Solano Transportation Authority

Final

SAFE ROUTES TO TRANSIT PLAN

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Prepared for:

Solano Transportation Authority

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Solano Transportation Authority

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Executive Summary

Transit Ridership Will Increase with Improved Access

The purpose of the Solano County Safe Routes to Transit Plan (SR2T Plan) is to generate increased transit ridership by identifying specific strategies that improve transit center access and pedestrian and bicyclist safety. The ultimate goal for the SR2T Plan is to provide adequate detail and justification for Solano Transportation Authority (STA) and its member agencies to pursue funding that can be used to implement projects and programs.

Five study areas around existing Transit Facilities of Regional Significance (TFORS) are addressed in this plan:

- Fairfield Transportation Center
- Suisun City Capitol Corridor Train Station
- Vacaville Transportation Center
- Vallejo Transit Center / Downtown Parking Structure
- Vallejo Transportation Center at Curtola and Lemon Street

Recommendations Are Consistent with Local Values

The SR2S Plan reflects strategic collaboration with key stakeholders. The SR2T Steering Committee was established to provide guidance for the SR2T Plan development. Three committee meetings were held between August and December 2011. The committee was responsible for reviewing the walking audit form and routes, suggesting members for each TFORS Task Force, and reviewing recommendations and the draft report.

For each study location, a Task Force was developed to participate in SR2T Plan development. The primary purpose of each Task Force was to participate in a walking audit of the TFORS site and surrounding transportation facilities. The walking audits were held during September and October 2011.

Planning Informed By Extensive Data Collection

In addition to the walking audits described above, an extensive data collection and analysis effort was completed for each study area. Data collection and analysis included existing and planned transit service, pedestrian and bicycle collisions, crime analysis and field observations of issues and opportunities.

Prioritized Projects for Implementation

Each of the TFORS locations is unique and has a customized set of strategies that respond to the individual station features, transit service profile, existing and potential transit markets, and the surrounding transportation network and land use characteristics. The SR2T Plan used the following prioritization criteria to rank recommended strategies:

- Gap closure
- Improves access for pedestrians, bicyclists, or people with disabilities
- Improves safety
- Improves convenience

Chapters 6 through 10 present detailed information regarding each of the study areas, including a list of prioritized strategies to improve pedestrian and bicycle access to transit. Strategies for improving conditions at the transit facility itself are also provided.

1 Introduction

Purpose

The purpose of the Solano County Safe Routes to Transit Plan (SR2T Plan) is to generate increased transit ridership by identifying specific strategies that improve transit center access and pedestrian and bicyclist safety. These strategies provide what is often referred to as the "first-mile" (access from home to transit) and "last-mile" (access from transit to work, school, etc.) solutions.

The Plan accomplishes this objective by establishing a list of transit improvement projects and programs in the following categories:

- Transit facility improvements
- Pedestrian and bicycle access improvements to the transit facilities

Five study areas around existing Transit Facilities of Regional Significance (TFORS) are addressed in this plan. Four study areas are within Priority Development Areas (PDA), which are locally-identified infill development areas near transit and within existing communities. Each of the locations is unique and has a customized set of strategies that respond to the individual station features, transit service profile, existing and potential transit markets, and the surrounding transportation network and land use characteristics. The five study areas are listed below and are summarized in Chapter 3.

- Fairfield Transportation Center
- Suisun City Capitol Corridor Train Station
- Vacaville Transportation Center
- Vallejo Transit Center / Downtown Parking Structure
- Vallejo Transportation Center at Curtola and Lemon Street

Vision

The ultimate goal for the SR2T Plan is to provide adequate detail and justification for Solano Transportation Authority (STA) and its member agencies to pursue funding that can be used to implement projects and programs, which improve transit access and pedestrian and bicyclist safety. New policies at the federal, state, and regional level have resulted in programs that promise to provide increased funding in the coming years for transit enhancement projects.

Report Contents

The remainder of this report contains the following:

Chapter 2: Background on transit providers, TFORS and related efforts

Chapter 3: Overview of study locations

Chapter 4: Community participation process

Chapter 5: Data collection efforts

Chapters 6 – 10: Study location review and ecommendations (one chapter for each TFORS)

Chapter 11: Additional measures and strategy guide

2 Background

Transit Providers

Collectively, existing transit services within Solano County provide direct links to Bay Area Rapid Transit (BART) stations and the San Francisco Ferry Building, to the transit connection hub at the State Capitol in Sacramento, and to University of California, Davis. In addition, local transit services provide connections to the regional system, and to local activity centers such as Solano College, the Westfield Mall and employment centers. Each system is described briefly below.

Amtrak (Capitol Corridor) operates commuter trains between Auburn and San Jose, with stations in major destinations such as Sacramento, Davis, Richmond (BART connection), San Francisco (via Amtrak bus connection in Emeryville), Oakland, and San Jose. Capitol Corridor operates 32 trains that serve the Suisun City Capitol Corridor Train Station.

Vallejo Baylink Ferry is a public water transportation service provided by the City of Vallejo and operated by the Blue & Gold Fleet, with high-speed ferries. The transition of Baylink to the Water Emergency Transportation Authority (WETA) is currently in motion and is expected to be complete in early 2012. WETA is a regional agency authorized by the State of California to operate a comprehensive San Francisco Bay Area public water transit system.

Dixon Readi-Ride is a public dial-a-ride transit system, which provides curb-to curb transit service within Dixon city limits. All requests are honored on a space-available basis.

Fairfield and Suisun Transit (FAST) provides local fixed-route bus service, SolanoExpress regional fixed-routes 20, 30, 40 and 90, DART paratransit service and various other senior transportation services for the communities of Fairfield and Suisun City.

Greyhound operates long-distance bus travel with numerous stops in Solano County including the Vallejo Transportation Center at Curtola and Lemon Street and Suisun City Capitol Corridor Train Station.

SolanoExpress is a coalition of transit operators in greater Solano County, working together to provide intercity transit bus service with connections to the Bay Area and Sacramento. SolanoExpress coordinates the region's public transportation options and provides commuters and other riders with the most efficient, personalized intercity transit itinerary.

Solano County Transit (SolTrans) is the result of a recent (July 2011) consolidation of former Vallejo Transit, Vallejo Runabout and Benicia Breeze transit systems. SolTrans was formed in November 2010 to build a unified public transit system in southern Solano County. Vallejo Transit had seven routes in Vallejo and four intercity routes to BART and several Solano County cities. Runabout operated ADA paratransit for persons with disabilities who are unable to use fixed route service. The Benicia Breeze operated fixed route dial-a-ride and flex route services. The riding public will not see any service changes in this initial consolidation until a system-wide Short Range Transit Plan is completed.

Rio Vista Delta Breeze offers deviated fixed route bus service within the City of Rio Vista and between Isleton, Rio Vista, Fairfield, Suisun City, Pittsburg/Bay Point BART Station and Antioch with connections to Lodi.

Vacaville City Coach provides local fixed-route bus service. The current system operates six fixed routes with access to regional connections via new the Vacaville Transportation Center.

Transit Facilities Of Regional Significance

STA has identified 31 Transit Facilities of Regional Significance (TFORS), which are defined according to the following criteria adopted by the STA Board on December 10, 2008.

"Transit Facilities" are permanent, fixed infrastructure such as bus, ferry and train stations, maintenance yards and the roadways used by transit vehicles.

"Regional Significance" means connecting Solano County and its communities with the greater northern California region, or connecting communities within Solano County.

Transit Facilities of Regional Significance are:

1. All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.
2. All ferry facilities, including terminals, maintenance docks and fueling stations, current or planned, identified in an adopted STA Plan.
3. Bus stations providing all of the following services:
   a. Routes to destinations outside Solano County or between two or more cities in Solano County
   b. Peak hour headways of 1 hour or less
4. Maintenance and parking facilities for buses providing services identified in 1, 2 or 3 above.
5. Interchanges that provide access to and from the highway system for stations identified in 1, 2 or 3 above.

All TFORS are indicated in Figure 1 with emphasis given to the five study locations for the SR2T Plan. Table 1 provides an overview of each TFORS. The five study locations are noted in bold italics.

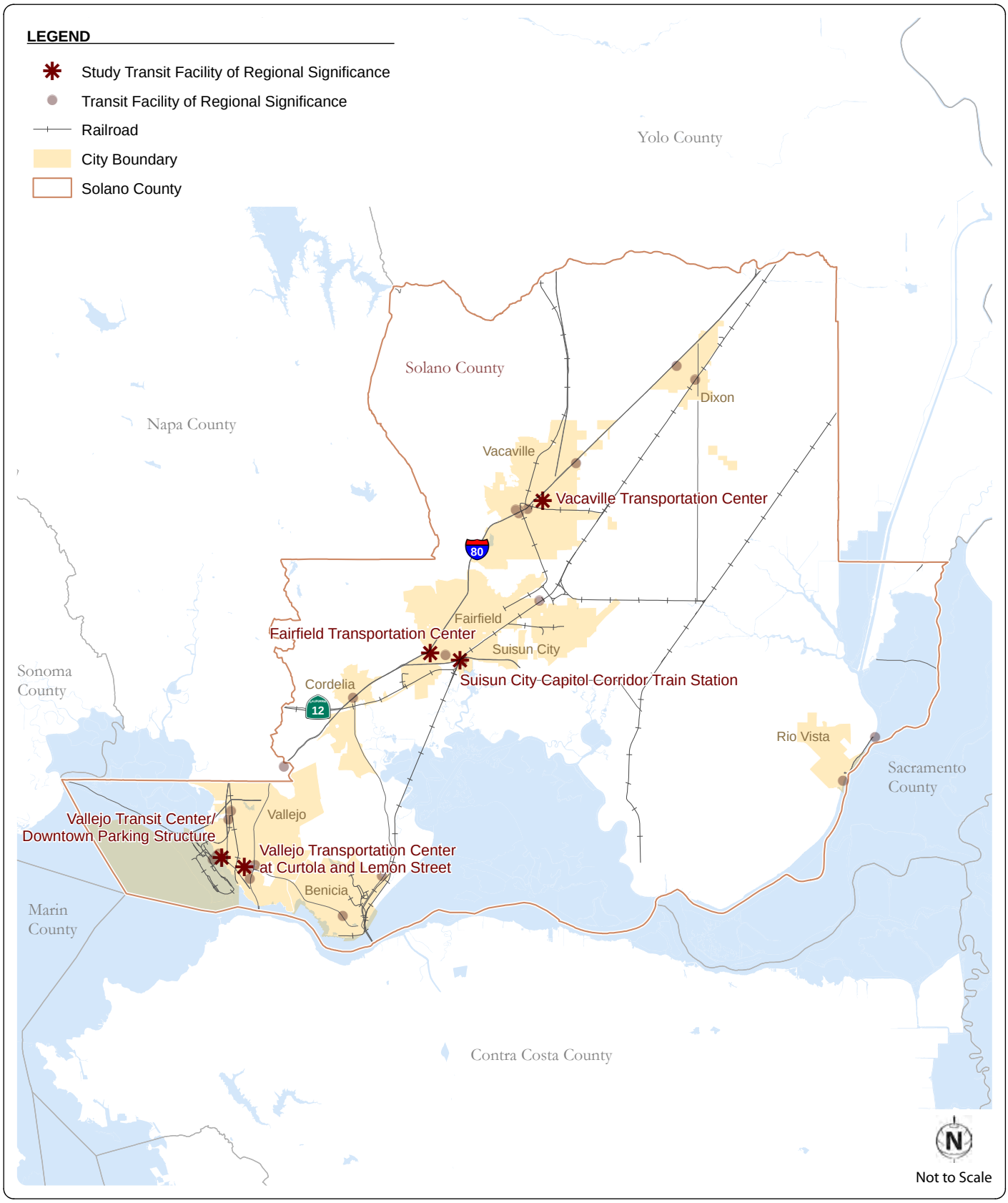
Table 1: Transit Facilities Of Regional Significance

Facility	Location	Description
Passenger Stations (rail, ferry, bus)		
Suisun City Capitol Corridor Train Station	Main Street – Suisun City	Existing train station and platform for Capitol Corridor; short-term auto parking; bus loading and unloading spaces; 250+ park-and-ride across Main Street.
Vallejo Intermodal Station (includes Vallejo Transit Center / Downtown Parking Structure)	Mare Island Way/ Georgia Street – Vallejo	Existing Ferry terminal: ticket station, waiting area, dock. 900-space parking lot; bus stops; new bus transfer facility; parking structure under construction.
Fairfield Transportation Center	Cadenasso Drive – Fairfield	Existing Multimodal transit center: 640 surface and structure parking spaces; covered bus bays.
Vacaville Transportation Center	Allison and Ulatis Drives – Vacaville	Bus station with covered bays, 200-space surface lot (Phase I). Phase II 400-space parking structure; not yet funded.
Fairfield/Vacaville Intermodal Station	Peabody and Vanden Roads – Fairfield	Future train station and platform for Capitol Corridor; 200 space surface parking in Phase I with 400 space structure in Phase II. Not fully funded; existing passenger train service commitment.
Dixon Train Depot	A St and SR 113 – Dixon	Existing train depot for Capitol Corridor; 114 space parking lot; future passenger platform. Not fully funded; no passenger train service commitment.
Passenger Transfer Sites		
Vallejo Transportation Center at Curtola and Lemon Street	Curtola Parkway – Vallejo	Existing intercity bus transfer site and 419-space park and ride lot. Future park and ride parking structure and intercity bus station; Phase I fully funded.
Davis Street Park and Ride	Davis Street – Vacaville	Intercity bus transfer site and 250-space Park and Ride lot.
Dixon Park and Ride Lot	Market Lane and Pitt School Road – Dixon	89 space Park and Ride lot; stop for Route 30.
York/Marin Transfer Station	York and Marin Streets – Vallejo	Bus transfer station serving Routes 80 and 85
Sereno Transfer Station	Sereno St between Sonoma Boulevard and Broadway Street – Vallejo	Bus transfer station serving Route 85

Table 1 Continued: Transit Facilities Of Regional Significance

Park and Ride Lots		
Existing Park and Ride Lots	Existing Park and Ride Lots not co-located with other facilities	Vacaville Leisure Town – 45 spaces Vacaville Cliffside – 125 Vacaville Bella Vista – 200 spaces Fairfield Green Valley – 59 spaces Vallejo American Canyon Road[1] – 22 spaces Benicia Lake Herman Road[1] – 48 spaces Benicia E Street – 15 spaces Vallejo Benicia Road – 13 spaces Vallejo Magazine Street – 19 spaces Vallejo Lemon Street – 64 spaces Red Top Road - 214 spaces Rio Vista Front and Main – 20 spaces
Proposed Park and Ride Lots	Approved and/or partly or fully funded Park and Ride Lots	Benicia – Southampton Road Benicia – Downtown Park Benicia – Industrial Way
Support Facilities (ferry, bus, rail)		
Vallejo Ferry Maintenance and Fueling Station	Nimitz Avenue, Mare Island – Vallejo	Ferry maintenance facility and fuel station
Vallejo Transit Bus Maintenance Yard	1850 Broadway – Vallejo	Maintenance and storage yard for Vallejo Transit intercity buses
Fairfield and Suisun Transit Bus Maintenance yard	420 Gregory Street – Fairfield	Maintenance and storage yard for FAST intercity buses
Union Pacific Railroad Tracks	Solano County; Dixon, Fairfield, Suisun City, Benicia	Railroad tracks, switches, right-of-way used for passenger train service, from Yolo County border to Carquinez Strait.

Notes:
[1] Not officially designated by Caltrans or a City as a Park and Ride lot, but continuously functions as such.
***Bold italics** facilities are the five study locations.*
Source: STA, 2011



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TRANSIT FACILITIES OF REGIONAL SIGNIFICANCE

FIGURE 1

Mode Split

Table 2 provides mode split percentages for the four jurisdictions representing the study location TFORS. The table is based on 2000 US Census Journey to Work Data for Solano County. A similar data set is not available from the 2010 Census. The following trends are evident:

The greatest proportion of rail use, 3.4-percent, occurs for work trips between Suisun City and Sacramento.

Of the four jurisdictions, Vallejo generates the greatest proportion of bus use for work commute trips.

Suisun City has the highest proportion of commuters that walk, 8.6-percent, to work destinations within their own city.

Vacaville has the highest proportion of commuters that bike, 1.3-percent, to work destinations within their own city.

Table 2: Local, Countywide, and Regional Mode Share (Commute Trips)

From/To	Bus	Subway	Railroad	Ferryboat	Bicycle	Walked	Drive / Carpool	Other[4]
From Fairfield								
to Fairfield	1.4%	0%	0%	0%	1.0%	3.0%	87.0%	7.6%
to Solano County[1]	0.9%	0%	0%	0%	0.1%	1.1%	96.9%	1.0%
to Sacramento Area[2]	2.1%	0%	0.4%	0%	0%	0%	96.2%	1.3%
to Bay Area3	1.5%	1.4%	0.2%	0.6%	0%	0%	95.4%	0.9%
From Suisun City								
to Suisun City	0.0%	0%	0%	0%	0%	8.6%	59.9%	31.5%
to Solano County[1]	1.3%	0%	0%	0.2%	0.4%	0.4%	97.1%	0.6%
to Sacramento Area[2]	0%	0%	3.4%	0.0%	0.0%	0.0%	93.9%	2.7%
to Bay Area[3]	3.7%	1.4%	1.0%	0.5%	0.0%	0.3%	91.8%	1.3%
From Vacaville								
to Vacaville	0.3%	0%	0%	0.1%	1.3%	5.0%	84.3%	9.0%
to Solano County[1]	0.2%	0%	0%	0%	0%	0.1%	98.9%	0.8%
to Sacramento Area[2]	0%	0%	0%	0%	0%	0%	99.5%	0.5%
to Bay Area[3]	0.6%	0.8%	0%	0.7%	0%	0%	97.0%	0.9%
From Vallejo								
to Vallejo	4.1%	0%	0%	0%	0.9%	3.7%	79.9%	11.4%
to Solano County[1]	1.8%	0%	0%	0.2%	0%	0.4%	96.5%	1.1%
to Sacramento Area[2]	1.4%	0%	0%	0%	0%	1.4%	91.5%	5.7%
to Bay Area[3]	2.6%	1.9%	0.2%	2.9%	0.1%	0.1%	91.0%	1.2%

Source: 2000 Census Journey to Work
Notes:
[1] Other cities in Solano County
[2] Sacramento includes: Yolo, Sacramento, and Placer counties
[3] Bay Area includes: San Francisco, San Mateo, Santa Clara, Alameda, and Contra Costa counties
[4] Other includes: taxi, motorcycle, other means, and working from home

Related Efforts

Many transit studies and related efforts have been completed or are underway. The following section highlights a few of the most relevant ones and lists others.

Comprehensive Transportation Plan – Transit Element

The STA adopted the 2030 Solano Comprehensive Transportation Plan (CTP) in 2005, providing a transportation vision and prioritizing funding to meet the mobility needs of Solano County. The CTP, including the Transit Element, is currently being updated.

FOCUS Program

The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) co-lead this program. This land use collaborative is a voluntary, incentive-based program that encourages the development of "complete communities"—neighborhoods with housing, jobs, shopping, parks, schools, and other services near transit services—as a way to increase the range of housing and transportation choices in the region. The STA and member agencies support the region's FOCUS Program by investing in Priority Development Areas (PDAs). Solano County currently has nine PDAs. Typically, PDAs contain a TFORS.

Public Private Partnership (P3) Feasibility Study

The STA will be conducting this study to evaluate strategies for private investment to assist in completing and maintaining transit facilities as traditional funding sources are limited. Study locations include TFORS'.

Transit Consolidation Study

Transit service for Solano County's seven cities and the County of Solano was historically provided by six separate transit operators. This study examined options to improve the delivery and accountability of providing transit service throughout Solano County. The STA Board adopted the study recommendations in 2009. The consolidation of former Vallejo Transit, Vallejo Runabout and Benicia Breeze transit systems into SolTrans is a direct result of this effort.

Transit Ridership Studies

The STA has conducted several Transit Ridership Studies. The Fall 2009 study was a joint effort with the two intercity transit operators, Fairfield and Suisun Transit (FAST) and Vallejo Transit. The April 2010 study consisted of two reports, one for each intercity transit operator. A more comprehensive ridership study of all fixed-route, intercity and local routes was completed in March 2007.

Other Related Efforts

The following are other related studies or efforts:

- 511 Program (Metropolitan Transportation Commission)
- Community-Based Transportation Plan for Cordelia/Fairfield/Suisun Project Area
- Interstate 80 / Interstate 680 / Interstate 780 Transit Corridor Study
- Solano Senior and People with Disabilities Transit Study
- State Route 12 Transit Corridor Study

3 Study Locations Overview

Selected Study Locations

This plan identifies transit enhancement strategies for five priority TFORS'. These study locations were selected as the "first five" to evaluate based primarily on existing transit demand, current or proposed transit-supportive land use, and their perceived potential to benefit from localized bicycle and pedestrian improvement projects. Figure 2 provides a brief summary of each study location's opportunities and challenges. Refer to Chapters 6-10 for more detailed information regarding each of the study areas.

Fairfield Transportation Center

The Fairfield Transportation Center is managed by the City of Fairfield and includes a 10-bay bus shelter, public parking, and administrative buildings for Fairfield and Suisun Transit (FAST). It is located in southwest Fairfield and is generally bounded by West Texas Street, Beck Avenue, Cadenasso Drive, and I-80. The Fairfield Transportation Center primarily serves FAST buses although other transit providers do stop at the facility. The Fairfield Transportation Center serves SolanoExpress routes 20, 30, 40 and 90.

Suisun City Capitol Corridor Train Station

The Suisun City Capitol Corridor Train Station is managed by the City of Suisun City, which includes a train station, parking facility, and bus facility. The Suisun City Capitol Corridor Train Station is located in western Suisun City on Main Street at Lotz Way, underneath the State Route 12 overpass; downtown Fairfield is located across the railroad tracks from the Suisun Amtrak. The facility serves Capitol Corridor trains, local bus service to Fairfield, Suisun City and Rio Vista, and SolanoExpress route 90.

Vacaville Transportation Center

The Vacaville Transportation Center opened on March 1, 2011 and is operated by the City of Vacaville and includes a 10-bay bus shelter and public parking. It is centrally located in Vacaville on Allison Drive north of Ulatis Drive. The facility primarily serves Vacaville City Coach although other transit providers do stop at the facility, including SolanoExpress routes 20, 30 and 40.

Vallejo Transit Center / Downtown Parking Structure

The Vallejo Transit Center is a bus transfer station managed by the City of Vallejo which includes a 12-bay bus shelter, public parking, and administrative buildings for Solano County Transit (SolTrans). The nearby Vallejo Ferry Terminal serves ferry services operated by Baylink.

The Vallejo Transit Center is the first phase of the Vallejo Station Intermodal Facility and is located in downtown Vallejo on the block bounded by Georgia Street, Sacramento Street, Maine Street and Santa Clara Street. Across Santa Clara Street from the Vallejo Transit Center, the City is currently building the Downtown Parking Structure that includes several improvements on Mare Island Way.

Vallejo Transportation Center at Curtola and Lemon Street

The Vallejo Transportation Center at Curtola and Lemon Street lot is managed by the City of Vallejo. It includes a bus station, public parking, and a Greyhound bus station. It is located at the southwest corner of the Curtola Parkway / Lemon Street intersection. The facility primarily serves SolTrans and SolanoExpress routes 70 and 80.

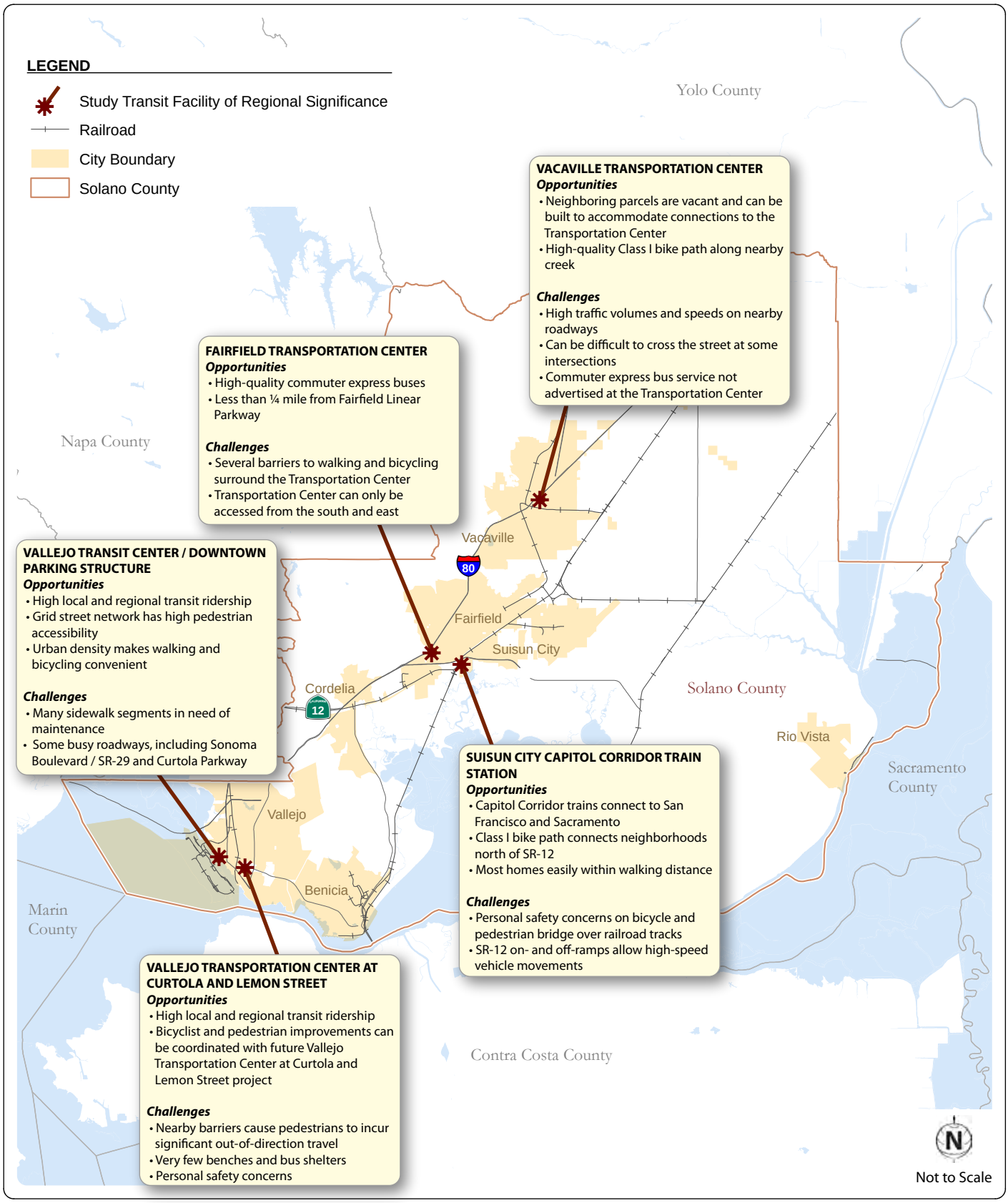
Priority Development Areas

Four of the five study areas are within established Priority Development Areas (PDAs), which are locally-identified infill development areas near transit and within existing communities. They are generally areas of at least 100 acres where there is local commitment to developing more housing along with amenities and services to meet the needs of residents in a pedestrian-friendly environment served by transit. The following nine areas within Solano County are designated as PDAs.

- Benicia – Downtown
- Fairfield – Downtown South
- Fairfield – Fairfield/Vacaville Train Station
- Fairfield – North Texas Street Core
- Fairfield – West Texas Street Gateway
- Suisun City – Downtown and Waterfront District
- Vacaville – Downtown
- Vacaville – Allison/Ulatis Area
- Vallejo – Waterfront and Downtown

All Solano County PDAs are served by Transit Facilities of Regional Significance (TFORS). The Fairfield Downtown South and Suisun City Downtown and Waterfront District PDAs are immediately adjacent to the Suisun City Capitol Corridor Train Station. The Fairfield West Texas Street Gateway PDA includes the Fairfield Transportation Center. The Downtown Vacaville PDA is a quarter-mile from the Davis Street park-and-ride lot, while the Vacaville Allison/Ulatis Area PDA includes the Vacaville Transportation Center. The Vallejo Downtown and Waterfront PDA includes the Vallejo Intermodal Station. Finally, the Fairfield-Vacaville Train Station PDA is centered around a planned transit center that includes a Capitol Corridor train stop, bus connections and a park-and-ride lot.

Based on projections prepared by the Association of Bay Area Governments (ABAG), the nine Solano PDAs have the potential to account for almost 35-percent of the projected 25-year growth in Solano County and the seven incorporated cities. Specifically, about one-third of the projected residential growth can be accommodated in areas that provide immediate access to transit. Figure 3 provides an overview of the four PDAs relevant to the five study locations.



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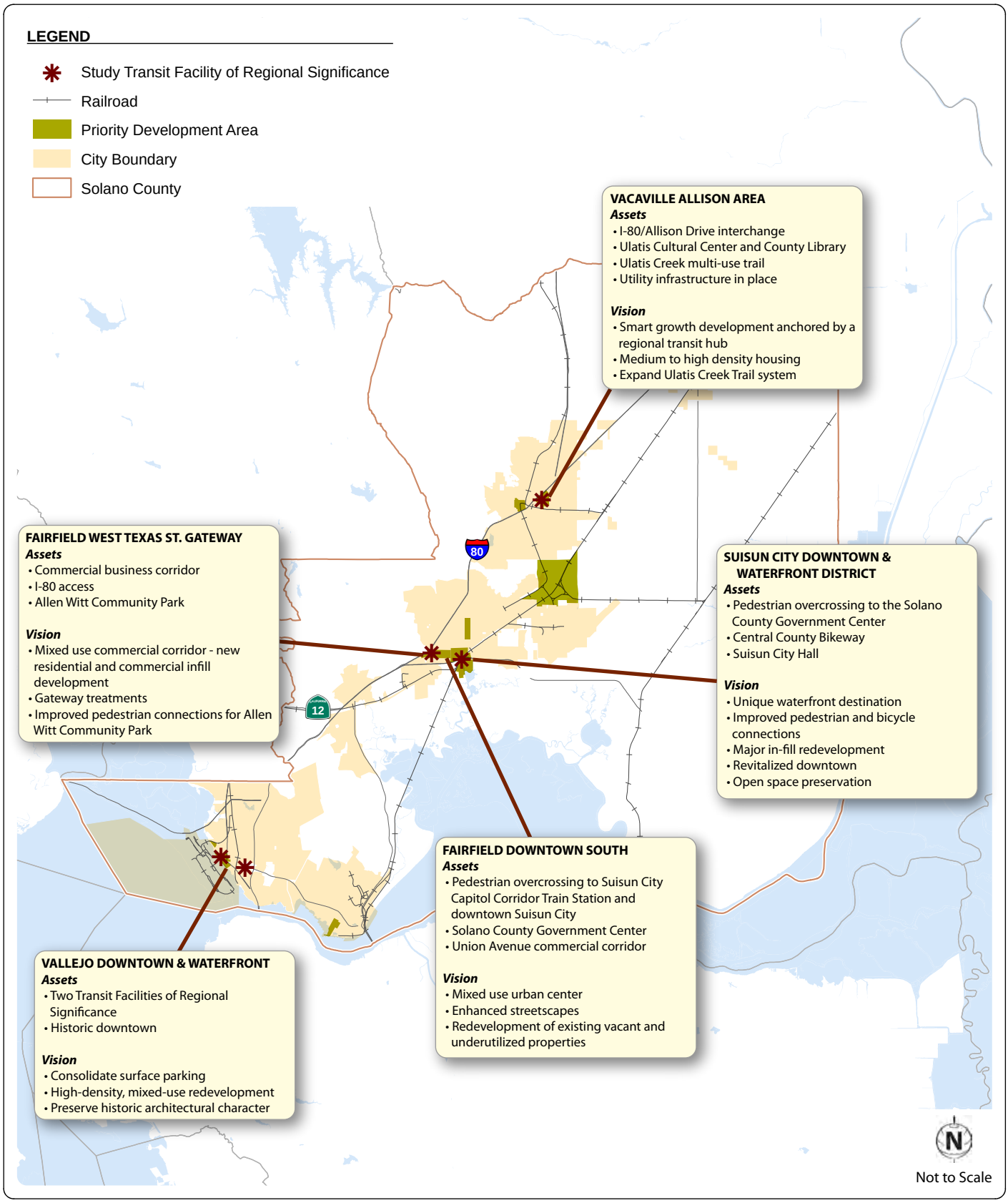
TRANSIT STUDY LOCATIONS

FIGURE 2



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PRIORITY DEVELOPMENT AREAS

FIGURE 3

4 Community Participation

SR2T Steering Committee

The SR2T Steering Committee was established to provide guidance for the SR2T Plan development. Three committee meetings were held between August and December 2011. The committee was responsible for reviewing the walking audit form and routes, suggesting members for each TFORS Task Force, and reviewing recommendations and the draft report. Committee members were encouraged to attend the walking audits described below. SR2T Committee members are listed on the acknowledgements page.

SR2T Task Forces and Walking Audits

For each study location, a Task Force was developed to participate in SR2T Plan development. The primary purpose of each Task Force was to participate in a walking audit of the TFORS site and surrounding transportation facilities. The walking audits were held during September and October 2011.

Each audit followed this general approach:

- On-site brief presentation on the audit process and expectations
- Formal walking route map
- Aerials and exhibits to inform participants on transportation-specific vocabulary, the TFORS site and surrounding transportation facilities
- Walking audit form to prompt issues identification
- On-site audit summary meeting where issues and opportunities were discussed

Appendix A includes example audit materials. SR2T Task Force members are listed on the acknowledgements page.

5 Data Collection and Methodologies Overview

Each TFORS was reviewed in detail to accurately capture historical trends and existing conditions. This section provides an overview of the data collection process and analysis methodologies. Chapters 6 – 10 summarize pertinent information for each individual TFORS.

Walk Shed Analysis

To identify the most promising strategies for increasing transit ridership at each study location, a detailed review of the transit facility itself as well as pedestrian and bicycle routes within ½ and one mile "walk shed" areas were reviewed. By focusing site reviews to these areas, recommendations are tailored to improve upon conditions associated with "first-mile" (access from home to transit) and "last-mile" (access from transit to work, school, etc.) travel.

The project analysis area was defined by reviewing both the ½ and one mile walk sheds based primarily on street centerline distance instead of a radial distance (i.e., "as the crow flies"). Radial measurements typically do not adequately account for transportation barriers and tend to overstate accessibility; therefore, street centerline is a better indication of network connectivity. Walk shed maps were reviewed and augmented to include existing multimodal features (e.g., pedestrian overcrossing north of the Suisun City Capitol Corridor Train Station) that would not be captured with the street centerline method. The final project analysis areas are indicated on study location figures in Chapters 6 – 10.

Pedestrian and Bicycle Collisions

Collision data was accessed from the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS). This data represents all report bicyclist-vehicle and pedestrian-vehicle collisions occurring within one mile of each TFORS during the following periods:

- Fairfield: June 2006 – February 2010
- Suisun City: June 2006 – June 2010
- Vacaville: June 2006 – June 2010
- Vallejo: June 2006 – September 2010

For each TFORS, the collision data is summarized by year, collision severity, Primary Collision Factors (PCFs), and Pedestrian Action (which describes what the pedestrian was doing immediately before the collision occurred). Minor bicyclist-vehicle and pedestrian-vehicle collisions are generally underreported. Additionally, collisions that occur on off-street paths and trails are not included in the SWITRS data. The data represents all collisions that occurred within one mile of each TFORS; however, not all collisions involved bicyclists or pedestrians traveling to/from one of the TFORS'. Therefore, this Plan focuses recommendations on locations that most directly serve a TFORS.

SWITRS data provides the Primary Collision Factors (PCFs) for each incident. Common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions include:

- Pedestrian Right of Way (driver not yielding to pedestrian)
- Pedestrian Violation (pedestrian not yielding to vehicle or crossing illegally)
- Traffic Signals and Signs (one or more parties not obeying traffic control devices)
- Wrong Side of Road (one or more parties driving, bicycling, or walking on the wrong side of the road)
- Improper Turning

Collisions are summarizes in a figure with corresponding tables in Chapters 6 – 10.

Crimes Against Persons

For most of the study locations, historical crime data is available for public review on third-party Web sites. Table 3 summarizes the availability and source of crime data. Since practices vary among different law enforcement agencies, it was not possible to collect a consistent data set for comparison between the study locations. Terms of Use parameters of a third party vendor, Crimereports.com, restricts our ability to map individual crimes and present detailed findings. The jurisdictions that use Crimereports.com requested that STA work with vendor to obtain the data.

Table 3: Crime Data Source and Availability

Jurisdiction	Source	Timeframe	Notes
Fairfield	Fairfield Police Department	1 year: June 2010 – May 2011	Data reflects crimes against persons reported in City's records management system.
Suisun City	Suisun City Police Department; Crimereports.com	6 months: March 6 – September 6, 2011	Data analysis limited by vendor Terms of Use; Crime Against Persons (homicide, robbery, sexual offense assault) were reviewed.
Vacaville	Vacaville Police Department	1 year: June 2010 – May 2011	Data reflects "calls for service", as opposed to actual reported crime data; More than one call for service may be shown for the same incident.
Vallejo	Vallejo Police Department; Crimereports.com	6 months: March 6 – September 6, 2011	Data analysis limited by vendor Terms of Use; Crime Against Persons (homicide, robbery, sexual offense assault) were reviewed.

Source: Fehr & Peers, 2011

Site Reviews and Geo-coded Database

As described in Chapter 4, consultant staff led walking audits with task force members at each of the study TFORS'. In addition to these collaborative events, consultant staff conducted additional site reviews and inventoried physical conditions to establish the best walking routes for the audits, monitor site use, and develop recommendations. Staff inventoried the sidewalk network, traffic controls and key features of each study location. The completion of a geo-coded photo database is the result of this data collection effort. Photo entries are geo-coded within ArcView. The database identifies whether the photo was taken on-site or off-site; additionally, the database identifies key words that can be searched:

- Bathrooms
- Bicyclist
- Bike lane
- Bike parking
- Bike path
- Bridge
- Bus
- Bus loading
- Bus stop
- Casual carpool
- Crosswalk
- Drop off
- Emergency
- Information
- Intersection
- Lane
- Loading area
- Park
- Parking garage
- Roadway
- Sidewalk
- Signage
- Tunnel
- Walkway

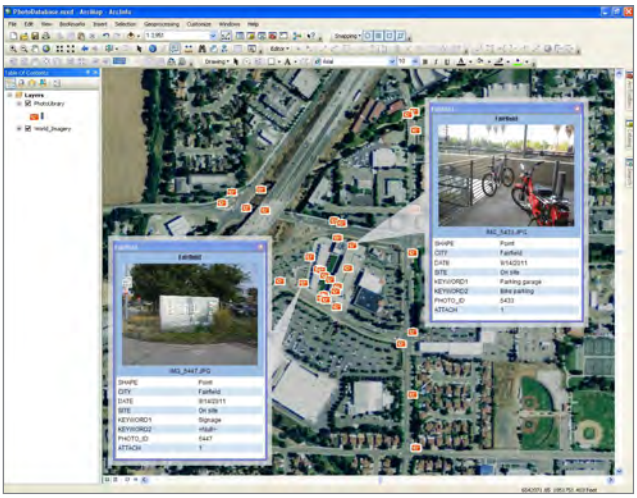
Additional GIS files were developed to record and track collisions, barriers and recommendations.

Prioritization Methodology

At the October 19, 2011 Steering Committee meeting, the Committee elected to use the following prioritization criteria to rank recommended strategies:

- Gap closure
- Improves access for pedestrians, bicyclists, or people with disabilities
- Improves safety
- Improves convenience

Appendix B includes the priority scoring matrices for each TFORS. The prioritization criteria used are meant to rank strategies within each respective TFORS. Cross-jurisdictional rankings should account for other factors including transit ridership, and walking or bicycling mode share.



6 Fairfield Transportation Center

Description

The Fairfield Transportation Center, managed by the City of Fairfield, includes a 10-bay bus shelter, public parking, and administrative buildings for Fairfield and Suisun Transit (FAST). It is located in southwest Fairfield and is generally bounded by West Texas Street, Beck Avenue, Cadenasso Drive, and I-80. The Fairfield Transportation Center primarily serves FAST buses although other transit providers stop at the facility. The Safe Routes to Transit Task Force completed a walking audit at the Fairfield Transportation Center on Monday, September 12, 2011 between 9:00 AM and 10:30 AM.

Priority Development Area

The Fairfield West Texas Street Gateway PDA incorporates approximately 100 acres bound by West Texas Street on the north, Woolner Avenue on the south, Auto Mall Parkway on the west and Pennsylvania Avenue on the east. The PDA boundary was expanded in 2011. This commercial business corridor has direct access to I-80 and contains Allen Witt Community Park. The following elements describe the long-term vision for the PDA:

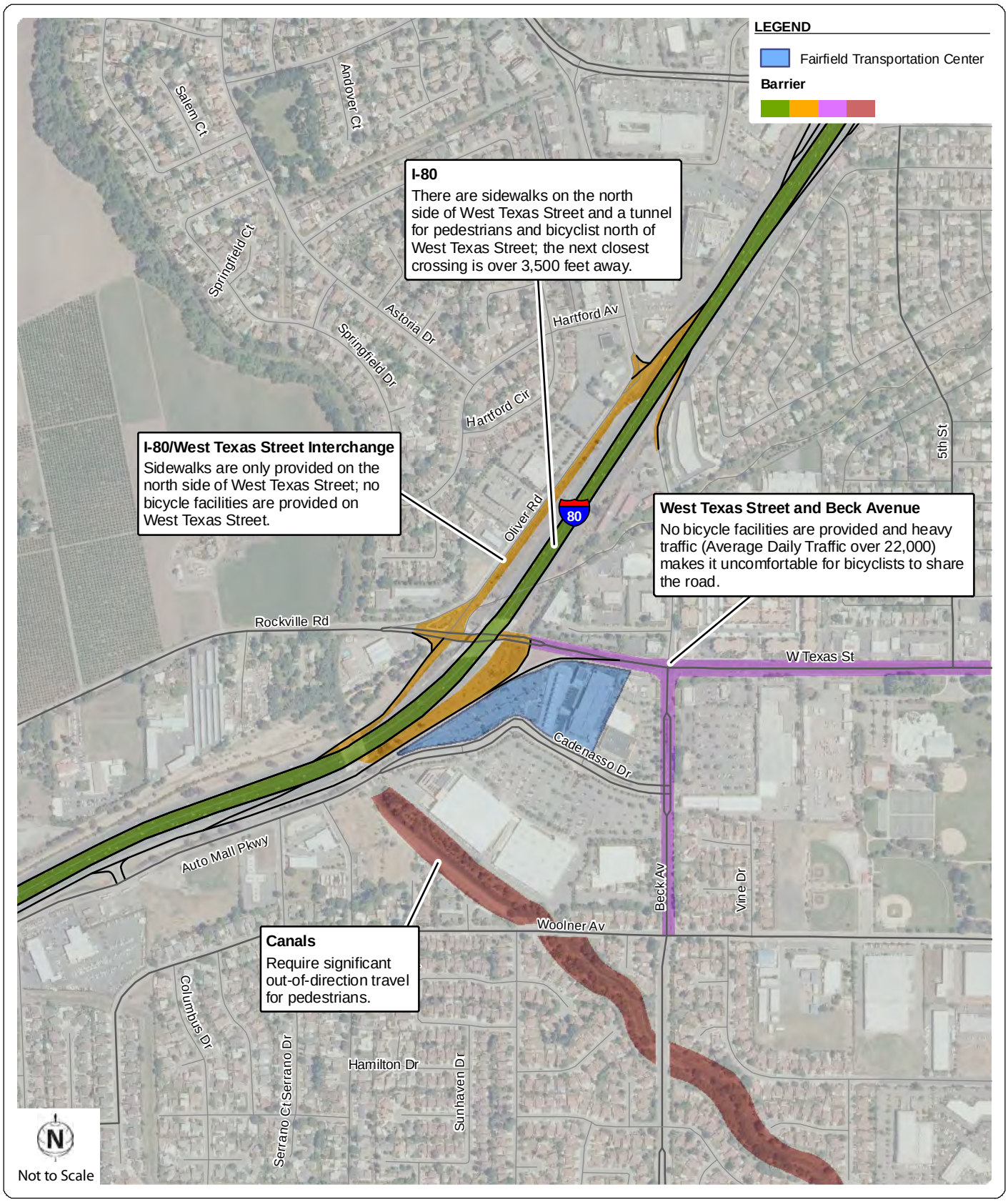
- Mixed use commercial corridor – new residential and commercial infill development
- Gateway treatments
- Revitalization of Winery Square Shopping Center
- Improved pedestrian connections for Allen Witt Community Park and the Fairfield Transportation Center
- Redevelopment of existing vacant and underutilized properties

Current and planned projects include:

- West Gateway improvements
- I-80 Undercrossing lighting and public art
- East Gateway improvements

Access Mode

Many riders use the center for transfers between buses; however, most users arrive by automobile and park in either the 240-space parking lot, the 400-space parking garage, or are dropped off. The land use pattern and transportation network surrounding the Fairfield Transportation Center is suburban. As shown in Figure FAI-1, significant barriers to pedestrian and bicycle travel in the area include I-80, the I-80 / West Texas Street interchange, West Texas Street, and canals.



FEHR PEERS

FAIRFIELD TRANSPORTATION CENTER
BARRIERS TO PEDESTRIAN AND BICYCLE TRAVEL

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FIGURE FAI-1

Transit Service

Three transit providers provide service to the Fairfield Transportation Center via the routes described below.

- Fairfield and Suisun Transit (FAST) operates the following fixed bus routes:
  - Route 3 – a citywide loop that serves outer Fairfield
  - Route 7 – an east-west local circulator route that serves western Fairfield, including Green Valley, Solano Community College, the Fairfield Transportation Center, and the Westfield Mall
  - Route 8 – a citywide loop route that serves northern Suisun City and southern Fairfield
  - Route 20 – a commuter express route that connects Fairfield and Vacaville
  - Route 30 – a commuter express route that connects Fairfield, Vacaville, Dixon, Davis, and Sacramento
  - Route 40 – a commuter express route that connects Vacaville, Fairfield, and Benicia to the Pleasant Hill BART and Walnut Creek BART stations
  - Route 90 – a commuter express route that connects the El Cerrito Del Norte BART station to the Suisun City Capitol Corridor Train Station and Fairfield Transportation Center
- Rio Vista Delta Breeze operates limited deviated fixed route bus service; Route 50 serves Isleton, Rio Vista, the Suisun City Capitol Corridor Train Station, and Fairfield.
- SolTrans operates Route 85 (Baylink), a commuter express route between downtown Vallejo, Solano Community College, and the Fairfield Transportation Center.

Collision and Crime Analysis

Collision Analysis

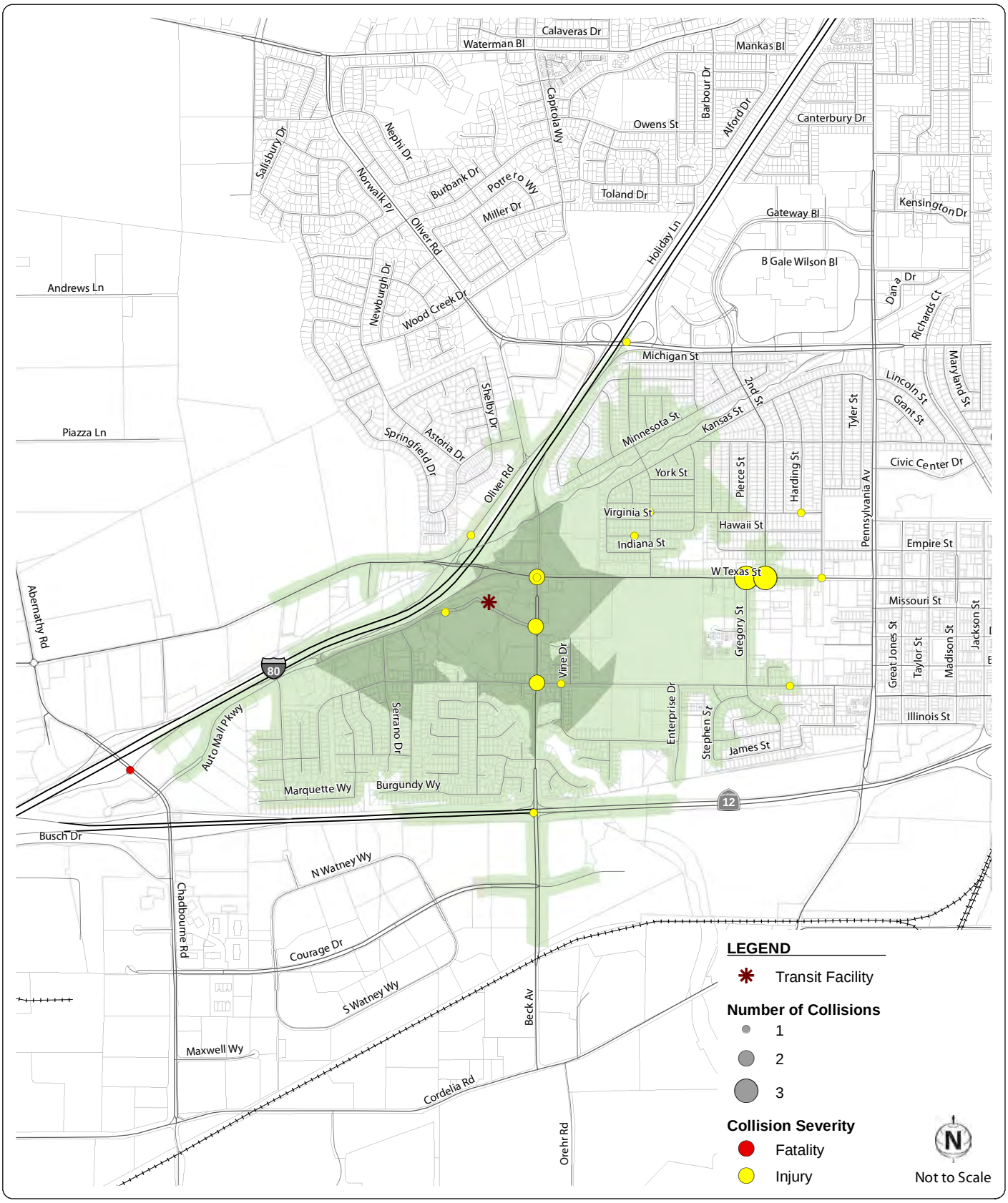
Existing SWITRS data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends near the Fairfield Transportation Center. Figure FAI-2 shows the number and severity of collisions within one mile of the Fairfield Transportation Center. Table FAI-1 summarizes the collision data by year and collision severity.

Table FAI-1:
Fairfield Transportation Center Bicyclist/Pedestrian Collision Summary
(June 2006 – February 2010)

Year	Total Collisions	Injury Collisions		Fatal Collisions	
		Bicyclist	Pedestrian	Bicyclist	Pedestrian
June - Dec. 2006	2	1	1	0	0
2007	8	4	3	0	0
2008	11	4	6	0	0
2009	9	1	7	0	0
Jan. – Feb. 2010	1	1	0	0	0
Total	31	11	17	0	0

Source: California Highway Patrol

Table FAI-1 shows that most of the collisions (90 percent) resulted in some form of injury; no fatalities were recorded during the four-year period.



FEHR PEERS

FAIRFIELD TRANSPORTATION CENTER
BICYCLE AND PEDESTRIAN COLLISIONS

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FIGURE FAI-2

The SWITRS data was also analyzed for the Primary Collision Factors (PCFs). Table FAI-2 shows the most common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions within one mile of the Fairfield Transportation Center.

Table FAI-2:
Fairfield Transportation Center Bicyclist/Pedestrian Collision Summary Primary Collision Factors
(June 2006 – February 2010)

Primary Collision Factor	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Pedestrian Right of Way (Driver not yielding)	0	9	0	9
Pedestrian Violation (Pedestrian not yielding or crossing illegally)	0	6	0	6
Wrong Side of Road	1	5	0	6
Automobile Right of Way	0	3	0	3
Other	2	5	0	7
Source: California Highway Patrol				

As shown in Table FAI-2, the most common PCFs were drivers not yielding the right-of-way to pedestrians in crosswalks and pedestrians crossing illegally (such as crossing against a signal or midblock between signals.

Table FAI-3 shows the most common pedestrian actions, which describe what the pedestrian was doing immediately before the collision occurred, for pedestrian collisions within one mile of the Fairfield Transportation Center.

Table FAI-3:
Fairfield Transportation Center Bicyclist/Pedestrian Collision Summary Pedestrian Actions
(June 2006 – February 2010)

Pedestrian Action	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Crossing in Crosswalk at Intersection	1	10	0	11
Crossing Not in Crosswalk	0	5	0	5
Other	1	1	0	2
Source: California Highway Patrol				

Table FAI-3 shows that the most common pedestrian actions were "crossing in crosswalk at intersection" and "crossing not in crosswalk". These actions preceding a collision suggest that infrastructure enhancements, especially when paired with education and enforcement efforts, may improve pedestrian safety near the Fairfield Transportation Center.

Crime Analysis

Available crime data was reviewed for the study area. Figure FAI-3 identifies the analysis area and a summary of the type of crimes provided in the City's records management system. The data represents a query conducted on "crimes against persons" only (i.e., murder, battery, robbery, sexual offense and assault) provided directly from the City of Fairfield Police Department. Within the one-year review period, 147 crimes were reported including one murder on Hamilton Drive. The most common crime committed was assault (85 instances).

Transit Facility – Issues and Opportunities

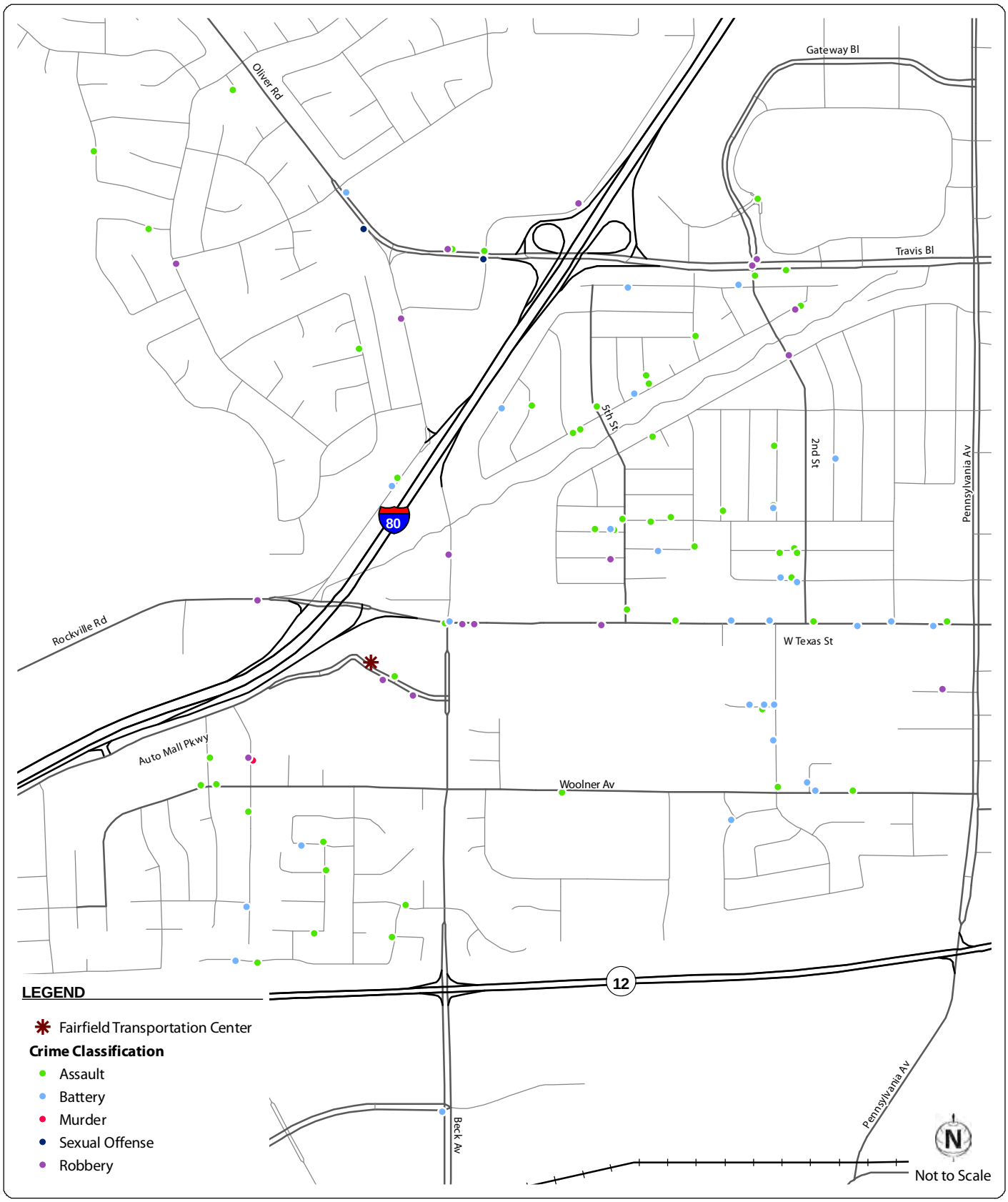
The Fairfield Transportation Center has a center-loading boarding platform that features benches, bench shelters, and a shelter roof. The center-loading boarding platform requires passengers to cross one lane of bus-only traffic; however, landscaping and fencing channelize pedestrians to preferred crossing locations. This configuration provides for excellent bus circulation, and benefits from its complete separation from automobile traffic. Buses run clockwise around the boarding platform, while automobiles enter and exit the parking areas from separate driveways. A designated lane on Auto Mall Parkway allows for passenger pick-up and drop-off, and benches and shelters are provided at this location.

Each bus bay is marked with signage indicating the transit provider and route. Transit information signage, including a station map, transit routes, and schedule/fare information, is available throughout the station; the signage is consistent with the Metropolitan Transportation Commission (MTC) 511 signage seen elsewhere in the Bay Area. Printed maps and schedules are available in the administrative building during the day and at a ticket counter in the parking garage in the evening.

Pedestrian access is good throughout the station. Pedestrian pathways connect the nearby parking garage and parking lot to the boarding platform. Passengers coming from northeast of the facility avoid out-of-direction travel by cutting through adjacent parking lots.

Bicycle parking is available in two forms: short-term racks near the parking garage entrance and bike lockers on the lower level of the parking garage and on the east side of the parking lot. The short-term racks are "wave" racks and are not ideal since they do not provide two points of contact to properly secure a bicycle. All racks were full at the time of the walking audit. During the audit, the task force observed several bicycles locked to various railings throughout the garage. A total of 22 lock-and-key bike lockers are available: 16 in the parking garage and six in the parking lot. Lock-and-key lockers are generally underutilized since each locker can only be used by its assigned tenant.

Parking is free at the Fairfield Transportation Center and is usually full early in the morning. Fairfield and Suisun Transit staff indicated that parking typically overflows to the Home Depot and Target parking lots across Cadenasso Street. The City plans to eventually build a five-story parking garage in place of the existing surface parking lot, expanding the parking capacity from the existing 640 spaces to 1,600 spaces.



Source: Fairfield Police Department

FEHR PEERS

FAIRFIELD TRANSPORTATION CENTER
CRIMES AGAINST PERSONS AND CLASSIFICATIONS
AUGUST 2010 - MAY 2011

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FIGURE FAI-3

Transit Facility Strategies

Table FAI-4 shows strategies for improving passenger convenience, comfort, and safety at the Fairfield Transportation Center.

Table FAI-4: Fairfield Transportation Center Transit Facility Strategies

Strategy #	Description	Strategy Type	Detailed Recommendations	Cost[1]
101	Security Guard Signs	Security	Provide signs that indicate that security guards are present.	$
102	Emergency Call Boxes	Security	Install emergency call boxes on the passenger platforms.	$
103	Short-Term Bike Racks	Bike Parking	Add additional bike racks in parking garage; one vehicle space typically has room for 10-20 bikes.	$
104	Real-Time Information	Transit Information	Install real-time electronic information signs for bus routes.	$$
105	Improved Signage	Transit Information	Add signs that indicate where passengers can find printed maps and schedules (it is currently unclear that they can be picked up from the administrative building).	$
106	Additional Parking Capacity	Parking	Increase the supply of parking from the existing 640 spaces.	$$$
107	Improved Pedestrian Signage/Markings	Internal Circulation	Enhance bus circulation entrance/exit and pedestrian crossings with crosswalk striping, "Look" stencils, and improved signage.	$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

Pedestrian and Bicycle – Issues and Opportunities

The Fairfield Transportation Center is located adjacent to the I-80 / West Texas Street Interchange. Access restrictions across I-80 and West Texas Street make it difficult for pedestrians or bicyclists to access the Fairfield Transportation Center from the west or north. Canals to the south result in pedestrians from some residential areas incurring out-of-direction travel to access the facility.

The land uses surrounding the Fairfield Transportation Center are predominantly suburban. Residential neighborhoods feature mostly single-family homes, although there is one large apartment complex on the northeast corner of the West Texas Street / Beck Avenue intersection. Several large commercial and municipal parcels immediately surround the facility, increasing the walk or bicycle distance from nearby residences.

Sidewalk coverage is good surrounding the Fairfield Transportation Center, although some key gaps do exist. There are sidewalks only on the north side of the West Texas Street undercrossing of I-80 and no sidewalks on the south side of the roadway.

No bicycle facilities directly access the Fairfield Transportation Center. The Fairfield Linear Park, a Class I shared-use path that connects west Fairfield to central Fairfield, intersects Beck Avenue approximately a quarter mile

from the Fairfield Transportation Center, but has no official bikeway connection. There are no facilities on West Texas Street and the traffic volumes and speeds make sharing the roadway uncomfortable for bicyclists. Bike lanes on Beck Avenue begin south of Cadenasso Drive.

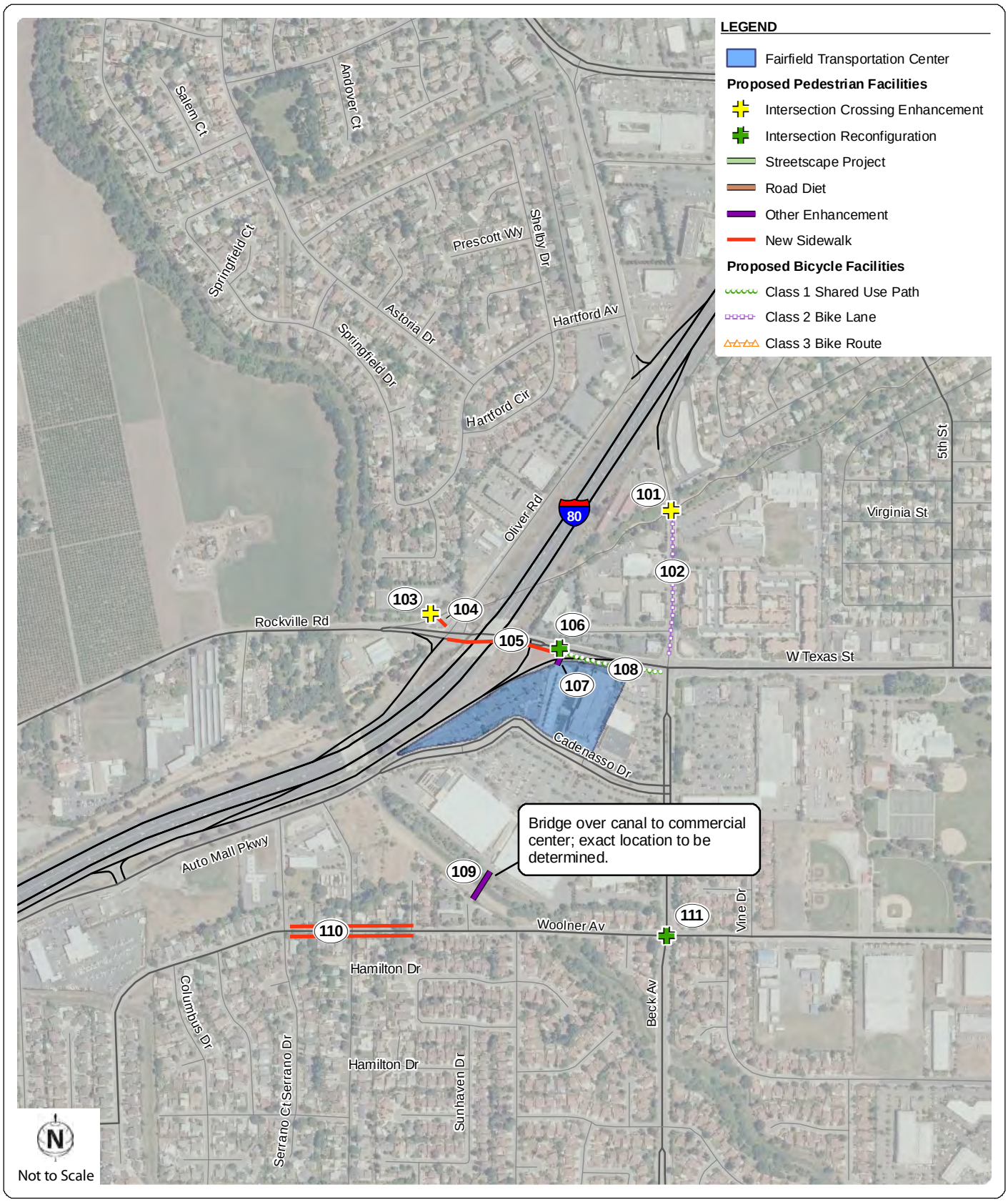
Pedestrian and Bicycle Strategies

Figure FAI-4 shows the locations of recommended pedestrian and bicycle strategies. Table FAI-5 shows strategies for improving pedestrian and bicyclist access to the Fairfield Transportation Center.

Table FAI-5: Fairfield Transportation Center Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
101	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) (requires coordination with Caltrans)	Linear Bike Trail / Beck Ave.	$
102	Bike Lanes (Class II)	Beck Ave. Class II bike lanes; add directional signage to Transportation Center (requires coordination with Caltrans)	I-80 to West Texas St.	$
103	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) at channelized right-turn	Oliver Rd. / Rockville Rd. / West Texas St.	$
104	New Sidewalks	Through landscaped channelized right-turn	Oliver Rd. / Rockville Rd. / West Texas St.	$
105	New Sidewalks	Sidewalks on south side of West Texas St. (requires coordination with Caltrans)	I-80 EB Off to Oliver Rd.	$$$
106	Intersection Reconfiguration	Replace channelized free right-turn with controlled right-turn (requires coordination with Caltrans)	I-80 EB Off / West Texas St.	$$
107	Other Enhancement	North side access to Fairfield Transportation Center	West Texas St. at Fairfield Transportation Center	$
108	Bike Path (Class I)	West Texas St. Class I shared use path (north side)	I-80 EB Off to Beck Ave.	$
109	Other Enhancement	Canal crossing	Woolner Ave. to Auto Mall Pkwy.	$$
110	New Sidewalks	Woolner Ave. sidewalks	Midway Rd. to Serrano Dr.	$$
111	Intersection Reconfiguration	Reduce curb radii	Woolner Ave. / Beck Ave.	$$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011



FEHR PEERS

FAIRFIELD TRANSPORTATION CENTER PEDESTRIAN AND BICYCLE STRATEGIES

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FIGURE FAI-4

Project Prioritization

The recommended pedestrian and bicycle strategies shown in Figure FAI-4 and Table FAI-5 were prioritized according to the prioritization criteria discussed in Chapter 5. Table FAI-6 shows the recommended pedestrian and bicycle strategies and their total priority score.

Table FAI-6: Fairfield Transportation Center Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
108	Bike Path (Class I)	West Texas St. Class I shared use path (south side)	I-80 EB Off to Beck Ave.	7
105	New Sidewalks	Sidewalks on south side of West Texas St. (requires coordination with Caltrans)	I-80 EB Off to Oliver Rd.	6
101	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) (requires coordination with Caltrans)	Linear Bike Trail / Beck Ave.	5
102	Bike Lanes (Class II)	Beck Ave. Class II bike lanes; add directional signage to Transportation Center (requires coordination with Caltrans)	I-80 to West Texas St.	5
107	Other Enhancement	North side access to Fairfield Transportation Center	West Texas St. at Fairfield Transportation Center	5
110	New Sidewalks	Woolner Ave. sidewalks	Midway Rd. to Serrano Dr.	5
103	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) at channelized right-turn	Oliver Rd. / Rockville Rd. / West Texas St.	4
106	Intersection Reconfiguration	Replace channelized free right-turn with controlled right-turn (requires coordination with Caltrans)	I-80 EB Off / West Texas St.	4
109	Other Enhancement	Canal crossing	Woolner Ave. to Auto Mall Pkwy.	4
104	New Sidewalks	Through landscaped channelized right-turn	Oliver Rd. / Rockville Rd. / West Texas St.	3
111	Intersection Reconfiguration	Reduce curb radii	Woolner Ave. / Beck Ave.	3

Source: Fehr & Peers, 2011

7 Suisun City Capitol Corridor Train Station

Description

The Suisun City Capitol Corridor Train Station is managed by the Capitol Corridor Join Powers Authority (CCJPA), and serves only Capitol Corridor trains. The station has a surface parking lot as well as an adjacent bus facility. The Suisun City Capitol Corridor Train Station is located in western Suisun City on Main Street at Lotz Way, underneath the State Route 12 overpass; downtown Fairfield is located across the railroad tracks from the Suisun City Capitol Corridor Train Station. In addition to Capitol Corridor trains, local bus service to Fairfield and Suisun City is also provided from the station. The Safe Routes to Transit Task Force completed a walking audit at the Suisun City Capitol Corridor Train Station on Monday, September 19, 2011 between 9:00 AM and 10:30 AM.

Priority Development Area

The Suisun City Capitol Corridor Train Station is within the Suisun City Downtown and Waterfront District PDA and adjacent to the Fairfield – Downtown South PDA, both of which are described below:

The Suisun City Downtown and Waterfront District PDA is 448 acres bound by Union Pacific Railroad on the north and west, Marina Boulevard on the east, and Suisun Bay on the south. Key assets include open space including Suisun Marsh, Harbor Plaza and Josiah Park, the pedestrian overcrossing to the Solano County Government Center, Central County Bikeway and Suisun City Hall.

The following elements describe the long-term vision for the PDA:

- Unique waterfront destination
- Improved pedestrian and bicycle connections
- Major in-fill redevelopment within a half mile of the Suisun City Capitol Corridor Train Station
- Revitalized downtown anchored by a multimodal transit hub, Suisun City Capitol Corridor Train Station
- Open space preservation

Current and planned projects include:

- Railroad Avenue Extension
- Marina Boulevard Overcrossing
- Infrastructure to support development (water, sewer and stormwater)

The Fairfield – Downtown South PDA is approximately 200 acres bound by Kentucky Street on the north, Highway 12 on the south, Pennsylvania Avenue on the west and North Texas Street on the east. The original boundary PDA boundary was expanded in 2011. Key assets of the PDA are the pedestrian overcrossing to Suisun City Capitol Corridor Train Station and downtown Suisun, the Solano County Government Center, Union Avenue commercial corridor. The area is best defined as small lot residential, office and commercial. The following elements describe the long term vision for the PDA:

- Mixed use urban center with higher density residential and office
- Enhanced streetscapes along Union Avenue and Jefferson Avenue side streets south of Delaware Street
- Redevelopment of existing vacant and underutilized properties
- Pedestrian connectivity projects to activity centers including Armijo High School and downtown Fairfield

Current and planned projects include:

- Downtown South Street Lighting Program
- Union/Jefferson Avenue Corridor Pedestrian Enhancements
- Infill housing and mixed use property acquisitions, lot consolidation, affordable housing subsidies
- Downtown Parking Garage
- Infrastructure to support development (water/sewer)

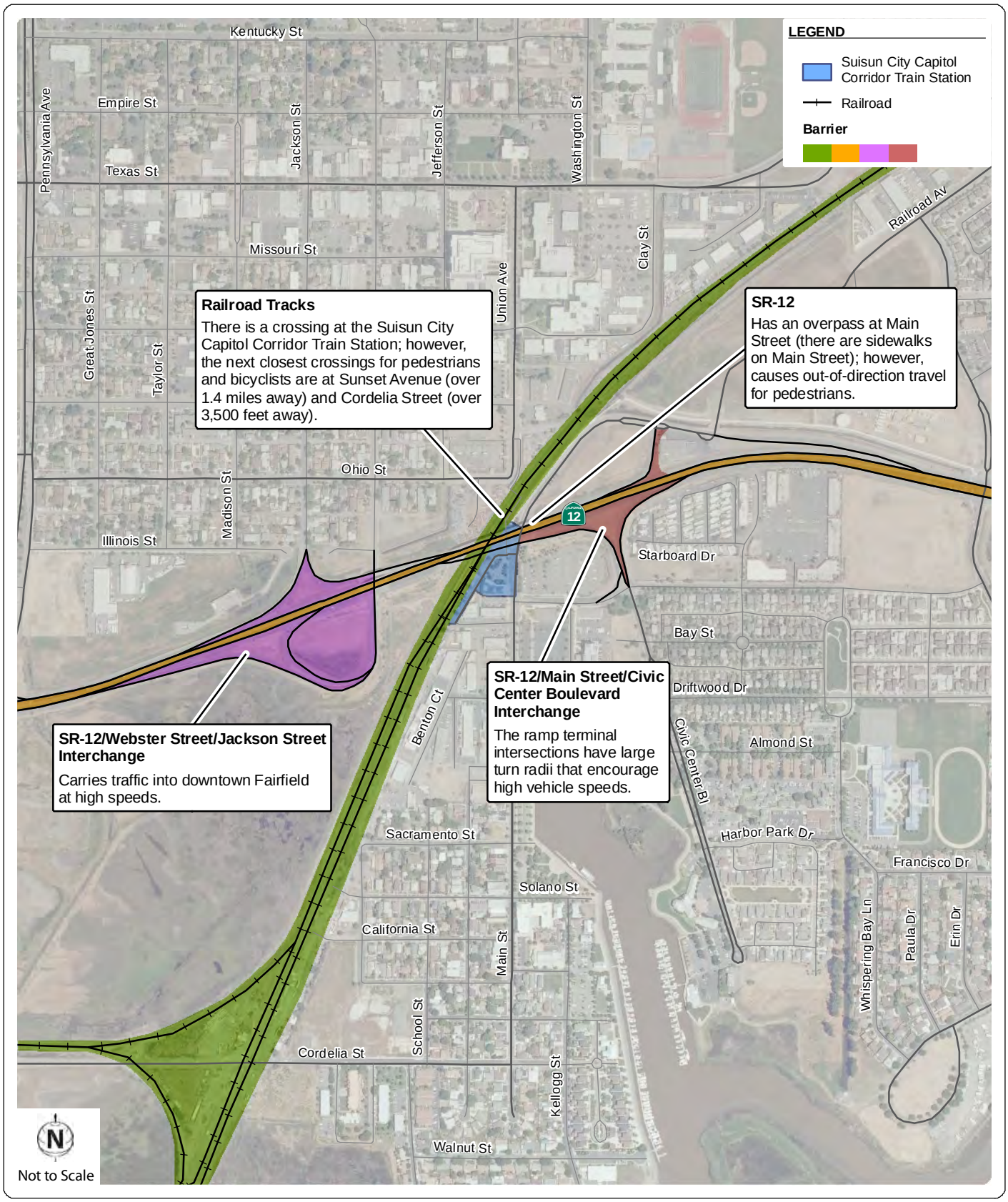
Access Mode

Many station users transfer between buses and trains; however, most Capitol Corridor users arrive by automobile and either park in the 267 space lot or are dropped off. Some bus and Capitol Corridor users were observed arriving on foot. The surrounding area and transportation network is relatively supportive of pedestrian and bicycle travel. Streets in Suisun City and downtown Fairfield are generally narrow (i.e., a single traffic lane in either direction) and feature low vehicle travel speeds; terrain in the area is flat, a pedestrian/bicyclist bridge crosses over the railroad tracks, and a high-quality Class I bike path runs along the north side of SR-12 connecting the Suisun City Capitol Corridor Train Station to nearby residential neighborhoods. Some barriers to pedestrian and bicycle travel exist, as shown in Figure SUI-1; significant barriers in Suisun City include SR-12 and the railroad tracks.

Transit Service

Four transit providers serve the Suisun City Capitol Corridor Train Station:

- Amtrak (Capitol Corridor) operates commuter trains between Auburn and San Jose, with stations in major destinations such as Sacramento, Davis, Richmond (Bay Area Rapid Transit [BART] connection), San Francisco (via Amtrak bus connection in Emeryville), Oakland, and San Jose. Capitol Corridor operates 24 trains that serve the transit center; most operate only between Sacramento and Oakland.
- Fairfield and Suisun Transit (FAST) operates several bus routes that serve the Suisun City Capitol Corridor Train Station:
    - Route 5 – a local circulator route that serves downtown Suisun City and downtown Fairfield and nearby destinations such as the Westfield Mall and Sunset Center
    - Route 8 – a citywide loop route that serves northern Suisun City and southern Fairfield
    - Route 90 – a commuter express route that connects the El Cerrito Del Norte BART station to the Suisun City Capitol Corridor Train Station and Fairfield Transportation Center
- Rio Vista Delta Breeze operates limited deviated fixed route bus service; Route 50 serves Isleton, Rio Vista, the Suisun City Capitol Corridor Train Station, and Fairfield.
- Greyhound operates long-distance bus travel and stops at the Suisun City Capitol Corridor Train Station.



FEHR PEERS

SUISUN CITY CAPITOL CORRIDOR TRAIN STATION
BARRIERS TO PEDESTRIAN AND BICYCLE TRAVEL

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FIGURE SUI-1

Collision and Crime Analysis

Collision Analysis

Existing SWITRS data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends near the Suisun City Capitol Corridor Train Station. Figure SUI-2 shows the number and severity of collisions within one mile of the Suisun City Capitol Corridor Train Station. Table SUI-1 summarizes the collision data by year and collision severity.

Table SUI-1:
Suisun City Capitol Corridor Train Station Bicyclist/Pedestrian Collision Summary
(June 2006 – June 2010)

Year	Total Collisions	Injury Collisions		Fatal Collisions	
		Bicyclist	Pedestrian	Bicyclist	Pedestrian
June - Dec. 2006	6	1	5	0	0
2007	12	1	9	0	0
2008	14	6	6	0	0
2009	10	3	6	0	0
Jan. - June 2010	4	2	1	0	0
Total	46	13	27	0	0

Source: California Highway Patrol

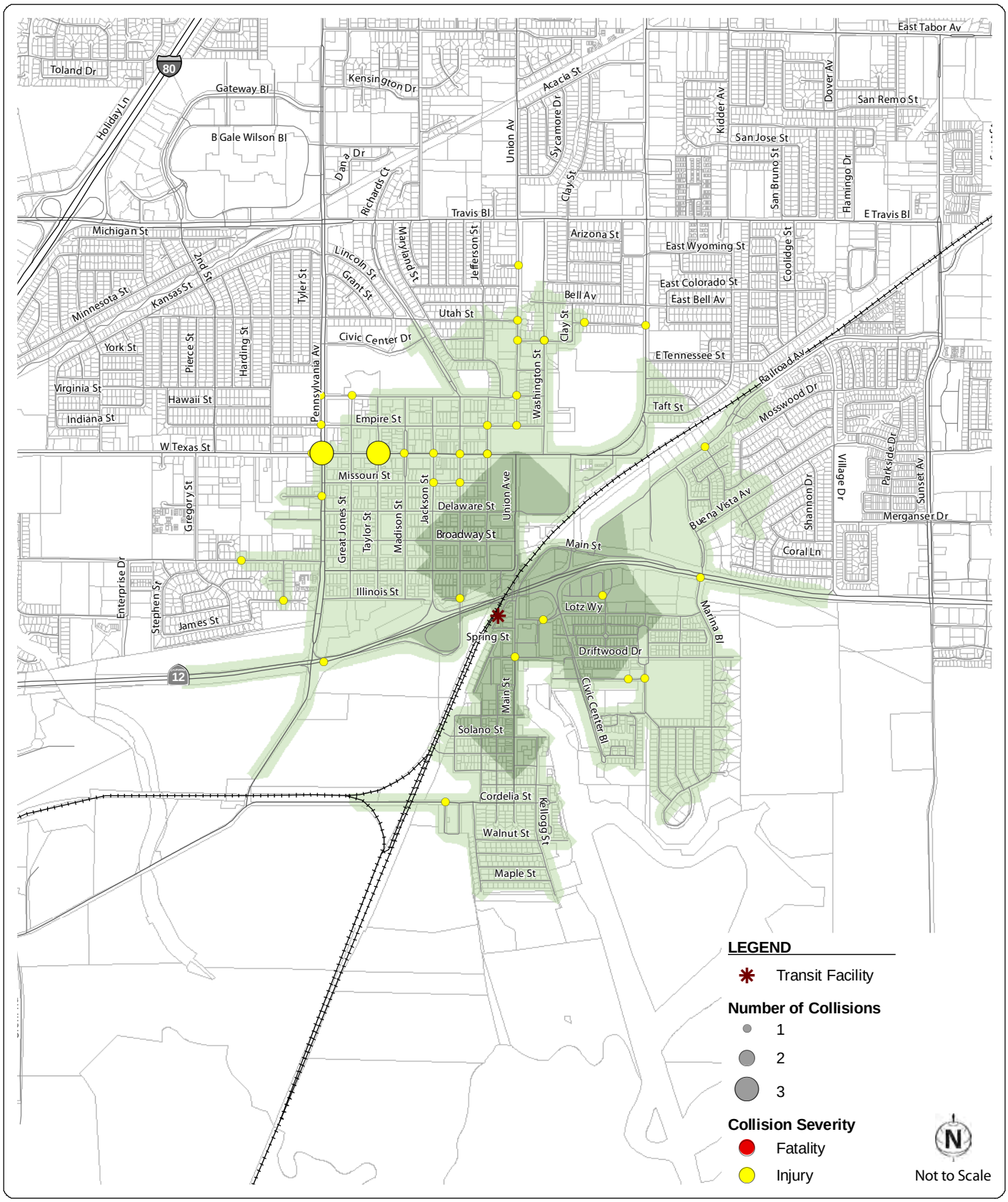
Table SUI-1 shows that most of the collisions (87 percent) resulted in some form of injury; no fatalities were recorded during the four-year period.

The SWITRS data was also analyzed for the Primary Collision Factors (PCFs). Table SUI-2 shows the most common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions within one mile of the Suisun City Capitol Corridor Train Station.

Table SUI-2:
Suisun City Capitol Corridor Train Station Bicyclist/Pedestrian Collision Summary Primary Collision Factors
(June 2006 – June 2010)

Primary Collision Factor	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Pedestrian Violation (Pedestrian not yielding or crossing illegally)	0	12	0	12
Pedestrian Right of Way (Driver not yielding)	1	8	0	9
Wrong Side of Road	2	2	0	4
Improper Turning	0	4	0	4
Traffic Signals and Signs	1	3	0	4
Other	2	11	0	13

Source: California Highway Patrol



FEHR PEERS

SUISUN CITY CAPITOL CORRIDOR TRAIN STATION BICYCLE AND PEDESTRIAN COLLISIONS

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FIGURE SUI-2

As shown in Table SUI-2, the most common PCFs were pedestrians crossing illegally (such as crossing against a signal or midblock between signals) and drivers not yielding the right-of-way to pedestrians in crosswalks.

Table SUI-3 shows the most common pedestrian actions, which describe what the pedestrian was doing immediately before the collision occurred, for pedestrian collisions within one mile of the Suisun City Capitol Corridor Train Station.

Table SUI-3:
Suisun City Capitol Corridor Train Station Pedestrian Collision Summary Pedestrian Actions
(June 2006 – June 2010)

Pedestrian Action	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Crossing Not in Crosswalk	1	10	0	11
Crossing in Crosswalk at Intersection	0	10	0	10
Walking In Road, Including Shoulder	0	3	0	3
Crossing in Crosswalk Not at Intersection	0	2	0	2
Other	0	1	0	1
Source: California Highway Patrol				

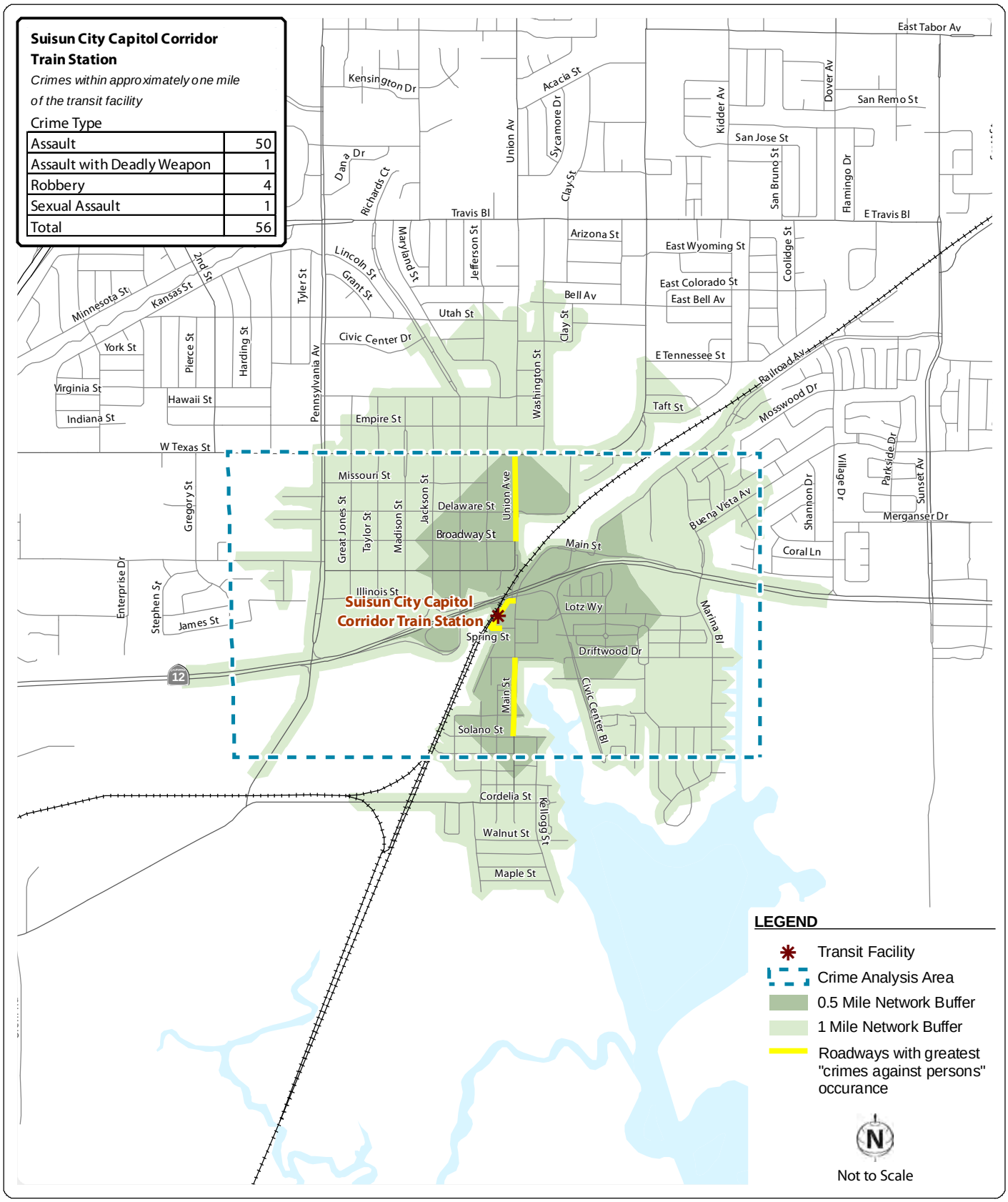
Table SUI-3 shows that the most common pedestrian actions were "crossing not in crosswalk" and "crossing in crosswalk at intersection." These actions preceding a collision suggest that infrastructure enhancements, especially when paired with education and enforcement efforts, may improve pedestrian safety near the Suisun City Capitol Corridor Train Station.

Crime Analysis

Reported crime data was reviewed for the study area. Figure SUI-3 identifies the analysis area and a summary of the type of crimes committed. The data represents a query conducted on "crimes against persons" only (i.e., homicide, robbery, sexual offense and assault). Within the six-month review period, 56 crimes were reported. The most common crime committed was assault, including one assault near the transit facility.

Occurrences of these types of crimes are clustered along three corridors: Main Street between Driftwood and Solano; Union Avenue between West Texas Street and Broadway Street; and on Spring Street.

Additionally, representatives from the Suisun City Police Department indicated that many residents have personal security concerns regarding the pedestrian bridge over the railroad tracks.



Source: Suisun City Police Department and crimereports.com
March 6, 2011 - September 6, 2011

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SUISUN CITY CAPITOL CORRIDOR TRAIN STATION
SIX MONTH CRIME ACTIVITY

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FIGURE SUI-3

Transit Facility – Issues and Opportunities

Adequate pedestrian access is provided throughout the station. The proximity of the bus platform and drop-off area to the train platform allows for convenient connections between modes. However, conflicts between buses and automobiles occur when drop-off vehicles block the turning path of inbound buses.

Parking is available for train or bus passengers at the 267-space Park and Ride lot across Main Street. There is no charge for parking at this facility. Field observations indicated that the lot is currently at capacity on weekdays, and some vehicles overflow to parking lots at nearby businesses.

Bicycle parking is available in two forms: short-term racks in front of the depot building and bike lockers near the train platform. The short-term racks do not meet industry standards because they hold the bicycle by only one wheel and do not provide two points of contact to properly secure bicycles. The four BikeLink on-demand bike lockers are high-quality and easy to use; however, all lockers were empty at the time of the walking audit.

The depot building serves as an interior waiting area that provides comfortable indoor seating and public restrooms. Real-time train arrival/departure is provided for Capitol Corridor service. Wayfinding signage directs passengers to Suisun City's Waterfront District.

Transit Facility Strategies

Table SUI-4 shows strategies for improving passenger convenience, comfort, and safety the Suisun City Capitol Corridor Train Station.

Table SUI-4: Suisun City Capitol Corridor Train Station Transit Facility Strategies

Strategy #	Description	Strategy Type	Detailed Recommendations	Cost[1]
201	Security Cameras	Security	Install security cameras on the passenger platforms. Provide signs that indicate that security cameras are in use.	$
202	Emergency Call Boxes	Security	Install emergency call boxes on the passenger platforms.	$
203	Platform Lighting	Security	Install additional lighting on the passenger platforms; either as free-standing fixtures or mounted on the SR-12 overpass.	$
204	Station Map	Passenger Amenities	Provide station maps on the passenger platforms that indicate the location of key amenities (ticket kiosks, restrooms, bike parking, etc.)	$
205	Bus Circulation Improvements	Internal Circulation	Restrict all vehicle parking in front of the station building so that inbound buses are not blocked.	$
206	Short-Term Bike Racks	Bike Parking	Replace existing bike racks with appropriate bike racks.	$
207	Additional Parking Capacity	Parking	Increase the supply of parking from the existing 267 spaces.	$$$
208	Real-Time Information	Transit Information	Install real-time electronic information signs for bus routes.	$$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

Pedestrian and Bicycle – Issues and Opportunities

The Suisun City Capitol Corridor Train Station's location and surrounding land uses generally assist in supporting walking and bicycling as viable methods of accessing the station. Residential neighborhoods surround the station on all sides; many of these neighborhoods, including the Waterfront District, are within a half mile walk of the station. Pedestrians and bicyclists from residential neighborhoods in south and east Suisun City access the station primarily via Main Street, Driftwood Drive, and Lotz Way. Pedestrians and bicyclists in residential neighborhoods in south Fairfield must access the station via a pedestrian/bicyclist bridge over the railroad tracks.

There are official bicycle facilities that provide access to the station. The Central County Bikeway, a high-quality, Class I shared use path connects the station to residential neighborhoods in east Suisun City north of SR-12. Low-volume, low speed streets in Suisun City and south Fairfield (such as Main Street and Union Avenue) adequately accommodate casual bicyclists. An improved bicycle facility on Lotz Way would better serve bicyclists and would connect to the future Grizzly Island Bikeway, which will be on the south side of SR 12 between Marina Boulevard and Grizzly Island Road. Lotz Way traffic volume is greatest between Main Street and the SR-12 eastbound ramps.

SR-12 and the railroad tracks represent the primary barriers to walking and bicycling access. The SR-12 overpass at Main Street allows for pedestrian and bicyclist access. The next nearest pedestrian crossing of SR-12 is over a half mile east of the station. The pedestrian/bicyclist bridge over the railroad tracks is well placed to provide pedestrian and bicyclist station access. However, representatives from the Suisun City Police Department indicated that some residents have personal security concerns regarding the pedestrian bridge over the railroad tracks. A recently completed streetscape project improved street lighting on the Fairfield side of the pedestrian bridge.

Suisun City has recently completed streetscape improvements in the Waterfront District. These improvements include new sidewalks, curb ramps, landscaping, street lighting, crosswalks, and wayfinding signage. The project's first phase included improvements south of Driftwood Drive; the project's second phase will make similar improvements on Main Street between Driftwood Drive and SR-12. The second phase does not yet have an identified funding source.

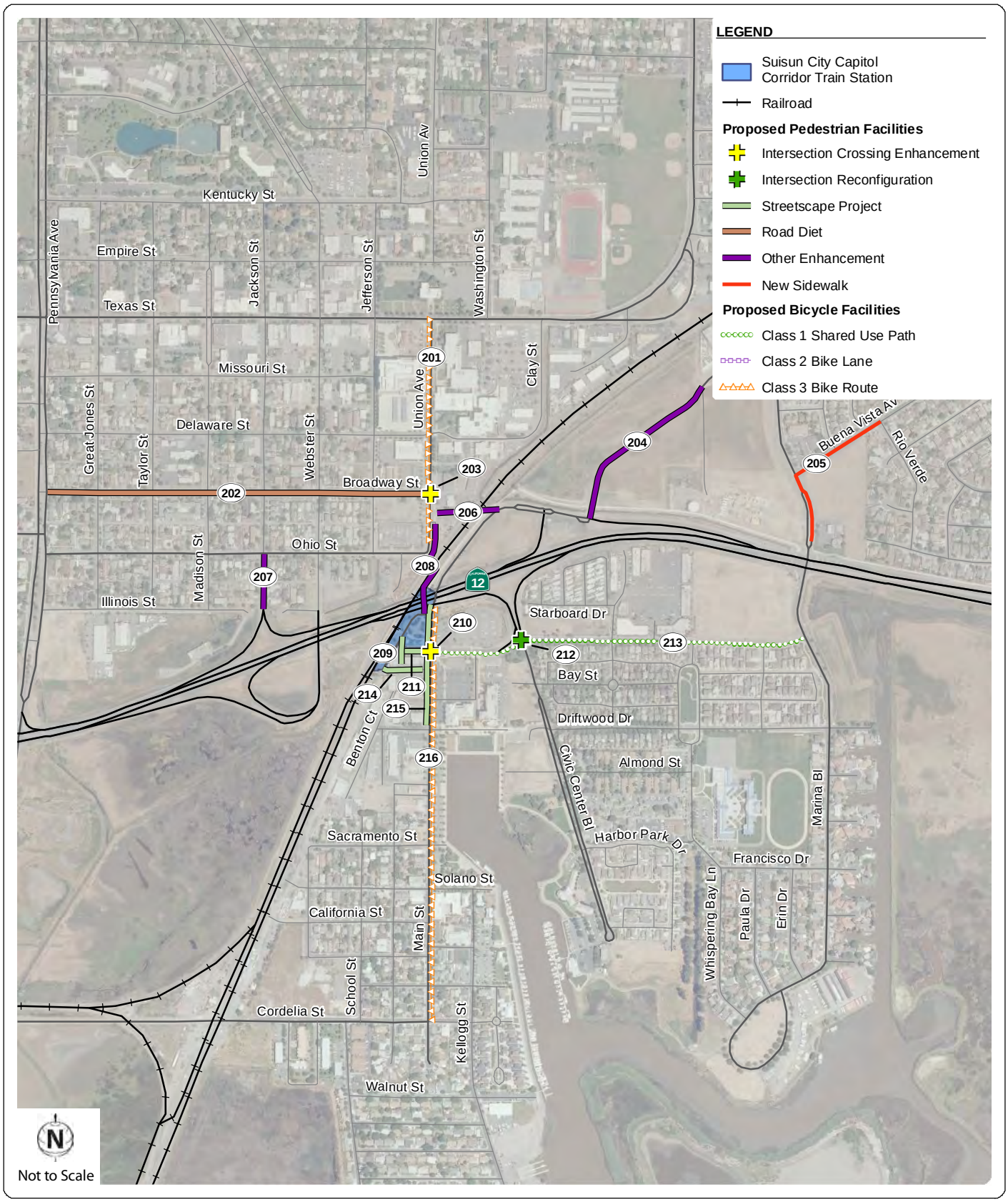
Pedestrian and Bicycle Strategies

Figure SUI-4 shows the locations of recommended pedestrian and bicycle strategies. Table SUI-5 shows strategies for improving pedestrian and bicyclist access to the Suisun City Capitol Corridor Train Station.

Table SUI-5: Suisun City Capitol Corridor Train Station Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
201	Bike Route (Class III)	Union Ave. bike route with sharrows	Texas St. to Ohio St.	$
202	Road Diet	Broadway St. road diet from four lanes to three lanes with bike lanes	Union Ave. to Pennsylvania Ave.	$$
203	Intersection Crossing Enhancements	Pedestrian refuge island at uncontrolled crosswalk	Union Ave. / Broadway St.	$
204	Other Enhancement	Railroad Ave. extension	Marina Blvd. to Main St.	$$$
205	New Sidewalks	East side of Marina Blvd.; south side of Buena Vista Ave.	Buena Vista Ave. to SR-12; Rio Verde to Marina Blvd.	$$
206	Other Enhancement	Consider new grade-separated or at-grade crossing (requires coordination with Capitol Corridor and Public Utilities Commission)	Union Ave. (Fairfield) to Main St. (Suisun City)	$$$
207	Other Enhancement	Jackson St. traffic calming: radar speed signs, speed humps, etc. (requires coordination with Caltrans)	Broadway St. to Illinois St.	$
208	Other Enhancement	Short-term – security enhancements (lighting, security camers, etc.); long-term – replace with wider, ADA-compliant bridge	Union Ave. (Fairfield) to Main St. (Suisun City)	$$$
209	Streetscape Project	Alley streetscape improvements (speed bumps or sidewalks, stop sign at Spring Street, curb ramps at Spring Street, lighting, etc.)	Depot building to Spring St.	$
210	Intersection Crossing Enhancements	Crosswalk striping, truncated domes, and pedestrian signal heads at west leg; add "Turning Traffic Must Yield to Pedestrians" (CAMUTCD R10-15) sign for westbound left-turn vehicles; fencing on east side of Main Street north of Lotz Way to channelized pedestrians to crosswalk	Main St. / Lotz Way	$
211	Streetscape Project	Enhanced signage/striping through one-way parking area	Alley to Lotz Way	$
212	Intersection Reconfiguration	Replace channelized free right-turn with controlled right-turn (requires coordination with Caltrans)	SR-12 off-ramp / Civic Center Blvd. / Lotz Way	$
213	Bike Path (Class I)	Lotz Way Class I shared use path (north side)	Marina Blvd. to Lotz Way	$$
214	Streetscape Project	Main St. streetscape improvements (sidewalk, curb ramps, crosswalks, street lighting, wayfinding signage, bulbouts, pavement rehabilitation, landscaping, etc.)	SR-12 to Driftwood Dr.	$$$
215	Bike Route (Class III)	Main St. bike route with sharrows	SR-12 to Cordelia St.	$
216	Streetscape Project	Spring St. streetscape improvements (ADA-compliant sidewalks)	Main St. to Railroad Ave.	$

Notes: 1Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011



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SUISUN CITY CAPITOL CORRIDOR TRAIN STATION
PEDESTRIAN AND BICYCLE STRATEGIES

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FIGURE SUI-4

Project Prioritization

The recommended pedestrian and bicycle strategies shown in Figure SUI-4 and Table SUI-5 were prioritized according to the prioritization criteria discussed in Chapter 5. Table SUI-6 shows the recommended pedestrian and bicycle strategies and their total priority score.

Table SUI-6:
Suisun City Capitol Corridor Train Station Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
213	Bike Path (Class I)	Lotz Way Class I shared use path (north side)	Marina Blvd. to Lotz Way	6
212	Intersection Reconfiguration	Replace channelized free right-turn with controlled right-turn (requires coordination with Caltrans)	SR-12 off-ramp / Civic Center Blvd. / Lotz Way	5
202	Road Diet	Broadway St. road diet from four lanes to three lanes with bike lanes	Union Ave. to Pennsylvania Ave.	4
203	Intersection Crossing Enhancements	Pedestrian refuge island at uncontrolled crosswalk	Union Ave. / Broadway St.	4
205	New Sidewalks	East side of Marina Blvd.; south side of Buena Vista Ave.	Buena Vista Ave. to SR-12; Rio Verde to Marina Blvd.	4
206	Other Enhancement	Consider new grade-separated or at-grade crossing (requires coordination with Capitol Corridor and Public Utilities Commission)	Union Ave. (Fairfield) to Main St. (Suisun City)	4
207	Other Enhancement	Jackson St. traffic calming: radar speed signs, speed humps, etc. (requires coordination with Caltrans)	Broadway St. to Illinois St.	4
208	Other Enhancement	Short-term – security enhancements (lighting, security camers, etc.); long-term – replace with wider, ADA-compliant bridge	Union Ave. (Fairfield) to Main St. (Suisun City)	4
209	Streetscape Project	Alley streetscape improvements (speed bumps or sidewalks, stop sign at Spring Street, curb ramps at Spring Street, lighting, etc.)	Depot building to Spring St.	4
210	Intersection Crossing Enhancements	Crosswalk striping, truncated domes, and pedestrian signal heads at west leg; add "Turning Traffic Must Yield to Pedestrians" (CAMUTCD R10-15) sign for westbound left-turn vehicles; fencing on east side of Main Street north of Lotz Way to channelized pedestrians to crosswalk	Main St. / Lotz Way	4

Table SUI-6 Continued:

Suisun City Capitol Corridor Train Station Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
201	Bike Route (Class III)	Union Ave. bike route with sharrows	Texas St. to Ohio St.	3
204	Other Enhancement	Railroad Ave. extension	Marina Blvd. to Main St.	3
215	Bike Route (Class III)	Main St. bike route with sharrows	SR-12 to Cordelia St.	3
214	Streetscape Project	Main St. streetscape improvements (sidewalk, curb ramps, crosswalks, street lighting, wayfinding signage, bulbouts, pavement rehabilitation, landscaping, etc.)	SR-12 to Driftwood Dr.	2
211	Streetscape Project	Enhanced signage/striping through one-way parking area	Alley to Lotz Way	1
216	Streetscape Project	Spring St. streetscape improvements (ADA-compliant sidewalks)	Main St. to Railroad Ave.	1

Source: Fehr & Peers, 2011

8 Vacaville Transportation Center

Description

The Vacaville Transportation Center opened on March 1, 2011 and is operated by the City of Vacaville. The center has a 10-bay bus shelter and public parking. It is centrally located in Vacaville on Allison Drive north of Ulatis Drive, and primarily serves Vacaville City Coach although other transit providers stop at the facility. The Safe Routes to Transit Task Force completed a walking audit at the Vacaville Transportation Center on Monday, September 12, 2011 between 3:00 PM and 4:30 PM.

Priority Development Area

The Vacaville Allison/Ulatis PDA is approximately 290 acres bound by Interstate 80 on the north, Elmira Road on the south, Ulatis Creek on the west, and Putah Canal on the east. The area is best described as commercial, office and retail. Key assets include the I-80 / Allison Drive interchange, Ulatis Cultural Center and County Library, Ulatis Creek multi-use trail and utility infrastructure in place to support development. The following elements describe the long-term vision for the PDA:

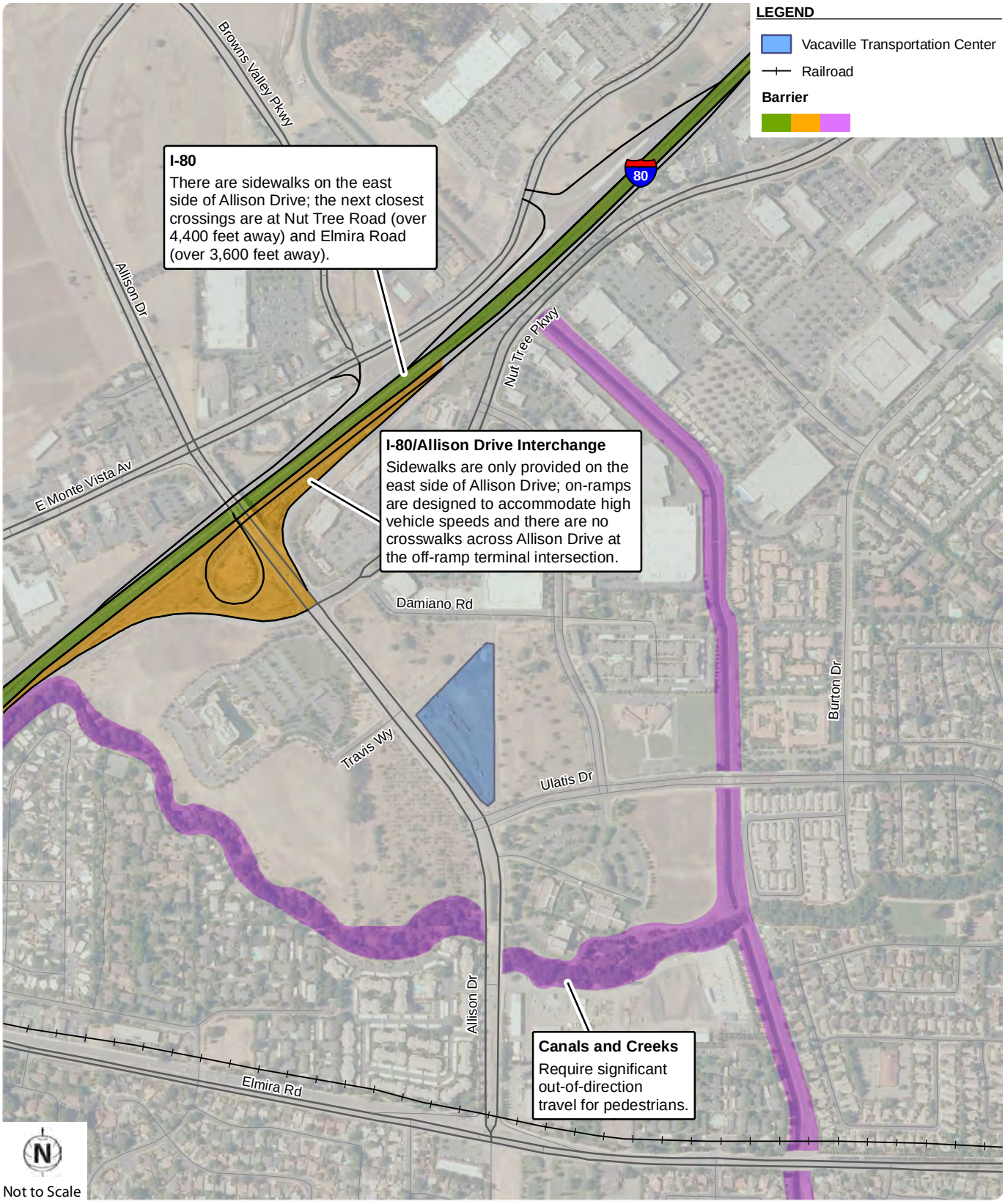
- Smart growth development anchored by a regional transit hub – Vacaville Transportation Center
- Development of existing vacant and underutilized properties
- Medium to high density housing within a half mile of the Vacaville Transportation Center
- Expand Ulatis Creek Trail system as a natural open space recreational corridor

Current and planned projects include:

- Vacaville Intermodal Station Phase 2 – Parking Structure
- Streetscape and public art enhancements
- Ulatis Creek Multi-use Trail (I-80 to Allison Drive)

Access Mode

Most current users of the station transfer between buses; however, some users arrive by automobile and either park in the 250 space parking lot or are dropped off. The public parking lot, meant to accommodate park-and-ride and transit users, was mostly empty at the time of the walking audit. Since the time of the walking audit, Fairfield and Suisun Transit routes have begun to serve the Vacaville Transportation Center; parking lot utilization should increase as riders accustom to the service. The land use pattern and transportation network surrounding the Vacaville Transportation Center is suburban. As shown in Figure VAC-1, significant barriers to pedestrian and bicycle travel include I-80, the I-80 / Allison Drive interchange, and creeks/canals.



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VACAVILLE TRANSPORTATION CENTER
BARRIERS TO PEDESTRIAN AND BICYCLE TRAVEL

FIGURE VAC-1

Transit Service

Three transit providers serve the Vacaville Transportation Center

- Vacaville City Coach provides the following local fixed bus routes:
  - Route 1 – a radial route that runs between the Vacaville Transportation Center and northeast Vacaville, including the commercial centers along Burton Drive, the Vacaville Premium Outlets, and neighborhoods along Yellowstone Drive
  - Route 2 – a circulator route that serves west and north Vacaville, including downtown Vacaville
  - Route 4 – a loop route that runs between the Vacaville Transportation Center and northeast Vacaville, including the Genentech and Kaiser Permanente campuses in north Vacaville and commercial centers along Orange Drive and Burton Drive
  - Route 5 – a feeder route that serves southern and western Vacaville, connecting the Vacaville Transportation Center with the downtown Transit Plaza
  - Route 6 – a bidirectional circulator that connects the Vacaville Transportation Center and the Downtown Transit Plaza with several of Vacaville's commercial centers
  - Route 8 – a circulator route that serves southeast Vacaville, including downtown Vacaville
- Fairfield and Suisun Transit (FAST) operates three commuter express routes that serve the Vacaville Transportation Center:
  - Route 20 – a commuter express route connecting Fairfield and Vacaville
  - Route 30 – a commuter express route that connects Fairfield, Vacaville, Dixon, Davis, and Sacramento
  - Route 40 – a commuter express route that connects Vacaville, Fairfield, and Benicia to the Pleasant Hill BART and Walnut Creek BART stations
- Yolobus operates the Route 220 commuter express that connects Davis, Winters, and Vacaville

Collision and Crime Analysis

Collision Analysis

Existing SWITRS data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends near the Vacaville Transportation Center. Figure VAC-2 shows the number and severity of collisions within one mile of the Vacaville Transportation Center. Table VAC-1 summarizes the collision data by year and collision severity.

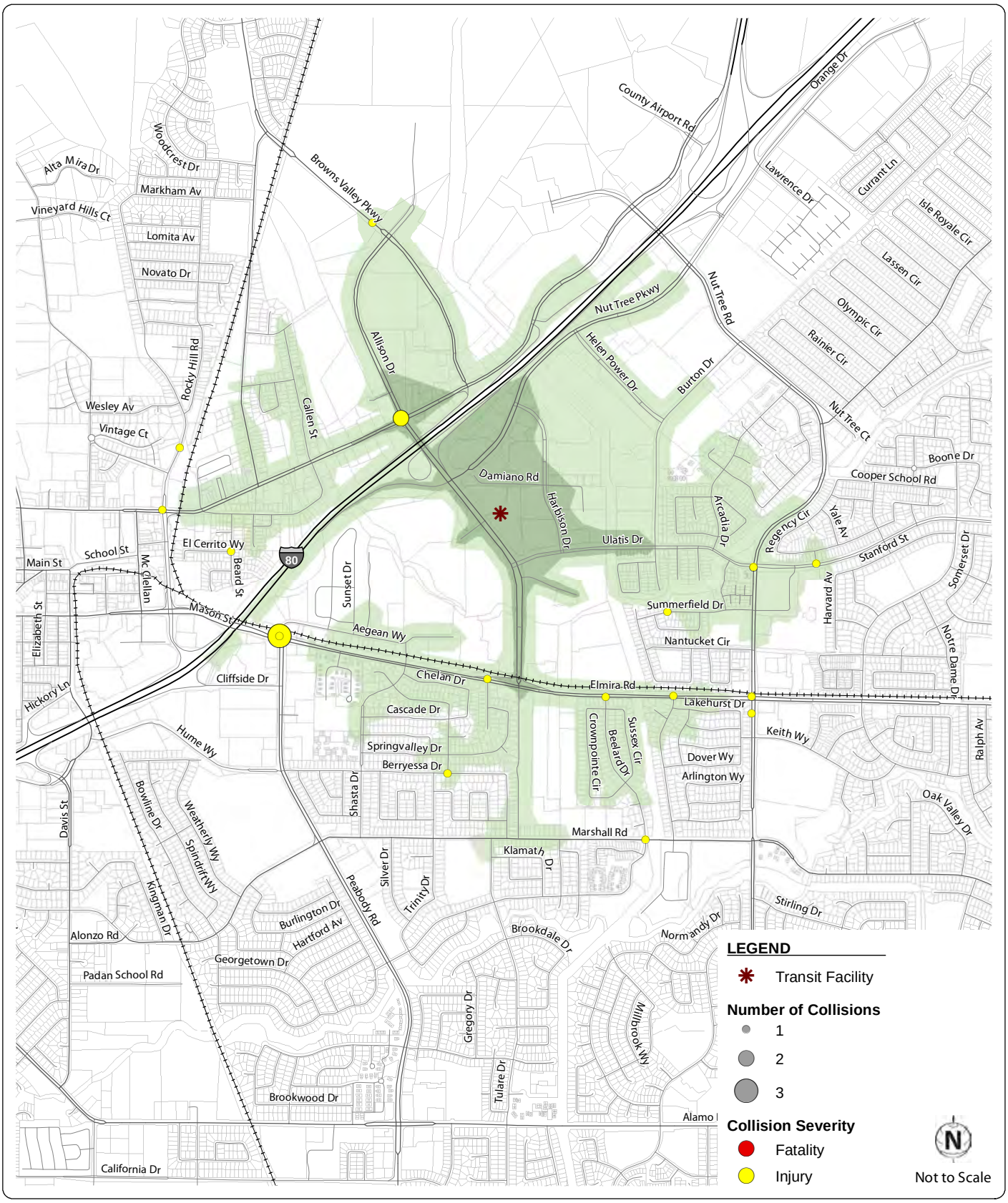
Table VAC-1:

Vacaville Transportation Center Bicyclist/Pedestrian Collision Summary (June 2006 – June 2010)

Year	Total Collisions	Injury Collisions		Fatal Collisions	
		Bicyclist	Pedestrian	Bicyclist	Pedestrian
June - Dec. 2006	2	2	0	0	0
2007	7	5	2	0	0
2008	7	2	5	0	0
2009	7	5	1	0	0
Jan. – June 2010	1	1	0	0	0
Total	24	15	8	0	0

Source: California Highway Patrol

Table VAC-1 shows that most of the collisions (96 percent) resulted in some form of injury; no fatalities were recorded during the four-year period.



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VACAVILLE TRANSPORTATION CENTER BICYCLE AND PEDESTRIAN COLLISIONS

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FIGURE VAC-2

The SWITRS data was also analyzed for the Primary Collision Factors (PCFs). Table VAC-2 shows the most common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions within one mile of the Vacaville Transportation Center.

Table VAC-2:
Vacaville Transportation Center Bicyclist/Pedestrian Collision Summary Primary Collision Factors
(June 2006 – June 2010)

Primary Collision Factor	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Wrong Side of Road	0	7	0	7
Automobile Right of Way	0	4	0	4
Pedestrian Violation (Pedestrian not yielding or crossing illegally)	0	4	0	4
Traffic Signals and Signs	0	4	0	4
Pedestrian Right of Way	1	2	0	3
Other	0	2	0	2

Source: California Highway Patrol

As shown in Table VAC-2, the most common PCF was bicycling on the wrong side of the road. Other common PCFs were bicyclists or pedestrians not yielding the right-of-way to automobiles, pedestrians crossing illegally (such as crossing against a signal or midblock between signals), or bicyclists not obeying traffic signals and/or signs.

Table VAC-3 shows the most common Pedestrian Actions, which describe what the pedestrian was doing immediately-before the collision occurred, for pedestrian collisions within one mile of the Vacaville Transportation Center.

Table VAC-3:
Vacaville Transportation Center Bicyclist/Pedestrian Collision Summary Pedestrian Actions
(June 2006 – June 2010)

Pedestrian Action	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Crossing in Crosswalk at Intersection	1	5	0	6
Crossing Not in Crosswalk	0	1	0	1
In Road, Including Shoulder	0	1	0	1
Not In Road	0	1	0	1

Source: California Highway Patrol

Table VAC-3 shows that the most common pedestrian action was Crossing in Crosswalk at Intersection. This action preceding a collision suggests that education and enforcement efforts targeted at drivers and pedestrians, may improve pedestrian safety near the Vacaville Transportation Center.

Crime Analysis

Available crime data was reviewed for the study area. Figure VAC-3 identifies the analysis area and a summary of the type of crimes committed or calls for service received. The data represents a query conducted on "crimes against persons" only (i.e., homicide, battery, robbery, sexual offense, domestic violence and assault) provided directly from the City of Vacaville Police Department. Within the one-year review period, 460 crimes were reported including one homicide on Hume Way. The most common crime committed was battery. No reported crimes occurred within 500 feet of the transit facility. Data reflects "calls for service", as opposed to actual reported crime data. More than one call for service may be shown for the same incident.

Transit Facility – Issues and Opportunities

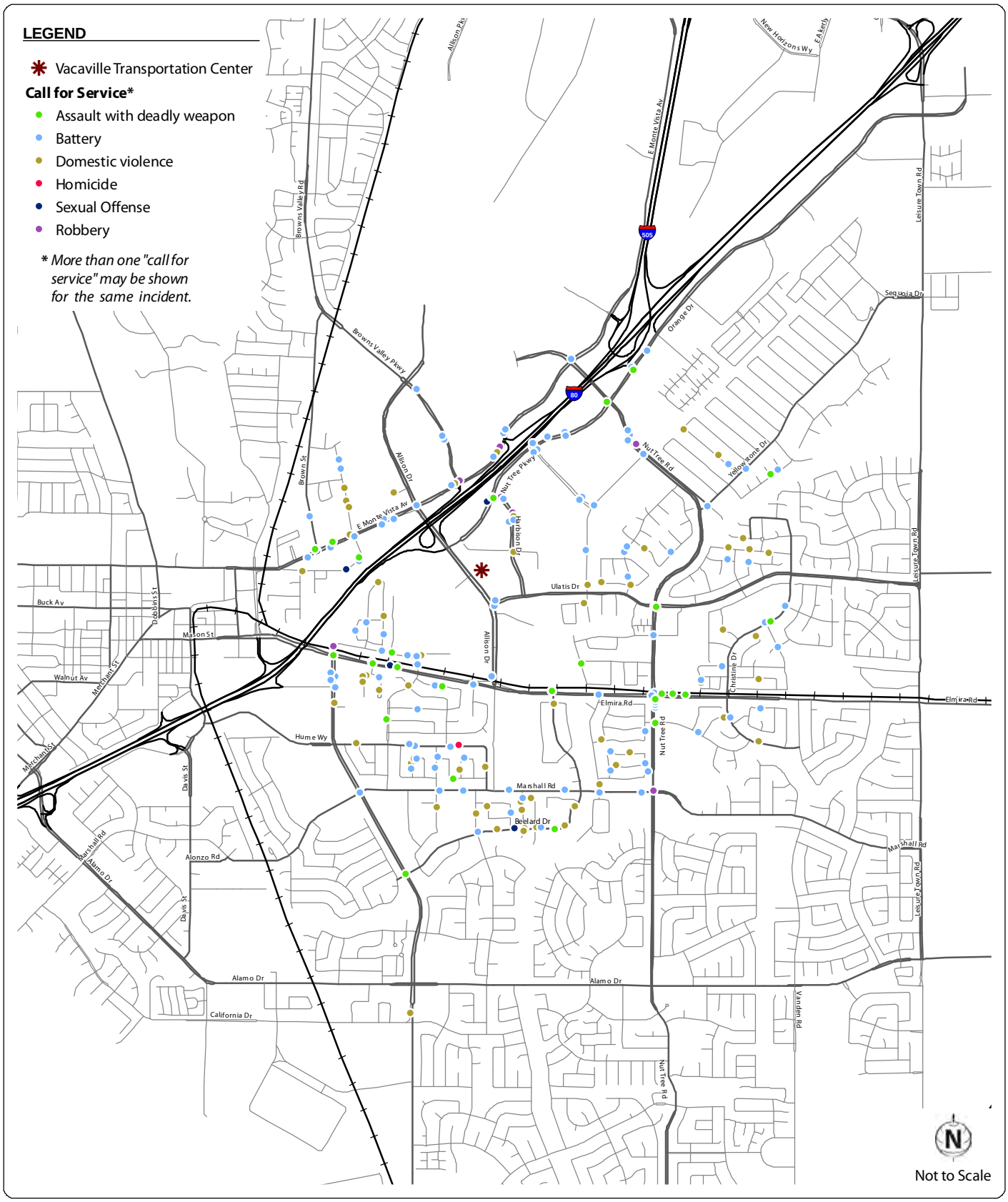
The Vacaville Transportation Center has a center-loading boarding platform that includes benches and a shelter roof. The center-loading boarding platform requires passengers to cross one lane of bus-only traffic. This configuration provides for excellent bus circulation, and benefits from its complete separation from automobile traffic. Buses run clockwise around the boarding platform (unlike typical roundabouts in the United States, which circulate counterclockwise).

Each bus bay is marked with signage indicating the transit provider and route. Real-time electronic information signs that indicate the next bus arrival time are available for each Vacaville City Coach route. Transit information signage for Vacaville City Coach is available at the station. At the time of the walking audit transit rider information was not available for other transit providers (FAST and Yolobus); however, these providers have since added transit information signage.

The Vacaville Transportation Center has sufficient pedestrian access from Allison Drive. The parcels on Allision Drive, Ulatis Drive, and Harbison Drive surrounding the station are vacant so the station does not connect to nearby commercial and residential uses.

Public restrooms, an emergency call box, and bike lockers are provided northeast of the boarding platform across the bus circulation area. Curb ramps are only provided at the corners of the boarding platform; wheelchair users incur significant out-of-direction travel to access the restrooms or emergency call box from the boarding platform. Sixteen bicycle lockers are available at the station. The lockers, which require users to provide their own lock, are generally more convenient than lock-and-key bike lockers since different users can access the lockers each day. Locks were on several of the lockers at the time of the walking audit.

Parking is free at the Vacaville Transportation Center and the quantity of parking available is currently sufficient to serve demand. Future demand may warrant expanded parking.



Source: City of Vacaville Police Department

FEHR PEERS

VACAVILLE TRANSPORTATION CENTER CALLS FOR SERVICE (CRIMES AGAINST PERSONS) AND CLASSIFICATIONS, JUNE 2010 - MAY 2011

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FIGURE VAC-3

Transit Facility Strategies

Table VAC-4 shows strategies for improving passenger convenience, comfort, and safety the Vacaville Transportation Center.

Table VAC-4: Vacaville Transportation Center Transit Facility Strategies

Strategy #	Description	Strategy Type	Detailed Recommendations	Cost[1]
301	Security Camera Signs	Security	Provide signs that indicate that security cameras are in use.	$
302	Improved Signage	Transit Information	Add bus route maps and schedules for all transit providers.	$
303	Improved Pedestrian Signage/Markings	Internal Circulation	Enhance bus circulation entrance/ exit and pedestrian crossings with "Look" stencils, add curb ramp/ crosswalk to restrooms	$
304	Printed Schedules and Maps	Transit Information	Provide printed schedules and maps for all transit providers.	$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

Pedestrian and Bicycle – Issues and Opportunities

The Vacaville Transportation Center is located adjacent to the-I-80 / Allison Drive Interchange. The parcels on Allison Drive, Ulatis Drive, and Harbison Drive surrounding the station are vacant so the station does not connect to nearby commercial and residential uses. Transit users walking to/from these parcels incur significant out-of-direction travel. Additionally, nearby creeks and canals cause some neighborhoods to incur out-of-direction travel.

The land uses surrounding the Vacaville Transportation Center are predominantly suburban. There are several apartment complexes near the station. Additionally, the station is near some of Vacaville's many commercial centers.

Sidewalk coverage is good surrounding the Vacaville Transportation Center. All developed parcels, and some undeveloped parcels, have sidewalks. North of Travis Way, there are no concrete sidewalks on the east side of Allison Drive. The asphalt path that is provided is difficult to use for most wheelchair users. Sidewalks are only available on the east side of the I-80 / Allison Drive interchange.

Bike lanes are provided on most major roadways in Vacaville; however, key gaps exist near the Vacaville Transportation Center. There are no bike lanes on Allison Drive between I-80 and Ulatis Drive. Additionally, there is no westbound bike lane on the north side of Ulatis Drive between Allison Drive and Harbison Drive. A creek-side Class I bike path intersects Allison Drive south of Ulatis Drive; however, there is no way for bicyclists to cross Allison Drive.

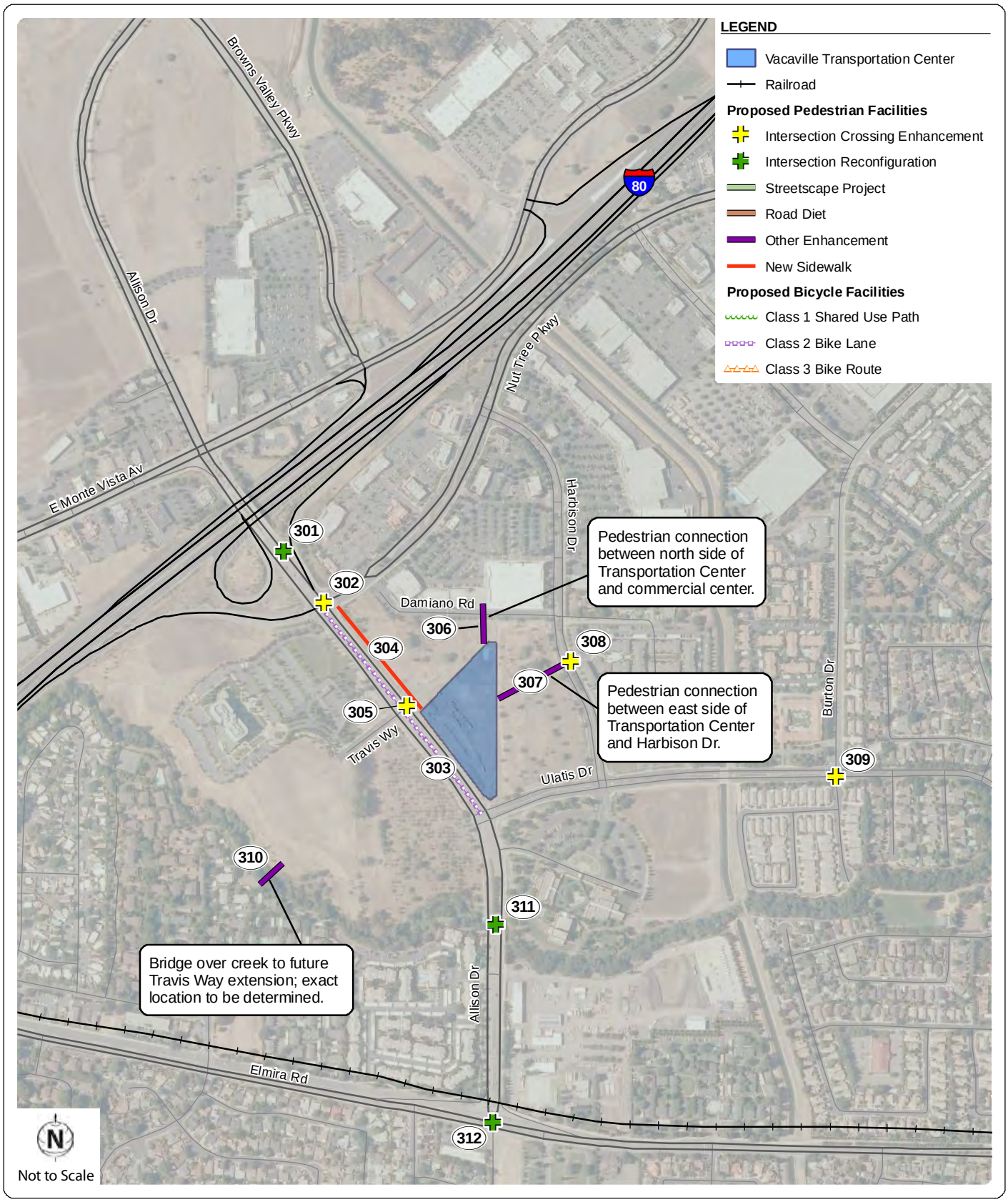
Pedestrian and Bicycle Strategies

Figure VAC-4 shows the locations of recommended pedestrian and bicycle strategies. Table VAC-5 shows strategies for improving pedestrian and bicyclist access to the Vacaville Transportation Center.

Table VAC-5: Vacaville Transportation Center Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
301	Intersection Reconfiguration	Reduce radius of free right-turns (requires coordination with Caltrans)	I-80 EB On Ramps / Allison Dr.	$$$
302	Intersection Crossing Enhancements	Add crosswalk and curb ramps at intersection's south leg (requires coordination with Caltrans)	I-80 EB Off / Allison Dr. / Nut Tree Pkwy.	$
303	Bike Lanes (Class II)	Allison Dr. Class II bike lanes (requires coordination with Caltrans)	Nut Tree Pkwy. to Elmira Rd.	$
304	New Sidewalks	East side of Allison Dr.	Travis Way to Nut Tree Pkwy.	$$
305	Intersection Crossing Enhancements	Convert E-W left-turns to protected operation, add crosswalk at intersection's south leg	Travis Way / Allison Dr.	$
306	Other Enhancement	North side access to Vacaville Transportation Center	Vacaville Transportation Center to Vacaville Commons Shopping Center	$$
307	Other Enhancement	East side access to Vacaville Transportation Center	Vacaville Transportation Center to Harbison Dr.	$$
308	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) or HAWK beacon	Harbison Dr. at Morgan Park apartments	$
309	Intersection Crossing Enhancements	Add crosswalk at intersection's east leg	Ulatis Dr. / Burton Dr.	$
310	Other Enhancement	Ped/bike connection	South of creek to Travis Way connection	$$$
311	Intersection Crossing Enhancements	Shared-use path crossing at Allison Dr. with HAWK beacon	Allison Dr. at shared-use path	$$
312	Intersection Reconfiguration	Replace channelized free right-turns with controlled right-turns	Elmira Rd. / Allison Dr.	$$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011



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VACAVILLE TRANSPORTATION CENTER
PEDESTRIAN AND BICYCLE STRATEGIES

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FIGURE VAC-4

Project Prioritization

The recommended pedestrian and bicycle strategies shown in Figure VAC-4 and Table VAC-5 were prioritized according to the prioritization criteria discussed in Chapter 5. Table VAC-6 shows the recommended pedestrian and bicycle strategies and their total priority score.

Table VAC-6: Vacaville Transportation Center Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
311	Intersection Crossing Enhancements	Shared-use path crossing at Allison Dr. with HAWK beacon	Allison Dr. at shared-use path	9
302	Intersection Crossing Enhancements	Add crosswalk and curb ramps at intersection's south leg (requires coordination with Caltrans)	I-80 EB Off / Allison Dr. / Nut Tree Pkwy.	6
306	Other Enhancement	North side access to Vacaville Transportation Center	Vacaville Transportation Center to Vacaville Commons Shopping Center	6
307	Other Enhancement	East side access to Vacaville Transportation Center	Vacaville Transportation Center to Harbison Dr.	6
310	Other Enhancement	Ped/bike connection	South of creek to Travis Way connection	6
301	Intersection Reconfiguration	Reduce radius of free right-turns (requires coordination with Caltrans)	I-80 EB On Ramps / Allison Dr.	5
303	Bike Lanes (Class II)	Allison Dr. Class II bike lanes (requires coordination with Caltrans)	Nut Tree Pkwy. to Elmira Rd.	5
305	Intersection Crossing Enhancements	Convert E-W left-turns to protected operation, add crosswalk at intersection's south leg	Travis Way / Allison Dr.	5
308	Intersection Crossing Enhancements	High visibility striping and Rapid Rectangular Flashing Beacon (RRFB) or HAWK beacon	Harbison Dr. at Morgan Park apartments	5
309	Intersection Crossing Enhancements	Add crosswalk at intersection's east leg	Ulatis Dr. / Burton Dr.	4
312	Intersection Reconfiguration	Replace channelized free right-turns with controlled right-turns	Elmira Rd. / Allison Dr.	4
304	New Sidewalks	East side of Allison Dr.	Travis Way to Nut Tree Pkwy.	3

Source: Fehr & Peers, 2011

9 Vallejo Transit Center / Downtown Parking Structure

Description

The Vallejo Transit Center is a bus transfer station managed by the City of Vallejo that includes 12 sheltered bus bays, public parking, and administrative buildings for Solano County Transit (SolTrans). The nearby Vallejo Ferry Terminal serves ferry services operated by Baylink. The Vallejo Transit Center is the first phase of the Vallejo Station Intermodal Facility and is located in downtown Vallejo on the block bounded by Georgia Street, Sacramento Street, Maine Street and Santa Clara Street. Across Santa Clara Street from the Vallejo Transit Center, the City is currently building the Downtown Parking Structure that includes several improvements on Mare Island Way. The Safe Routes to Transit Task Force completed a walking audit at the Vallejo Transit Center / Downtown Parking Structure on Tuesday, October 11, 2011 between 8:30 AM and 10:30 AM.

Priority Development Area

The Vallejo Waterfront and Downtown PDA is approximately 189 acres combined: 92 acres at the Waterfront site west of Mare Island Way; 97 acres downtown south of Capitol Street and west of Sutter Street. Key assets include two regionally-significant transit facilities and a historic downtown. The following elements describe the long-term vision for the PDA:

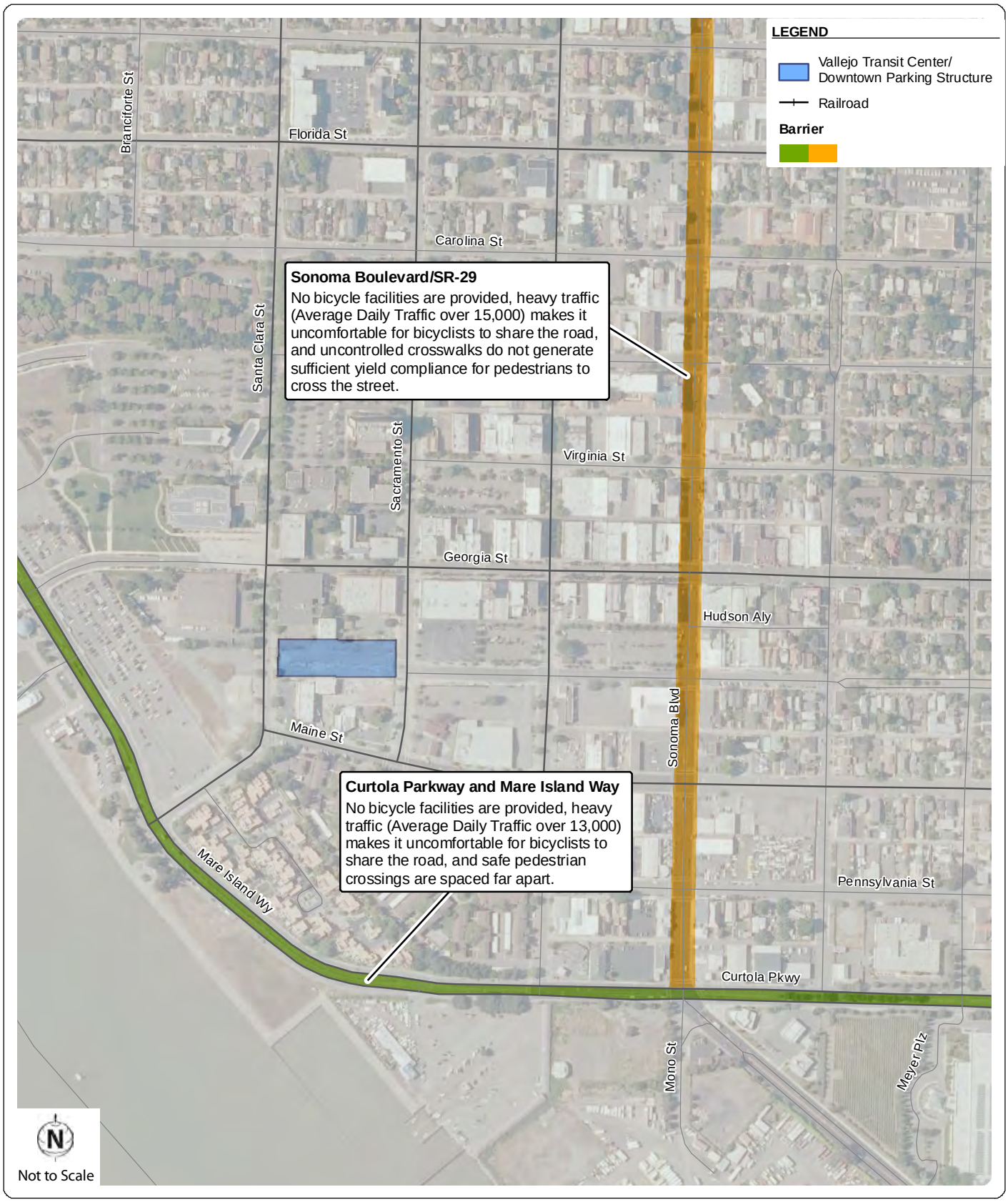
- Consolidate surface parking to structured parking
- High-density, mixed-use redevelopment within walking distance to regional transit centers
- Modified land use regulations for ground floor retail and higher densities
- Preserve historic architectural character

Current and planned projects include:

- Vallejo Intermodal Station
- Streetscape and public art enhancements
- Downtown Vallejo Square Pedestrian Enhancements

Access Mode

Many station users transfer between buses and ferries; however, the majority of bus passengers either walk to the facility or park in one of the parking lots off of Mare Island Way. Downtown Vallejo has short block lengths that provide for high levels of pedestrian connectivity; however, there are very few continuous bicycle facilities through downtown Vallejo. Streets are generally narrow and traffic operates at low speeds. Some barriers to pedestrian and bicycle travel do exist, as shown in Figure VAL-1; significant barriers in Vallejo include Sonoma Boulevard (SR-29), Mare Island Way, and Curtola Parkway.



FEHR PEERS

VALLEJO TRANSIT CENTER/
DOWNTOWN PARKING STRUCTURE
BARRIERS TO PEDESTRIAN AND BICYCLE TRAVEL

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FIGURE VAL-1

Transit Service

SolTrans is the primary transit provider serving the Vallejo Transit Center / Downtown Parking Structure, and offers both local and express (branded as Baylink) service:

- Route 1 – a local circulator route that serves south Vallejo, downtown Vallejo, and Rancho Vallejo
- Route 2 – a local circulator route that serves downtown Vallejo and Northeast Vallejo
- Route 3 – a local circulator route that serves downtown Vallejo, Somerset, and Glen Cove
- Route 4 – a local circulator route that serves downtown Vallejo and areas just north of downtown
- Routes 5 and 7 – a citywide loop route that serves downtown Vallejo, Federal Terrace, and East Vallejo (Route 5 runs clockwise, Route 7 runs counterclockwise)
- Route 6 – a citywide loop route that serves downtown Vallejo, south Vallejo, and Beverly Hills
- Route 78 (Baylink) – a commuter express route between downtown Vallejo, Benicia, the Pleasant Hill BART station, and the Walnut Creek BART station
- Route 80 (Baylink) – a commuter express route between downtown Vallejo and the El Cerrito Del Norte BART station
- Route 85 (Baylink) – a commuter express route between downtown Vallejo, Solano Community College, and the Fairfield Transportation Center

Baylink provides ferry service at the nearby Vallejo Ferry Terminal. Most routes run between the Vallejo Ferry Terminal and the San Francisco Ferry Building; some routes also stop at Pier 41 (Fisherman's Wharf) in San Francisco. During home San Francisco Giants games, Baylink also operates ferries between the Vallejo Ferry Terminal and AT&T Park.

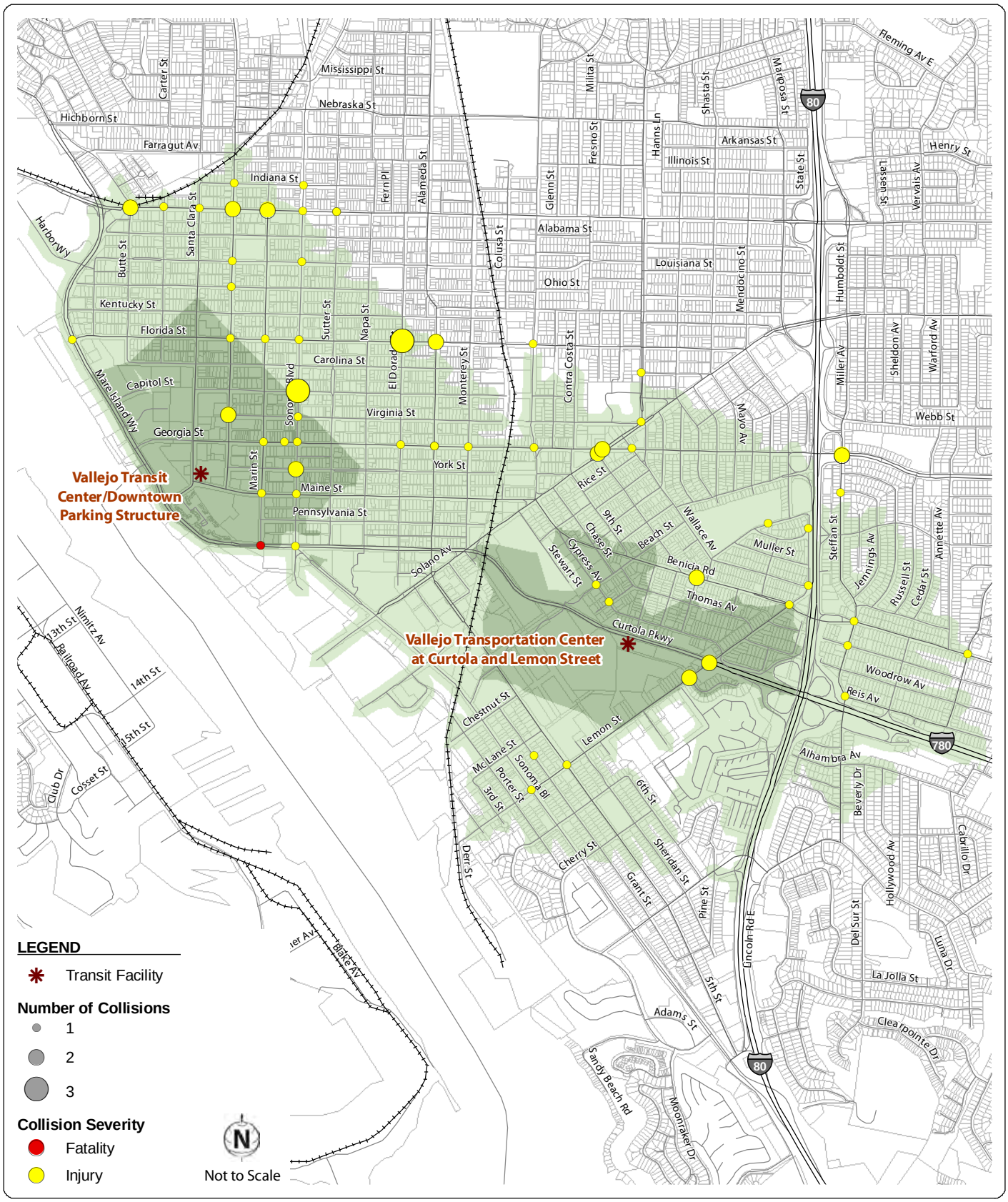
The Vine, Napa Valley's fixed-route bus system, operates two bus routes that serve the Vallejo Transit Center / Downtown Parking Structure:

- Route 10N and 10S – a north-south regional circulator connecting Vallejo with Napa, Yountville, St. Helena, and Calistoga
- Route 29N and 29S – a commuter express route between Calistoga, St. Helena, Yountville, Napa, Vallejo, and the El Cerrito del Norte BART Station

Collision and Crime Analysis

Collision Analysis

Existing SWITRS data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends near the Vallejo Transit Center / Downtown Parking Structure. Figure VAL-2 shows the number and severity of collisions within one mile of the Vallejo Transit Center / Downtown Parking Structure. Table VAL-1 summarizes the collision data by year and collision severity.



VALLEJO TRANSIT CENTER/DOWNTOWN PARKING STRUCTURE AND VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET BICYCLE AND PEDESTRIAN COLLISIONS

FEHR PEERS

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FIGURE VAL-2

Table VAL-1:
Vallejo Transit Center / Downtown Parking Structure Bicyclist/Pedestrian Collision Summary
(July 2006 – October 2010)

Year	Total Collisions	Injury Collisions		Fatal Collisions	
		Bicyclist	Pedestrian	Bicyclist	Pedestrian
July - Dec. 2006	9	1	7	0	0
2007	11	3	6	0	0
2008	15	6	8	0	0
2009	13	3	9	0	0
Jan. – Oct. 2010	7	3	2	0	1
Total	55	16	32	0	1

Source: California Highway Patrol

Table VAL-1 shows that most of the collisions (87 percent) resulted in some form of injury; one pedestrian fatality was recorded during the four-year period.

The SWITRS data was also analyzed for the Primary Collision Factors (PCFs). Table VAL-2 shows the most common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions within one mile of the Vallejo Transit Center / Downtown Parking Structure.

Table VAL-2:
Vallejo Transit Center / Downtown Parking Structure Bicyclist/Pedestrian
Collision Summary Primary Collision Factors
(July 2006 – October 2010)

Primary Collision Factor	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Pedestrian Right of Way (Driver not yielding)	1	14	1	16
Pedestrian Violation (Pedestrian not yielding or crossing illegally)	0	11	0	11
Wrong Side of Road	2	4	0	6
Automobile Right of Way	1	5	0	6
Traffic Signals and Signs	0	6	0	6
Other	2	8	0	10

Source: California Highway Patrol

As shown in Table VAL-2, the most common PCFs were drivers not yielding the right-of-way to pedestrians in crosswalks and pedestrians crossing illegally (such as crossing against a signal or midblock between signals).

Table VAL-3 shows the most common Pedestrian Actions, which describe what the pedestrian was doing immediately before the collision occurred, for pedestrian collisions within one mile of the Vallejo Transit Center / Downtown Parking Structure.

Table VAL-3:
Vallejo Transit Center / Downtown Parking Structure Pedestrian Collision Summary Pedestrian Actions
(July 2006 – October 2010)

Pedestrian Action	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Crossing in Crosswalk at Intersection	1	19	1	21
Crossing Not in Crosswalk	0	11	0	11
Other	1	2	0	3
Source: California Highway Patrol				

Table VAL-3 shows that the most common pedestrian actions were Crossing in Crosswalk at Intersection and Crossing Not in Crosswalk. These actions preceding a collision suggest that infrastructure enhancements, especially when paired with education and enforcement efforts, may improve pedestrian safety near the Vallejo Transit Center / Downtown Parking Structure.

Crime Analysis

Reported crime data was reviewed for the study area. Figure VAL-3 identifies the analysis area and a summary of the type of crimes committed. The data represents a query conducted on "crimes against persons" only (i.e., homicide, robbery, sexual offense and assault). Within the six-month review period, 200 crimes were reported. The most common crime committed was assault followed by sexual offense. No reported crimes occurred within 500 feet of the transit facility. Occurrences of these types of crimes occur on three corridors: Georgia Street between Mare Island Way and Sonoma Boulevard; Marin Street between Curtola Parkway and Georgia Street; and Sonoma Boulevard between Florida Street and Georgia Street.

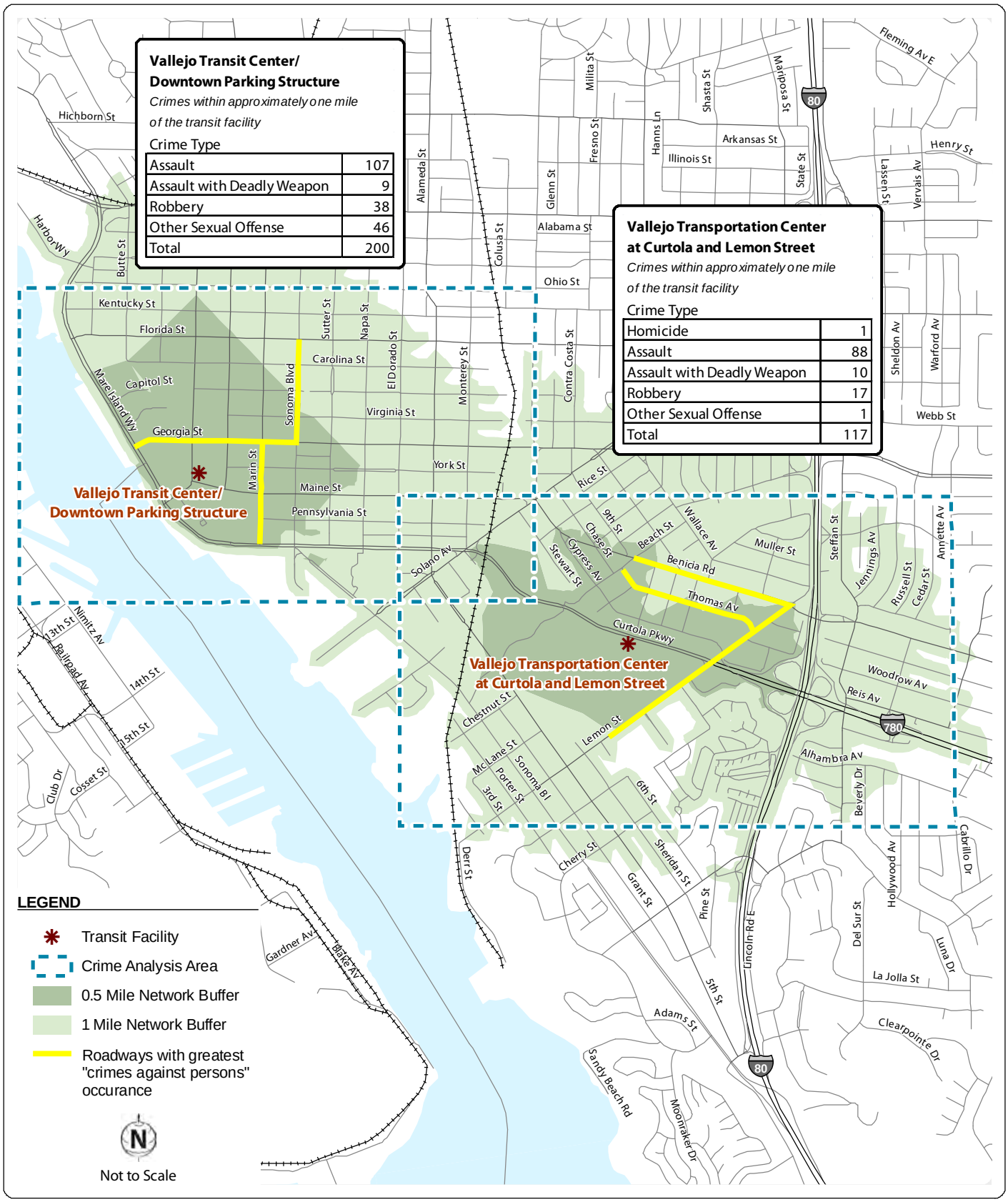
Transit Facility – Issues and Opportunities

The Vallejo Transit Center has a center-loading boarding platform that includes benches, bench shelters, and a shelter roof. The center-loading boarding platform requires passengers to cross one lane of bus-only traffic. Landscaping and fencing channelize pedestrians to preferred crossing locations. At the time of the walking audit, bus bays were marked with temporary signs indicating the transit agencies and routes servicing the stop; permanent signs are awaiting installation. Passenger drop-off occurs in the parking lot north of the Vallejo Transit Center, as well as on Sacramento Street and Santa Clara Street.

The Vallejo Transit Center and the Vallejo Ferry Terminal currently share two parking lots with approximately 500 total spaces; these lots usually fill on week days. The 1,200 space Downtown Parking Structure is currently under construction west of the Vallejo Transit Center, across Santa Clara Street.

Twenty BikeLink on-demand bike lockers are provided on the north side of the Vallejo Transit Center. These lockers are of high-quality and are easy-to-use; however, they were empty at the time of the walking audit.

The administrative building at the south side of the Vallejo Transit Center has information for passengers, security guards, and public restrooms.



Source: Vallejo Police Department and crimereports.com
March 6, 2011 - September 6, 2011

VALLEJO TRANSIT CENTER/DOWNTOWN PARKING STRUCTURE AND VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET SIX MONTH CRIME ACTIVITY

FEHR PEERS

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FIGURE VAL-3

Transit Facility Strategies

Table VAL-4 shows strategies for improving passenger convenience, comfort, and safety the Vallejo Transit Center / Downtown Parking Structure.

Table VAL-4: Vallejo Transit Center / Downtown Parking StructureTransit Facility Strategies

Strategy #	Description	Strategy Type	Detailed Recommendations	Cost[1]
401	Security Camera Signs	Security	Provide signs that indicate that security cameras are in use.	$
402	Emergency Call Boxes	Security	Install emergency call boxes on the passenger platforms.	$
403	Station Map	Passenger Amenities	Provide station maps on the passenger platforms that indicate the location of key amenities (ticket kiosks, restrooms, bike parking, etc.).	$
404	Improved Signage	Transit Information	Add bus route maps and schedules for all transit providers.	$
405	Short-Term Bike Racks	Bike Parking	Add bike racks near administrative building for building visitors.	$
406	Real-Time Information	Transit Information	Install real-time electronic information signs for bus routes.	$$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

Pedestrian and Bicycle – Issues and Opportunities

The Vallejo Transit Center / Downtown Parking Structure is located in downtown Vallejo, a short walk from nearby residences and businesses. Sacramento Street, Santa Clara Street, and York Street provide primary accesses to the Transit Station; each of these roads has low traffic volumes and speeds. Sidewalks are provided on both sides of every street in downtown Vallejo; however, many sidewalk segments are in poor condition.

There are no continuous bicycle facilities that provide access to the Transit Station. Many bicyclists would be comfortable riding on one of the several low volume, low speed streets. Bike lanes and bicycle detection at intersections would significantly improve conditions for bicyclists.

Sonoma Boulevard (SR-29), Curtola Parkway, and Mare Island Way are the primary barriers to walking and bicycling access. Each of these streets has high traffic volumes and fast moving traffic. Crossing these streets can be difficult.

The City of Vallejo has recently completed streetscape improvements in downtown including new sidewalks, curb ramps, landscaping, street lighting, crosswalks, and bike racks. Virginia Street between Sacramento Street and Sonoma Boulevard and Sacramento Street between Georgia Street and Main Street are some of the first streets to have been improved. Other streets will be improved as funding becomes available.

Pedestrian and Bicycle Strategies

Figure VAL-4 shows the locations of recommended pedestrian and bicycle strategies. Table VAL-5 shows strategies for improving pedestrian and bicyclist access to the Vallejo Transit Center / Downtown Parking Structure.

Table VAL-5: Vallejo Transportation Station Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
401	Intersection Crossing Enhancements	Bulbouts, high-visibility striping, and Rapid Rectangular Flashing Beacon	Marin St. / Carolina St.	$
402	Road Diet	Sacramento Street road diet from four lanes to three lanes with bike lanes	Redwood St. to Capitol St.	$$
403	Road Diet	Sonoma Blvd. (SR-29) road diet from four lanes to three lanes with bike lanes (requires coordination with Caltrans)	Tennessee St. to Curtola Pkwy.	$
404	Intersection Crossing Enhancements	High-visibility striping and Rapid Rectangular Flashing Beacon in conjunction with Sonoma Blvd. road diet (requires coordination with Caltrans)	Sonoma Blvd. / Capitol St.	$
405	Bike Lanes (Class II)	Sacramento Street Class II bike lanes	Capitol St. to Georgia St.	$
406	Intersection Crossing Enhancements	Bulbouts and move bus stops to far side of crosswalk	Santa Clara St. at Vallejo City Hall	$
407	Intersection Crossing Enhancements	Add crosswalk and curb ramps at intersection's north leg	Mare Island Way / Georgia St.	$
408	Bike Route (Class III)	Georgia St. bike route with sharrows	Sonoma Blvd. to Mare Island Way	$
409	Intersection Crossing Enhancements	Bike detection	Sacramento St. / Georgia St.	$
410	Intersection Crossing Enhancements	Bike detection, pedestrian push buttons at north-south crosswalks (requires coordination with Caltrans)	Sonoma Blvd. / Georgia St.	$
411	Road Diet	Georgia St. road diet from four lanes to three lanes with bike lanes	Fernwood Dr. / Sonoma Blvd.	$$
412	Streetscape Project	Fencing on east side of Mare Island Way to channelize pedestrians to nearest crosswalk	Georgia St. to Maine St.	$
413	Bike Route (Class III)	Sacramento St. Class III bike route	Georgia St. to York St.	$
414	Intersection Reconfiguration	Signalize intersection in conjunction with proposed parking garage project	Mare Island Way at proposed parking garage	$$
415	Streetscape Project	Maine St. streetscape improvements (sidewalk, curb ramps, bulbouts, street lighting, landscaping, etc.)	York St. to Maine St.	$$$
416	Bike Route (Class III)	Maine St. Class III bike route	Sonoma Blvd. to Sacramento St.	$

Table VAL-5 Continued: Vallejo Transportation Station Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
417	Intersection Crossing Enhancements	Bike detection (requires coordination with Caltrans)	Maine St. / Sonoma Blvd.	$
418	Road Diet	Maine St. road diet from four lanes to three lanes with bike lanes	Solano Ave. to Sonoma Blvd.	$
419	Intersection Crossing Enhancements	High-visibility striping and Rapid Rectangular Flashing Beacon in conjunction with Sonoma Blvd. road diet (requires coordination with Caltrans)	Sonoma Blvd. / Pennsylvania St.	$
420	Intersection Crossing Enhancements	HAWK beacon or pedestrian signal	Curtola Pkwy. / Marin St.	$$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

FEHR PEERS

VALLEJO TRANSIT CENTER/ DOWNTOWN PARKING STRUCTURE PEDESTRIAN AND BICYCLE STRATEGIES

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FIGURE VAL-4

Project Prioritization

The recommended pedestrian and bicycle strategies shown in Figure VAL-4 and Table VAL-5 were prioritized according to the prioritization criteria discussed in Chapter 5. Table VAL-6 shows the recommended pedestrian and bicycle strategies and their total priority score.

Table VAL-6:
Vallejo Transit Center / Downtown Parking Structure Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
414	Intersection Reconfiguration	Signalize intersection in conjunction with proposed parking garage project	Mare Island Way at proposed parking garage	7
404	Intersection Crossing Enhancements	High-visibility striping and Rapid Rectangular Flashing Beacon in conjunction with Sonoma Blvd. road diet (requires coordination with Caltrans)	Sonoma Blvd. / Capitol St.	5
401	Intersection Crossing Enhancements	Bulbouts, high-visibility striping, and Rapid Rectangular Flashing Beacon	Marin St. / Carolina St.	4
402	Road Diet	Sacramento Street road diet from four lanes to three lanes with bike lanes	Redwood St. to Capitol St.	4
403	Road Diet	Sonoma Blvd. (SR-29) road diet from four lanes to three lanes with bike lanes (requires coordination with Caltrans)	Tennessee St. to Curtola Pkwy.	4
405	Bike Lanes (Class II)	Sacramento Street Class II bike lanes	Capitol St. to Georgia St.	4
406	Intersection Crossing Enhancements	Bulbouts and move bus stops to far side of crosswalk	Santa Clara St. at Vallejo City Hall	4
407	Intersection Crossing Enhancements	Add crosswalk and curb ramps at intersection's north leg	Mare Island Way / Georgia St.	4
410	Intersection Crossing Enhancements	Bike detection, pedestrian push buttons at north-south crosswalks (requires coordination with Caltrans)	Sonoma Blvd. / Georgia St.	4
411	Road Diet	Georgia St. road diet from four lanes to three lanes with bike lanes	Fernwood Dr. / Sonoma Blvd.	4
418	Road Diet	Maine St. road diet from four lanes to three lanes with bike lanes	Solano Ave. to Sonoma Blvd.	4
419	Intersection Crossing Enhancements	High-visibility striping and Rapid Rectangular Flashing Beacon in conjunction with Sonoma Blvd. road diet (requires coordination with Caltrans)	Sonoma Blvd. / Pennsylvania St.	4
420	Intersection Crossing Enhancements	HAWK beacon or pedestrian signal	Curtola Pkwy. / Marin St.	4
408	Bike Route (Class III)	Georgia St. bike route with sharrows	Sonoma Blvd. to Mare Island Way	3

Table VAL-6:

Vallejo Transit Center / Downtown Parking Structure Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
409	Intersection Crossing Enhancements	Bike detection	Sacramento St. / Georgia St.	3
413	Bike Route (Class III)	Sacramento St. Class III bike route	Georgia St. to York St.	3
416	Bike Route (Class III)	Maine St. Class III bike route	Sonoma Blvd. to Sacramento St.	3
417	Intersection Crossing Enhancements	Bike detection (requires coordination with Caltrans)	Maine St. / Sonoma Blvd.	3
412	Streetscape Project	Fencing on east side of Mare Island Way to channelize pedestrians to nearest crosswalk	Georgia St. to Maine St.	2
415	Streetscape Project	Main St. streetscape improvements (sidewalk, curb ramps, bulbouts, street lighting, landscaping, etc.)	York St. to Maine St.	2

Source: Fehr & Peers, 2011

10 Vallejo Transportation Center at Curtola and Lemon Street

Description

The City of Vallejo manages the Vallejo Transportation Center at Curtola and Lemon Street lot located at the southwest corner of the Curtola Parkway / Lemon Street intersection. The lot includes a bus station, public parking, and a Greyhound bus station. The facility is served primarily by Solano County Transit (SolTrans). The Safe Routes to Transit Task Force completed a walking audit at the Vallejo Transportation Center at Curtola and Lemon Street on Tuesday, October 11, 2011 between 10:30 AM and 11:30 AM.

Priority Development Area

This study location is not within a Priority Development Area (PDA). The nearest PDA is to the west – the Vallejo Waterfront and Downtown PDA.

Access Mode

SolTrans routes utilize the Vallejo Transportation Center at Curtola and Lemon Street as a Transfer Center; however, most users arrive by automobile and are either dropped off or park in the surface lot.

The official parking lot for the Vallejo Transportation Center at Curtola and Lemon Street, located west of Lemon Street, has 405 spaces. Additionally, a 78-space Caltrans Park and Ride lot is located at the southeast corner of the Curtola Parkway / Lemon Street intersection; transit riders likely park in this lot when the official parking lot west of Lemon Street is full.

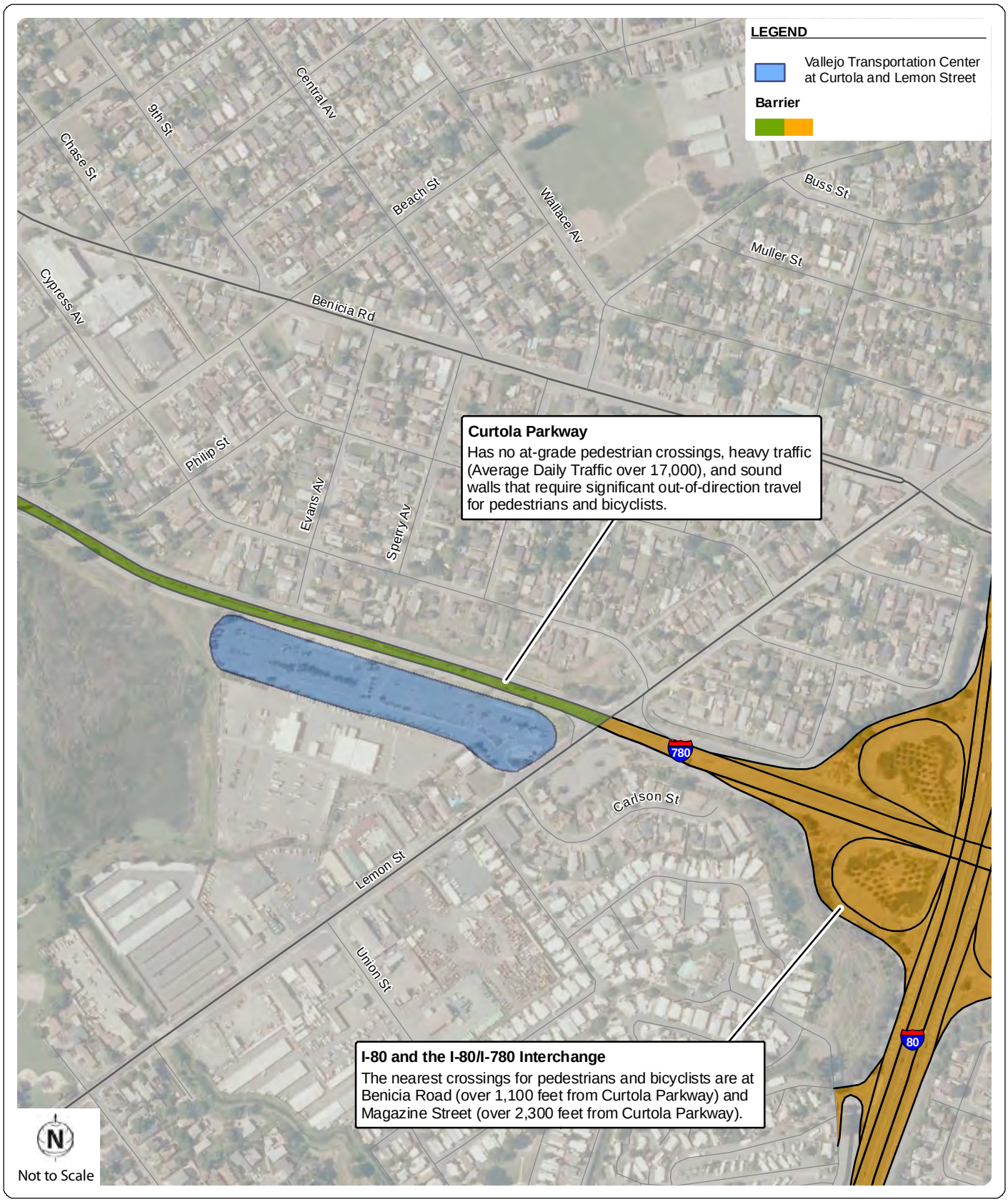
The surrounding area and transportation network is generally not pedestrian- and bicyclist-supportive. Residential neighborhoods are disjoined from the facility by large arterials and freeways. Barriers to pedestrian and bicycle travel include Curtola Parkway, I-780, and I-80, as shown on Figure CUR-1.

Transit Service

SolTrans provides both local and express service (branded as Balylink) to the Vallejo Transportation Center at Curtola and Lemon Street. The following SolTrans fixed bus routes serve the park and ride:

- Route 1 – a local circulator route that serves south Vallejo, downtown Vallejo, and Rancho Vallejo
- Route 6 – a citywide loop route that serves downtown Vallejo, south Vallejo, and Beverly Hills
- Route 78 (Baylink) – a commuter express route between downtown Vallejo, Benicia, the Pleasant Hill BART station, and the Walnut Creek BART station
- Route 80 (Baylink) – a commuter express route between downtown Vallejo and the El Cerrito Del Norte BART station

In addition to the SolTrans routes listed above, Greyhound operates long-distance bus service via a station located at the Vallejo Transportation Center at Curtola and Lemon Street.



VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET BARRIERS TO PEDESTRIAN AND BICYCLE TRAVEL

FEHR PEERS

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FIGURE CUR-1

Collision and Crime Analysis

Collision Analysis

Existing SWITRS data for bicyclist-vehicle and pedestrian-vehicle collisions was reviewed to identify collision locations and trends near the Vallejo Transportation Center at Curtola and Lemon Street. Figure CUR-2 shows the number and severity of collisions within one mile of the Vallejo Transportation Center at Curtola and Lemon Street. Table CUR-1 summarizes the collision data by year and collision severity.

Table CUR-1:
Vallejo Transportation Center at Curtola and Lemon Street Bicyclist/Pedestrian Collision Summary
(July 2006 – September 2010)

Year	Total Collisions	Injury Collisions		Fatal Collisions	
		Bicyclist	Pedestrian	Bicyclist	Pedestrian
July - Dec. 2006	6	2	4	0	0
2007	10	2	6	0	0
2008	9	3	5	0	0
2009	7	2	5	0	0
Jan. – Oct. 2010	2	0	2	0	0
Total	34	9	22	0	0

Source: California Highway Patrol

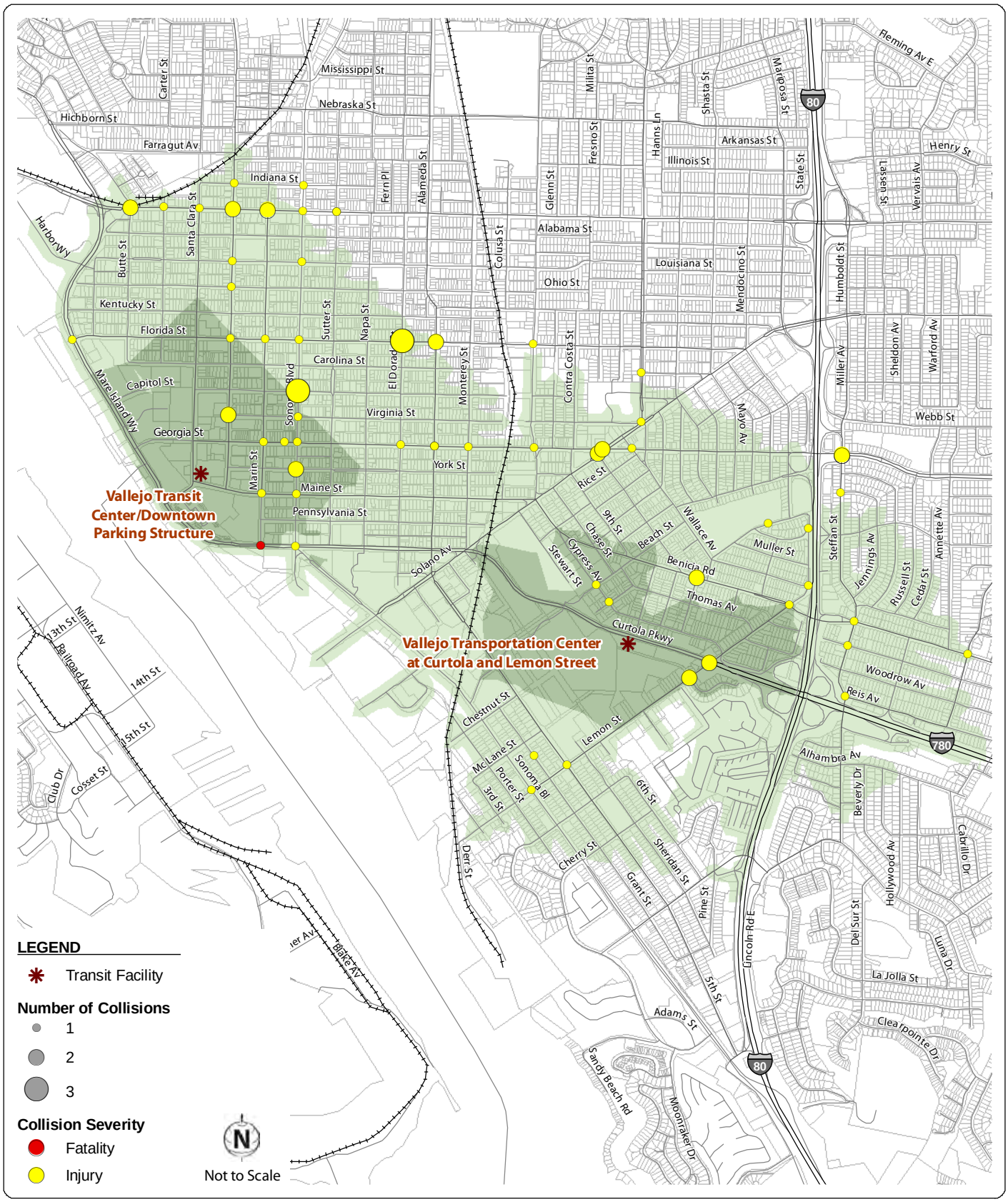
Table CUR-1 shows that most of the collisions (91 percent) resulted in some form of injury; no fatalities were recorded during the four-year period.

The SWITRS data also provides the Primary Collision Factors (PCFs) of each incident. Table CUR-2 shows the most common PCFs for bicyclist-vehicle and pedestrian-vehicle collisions within one mile of the Vallejo Transportation Center at Curtola and Lemon Street.

Table CUR-2:
Vallejo Transportation Center at Curtola and Lemon Street
Bicyclist/Pedestrian Collision Summary Primary Collision Factors
(July 2006 – September 2010)

Primary Collision Factor	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Pedestrian Right of Way (Driver not yielding)	2	9	0	11
Pedestrian Violation (Pedestrian not yielding or crossing illegally)	0	7	0	7
Traffic Signals and Signs	0	4	0	4
Wrong Side of Road	0	3	0	3
Improper Turning	1	2	0	3
Other	0	6	0	6

Source: California Highway Patrol



VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET AND VALLEJO TRANSIT CENTER/ DOWNTOWN PARKING STRUCTURE BICYCLE AND PEDESTRIAN COLLISIONS

FEHR PEERS

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FIGURE CUR-2

As shown in Table CUR-2, drivers not yielding the right-of-way to pedestrians in crosswalks and pedestrians crossing illegally (such as crossing against a signal or midblock between signals) represent the two most common PCFs.

Table CUR-3 shows the most common pedestrian actions, which describe what the pedestrian was doing immediately before the collision occurred, for pedestrian collisions within one mile of the Vallejo Transportation Center at Curtola and Lemon Street.

Table CUR-3:
Vallejo Transportation Center at Curtola and Lemon Street Pedestrian Collision Summary Pedestrian Actions
(July 2006 – September 2010)

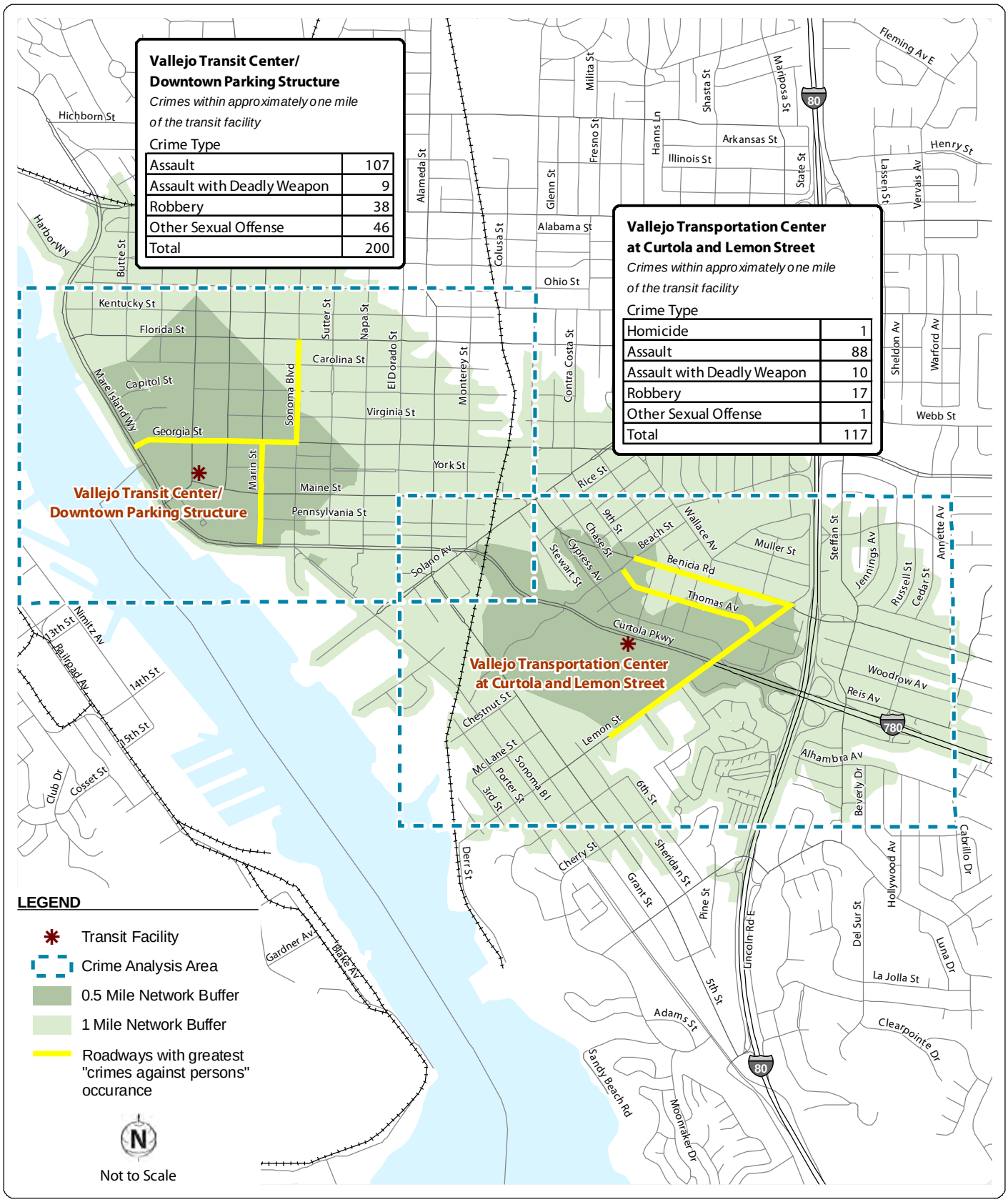
Pedestrian Action	Number of Collisions			
	Non-Injury	Injury	Fatality	Total
Crossing in Crosswalk at Intersection	2	11	0	13
Crossing Not in Crosswalk	0	7	0	7
Walking in Road, Including Shoulder	0	3	0	3
Crossing in Crosswalk Not at Intersection	0	1	0	1
Source: California Highway Patrol				

Table CUR-3 shows "crossing in crosswalk at intersection" and "crossing not in crosswalk" represent the two most common pedestrian actions. These actions preceding a collision suggest that infrastructure enhancements, especially when paired with education and enforcement efforts, may improve pedestrian safety near the Vallejo Transportation Center at Curtola and Lemon Street.

Crime Analysis

Reported crime data was reviewed for the study area. Figure CUR-3 identifies the analysis area and a summary of the type of crimes committed. The data represents a query conducted on "crimes against persons" only (i.e., homicide, robbery, sexual offense and assault). Within the six-month review period, 117 crimes were reported including one homicide near Curtola Parkway and Lemon Street. The most common crime committed was assault followed by robbery. No reported crimes occurred within 500 feet of the transit facility.

Occurrences of these types of crimes are clustered along three corridors: Benicia Road between Beach Street and Lemon Street; Lemon Street between Benicia Road and 6th Street; and Thomas Avenue between Beach Street and Lemon Street.



Source: Vallejo Police Department and crimereports.com
March 6, 2011 - September 6, 2011

VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET AND VALLEJO TRANSIT CENTER/ DOWNTOWN PARKING STRUCTURE SIX MONTH CRIME ACTIVITY

FEHR PEERS

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FIGURE CUR-3

Transit Facility – Issues and Opportunities

The bus loading area is located between the Vallejo Transportation Center at Curtola and Lemon Street's westernmost lot and Curtola Parkway. Buses access the platform via a bus pullout on eastbound Curtola Parkway or from within the parking lot. The bus loading area within the parking lot also doubles as a passenger drop-off area. Field observations indicate that both parking lots currently reach their capacity on weekdays.

Planned enhancements for the Vallejo Transportation Center at Curtola and Lemon Street include:

- A 420-space parking structure and restriping of the remaining parking lots (including the Caltrans Park and Ride); total parking will increase from 483 spaces to 700 spaces
- A new circulation pattern that separates buses from automobiles, reconfigures the bus loading area, and defines a location for casual carpool and pick up/drop off traffic
- Access directly off of Curtola Parkway, including a traffic signal at the bus loading exit

Pedestrian access to the facility is fair. Sidewalks exist along Curtola Parkway and the south edge of the Vallejo Transportation Center at Curtola and Lemon Street; however, most passengers walk through the parking lot to the bus loading area. Two small shelters for passengers are located adjacent to the bus loading area.

The bus loading area also has eight lock-and-key bike lockers; these types of lockers are generally underutilized since each locker can only be used by its assigned tenant.

Transit Facility Strategies

Table CUR-4 shows strategies for improving passenger convenience, comfort, and safety at the Vallejo Transportation Center at Curtola and Lemon Street.

Table CUR-4: Vallejo Transportation Center at Curtola and Lemon StreetTransit Facility Strategies

Strategy #	Description	Strategy Type	Detailed Recommendations	Cost[1]
501	Security Cameras	Security	Install security cameras at the bus loading area and in the parking lots; provide signs that indicate that security cameras are in use.	$
502	Emergency Call Boxes	Security	Install emergency call boxes at the bus loading area.	$
503	Platform Lighting	Security	Install additional lighting at the bus loading area.	$
504	Additional Parking Capacity	Enhanced Parking	Increase the supply of parking from the existing 483 spaces.	$$$
505	Improved Passenger Waiting Area	Passenger Amenities	Improve waiting area with more benches and shelters. Provide restrooms for public use.	$$
506	Dedicated Passenger Drop-Off Area	Internal Circulation	Separate passenger drop-off area from bus loading area.	$$
507	Real-Time Information	Transit Information	Install real-time electronic information signs at all bus stops.	$$
508	Improved Signage	Transit Information	Improve and upgrade signage to include maps and schedules; include station area map.	$

Notes:
[1]Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

Pedestrian and Bicycle – Issues and Opportunities

The Vallejo Transportation Center at Curtola and Lemon Street is located on the southwest corner of the Curtola Parkway / Lemon Street intersection. East of Lemon Street, Curtola Parkway transitions into I-780 and has a nearby interchange with I-80. The Park and Ride's proximity to these major roadways facilitates bus travel and automobile access; however, the proximity to these high-volume, high-speed roadways complicates pedestrian and bicycle access to the Vallejo Transportation Center at Curtola and Lemon Street.

West of Lemon Street, Curtola Parkway has no at-grade crossings for pedestrians. Residential neighborhoods north of Curtola Parkway incur significant out-of-direction travel to access the station via Lemon Street or via a pedestrian/bicycle overcrossing of Curtola Parkway located approximately 1,100 feet to the west of the bus loading platform. Additionally, limited pedestrian connections across I-80 reduce the practicality of walking to the facility for residents in the neighborhoods to the east of freeway. No convenient pedestrian crossing for passengers who park at the Caltrans Park and Ride across Lemon Street from the Vallejo Transportation Center at Curtola and Lemon Street currently exists. There are no official bicycle facilities that provide access to the Park and Ride; however, many cyclists utilize Lemon Street since it connects Vallejo to Benicia and has relatively low traffic volumes and speeds.

Pedestrian and Bicycle Strategies

Figure CUR-4 shows the locations of recommended pedestrian and bicycle strategies. Table CUR-5 shows strategies for improving pedestrian and bicyclist access to the Vallejo Transportation Center at Curtola and Lemon Street.

Table CUR-5: Vallejo Transportation Center at Curtola and Lemon Street Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
501	Intersection Crossing Enhancements	Bicycle detection and directional bike route signage (requires coordination with Solano County)	Lemon St. / Benicia Rd.	$
502	Bike Route (Class III)	Benicia Rd. bike route with sharrows (requires coordination with Solano County)	Lemon St. to Vallejo City limits	$
503	Bike Route (Class III)	Lemon St. bike route with sharrows (requires coordination with Solano County)	Benicia Rd. to Sonoma Blvd.	$
504	New Sidewalks	Widen sidewalks on Curtola Pkwy.	West of Vallejo Transportation Center at Curtola and Lemon Street	$$$
505	Bike Path (Class I)	Upgrade sidewalks on Curtola Pkwy. to Class I bike path	Vallejo Transportation Center at Curtola and Lemon Street to bike/ped bridge	$$
506	Other Enhancement	Pedestrian and bicycle access through sound wall (requires coordination with Solano County)	Curtola Pkwy. to Evans Ave.	$

Table CUR-5 Continued:

Vallejo Transportation Center at Curtola and Lemon Street Pedestrian and Bicycle Strategies

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Cost[1]
507	Intersection Reconfiguration	Signalize intersection in conjunction with proposed parking garage project	Curtola Pkwy. at proposed parking garage	$$
508	New Sidewalks	Widen sidewalks on Curtola Pkwy.	Vallejo Transportation Center at Curtola and Lemon Street to Lemon St.	$$
509	Intersection Crossing Enhancements	Bulbouts, high-visibility striping, and warning signage	Lemon St. / Cypress Ave.	$
510	Intersection Crossing Enhancements	Crosswalks across north and south legs; high-visibility striping and warning signage at eastbound and westbound free right-turns (requires coordination with Caltrans)	Lemon St. / Curtola Pkwy.	$
511	Streetscape Project	Lemon St. streetscape improvements: side-walk on south side, fencing to channelize pedestrians to nearest crosswalk (requires coordination with Caltrans)	Curtola Pkwy. to Carlson St.	$$
512	Intersection Crossing Enhancements	Signalize intersection in conjunction with proposed parking garage project	Lemon St. / Carlson St.	$$

Notes:
1Capital cost estimate: $ - Less than $250k; $$ - Between $250k and $1M; Over $1M
Source: Fehr & Peers, 2011

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VALLEJO TRANSPORTATION CENTER AT CURTOLA AND LEMON STREET PEDESTRIAN AND BICYCLE STRATEGIES

FIGURE CUR-4

Project Prioritization

The recommended pedestrian and bicycle strategies shown in Figure CUR-4 and Table CUR-5 were prioritized according to the prioritization criteria discussed in Chapter 5. Table CUR-6 shows the recommended pedestrian and bicycle strategies and their total priority score.

Table CUR-6:
Vallejo Transportation Center at Curtola and Lemon Street Pedestrian and Bicycle Strategy Priority Scores

Strategy #	Strategy Type	Description	Limits (N-S or E-W)	Priority Score
507	Intersection Reconfiguration	Signalize intersection in conjunction with proposed parking garage project	Curtola Pkwy. at proposed parking garage	7
510	Intersection Crossing Enhancements	Crosswalks across north and south legs; high-visibility striping and warning signage at eastbound and westbound free right-turns (requires coordination with Caltrans)	Lemon St. / Curtola Pkwy.	7
511	Streetscape Project	Lemon St. streetscape improvements: sidewalk on south side, fencing to channelize pedestrians to nearest crosswalk (requires coordination with Caltrans)	Curtola Pkwy. to Carlson St.	6
506	Other Enhancement	Pedestrian and bicycle access from through sound wall (requires coordination with Solano County)	Curtola Pkwy. to Evans Ave.	5
512	Intersection Crossing Enhancements	Signalize intersection in conjunction with proposed parking garage project	Lemon St. / Carlson St.	5
509	Intersection Crossing Enhancements	Bulbouts, high-visibility striping, and warning signage	Lemon St. / Cypress Ave.	4
501	Intersection Crossing Enhancements	Bicycle detection and directional bike route signage (requires coordination with Solano County)	Lemon St. / Benicia Rd.	3
502	Bike Route (Class III)	Benicia Rd. bike route with sharrows (requires coordination with Solano County)	Lemon St. to Vallejo City limits	3
503	Bike Route (Class III)	Lemon St. bike route with sharrows (requires coordination with Solano County)	Benicia Rd. to Sonoma Blvd.	3
505	Bike Path (Class I)	Upgrade sidewalks on Curtola Pkwy. to Class I bike path	Vallejo Transportation Center at Curtola and Lemon Street to bike/ped bridge	3
504	New Sidewalks	Widen sidewalks on Curtola Pkwy.	West of Vallejo Transportation Center at Curtola and Lemon Street	2
508	New Sidewalks	Widen sidewalks on Curtola Pkwy.	Vallejo Transportation Center at Curtola and Lemon Street to Lemon St.	2

Source: Fehr & Peers, 2011

11 General Strategies

Chapters 6-10 summarize recommended location-specific strategies for improving pedestrian and bicyclist access to each study TFORS. During the walking audits, several general strategies were recommended to improve pedestrian and bicyclist access.

Pedestrian Clearance Time

Also known as the "Flash-Don't Walk" time, the California Manual on Uniform Traffic Control Devices (CAMUTCD) 2010 provides guidance that a walking speed of no more than 4.0 feet per second should be used when determining the pedestrian clearance time. In January 2011, the California Traffic Control Device Committee (CTCDC) is expected to release the CAMUTCD 2011. The CAMUTCD 2011 is expected to incorporate new guidance that a walking speed of no more than 3.5 feet per second should be used when determining the pedestrian clearance time. Retiming pedestrian intervals at signalized intersections near the TFORS' using a walk speed of no more than 3.5 feet per second will make it easier for slower pedestrians and people with disabilities to cross the street.

Crosswalk Striping

Crosswalk striping standards vary within STA's jurisdictions. A uniform crosswalk policy that specifies different treatments for crosswalks at controlled (either signalized or stop-controlled) and uncontrolled marked crosswalks is beneficial for pedestrians. While standard crosswalk striping is typically sufficient at controlled locations, high-visibility striping (such as "ladder" striping) is preferable at uncontrolled locations that require motorists to yield ladder striping improves visibility for motorists. Uncontrolled locations with high volumes or more than two lanes may require additional enhancements to generate sufficient motorist yielding.

Several of STA's jurisdictions use textured crosswalks made of stamped asphalt or concrete. The CAMUTCD 2010, in Section 3E.01 regarding colored pavements, specifies that colored pavements (including textured crosswalks) alone are not traffic control devices. Standard white crosswalk lines are traffic control devices and should be added to textured crosswalks.

Accessible Design Features

Several improvements can be made to the roadway systems within STA's jurisdictions to better accommodate people with disabilities.

Older traffic signals often provide two pushbuttons per pole for crosswalks. The CAMUTCD 2010 provides guid-

ance that pushbuttons for crosswalks should be separated by a distance of at least 10 feet. Separating pushbuttons for crosswalks improves the ease with which blind pedestrians can navigate signalized intersections.

Uneven transitions between corner curb ramps and the asphalt roadway can present tripping hazards and can also be difficult for wheelchair users to navigate. Often, uneven transitions are formed by "lips" of asphalt at the base of a curb ramp. Regular maintenance ensures that curb ramps remain functional.

Providing two curb ramps per corner, each that points directly into the crosswalk, improves access for blind pedestrians. Where possible, strive to install two ramps per corner when installing new curb ramps.

Bicycle Detection

Caltrans Policy Directive 09-06 requires California jurisdictions to provide bicycle and motorcycle detection on all new and modified approaches to traffic-actuated signals. Research has shown that using Type D loop detectors at limit line detection locations is an effective way to detect bicyclists at signalized intersections. City design standards should incorporate Type D loop detectors or other technologies, including pushbuttons and microwave-type devices, to provide bicycle detection in accordance with Policy Directive 09-06.

12 Next Steps

Implementation

The implementation of recommended projects will require coordination between STA, STA's member jurisdictions, TFORS operators, transit operators, Caltrans, and other agencies. In general, transit facility strategies are most likely to be implemented by TFORS operators and transit operators. Pedestrian and bicycle strategies are most likely to be implemented by STA and/or STA's member agencies; some pedestrian and bicycle strategies may require Caltrans coordination.

Where possible, recommended projects should be incorporated into Capital Improvement Plans. Projects that require grant funding should be matched with applicable funding sources.

Funding

The majority of public funds for bicycle projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Enhancements (TE), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the Metropolitan Transportation Commission (MTC) and distributed regionally.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle facilities.

The fifth and final cycle of the Safe Routes to Transit Program administered by TransForm and the East Bay Bicycle Coalition will award approximately $4 million for bicycle and pedestrian projects. The Safe Routes to Transit Program is funded by Regional Measure 2, which raised tolls on state-owned Bay Area bridges. The fifth cycle will occur in fiscal year 2013-14; the call for projects is expected in June 2013.

State and federal Safe Routes to School programs are potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administers two Safe Routes to School programs: the state-legislated program (SR2S) and the federal program (SRTS). Each program has unique differences that affect project selection. Where possible, recommended Safe Routes to Transit projects should be coordinated with relevant Safe Routes to School projects from the Countywide Safe Routes to School Plan.

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA. Where possible, recommended Safe Routes to Transit project should be coordinated with relevant projects from the 2004 Solano Countywide Bicycle Plan.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. The SGC will award $20 million more in grants in both 2011 and 2012 (totaling $40 million). Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC).

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The Highway Safety Improvement Program (HSIP) is a core federal-aid program that aims to reduce traffic fatalities and serious injuries on public roads. Caltrans

administers the program in California and expects to receive $70 million for the 2010/11 Federal Fiscal Year. HSIP funds can be used for projects such as bike lane projects on local roadways, improvements to Class I multi-use paths, or for traffic calming measures. Applications that identify a history of incidents and demonstrate their project's improvement to safety are most competitive for funding.

Data to Collect

Pedestrian and bicyclist transportation data is generally less available than data regarding vehicle transportation. However, pedestrian and bicycle transportation data is important for identifying projects that can effectively improve safety and increase pedestrian and bicycle mode share. Additionally, pedestrian and bicycle transportation data can be used to track the effectiveness of improved walking and bicycling infrastructure.

Traffic Counts

Pedestrian and bicycle planning efforts are not usually sufficiently well-funded to collect traffic counts. When ordering vehicle traffic counts for other projects, agencies and consultants can usually request pedestrian and bicycle counts for no additional cost. Keeping a regional database of pedestrian and bicycle counts could be effective for identifying collision rates and changes in pedestrian and bicycle mode share.

Collision Data

The California Highway Patrol (CHP) Statewide Integrate Traffic Records System (SWITRS) database provides collision data statewide. Annual collision monitoring can be conducted to track countywide or citywide collision rates per population. Additionally, annual collision monitoring and geocoding can be used to identify collision hotspots.

Mode Share

Reliable mode share data for walking and bicycling trips is usually derived from two sources: US Census and the California Household Travel Survey. Both sources are updated infrequently (approximately once every ten years). Including walking, bicycling and transit modes into any regional travel surveys would typically provide more up-to-date data regarding these modes.