

UPRR CORRIDOR IMPROVEMENT STUDY

EXISTING CONDITIONS TECHNICAL MEMORANDUM



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1. Introduction

1.1. Study Purpose

The Union Pacific Railroad (UPRR) Corridor Improvement Study's purpose is to evaluate the feasibility of a continuous bicycle and pedestrian facility along the UPRR Oakland Subdivision railroad corridor. The Study Corridor is defined as the 17.4 miles of UPRR Oakland Subdivision right-of-way extending from the Fruitvale Bay Area Rapid Transit (BART) Station in the north to the Union City BART Station in the south. A railroad subdivision is a named rail line. The Study Corridor is exclusively in Alameda County.

This study assumes continuation and possible expansion of passenger rail service in the Study Corridor and will investigate existing and planned freight rail service. This Corridor Improvement Study will respond directly to recent related investigations and current negotiations including the East Bay Greenway Study completed by Urban Ecology and Oakland Subdivision property acquisition negotiations led by the Capitol Corridor Joint Powers Authority. The Corridor Improvement Study responds to local plans, adjacent land use, economic and development considerations. This Corridor Improvement Study identifies strategic opportunities and design requirements for development of a separated multi-use trail based on these findings.

Communities served by the Study Corridor include Oakland, San Leandro, Bay Fair, Ashland, Cherryland, Hayward, and Union City. The Project Study Corridor is illustrated in **Figure 2**.



Figure 1: Project Corridor and Rail Subdivisions

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Figure 2: Project Study Area

1.2. Relationship to Major Plans Affecting the Study Corridor

Several major plans and projects will have strong influence on the UPRR Oakland Subdivision over the short- and long-term. These include MTC's Regional Rail Plan, Dumbarton Rail Corridor Study, Union City Intermodal Station, and the East Bay Greenway Concept Plan and project. These are guiding plans that have a strong and direct influence over what happens in the Oakland Subdivision right-of-way and also help establish the vision for a pedestrian and bicycle facility in this corridor. Additional land use documents, neighborhood plans, and station area plans are reviewed below in Section 2.

Relationship to MTC Regional Rail Plan (2007)

The MTC Regional Rail Plan a long-range vision for improving the Bay Area's passenger and freight rail system in place and expanding its reaches to serve future Bay Area travel and freight demand. The Regional Rail Plan presents recommendations for both 2050 with High Speed Rail and 2050 without High Speed Rail. With the passage of the California High Speed Rail Proposition 1A in 2008, High Speed Rail will become a reality and the Regional Rail Plan with High Speed Rail is most relevant.

On the Niles Subdivision, the Regional Rail Plan recommends expansion of service and tracks in the East Bay Study Corridor (Oakland to San Jose) presented as 3 main tracks for operation of passenger services shared with freight. This recommendation must be considered in conjunction with the Dumbarton Rail Corridor Study and Union City Intermodal Station plan to relocate Capitol Corridor service from the Niles Subdivision to the Oakland Subdivision south of Industrial Boulevard in Hayward. Passenger and freight traffic would be separated south of Industrial Boulevard in Hayward by routing freight traffic via the Niles Subdivision and passenger traffic via the Oakland Subdivision.

The Regional Rail Plan recommendations for the Oakland Subdivision north of Industrial Boulevard are less defined. The Regional Rail Plan recommendations and Resolution 3434 (a nearly \$11 billion investment in transit projects) implementation relies strongly on continued BART expansion meaning that this UPRR Corridor Improvement Study and any other proposed use of the Oakland Subdivision must account for additional station platforms (length and width) as well as an additional third/express tracks between about Fruitvale and Union City BART Station. Additional track alignment specifics are not known at this time. Many of the BART stations have very active TOD plans and the respective. In addition, planning considerations should be made for pedestrian access in the BART Station areas, particularly east-west.

Dumbarton Rail Corridor Study (2004)

The San Mateo County Transportation Authority (SMCTA) sponsored the Dumbarton Rail Corridor Study (2004) investigating the extension of commuter rail service across the San Francisco Bay between the Peninsula and the proposed Union City Intermodal Station. The corridor will pass over the Dumbarton and Newark Slough Railroad Bridges to Union City where it will continue north along the UPRR Oakland Subdivision to the Union City Intermodal Station. Estimated daily ridership is projected to be 6,900 by 2025

Union City Intermodal Station District and Transit Facility Plan (2002)

In 2007, construction began on the Union City Intermodal Station. This project will convert the existing Union City BART Station into a station serving BART, Capitol Corridor, Dumbarton Rail, Altamont Commuter Express, AC Transit and Union City Transit. The station plans include improved access for pedestrians and bicyclists. The Station District Plan also includes plans for a transit oriented community. The UPRR Corridor Improvement Study will work under the assumption that this facility and district plan will increase the number of people living, working and accessing the area.

East Bay Greenway Concept Plan (2008)

The East Bay Greenway Concept Plan, produced by Urban Ecology, is the evaluation of a combined multi-use path along BART right-of-way and an on-street bikeway from 18th Avenue in Oakland to the Hayward BART Station. This study establishes a clear vision for a pedestrian and bicycle facility akin to the Ohlone Greenway in Berkeley, Albany and El Cerrito where a landscaped multi-use path is located beneath the elevated BART track and in the old Southern Pacific Railroad right-of-way. The UPRR Corridor Improvement Study is separate and distinct from the East Bay Greenway Study and will draw from and complement it where possible. This UPRR Corridor Improvement Study and the East Bay Greenway Study share the same overall vision of creating a continuous greenway through the heart of the East Bay. The studies differ in that the UPRR Corridor Improvement Study is focused on identifying the feasibility of a continuous bicycle and pedestrian facility within the Oakland Subdivision right-of-way for multiple transportation purposes. The East Bay Greenway Study was initiated to take advantage of the BART Seismic Retrofit project with the intent of timely integration of a trail equivalent to the Ohlone Greenway. The East Bay Greenway Study evolved through stakeholder and community participation to include a combination of facility recommendations including segments in the BART right-of-way, on-street segments within city- and County-owned public right-of-way, and off-street segments in city- and County-owned right-of-way.

1.3. Existing Conditions Report Contents

The first step in the Corridor Improvement Study is to review and summarize existing conditions including background policy, general land use and property conditions, and general guidance on RWT facilities. This Existing Conditions Technical Memorandum includes the following sections:

- Background Policy Review
- Baseline Conditions
- Rails with Trails

2. Background Policy Review

2.1. Methodology

This section provides a brief strategic summary of planning and policy documents relevant to the Study Corridor. The discussion provides relevant goals, objectives, implementation actions and proposed projects drawn from regional, County, and local planning studies. The catalog of documents reviewed by the consultant team is not comprehensive yet reflects recent, significant transportation and land use planning conducted for geographic areas directly included in the project Study Corridor.

2.2. Policy Review

There are several important themes identified in the planning documents summarized in **Table 1**. These themes include:

- The UPRR Oakland Subdivision is identified in regional transportation planning documents as a corridor for potential future rail expansion.
- The UPRR Oakland Subdivision is identified in County and regional transportation planning documents as a corridor for a potential greenway or pedestrian and bicycle facility.
- Local planning and land use documents consistently support the use of the corridor for a greenway or pedestrian and bicycle facility.

Table 1: Relevant Policies

Agency/Document	Relevant Recommendations
State of California	
Assembly Bill 32 (2006)	<ul style="list-style-type: none"> ▪ The state board shall adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions from sources or categories of sources. ▪ The plan shall identify and make recommendations on direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources that the state board finds are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020.
Senate Bill 375 (2008)	<ul style="list-style-type: none"> ▪ Requires the California Air Resources Board to set regional targets for reducing greenhouse gas emissions from passenger vehicles. Regions where integrated land use, housing and transportation plans meet these targets can be relieved of certain review requirements of the California Environmental Quality Act.

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Agency/Document	Relevant Recommendations
Metropolitan Transportation Commission (MTC)	
Regional Rail Plan (2007)	<ul style="list-style-type: none"> ▪ Alternative 1: Expansion of the Niles Subdivision providing three tracks for operation of passenger service shared with freight (Preferred Alternative). ▪ Alternative 2: Acquisition of the UPRR right-of-way north of Fremont to Oakland. Construction of a new passenger line from Oakland to San José.
Regional Bicycle Plan Update (Draft November 2008)	<ul style="list-style-type: none"> ▪ Policy 2.1: Develop a cohesive system of regional bikeways that provide access to and among major activity centers, public transportation and recreation facilities.
Transportation 2035 Plan	<ul style="list-style-type: none"> ▪ The Plan endeavors to support walking and bicycling as a viable and safe transportation choice. The plan commits \$1 billion in funding to complete the Regional Bicycle Network. ▪ The Plan commits \$2.2 billion to Transportation for Livable Communities program. Roughly two-thirds of that funding will be used to improve pedestrian access to housing and transit.
Bay Area Rapid Transit District (BART)	
BART Bicycle Access and Parking Plan (2002)	<ul style="list-style-type: none"> ▪ Recommendation A-1: Work with local jurisdictions to provide direct, safe and well-marked routes to/from the BART station (p. 3-1).
Bay Fair Comprehensive Station Plan (2002)	<ul style="list-style-type: none"> ▪ Recommendation: A station area multi-use path greenway designed to incorporate beauty, comfort, safety, and reduce conflicts.
Bay Fair BART TOD and Access Plan (2007)	<ul style="list-style-type: none"> ▪ Recommendation: Replacement of UPRR with an urban greenway for pedestrians and bicycles.
Coliseum Area Concept Plan (2003)	<ul style="list-style-type: none"> ▪ Recommendations: <ol style="list-style-type: none"> 1. Creation of a safe walking network to the station. 2. Bikeways along San Leandro Street with consideration for purchase of UPRR right-of-way.
Fruitvale Station Access Plan (2002)	<ul style="list-style-type: none"> ▪ Recommendation: Identification of infrastructure to create a network of safe walking and bicycle routes to the station.
San Leandro Station Access Plan (2002)	<ul style="list-style-type: none"> ▪ Recommendations: <ol style="list-style-type: none"> 1. Bikeways within the station area. 2. Development of a bike route along the Union Pacific right-of-way. 3. Rail crossing improvements.
Alameda County	
Alameda County Bicycle Master Plan for Unincorporated Areas (2007)	<ul style="list-style-type: none"> ▪ Goal 2: Network Provision and Maintenance – Create and maintain an inter-county and intra-county bicycle network that is safe, convenient, and continuous. ▪ Recommended Projects: <ul style="list-style-type: none"> ○ UPRR Corridor (recommends a study to determine the feasibility of a multi-use pathway) and is a high priority project; East Bay Greenway (p. 30)
Alameda County Pedestrian Master Plan for Unincorporated Areas (2006)	<ul style="list-style-type: none"> ▪ Policy 1.5: Pedestrian improvements should be implemented to strengthen connections to transit.

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Agency/Document	Relevant Recommendations
Ashland and Cherryland Business Districts Specific Plan (1995)	<ul style="list-style-type: none"> ▪ Policy 6.9.2 Bicycle Route Connections: Bicycle routes should link community destinations such as schools, community centers, shopping areas, and transit locations. ▪ Policy 6.9.3 Bicycle Facilities: Bicycle facilities shall be provided in accordance with the County Bikeway Master Plan.
Eden Area Livability Initiative (2005)	<ul style="list-style-type: none"> ▪ Community Principal 7: The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design. ▪ Regional Principal 1: The regional land use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
Eden General Plan Circulation Element (2007 Draft)	<ul style="list-style-type: none"> ▪ Cir-7 Policy P4: The County shall support efforts to develop a regional bikeway network. ▪ Cir-7 Policy P7: The County shall pursue development of safe and efficient Class I bicycle paths within the Union Pacific Railroad Oakland Subdivision right-of-way along Western Boulevard. ▪ Cir-7 Policy Action A3: Support efforts to convert the Union Pacific Railroad Oakland Subdivision right-of-way
Eden General Plan Parks and Recreation Element (2007 Draft)	<ul style="list-style-type: none"> ▪ PR-4 Policy Action P5: Conduct a feasibility study for a multi-use trail along the BART right-of-way shall be assessed. This trail should include paved paths, landscaping and lighting to encourage walking and biking, enhance the visual appearance and ensure public safety. Design of the multi-use path should address privacy, noise and nuisance issues for adjacent residents.
Alameda County Transportation Improvement Authority (ACTIA) / Alameda County Congestion Management Agency (ACCMA)	
Alameda Countywide Bicycle Plan (2006)	<ul style="list-style-type: none"> ▪ High priority projects include connections to transit, projects with regional transportation significance. ▪ Projects 8 and 13 along Corridors 25 and 35 follow a similar alignment to the UPRR corridor.
Alameda Countywide Strategic Pedestrian Plan (2006)	<ul style="list-style-type: none"> ▪ Areas of Countywide significance were determined by three priorities: <ul style="list-style-type: none"> ○ Priority 1: Access to public transit ○ Priority 2: Access to major activity centers ○ Priority 3: Inter-jurisdictional trails ▪ The UPRR corridor as an inter-jurisdictional trail that serves populated areas is an area of countywide significance.
Alameda County Congestion Management Agency (ACCMA)	
Central and East Oakland Community-Based Transportation Plan	<ul style="list-style-type: none"> ▪ Priority Project: Class II facility on San Leandro Street between 66th and 85th Avenues. This project parallels the study corridor.
San Mateo County Transportation Authority	
Dumbarton Rail Corridor Project Study Report (2004)	<ul style="list-style-type: none"> ▪ The proposed project would extend commuter rail service across the San Francisco Bay at the Dumbarton Bridge through Fremont and north to the proposed Union City Intermodal Station.

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Agency/Document	Relevant Recommendations
Capital Corridor Joint Powers Authority	
Draft Capitol Corridor Business Plan Update FY 2009-10 – FY 2010-11 (January 2009)	<ul style="list-style-type: none"> ▪ Table 4-1: Long-term capital improvement program includes the Union City Intermodal Station.
East Bay Regional Parks District	
East Bay Regional Parks District Master Plan (2007)	<ul style="list-style-type: none"> ▪ Potential Regional Trail Project 2B on the 2007 Master Plan Map follows the UPRR alignment south to the County line and north to the Ohlone Greenway up to the County line.
Urban Ecology	
East Bay Greenway: Concept Plan for a Bicycle and Pedestrian Path (September 2008)	<ul style="list-style-type: none"> ▪ This report is a concept plan for a greenway predominantly along the BART right-of-way from 19th Avenue in Oakland to the Hayward BART Station developed by Urban Ecology. ▪ The BART right-of-way is generally adjacent or occupies the western boundary of the UPRR Oakland Subdivision right-of-way.
City of Hayward	
Hayward General Plan, Circulation Element (Amended 2006)	<ul style="list-style-type: none"> ▪ Policy 8: Create improved and safer circulation facilities for pedestrians. ▪ Policy 9: Provide the opportunity for safe, convenient and pleasant bicycle travel throughout all areas of Hayward.
Hayward Bicycle Plan (2007)	<ul style="list-style-type: none"> ▪ The East Bay Greenway is identified as a proposed facility.
South Hayward BART/Mission Boulevard Concept Design Plan (2006)	<ul style="list-style-type: none"> ▪ Multi-use path recommended along the UPRR right-of-way and is identified as the “Potential U.P. Regional Trail.”
City of Oakland	
Oakland General Plan, Land Use and Transportation Element (1998)	<ul style="list-style-type: none"> ▪ Policy T4.7 – Reusing Abandoned Rail Lines: Where rail lines (including siding and spurs) are to be abandoned, first consideration should be given to acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.
Oakland Bicycle Plan (2007)	<ul style="list-style-type: none"> ▪ Policy Action 1A.12: Regional and Inter-regional Bikeways: Work with partner agencies to support the development of regional and inter-regional bikeways. ▪ Policy 1C – Safe Routes to Transit: Improve bicycle access to transit, bicycle parking at transit facilities, and bicycle access on transit vehicles. ▪ Policy Action 1C.1 – Bikeways to Transit Stations: Prioritize bicycle access to major transit facilities from four directions, integrating bicycle access into the station design and connecting the station to the surrounding neighborhoods. ▪ The East Bay Greenway is a priority project (segment 739).
Oakland Pedestrian Plan (2002)	<ul style="list-style-type: none"> ▪ Goal 2 – Pedestrian Access: Develop an environment throughout the City – prioritizing routes to school and transit – that enables pedestrians to travel safely and freely. ▪ Policy 2.1 – Route Network: Create and maintain a pedestrian route network that provides direct connections between activity centers.

Agency/Document	Relevant Recommendations
Open Space, Conservation, and Recreation Element (1996)	<ul style="list-style-type: none"> ▪ Objective OS-5 – Linear Parks and Trails: To develop a system of linear parks and trails with (a) links existing parks together; (b) provides safe, convenient access to open space from residential areas and employment centers; (c) provides places to hike, bike, and experience Oakland’s scenery; and (d) provides a means of moving from one place to another without an automobile. ▪ Policy OS-5.2- Joint Use of Rights-of-Way: Promoted the development of linear parks or trails within utility or transportation corridors, including transmission line rights-of-way, abandoned railroad rights-of-way, and areas under the elevated BART tracks. ▪ Included in the OS-5.2 policy narrative is a consideration for a trail along BART tracks from Fruitvale Avenue to High Street.
City of San Leandro	
San Leandro General Plan, Transportation Element (2002)	<ul style="list-style-type: none"> ▪ Goal 14.05 – Access to Transit: Promote improvements that encourage walking, cycling and other forms of non-motorized transportation to and from transit facilities such as BART stations and AC transit bus lines. ▪ Goal 14.07 – Pedestrian Environment: Strive to achieve a more comfortable environment for pedestrians in all areas of San Leandro with particular emphasis on the BART station areas, Downtown, and major commercial thoroughfares such as East 14th Street.
San Leandro Bicycle and Pedestrian Plan (2004)	<ul style="list-style-type: none"> ▪ San Leandro and Bay Fair BART Stations identified as key pedestrian locations. ▪ A lack of north-south bikeway in western San Leandro is identified. ▪ Recommended priority Class I bikeway identified as BART Trail along the study corridor.
Downtown San Leandro Transit-Oriented Development (TOD) Strategy (2007)	<ul style="list-style-type: none"> ▪ Land Use Objectives for Site D (North BART parking lot): Provide for an extension of the proposed East Bay Greenway to the BART station. ▪ Land Use Objectives for Site (South BART parking lot): Provide for an extension of the proposed East Bay Greenway to the BART station. ▪ Open Space Framework – The East Bay Greenway is described and included as a proposed open space for the TOD study area. (p. 59) ▪ The East Bay Greenway along the BART right-of-way is a recommended component of the Circulation and Parking Framework (p 66).
City of Union City	
Union City General Plan, Transportation Element (2002)	<ul style="list-style-type: none"> ▪ Policy TR-C.2.4: The City shall work with BART, AC Transit, and UC Transit to ensure the bicycle route network provides direct and convenient access to local and regional transit lines and that bicycles are provided access to transit vehicles whenever feasible. ▪ Policy TR-C.3.2: The City shall support regional efforts to implement trails (such as the Bay Trail and Bay Area Ridge Trail), and shall identify opportunities to connect with local trails with regional trails.

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Agency/Document	Relevant Recommendations
Union City Intermodal Station EIR (2006)	<ul style="list-style-type: none"> ▪ A proposed intermodal transit station is proposed at the Union City BART Station. The station is planned to serve BART, Capitol Corridor, future Dumbarton Rail, and bus service. A majority of the project will involve work in the UPRR right-of-way (FEIR 5-4) as well as potential acquisition of the UPRR right-of-way (FEIR 5-6). One identified impact, IMTC-2, is an increase in bicycle and pedestrian facility demand.
Union City Intermodal Station District and Transit Facility Plan (2002)	<ul style="list-style-type: none"> ▪ Recommendations include three greenways, including the Union Pacific Greenway, a multi-use path along the UPRR rail lines at the heart of the proposed transit facility.

3. Baseline Conditions

3.1. *Oakland Subdivision Rail Use*

This section presents existing and planned rail use for the UPRR Oakland Subdivision. **Table 2** provides a summary of rail use for the Study Corridor. The Oakland Subdivision was the westernmost route of the Western Pacific and the original route of the California Zephyr. The portion of the Oakland Subdivision between Union City and Oakland was relegated to industrial spur status after Union Pacific merged with Southern Pacific in 1996, as UPRR chose to operate on SP's parallel route to the west the Mulford Line, instead of the Oakland Subdivision. Most of the line is completely abandoned; however, there are a few industrial customers left on isolated portions on the line. Immediately north of this Study Corridor, sections of the line are used as vehicle access roads, and the Oakland Intermodal Gateway has been built over the former yard at Oakland. Within the Study Corridor, the Subdivision remains open and is not abandoned.

Freight Rail Operations

The UPRR owns, operates and maintains the existing freight rail operations on the UPRR Oakland Subdivision. This use is limited, as few active rail freight customers remain on this corridor. Discussion among stakeholders in development of the Regional Rail Plan documented that approximately two trains per week were operating north of Industrial Parkway in Hayward.¹ Contracted freight service is provided to industrial customers located along the Oakland Subdivision².

Existing Passenger Rail Operations

BART

BART service runs continuously through the Study Corridor. BART owns some of the right-of-way it occupies while some segments are operated via a joint-use agreement with the UPRR. There are seven stations within the Study Corridor including Fruitvale, Coliseum, Downtown San Leandro, Bay Fair, Hayward, South Hayward, and Union City. BART's Station Access plans document the ridership demographics, daily boardings at each station, home origin for passengers using each station, and access mode by walk, bike, transit and auto. Generally, BART riders using the stations in the East Bay corridor are lower-income than on other BART lines. Where residential densities are higher along the Study Corridor, a high percentage of BART patrons walk and bike to the existing BART stations and where residential densities are lower, such as around Coliseum station, BART patrons ride AC Transit. Recommendations for improved pedestrian and bicycle access at each of the stations is detailed in the Station Access Plans and summarized further in **Table 1**.

The BART Dublin-Pleasanton Line and BART Fremont Line run on an elevated structure from the Fruitvale BART Station south to the Bay Fair BART Station where the tracks are at-grade. At this point the Dublin-Pleasanton Line leaves the Oakland Subdivision and travels eastward. The Fremont Line continues south from Bay Fair BART Station to the Union City BART Station and on

¹ Dumbarton Rail Study meeting minutes. < http://www.smcta.com/dumbarton_rail/minutes/CAP_05-30-2007_Meeting_Minutes.pdf>

² Alta/HDR will document current customers and detailed rail activity in the Opportunities and Constraints phase of this study.

to the current Fremont terminus. The BART tracks are generally at-grade south from the Bay Fair Station however, they are elevated near the Hayward and Union City stations.

Table 2: Existing and Planned Rail Service

Rail Agency/Operator	Peak Period Service	Off-Peak Service	Rail Configuration	Operating Characteristics
BART [Oakland Subdivision]				
Fremont -Richmond	15 minute headways	15 minute headways	Elevated Structure	
Richmond-Fremont	15 minute headways	15 minute headways	Elevated Structure	
Dublin/Pleasanton-Daly City/Milbrae	15 minute headways	15 minute headways	Elevated Structure	
Daly City/Milbrae-Dublin/Pleasanton	15 minute headways	15 minute headways	Elevated Structure	
Union Pacific Railroad (Freight Service)				
Local Freight	1 run/week	N/A	Low speed	TBD

Planned Passenger Rail Operations

MTC’s Regional Rail Plan, the Union City Intermodal Station Plan Environmental Impact Report (EIR), and Dumbarton Rail Corridor Study identify realigning the Capitol Corridor commuter rail service from the UPRR Niles Subdivision to the UPRR Oakland Subdivision south of Industrial Boulevard in Hayward. The required improvements have been environmentally cleared with certification of the Union City Intermodal Station Plan Final EIR.

This realignment of service will allow direct Capitol Corridor service to the Union City Intermodal Station and provide for intermodal connectivity between the Capitol Corridor, BART, and regional bus service. The Dumbarton Rail Corridor Study conducted preliminary engineering design for improvements required for restoration of passenger rail service south of Industrial Boulevard in Hayward (south of the Niles Subdivision and Oakland Subdivision intersection).

The Capital Corridor Joint Powers Authority is currently leading negotiations with the UPRR for acquisition of this 3.0 mile segment of the Oakland Subdivision.

Path-Roadway Crossings

The Oakland Subdivision has fifty-six roadway crossings. Of those, thirty-two at grade crossings would require substantial physical and operational improvements to safely accommodate additional pedestrian and bicycle crossings. These existing rail-roadway crossings range from low-volume residential streets to high-volume multi-lane surface arterials. **Table 3** presents the key crossings by jurisdiction.

Table 3: Rail-Roadway Crossings

No.	Cross Street	Local Jurisdiction
1.	High St.	Oakland
2.	54 th Ave.	Oakland
3.	Seminary Ave.	Oakland
4.	66 th Ave.	Oakland
5.	Hegenberger Rd.	Oakland
6.	85 th Ave.	Oakland
7.	92 nd Ave.	Oakland
8.	98 th Ave.	Oakland
9.	105 th Ave.	Oakland
10.	Peralta St.	San Leandro
11.	Davis St.	San Leandro
12.	William St.	San Leandro
13.	Castro St.	San Leandro
14.	Harlan St.	San Leandro
15.	Estabrook St.	San Leandro
16.	Marina Blvd.	San Leandro
17.	Hudson Ln.	San Leandro
18.	139 th Ave.	San Leandro
19.	Haloyon Dr.	San Leandro
20.	Hesperian Blvd.	San Leandro
21.	E. Lewelling Blvd.	County
22.	Hampton Rd.	County
23.	Medford Ave.	County
24.	Cherry Way	County
25.	W. Blossom Way	County
26.	Sunset Blvd.	County
27.	W "A" St.	Hayward
28.	W "B" St.	Hayward
29.	"F" St.	Union City
30.	"H" St.	Union City
31.	"I" St.	Union City
32.	Decoto St.	Union City

In addition to these path-roadway crossings this study must also address creek crossings and existing grade-separated trestles over roadways. These existing narrow structures accommodate the rail width only and would not accommodate a bicycle and pedestrian facility. Only in a rail abandonment

scenario could existing structures be used for a trail. Assuming freight rail continues or passenger rail use of the rail alignment continues, a separate multi-use trail bridge would be required at these locations. The following rail bridges cross existing creeks, utilities or grade-separated roadways:

- 42nd Avenue, Oakland
- San Leandro Creek, San Leandro
- Washington Avenue, San Leandro
- Estudillo Canal, Bay Fair
- Bay Fair BART Access overcrossing, Bay Fair
- Ashland Avenue, San Lorenzo
- SR 238, Ashland
- San Lorenzo Creek, San Lorenzo
- D Street, Hayward
- Jackson Street, Hayward
- Orchard Avenue, Hayward
- Harder Road, Hayward
- Zeile Creek, Hayward
- Tennyson Road, Hayward
- Industrial Parkway, Hayward
- Niles Subdivision overcrossing, Hayward
- Sandoval Way, Hayward
- Dry Creek, Union City

3.2. Study Corridor Demographics

The Study Corridor runs through many distinct neighborhoods from East Oakland to Union City. Though there is great diversity, there are also common themes for example many areas have high levels of poverty and limited access to parks and open space.

Alameda County is home to many children and seniors. According to the 2006 American Community Survey, 27 percent of the population are children under 20 and 11 percent are over 65.

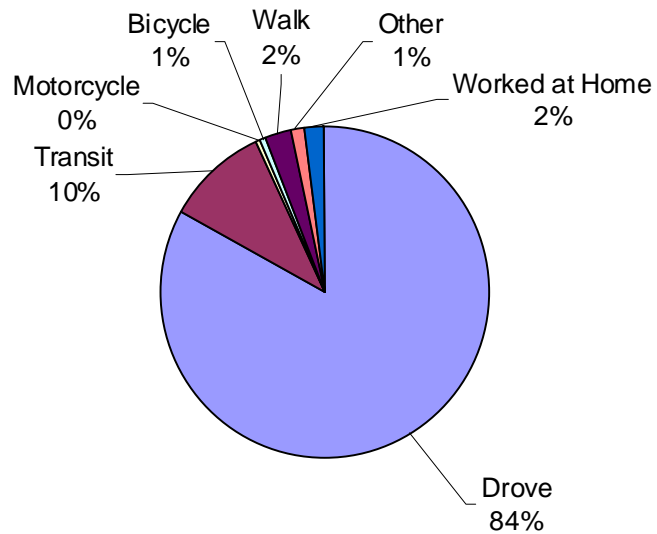
In Alameda County, 11 percent of the population lives in poverty while 14 percent of all children under 18 and 7 percent of seniors live in poverty.³ **Figure 4** shows percent of population living at or below two times the federal poverty level, the standard poverty threshold used by MTC in their Lifeline transportation analysis⁴. The Study Corridor shows particular in concentrations of poverty in Central Oakland and unincorporated Alameda County, in the Ashland and Cherryland neighborhoods.

Figure 5 illustrates the number of households within a half mile buffer of the corridor who do not have access to a private vehicle. Communities outside the BART station walk-shed are those most likely to not have access to a private vehicle.

³ U.S. Census, 2006 American Community Survey.

⁴ MTC Lifeline Report.

While many communities do not have access to vehicles, the mode share of those who drive to work is significant. As shown in **Figure 3**, 84% of those who live within a half mile of the Study Corridor drive to work.



*Figure 3: Mode of Travel to Work
Within One-Half Mile of Study Corridor⁵*

There are a great many children, seniors and people living below the poverty level near the project study corridor yet there are few nearby recreational activity centers. **Figure 6** shows open space and parks in Alameda County. A half mile buffer, considered reasonable travel distance by bike or by foot, has been drawn around the project corridor. Within the buffer, there are a limited number of small parks and community centers. A 2005-2006 public school fitness test found that 30.5 percent of Alameda County students were overweight.⁶ Additionally, Alameda County has the second highest rate of asthma hospitalization in the state.⁷

⁵ U.S. Census, 2000.

⁶ Youth Health and Wellness in Alameda County, 2006.

⁷ Select Health Indicators for Cities in Alameda County, 2007.

UPRR CORRIDOR IMPROVEMENT STUDY
EXISTING CONDITIONS TECHNICAL MEMORANDUM

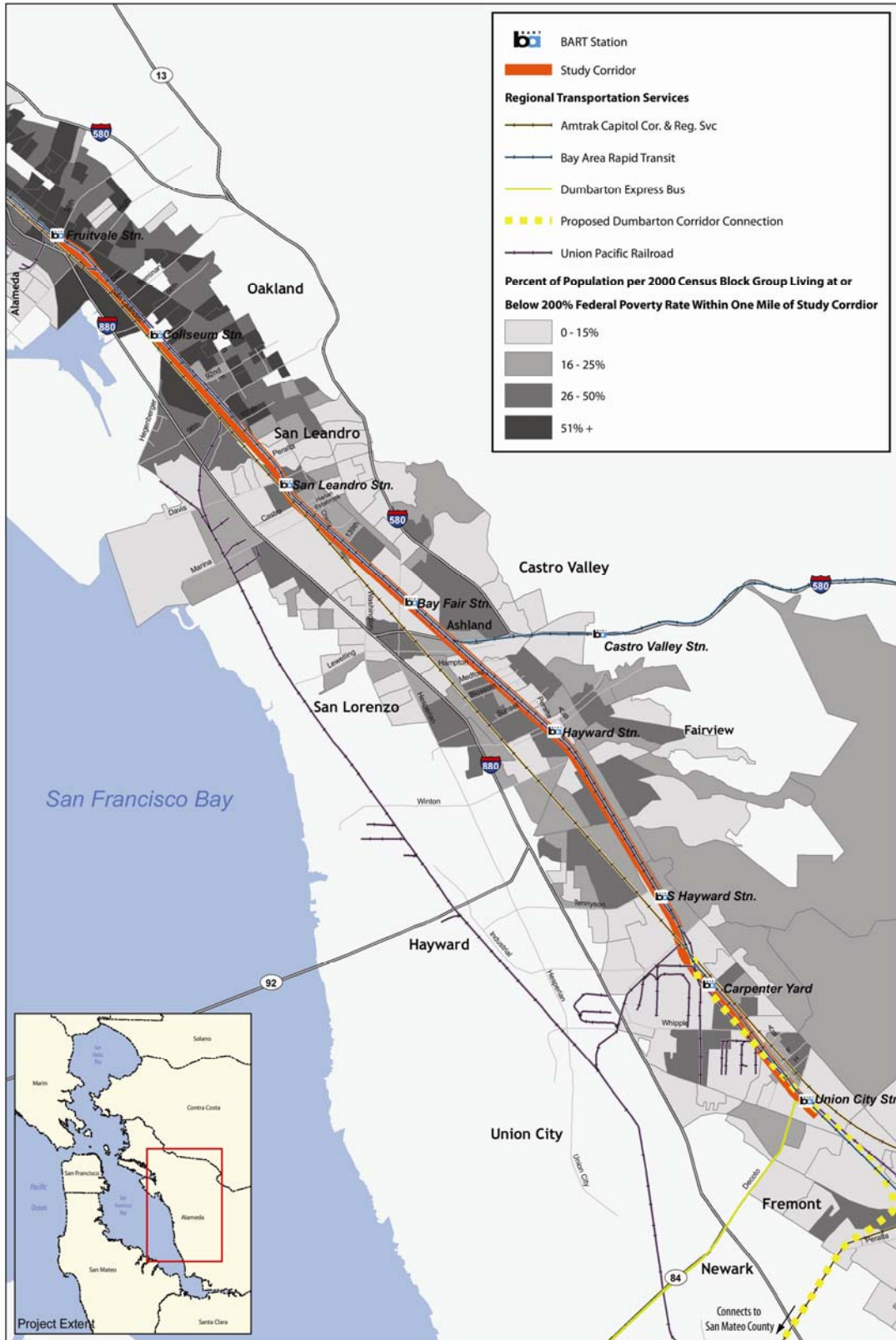


Figure 4: Poverty Level Within One Mile of Study Area

UPRR CORRIDOR IMPROVEMENT STUDY
EXISTING CONDITIONS TECHNICAL MEMORANDUM

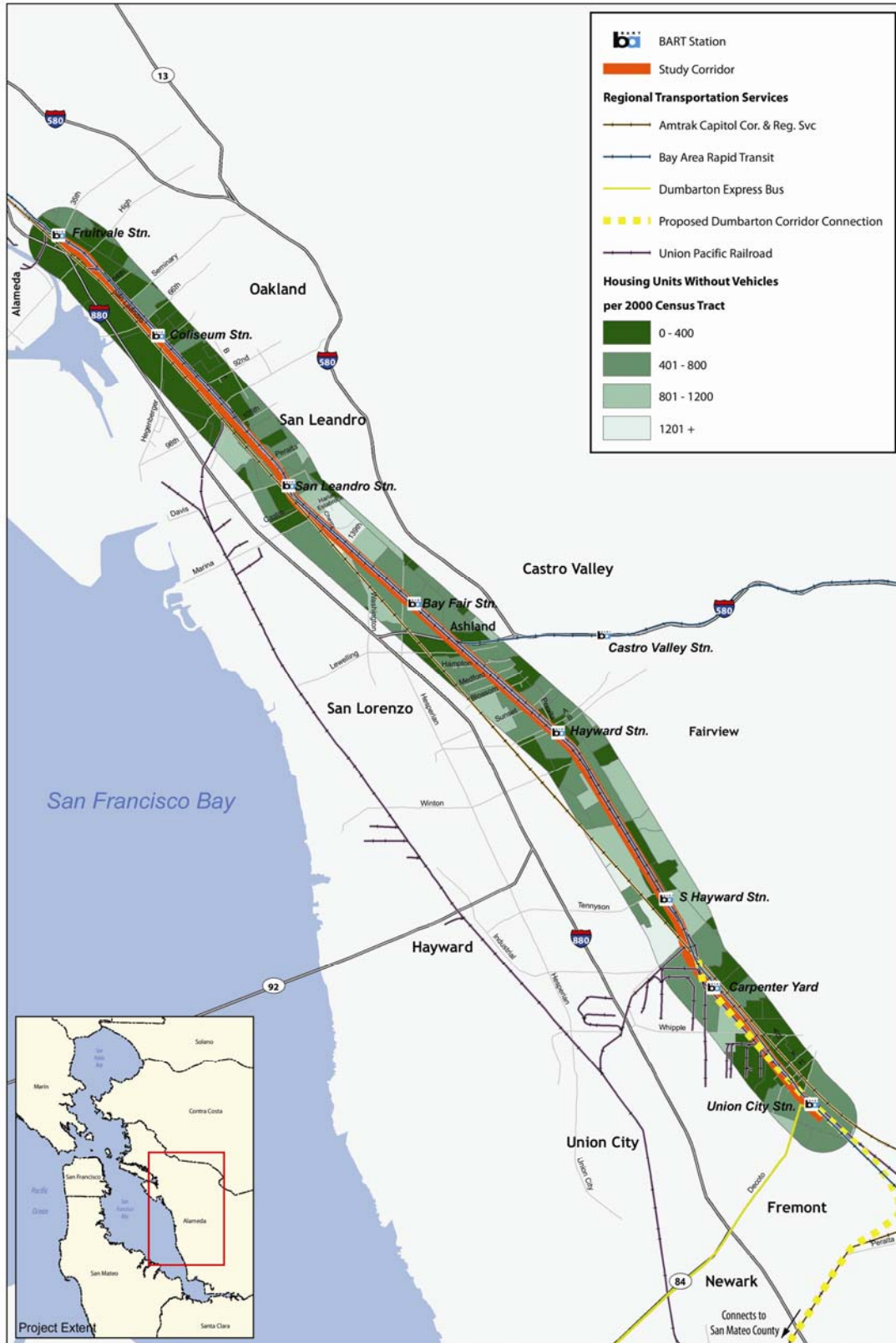


Figure 5: Housing Units Without Vehicles Within Half Mile of Study Area

UPRR CORRIDOR IMPROVEMENT STUDY
EXISTING CONDITIONS TECHNICAL MEMORANDUM



Figure 6: Parks and Open Space Relative to Study Area

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Figure 7: Land Use Designations Relative to Study Area

3.3. Study Corridor Land Use and Transportation

The following section reviews existing land use along the study corridor. The corridor passes through distinct districts including industrial, commercial and residential. **Figure 7** shows the general land uses along the area. The study area has been organized into five segments that generally correspond to jurisdictional boundaries and are described below. The segments are defined by city administrative boundaries, in order to best respond to the unique needs and interests of each of the city and County areas included in the Study Corridor. For each segment, this section includes a discussion of general land use and neighborhood characteristics, access to open space, existing pedestrian and bicycle network facilities, and existing transit service. Together, these overview topics present an introductory picture of the transportation and land use conditions affecting residents travel behavior, community and open space needs in the Study Corridor.

Segment 1: Oakland

Segment 1 begins at the Fruitvale BART Station and continues to 105th Street near the border of Oakland and San Leandro and is shown in **Figure 8**.

LAND USE AND NEIGHBORHOODS

This segment is comprised of a mix of industrial, commercial and residential land uses. The corridor begins at the Fruitvale BART Station which is two blocks from International Boulevard, the heart of the Fruitvale commercial district. This commercial district is surrounded by residential neighborhoods, small commercial businesses, and retail. Further south between the Fruitvale and Coliseum BART Stations, the corridor is immediately surrounded by single story industrial uses with surface auto parking. Outlying the industrial uses to the east are single family homes. To the west are more industrial uses. The last portion of this segment, from the Coliseum BART Station to 105th Street, is immediately surrounded by single story industrial uses with surface parking and bound to the east with single family homes. To the west, south of Louisiana Street, are single family homes.

OPEN SPACE ACCESS

Segment 1 of the Study Corridor provides limited park access as illustrated in **Figure 8**. The corridor bounded by East 14th Avenue in the east and San Leandro Boulevard in the west, with the UPRR Oakland Subdivision roughly in the middle, has no parks between Fruitvale BART and Coliseum BART. This is a vast urban area with significant residential population with no park facilities. In the vicinity of Coliseum BART is the Coliseum Gardens Park and Greenman Park, both providing playing fields and sports facilities but no passive open space. Continuing south, between Coliseum BART and the San Leandro border there are two small park units accessible from San Leandro Boulevard including Stonehurst Recreation Area Park with a community center and playing field, and Siempre Verde Park with a multiple-use open turf area. Throughout Central and East Oakland there is no immediate access to linear open space nor any significant open space acreage. Local residents are required to use available transit or private vehicles to access regional open space either on the Bayshore or in the East Bay Hills.

PEDESTRIAN AND BICYCLE NETWORK

Oakland's pedestrian and bicycle network adjacent to and connecting to the Study Corridor is limited. There is one north/south Class II bikeway on Foothill Boulevard and one Class III on Tidewater Avenue. East/west connections are more numerous yet do not connect with the Study Corridor. A Class III bikeway on High Street, a Class II on Alameda Avenue, and a Class II on 73rd Avenue provide east/west connections.

TRANSIT SERVICE

Segment 1 of the Study Corridor includes the Fruitvale BART station and Coliseum BART station both of which are served by numerous AC Transit bus lines. While the AC Transit network in Central and East Oakland is relatively dense, MTC's Lifeline study identified that this area falls short of several Lifeline transit service objectives, designed to ensure that low-income families, seniors, and youth have access to transit when and where it is needed. The Central and East Oakland Community Based Transportation Plan reviews AC Transit bus service in 2008 illustrating that 19 lines serve this area of Oakland and that only three of the 19 routes meet all of MTC's Lifeline service objectives. This means that numerous gaps exist for bus transit riders in Central and East

Oakland. Furthermore, both the Fruitvale Station Access Plan and Coliseum Station Access Plan identify that additional feeder service to the BART stations is needed to provide better BART access and to support ridership.



Figure 8: Segment 1 Existing Conditions

Segment 2: San Leandro

Segment 2 begins at 105th Street in Oakland as the corridor approaches San Leandro and continues to the Bay Fair BART station (**Figure 9**).

LAND USE AND NEIGHBORHOODS

The primary land uses in this segment are single-family homes with occasional commercial and industrial. Between 105th Street and the San Leandro BART Station the corridor is predominantly surrounded by single family homes on both the west and east sides. The San Leandro BART Station is adjacent to downtown San Leandro. Downtown San Leandro is a walkable destination with a pedestrian friendly street grid and many community serving destinations. Past the San Leandro BART Station, to the Bay Fair BART Station the residential uses to the west make way for industrial buildings with surface parking. To the east, the land use is primarily single family homes with occasional commercial uses.

OPEN SPACE ACCESS

Segment 2 of the Study Corridor provides limited park access as illustrated in **Figure 9**. The corridor has no parks between 105th Street and the San Leandro BART Station, a predominately residential area with low incomes and limited vehicle access. Adjacent to the San Leandro BART Station near downtown San Leandro, there are Lincoln Playground and Thrasher Park. Continuing south, between San Leandro BART Station and the Bay Fair BART Station, there is one park, Halcyon Park. Most residents in this segment must use transit or private vehicles to access open space and park facilities.

PEDESTRIAN AND BICYCLE NETWORK

The pedestrian and bicycle network in San Leandro is adjacent to and does at times connect with the Study Corridor. North/south bikeways include a Class II bike lane on Bancroft Avenue. East/west connections include Class II bike lanes on Davis Street, Castro Street, Hesperian Boulevard, Williams Street, and Estudillo Ave. Most bikeways connect residents to downtown San Leandro while bikeways near the Bay Fair BART Station are limited.

TRANSIT SERVICE

Segment 2 of the Study Corridor includes the San Leandro and Bay Fair BART Stations both of which are served by numerous AC Transit bus lines. The communities along the corridor not immediately adjacent to the BART stations are not well served by transit. There are few transit lines connecting the corridor from east to west. This means there are significant transit gaps for transit riders in the San Leandro corridor area.

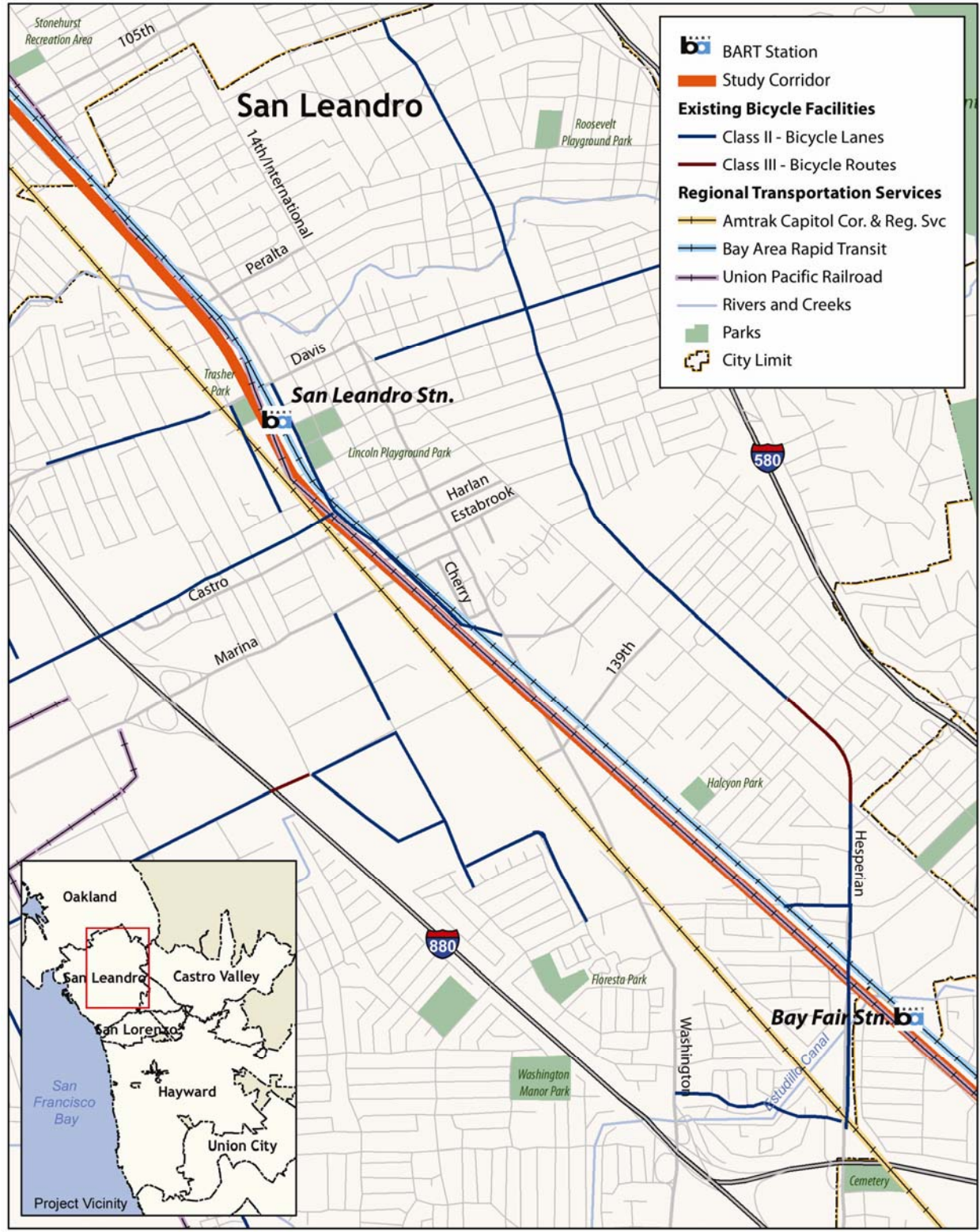


Figure 9: Segment 2 Existing Conditions

Segment 3: Alameda County

The third segment of the corridor begins at the Bay Fair BART station and continues to the Hayward BART station (**Figure 10**).

LAND USE AND NEIGHBORHOODS

This segment is generally comprised of residential land uses with one commercial area. To the east of the Bay Fair BART Station is the Bayfair Mall, a regionally serving commercial center. Also to the east is the Alameda County Medical Center and Chabot Regional Park. To the west is unincorporated residential community, Ashland. Along the UPRR right-of-way between the Bay Fair and Hayward BART Stations, the corridor is bound by single family homes, schools and churches.

OPEN SPACE ACCESS

Segment 3 of the Study Corridor, **Figure 10**, provides no park and open space access. The segment is bound by the Bay Fair and Hayward BART Stations. This is a residential area with some commercial activity, limited vehicle access and to the south of the corridor a community living in poverty. Local residents must use transit or private vehicles to access regional open space.

PEDESTRIAN AND BICYCLE NETWORK

Alameda County's bicycle and pedestrian network in this corridor is limited to the area surrounding the Hayward BART Station. The communities of San Lorenzo, Ashland, and Cherrlyand are not served by a bikeway network. Adjacent to the Hayward BART Station are two east/west bikeways. A Street has a Class II bikeway west of the corridor and continues as a Class III to the east. To the south, D Street has a Class II bike lane on either side of the corridor. A Class II running north/south parallel to the corridor exists on Santa Clara Street.

TRANSIT SERVICE

Segment 3 of the Study Corridor is served by many north/south transit routes however the Central Alameda County Community-Based Transportation Plan and MTC's Lifeline Report have identified transit service gaps. Gaps include limited frequency and hours, lack of bicycle access to transit, and lack of pedestrian access to transit. Additionally, Cherryland was noted as one of the few Bay Area low-income areas with spatial transit gaps.

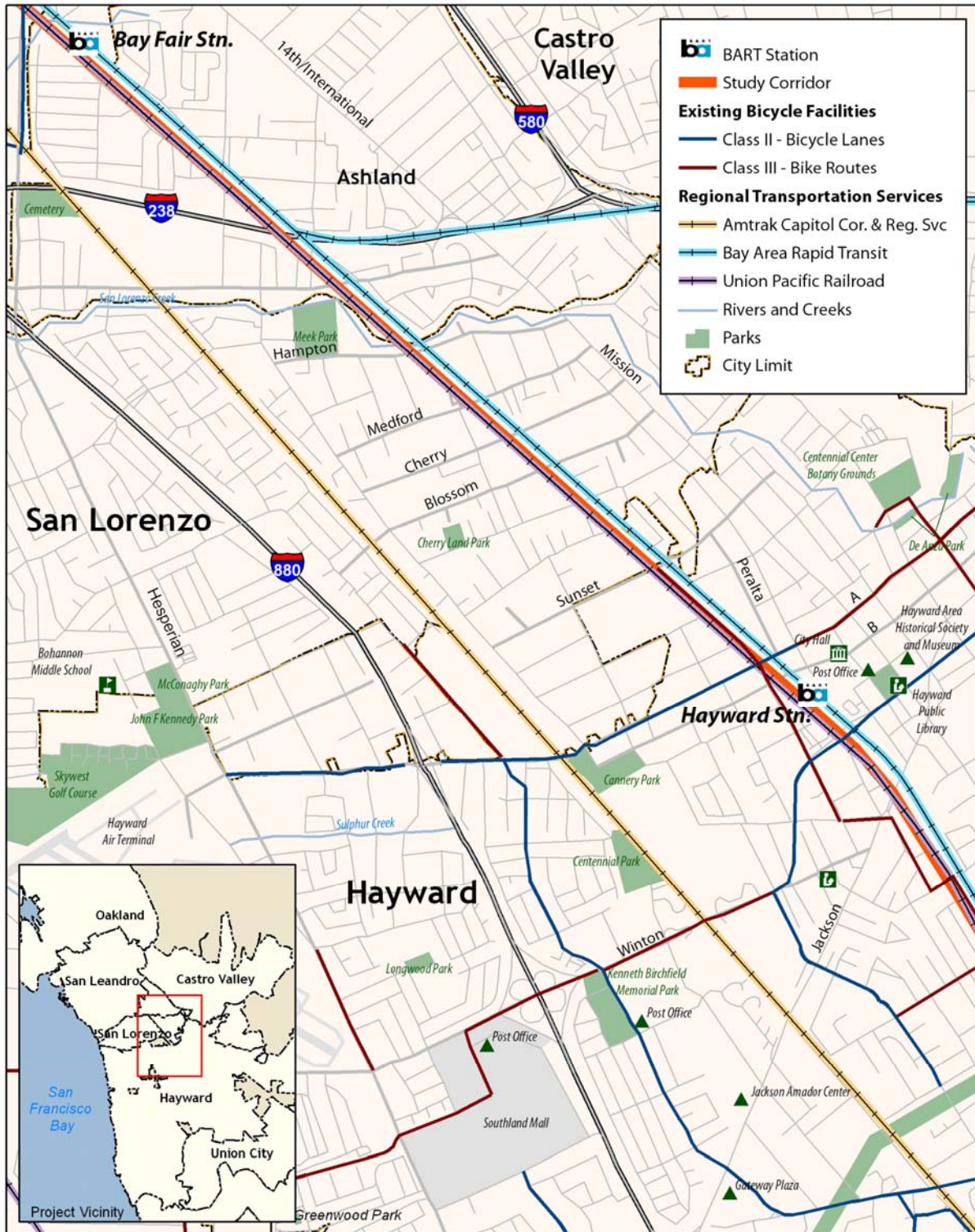


Figure 10: Segment 3 Existing Conditions

Segment 4: Hayward

Segment 4, shown in **Figure 11**, begins at the Hayward BART Station and continues to the Industrial Parkway.

LAND USE AND NEIGHBORHOODS

This segment is bound by residential, downtown commercial and industrial uses. The Hayward BART Station is west of downtown Hayward, where City Hall and the library are located. The downtown, which has many pedestrian friendly amenities, is comprised of small retail and restaurants. The corridor continues to be bound by residential uses south to Sycamore Avenue. At Sycamore Avenue, residential uses become interspersed with commercial and industrial uses continuing to the South Hayward BART Station. Residential uses continue to dominate on the western side of the corridor while the remaining portion of the corridor in this segment is a mixture of multifamily residential, commercial and industrial uses.

OPEN SPACE ACCESS

Segment 4 of the Study Corridor, , provides limited park and open space access. The corridor is bound on both sides with residential uses, however it is interspersed with commercial to the east. The residential areas on the northern portion of the corridor do not have open space access within a reasonable walking distance. Toward the south, small community parks such as Sorendal, Tennyson and Valle Vista serve the residential communities.

PEDESTRIAN AND BICYCLE NETWORK

Hayward's bicycle and pedestrian network adjacent to the corridor consists of numerous east/west routes connecting the community to the Study Corridor as well as north/south routes adjacent to and parallel to the UPRR Corridor. Class II bike lanes on Harder and Tennyson Road provide connections to the Study Corridor. A Class III facility on Orchard Avenue and continuing on Carlos Bee Boulevard provide an east/west connection in the northern area of the corridor.

TRANSIT SERVICE

Segment 4 of the Study Corridor includes the South Hayward BART Station and is served by a limited number of AC Transit Routes. Most AC Transit routes run north/south and east/west connections are limited. The Central Alameda County Community-Based Transportation plan identifies an insufficient number of AC Transit Routes and limited service hours and frequency.



Figure 11: Segment 4 Existing Conditions

Segment 5: Union City

The final segment of the corridor spans from the Industrial Parkway to Union City (**Figure 12**).

LAND USE AND NEIGHBORHOODS

Segment 5 travels through a mixture of distribution centers, office parks, single family residential and a BART train yard (Carpenter Yard).

On the western side of the corridor from Industrial Parkway to Lewis Street are distribution centers and light industrial and commercial uses. Immediately south of Industrial Parkway on the eastern boundary of the corridor, is the BART train yard. East of the yard are single family homes and schools.

South of Lewis and Westgard Streets, the corridor is bound by single family homes to the Union City BART Station. To the west of the Union City BART station are multifamily housing and commercial uses. To the east of the station will be the Union City Intermodal Station, currently under construction.

OPEN SPACE ACCESS

Segment 5 of the Study Corridor provides limited parks and open space access. The corridor is bound to the east by residential uses and to the south with commercial, industrial and residential developments. This is a low-income area with few parks within a walkable distance. Bidwell Park provides access to sport facilities and picnic areas. Charles F. Kennedy Park near the Union City BART Station also provides recreation opportunities including play structures, an amphitheater, community center, teen center and picnic areas. Decoto Plaza is a small park with water fountains and a sitting area. Local residents are required to use public transportation or private vehicles to access additional open space.

PEDESTRIAN AND BICYCLE NETWORK

Union City's bicycle and pedestrian network adjacent to the corridor consists of few facilities. A Class II bike lane crosses the corridor just north of the BART station on Decoto Road. Another Class II bike lane on Alvarado-Niles Road branches away from the corridor as it continues north. Parallel to the corridor to the east is a Class I multi-use path along Mission Boulevard. Though there are bikeway facilities near the corridor, there are few north/south connections and the network has gaps.

TRANSIT SERVICE

Segment 5 of the Study Corridor is served by BART, Union City Transit, the Dumbarton Express and AC Transit. As with the bicycle network, the transit network provides some north/south service and little east/west connections. The residential communities to the north east and to the south west face spatial transit gaps. Additionally, the service provide during off-peak hours is limited. The construction of the Union City Intermodal Transit Facility will bring additional transit options to the area including Capitol Corridor, Dumbarton Rail and the Altamont Commuter Express.

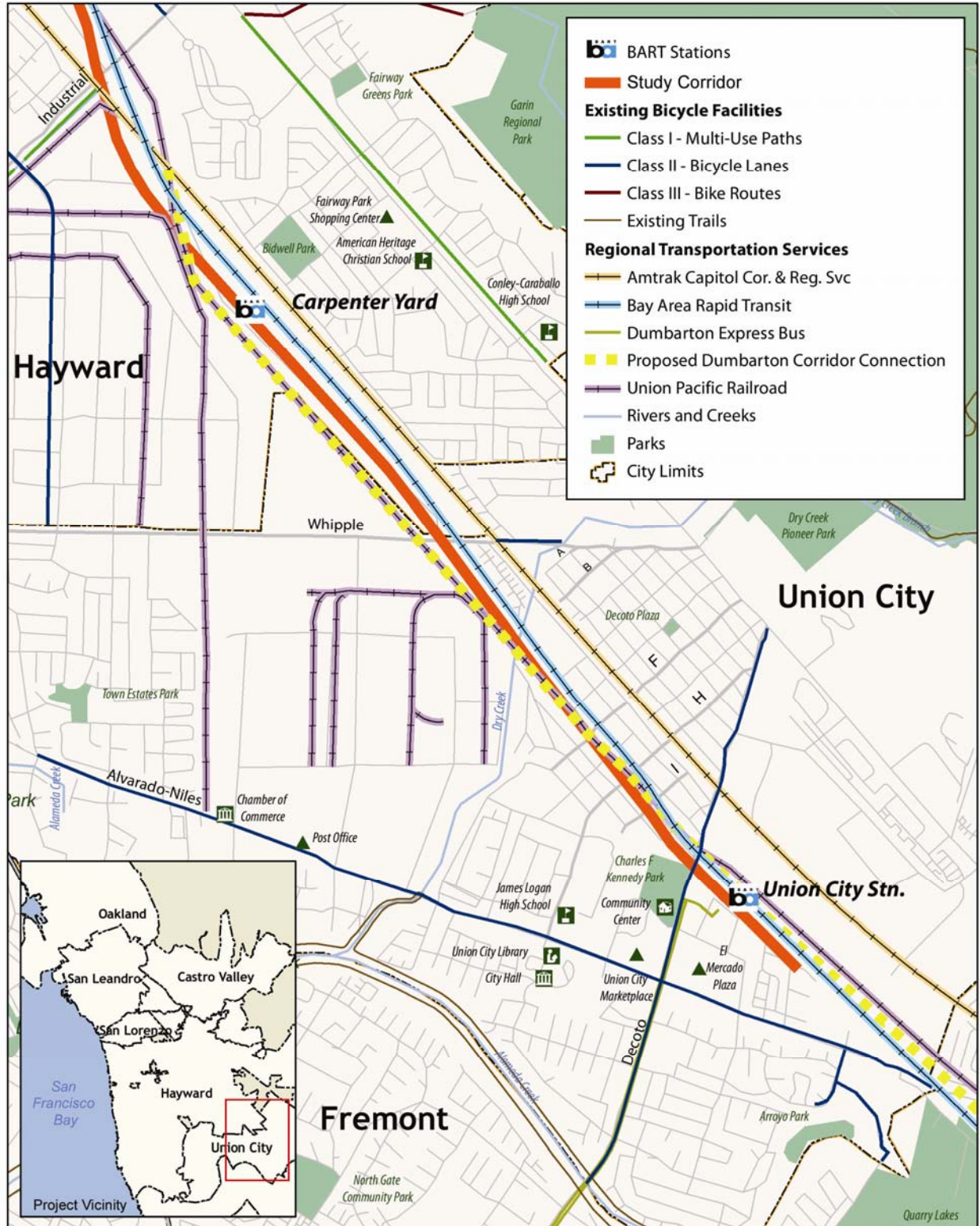


Figure 12: Segment 5 Existing Conditions

3.4. Forecast Major Land Use Change

Transit Oriented Development

Transit Oriented Development (TOD) plans and strategies establish a framework for development that encourages higher density land uses, increased residential and commercial developments, and pedestrian and bicycle access to transit. TODs have been planned for all the BART stations along the study corridor. In some cases, such as at the Fruitvale BART station, the first phase of TOD has been implemented.

As these plans are implemented, the number of people living, working and visiting the Study Corridor station areas will increase considerably. The planned number of residential units and square footage of commercial and retail space will increase. For example, the Coliseum Station Area Concept Plan (2003) includes 900 residential units, 640,000 square feet of commercial space, and 140,000 of retail space. Similarly, the Downtown San Leandro TOD Strategy includes 3,430 residential units, 718,000 square feet of commercial space and 120,800 square feet of retail space.

Table 4 outlines the available information on planned development at or near the stations.

*Table 4: UPRR Oakland Subdivision Study Corridor
Planned Transit Oriented Development*

New	Coliseum BART	San Leandro BART	Hayward BART	S. Hayward BART	Union City Intermodal Station	Total
Residential (units)	900	3430	656	3225	469	8680 units
Commercial (s.f.)	640,000	718,200	67,000	30,784	1,100,000	2,555,984 s.f.
Retail (s.f.)	140,000	120,800	N/A	N/A	100,000	360,800 s.f.

3.5. UPRR Oakland Subdivision Acquisition

The Capitol Corridor Joint Powers Authority is actively negotiating with the Union Pacific Railroad in order to purchase the segment of the Oakland Subdivision south of Industrial Parkway in Hayward. This is required for the realignment of Capitol Corridor rail service to provide direct service and intermodal connection to the Union City Intermodal Station. As discussed below, the need for this acquisition is identified in the Dumbarton Rail Corridor Study, Union City Intermodal Station Plan and in the Metropolitan Transportation Commission (MTC) Regional Rail Plan. Preliminary engineering for this realignment was completed as a part of the Dumbarton Rail Corridor Study. This study will run concurrent with these property acquisition negotiations with the goal of providing additional justification for acquisition of the Oakland Subdivision. In order to achieve this goal, this UPRR Corridor Improvement Study will investigate and document the feasibility of construction for both the planned rail facilities and a RWT facility within the Oakland Subdivision south of Industrial Parkway. Furthermore, this study will continue with the assumption that the entire Oakland Subdivision may be acquired as a transportation corridor preservation effort in order to provide for expansion of pedestrian, bicycle and transit.

4. Rails-with-Trails (RWT) Background

This UPRR Oakland Subdivision Improvement Study will analyze multiple alternatives for development of a trail system in the right-of-way. One scenario is a RWT scenario based on the assumption that the Oakland Subdivision will not be railbanked⁸ and converted to exclusive trail use, but rather purchased as an operating railroad with the potential to implement a RWT facility parallel to the existing track(s). Pursuant to this alternative, this section presents summary design and operations for RWTs.

Beginning in the 1990s, transportation planning agency staff and trail advocates nationwide observed an increase in RWTs. The first national review of this trend conducted was by the Rails-to-Trails Conservancy who documented the following⁹:

- The approximate number of RWT projects has doubled in the past ten or fifteen years, roughly paralleling the growth of rail-to-trail conversion projects
- RWT projects are approximately six-percent of the total number of total rail-trail projects in the nation
- Trails have been implemented in a wide range of locations, with varying levels of rail operations and design characteristics

This section of this Existing Conditions Technical Memorandum reviews subsequent design documentation and guidelines set forth by Federal, State and regional transportation agencies. This section summarizes the available design guidance for Alameda County and partner local agencies as they consider possible design characteristics for a RWT in the Oakland Subdivision.

4.1. *RWT General Planning and Design Guidance*

FHWA and several California regional transportation authorities and operating agencies have authored RWT design guidance in response to growing interest. This section briefly summarizes the relevant design guidance and maintenance/operating guidelines presented in these publications. The key topics addressed by FHWA, Southern California Regional Rail Authority (SCRRA), Northcoast Railroad Authority, and other agencies include planning and feasibility study recommendations, design standards, maintenance and management requirements.

Design Standards

RWT design standards recommended by regional, State and federal agencies are relatively consistent. The primary standards to be considered for any RWT include setback from operating railroads, barrier separation, trail-roadway crossings, trail-railroad crossings, signage, and all other multi-use trail design standards.

⁸ Railbanking is a method by which corridors that would otherwise be abandoned can be preserved for future rail use through interim conversion to a trail. Established in 1983 as an amendment to Section 8(d) of the National Trails System Act, the railbanking statute allows a railroad to remove all of its equipment, with the exception of bridges, tunnels and culverts, from a corridor, and to turn the corridor over to any qualified private organization or public agency that has agreed to maintain it for future rail use.

⁹ Rails-To-Trails Conservancy. “*Rails-with-Trails: Design, Management, and Operating Characteristics of 61 Trails Along Active Rail Lines.*”

Multi-use trail design standards are not treated in detail here but will be used in subsequent stages of this study. Caltrans Highway Design Manual Chapter 1000, Bikeway Design Guidelines, American Association of State Highway Transportation Officials Guide for the Development of Bicycle Facilities, and the California Manual of Uniform Traffic Control Devices all provide design guidance for multi-use trails.

The following design standards derived from the FHWA and SCCRA are specific to RWT and are relevant to any consideration of RWT in the UPRR Oakland Subdivision:

- RWT widths, clearances, sight distances, signs, markings, drainage grates, etc. will be selected as per Caltrans “Highway Design Manual”, Chapter 1000, “Bikeway Planning and Design.”
- The RWT design should acknowledge any future rail and highway improvements; and safety requirements.
- RWT shall be designed along the outer edges of the right-of-way adjacent to the property line, to the extent feasible.
- The minimum recommended setback between track centerline and closest edge of the RWT is 7.6 m (25 ft) for most higher speed and frequency train lines.
- Additional barriers, vertical separation, or other methods will be employed at constrained points where minimum recommended setbacks cannot be met or other factors dictated additional safety needs.
- RWT corridors will be designed such that trail users are routed to an existing signalized grade crossing whenever possible.
- RWT design and construction should meet the requirements shown in existing guidelines for at-grade crossings.
- RWT surface and bridges will be designed and constructed to accommodate heavy railroad trucks and equipment.
- Choice of RWT pavement material and depth of sub-base, base and pavement will be determined by the public agency based on sound engineering design and judgment.

Maintenance, Operations and Safety

Safety and security are of prime importance to trail planners, users, and managers as well as railroad owners and operators. Maintenance and operation of RWT corridors maximizes safety and minimizes security concerns along the trail and should incorporate education, outreach, and enforcement amongst both trail and rail users.

The following general recommendations for maintenance and operations are common to all of the guiding documents reviewed as a part of this Existing Conditions Technical Memorandum:

- Public Agencies shall maintain the RWT, fence, gates, signs, landscaping, and any other improvements part of the licensed RWT project area, in good order and condition to the satisfaction of [corridor owner] and public agency, at its own cost and expense.
- Public Agencies shall notify rail operator five (5) days in advance of any construction or maintenance activity that will occur within the right-of-way.
- Trail managers have the responsibility to ensure that trail users stay away from the operating railways.
- Most railroads rely on local police departments to enforce trespassing and vandalism laws; local police and emergency personnel tend to respond as needed to specific incidents; RWT corridors may have rail personnel, security guards, or park rangers who patrol daily or more frequently.

- Every RWT project should develop a public safety plan that includes:
 - Proper design and use of space to minimize crime and trespassing;
 - Incorporate strong and damage-resistant construction materials;
 - Provide coordinated patrol and emergency response;
 - Ensure that lighting, emergency reporting call-boxes, and other monitoring devices are provided frequently;
 - Host frequent events along the trail corridor
- Either passive or active trail user education should be provided to inform users of safety concerns and enforcement programs along the trail.
- Railroad owners or companies should host, sponsor, and attend educational programs for the community, railroad staff and operators, and other trail users.

4.2. California RWT Precedents

The following section summarizes the physical and operational characteristics of several RWT projects from major metropolitan areas around California.

MISSION CITY TRAIL

- *Location:* City of San Fernando, California
- *Description:* A one-mile trail through the City of San Fernando in northern Los Angeles County; currently in usage, the trail was developed and created in the 1990s;
- *Rail Operations:*
 - Southern California Regional Rail Authority (SCCRA) operates 26 Metrolink passenger trains traveling at 79 mi/h.
 - Five freight trains use the corridor daily at 50 mi/h.
 - The number of trains is expected to increase in the future.
- *Physical Characteristics:* Every RWT project should develop a public safety plan that includes:
 - Material: Concrete
 - Width: 8 ft wide with 3 ft shoulders; meanders within a 20 ft section of the right-of-way along the eastern edge of the railway.
 - Setback: 25 ft from the track centerline.
 - Separation: 6 ft high fence; combination of chain link and wrought iron additional landscaping includes shrubs, trees, and signs.
 - Crossings: Stop gates at several at-grade crossings.
- *Operational Characteristics:*
 - The trail is lit and allows night use.
 - Regular maintenance of the corridor involves sweeping, cutting debris, patching holes in fences, fixing trail problems, replacing signs, and replacing deteriorating surfaces; the Mission City Trail is maintained by local governments and is reported to take \$50,000 annually.
 - Local police departments provide bicycle patrols for special events.

THE ATCHINSON, TOPEKA, AND SANTA FE (ATSF) TRAIL

- *Location:* City of Irvine, Orange County, California
- *Description:* This asphalt trail runs through the City of Irvine, mainly serving local residents and adjacent neighborhoods; currently in operation, the trail was designed in the 1970s and

- opened in 1984.
- *Rail Operations:*
 - Southern California Regional Rail (SCRRA) operates 31 Metrolink trains in OCTA's rail right-of-way.
 - Amtrak operates 22 trains at speeds up to 90 mi/h.
 - Eight freight trains use the corridor at 55 mi/h.
 - The trail runs through a 200 ft wide Southern California Edison utility easement; the Orange County Transportation Authority (OCTA) owns the railroad corridor
- *Physical Characteristics:*
 - Material: Asphalt.
 - Width: 10 ft wide.
 - Setback: Varies as the trail meanders through the easement; typically 50 ft to 100 ft from the track centerline.
 - Separation: 5 ft high chain link fence; landscaped with trees and shrubs.
 - Crossings:
- *Operational Characteristics:*
 - Local police departments patrol and respond to incidents along the trail by patrol car.
 - Police noted decreased dumping and trespassing along the corridor.
 - Lack of trail signage at trail entrances; one park limited parking; no additional staging areas.

COASTAL RAIL TRAIL

- *Location*: Cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, and San Diego County, California
- *Description*: Planned trail will connect Oceanside to San Diego; planned in late 1990s and early 200s, construction started 2003
- *Rail Operations:*
 - The North County Transit District (NCTD) operates 18 "Coasters" per day Monday through Friday and eight "Coasters" per day on Saturday.
 - Amtrak operates 22 "Pacific Surfliners" per day; trains operate at speeds up to 90 mi/h.
 - Five freight trains travel at 50 mi/h.
 - Up to 48 San Diego Trolley trains operate on a weekly basis between 30 to 40 mi/h.
 - Trail located within the San Diego Northern Railway right-of-way; the right-of-way is owned and managed by the NCTD and the Metropolitan Development Board.
- *Physical Characteristics:*
 - Material: TBD
 - Width: TBD
 - Setback: TBD
 - Separation: TBD
 - Crossings: TBD
- *Operational Characteristics:*
 - Needs to limit trespassing over existing rail tracks for access to nearby beaches

SANTA CLARITA TRAIL

- *Location*: City of Santa Clarita, California

- *Description:* Approximately 2 miles of trail parallel to SCRRA (Metrolink) rails, within the right-of-way; construction completed in 1996.
- *Rail Operations:*
- *Physical Characteristics:*
 - Setback: Significant setback to allow construction and maintenance around tracks.
 - Separation: Split rail fencing to prevent trespassing; landscaping with proper drainage.
 - Crossings: The trail crosses two streets at pedestrian crosswalk; pedestrian signals at each crosswalk are blacked-out during pre-emption; access gates for railroad maintenance are installed at each crossing.

In addition to the existing trails outlined above, several additional trails exist within the SCRRA/Metrolink area that exist in similar operating conditions to the trails outlined above:

City of Palmdale

- *Location.* City of Palmdale, California
- *Description.* 2.2 miles; constructed between 1996-1997

City of Lancaster

- *Location.* Lancaster, California
- *Description:* 3 miles
 - Separation: Chain link fence, landscaping, and drainage.
 - Crossings: One crossing without signals.

City of Los Angeles

- *Location.* City of Los Angeles, California
- *Description:* Crossing and drainage issues, landscaping.

5. Draft Vision, Goals and Objectives

The draft goals and objectives presented in this section are derived from the policy review conducted for this Existing Conditions Technical Memorandum, similar RWT corridor studies, and project specific needs. These goals and objectives will serve as a project guide and will support development of specific alignment selection criteria later in the project:

Specific actions taken by Alameda County and partner agencies pursuant to acquisition of the UPRR Oakland Subdivision must be based upon agreed-upon priorities that reflect the long-term goals and aspirations of the region. The goal, objective and policy statements that follow form the framework for transportation corridor preservation and establish the significant role of RWT in this framework.

5.1. Definitions

Vision, goals and objectives are defined here to establish the meaning and function of these terms in a planning context.

VISION is an idea of the future; it is an image, a strongly felt wish; it is an aspirational description of what an organization or community would like to achieve or accomplish in the mid-term or long-term future. It is intended to serve as a clear guide for choosing current and future courses of action.

GOALS are broad statements of purpose that reflect the community's collective vision of the future. For example, one goal may be to "create a community greenway and multi-use trail within the UPRR Oakland Subdivision right-of-way."

OBJECTIVES are the "yardsticks" by which the goals may be measured. They describe specific conditions that are desirable in order to attain a given goal. For example, an objective may be to "provide a trail that is separated from motor vehicle traffic wherever feasible."

5.2. Study Vision

Alameda County and its partner city and transportation agencies will determine the feasibility of a multimodal transportation corridor along the UPRR Oakland Subdivision that would create a pedestrian and bicycle multi-use path balanced with regional rail transportation needs from the Fruitvale BART Station to Fremont.

5.3. *Study Goals*

GOAL 1: PEDESTRIAN AND BICYCLE PATHWAY SYSTEM DEVELOPMENT

Determine feasibility of a continuous public multi-use path with strong connections to transit, bicycle and pedestrian facilities and builds on and enhances the concept of the East Bay Greenway plan.

GOAL 2: MULTI-MODAL CORRIDOR PRESERVATION

Identify strategies to preserve the UPRR Oakland Subdivision as a continuous multi-modal transportation corridor that will balance the needs of a continuous multi-use path with existing, potential and planned rail operations in the corridor.

GOAL 3: NEIGHBORHOOD OPEN SPACE AND IDENTITY

Identify opportunities to enhance public access to open space and neighborhood assets in close proximity to the Oakland Subdivision.

GOAL 4: IMPLEMENTATION, OPERATION AND MAINTENANCE

Define costs associated with development, operation and maintenance of feasible alignment options for each defined segment of a continuous multi-use path and associated improvements. Identify ongoing operation and management needs and potential responsible parties

GOAL 5: FUNDING

Identify funding strategies for acquisition, implementation, operation and maintenance.

UPRR CORRIDOR IMPROVEMENT STUDY
EXISTING CONDITIONS TECHNICAL MEMORANDUM