facilities

Within the Plan Area, Class II bike lanes exist on Washington Boulevard, Osgood Road, and Driscoll Road. Class III bike routes exist on short segments of Roberts Avenue and High Street. There is also a Class I (off-street) bike and pedestrian trail between the Station Site and Central Park that is described below. The existing bicycle infrastructure in the Plan Area is shown in Figure 3-3.

Trails

The East Bay Greenway (EBGW) is a proposed bicycle and pedestrian trail envisioned to extend through Alameda County from Albany to Santa Clara County. The segment of the trail between the station and Central Park was developed within the former railroad right-of-way and spans 1.25 miles.

The completion of approximately eight miles of the EBGW trail in Fremont—to connect the Community Plan Areas in northern and southern Fremont—has been planned, but several of the connections have not been completed. More information on the EBGW trail is discussed in Section 3.2, Plan Area Improvements, of this chapter.

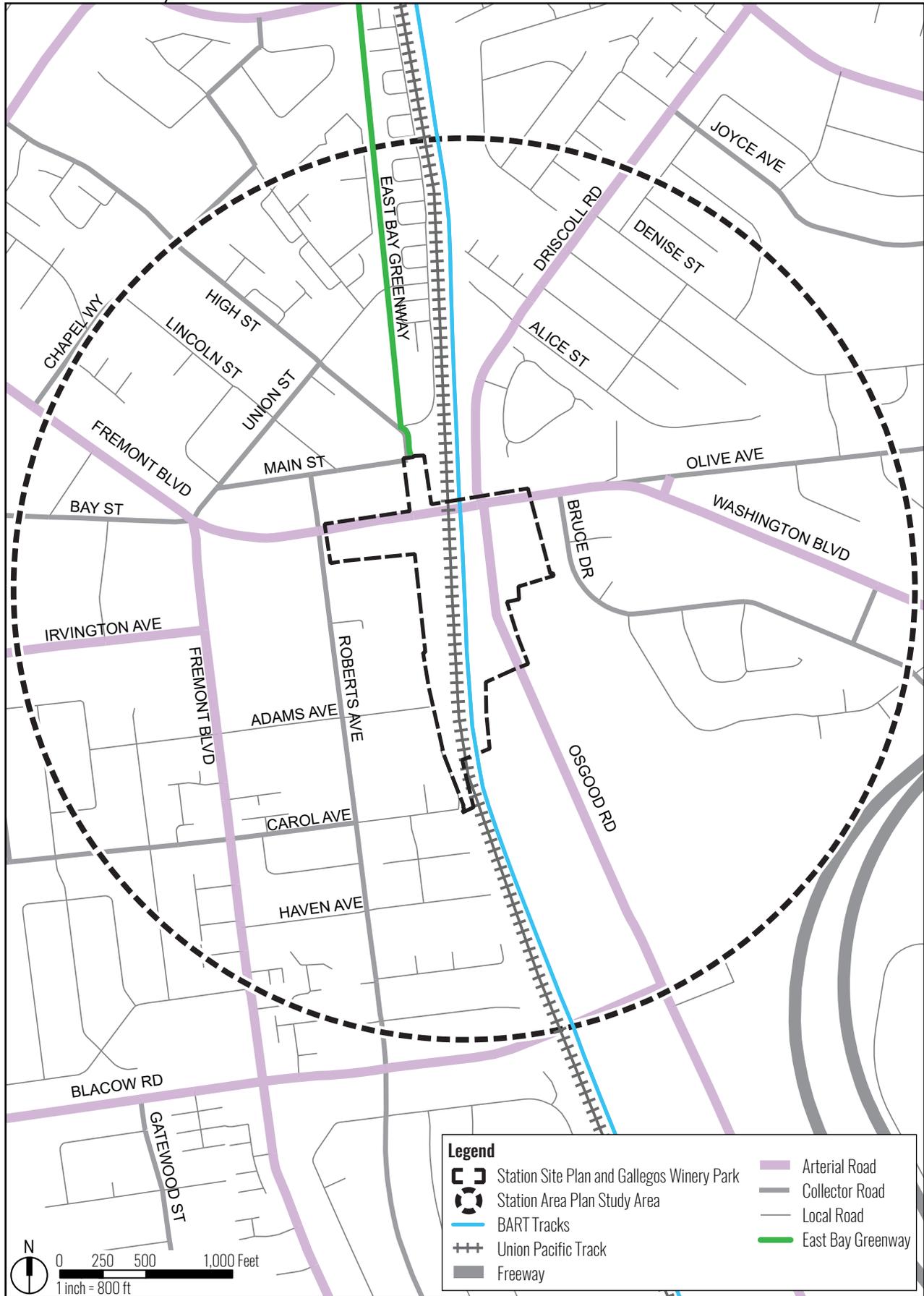


Figure 3-2 - Existing Street Network

The Sabercat Creek Trail, just outside the Plan Area to the southeast, follows one of the last natural riparian areas in Fremont. The City has a scoping effort underway to evaluate a path across I-680 to connect the Plan Area to the existing Sabercat Creek Trail east of I-680.

Transit Access

Existing BART service in Fremont and bus transit service in the Plan Area is described below.

BART

Two BART stations currently serve Fremont: the Fremont BART Station (in Central Fremont) and the Warm Springs/South Fremont BART Station. Both stations are over 1.5 miles from the Plan Area. The two stations are located along both the Warm Springs/Richmond line and the Warm Springs/Daly City line. Each line has 15-minute headways during weekday service hours (4:00 a.m. – midnight) and 20-minute headways on weekends (6:00 a.m. – midnight on Saturdays; 8:00 a.m. – midnight on Sundays).

The Warm Springs/South Fremont Station is currently BART's southernmost station in the East Bay. Due to its nature as a BART line terminus and the primarily suburban nature of the surrounding area, most riders currently access the station by vehicle. This will change over time as the area around the station evolves in accordance with the Warm Springs/South Fremont Community Plan (2014). The Fremont BART Station is also primarily accessed by vehicle. According to 2015 (most recently available) survey data, 44 percent of BART riders drive and park at the Fremont BART Station (single or carpool), 33 percent are dropped off, 15 percent walk or bike, and eight percent take bus transit.

In June 2018, there were about 7,000 daily boardings at the Fremont BART Station and about 3,600 daily boardings at the Warm Springs/South Fremont BART Station. Many Fremont residents use BART to commute north to work in Oakland, San Francisco, and other central Bay Area employment hubs. The future extension of BART service south to Santa Clara

County, including San Jose, will provide access to jobs south of the station.

Bus Transit Service Network and Facilities

Several Alameda-Contra Costa Transit District (AC Transit) bus lines currently serve the Plan Area and the majority have 30-minute headways during most of the day. However, AC Transit is planning major service changes in the near future that will consolidate several lines into high priority corridors to provide more frequent service in those corridors. See Transit Access Improvements under Section 3.2 for more information. According to the City's General Plan, Fremont Boulevard, Washington Boulevard, and Osgood Road are considered primary transit routes in Fremont. The closest bus stops to the Station Site are on Washington Boulevard at Bruce Drive, on Washington Boulevard between Fremont Boulevard and Roberts Avenue, and on Osgood Road adjacent to the Station Site. No private shuttles (e.g., employer shuttles) are known to operate in the area of the Irvington BART Station.

Automobile Access

The I-680/Washington Boulevard interchange, located approximately 0.75 miles east of the Irvington BART Station, provides drivers with convenient freeway access to the Plan Area. Fremont Boulevard, Washington Boulevard, and Osgood Road/Driscoll Road will continue to function as primary and minor arterials through the Plan Area.

3.2 PLAN AREA IMPROVEMENTS

This Station Area Plan builds upon adopted City policies, plans, and recommendations to refine and identify additional access improvements to improve connectivity in the Plan Area. As certain portions of the Plan Area see more Transit-Oriented Development (TOD), the increased population concentration can bolster both bus and BART transit ridership. This Station Area

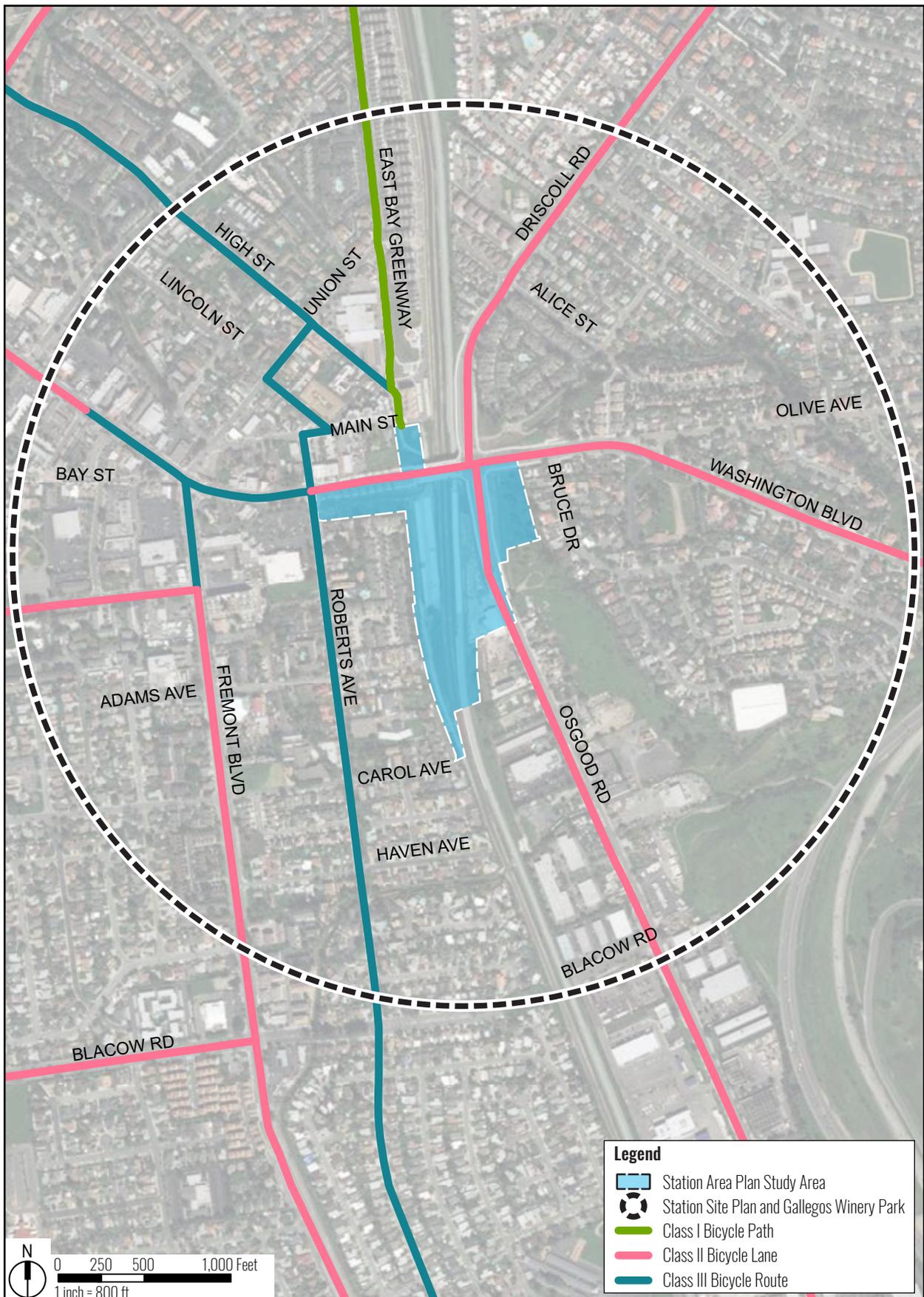


Figure 3-3 - Existing Bicycle Conditions

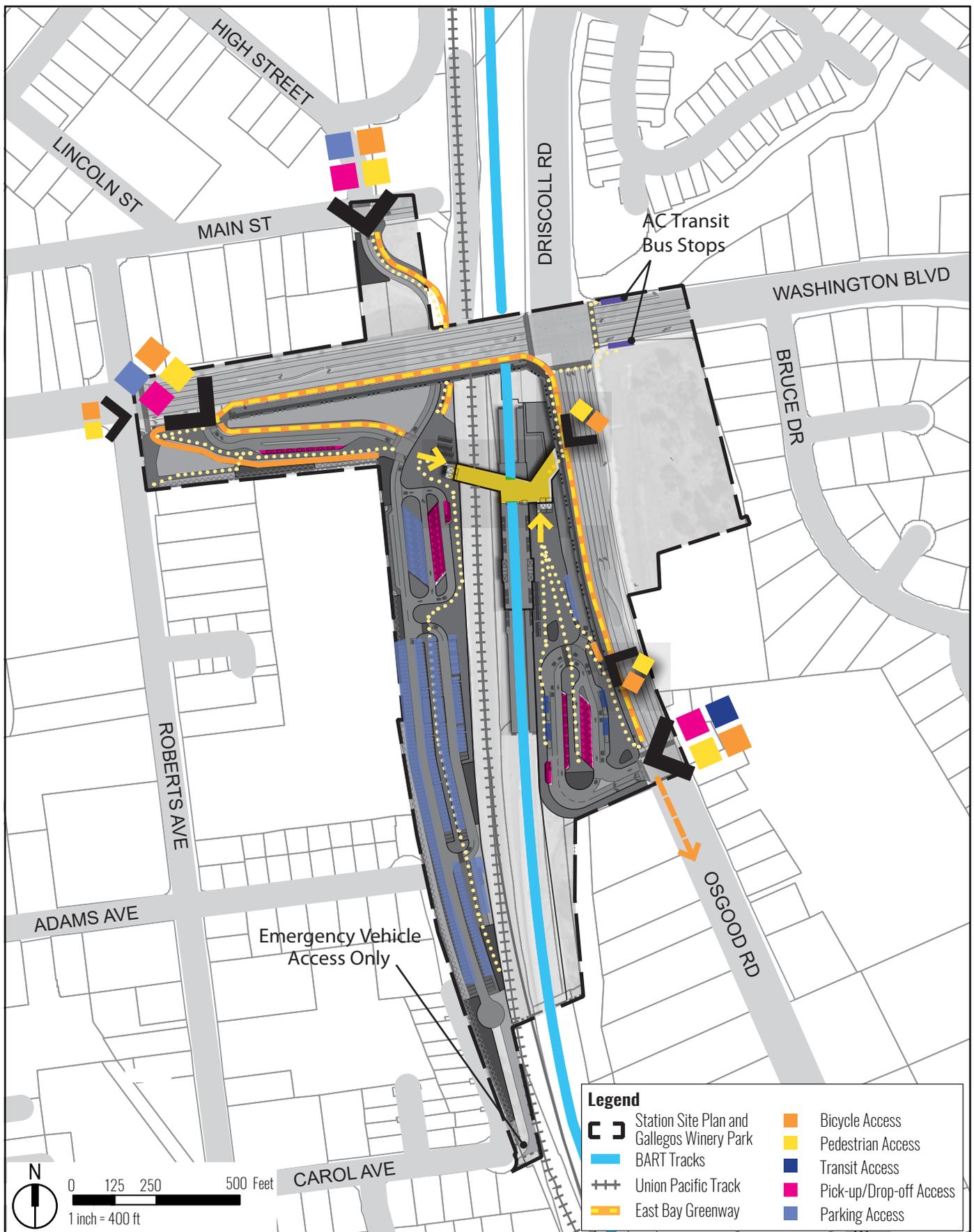


Figure 3-4 - Station Site Plan - Access Map

Plan seeks to facilitate safer and more convenient walking and biking throughout the Plan Area.

This section identifies improvements on local streets for both pedestrians and bicyclists, as well as design solutions for transit staging adjacent to the station and connections from bus, drop-off, and active transportation. The following infrastructure improvements are described by mode and generally by type of improvement. For each mode, the improvements are differentiated between: 1) those that are identified in existing City policy; and 2) additional improvements proposed as part of this Station Area Plan that could be implemented by the City over time as resources permit. Improvements unique to this Station Area Plan are indicated in *italics*. Some of the previously identified improvements are programmatic in nature. Specific locations for the programmatic improvements are provided within the Plan Area.

The improvements identified in the Station Area Plan will be implemented over time either through inclusion in the City of Fremont's Capital Improvement Program (CIP) or by development projects near or adjacent to the new development.

PEDESTRIAN ACCESS IMPROVEMENTS

Continuous sidewalks with appropriate pedestrian amenities will provide safe pedestrian access to the Irvington BART Station from all directions. In compliance with the Americans with Disabilities Act, all newly constructed and improved pedestrian facilities shall be accessible to individuals with disabilities, including those with impaired vision and/or mobility. This section reviews programmatic pedestrian improvements and specific projects from previous planning documents, identifies known sidewalk gaps, and provides additional Station Area Plan recommendations. This section also analyzes potential increases in the pedestrian "walk shed" (the area within a walkable distance to the station) associated with projects that provide improved connectivity.

FREMONT PEDESTRIAN MASTER PLAN RECOMMENDED IMPROVEMENTS

The Fremont PMP recommends a range of citywide pedestrian improvements for the City to consider. Those relevant to the Station Area Plan are summarized in Table 3-1.

Sidewalk Gaps

The PMP recommends continuous sidewalks along all Fremont roadways. Figure 3-5 illustrates the results of a sidewalk gap analysis based on aerials and field work in the Plan Area. Completing the sidewalk where gaps exist will be a priority within the Plan Area to enhance pedestrian access to and from the station. It is expected that most sidewalk gaps will be completed as adjacent properties are developed. However, the City may improve other sidewalks in the Plan Area and will prioritize those that provide direct access to the station.

Pedestrian Crossings

The Fremont PMP also identifies a number of specific locations near the station for uncontrolled crosswalk improvements, although no specific improvements are identified. Some of the potential design solutions included in the PMP Toolkit are flashing beacons, curb extensions, and refuge islands. The specific locations near the station are listed in Table 3-2 and shown in Figure 3-6.

In addition to the pedestrian improvements identified in the PMP as shown in Table 3-1, the Station Area Plan identifies the following improvements for implementation as resources permit, to realize the vision for the Plan Area. Each improvement is shown in Figures 3-7a and 3-7b, as indicated in the parentheses.

- *Extend the curb at the southeast corner of the Fremont Boulevard/Papazian Way intersection.* This improvement is proposed as part of the Station Area Plan (See #1, Figure 3-7a)
- *Square the Union Street/Main Street intersection and provide a traffic calming measure, such as a traffic circle, at the intersection.* This improvement is proposed as part of the Station Area Plan. (See #2, Figure 3-7a)

- Provide a path between the Washington Boulevard/Osgood Road/Driscoll Road intersection and Alice Street along the existing emergency vehicle access. This improvement is proposed as part of the Station Area Plan. (See #3, Figure 3-7a)
- Provide a path between the station and the Middlefield Reservoir, with a future connection to the Sabercat Creek Trail. The City has a scoping effort underway to evaluate the path across I-680. (See #4, Figure 3-7a)
- As part of the overall improvements at Five Corners, consider one or more of the following at the Washington Boulevard/Fremont Boulevard/Union Street/Bay Street intersection: (See #5, Figure 3-7b)
 - Close Bay Street at the intersection to improve access and circulation for all modes of transportation. One option is to convert Bay Street between Washington Boulevard/Fremont Boulevard and the traffic circle into a pedestrian plaza; this would simplify the intersection and reduce both pedestrian/automobile conflict points and signal cycle length. Closing Bay Street is a major policy decision that would require further analysis and review and City Council approval.
 - Reduce the corner radius on the northeast and southeast corners of the intersection, which would potentially include removing the pork chop island.¹ Removal of pork chop islands was programmatically identified in the BMP; this specific location is identified through the Station Area Plan.
- Remove the pork-chop islands at the Osgood Road/Blacow Road intersection. Removal of pork chop islands was programmatically identified in the BMP; this specific location is identified through the Station Area Plan. (See #6, Figure 3-7a)
- Implement traffic calming measures, such as speed humps and/or chicanes, on High Street. High Street is a Class III bicycle route, identified in the City's General Plan as a collector street, that would experience additional traffic as a result of Irvington BART Station. Implementing traffic calming on this street would make it more attractive to pedestrians walking to and from the station. This improvement is proposed as part of the Station Area Plan. (See #7, Figure 3-7a)
- Redesign the Washington Boulevard/Olive Avenue intersection for a traditional T-intersection and restrict the westbound approach as exit only. Shift the existing bus stop on the south side of the intersection away from the crosswalk. (See #8, Figure 3-7b).
- Consider reducing the corner radius at all corners of the Osgood Road/Driscoll Road/Washington Boulevard intersection, and/or reducing lane widths on Driscoll Road to reduce pedestrian crossing distances and vehicle speeds. This improvement is proposed as part of the Station Area Plan (See #9, Figure 3-7b)
- Remove one eastbound lane on Washington Boulevard, and reduce lane and median widths on Osgood Road to provide space for the EBGW and reduce pedestrian crossing distances. This improvement is identified in the Station Site Plan. (See Figure 3-7b and the "East Bay Greenway Access Improvements" section below)

¹Pork chop islands are triangular pedestrian refuge areas at intersections that provide a slip lane for vehicles to turn right.

TABLE 3-1 2016 PEDESTRIAN MASTER PLAN RECOMMENDED IMPROVEMENTS

Engineering Improvement	Description	Plan Area Treatments	Status and Notes
Reduction of Curb Radii	<ul style="list-style-type: none"> Wide curb radii mean that pedestrians have further to walk across the street and can encourage higher vehicle speeds. Consider reducing corner turn radii when determined by an engineering study. 	<ul style="list-style-type: none"> Northeast and southeast corners of the Fremont Boulevard/ Washington Boulevard/ Union Street/ Bay Street intersection; south corners of the Washington Boulevard/ Roberts Avenue intersection 	<ul style="list-style-type: none"> Programmatically adopted in PMP; specific locations recommended as part of Station Area Plan. Reconstruction of the Washington Boulevard/ Roberts Avenue intersection to be part of the Irvington BART Station construction.
Curb Ramps	<ul style="list-style-type: none"> The City would generally retrofit non-compliant curb ramps as part of roadway repaving per ADA requirements. Continue to install curb ramps and upgrade existing ramps to current standards, and install perpendicular curb ramps at major intersections in high pedestrian zones for enhanced pedestrian comfort and safety. 	<ul style="list-style-type: none"> Throughout the Plan Area 	<ul style="list-style-type: none"> Fremont's forthcoming ADA Transition Plan will identify citywide improvements, including curb ramps.
Truncated Domes	<ul style="list-style-type: none"> Also known as tactile warnings, they provide a cue to visually-impaired pedestrians that they are entering a street or intersection. Not required to install at existing curb ramps that were built prior to 2002, but required when repaving and upgrading existing curb ramps. The PMP recommends proactively installing truncated domes at all arterial/arterial and arterial/collector intersections that are adjacent to commercial land uses in pedestrian districts. 	<ul style="list-style-type: none"> Washington Boulevard/ Olive Avenue, Fremont Boulevard/Carol Avenue, Fremont Boulevard/ Adams Avenue, Union Street/Main Street/Lee Street intersections 	<ul style="list-style-type: none"> Programmatically adopted in PMP; specific locations recommended as part of Station Area Plan. Fremont is developing an ADA Transition Plan to identify citywide improvements.

TABLE 3-1 2016 PEDESTRIAN MASTER PLAN RECOMMENDED IMPROVEMENTS

Engineering Improvement	Description	Plan Area Treatments	Status and Notes
Audible Signals	<ul style="list-style-type: none"> Install audible signals, which provide crossing information in non-visual formats, at all new and modified signalized intersections. 	<ul style="list-style-type: none"> Bay Street/Fremont Boulevard/Union Street/Washington Boulevard, and Fremont Boulevard/Carol Avenue intersections 	<ul style="list-style-type: none"> Bay Street/Fremont Boulevard/Union Street/Washington Boulevard intersection was specifically identified in the PMP; other locations were programmatically identified in the PMP and are recommended as part of the Station Area Plan. Signal improvements at the Washington Boulevard/ Roberts Avenue intersection to be part of the Irvington BART Station construction.
High-Visibility Crosswalk Markings	<ul style="list-style-type: none"> The PMP specifies that, “Fremont should install ladder crosswalk marking at all uncontrolled crosswalk locations on arterials and collectors where there are existing transverse style markings.” Ladder crosswalks consist of two parallel lines along the crossing with perpendicular ladder bars striped across the width of the crosswalk. The PMP Pedestrian Design Toolkit (PMP Appendix C) includes recommendations for when to enhance crosswalks beyond crosswalk markings. 	<ul style="list-style-type: none"> This style of crosswalk should be included at all intersections adjacent to the Irvington BART Station 	<ul style="list-style-type: none"> Programmatically identified in PMP and has since been adopted as a new city standard
Curb Extensions	<ul style="list-style-type: none"> Also known as “bulb-outs,” these engineering improvements reduce pedestrian crossing distance and are intended to increase pedestrian visibility. The PMP recommends, “Fremont should consider installing curb extensions at crosswalk locations where appropriate.” 	<ul style="list-style-type: none"> Northeast corner of the Washington Boulevard/ Olive Avenue intersection 	<ul style="list-style-type: none"> Fremont has a Highway Safety Improvement Program grant project currently under design to provide pedestrian improvements, including curb extensions, at this intersection.

Sources: City of Fremont Pedestrian Master Plan, 2016; Fehr & Peers, 2019.

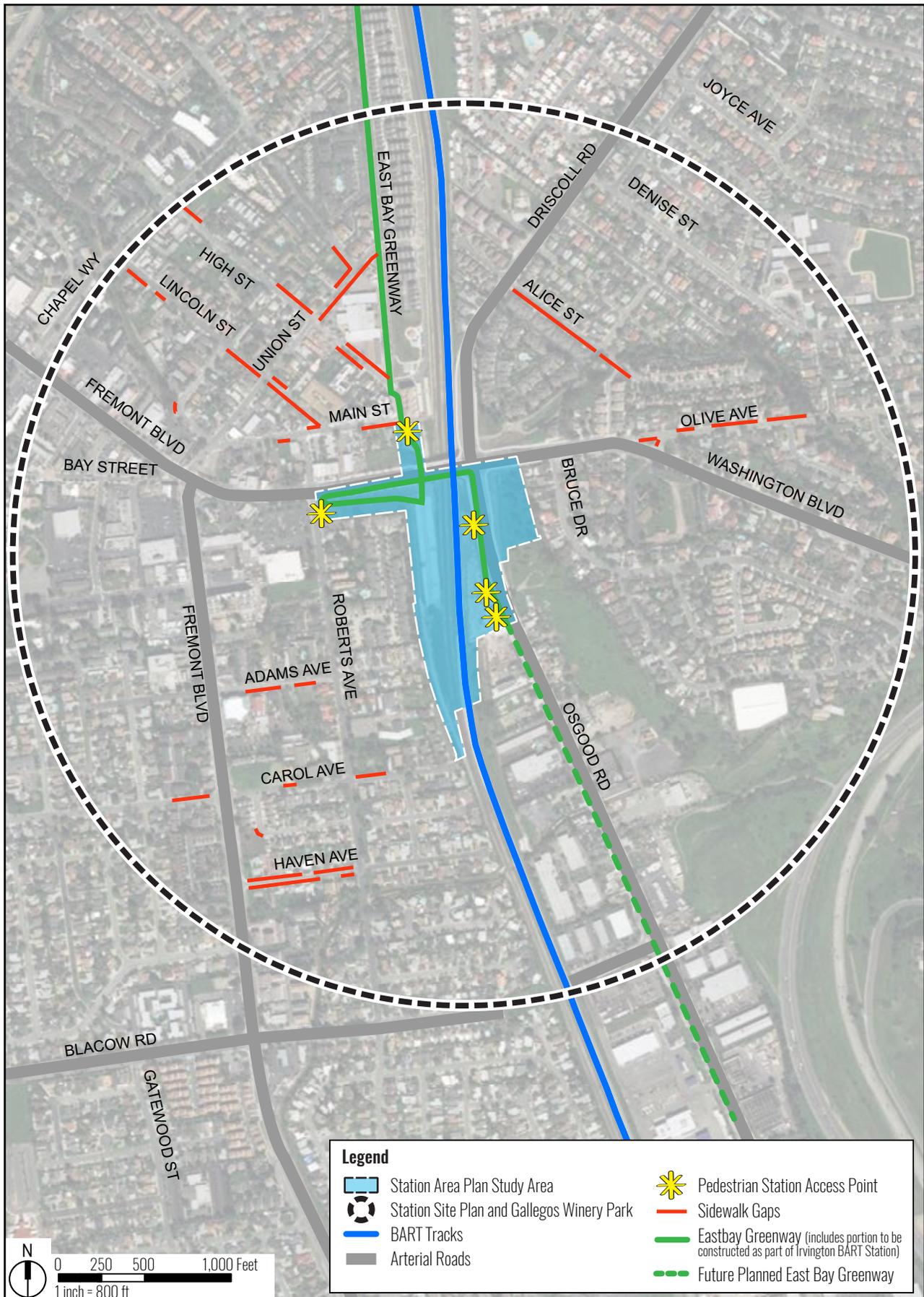


Figure 3-5 - Sidewalk Gaps

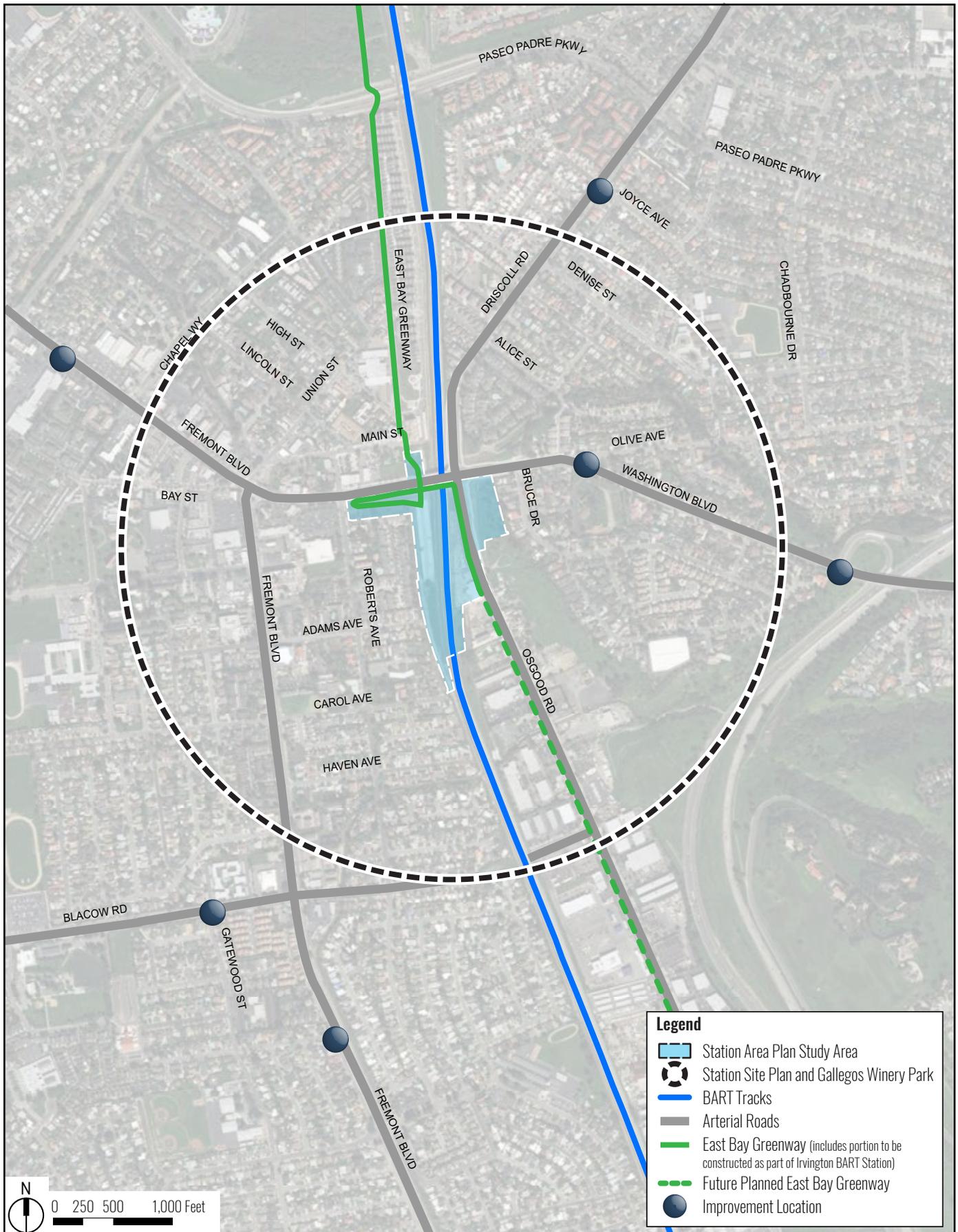


Figure 3-6 - PMP Recommended Uncontrolled Crossing Improvement Locations

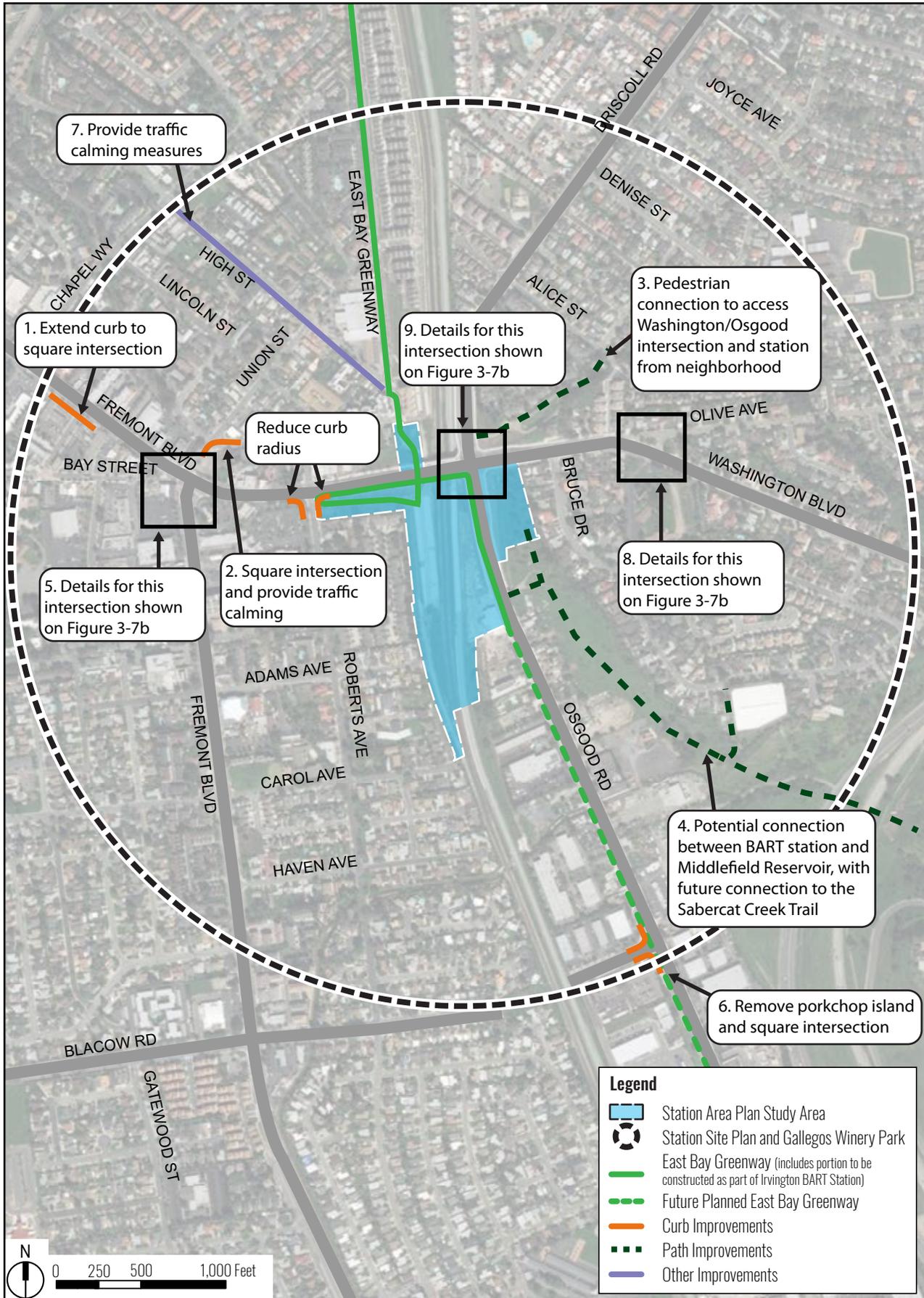


Figure 3-7a - Potential Major Pedestrian Improvements

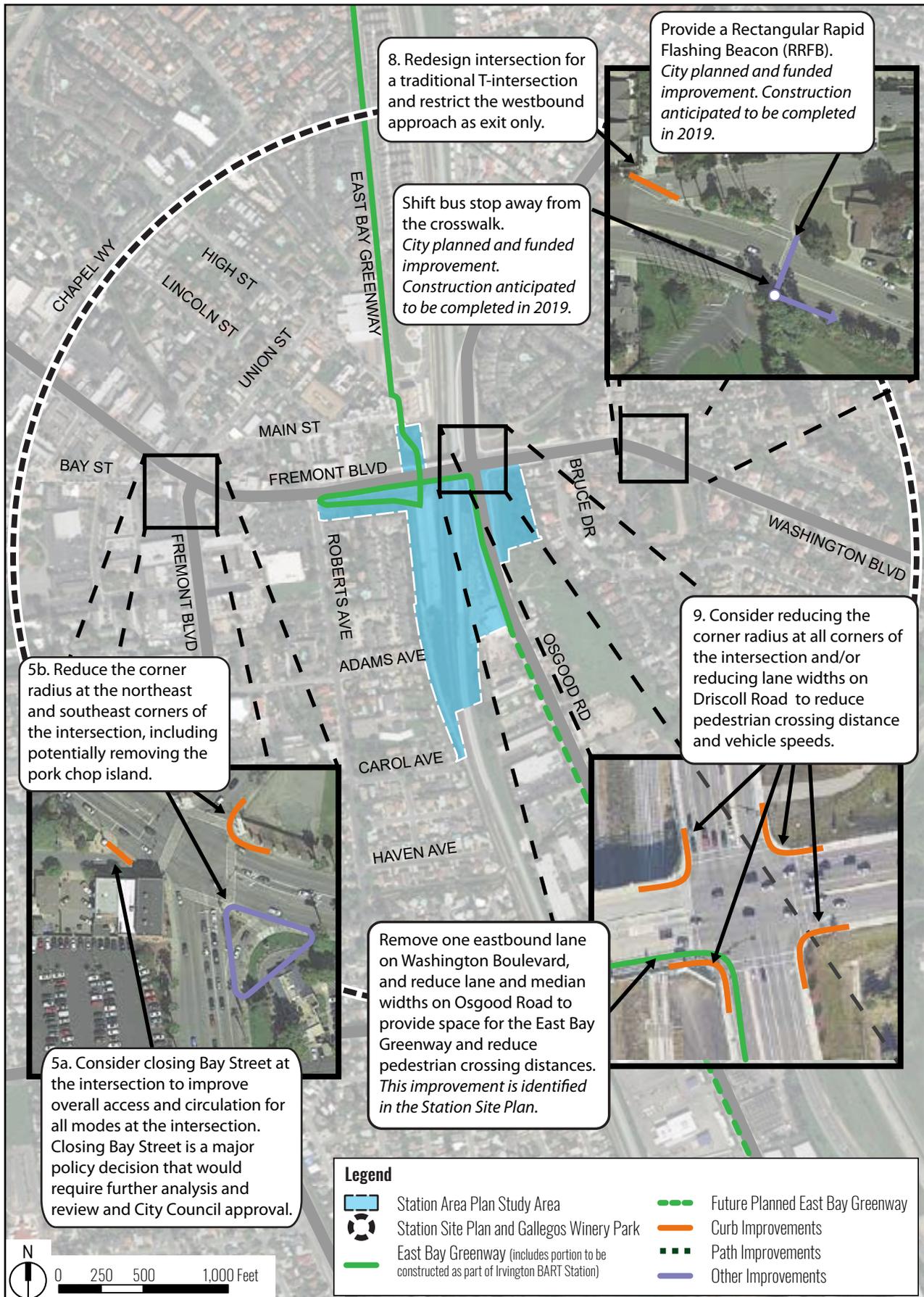


Figure 3-7b - Potential Major Pedestrian Improvements

TABLE 3-2 PEDESTRIAN MASTER PLAN RECOMMENDED UNCONTROLLED PEDESTRIAN CROSSING IMPROVEMENTS

Locations	PMP Listed Priority	Walking Distance from Irvington BART Station	Potential Improvements from PMP Toolkit	Notes
Fremont Boulevard/ Michael Avenue	Higher	1.1 miles	<ul style="list-style-type: none"> Flashing beacons Median refuge Ladder crossing 	
Washington Boulevard/ Olive Avenue	Higher	0.2 mile	<ul style="list-style-type: none"> Flashing beacons Median refuge Curb extension Ladder crossing 	<ul style="list-style-type: none"> Fremont has a Highway Safety Improvement Program grant project currently under design to provide a flashing beacon, median refuge, curb extension, and ladder crossing at this intersection.
Blacow Road/ Gatewood Street	Medium-High	1.0 mile	<ul style="list-style-type: none"> Flashing beacons Median refuge Ladder crossing 	<ul style="list-style-type: none"> Fremont has a traffic signal project currently under design at this intersection, which will be under construction in 2019.
Driscoll Road/ Joyce Avenue	Medium-High	0.5 mile	<ul style="list-style-type: none"> Flashing beacons Median refuge Ladder crossing 	<ul style="list-style-type: none"> Fremont has a pedestrian crossing improvement project under construction in 2019 at this intersection.
Fremont Boulevard/ Clough Avenue	Medium-High	0.6 mile	<ul style="list-style-type: none"> Flashing beacons 	<ul style="list-style-type: none"> Fremont has identified the intersection for crossing improvements that will be in construction in 2020.
I-680/ Washington Boulevard	N/A	0.8 mile	<ul style="list-style-type: none"> Sidewalks and crosswalks on the north side of Washington Boulevard 	<ul style="list-style-type: none"> Potential connection to the proposed Ridge Trail Path identified in the UPRR Trail Study.

Source: Fremont Pedestrian Master Plan, 2016

Figure 3-8 illustrates the network of streets that are within a 15-minute walking distance (about 0.75 miles) of Irvington BART Station. As shown in Figure 3-7a, improvement #3 (Washington Boulevard/Osgood Road and Alice Street path) and improvement #4 (Middlefield Reservoir path) provide additional pedestrian connections, but do not expand the 15-minute walk shed; however, they provide for more convenient routes, as they involve less distance along roads with high vehicle volumes.

BICYCLE ACCESS IMPROVEMENTS

Improvements to the Plan Area will provide comprehensive, safe, convenient bicycle access to encourage maximum bike ridership to the station. Bicyclists can be expected to use any automobile entrances in addition to any bicycle and pedestrian access points; thus, these locations should be designed with bicycle access in mind. As previously stated, the City of Fremont has considered various infrastructure improvements within the Plan Area, across

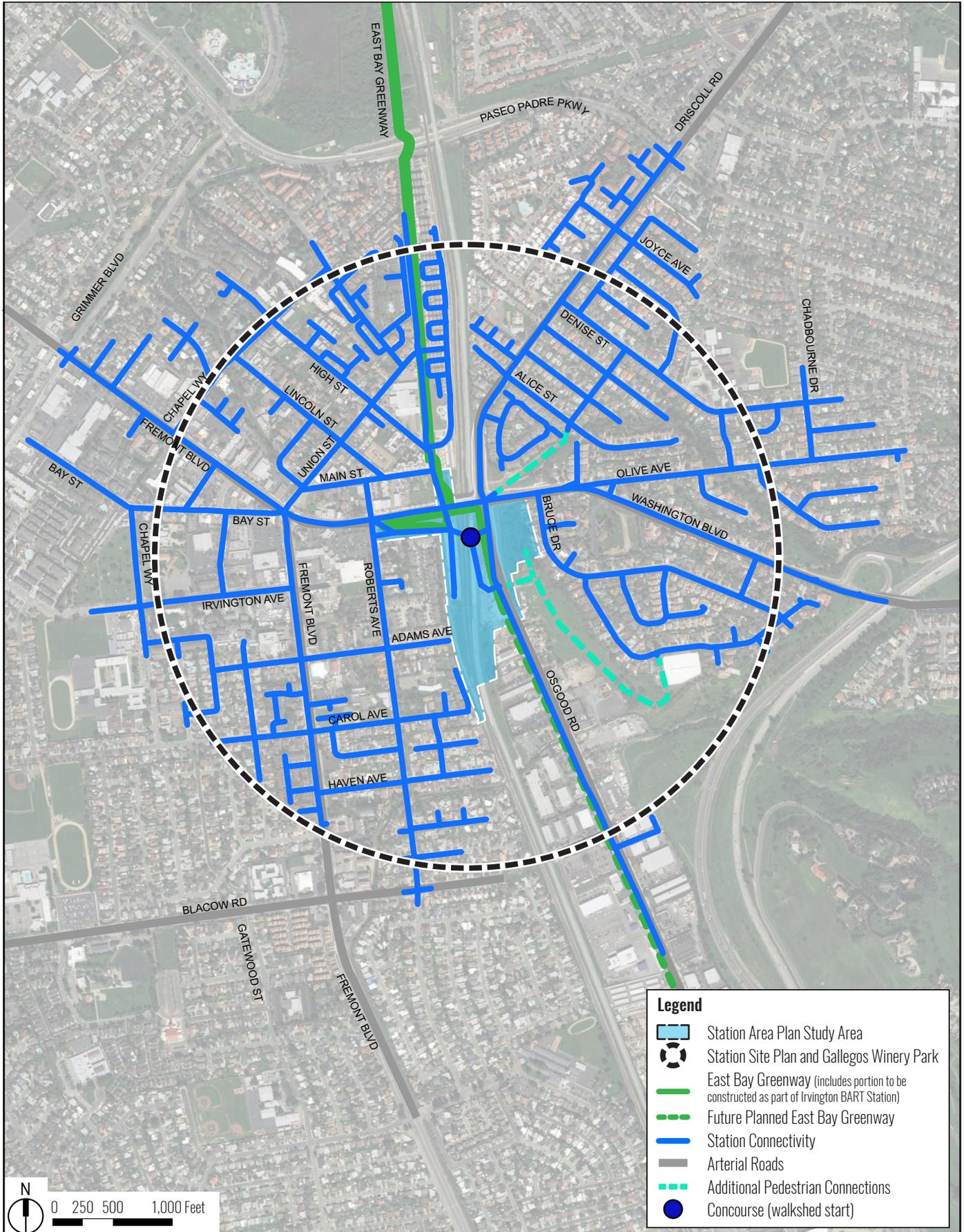


Figure 3-8 - 15-Minute Walkshed

several documents, all of which account for the Irvington BART Station. This section reviews specific projects and programmatic bicycle improvements from previous planning documents.

The Fremont BMP identifies the following types of bicycle facilities applicable to the Plan Area:

- Class I Bikeway (bicycle path): Completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.
- Class II Buffered Bicycle Lanes: Modified on-street bike lane with vehicle and/or parking-side buffer for additional comfort and safety on high-speed or high-volume roadways.
- Class III Neighborhood Bikeways: Shared travel lane for bicyclists and drivers located on low-auto-volume and low-speed residential streets.
- Class IV Separated Bikeway/Cycle Track: Physically separated bicycle lane for increased comfort and protection of bicyclists. Can be physically separated by a barrier, such as planters or on-street parking, or grade separation from the roadway.

BICYCLE FACILITIES IN BICYCLE MASTER PLAN

In addition to the EBGW (discussed in the following section), the BMP includes specific bicycle improvements near the Irvington BART Station, which are considered in this Station Area Plan. These improvements are shown in Figure 3-9 and listed below.

- Upgrade existing Class II Bicycle Lanes to Class II Buffered Bicycle Lanes along Driscoll and Osgood Roads.
- Upgrade existing Class II Bicycle Lanes to Class II Buffered Bicycle Lanes along Washington Boulevard east of Olive Avenue (under design as part of project between Roberts Avenue and Meredith Avenue).
- Upgrade existing Class II Bicycle Lanes to Class II Buffered Bicycle Lanes along Washington Boulevard west of the station

to Olive Avenue (under design as part of project between Roberts Avenue and Meredith Avenue). The BMP identifies the corridor as ultimately providing a Class IV Separated Bikeway.

- Upgrade existing Class II Bicycle Lanes/ Class III Neighborhood Bikeway to a Class IV Separated Bikeway along Fremont Boulevard/ Washington Boulevard between Eugene Street and Blacow Road.
- A Class I Bicycle Path between the EBGW and the Sabercat Creek Trail, including a bridge over I-680. The City has a scoping effort underway to evaluate the path across I-680.
- Class III Neighborhood Bikeways along Denise Street, Lockwood Avenue, and Chadbourne Drive.

The BMP details options for most of these proposed improvements. Where applicable, these projects are reflected in conceptual cross-sections presented in Section 3.3.

PROPOSED BICYCLE FACILITIES

The Station Area Plan proposes one additional bicycle facility beyond those adopted in the BMP (illustrated in Figure 3-9), as follows:

- *The Class I Bicycle Path between the EBGW and the Sabercat Creek Trail could be connected to the Middlefield Reservoir site to improve neighborhood access to the Sabercat Creek Trail.*

FREMONT BICYCLE MASTER PLAN RECOMMENDED PROGRAMMATIC BICYCLE IMPROVEMENTS

The BMP identifies several programmatic engineering improvements that apply to the Plan Area, as summarized in Table 3-3.

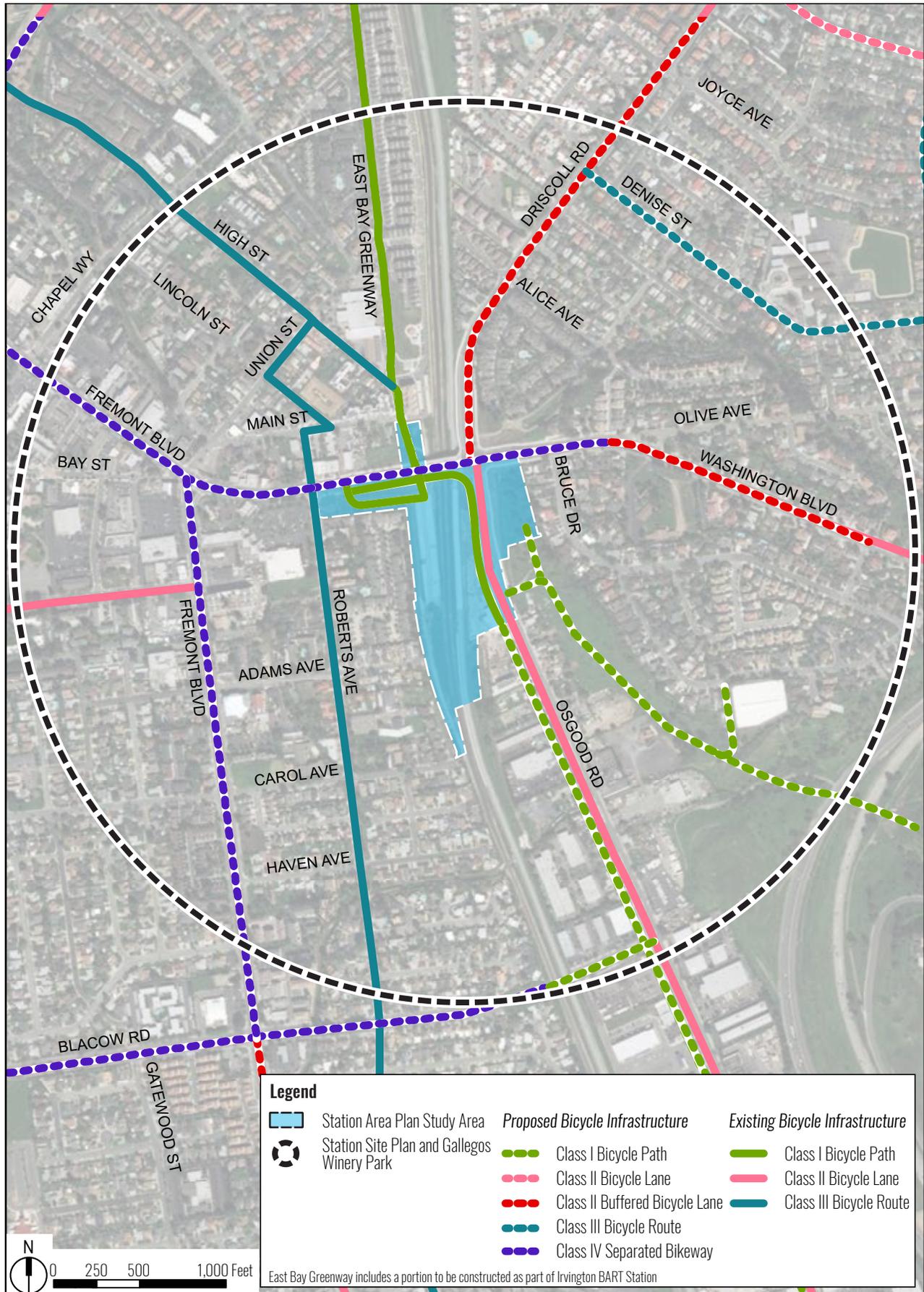


Figure 3-9 - Proposed Bicycle Conditions

TABLE 3-3 BICYCLE MASTER PLAN IMPROVEMENTS

Engineering Improvement	Description	Plan Area Location and Treatments	Status and Notes
Traffic Signals	<ul style="list-style-type: none"> Install bicycle video detection at each signal citywide, including in left-turn pockets and on side streets. To indicate where bicyclists will be detected and/or tell bicyclists that intersection detection is present at a given intersection, always stripe a bicycle detection marking to show bicyclists where to position themselves. 	<ul style="list-style-type: none"> Fremont Boulevard- Union Street/Washington Boulevard/Bay Street, Fremont Boulevard/ Irvington Avenue, Fremont Boulevard/Carol Avenue, Fremont Boulevard/ Blacow Road, Osgood Road/ Blacow Road intersections 	<ul style="list-style-type: none"> The through movements of these intersections have bicycle detection, but the left-turn pockets do not. This also applies to intersections included in the Station Site Plan: the Washington Boulevard/Roberts Avenue intersection, the Osgood Road/ Driscoll Road/ Washington Boulevard intersection, and any new intersections.
Slip Lanes	<ul style="list-style-type: none"> Remove slip lanes or modify slip lanes (e.g., through signal modifications or raised crosswalks) on the bicycle network to improve bicyclists' safety and allow for protected intersections. 	<ul style="list-style-type: none"> Osgood Road/Blacow Road intersection Fremont Boulevard/Washington Boulevard/ Union Street/Bay Street intersection 	<ul style="list-style-type: none"> Programmatically identified in BMP; specific locations recommended as part of Station Area Plan.
Interchanges	<ul style="list-style-type: none"> Improve existing freeway interchanges to enhance bicycle safety, such as by squaring off ramps and including green skip striping for bicycle facilities through conflict zones. Include on-street and sidewalk-riding/off-street options for bicyclists through ramp areas. 	<ul style="list-style-type: none"> Square the exit ramp from northbound I-680 to Washington Boulevard, and from southbound I-680 to Auto Mall Parkway. Install on-street and off-street options for bicyclists at the I-680/Washington Boulevard interchange. 	<ul style="list-style-type: none"> The City is undertaking a scoping effort for multimodal improvements at three I-680 interchanges, including Washington Boulevard, Auto Mall Parkway, and Mission Boulevard (north).
Wayfinding	<ul style="list-style-type: none"> Install bicycle wayfinding, especially to direct bicyclists towards the Irvington BART Station. 	<ul style="list-style-type: none"> Throughout the Plan Area 	
Maintenance	<ul style="list-style-type: none"> Replace drain inlet grates parallel to the direction of bicycle travel with grates perpendicular to the direction of travel. 	<ul style="list-style-type: none"> Bike corridors throughout the Plan Area 	<ul style="list-style-type: none"> Prioritize replacing drain inlet grates on bicycle corridors.

Note: A slip lane is a road traffic lane provided at an intersection to allow vehicles to turn at the intersection without actually entering it and interfering with through traffic. It is therefore not controlled by any traffic signals at that intersection.

Source: Bicycle Master Plan, July 2018

EAST BAY GREENWAY ACCESS IMPROVEMENTS

The EBGW is a planned 37-mile regional pedestrian and bicycle trail through Alameda County that will connect Albany and Berkeley in the north to Fremont in the south. The planned EBGW through Fremont is shown in Figure 3-10. First conceived in 2007, stakeholders have come together to facilitate implementing the trail. Within Fremont, the segment between Central Park and the intersection of High and Main Streets, just north of the Irvington BART Station, a 1.25-mile segment, is completed. The current terminus of this segment is northwest of the Irvington BART Station just northeast of the High Street/Main Street intersection. The City is actively working to complete the EBGW within Fremont's city limits.

The Irvington BART Station Site Plan improvements will extend the existing EBGW terminus just north of the High Street/Main Street intersection to the southeast limits of the station at Osgood Road. The preferred route for this EBGW segment integrates with the existing Washington Boulevard overcrossing, as shown in Figure 3-10, rather than including a separate pedestrian/bicycle bridge, as was previously envisioned. The EBGW would extend under the Washington Boulevard overcrossing west of the tracks and continue to the Washington Boulevard/Roberts Avenue intersection at grade. A two-way Class IV Separated Bikeway (also known as a cycle track) on the south side of the Washington Boulevard would then connect to a two-way separated bikeway on the west side of Osgood Road. The separated bikeway would continue south on Osgood Road until the southern limits of the station. South of the station, the EBGW trail may continue south on Osgood Road as an elevated Class IV cycle track. The alignment and design of the EBGW south of the station will be the subject of further study. The separated bikeway can be accommodated on

Washington Boulevard by eliminating the third eastbound through lane. Figure 3-11 illustrates the preferred design of the Class IV Separated Bikeway, which would be at sidewalk grade.

TRANSIT ACCESS IMPROVEMENTS

The Irvington BART Station and BART Silicon Valley Extension provide AC Transit with an opportunity to refine bus service in Fremont. AC Transit intends to restructure service in Fremont around the new demand patterns created by expanded BART service and continuing new development. Potential service options may include expanded fixed-route service on key corridors and Flex service, or on-demand service, to provide coverage in lower-density areas (see box below).

Flex

Flex is an on-demand service model in which transit users book trips ahead of time and can be picked up or dropped off at selected bus stops. The current Flex model includes scheduled departures from selected BART stations that do not require reservations. The Flex service model allows for higher levels of service along trunk lines for the same cost.

Urgo, John, "Flex V. Fixed: An Experiment in On-Demand Transit" (May 15, 2018). Transit Center. <http://transitcenter.org/2018/05/15/adding-flexible-routes-improve-fixed-route-network/>, accessed June 11, 2018

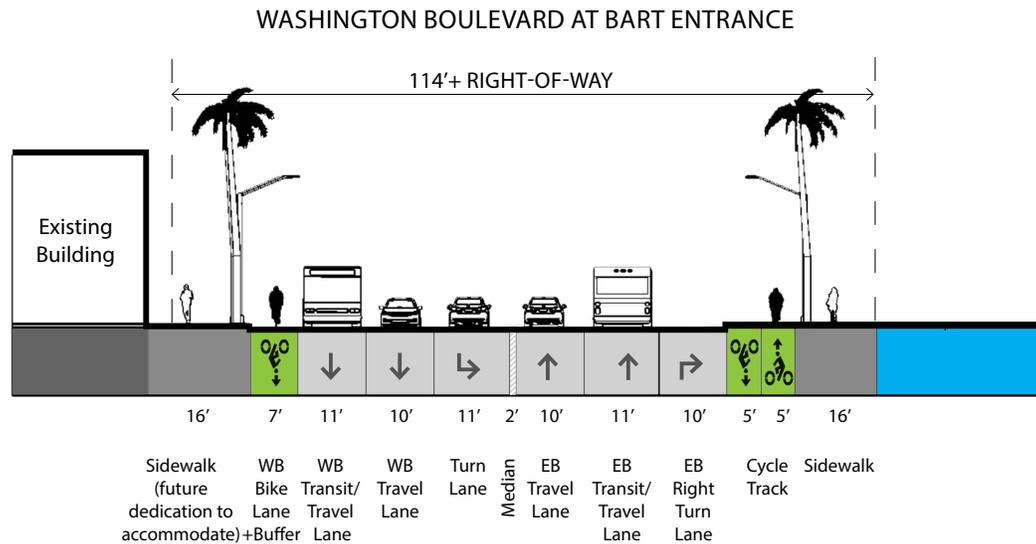
AC TRANSIT SERVICE AND INFRASTRUCTURE CHANGES

The Irvington BART Station is adjacent to the Fremont Boulevard and Washington Boulevard corridors, which are key spines of AC Transit's network. Flex service could directly serve the station, as depicted in Figure 3-12.



Figure 3-10 - East Bay Greenway Trail Map

Figure 3-11 Sample Cross-Section EBGW Sidewalk Grade



The following improvement is proposed as part of this Station Area Plan:

- Upgrade the on-street bus stops along Washington Boulevard at Osgood Road and between Roberts Avenue and Fremont Boulevard to include bus shelters and other amenities.

Additionally, the Station Site Plan includes an on-site bus transit area on the east side of the station. This area is designed to accommodate at least four buses on-site at the same time to support the possibility of expanded Flex service. The Station Site Plan bus stops could also accommodate private shuttles, although none are planned at this time.

Based on existing and expected future service, AC Transit has expressed an interest in moving the existing bus stops on Washington Boulevard near Osgood Road closer to the Irvington BART

Station to promote intermodal connections. Pending further discussions between the City of Fremont and AC Transit, the bus stops could be moved closer to the Washington Boulevard/Osgood Road intersection with the following changes:

- The westbound bus stop could be moved 100-150 feet to the west into the westbound right-turn lane at Osgood Road.
- The eastbound bus stop could be moved into the Washington Boulevard merging lane to the east of the intersection. Eastbound Washington Boulevard would be reduced to two through lanes, which would eliminate the need for the merging lane.

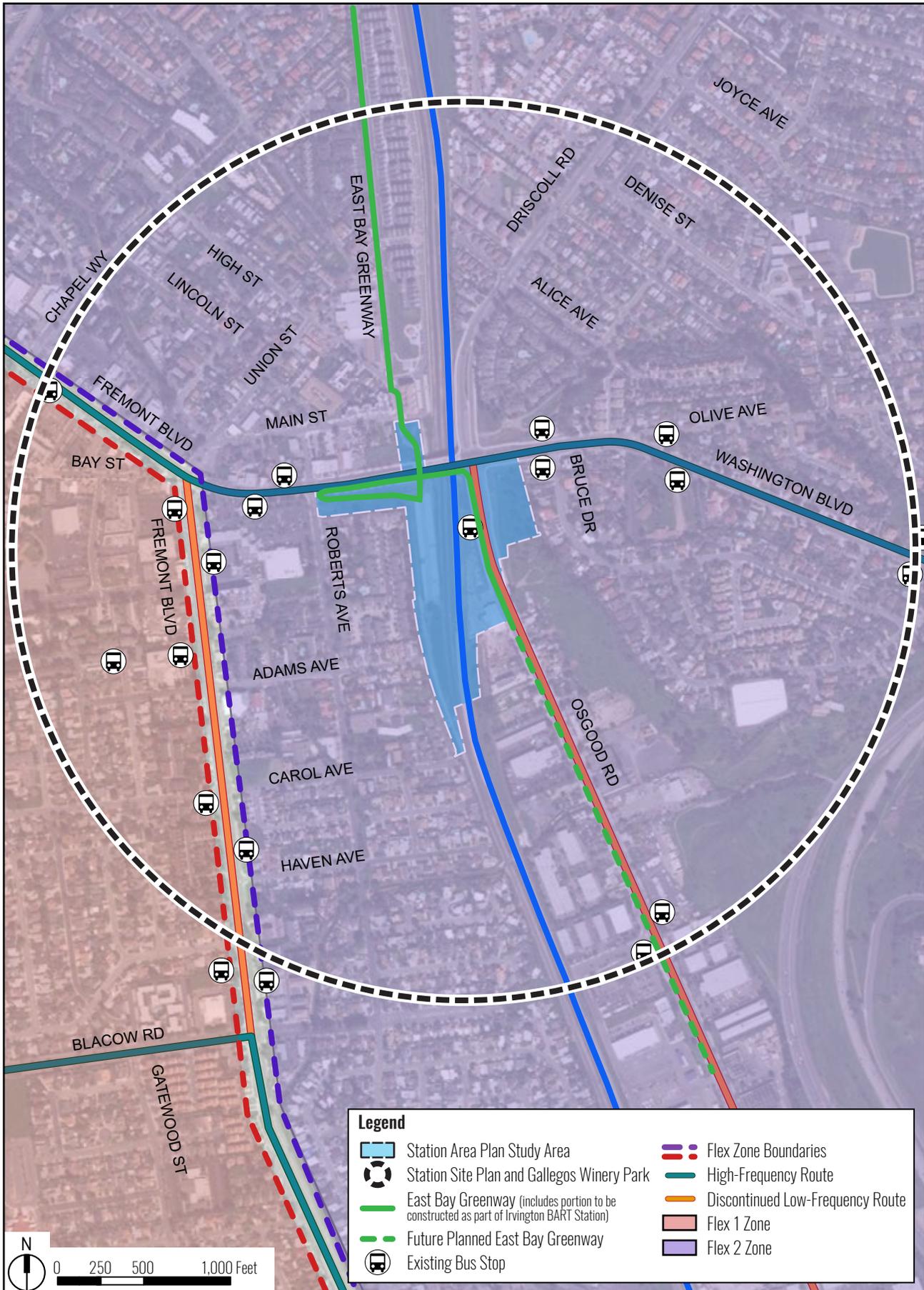


Figure 3 -12 - Conceptual Map of AC Transit Service near the Irvington BART Station

AUTOMOBILE CIRCULATION IMPROVEMENTS

Vehicle access points and pick-up/drop-off areas are planned on both sides of the BART tracks. The station will include approximately 320 parking spaces to the west of the BART tracks between general parking, motorcycle parking, and ADA parking. The station also includes 15–20 pick-up/drop-off spaces, including ADA pick-up/drop-off spaces, on each side of the tracks. No general or motorcycle parking spaces are planned on the east side of the station.

The ridership forecasting and traffic modeling results for the station indicate that with more parking spaces on-site, ridership would increase, but there would also be more automobiles driving to and from the station. The planned number of parking spaces was selected as a balance between maximizing BART ridership and minimizing traffic impacts in the Plan Area while increasing pedestrian, bicycle, and transit access.

An analysis of automobile traffic at 16 intersections in the Plan Area shows that congestion is expected to increase between existing conditions and 2040 conditions, and that the Irvington BART Station will have a relatively small effect on automobile congestion. Under existing conditions, automobile level of service (LOS) at two of 16 intersections is LOS E or F. In 2040, both with and without the Irvington BART Station, eight of 16 intersections are expected to operate at LOS E or F.

The following proposed roadway improvements will be a priority within the Plan Area to improve motor vehicle operations:

- *Fremont Boulevard-Union Street/Washington Boulevard/Bay Street intersection improvement:*
 - *Adjust signal timing parameters (i.e., adjust the allocation of green time for each intersection approach) and coordinate the signal timing changes with the adjacent intersections in the same signal coordination group.*
- The following roadway improvements are included as part of the Station Site Plan to improve motor vehicle operations:
- *Washington Boulevard/Roberts Avenue intersection:*
 - *Stripe a left-turn lane on the southbound approach, which can be accommodated within the current right-of-way but would require prohibiting parking on both sides of the street.*
 - *Upgrade signal to provide protected north/south left-turn phasing.*
 - *Adjust signal timing parameters (i.e., adjust the allocation of green time for each intersection approach) and coordinate the signal timing changes with the adjacent intersections that are in the same signal coordination group.*
 - *Osgood Road-Driscoll Road/Washington Boulevard intersection improvements:*
 - *Eliminate one eastbound through lane to accommodate a separated path as part of the EBGW on the south side of Washington Boulevard, and remove the corresponding receiving lane on the east side of the intersection.*
 - *Provide an overlap phase for the northbound Osgood Road right-turn movement.*
 - *Adjust signal timing parameters (i.e., adjust the allocation of green time for each intersection approach) and coordinate the signal timing changes with the adjacent intersections in the same signal coordination group.*

Also see Figures 3-7a and 3-7b for pedestrian improvements planned/proposed to reduce conflicts for all road users.

PARKING STRATEGIES: RESIDENTIAL PARKING PERMIT (RPP) PROGRAM

Since BART will charge for parking at the station, it is anticipated that parking generated by the BART station would overflow into the adjacent neighborhoods without an RPP program, regardless of the parking supply provided at the station. The following improvement is proposed as part of this Station Area Plan:

- *Establish an RPP program prior to the opening of Irvington BART Station.*

The City is committed to establishing an effective RPP program that would be managed and enforced by the Public Works Department to prevent spillover parking in neighborhoods adjacent to the BART Station. Other jurisdictions—including Union City, Oakland, and Berkeley—have implemented parking management programs near BART stations to limit non-resident parking to two hours or less, thus, preventing BART commuters from using on-street parking. By reducing the effective on-street parking supply near the Irvington BART Station, the RPP will reduce the amount of drive-alone access to the station. The RPP program could also be expanded outside the Plan Area if non-local BART riders generate high on-street parking demand.

3.3 COMPLETE STREETS

In its Complete Streets policy, the City “recognizes the importance of Complete Streets infrastructure and modifications that enable the safe, convenient and comfortable travel for all categories of users.” Based on this policy, the streets in the Plan Area are intended to serve everyone in all modes, consistent with the Complete Streets definition in the box below.

This section illustrates that many of the improvements identified throughout this chapter will support the development of Complete Streets. The streetscapes presented indicate the potential for future TOD within the Plan Area to enhance the experience for pedestrians and bicyclists.

Cross-sections are provided for the following three road segments (see Figures 3-13, 3-14, and 3-15):

- Osgood Road, south of the BART entrance
- Washington Boulevard, at the BART entrance
- Main Street/High Street, at the BART entrance

An evaluation of each cross-section for pedestrian and cyclist comfort is provided following the cross-sections.

What are Complete Streets?

According to Smart Growth America, “Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.”

Figure 3-13 Osgood Road Cross-Section, South of BART Entrance (Looking North)

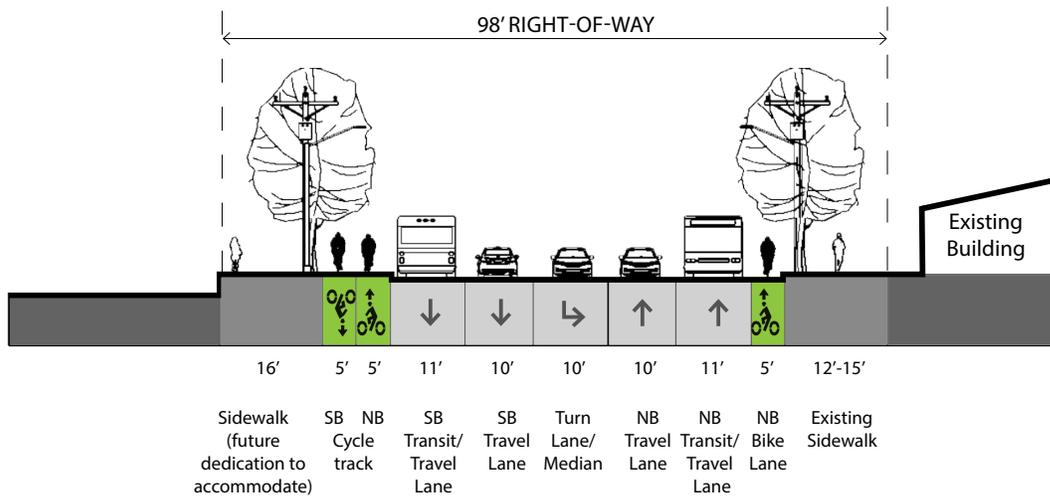


Figure 3-14 Washington Boulevard Cross-Section, at BART Entrance (Looking East)

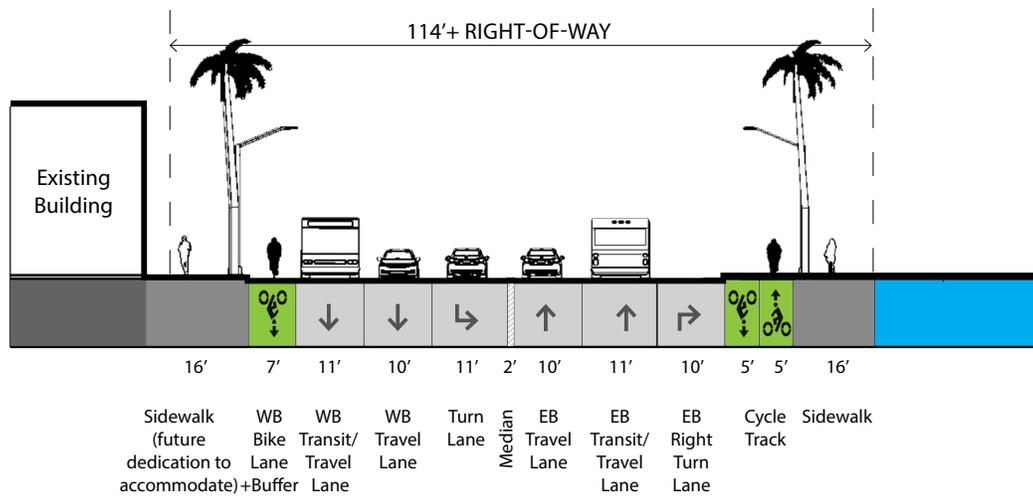
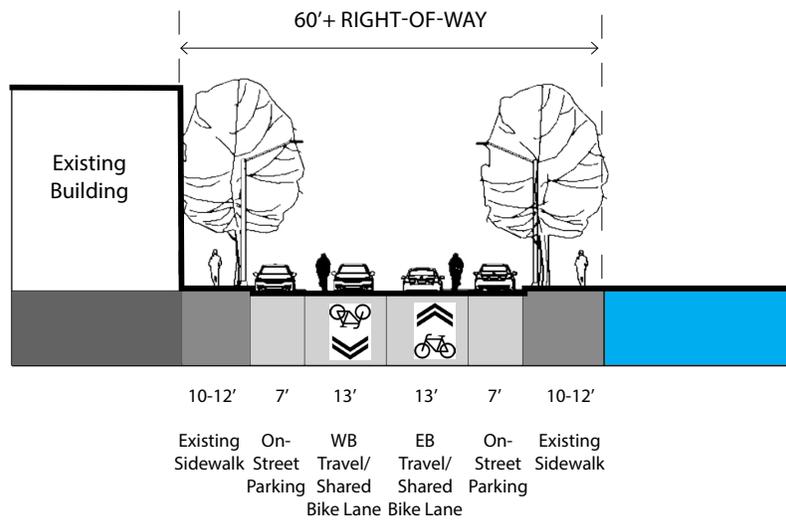


Figure 3-15 Main Street/High Street Cross-Section, at BART Entrance (Looking East)



COMPLETE STREETS CROSS-SECTIONS

OSGOOD ROAD, SOUTH OF THE BART ENTRANCE

On Osgood Road south of the BART entrance, as shown in Figure 3-13 looking north, the vehicle lanes would be narrowed to increase sidewalk width and accommodate the EBGW as a two-way Class IV Separated Bikeway on the west side of the street. Sidewalks would be maintained or widened to 12–16 feet. The street would continue to provide two vehicle lanes in each direction, as well as the existing median and turn lanes where appropriate. The outside lanes would be 11 feet wide to accommodate buses. This design is the long-term plan for the Osgood Road corridor as funding becomes available; the interim design would maintain the existing Class II Bicycle Lanes in each direction rather than a Class IV Separated Bikeway.

WASHINGTON BOULEVARD, AT THE BART ENTRANCE

On Washington Boulevard at the BART entrance, as shown in Figure 3-14 looking east, the vehicle lanes would be narrowed and one eastbound through lane would be removed to

increase sidewalk width and provide space for both the EBGW on the south side and a wider westbound bicycle facility on the north side of the road. Sidewalks would be widened to 16 feet in each direction. There would be two through vehicle lanes in each direction with turning lanes at the intersections. The outside lanes would be 11 feet wide to accommodate buses. The existing median on Washington Boulevard may be extended west to Roberts Avenue to prevent left-turns in and out of the station driveway, roadway space permitting. This will be evaluated at a later design stage.

MAIN STREET/HIGH STREET, AT THE BART ENTRANCE

On Main and High Streets at the BART entrance, as shown in Figure 3-15 looking west, the existing cross-sections would generally be maintained, with one vehicle lane and a parking lane in each direction. Sidewalks would be maintained or widened to 10–12 feet in each direction, and sidewalk gaps would be filled as resources allow. The vehicle lane would be shared between bicycles and automobiles.

STREETSCORE+

These three cross-sections were evaluated using the Streetscore+ tool. Streetscore+ calculates the comfort of walking or biking on a street on a scale of 1 (best score) to 4 (worst score). More information on Streetscore+ is shown in the box to the right.

Table 3-4 summarizes the results of the Streetscore+ analysis. The results show pedestrian and bicycle Streetscore+ improvement for the two segments that are not already at the best score. One important finding of this analysis is that motor vehicle speed is a limiting factor for pedestrian and bicyclist comfort along the Washington Boulevard and Osgood Road segments.

Streetscore+

Streetscore+ calculates comfort-based indices for active transportation to more accurately understand the impacts of design decisions on stress tolerance for people who walk and bike. Comfort for both of these users is based on a variety of factors, including pedestrian and bicycling infrastructure and the characteristics of the adjacent street. The Streetscore+ methodology compiles those variables to provide a score on a scale of 1 (best score) to 4 (worst score) for each segment and intersection.

TABLE 3-4 PROPOSED CONDITIONS STREETSCORE+ SEGMENT SUMMARY

Segment	Existing Conditions		Proposed Conditions	
	Pedestrian	Bicycle	Pedestrian	Bicycle
Osgood Road, south of the BART Entrance	4	4	3	2*
Washington Boulevard, at the BART Entrance	4	3	4	2
Main Street/High Street, at the BART Entrance	4	1	2	1

*Assumes completion of East Bay Greenway south of the Station Site Plan.

Source: Fehr & Peers, 2019

