

CITY OF DUBLIN

BICYCLE AND PEDESTRIAN MASTER PLAN



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CITY OF
DUBLIN

Adopted by the City Council on October 7, 2014



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GLOSSARY



GLOSSARY

The following terms are used in this Plan document:

- Bicycle Support Facilities – Facilities that bicyclists use when they reach their destinations. They can include short- and long-term bicycle parking, showers, lockers, restrooms, and lighting.
- Bikeway – All facilities that provide primarily for bicycle travel
- Class I Bikeway (Shared-Use Path) – Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrian with crossflow minimized
- Class IIA Bikeway (Bicycle Lane) – Provides a striped lane for dedicated one-way bike travel on a roadway
- Class IIB Bikeway (Buffered Bicycle Lane) – Provides a modified on-street bicycle lane with vehicle and/or parking-side striped buffer for additional comfort and safety on higher speed or volume roadways
- Class IIIA Bikeway (Bicycle Route with Sharrows) – Provides for shared-use travel with motor vehicle traffic. All proposed Class IIIA Bikeways would also have sharrows where needed, or “shared-lane markings”, to designate bicyclist positioning within the travel lane.
- Crosswalk
 - Controlled Crosswalk – a marked crosswalk across an intersection’s approach or roadway that is controlled by a stop sign or traffic signal.
 - Uncontrolled Crosswalk – a marked crosswalk across an intersection’s approach or roadway that is not controlled by a stop sign or traffic signal and relies on driver yield compliance.
- Pedestrian Desire Line – Pedestrian’s nearest path to destination
- Sharrows – Shared lane marking used to alert road users of the presence of bicyclists and to designate the preferred bicyclist positioning within the travel lane.

1. EXECUTIVE SUMMARY



1. EXECUTIVE SUMMARY

The *Dublin Bicycle and Pedestrian Plan* combines an update to the *Dublin Bikeways Master Plan* (2007) and the City's first Pedestrian Plan into a comprehensive document that provides policies, network plans, prioritized project lists, support programs, and best practice design guidelines for bicycling and walking in Dublin. In addition to enhancing conditions through site-specific improvements, this document seeks to institutionalize the accommodation of the distinct needs of bicyclists and pedestrians as roadways are upgraded and constructed in accordance with recently adopted policy documents, such as the *City of Dublin Complete Streets Policy* (2012) and the *Downtown Dublin Specific Plan* (2010). The Plan reflects comprehensive public outreach process and input from Technical Advisory Committee members.

Several noteworthy updates have been made in this Plan from the 2007 Bikeways plan, including:

- **Existing Walking Conditions and Proposed Pedestrian Improvements** (Chapters 3, 5), with a baseline inventory and recommended projects within Downtown Dublin
- **Programs, Policies, and Practices Assessment** (Chapter 4)
- **Updated Bicycle Network Classifications** (Chapter 5), featuring buffered bicycle lanes, and green pavement
- **Updated Bicycle and Pedestrian Design Guidelines:** Bicycle and Pedestrian Design Guidelines have been developed as a separate, stand-alone document. These are based on best practice documents such as the *NACTO Urban Bikeway Design Guide* and the *AASHTO Guide for the Design of Bicycle Facilities*

- **Grant-Ready Concept Drawings and Fact Sheets** (Chapter 6) for three bicycle and pedestrian priority projects
- **Performance Measures** (Chapter 8) for monitoring investments in walking and bicycling, such as establishing and updating baseline walking and bicycling counts

EXISTING BICYCLING CONDITIONS

Since 2007, the City of Dublin has worked diligently to implement the proposed network in the adopted Bikeways Master Plan, closing many gaps in the on-street and off-street network. Today, Dublin has an extensive on-street arterial bicycle lane network, especially in the eastern portion of the City, totaling 47.84 miles. A critical gap closure in the regional path system was closed by linking the Alamo Canal Trail in Dublin with the Centennial Trail in Pleasanton underneath I-580. Gap closures in western Dublin were also completed through striping of bicycle lanes on multiple roadways to provide dedicated bicycle facilities in both directions. The City also secured federal transportation enhancement funds to implement the City's first use of green pavement, providing green bicycle lanes on Golden Gate Drive south of Dublin Boulevard to connect to the West Dublin BART Station.

However, several gaps remain, including the gap on Dublin Boulevard between San Ramon Road and the Alamo Canal Trail.

1. EXECUTIVE SUMMARY



EXISTING WALKING CONDITIONS

This Plan documents conditions for walking in Downtown Dublin and provides a baseline inventory of sidewalks and marked crosswalks, and a qualitative assessment of accessibility at each intersection. Downtown Dublin is the area defined by the *Downtown Dublin Specific Plan* and generally includes the area east of San Ramon Road, south of Amador Valley Boulevard, west of Village Parkway, and north of I-580. Though Downtown Dublin has a policy mandate for enhancing walkability and has many popular destinations, walking in Downtown can be improved. Some intersections require wide turning radii to accommodate commercial truck traffic for downtown businesses. Sidewalks are provided on all roadways, and crosswalks are marked on signalized intersection approaches. Many blocks in Downtown are over 800 feet, which limits pedestrian connectivity. Intersections often have crossing distances over 100 feet in length due to wide roadway cross-sections. Though pedestrian connections are typically provided between buildings and public sidewalks, some buildings are set back as much as 300 feet from the roadway.

PROGRAMS, PRACTICES, AND POLICIES ASSESSMENT

The City's existing approaches to facilitating and enhancing bicycling and walking were reviewed with a benchmarking matrix that compares the City's efforts with national best practices, as well as local context

highlighted in the City's Complete Streets Policy. The benchmarking analysis categorizes the City's programs, policies, and practices into three areas as follows:

- **Key Strengths** – areas where the City of Dublin is exceeding national best practices
- **Enhancements**—areas where the City is meeting best practices
- **Opportunities**—areas where the City appears not to meet best practices

Key strengths include the City's bicycle education and encouragement programs, newly adopted Complete Streets Policy, and inventory of bicycle infrastructure. Opportunities include expanding the scope of those programs and inventories to address walking issues, collecting data regarding bicycling and walking, and adopting citywide standard guidelines for the design of bicycle and pedestrian facilities.

RECOMMENDED BICYCLING NETWORK

The recommended bicycle network redefines the bikeways classifications set forth in the 2007 Plan in accordance with recent best practice guidelines. The 2007 Plan used the three basic bikeways classifications (Class I Bicycle Path, Class II Bicycle Lanes, and Class III Bicycle Routes) defined in the *California Highway Design Manual* (HDM). This Plan subdivides those groups to create a new classification scheme for Dublin:

1. EXECUTIVE SUMMARY

- Class I Bicycle Path
- Class IIA Bicycle Lanes
- Class IIB Buffered Bicycle Lanes
- Class IIIA Bicycle Routes with Sharrows

All of these treatments are supported under the HDM, *California Vehicle Code*, and *California Uniform Manual on Traffic Control Devices* (CA MUTCD), and detailed design guidelines are provided in **Bicycle and Pedestrian Design Guidelines**.

New segments of Class IIIA Bicycle Routes are proposed on many local streets, connecting residential areas with key destinations such as regional trails, schools, and Downtown Dublin. The minimum standard for Class III Bicycle Routes is updated to require the striping of sharrows where needed. Class IIB Buffered Bicycle Lanes are proposed on roadways with existing wide bicycle lanes to offer increased separation between bicyclist and autos and clarify expectations.

In total, over 35 miles of bikeways are proposed with over 13 miles of bikeways planned to be funded and built by private developers. The developer funded projects are estimated to cost \$7,865,700 while the total cost of City initiated bikeway projects is estimated at \$2,765,600 for a grand total of \$10,631,300. A breakdown of the costs by bikeway is presented in **Appendix A**.

RECOMMENDED WALKING NETWORK

The Pedestrian element of this Plan includes a comprehensive project list of potential improvements to bring Downtown Dublin in line with the walkability goals that have been set forth in a variety of policy documents. The proposed projects include intersection improvements such as reduced crossing distances through median refuges and curb extensions; mid-block crosswalks, signal modifications to provide protected left-turn phasing; advanced stop bars to decrease auto encroachment on the crosswalk space; and directional ADA curb ramps to provide clear indications for the visually impaired and convenient access for all users. The total cost of proposed pedestrian network is \$5,044,500, excluding the Amador Plaza Road and Village Parkway complete streets projects.

PRIORITY PROJECTS

Three priority projects were considered in this Plan, and concept drawings and grant-ready fact sheet were developed for each. All of these improvements also need to meet the downtown access and circulation needs of all users and operators including commercial, emergency response, and transit circulation.

The projects include:

1. EXECUTIVE SUMMARY



- **Amador Plaza Road Complete Street Project** (Amador Valley Boulevard to St. Patrick Way/I-580 Ramps) – Class II Bicycle Lanes, median refuges, mid-block textured crosswalks with bulb-outs, landscape enhancement, pedestrian lighting, and intersection improvements.
- **Village Parkway Complete Street Project** (City Limit to Clark Avenue/Dublin Boulevard) – Conversion of Class II Bicycle Lanes to Class IIB Buffered Bicycle Lanes, conversion of Class III Bicycle Route to Class IIA Bicycle Lanes, new Class IIA Bicycle Lanes south of Dublin Boulevard including a Class I Bicycle Path connection and bridge to the Alamo Canal Trail. If feasible, remove right-turn slip lanes at the intersections with Amador Valley Boulevard and Dublin Boulevard, reduce curb radii, and provide curb extensions to reduce pedestrian crossing distances.

Downtown Connectivity Project (Regional Street, Amador Valley Boulevard, Village Parkway, Amador Plaza Road, St. Patrick Way, and Dublin Boulevard) – Connect Downtown and West Dublin BART with dedicated bicycle facilities on alternative routes to Dublin Boulevard. Projects include Class IIA Bicycle Lanes on Regional Street, Class IIB Buffered Bicycle Lanes on Amador Valley Boulevard between San Ramon Road and Village Parkway, Class IIA Bicycle Lanes on Village Parkway/Clark Avenue between Amador Valley Boulevard and Dublin Boulevard, Class IIA Bicycle Lanes on Saint Patrick Way, Class I Path and Bicycle/Pedestrian Bridge between Clark Avenue and Alamo Canal Trail/Civic Plaza, and Class IIIA Bicycle Route with Sharrows

where needed, on Dublin Boulevard between San Ramon Road and Alamo Canal Trail.

PERFORMANCE MEASURES

In order to document the results or benefits of investment in walking and bicycling, performance goals are set in this Plan. The four performance measures are:

1. Increase total number of low-stress bicycle facilities that support users of all ages and abilities
2. Enhance walkability of Downtown Dublin
3. Enhance pedestrian and bicycle safety throughout Dublin, with a specific focus on higher collision rate location mitigation
4. Encourage an increase in active transportation mode share and trips

1. EXECUTIVE SUMMARY

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2. INTRODUCTION



2. INTRODUCTION

Walking and bicycling are essential components of vibrant, livable, and healthy communities, and an integral part of a complete transportation system. In Alameda County, walking is the second most common means of transportation after driving. For trips less than $\frac{1}{2}$ mile, walking or bicycling is typically the quickest and most efficient mode of a travel in most areas, including Dublin.

In the *Downtown Dublin Specific Plan* (DDSP) and the *General Plan*, the City has recognized the importance of creating a walkable and bicycle-friendly city, particularly in the Downtown area, with access to businesses, dense transit-oriented housing, and the West Dublin BART Station. Design guidelines in the DDSP support pedestrian-oriented building forms and create policy imperatives for how the City should make decisions regarding trade-offs between drivers, bicyclists, pedestrians, and transit riders. The DDSP and General Plan relax automobile level of service standards through Downtown Dublin to help create a more pedestrian friendly environment and to create an urban area that increases economic vitality. The forward-thinking policy and action items of these documents create a foundation and motivation for implementing the projects and policies contained in this Plan.

The *Dublin Bicycle and Pedestrian Plan* provides additional policy and program guidance specific to walking and bicycling, as well as a prioritized set of implementable projects to make bicycling and walking convenient, comfortable, and accessible for all users. This Plan updates the 2007 Dublin Bikeways Master Plan and serves as the City's first Pedestrian Master Plan. The bicycle portions of this plan are citywide in

scope. The pedestrian-related policy, programs, and practices are citywide in scope, while the pedestrian inventories and improvements focus on Downtown.

VISION STATEMENT

The purpose of the *City of Dublin Bicycle and Pedestrian Plan* is to provide a policy and implementation framework for maintaining and improving bicycle and pedestrian infrastructure and support programs in the City. This Plan envisions a network of safe, comfortable, and attractive facilities that meets the needs of users of many ages and abilities, encourages bicycling and walking as healthful and enjoyable activities, and connects users with key destinations—schools, transit facilities, residential neighborhoods, parks, shopping areas, and job centers—within the City and in adjacent jurisdictions.



2. INTRODUCTION

PLAN DEVELOPMENT AND PUBLIC PARTICIPATION

The 2007 *Bikeways Master Plan* provided a citywide inventory of existing conditions and action items for expanding and connecting Dublin's bicycle network. The projects identified in that Plan included providing bicycle lanes on arterial roadways and closing gaps, particularly where a facility was only provided in one direction. In Eastern Dublin, the Plan proposed the creation of Class I paths paralleling new roadways. The City has worked diligently to implement many of these facilities and to close gaps. The current planning effort identifies new projects and updates design guidelines to reflect recent best practice documents, such as the *NACTO Urban Bikeway Guide* and the updated *AASHTO Guide for the Design of Bicycle Facilities*.

The Downtown focus of this first Pedestrian Master Plan effort stems from the policy directives created in the *Downtown Dublin Specific Plan* (DDSP) to create a pedestrian-scale, walkable Downtown. This first Pedestrian Master Plan effort provides a comprehensive list of projects to improve the walking environment of Downtown Dublin. These projects are the first steps to improving access to popular destinations in Downtown and the West Dublin BART Station.

As both bicycling and walking are essential components of the transportation system, it was decided that a planning document which would combine the update of the Bicycle Master Plan with the City's

first Pedestrian Master Plan makes sense, thus the two are combined to form the Dublin Bicycle and Pedestrian Master Plan.



The first public workshop included a voting exercise on comfort with different types of bikeways.

The Plan was developed with input from a Technical Advisory Committee (TAC), comprised of staff from the City's Public Works, Planning, and Parks and Recreation Departments. The TAC provided direction and feedback throughout the Plan process. The Plan development also included significant public input as shown above.

2. INTRODUCTION

PUBLIC PARTICIPATION

The City hosted two public workshops, a community meeting, and meetings with the Dublin Chamber of Commerce over the course of the Plan process. The two public workshops focused on citywide bicycle and pedestrian issues, and the remaining meetings focused on connectivity to and within Downtown Dublin.

PUBLIC WORKSHOPS

In October 2012 and February 2013, the City hosted two public workshops at the Dublin Library to solicit input and feedback from the community. The first workshop focused on existing conditions for walking and bicycling. The workshop featured a presentation of existing conditions for walking and bicycling and included a visual preference survey to help understand the community's interest and comfort with different kinds of bicycle facilities.

Workshop attendees identified the following areas as top priorities for walking in Downtown Dublin:

- Amador Plaza Road—Address congestion and aggressive driving, and provide the ability to park once and walk safely to adjacent commercial establishments
- Mid-Block Access on Amador Plaza Road—Provide walking connections to connect popular land uses on both sides of the roadway

- Golden Gate Drive/Dublin Boulevard—Provide connections between bus stops and preferred walking paths; improve pedestrian access to BART during construction
- Village Parkway—Enhance crossings at signalized intersections



The second public workshop included a presentation and open-house format for the public to comment on priority drawings.

The key needs identified for bicycling were:

- Close the bicycle infrastructure gap on the Dublin Boulevard Corridor
- Increased signal timing for bicyclists on side-streets
- Accommodate bicyclists at the I-580 interchanges
- Improve and maintain bicycle signal detection

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- Enhance connections to Livermore

This feedback was used to identify and develop the Tier One priority projects, for which scaled conceptual design were then prepared.

Participants reviewed Tier One concept drawings at the second workshop (bottom).

At the second workshop, the Tier One conceptual designs were presented for Amador Plaza Road, Village Parkway, and Dublin Boulevard Corridor. The proposed bicycle and pedestrian networks were also presented. Feedback was solicited from the public in an open-house style format. For Dublin Boulevard Corridor, conceptual drawings for two alternatives were presented, and the other alternatives considered were summarized.

The final projects and networks included in this Plan reflect the feedback received from the public at the second workshop.

DOWNTOWN CONNECTIVITY OUTREACH

In July 2013, the City hosted a community meeting focused on Dublin Boulevard. At that meeting, three alternatives were presented to the public for Dublin Boulevard:

- Class I Shared-Use Path
- Class IIB Buffered Bicycle Lanes with Lane Reduction
- Sidewalk Riding and Wayfinding

Based on feedback received at the meeting, the sidewalk riding and wayfinding alternative was replaced with an alternative that would designate Dublin Boulevard as a Class IIIA Bicycle Route with Sharrows as a short-term measure to address the bikeway connectivity along the Dublin Boulevard Corridor. Public feedback indicated that the Dublin Boulevard connectivity should be revisited in the future to consider a dedicated bikeway, such as the Class I Path or the Class IIB Buffered Bicycle Lanes proposals.

The City also met with the Dublin Chamber of Commerce to solicit feedback from the business community on the Dublin Boulevard and Downtown Connectivity proposals.

In October 2013, City staff presented the Downtown Connectivity project to City Council, which provided an additional opportunity for public comment. From that meeting, the City Council provided direction that the Class IIIA Bicycle Route with Sharrows option should move forward, with the lane reduction and shared-use path alternatives revisited in future Plan updates.

RELATIONSHIPS TO OTHER PLANS

The *Dublin Bicycle and Pedestrian Master Plan* is consistent with plans and policies at local, state, and federal levels.

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FEDERAL POLICIES

The United States Department of Transportation (US DOT) can issue Policy Statements to help guide actions.

US DOT POLICY STATEMENT ON BICYCLE AND PEDESTRIAN ACCOMMODATION REGULATIONS AND RECOMMENDATIONS

In 2010, the United States Department of Transportation (US DOT) issued a policy directive in support of walking and bicycling, encouraging transportation agencies to go beyond minimum standards in fully integrating active transportation into projects. As part of the statement, the US DOT encouraged agencies to adopt similar policy statements in support of walking and bicycling considerations such as:

- Considering walking and bicycling as equals with other transportation modes
- Ensuring availability of transportation choices for people of all ages and abilities
- Going beyond minimum design standards
- Integrating bicycling and pedestrian accommodations on new, rehabilitated, and limited access bridges
- Collecting data on walking and bicycling trips
- Setting mode share for walking and bicycling and tracking them over time
- Removing snow from sidewalks and shared use paths
- Improving non-motorized facilities during maintenance projects

AMERICANS WITH DISABILITIES ACT

The *Americans with Disabilities Act Title III* is legislation enacted in 1990 that provides thorough civil liberties protections to individuals with disabilities with regards to employment, state and local government services, and access to public accommodations, transportation, and telecommunications. Title III of the Act requires places of public accommodation to be accessible and usable to all people, including those with disabilities. While the letter of the law applies to "public accommodations," the spirit of the law applies not only to public agencies but to all facilities serving the public, whether publicly or privately funded.

STATE POLICIES

State policies that relate to this Plan include:

COMPLETE STREETS ACT OF 2008

California's Complete Streets Act of 2008 (Assembly bill 1358) requires all cities to modify the circulation element of their general plan to "plan for a balanced, multimodal transportation network that meets the needs of all users" when a substantive revision of the circulation element occurs. The law went into effect on January 1, 2011. The law also directs the Governor's Office of Planning and Research to amend its guidelines for the development of circulation elements in order to aid cities and counties in meeting the requirements of the Complete Streets Act.

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SENATE BILL 375/ASSEMBLY BILL 32

California Assembly Bill 32 requires greenhouse gas (GHG) emissions to be reduced by 28 percent by the year 2002 and by 50 percent by the year 2050 in response to climate change. Senate Bill 375 provides the implementation mechanisms for AB 32. It requires metropolitan planning organizations and regional planning agencies to plan for these reductions with the development of Sustainable Community Strategies, which will be a regional guide for housing, land uses, and transportation and will incorporate the Regional Transportation Plan (RTP). One key component of this is the reduction of automobile trips and vehicle miles traveled. Planning for increases in walking, bicycling, and transit use as viable alternatives are important components of these plans.

REGIONAL, COUNTY, AND ADJACENT CITIES POLICIES AND CONNECTIONS

This Plan is consistent with regional- and county-level plans as well as neighboring cities' bicycle and pedestrian plans. Pedestrian and bicycle networks were reviewed from local and regional agencies, including the Metropolitan Transportation Commission (MTC), Alameda County Transportation Commission (ACTC), Bay Area Rapid Transit (BART), East Bay Regional Park District (EBRPD), and cities of San Ramon, Pleasanton, and Livermore to promote a coordinated regional bicycle system. These plans are described briefly below.

METROPOLITAN TRANSPORTATION COMMISSION'S POLICY ON ROUTINE ACCOMMODATION

The Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the Bay Area. In 2006, MTC adopted a policy on "Routine Accommodation." The policy states that pedestrian and bicyclist consideration must be integrated into planning, design, and construction of transportation projects that use regional transportation funds. The policy requires sponsors of a project, such as a city or county agency, to complete a project checklist, often referred to as a Complete Street Checklist. The checklist is intended to be completed at the earliest stages of the projects so that considerations for bicyclist and pedestrian accommodation can be made at the inception of the project.

REGIONAL BICYCLE PLAN FOR THE SAN FRANCISCO BAY AREA

MTC updated the *Regional Bicycle Plan for the San Francisco Bay Area* in 2009. The purpose of the plan is to direct MTC's regional transportation funds for high-priority facilities that serve regional bicycle trips and update the regional bicycle network. The MTC Plan details the length and completion cost of the regional bikeways by county. For Alameda County, this includes 343 miles. The plan estimates the cost to build out the bikeway network in Alameda County at \$165 million. The Plan identifies Tassajara Road, Fallon Road, Dublin Boulevard, and San Ramon

2. INTRODUCTION

Road as segments of the Regional Bicycle Network. The Iron Horse and Alamo Canal Trails are also included in the Regional Bicycle Network.

BART STATION ACCESS GUIDELINES

The BART Station Access Guidelines (2003) set design guidelines and principles to improve last-mile multi-modal access to each of the BART stations. The Guidelines focus on the user experience as riders walk, bike, get dropped-off/picked-up, take another form transit, or park at BART stations. The design principles focus on enhancing that experience and ensuring that access is clear, straight-forward, and intuitive for all users.

BART TRANSIT-ORIENTED DEVELOPMENT GUIDELINES

The BART Transit-Oriented Development Guidelines (2003) outline design guidelines for transit-oriented development (TOD) and multi-modal access at all BART stations. The document presents design principles to enhance stations access and TOD access for all-modes. The Guidelines include high-level principles such as enhancing street connectivity and limiting block size as well as orienting fare gates and the station areas generally to walking and biking traffic.

ALAMEDA COUNTYWIDE BICYCLE PLAN

The Alameda County Transportation Commission (ACTC) is currently updating the *Alameda Countywide Bicycle Plan*. The 2012 Bicycle Vision Network map shows the following proposed facilities relating to Dublin:

- Class II lanes¹ on Dublin Boulevard between Tassajara and Fallon Roads (partially completed), with a proposed extension of Dublin Boulevard between Fallon and Doolan Roads, connecting in Livermore to Class II lanes on North Canyon Parkway;
- Class II lanes on San Ramon Road from Dublin Boulevard south over I-580, connecting to proposed Class II lanes on Foothill Road in Pleasanton;
- Class II lanes on Dougherty Road from the Contra Costa County line south over I-580 (partially completed), connecting to proposed Class II lanes on Hopyard Road in Pleasanton;
- Class II lanes on Tassajara Road between the Dublin city limit and Fallon Road;
- Class II lanes on Tassajara Road between Fallon Road and North Dublin Ranch Drive and between Dublin Boulevard and south of I-580, connecting to Class II lanes on Santa Rita Road in Pleasanton;
- Class I path extension of the Alamo Canal Trail under I-580, which is now existing;
- Class I path extension of the Tassajara Creek Trail from the County line south to 800 feet south of Shadow Hill Drive;
- Class II lanes on Dublin Boulevard between San Ramon Road and Dublin Court, connecting to the West Dublin BART Station; and

¹ The California *Highway Design Manual* defines three classes of bicycle facilities: Class I bicycle paths, Class II bicycle lanes, and Class III bicycle routes. These are explained in additional detail in **Chapter 4 Existing Conditions**.

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- Unclassified bikeway segment on Dublin Boulevard west of San Ramon Road, part of which is now existing

Table X.2 of the Plan contains a list of "Major (non-bikeway) capital projects", which primarily consist of bicycle and/or pedestrian improvements that bridge major infrastructure or ecological features or that enhance access through interchanges. The Plan specifies four major non-bikeway capital projects connecting the cities of Dublin and Pleasanton:

- I-580 Interchange at Tassajara Road/Santa Rita Road;
- Alamo Canal Trail I-580 Undercrossing (completed);
- I-580 at Foothill Road/San Ramon Road Interchange (underway);
- I-580 at Hopyard Road/Dougherty Road Interchange.

CONTRA COSTA COUNTYWIDE BICYCLE AND PEDESTRIAN PLAN

The Contra Costa County Transportation Authority (CCTA) updated the *Contra Costa Countywide Bicycle and Pedestrian Plan* in 2009. The proposed bicycle network includes the following proposed facilities relating to Dublin:

- Class II lanes on Camino Tassajara (Tassajara Road in Dublin)

ALAMEDA COUNTYWIDE PEDESTRIAN PLAN

The 2012 update to the *Countywide Pedestrian Plan* includes five goals for the countywide pedestrian vision network:

1. Safe and continuous access to transit;
2. Improved safety and access within central business districts;
3. Access to activity centers;
4. Access to inter-jurisdictional trails; and
5. Access to communities of concern.

Active maintenance of pedestrian facilities is also considered an integral aspect of the vision system. The *Downtown Dublin Specific Plan Area* is defined as a central business district in the Plan. This area is also a Priority Development Area, as defined by MTC in the Sustainable Communities Strategy.

EAST BAY REGIONAL PARK DISTRICT MASTER PLAN

The 2007 *East Bay Regional Park District Master Plan Map* includes multiple trail alignments through Dublin. On the western edge of Dublin, the Calaveras Ridge Trail segment 4C from Pleasanton Ridge to Las Trampas is proposed along the western edge of Dublin. An extension of the existing Tassajara Creek Trail from 800 feet south of Shadow Hill Drive north through San Ramon. The Iron Horse Trail gap between the Dublin/Pleasanton BART Station and the Arroyo Mocho Trail is also identified.

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CITY OF LIVERMORE GENERAL PLAN

The City of Livermore's Proposed Bikeways and Trails Network map in their General Plan shows proposed Class II lanes along Collier Canyon Road, which is the extension of Dublin Boulevard through Livermore. The proposed Class II lanes would connect to existing bicycle lanes on North Canyons Parkway.

CITY OF SAN RAMON GENERAL PLAN 2030

The City of San Ramon's Bicycle Network map in its *General Plan 2030* (2011) shows existing Class II lanes on San Ramon Valley Boulevard (which becomes San Ramon Road in Dublin), Village Parkway, and Stagecoach Road. Davona Drive, Alcosta Boulevard and Kimball Avenue are designated as existing Class III bicycle routes. It also shows proposed Class II lanes on Dougherty Road (existing).

CITY OF PLEASANTON PEDESTRIAN AND BICYCLE MASTER PLAN

The *Pleasanton Pedestrian and Bicycle Master Plan* (2010) shows multiple existing and proposed connections between Dublin and Pleasanton. The Alamo Canal Trail (Centennial Trail in Pleasanton) I-580 undercrossing was completed in 2012. A new Class I connection is proposed along the Tassajara Canal through Pleasanton as an extension of the existing Tassajara Creek Trail that presently terminates at Dublin Boulevard. The Plan also proposes a corridor study to close the long gap between the Dublin/Pleasanton BART Station and the Iron Horse Trail in Pleasanton,

which starts southeast of Santa Rita Road. Hopyard Road (Dougherty Road in Dublin) has proposed Class II bicycles lanes connecting to proposed Class II lanes on Dougherty Road. Owens Drive is classified as a proposed Class II route, providing an on-street connection to the West Dublin BART Station.

LOCAL POLICIES

The City of Dublin has many policies that support bicycling and walking. These include policies within larger plans such as the *Dublin General Plan* and the *Dublin Parks and Recreation Master Plan*, as well as Specific Plans and Guidelines such as the *Downtown Dublin Specific Plan* and the *Fallon Village Design Guidelines*. The following is a list of Dublin plans that include policies related to bicycling and walking.

DUBLIN GENERAL PLAN

The *Dublin General Plan* calls for a "comprehensive, integrated trail network that permits safe and convenient pedestrian and bicycle access within urban areas and between urban areas and open space areas." The General Plan also recommends an integrated multi-modal circulation system that encourages pedestrian, bicycle, transit, and other non-automobile transportation alternatives. The Plan sets the Guiding Policy of providing safe bikeways along arterials and conforming to the recommendation of the *Bikeways Plan*.

2. INTRODUCTION

DUBLIN PARKS AND RECREATION MASTER PLAN

The *City of Dublin Parks and Recreation Master Plan* calls for off-street paths linking community amenities such as parks, schools, open space areas, neighborhood retail, and other destinations.

CITY OF DUBLIN ZONING

Section 8.76.070 of the *City of Dublin Zoning Ordinance* requires bicycle parking in all parking lots with 20 or more spaces in non-residential zoning districts and in all multi-family residential complexes. Bicycle racks must be provided at the rate of one bicycle rack for each 40 auto spaces and should provide storage for four bicycles on each rack. Within the multi-family buildings, bicycle storage must be provided within each residence or in lockable containers or spaces. The language includes guidance on setting the bicycle racks and providing adequate lighting.

DOWNTOWN DUBLIN SPECIFIC PLAN

The *Downtown Dublin Specific Plan* (2011) replaces and combines the efforts of past specific plans, including the *Downtown Core Specific Plan*, *Dublin Downtown Specific Plan*, *Village Parkway Specific Plan*, *the West Dublin BART Specific Plan*, and *the San Ramon Road Specific Plan*. The Plan lays out objectives to create a pedestrian-friendly Downtown; enhance streetscapes, site planning, and urban design from the current auto-oriented uses; accept reduced levels of service and focus on concentrating development near BART; and enhance multi-modal

circulation while continuing to serve local and regional retail needs. The *Specific Plan* divides the Downtown area into three areas: the Transit-Oriented District, south of Dublin Boulevard; the Retail District, between Amador Valley Boulevard and Dublin Boulevard; and the Village Parkway District, east of I-680 and centered on Village Parkway. The Plan details distinct goals, land use mixes, and design standards for the study areas and includes provisions for public gathering spaces, such as landscaped plazas and small parks.

DUBLIN COMPLETE STREETS POLICY

In December 2012, the City of Dublin adopted a *Complete Streets Policy* to create a citywide priority for accommodating all users and modes in the planning, design, construction, and maintenance of the transportation system to support the health and mobility of those who live in and visit Dublin, while maintaining local context. The Policy specifically references using innovative and up-to-date design standards, such as those contained in this Plan; making connections across jurisdictional boundaries; and coordinating with private development to ensure implementation on new facilities.

EASTERN DUBLIN SPECIFIC PLAN

The *Eastern Dublin Specific Plan* provides goals and policies for a planned mixed-use community east of Camp Parks, including the transit village area around Dublin/Pleasanton BART. Land use patterns and intensities are designed to encourage the use of active modes and transit. The goal for pedestrian circulation is to provide a safe and convenient network to

2. INTRODUCTION

serve functional and recreational needs, taking advantage of natural resources such as Tassajara Creek as well as new commercial centers to provide sidewalk and streetscape amenities. The plan calls for Class II lanes on Gleason Drive, Central Parkway, Tassajara Road, and Fallon Road north of Central Parkway. Bicycle parking is required at key destinations such as schools, transit stops, and commercial centers.

DUBLIN STANDARD PLANS

City of Dublin Standard Plans include detailed design elements for various aspects of the public and private right of way. The Standard Plans primarily provide guidance on parking spaces striping, curb ramps, and issues related to drainage. Cross-section design detail for roadway classifications or details for bicycle facilities are to be added. Several driveway details show sidewalk as sloped through the driveway apron, which meets minimum ADA requirements but does not match best practices. Dublin also has a standard plan for crosswalks and curb ramps outside of the public right of way.

ADOPTED CITY OF DUBLIN 2012-2017 PROPOSED FIVE-YEAR CAPITAL IMPROVEMENT PROGRAM

The *City of Dublin 2012-2017 Proposed Five-Year Capital Improvement Program (CIP)* includes several bicycle and pedestrian-related projects

including the Alamo Canal Trail Undercrossing and Golden Gate Drive improvements (both completed)

DOWNTOWN DUBLIN TIF PROGRAM

The *Downtown Dublin Traffic Improvement Fee Program* (2004) collects development fees for infrastructure improvements within Downtown.

Many of the proposed projects in the current program, particularly the roadway widening projects, are out of date with recently adopted policies regarding the high priority of walking and bicycling in Downtown Dublin, as detailed in the *General Plan, Downtown Dublin Specific Plan*. The Downtown Dublin TIF is scheduled to be updated after the adoption of the Bikeways/Pedestrian Master Plan. The City should consider including Tier One and Two bicycle and pedestrian priority projects on the basis of the nexus analysis.

CONFORMANCE WITH BTA REQUIREMENTS

At the time of Plan development, the Bicycle Transportation Account (BTA) was the primary state funding source for bicycling improvements. Caltrans previously allocated approximately \$7 million in BTA funds annually. According to the California Streets and Highways Code, Sections 890 through 894.2 (known as the Bicycle Transportation Act), local agencies needed to complete a bicycle master plan to qualify for grant funds issued through the BTA. Conforming plans needed to have

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11 key elements shown in **Table 2-1** and be no more than 5 years old.
This update to the Dublin Bicycle Master Plan satisfies the requirements.

The California Transportation Commission (CTC) has released draft *Active Transportation Program (ATP) Guidelines*, which will supplant the earlier Bicycle Transportation Account (BTA) as the primary state funding source for biking and walking improvements. The ATP requires additional elements and is also inclusive of pedestrians as well as access to transit.

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TABLE 2-1
STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN

Item	Requirement	Section
A	The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.	Chapter 4
B	A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.	Chapter 4
C	A map and description of existing and proposed bikeways.	Chapter 5
D	A map and description of existing and proposed end-of-trip bicycle parking facilities.	Chapter 5, Chapter 4, Figure 4-6
E	A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.	Chapter 5, Figure 4-9
F	A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.	Figures 5-1, Figures 5-2a and 5-2b
G	A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.	Chapter 8
H	A description of the extent of citizen and community involvement in development of the plan	Chapter 2
I	A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.	Chapter 2
J	A description of the projects proposed in the plan and a listing of their priorities for implementation.	Chapter 6
K	A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.	Chapter 9

2. INTRODUCTION



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3. GOALS & POLICIES



3. GOALS & POLICIES



This chapter establishes the goals and policies that will guide the City of Dublin in implementing the *City of Dublin Bicycle and Pedestrian Plan*. It also provides an assessment of the existing programs, policies, and practices pertaining to bicycling and walking in the City, noting successful examples and making recommendations for improvements, as appropriate.

VISION STATEMENT

The purpose of the *City of Dublin Bicycle and Pedestrian Plan* is to provide a policy and implementation framework for maintaining and improving bicycle and pedestrian infrastructure in the City to provide safe, comfortable, and attractive facilities that meet the needs of users of all ages and abilities and connect users with key destinations—schools, residential neighborhoods, parks, shopping areas, and job centers—within the City and in adjacent jurisdictions.

GOALS AND POLICIES

The following goals and policies support the overall vision for the Plan:

GOAL 1: SUPPORT BICYCLING AND WALKING AS PRACTICAL, HEALTHY, AND CONVENIENT ALTERNATIVES TO AUTOMOBILE USE IN DUBLIN

New Policy: Develop modal street Typology as part of next substantial update of the General Plan to provide prioritized access and circulation for all modes along various streets in the City on the basis of local context.

Policy 1-1: Integrate the bicycle Capital Improvement Project list contained in this Plan as part of the larger five-year Capital Improvement Project (CIP) update that the City undertakes for all projects.

Policy 1-2: Update the City's *General Plan, Parks and Recreation Master Plan, Capital Improvement Program, Downtown Dublin TIF and Eastern Dublin TIF* to reflect the goals, policies, and existing and proposed networks in this Plan.

Policy 1-3: Update the Plan every five years to reflect best practices in bicycle and pedestrian policy and design, changing community interests and needs, and remain eligible for Bicycle Transportation Account (BTA) funding.

Policy 1-4: Identify current regional, state, and federal funding programs along with specific funding requirements and deadlines, and apply for competitive grant funding for the priority projects identified in this Plan

Policy 1-5: To enhance access through and across key barriers, such as freeway interchanges, pursue multi-jurisdictional funding applications with neighboring cities and other potential partners, including BART, East Bay Regional Park District, City of Pleasanton, City of Livermore, City of San Ramon, Alameda County, Contra Costa County and Caltrans.

3. GOALS & POLICIES



Buffered bicycle lanes are one of many emerging best practice bikeways that provide additional separation between autos and bicyclists.

Policy 1-6: Continue to engage and update the community on bicycle issues in Dublin through semi-annual public workshops. Integrate updates on pedestrian issues into these updates and consider coordination with local advocacy groups.

Policy 1-7: Routinely monitor the performance of the Plan to achieve the performance measures and data collection goals detailed in **Chapter 8 Performance Measures** of this Plan.

GOAL 2: IMPLEMENT A WELL-CONNECTED ACTIVE TRANSPORTATION SYSTEM TO ATTRACT USERS OF ALL AGES AND ABILITIES.

Policy 2-1: Implement and maintain an integrated transportation network that allows safe and convenient travel along and across streets for all users, including pedestrian and bicyclists' needs and access at key destinations, such as Downtown Dublin, transit stations, and other major destinations.

Policy 2-2: Expand the existing bicycle network on the basis of access to key destinations as per Policy 2-1 above to provide low-stress, bicycle facilities if right of way allows, such as buffered bicycle lanes on arterial and collector roadways where appropriate and bicycle routes with sharrows on low-volume residential streets.

Policy 2-3: Require short-term and long-term bicycle parking consistent with the latest version of the California Green Building Standards Code.

Policy 2-4: Where feasible, reduce corner radii at intersections to slow turning vehicular traffic, provide protected signal phasing for left-turns, and mark crosswalks at approaches of signalized intersections.

3. GOALS & POLICIES

Policy 2-5: Plan and implement a citywide wayfinding program for bicyclists and pedestrians to provide route guidance and travel time estimates to key destinations, with initial focus on the Downtown area and Transit Centers.

GOAL 3: INCORPORATE THE NEEDS AND CONCERNS OF BICYCLISTS AND PEDESTRIANS IN ALL TRANSPORTATION AND DEVELOPMENT PROJECTS.

Policy 3-1: As a condition of project approval, require private development projects to construct bicycle and pedestrian facilities on site and in the adjacent public right-of-way included in the proposed bicycle system as well as bicycle parking and amenities in accordance with the California Green Building Standards Code. Consider requiring large development projects to provide accessible mid-block cut throughs (or "paseos").

Policy 3-2: Consult the recommended bicycle and pedestrian network maps and project lists prior to implementation of traffic signals, signal upgrades, and resurfacing/restriping projects.

Policy 3-3: Install pedestrian countdown signals, modify pedestrian clearance intervals on actual walking speed observed in the field, implement density operations (Flash Do Not Walk timing extension for slow walkers, etc.), and install, replace, and upgrade bicycle signal detectors, as necessary, per the California Manual Uniform of Traffic Control Devices (CA MUTCD) with new signal installation and signal modification projects, whenever possible.

Policy 3-4: Implement the City's *Complete Streets Policy* by reviewing the transportation network, block size, and development patterns of all proposed projects for consistency with this Plan, the *Downtown Dublin Specific Plan*, and the Dublin *Complete Streets Policy*.

Policy 3-5: Coordinate with Caltrans and the City of Pleasanton to incorporate best practices for the accommodation of bicyclists and pedestrians on future highway interchange improvement projects.

Policy 3-6: Coordinate planned roadway improvements projects, such as repaving and overlays, with design and development of bicycle and pedestrian improvement projects, so that bicycle and pedestrian improvements plans are ready for construction when routine roadway upgrades are implemented.

Policy 3-7: Continue to implement the City Bicycle and Pedestrian Guidelines on all City capital and private development projects as required by the City. Allow the update of the design guidelines to incorporate the latest MUTCD standards.

GOAL 4: SUPPORT INFRASTRUCTURE INVESTMENTS WITH TARGETED BICYCLE AND PEDESTRIAN EDUCATION, ENCOURAGEMENT, ENFORCEMENT, AND EVALUATION PROGRAMS

Policy 4-1: Develop and implement a strategy for encouraging and promoting walking and bicycling to major City events, such as the St. Patrick's Day Festival, and Farmers' Market

3. GOALS & POLICIES

Policy 4-2: Conduct bicycle and pedestrian counts and surveys whenever vehicle counts are conducted to gauge the effectiveness of various improvements and programs and to develop a count monitoring program. Store the count data in City-maintained GIS databases.

GOAL 5: MAXIMIZE MULTI-MODAL CONNECTIONS IN THE TRANSPORTATION NETWORK

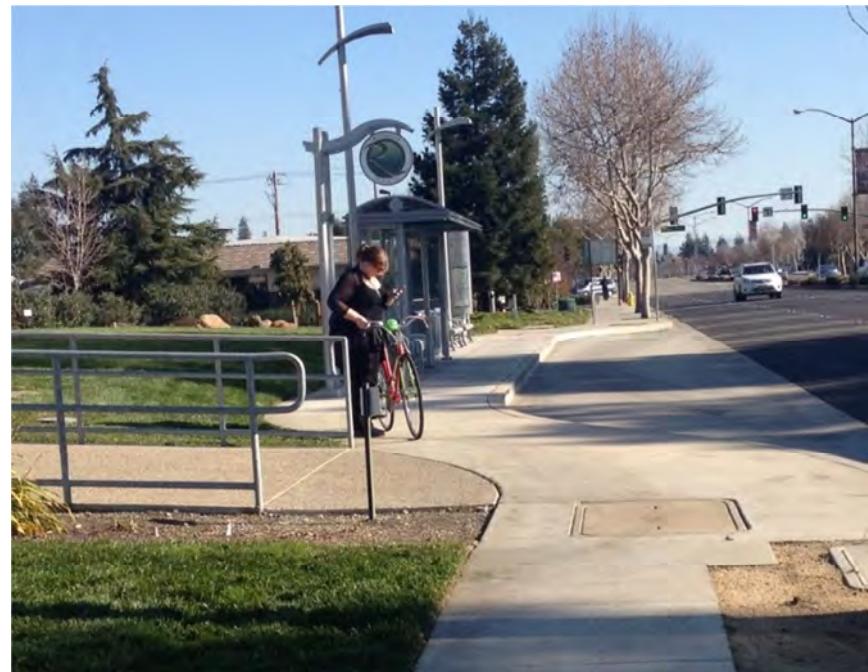
Policy 5-1: Aim to ensure that the bicycle system serves transit stops and stations; that pedestrian crossing needs are met at transit stops; and that continuous, accessible pedestrian routes are provided.

Policy 5-2: Coordinate with local and regional transit agencies to evaluate long- and short-term bicycle parking needs at BART stations and bus stops.

Policy 5-3: Work with transit agencies to integrate the design for bus stops, such as bus pull-outs, bus shelters, and secure bicycle parking, when roadways with existing or proposed transit routes are improved.

GOAL 6: IMPROVE BICYCLE AND PEDESTRIAN SAFETY CITYWIDE.

Policy 6-1: Work to reduce bicycle and pedestrian crashes, injuries and fatalities on all roadways.



A bicyclist waits for the TriValley Rapid bus.

Policy 6-2: Monitor bicycle- and pedestrian-related collisions annually.

Policy 6-3: Work with the Alameda County Safe Routes to School Partnership and local schools to identify and pursue funding for "Safe Routes to Schools" infrastructure improvements for cyclists and pedestrians.

3. GOALS & POLICIES



PROGRAMS, POLICIES, & PRACTICES ASSESSMENT

The City of Dublin has made many bicycle investments since the City's 2007 *Bicycle Master Plan*, and with this Plan, the City will continue to invest in safe and convenient bicycle facilities and will now provide a framework for pedestrian investments. The City's existing approaches to facilitating and enhancing bicycling and walking were reviewed with a benchmarking matrix that compares the City's programs, policies, and practices with national best practices. This assessment helped guide the Plan's Goals and Policies outlined in the previous section. The benchmarking analysis categorizes the City's programs, policies, and practices into three areas as follows:

- **Key Strengths** – areas where the City of Dublin is exceeding national best practices
- **Enhancements**—areas where the City is meeting best practices
- **Opportunities**—areas where the City should consider meeting best practices

The benchmarking analysis, with associated recommendations, is presented in **Table 3-1**.



Bicycle rodeos and other education-based activities help children to understand the rules of the road and feel confident walking and bicycling in Dublin.



The City of Dublin organizes and participates in Bicycle to Work Day events and rides in Dublin.

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>Safe Routes to School Safe Routes to School programs encourage and educate students and parents on how to safely walk and bicycle to school.</p>	<p>Enhancement</p>	<p>Alameda County conducts a comprehensive Safe Routes to School program with education and encouragement programs in local schools. Operated by a team of consultants, five Dublin Unified School District (DUSD) schools are participating—four elementary schools (Murray, Kolb, Green, and Dougherty) and one high school (Dublin). Having a high school participate in this program is especially unique, and is an area where the City is exceeding best practices.</p>	<ul style="list-style-type: none"> Continue to identify “champions” for safe routes at each school site Coordinate any required Safe Routes to School monitoring programs with the bicycle and pedestrian monitoring program established in this Plan Integrate walking-audit and other infrastructure-related recommendations with this Plan to help prioritize projects and create packages of grant-ready projects Explore the feasibility of competitive funding for projects identified, either through SR2S or other grants
<p>Complete Streets Policy Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	<p>Key Strength</p>	<p>The City of Dublin adopted a Complete Streets Policy in December 2012. The Policy is consistent with the Alameda County Transportation Commission (ACTC) Policy guidance and also includes Dublin-specific considerations.</p>	<ul style="list-style-type: none"> Coordinate the Bicycle and Pedestrian Monitoring Strategy established in this Plan with monitoring required in the Complete Streets Policy.
<p>Inventory of Walking and Bicycling Infrastructure Conducting an inventory of pedestrian and bicycle facilities in the community is a first step to addressing deficiencies in the network and prioritizing future projects.</p>	<p>Key Strength (Bicycling)/ Opportunity (Walking)</p>	<p>The City maintains and updates a GIS-based inventory of bicycle facilities in the City of Dublin.</p> <p>However, the City does not maintain an inventory of pedestrian facilities, or pedestrian traffic control devices.</p>	<ul style="list-style-type: none"> Continue to update the bicycle network data in GIS as projects are constructed and consider integrating an inventory of pedestrian facilities and pedestrian traffic control devices with this update

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>City of Dublin Education and Encouragement Programs Education and encouragement programs also include special events that promote active transportation, such as Bicycle to Work Day or bicycling skills courses.</p>	<p>Key Strength (Bicycling)/ Opportunity (Walking)</p>	<p>The City of Dublin currently operates a variety of programs, with events typically occurring in the fall and spring. Events include:</p> <ul style="list-style-type: none"> • Bicycle to Work Day • Bicycle to the Farmers' Market • National Bicycle Month • Bicycle Safety Brochures (available in multiple languages) <p>Programs are funded through Alameda County Measure B funds and through donations from the public and private businesses.</p> <p>Education and encouragement programs in Dublin have focused on bicycling, as the City did not previously have a Pedestrian Plan.</p>	<ul style="list-style-type: none"> • Promote the use of walking, bicycling, and transit access to City events, such as the St. Patrick's Day Festival. Examples of promotion include the provision of directional materials or information, and bicycle valet parking. • Explore the feasibility of Memorandums of Understanding (MOUs) between the City and other agencies and organizations with which the City has developed existing programming,

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>Bicycle Parking Ordinance Safe and convenient bicycle parking is essential for encouraging bicycle travel and increasing bicycle access to key destinations.</p>	<p>Enhancement</p>	<p>Section 8.76.070 of the City of Dublin Zoning Ordinance requires bicycle parking in all parking lots with 20 or more spaces in non-residential zoning districts and in all multi-family residential areas. Bicycle parking must be provided at a rate of one bicycle rack for every 40 auto spaces. Each rack should provide space for four bicycles. Within a multi-family residential building, bicycle storage must be provided in lockable containers or spaces outside of the residences (in addition to any interior storage that is part of an individual residence).</p> <p>The ordinance provides guidance on setting bicycle racks to minimize encroachment into the pedestrian zone and provide adequate lighting for bicycle parking.</p>	<ul style="list-style-type: none"> • Continue to require short-term and long-term bicycle parking consistent with the latest version of the California Green Building Standards Code. • Implement bicycle parking per the Bicycle and Pedestrian Design Guidelines

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>General Plan Planning principles contained in a City's General Plan can provide an important policy context for developing bikeable and walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for walking- and bicycling-oriented areas. A city's General Plan is also a key opportunity to establish the framework for walking orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>	<p>Enhancement</p>	<p>The <i>City of Dublin General Plan</i> describes the existing driving, bicycling, walking, and transit facilities within the City and establishes the goals and policies for future transportation needs. Though many of the details of the Plan relate to design and planning for auto trips, the Plan does include a specific goal of balancing the needs of motorists, bicyclists, pedestrians, and transit riders.</p> <p>The General Plan encourages higher-density and mixed-use development adjacent to transit centers, such as the two BART stations. Mixed-use development is explicitly encouraged in some commercial planning areas.</p> <p>The City has a level of service (LOS) standard of LOS D that must be maintained outside of the Downtown area, which may preclude available right-of-way for new bicycling and walking facilities. The Downtown Dublin Specific Plan relaxed the LOS standard with the Downtown's signalized intersections. This approach should be coordinated with prioritized corridors for different modes to prioritize modes and access along different corridors. This is consistent with national best practices.</p> <p>The City is currently conducting a 2-year pilot program to eliminate parking standards in the Village Parkway area.</p>	<ul style="list-style-type: none"> With the next General Plan update, ensure the Circulation Element is consistent with this Plan.

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>ADA Transition Plan An Americans with Disabilities Act (ADA) Transition Plan creates a baseline inventory and process for bringing public facilities into compliance with ADA regulations. An ADA Transition Plan addresses public buildings and sidewalks, ramps, and other walking facilities within the public right-of-way.</p>	Enhancement	<p>The City has an ADA Transition Plan in place that includes an inventory of needed improvements and prioritization of those facilities.</p> <p>The City includes ADA curb ramp installation and upgrades as part of the Annual Sidewalk Repair Program. The City's CIP includes \$20,000 annually for the implementation of the ADA Transition Plan. The City solicits input on specific ADA issues from the public on its ADA Transition Plan website and prioritizes improvements based on such public input.</p> <p>The City has Standard Plans for some types of ADA curb ramps.</p>	<ul style="list-style-type: none"> • Update Standard Plans to comply with update federal accessibility requirements • Explore the feasibility of updating the City's ADA Transition Plan

3. GOALS & POLICIES



TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>Institutional Considerations</p> <p>Institutional issues for pedestrian and bicycle planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking and bicycling in Dublin.</p>	<p>Enhancement</p>	<p>The City of Dublin identified the following issues and opportunities:</p> <ul style="list-style-type: none"> Historically, the City has focused on planning, policy, and programs related to bicycling rather than both walking and bicycling. Funding streams and focus of staff time have historically included specific stipulations of bicycling-related programs, policies, and practices The City does not currently have citywide design guidelines for the design of pedestrian and bicycle infrastructure and related roadway improvements, such as a minimum curb radii for a particular roadway type. Potential coordination issues exist with Caltrans to improve accommodation of bicyclists and pedestrians at interchanges and overcrossings Many facilities require coordination with Livermore to help guide temporary and permanent east-west connections in Eastern Dublin Limited staff time may pose barriers to pursuing additional competitive grants for walking and bicycling projects and programs Desire for walkability needs to be balanced with opportunities for economic development 	<ul style="list-style-type: none"> Proactively seek opportunities to collaborate with Caltrans, BART, LAVTA, and other transit agencies to improve walking and bicycling access through Caltrans interchanges and overpasses, in and around the BART stations, and on access routes to bus stops in accordance with the layered network (Modal Typology) for all modes of transportation. Continue to implement a developer checklist for use during development review to ensure consideration of walking and bicycling issues and concurrency with this and other City Plans.

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
<p>Traffic Signal Warrants / Traffic Control Devices</p> <p>Best practices for pedestrian signal warrant analysis include:</p> <ul style="list-style-type: none"> • Providing consideration for school children/pedestrians and traffic speeds <p>Bicycle traffic control best practices include application of innovative design standards and guidance to appropriate facilities, and use of bicycle signals where warranted.</p>	Enhancement	<p>The City of Dublin uses traffic signal and stop sign warrants per the current MUTCD. As signals are upgraded and new signals are installed, signals become compliant with current MUTCD standards, including:</p> <ul style="list-style-type: none"> • 3.5 feet/second walking speed or as determined by field study • Bicycle loop detectors • Pedestrian countdown signal heads <p>Leading pedestrian intervals (LPIs) have been installed at one location, and the City is open to using LPIs in the future as appropriate.</p>	<ul style="list-style-type: none"> • Implement the Crosswalk Design Guidelines included in the Bicycle and Pedestrian Design Guidelines • • Implement design guidance in this Plan on the use of green pavement and other innovative striping patterns for bicycle facilities as appropriate.
<p>Law Enforcement</p> <p>Enforcement strategies are part of the "3 E" strategies, including education and encouragement, to help enforce the rules of the road, aspects as they pertain to bicyclist and pedestrians.</p>	Enhancement (Bicycling)/	<p>Dublin Police Services has a Traffic Unit and has officers who patrol on bicycle.</p> <p>The Crime Prevention Unit, with assistance from Traffic Unit, conducts bicycle rodeos for youth and operates other enforcement and educational programs.</p>	<ul style="list-style-type: none"> • Coordinate with neighboring jurisdictions for resource sharing during enforcement campaigns.

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
Design Standards Design policies and development standards can encourage walking and bicycling, enhance economic vitality, and offer funding opportunities for multi-modal improvements.	Opportunity	<p>The City of Dublin does not have its own standards for marking bicycle facilities through intersections or freeway interchanges. Many of the other design guidelines that do exist are contained in Specific Plans or other geography-specific documents.</p> <p>The <i>Downtown Dublin Specific Plan</i> encourages the use of street trees and provides development guidelines for pedestrian-oriented buildings and pedestrian-friendly parking areas. The plan recommends midblock pathways where appropriate.</p> <p>The <i>Streetscape Master Plan</i> provides specific recommendations on street tree plantings and spacing for various roadways.</p>	<p>Implement the design guidelines in this Plan to include the following:</p> <ul style="list-style-type: none"> • Bicycle facilities through interchanges • Bicycle facilities through intersections • Bicycle facilities, such as buffered bicycle lanes • Crosswalk striping, as detailed in the Crosswalk Design Guidelines section of the Bicycle and Pedestrian Design Guidelines • Crossing enhancements, including signalized devices, as detailed in the Crosswalk Design Guidelines section of the Bicycle and Pedestrian Design Guidelines • Roadway geometry elements such as curb extensions, curb radii, narrower lanes, median refuges, staggered crossings, etc.
Bicycling and Walking Counts Routinely and systematically counting the number of people who walk and bicycle in Dublin is important for monitoring the effectiveness of infrastructure investments and documenting the need for continued investments in those facilities.	Opportunity	<p>Pedestrian and bicycle counts are included whenever the City conducts turning movement counts. This is now required under the City's Complete Streets Policy.</p> <p>Bike counter devices were recently installed on the Iron Horse and Alamo Canal Trails.</p>	<ul style="list-style-type: none"> • Use the monitoring framework set forth in this Plan to provide monitoring associated with the City's Complete Streets Policy adopted in 2012. • Consider integrating bicycle and pedestrian counts in GIS software. • Collaborate with the advocacy community by supporting volunteer count programs. <p>Examples of model bicycle and pedestrian count programs are included in Chapter 8 Performance Measures.</p>

3. GOALS & POLICIES

TABLE 3-1 PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS

Plans, Policies, & Programs	Benchmark	Dublin Plans, Policies, & Programs	Recommended Action Items
Traffic Calming Programs Traffic Calming Programs can provide a systematic and consistent approach to addressing safety concerns. Elements of a traffic calming toolkit can then be implemented to address specific safety needs.	Opportunity	Dublin has implemented traffic calming projects throughout the City. For example, the City recently coordinated with MTC and used Transportation Enhancements funds to construct curb extensions, bicycle lanes, and a landscaped median on Dublin Boulevard west of San Ramon Road and on Golden Gate Drive between Dublin Boulevard and the West Dublin BART Station. The City has also proactively installed traffic circles in new developments to shorten long blocks where high speeds could occur.	<ul style="list-style-type: none"> Continue to implement traffic calming projects throughout the City using the Bicycle and Pedestrian Design Guidelines.
Crosswalk Design Guidelines Establishing a clear protocol for when and how to stripe crosswalks and whether or not to include crossing enhancements, such as in-pavement flashing lights or advanced yield markings, creates a consistent application of treatments citywide.	Opportunity	The City currently uses FHWA's <i>Safety Effects of Marked versus Unmarked Crosswalks</i> report for guidance on when to install marked crosswalks at uncontrolled locations. Crosswalks at signalized intersections are not always striped on all approaches, typically due to traffic operation considerations.	<ul style="list-style-type: none"> Crosswalk Design Guidelines are included in the Bicycle and Pedestrian Design Guidelines for the City's consideration when designing crosswalks.
Source: Fehr & Peers, 2013.			

3. GOALS & POLICIES



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4. EXISTING WALKING & BICYCLING CONDITIONS



4. EXISTING WALKING & BICYCLING CONDITIONS



This chapter presents the existing state of bicycling and walking conditions, including existing land uses and issues and opportunities. Bicycling considerations are discussed on a Citywide basis, and walking considerations are focused towards Downtown Dublin. Downtown Dublin is the area bounded by San Ramon Road, Amador Valley Road, Village Parkway, and I-580.

DUBLIN TODAY

A city of 49,890 people (per the California Department of Finance (2013)), Dublin continues to grow, with new development on the east side of the City as well as near the city's two BART stations. Interstate 580 serves as the southern boundary to Dublin, and Interstate 680 crosses the City near the Downtown Area. The Camp Parks Reserve Forces Training Area (RFTA) occupies a large amount of land in central Dublin between Dougherty Road and Arnold Road, from Dublin Boulevard to the border with San Ramon. Retail uses are concentrated along Dublin Boulevard on both sides of I-680, as well as along San Ramon Road, Amador Valley Boulevard, and Village Parkway. Major employment centers include office parks along Dublin Boulevard, Hacienda Drive, and Arnold Road. Light industrial uses are present along Sierra Court.

The public school system includes six elementary schools, two middle schools, one regular high schools and one continuation high school. Public facilities include the Civic Center and library on Dublin Boulevard at Civic Plaza, the Shannon Community Center on San Ramon Road, the Dublin Senior Center on Amador Valley Boulevard, the Dublin Swim

Center on Village Parkway at Dublin High School, the Frank Stager Gym on York Drive, three Fire Stations, Heritage Center, Public Safety Complex and Scarlett Court Maintenance Facility.

New development in Dublin continues to occur in the form of single family housing in the eastern areas of Dublin and the Camp Parks area as well as multi-family housing adjacent to the West Dublin and Dublin/Pleasanton BART Stations. All of this development will create new multi-modal trips, many of which will be close to BART stations and the Downtown. **Figure 4-1** shows the existing land use pattern in the City.

OPPORTUNITIES AND CONSTRAINTS

Dublin has a great potential to attract new bicycling and walking trips throughout the City. In addition a temperate climate and relatively flat terrain, the City has miles of regionally significant paved trails, many of which access residential neighborhoods and the Downtown. However, barriers such as wide roadways and limited connectivity across major highways are challenges. Opportunities to further enhance the walking and bicycling environment and increase these mode shares include:

- Developing bicycle facilities, such as buffered bicycle lanes and Class I paths that attract a wider range of users
- Enhancing intersection for both pedestrians and bicyclists, through strategies such as changes to signal timing and shorter crossings

4. EXISTING WALKING & BICYCLING CONDITIONS

- Integrating new bicycle facilities and the paved trail network, such as the Iron Horse and Alamo Canal Trails, and the existing, largely complete arterial bikeway network
- Providing first and last mile walking and bicycling connections to BART Stations and Tri-Valley Rapid Bus Stops
- Incorporating a layered network of alternate modes and vehicular traffic to prioritize the location of needed facilities for each mode

However, several issues limit the number of non-motorized trips, and also affect the quality and relative safety of the bicycling and walking experience in Dublin:

- Bicycle lanes along the City's high-volume and high-speed arterial roadways and correspondingly large intersections have oriented the bicycle network to experienced, traffic-tolerant cyclists rather than attracting those with a range of abilities.
- Reliance on developer-funded sidewalks can create sidewalk and pedestrian infrastructure gaps in eastern Dublin
- Large block sizes (700 to 1,000 feet) in the Downtown limit bicycle and pedestrian access and the quality of the walking environment, creating long distances between crossings



Existing Wide Bicycle Lanes provide an opportunity to create buffered bicycle lanes in Dublin.

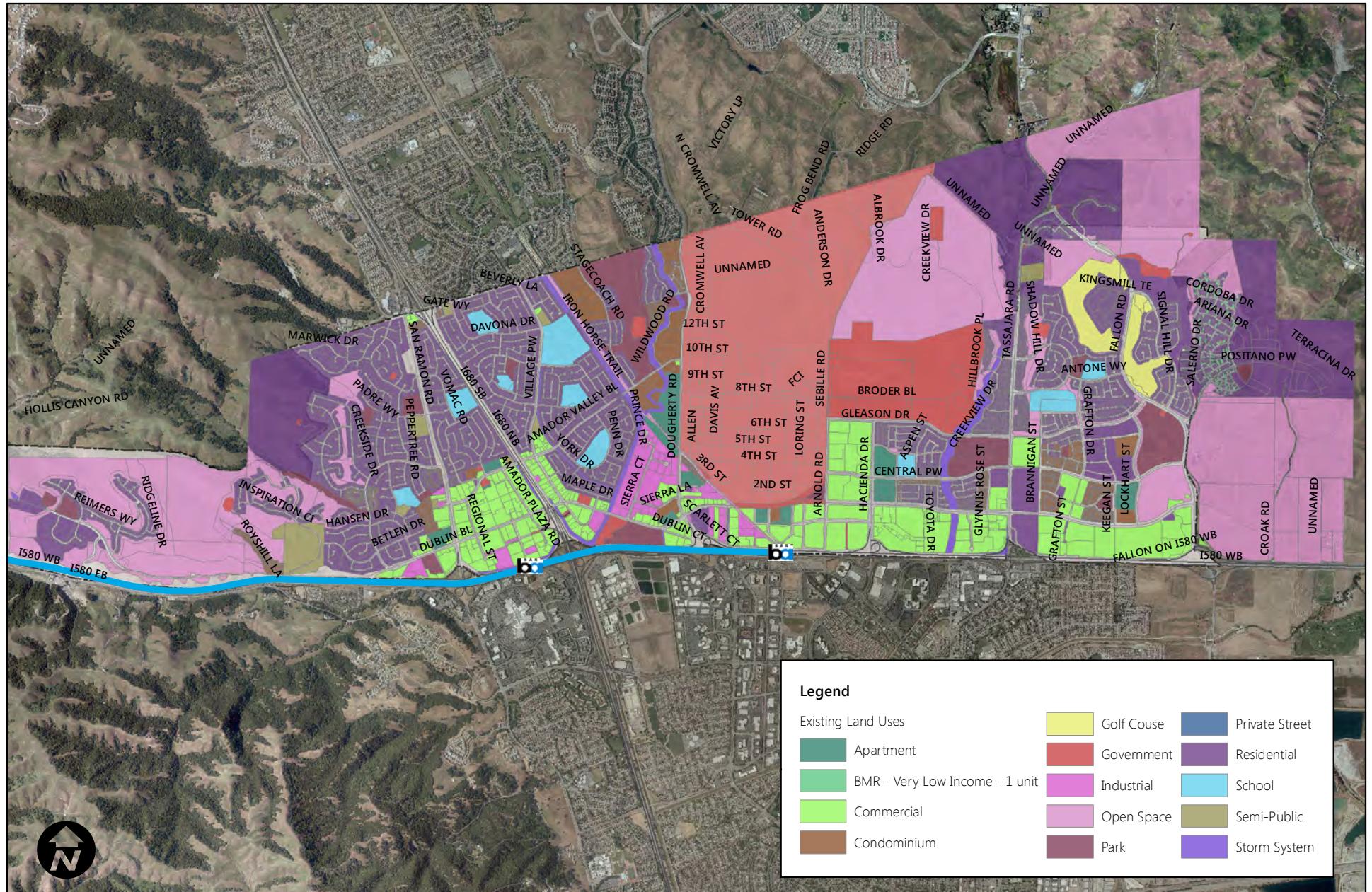


Figure 4-1

Dublin Existing Land Uses

April 2013

4. EXISTING WALKING & BICYCLING CONDITIONS

WALKING & BICYCLING MODE SHARE

A common term used in describing demand for bicycle and pedestrian facilities is "mode split." Mode split refers to the form of transportation a person chooses to take, such as walking, bicycling, public transit, or driving. Mode split is often used in evaluating commuter alternatives such as bicycling, where the objective is to increase the percentage of people selecting an alternative means of transportation to the single-occupant (or drive-alone) automobile.

COMMUTE TRIPS- US CENSUS DATA

Table 4-1 presents 2009 American Community Survey estimates and the 2000 Journey to Work data for Dublin, both of which present estimates of the number of Dublin residents commuting to work via a particular mode of travel. Journey to Work data is no longer collected as of the 2010 decennial Census. However, the American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregate taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of commuting by bicycle and walking. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for

commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

TABLE 4-1 MEANS OF TRANSPORTATION TO WORK IN DUBLIN, ADJACENT COMMUNITIES, & COUNTY

Means of Transportation to Work	Dublin - 2000	Dublin - 2009	Pleasanton - 2009	Alameda County - 2009
Drive Alone	79.1%	76.4%	78.8%	66.6%
Carpool	9.9%	8.9%	6.2%	10.6%
Bus	0.8%	1.0%	1.3%	4.6%
Subway or Railroad (BART)	4.6%	6.1%	4.3%	6.5%
Bicycling	0.3%	0.4%	1.1%	1.5%
Walking	1.3%	1.2%	1.8%	3.6%
Other ¹	1.0%	1.4%	0.8%	1.7%
Work at Home	3.2%	4.4%	5.5%	4.7%

1. Aggregates the motorcycle, taxicab, and other means census categories.
Source: American Community Survey, 2005-2009; US Census, 2000.

4. EXISTING WALKING & BICYCLING CONDITIONS



COLLISION ANALYSIS

Between 2006 and 2011, 38 bicyclist-auto and 39 pedestrian-auto collisions occurred in the City of Dublin. One third of the pedestrian-related collisions occurred in the Downtown. Bicyclist-auto collisions are presented on **Figure 4-2**, and pedestrian-auto collisions in Downtown Dublin are presented on **Figure 4-3**. The majority of these collisions occurred on major arterial corridors. Of the City streets in Dublin, Dublin Boulevard had the highest incidence of bicyclist- and pedestrian-involved collisions, as shown in **Table 4-2**. Amador Valley and Hacienda Drive both had multiple collisions along the length of the corridors.

TABLE 4-2 CORRIDORS WITH HIGHEST FREQUENCY OF BICYCLIST-AUTO AND PEDESTRIAN-AUTO COLLISIONS IN DUBLIN, 2006-2011

Bicyclist-Auto Collisions		Pedestrian-Auto Collisions	
Corridor	Collision Frequency	Corridor	Collision Frequency
Dublin Boulevard	15	Dublin Boulevard	6
Amador Valley Boulevard	5	Amador Valley Boulevard	6
Hacienda Drive	3	Amador Plaza Road	4
Village Parkway	6	Regional Street	4
San Ramon Road	3		

Source: SWITRS, 2006 to 2011.

The frequency of bicyclist-auto collisions by intersection is presented on **Tables 4-3**. The Village Parkway/Tamarack Drive intersection had more collisions compared to the other intersections included in the five year study period. This intersection is located in a residential area with multiple schools nearby. Dublin Boulevard/Village Parkway had the second highest bicyclist-auto collision frequency. Located Downtown east of I-680, this is a very large intersection with multiple turn lanes on several approaches and two channelized right-turns.

TABLE 4-3 BICYCLIST-AUTO COLLISIONS IN DUBLIN, 2006-2011

Intersection	Bicyclist-Auto Collisions
Village Parkway & Tamarack Drive	4
Dublin Boulevard & Village Parkway	3
San Ramon Road & Amador Valley Boulevard	2
Dublin Boulevard & Scarlett Drive	2
Dublin Boulevard & Clark Avenue	2
Dublin Boulevard & Golden Gate Drive	2
Dublin Boulevard & San Ramon Road	2
Amador Valley Boulevard & Amador Plaza Road	2

Source: SWITRS, 2006 to 2011.

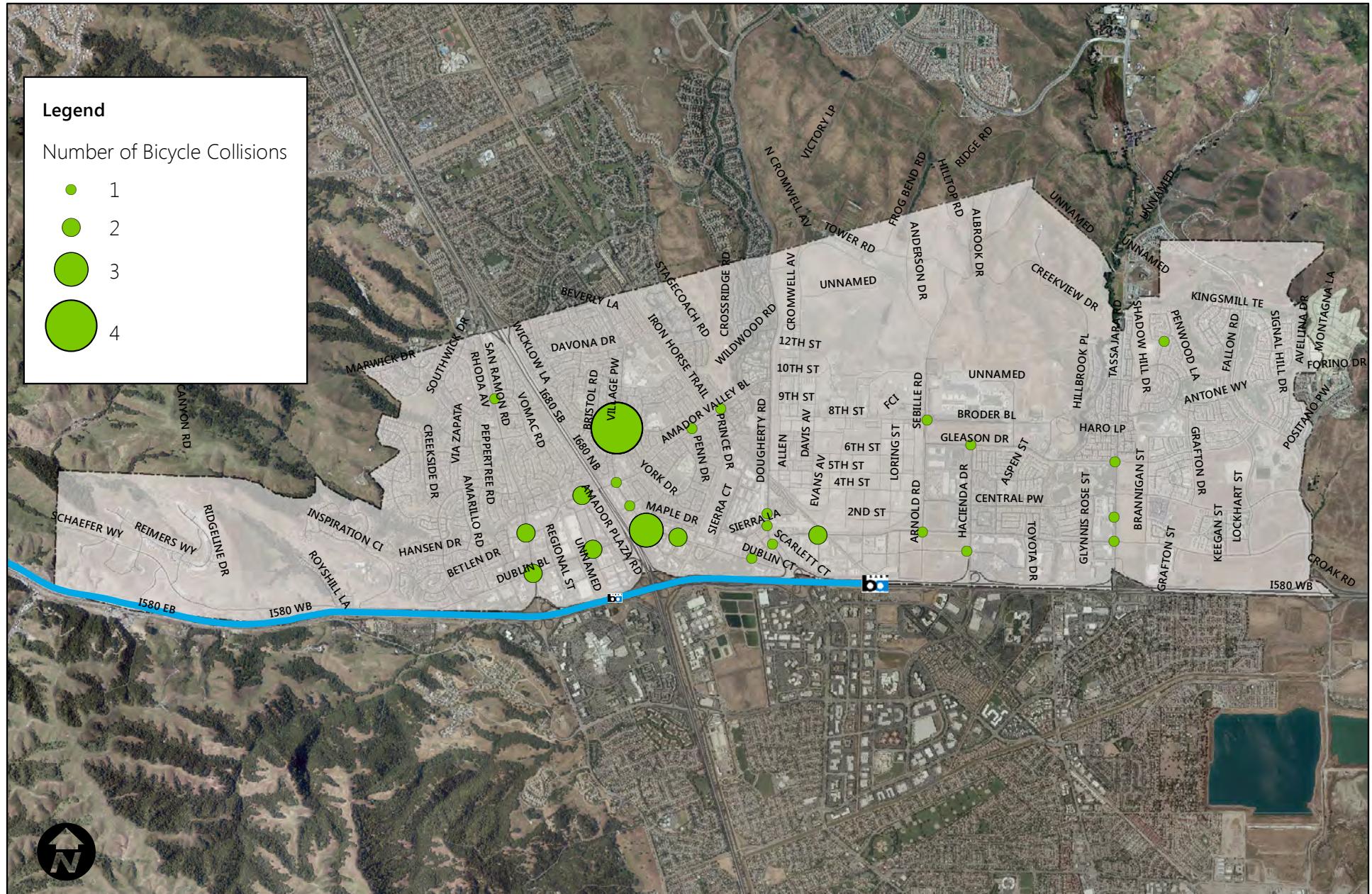


Figure 4-2

Bicycle-Auto Collisions, 2006-2011

April 2013

FEHR PEERS



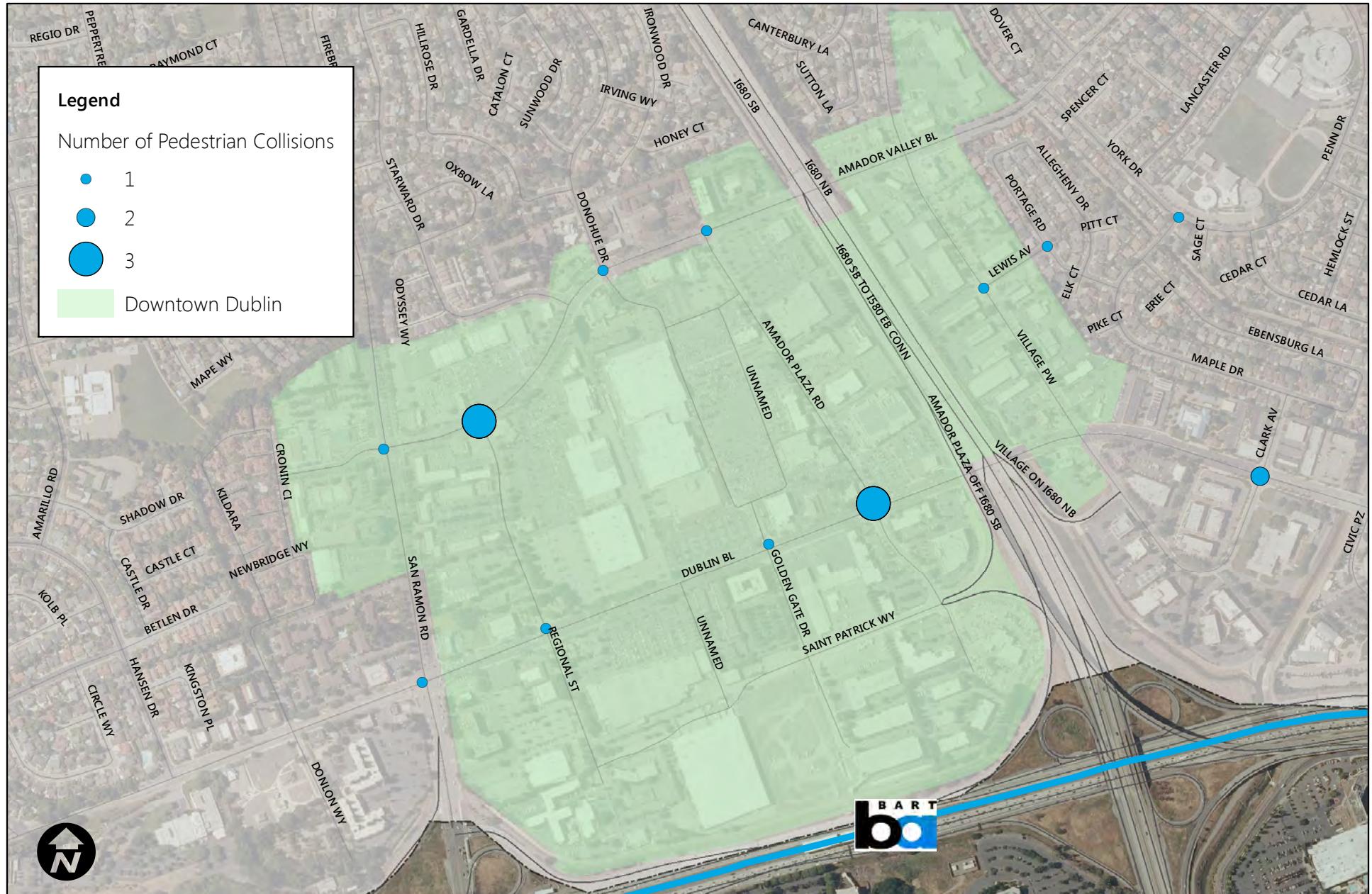


Figure 4-3

Pedestrian-Auto Collisions, 2006-2011

April 2013

FEHR PEERS

4. EXISTING WALKING & BICYCLING CONDITIONS

The majority of bicycle collisions were involved a bicyclist riding on the wrong side of the road (13 collisions). Many of these wrong-way riding collisions occurred on the busiest and highest speed roadways in Dublin: Dublin Boulevard, Dougherty Road, Village Parkway, and Amador Valley Boulevard. Additionally, seven collisions involved bicyclists failing to yield the right-of-way to automobiles. Traffic signal and sign violations contributed to an additional five crashes.

The intersections with the highest number of pedestrian-auto collisions were Amador Valley Boulevard/Regional Street and Dublin Boulevard/Amador Plaza Road. Dublin Boulevard/Amador Plaza Road provides access to the West Dublin BART station from the east side of Dublin and serves as a gateway to the city from the I-680 freeway off-ramp. Both of these intersection locations are considered important gateways to Downtown Dublin. **Table 4-4** presents the locations with the highest pedestrian-auto collisions in Downtown Dublin. It should be noted that the 2006-2010 data is prior to the February 2011 opening of the West Dublin BART Station.

The majority of pedestrian-involved collisions occurred in marked crosswalks at intersections. Of the 14 reported pedestrian-auto collisions in the Downtown, half of the collisions occurred while a pedestrian was crossing in a marked crosswalk at the intersection, with the other half occurring midblock. Five of the reported collisions resulted from drivers violating the pedestrian right-of-way, and five of the collisions involved pedestrian violations.

TABLE 4-4 PEDESTRIAN-AUTO COLLISIONS IN DOWNTOWN DUBLIN, 2006-2011

Intersection	Pedestrian-Auto Collisions
Amador Valley Boulevard & Regional Street	3
Dublin Boulevard & Amador Plaza Road	3

Source: SWITRS, 2006 to 2011.

The California Office of Traffic Safety ranks cities of similar sizes based on the number of bicycle and pedestrian collisions that occurred in a given year. The higher the ranking (larger the number), the better a given city compares to those in the same cohort. In 2011, Dublin ranked 56 out of 94 California cities of a similar size (25,001-50,000 population) for pedestrian-auto collisions, and 63 out of 94 cities for bicycle-auto collisions, indicating that over 50 percent of cities with a similar average population reported a higher frequency of bicycle and pedestrian collisions in 2011 than Dublin.

EXISTING BICYCLE FACILITIES

TYPES OF BICYCLE FACILITIES

Bicycling facilities include three types of bikeways, as defined by Caltrans. The three categories of bikeways area:

4. EXISTING WALKING & BICYCLING CONDITIONS



- Class I bicycle paths and shared use paths
- Class II bicycle lanes, including buffered bicycle lanes
- Class III bicycle routes, which consist of signed bicycle routes and may or may not also include sharrows and other traffic calming treatments

These three facility types are presented on **Figure 4-4**. These facility types are documented in the Caltrans Highway Design Manual Chapter 1000 and details on their design can be found in the California MUTCD 2012.

EXISTING BICYCLING CONDITIONS

An inventory of existing bikeway segments was conducted based on the City of Dublin *Bikeways Master Plan* (2007), additional information obtained from the City, and field visits. The City currently has approximately 47.2 miles of bikeway facilities, consisting of:

- 23.6 miles of Class I bicycle paths
- 23.27 miles of Class II bicycle lanes
- 1/3 mile of Class III bicycle routes

The Existing Bikeway Network map on **Figures 4-5** illustrates the locations of existing bikeways. Unpaved open space trails are also included on the map as a reference, although these trails do not meet Caltrans design standards for Class I bicycle paths. They primarily serve hikers and may or may not permit mountain bicycling depending on park regulations. However, open space trails are recreational destinations

providing access to creeks, ridges, and undeveloped areas and their trailheads may be reached by bicycle.

KEY BICYCLE CORRIDORS

Dublin's bicycle network primarily consists of arterial bicycle lanes and off-street Class I Paths. These arterial bicycle lanes provide north-south and east-west connections in the western and eastern areas of the City. There is no continuous east-west bicycle linkage in Dublin; however, closing the bicycle facility gap in the Dublin Boulevard corridor between San Ramon Road and Dublin Court is proposed in this Plan. **Tables 4-5 and 4-6** present the existing bikeways and trail, respectively, in detail.

WEST DUBLIN

Dublin has many off-street bicycle paths that extend north-south through the city, many of which are paved regional trails managed by the East Bay Regional Park District. Dublin Boulevard has east-west Class II bicycle lanes west of San Ramon Road and east of Dublin Court, including some segments of Class I side paths in the eastern areas. The limited number of undercrossings of Interstate 680 and the lack of public roadways through Camp Parks RFTA present barriers to east-west connections, forcing bicycle traffic onto Dublin Boulevard and Amador Valley Boulevard as the only continuous and semi-continuous east-west connections, respectively, across the City. Figure 4-5a presents bikeways in western Dublin.

4. EXISTING WALKING & BICYCLING CONDITIONS

EAST DUBLIN

In eastern Dublin, the bicycle network consist of Class II bicycle lanes on arterial and collector streets as well as wide sidewalks that meet Caltrans minimum standards for Class I paths. These wide sidewalks include the

required five-foot landscaped buffer from the roadway, eight-foot path, and two-foot clear zone for a Class I path. Many of these facilities parallel Class II bicycle lanes. Figure 4-5b presents bikeways in eastern Dublin.

TABLE 4-5 EXISTING BICYCLE FACILITIES IN THE CITY OF DUBLIN

Segment	Direction	# of Lanes	Speed Limit	ADT	Bikeway Type	Bikeway Extents
San Ramon Road	North-South	4-6 lanes	40 MPH	14,000-25,000	Class II Bicycle Lanes	Alcosta Boulevard to Dublin Boulevard
					Side path on west side	Alcosta Boulevard to Dublin Boulevard
Village Parkway	North-South	4 lanes	30-35 MPH	14,000-17,500	Class II Bicycle Lanes	Amador Valley Boulevard and Northern City Boundary
					Class III Bicycle Route	Amador Valley Boulevard to Dublin Boulevard
Golden Gate Drive	North-South	2 lanes	30 MPH	Not available	Class II Bicycle Lanes	Dublin Boulevard to West Dublin BART
Dougherty Road	North-South	4 lanes	35-45 MPH	25,200-42,000	Class I Path on east side	Iron Horse Trail to North City Boundary
Hacienda Road	North-South	4 lanes	35 MPH	7,500-30,000	Class II Bicycle Lanes	I-580 WB Off-Ramp to Gleason Drive
Tassajara Road	North-South	4- 6 lanes	35 MPH	15,000-24,000	Class II Bicycle Lanes	Dublin Boulevard and North Dublin Ranch Drive
Fallon Road	North-South	2-5 lanes	40 MPH	6,000	Partial Class II Bicycle Lanes	Tassajara Road to Positano Parkway
					Class I	Tassajara Road to Gleason Drive
Dublin Boulevard	East-West	4-6 lanes	35-45 MPH	6,000-34,000	Partial Class II Bicycle Lanes	Kelly Canyon Drive to Insportation Drive, Silvergate Drive to San Ramon Road, Dublin Court to Lockhart Street
					Class I Side Path	Iron Horse Trail to Tassajara Creek Trail
Saint Patrick Way	East-West	2 lanes	25 MPH	Not available	Partial Class II Bicycle Lanes	Golden Gate Drive to 530' west (Essex Development)
Amador Valley Boulevard	East-West	4 lanes	25-35 MPH	7,000-20,000	Partial Class II Bicycle Lanes,	San Ramon Road to east of Brighton Drive, westbound only Brighton Drive to Wildwood Road
Gleason Drive	East-West	4 lanes	40 MPH	6,000-8,000	Partial Class II Bicycle Lanes	Arnold Road to Tassajara Road, Brannigan Street to Fallon Road

4. EXISTING WALKING & BICYCLING CONDITIONS



					Class I Path	South side between Lockhart Street and Fallon Road
Central Parkway	East-West	2 lanes	35 MPH	2,500	Partial Class II Bicycle Lanes	Arnold Road to Tassajara Road, Brannigan Street to Lockhart Street, eastbound only Lockhart Street to Fallon Road
Source: Fehr & Peers, 2013.						

TABLE 4-6 EXISTING CLASS 1 FACILITIES IN THE CITY OF DUBLIN

Segment	Extents	Width	Managing Agency	Notes
Iron Horse Trail	City of Concord to City of Pleasanton	12'	EBRPD ¹	On-Street Continuation /Class I gap between Dublin-Pleasanton BART and Santa Rita Road in Pleasanton
Alamo Canal Trail	Southern City Boundary to Iron Horse Trail	14'	EBRPD	Connection to Pleasanton Centennial Trail completed
Alamo Creek Trail	Iron Horse Trail to Cross Ridge Road	12-14'	City	
Tassajara Creek Trail	Dublin Boulevard to Hillbrook Place	20'	EBRPD	
Various Roadway Segments				

Source: Fehr & Peers, 2013.

1. EBRPD= East Bay Regional Park District

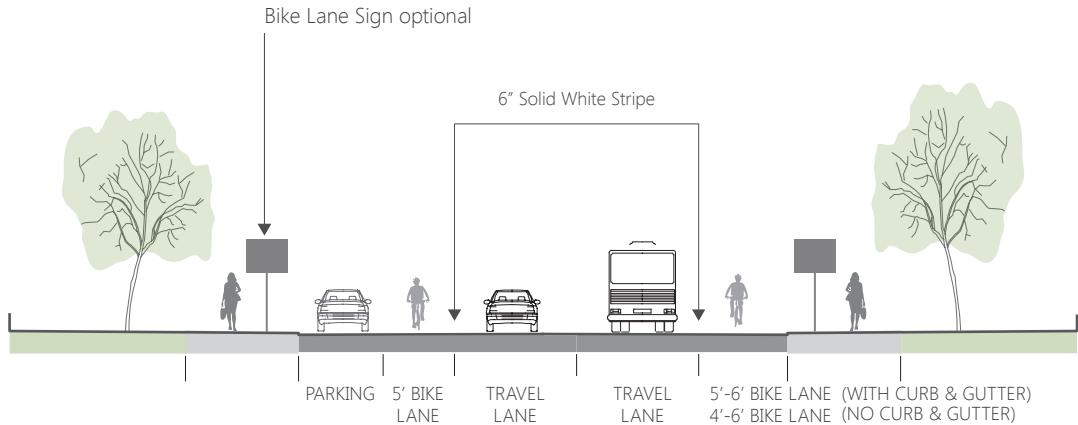
CLASS I BIKEWAY (Bike Path)

Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.



CLASS II BIKEWAY (Bike Lane)

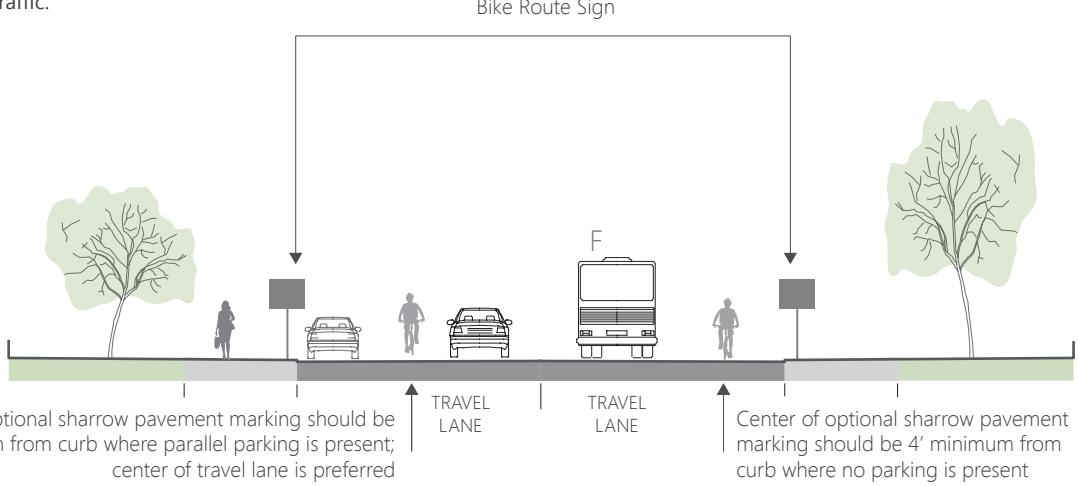
Provides a striped lane for one-way bike travel on a street or highway.



CLASS III BIKEWAY (Signed Bike Route)

With Optional Sharrows Pavement Marking

Provides for shared use with motor vehicle traffic.



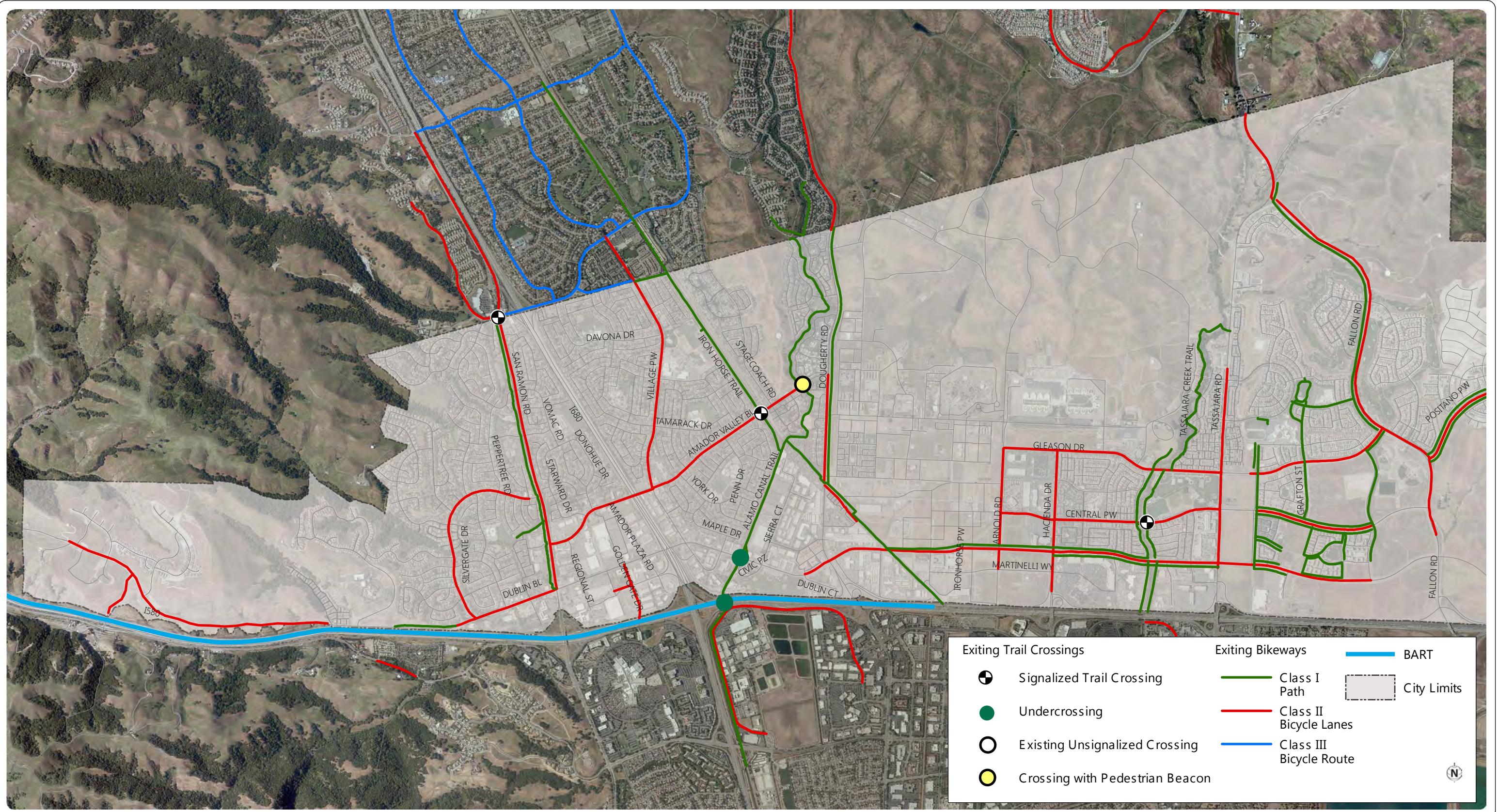


Figure 4-5
Dublin Existing Bikeways

March 2014

4. EXISTING WALKING & BICYCLING CONDITIONS

EVALUATION OF CURRENT BICYCLING CONDITIONS

Dublin has made substantial progress in building its bikeway network over the last several years. As shown on Figures 4-5a & 4-5b Dublin is diligently working towards a continuous bikeway system that is accessible and comfortable for bicyclists of a wide variety of experience levels. Addressing these gaps is an important component to developing a safe, accessible, and inviting bicycling environment.

DUBLIN BOULEVARD GAP CLOSURE

Dublin Boulevard currently has Class II bicycle lanes on the western and eastern segments of the roadway, but has a gap adjacent to Civic Plaza and through Downtown Dublin. While a dedicated bikeway, such as bicycle lanes, would create a continuous east-west facility through Dublin, existing right-of-way constraints would require either the removal of a travel lane or widening of the roadway to accommodate such a facility. A Class I path could provide a shared bicycle and pedestrian connection but would require right-of-way acquisition and substantial construction costs. Because of the complexities associated with the Dublin Boulevard options, other roadways in Downtown may provide lower volume and preferred alternatives to traveling by bicycling on Dublin Boulevard. Particularly for last mile connections to West Dublin BART and to access destinations in Downtown, Regional Street, Amador Valley Boulevard, Saint Patrick Way, and Amador Plaza Road may provide alternatives to Dublin Boulevard. Study and design of bikeway

alternatives for Dublin Boulevard and other Downtown roadways is included in **Chapter 6 Priority Projects** of this Plan.

CROSSING AND INTERSECTION APPROACH IMPROVEMENTS

Bicycle lanes in Dublin follow the guidelines codified in California's *Highway Design Manual* (HDM) and *Manual of Uniform Traffic Control Devices* (MUTCD). Prior versions of these documents provided limited guidance for bicyclists and drivers at intersections, instructing cities to drop the bicycle lane 50 to 200 feet prior to the intersection, indicated only by a dashed line. On shorter block segments, this effectively means that there is no bicycle lane striping, leaving bicyclists and drivers with limited guidance on how to position themselves mid-block.

Recent research on and best practices in innovative bicycle facilities have examined the importance of intersection treatments. Some of this information is included in recent 2012 updates to both the HDM and California MUTCD. Even though a bicycle lane may provide a comfortable passage mid-block, most conflicts occur at intersections. Crossing treatments may include providing a separate facility from street traffic, extending bicycle lane lines through intersections, providing green pavement in conflicts zones, and creating bicycle-only cut-throughs or median island refuges, as examples.

Crossing treatments should also address the wide sidewalks in eastern Dublin that meet Class I pathway minimum requirements, such as the ones on Dublin Boulevard.

4. EXISTING WALKING & BICYCLING CONDITIONS



SAFE ACCESS TO REGIONAL PATHS AND CITY BICYCLE LANES

In the western and eastern parts of the City, residential streets provide the primary access through the area. In east Dublin, these residential streets lead to a large grid of arterials and collectors that provide east-west and north-south connectivity. In the western part of the city, these residential streets make up the vast majority of the street network. In these areas, developing a system of neighborhood greenways or bicycle boulevards would provide new north-south bicycle routes. These could access neighborhood schools as well as connect to bicycle paths, such as the Iron Horse Trail and the San Ramon Road bicycle path. West of I-680, streets such as Vomac Road, Starward Drive, and Donohue Drive together provide connections through the neighborhood and access Dublin Elementary School. East of I-680, Tamarack Drive/Brighton Drive and Davona Drive both provide connections to multiple Dublin schools and neighborhoods as well as bicycle lanes on Village Parkway.

INTEGRATE BICYCLE FACILITIES INTO NEW EAST-WEST ROADWAYS

Though connectivity across I-680 is limited, additional segments of east-west bikeways are needed in the residential neighborhoods north of Amador Valley Boulevard. This is also true in the eastern residential neighborhoods north of Gleason Drive. As the Camp Parks RFTA area is developed, additional east-west bikeways through this area should address gaps between Dougherty Road and Arnold Road. Design

guidelines established in this Plan can help guide the development of new roadways in the area.

EASTERN DUBLIN GAP CLOSURES

Gleason Drive and Central Parkway both have existing bicycle lanes with gaps between Tassajara Road and Brannigan Street, where two large vacant parcels currently have no frontage improvements. The City will have the opportunity to extend the bike lanes between Tassajara Road and Brannigan Street as the area gets developed. Additionally, the small roadway segments around the new Dublin/Pleasanton BART Station and Transit Village on DeMarcus Boulevard do not include bicycle facilities. The travel lanes on DeMarcus Boulevard range from 15 to 18 feet, which may be wide enough to stripe a bicycle lane to provide last mile connections to BART. A shared lane treatment could also be considered.

At General Plan buildout, Dublin Boulevard is planned to be extended easterly from Fallon Road to Airway Boulevard in Livermore. Dublin Boulevard will include Class II bicycle lanes along this stretch of the roadway and should be coordinated with Livermore to make it continuous.

4. EXISTING WALKING & BICYCLING CONDITIONS

IMPROVE CONNECTIONS ACROSS I-580

Currently, there are no designated on-street crossings of I-580 for bicyclists traveling between Dublin and Pleasanton. I-580 is the southern boundary of the City and Pleasanton. Providing adequate connections across I-580 would likely increase bicycle commuting and recreational riding between the two cities. There are similar opportunities for these connections at San Ramon Road, Tassajara Road, and Fallon Road. In 2012, a shared-use path underneath I-580 was completed to connect the Alamo Canal Trail and the Centennial Trail in Pleasanton. The Iron Horse Trail currently ends at Dublin/Pleasanton BART and does not begin again until Santa Rita Road in Pleasanton. A suggested route along Owens Drive provides an on-street connection between the two pathway segments.



Alamo Canal Trail/I-580 Undercrossing completed in 2012.

4. EXISTING WALKING & BICYCLING CONDITIONS



BICYCLE PARKING & SUPPORT FACILITIES

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places or transit stations, for examples.

Dublin has short-term bicycle parking in the Downtown area as well as at local parks and community centers. Location of existing bicycle parking is shown on **Figure 4-6** and **Table 4-7**.

Long-term bicycle parking is only known to exist at the two BART stations in Dublin, which have electronic bicycle lockers through the BikeLink system, which allows users to pay for hourly use of the lockers through a membership card.

Some places of employment in Dublin may provide showers, changing space, or long-term storage for bicycle gear; however, the City does not

inventory such facilities. It is likely that some employers allow employees to store bicycles in their workspace. For example, SAP and the business park on Hacienda Drive near Gleason Drive offer bicycle parking for employees. The Shannon Community Center, Dublin Civic Center, and the high school and middle schools all provide showers for those who use those spaces. The high schools and middle schools also have lockers for students.

4. EXISTING WALKING & BICYCLING CONDITIONS

Bicycle racks can also provide a public art function, such as this one at Tralee Center in Dublin.



4. EXISTING WALKING & BICYCLING CONDITIONS



TABLE 4-7 BICYCLE PARKING LOCATIONS IN DUBLIN

Location	Short-Term Spaces ¹	Long-Term Spaces
Alamo Creek Park	3	-
Bray Commons	10	-
Devaney Square	0	-
Dolan Park	0	-
Dougherty Hills Park	5	-
Dublin Civic Center	12	-
Dublin Heritage Park and Museums	12	-
Dublin Public Library	5	-
Dublin Senior Center	0	-
Dublin Sports Grounds	0	-
Dublin Swim Center	12	-
Dublin/Pleasanton BART Station	78	28
Emerald Glen Park	12	-
Fallon Sports Park	12	-
Kolb Park	4	-
Mape Memorial Park	5	-
Piazza Sorrento	6	-
Safeway - Dublin Boulevard	4	-
Safeway - Tassajara Road	18	-
Stagecoach Park	5	-
Stager Community Gymnasium	8	-
Target & EXPO Design Center - Amador Plaza Road	8	-
Ted Fairfield Park	0	-
Tri-Valley Rapid Bus Stops on Dublin Boulevard	4-8 per stop (34 total)	-
West Dublin BART Station	28	16
Shannon Community Center & Park	5	-

TABLE 4-7 BICYCLE PARKING LOCATIONS IN DUBLIN

Location	Short-Term Spaces ¹	Long-Term Spaces
Schaefer Ranch Park	3	-
Positano Hills Park	5	-
Dublin Public Safety Complex	1	-
Fallon Gateway/Target	11	-
Total	306	44

1. Bicycle spaces indicate the number of bicycles able to park at the facility. For example, a single standard U-rack would be able to accommodate two bicycles.

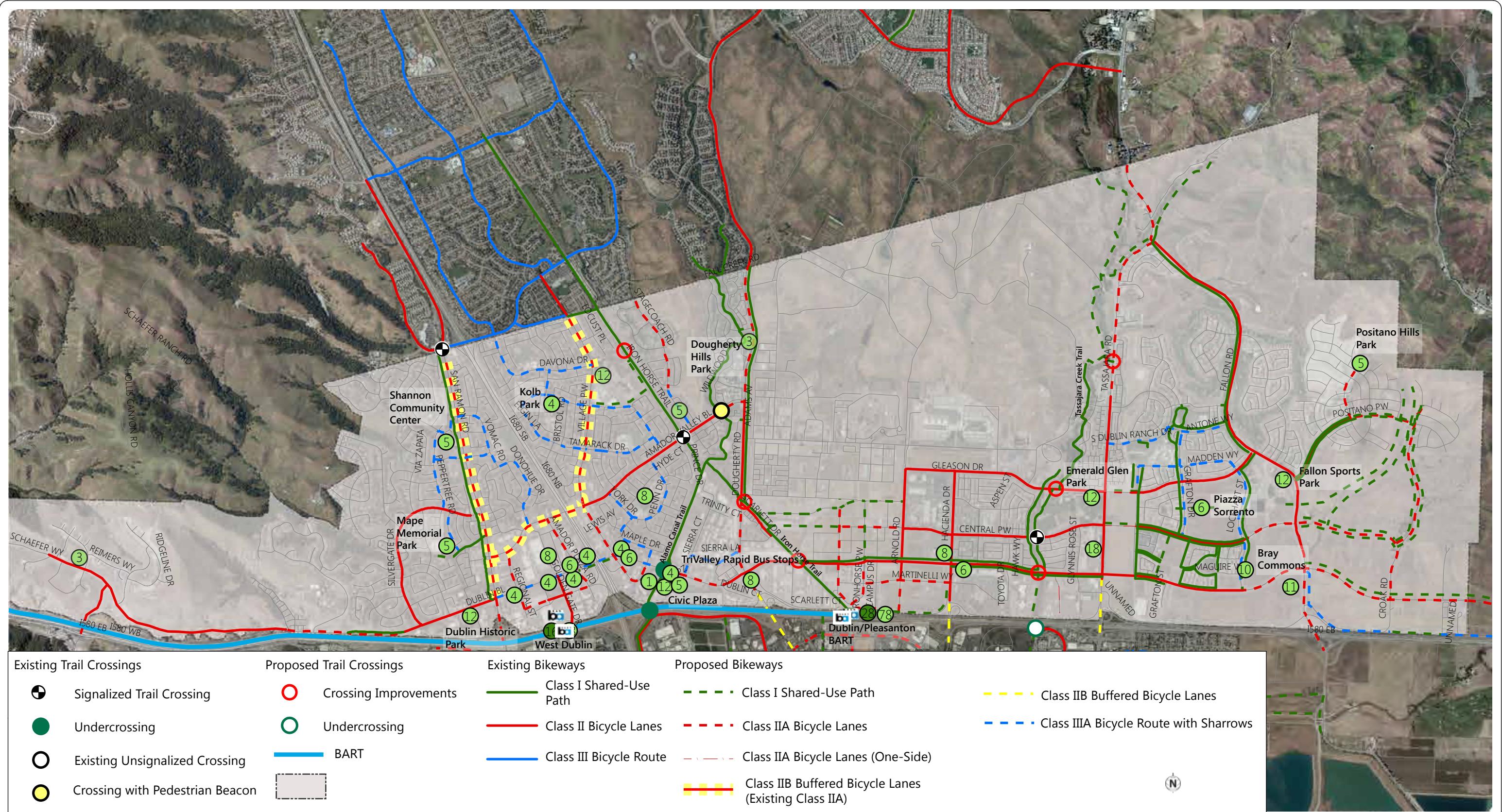


Figure 4-6
Dublin Existing Bicycle Parking

April 2014

FEHR PEERS

4. EXISTING WALKING & BICYCLING CONDITIONS



EXISTING PEDESTRIAN FACILITIES

The following section describes the key issues and a needs assessment for pedestrian facilities in Downtown Dublin.

PEDESTRIAN NEEDS

A well-connected pedestrian network is a vital component to livable communities, which thrive on multimodal travel for all roadway users, regardless of age or ability. This is especially true in Downtown Dublin, where users converge from a variety of travel modes. Downtown Dublin will continue to draw many people by car in addition to growing numbers of people from BART; however, once visitors park their cars or get off of BART, each visitor to Downtown becomes a pedestrian. Because of this, streets in Downtown Dublin, though they carry large volumes of traffic, should be envisioned as complete streets.

A complete street should offer equal accessibility for the young and old, disabled and not, and should consider the needs of pedestrians, bicyclists, motorists, and transit riders. Designing streets with the land use and local context for the most vulnerable users means that they are safe and accessible for everyone. For all pedestrians, the most important aspects of good design include providing a pleasant and attractive pathway system; room for pedestrians to walk side-by-side; and easy, safe crossings from one street to the next. By designing streets for the most vulnerable users, Dublin can provide an environment that will be comfortable and accessible for all.

PEDESTRIAN ENVIRONMENT

An initial walking audit and inventory of pedestrian conditions in the Downtown area was performed in January 2013 and the following issues have been identified:

- Sidewalks and Pathways
- Intersection Crossing Treatments
- Barriers
- High Speed Traffic
- ADA Accessibility
- Barriers
- Large Turning Radii
- Auto Encroachment on Pedestrian Zone

Detailed inventories for the mid-block pedestrian infrastructure are presented in **Table 4-8** and by intersection in **Table 4-9**.

4. EXISTING WALKING & BICYCLING CONDITIONS

Recently constructed Complete Street enhancement project on Golden Gate Drive near the West Dublin BART Station.



4. EXISTING WALKING & BICYCLING CONDITIONS



TABLE 4-8 EXISTING PEDESTRIAN INFRASTRUCTURE AT DOWNTOWN INTERSECTIONS

Roadway Characteristics					Intersection	Crossing Distance	Accessibility								Signal		
Marked Crosswalks ¹							Curb Ramps ²				Push Buttons ³				Protected / Permitted Turns ⁴		
N	E	S	W	NW			NE	SE	SW	NW	NE	SE	SW				
San Ramon Road and Dublin Boulevard	Marked	None	Stamped	Marked	N-S 125' E-W 145'	Parallel	Parallel	Diagonal	Parallel	● ●	● ○	○	●	Protected Left: NB,SB,EB,WB			
San Ramon Road and Amador Valley Boulevard	Marked	Marked	None	Marked	N-S 125' E-W 150'	Parallel, Cut Throughs with No Truncated Domes	Parallel, Cut Throughs with No Truncated Domes	Parallel	Parallel	● ●	● ●	● ●	●	●	Protected Left: NB,SB,EB,WB		
Regional Street and Amador Valley Boulevard	Not Marked	Marked	Marked	Marked	N-S 97' E-W 75'	Diagonal	Diagonal	Diagonal, No Truncate d Domes	Diagonal , No Truncate d Domes	● ●	● ●	● ●	● ●	Protected: EB,WB Permitted: NB,SB			
Regional Street and Dublin Boulevard	Marked	Marked	Marked	Marked	N-S 100' E-W 70'	Parallel	Parallel	Parallel	Parallel	● ●	● ●	● ●	● ●	Protected Left: NB,SB,EB,WB			

4. EXISTING WALKING & BICYCLING CONDITIONS

TABLE 4-8 EXISTING PEDESTRIAN INFRASTRUCTURE AT DOWNTOWN INTERSECTIONS

Roadway Characteristics					Accessibility								Signal	
Intersection	Marked Crosswalks ¹				Crossing Distance	Curb Ramps ²				Push Buttons ³				Protected / Permitted Turns ⁴
	N	E	S	W		NW	NE	SE	SW	NW	NE	SE	SW	
Golden Gate Drive and St. Patrick's Way	Not Marked	Marked	Not Marked	Marked	N-S 80'	Parallel	Parallel, No Truncated Domes	Parallel, No Truncated Domes	Parallel, No Truncated Domes	-	-	-	-	Not Signalized
Golden Gate Drive and Dublin Boulevard	Marked	Marked	Marked	Marked	N-S 90' E-W 80'	Parallel	Parallel	Parallel	Parallel	● ●	● ●	● ●	● ○	Protected Left: NB,SB,EB,WB
Donahue Drive and Amador Valley Boulevard	Marked	Marked	Marked	Marked	N-S 95' E-W 80'	Parallel	Parallel	Parallel	Parallel	● ●	● ●	● ●	● ●	Protected: EB,WB Permitted: NB,SB
Starward Drive and Amador Valley Boulevard	Marked	Marked	Marked	Marked	N-S 100' E-W 80'	Diagonal	Parallel	Directional	Diagonal	● ●	● ●	● ●	● ●	Protected: EB, WB Permitted: NB, SB

4. EXISTING WALKING & BICYCLING CONDITIONS



TABLE 4-8 EXISTING PEDESTRIAN INFRASTRUCTURE AT DOWNTOWN INTERSECTIONS

Roadway Characteristics					Accessibility								Signal	
Intersection	Marked Crosswalks ¹				Crossing Distance	Curb Ramps ²				Push Buttons ³				Protected / Permitted Turns ⁴
	N	E	S	W		NW	NE	SE	SW	NW	NE	SE	SW	
Amador Plaza Road and Amador Valley Boulevard	Driveway	None	Marked	Marked	N-S 100' E-W 75'	Diagonal, No Truncated Domes	-	Parallel	Parallel	●	●	●	●	Protected: EB,WB Permitted: NB
Amador Plaza Road and Dublin Boulevard	Marked	Marked	Marked	Marked	N-S 100' E-W 80'	Parallel	Diagonal	Parallel	Parallel	●	●	●	●	Protected Left: NB,SB,EB,WB
Amador Plaza Road and St. Patrick's Way	Marked	Marked	Marked	Marked	N-S 80' E-W 75'	Parallel, No Truncated Domes	Parallel, No Truncated Domes	Parallel, No Truncated Domes	Parallel, No Truncate d Domes	●	●	●	●	Protected: NB,SB Permitted: EB,WB

4. EXISTING WALKING & BICYCLING CONDITIONS

TABLE 4-8 EXISTING PEDESTRIAN INFRASTRUCTURE AT DOWNTOWN INTERSECTIONS

Roadway Characteristics					Accessibility								Signal	
Intersection	Marked Crosswalks ¹				Crossing Distance	Curb Ramps ²				Push Buttons ³				Protected / Permitted Turns ⁴
	N	E	S	W		NW	NE	SE	SW	NW	NE	SE	SW	
Village Parkway and Amador Valley Boulevard	Marked	Marked	Marked	Marked	N-S 115' E-W 125'	Parallel, Cut-Throughs	Diagonal, Cut-Throughs	Parallel, Cut-Throughs	Parallel, Cut-Throughs	● ○	● ○	● ●	● ○	Protected Left: NB,SB,EB,W B
Village Parkway and Dublin Boulevard	Marked	Marked	Marked	Marked	N-S 140' E-W 116'	Diagonal	Diagonal	Parallel, Cut-Throughs	Parallel	● ●	● ●	● ●	● ●	Protected Left: NB,SB,EB,W B
Ranch 99/CVS and Amador Valley Boulevard	Not Marked	High Visibility	Not Marked	Not Marked	N-S 88'	-	Parallel	Diagonal	Diagonal	-	-	-	-	Not Signalized

4. EXISTING WALKING & BICYCLING CONDITIONS



TABLE 4-8 EXISTING PEDESTRIAN INFRASTRUCTURE AT DOWNTOWN INTERSECTIONS

Roadway Characteristics					Accessibility								Signal	
Intersection	Marked Crosswalks ¹				Crossing Distance	Curb Ramps ²				Push Buttons ³				Protected / Permitted Turns ⁴
	N	E	S	W		NW	NE	SE	SW	N W	N E	S E	S W	

Source: Fehr & Peers, 2012.

1. All marked crosswalks have standard striping unless otherwise noted.
2. All curb ramps have truncated domes unless otherwise noted. "Cut throughs" indicates that a channelized right-turn island had cut-throughs to provide circulation through the island.
3. Two symbols = Two push buttons One symbol = One push button
 - Meets PROWAG Guidelines, as described on page 37.
 - ◐ Meets Minimum ADA Requirements: Not Best Practices
 - May Not Meet Draft PROWAG Guidelines
4. Protected = Left turns protected, no conflict with pedestrian traffic
Permitted = Left turns permitted, potential conflict with pedestrian traffic

4. EXISTING WALKING & BICYCLING CONDITIONS

TABLE 4-9 EXISTING MID-BLOCK PEDESTRIAN FACILITIES IN DOWNTOWN

Roadway Characteristics						Roadway Segment					
Segment	Direction	# of Lanes	Speed Limit	ADT	Median	From	To	Sidewalk Width	Block Length	Driveways	Buffer
San Ramon Road	North-South	4-6 lanes	40 MPH	14,000-25,000	Present	Amador Valley Boulevard	Dublin Boulevard	9'	1200'	Medium	Bicycle Lanes, Landscape Path on West Side
Regional Street	North-South	2 lanes	30 MPH	6,000-11,000	None	Amador Valley Boulevard	Dublin Boulevard	7'	1100'	High	Street Trees
						Dublin Boulevard	End of Cul-De-Sac	6'	850'	Medium	Parking, Street Trees
Golden Gate Drive	North-South	2 lanes	30 MPH	1,800	None	Dublin Boulevard	St. Patrick Way	8'	530'	Low	Parking, Street Trees
						St. Patrick Way	End of Cul-De-Sac	8'	450'	Low	Parking, Street Trees
Amador Plaza Road	North-South	2-4 lanes	35 MPH	10,000-11,000	None	Amador Valley Boulevard	Dublin Boulevard	9'	1700'	High	Street Trees
						Dublin Boulevard	St. Patrick Way	9'	700'	Medium	None
						St. Patrick Way	End of Cul-De-Sac	7'	375'	Medium	Parking, Street Trees (west side)
Village Parkway	North-South	4 lanes	30-35 MPH	14,000-17,500	Present	Amador Valley Boulevard	Dublin Boulevard	8'	1800'	High	Parking, Street Trees

4. EXISTING WALKING & BICYCLING CONDITIONS



TABLE 4-9 EXISTING MID-BLOCK PEDESTRIAN FACILITIES IN DOWNTOWN

Roadway Characteristics						Roadway Segment					
Segment	Direction	# of Lanes	Speed Limit	ADT	Median	From	To	Sidewalk Width	Block Length	Driveways	Buffer
Amador Valley Boulevard	East-West	4 lanes	25-35 MPH	7,000-20,000	Present	San Ramon Road	Starward Drive	9'	1300'	High	Bicycle Lanes, Street Trees
						Starward Drive	Amador Plaza Road	9'	900'	Low	Bicycle Lanes, Street Trees
						Amador Plaza Road	Village Parkway	8'	1215'	High	Bicycle Lanes, Street Trees
Dublin Boulevard	East-West	4-6 lanes	35-45 MPH	6,000-34,000	Present	San Ramon Road	Regional Street	8'	600'	Medium	Sporadic Street Trees
						Regional Street	Golden Gate Drive	8'	1300'	Medium	Sporadic Street Trees
						Golden Gate Drive	Amador Plaza Road	9'	650'	Medium	Street Trees
						Amador Plaza Road	Village Parkway	8'	1160'	High	Street Trees
St. Patrick Way	East-West	2 lanes	25 MPH	-	None	Golden Gate Drive	Amador Plaza Road	6'	700'	Medium	None

Source: Fehr & Peers, 2012.

1. Driveway frequency defined as low= 0-3 driveway, medium=4-8 driveway, high=8+ driveways

4. EXISTING WALKING & BICYCLING CONDITIONS

SIDEWALKS AND PATHWAYS

Sidewalks provide pedestrians with a separated travel path from vehicles on the road. Within an urban area, sidewalks should be provided everywhere, but especially around schools, transit stops, parks, and along mixed-use commercial corridors. In the case of schools, safety considerations are a primary concern when families make the decision whether children should walk (or be driven) to school. Transit stops are also locations of high pedestrian activity, as every transit rider is a pedestrian for some time both before and after taking a trip by transit. Commercial areas should not only accommodate pedestrian travel but also serve as gathering places for pedestrians. Providing sidewalks will increase the safety and convenience of pedestrian travel for all users.

Sidewalks on most streets in the Downtown are eight feet in width. Some sidewalk segments have street trees, many of which provide a more comfortable, shaded walking environment. Most tree wells are covered with level grates to increase the amount of usable sidewalk space. Sidewalk widths are shown on **Figure 4-7**.

Pathway connections between public and private property are found at most locations within the Downtown. Some of the commercial uses in the Downtown area have delineated pedestrian circulation routes through surface parking lots and along pathways in front of buildings. These facilities are typically connected to the public-of-right-of-way through marked crosswalks across parking aisles. Many of the parking lot marked crosswalks have detectable warning strips.



Paths are often provided to connect uses with sidewalk.

INTERSECTION CROSSING TREATMENTS

Well-designed street crossings are vital for improving pedestrian mobility and connecting the different parcels within the Downtown. Well-marked, highly visible pedestrian crossings prepare drivers for the likelihood of encountering a pedestrian. They also create an atmosphere of walkability and accessibility for pedestrians. As with sidewalks, street crossings are particularly important near transit and between pedestrian trip attractors, such as the many commercial and retail businesses in the Downtown. The addition of crossing enhancements may be most

4. EXISTING WALKING & BICYCLING CONDITIONS



effective where safety deficiencies exist, as demonstrated through high collision frequencies, and a high demand for street crossings.

In California, pedestrians may legally cross any street, except at unmarked locations between immediately adjacent signalized crossings or where crossing is expressly prohibited. Marked crossings reinforce the location and legitimacy of a crossing and are essential links in a pedestrian network. Common practice in California is to place marked crosswalks on all four legs of an intersection. If a crosswalk is not marked because of a safety or operational decision, the crossing should be closed with a barrier at the curb. Additional information is available in Section C of the **Bicycle and Pedestrian Design Guidelines**. Marked crosswalks are striped at most intersection approaches of signalized intersections in the Downtown; however, the distance between signalized intersections is typically over 500 feet, limiting connectivity. At Amador Valley Boulevard/Amador Plaza Road, only three crosswalks are marked, with the eastern crossing prohibited by a barrier and signage. One marked mid-block crosswalk exists in the Downtown, across Amador Valley Boulevard between Regional Street and Starward Drive.

While many turning movements have protected signal phasing, several important intersections have permitted turning movements during the pedestrian signal phase. A protected signal phase means that a turning movement is given its own signal phase: when the protected movement has a green indication, other movements receive a red indication. Permitted turns typically operate concurrently with the walk phase for the crosswalk on the receiving leg. This can create conflicts, particularly with

higher volumes of pedestrians. This condition occurs at several locations in Downtown, including Dublin Boulevard/Golden Gate Drive, a critical gateway to the West Dublin BART Station. Signals with permitted turning-movements concurrent with the pedestrian signal phase are shown on **Table 4-8**.

BARRIERS

Linear barriers physically separate different parts of the City, and present obstacles to walking. Two major interstates provide both an east-west barrier to other areas of Dublin and a north-south barrier to the neighboring city of Pleasanton. Connections across these barriers are extremely limited. The only two crossings of I-680 in Dublin are on Amador Valley Road and Dublin Boulevard. Sidewalks are provided in both locations and murals have been painted under the overpasses; however, these areas still create mental and physical barriers to walking in Downtown. Related highway infrastructure, such as on- and off-ramps connecting to St. Patrick Way, near the West Dublin BART Station, provides additional barriers and higher-speed traffic within the Downtown. The very wide cross-sections of the roadways in the Downtown also provide barriers to pedestrian circulation. Though residential areas are in close proximity to Downtown to the west, San Ramon Road poses a large barrier to pedestrians who are crossing into Downtown with its large cross section and consequently large intersections. Crosswalk lengths at San Ramon Road/Dublin Boulevard are 150 feet. Other barriers to walking include limited street connectivity (e.g. with cul-de-sacs), large retail sites with high amount of parking and

4. EXISTING WALKING & BICYCLING CONDITIONS

truck access, highways and associated on- and off-ramps, and gated communities.

HIGH-SPEED TRAFFIC

Traffic speeding can negatively affect the pedestrian experience, and is a primary indicator for the severity of a pedestrian injury as the result of a collision. Arterial streets such as Dublin Boulevard, San Ramon Road, Dougherty Road, and Amador Valley Boulevard, were designed for higher vehicle speeds and often have no buffer between sidewalks and travel lanes. In Downtown, speed limits range from 30 MPH on most streets to 35 MPH on Dublin Boulevard and 40 MPH on San Ramon Road. These speed limits reflect the priority placed on automobile traffic circulation and access in the Downtown Area on these roadways. A buffer between the sidewalk and moving traffic helps protect pedestrians and maximizes comfort. Buffers can include landscaping or street trees, bicycle lanes, or parked cars. At these locations, no on-street parking is allowed, which can feel unsafe for pedestrians if they walk close to the curb. Some street trees exist on these roadways; however, many blocks in Downtown have trees spaced 40 feet or more apart, which can erode the feeling of being buffered from fast-moving vehicles. At these locations, vehicle speeds should be controlled through design and striping measures to help control speeds and enhance the ambiance of the walking environment.

LARGE TURNING RADII

To certain extent, many roadways in Dublin are designed to facilitate the movement of private automobiles, emergency vehicles, and trucks. As a

result, curb radii at intersection corners are large. The turning radii in Downtown Dublin are typically between 30 and 45 feet. While longer trucks do need to access the commercial areas of Downtown, the needs of truck traffic should be balanced with the needs of other roadway users. The following aspects of large turning radii cause challenges for pedestrians:

- Large turning radii lengthen the crossing distances required for pedestrian to negotiate the intersection, which increases pedestrian exposure at intersections.
- It has been observed that large turning radii allow most vehicles to make turns at higher speeds, which can create conflicts with pedestrians as turning vehicles enter the crosswalk area.
- With large turning radii, many vehicles may enter a turn as they come to a stop, encroaching in the crosswalk space as they wait for a break in traffic.

Decreasing the turning radii at intersections in the Downtown may shorten crossing distances by 10 to 15 feet or more.

A similar issue is present at some driveways in Downtown. Driveways with larger aprons have minimal cross slopes, allowing drivers to easily make the turn. By contrast, at newer driveways, Dublin has required an approximately four-foot level area through the crosswalk. This decreases the size of the driveway apron and increases the slope of the driveway, forcing drivers to travel slowly as they exit the driveway.

4. EXISTING WALKING & BICYCLING CONDITIONS



Large intersections create long cross-distances in Downtown Dublin.

AUTO ENCROACHMENT ON PEDESTRIAN ZONES

In general, it is not uncommon anywhere to observe vehicles to cross into the crosswalk space when stopped or turning. This encroachment on pedestrian space makes for unpleasant walking environments in which pedestrians must navigate around vehicles stopped in the crosswalk. At the San Ramon Road/Dublin Boulevard intersection, the two northbound right-turn lanes have permitted right-turns on red after stopping, which conflicts with the pedestrian phase for the north-south crossings. For pedestrians, this creates an unpleasant walking environment, as two lanes of vehicles try to turn across the crosswalk as they move across the street.



Automobiles frequently encroach into the pedestrian environment, often failing to stop at the stop bar.

ACCESSIBILITY THAT MEETS STANDARDS BUT NOT BEST PRACTICES

Most curb ramps in Downtown are parallel curb ramps ("Case C"), with one ramp on each street corner. Parallel curb ramps slope the whole sidewalk down to street level on both sides, with no level sidewalk space behind it. They are typically used in constrained environments, where additional space for diagonal or directional ramps, both of which require a four-foot clear, level space behind the ramp may not be feasible. The

4. EXISTING WALKING & BICYCLING CONDITIONS

use of parallel curb ramps can be inconvenient for pedestrians regardless of ability. Parallel ramps require those continuing on the sidewalk to travel down one ramp and up the other, which may be more difficult for people in wheelchairs or parents with children in strollers. With diagonal or directional curb ramps, the level landing area is behind the curb ramp, allowing pedestrians continuing on the sidewalk to remain at a level grade.

The placement of actuated push buttons at these curb ramps is also particularly important; if they are placed on only one side of the ramp, users must also travel down one ramp and up the other. If only one push button is provided, it should be placed at the level landing at the bottom of the ramp.

The best practice is to provide perpendicular ramps, also known as directional ramps, which are aligned perpendicular to vehicular traffic and parallel to the crosswalk on either approach. These directional ramps minimize exposure to traffic for pedestrians.

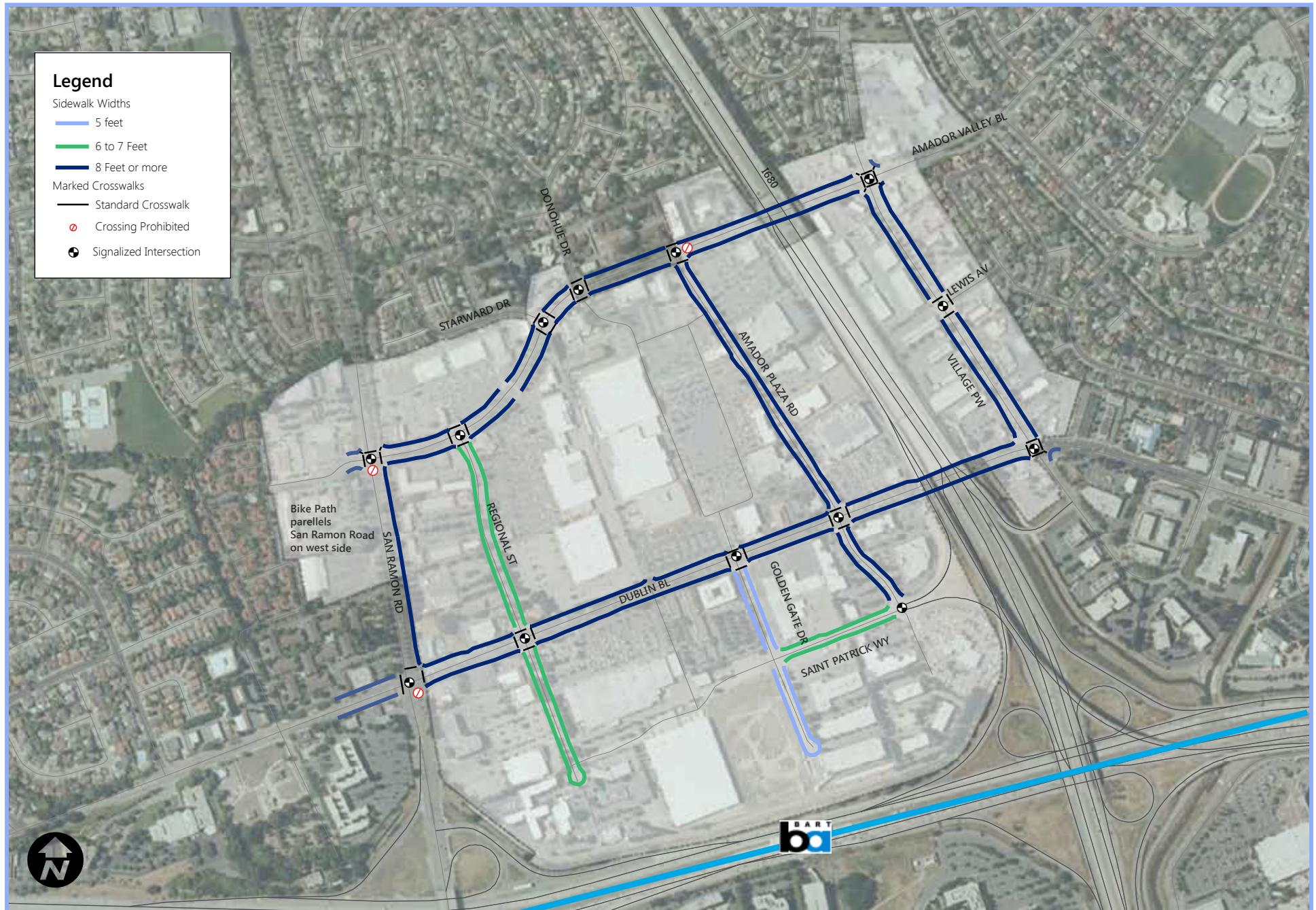
Some diagonal ramps also exist in the Downtown. These locations typically have two push buttons. The locations of these push buttons vary in terms of accessibility. All push buttons are relatively up-to-date with wide, convex push buttons. Many are paired with audible devices to indicate cardinal direction at crosswalks. The push button should be placed between one and a half to six feet from the face of curb and should be placed so that a wheelchair user can easily actuate the device from a level landing area, without getting too close to the sloping curb ramp. Push buttons placed too close to the curb or too far from the curb

may be difficult for pedestrians with disabilities to readily access. The relative accessibility of push buttons as well as the type and location of curb ramps is shown on **Figure 4-8**.

With the high demand of commercial uses, driveways are often wide but have varying levels of pedestrian accommodation across them.



Example of a discontinuity in the sidewalk on Dublin Boulevard, where a bus pull-out is located.





4. EXISTING WALKING & BICYCLING CONDITIONS



MULTI-MODAL CONNECTIONS

Bay Area Rapid Transit (BART), the regional commuter rail transit system, provides service at the West Dublin and Dublin/Pleasanton Stations in Dublin on the Millbrae-Dublin/Pleasanton line. Bicycles are currently allowed on BART trains during non-commute hours (4 AM to 6:30 AM, 8:30 AM to 3:30 PM, and 6:30 PM - Closing) and all day on weekends and holidays. During AM peak periods (6:30 AM to 9:00 AM), westbound bicycles are not allowed in stations between Dublin/Pleasanton and Powell Street. In the PM peak period (4:00 PM to 7:00 PM), eastbound bicycles are not allowed in the stations between Civic Center and San Leandro. BART allows bicycles on all trains during all hours of operation. During the peak commute hours (7:00-9:00AM and 4:30-6:30PM) bicycles are not allowed in the first three cars of any train.

Livermore Amador Valley Transit Authority's (LAVTA's) Wheels buses serve the Tri-Valley area of Dublin, Pleasanton, and Livermore. The transit provider has 16 rapid, local, and express routes and 15 school focused routes.

The Tri-Valley Rapid is a new rapid bus service that serves major area destinations such as Hacienda Crossings, Downtown Dublin, and BART stations. New Rapid-branded bus stops with shelters, wayfinding information, and short-term bicycle parking are provided along Dublin Boulevard.

The Downtown area and the West Dublin BART Station are served by Routes 3 and 10, which connects western Dublin and western Pleasanton.

The Dublin/Pleasanton BART Station is served by 14 bus lines, which primarily connect to the Hacienda Business Park area in addition to several route serving Dublin business parks and neighborhoods. Service is limited on weekends.

The Dublin/Pleasanton BART Station is also served by three County Connection express bus service routes with approximately one hour headways. These services connect Dublin with communities in Contra Costa County along I-680 to then north.

Existing transit service is presented on **Figure 4-9**.



An example of an existing bus stop on Dublin Boulevard with a bus shelter and bicycle parking.

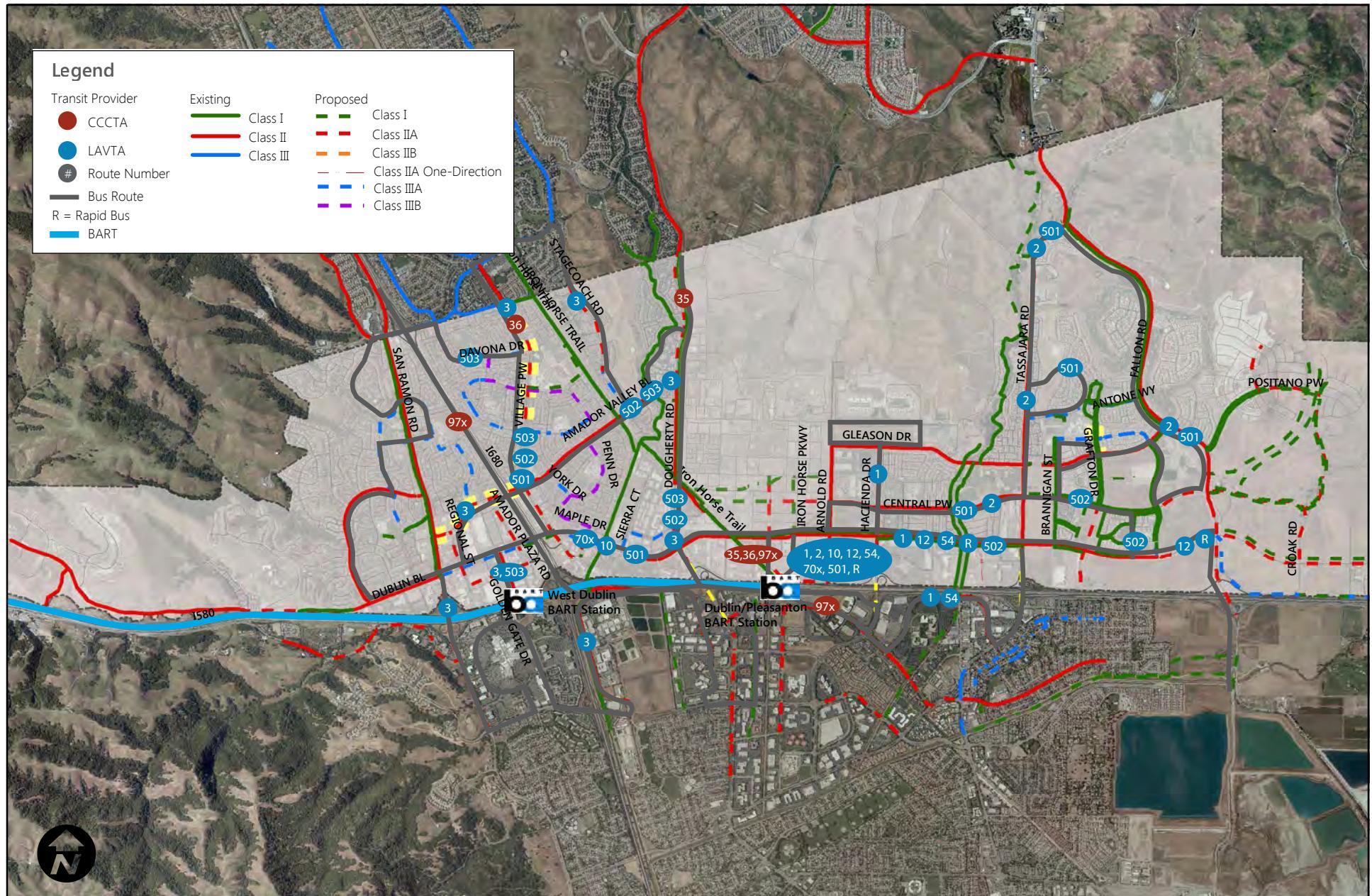


Figure 4-9

Dublin Multi-Modal Connections

January 2014

4. EXISTING WALKING & BICYCLING CONDITIONS



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5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



Once completed, the proposed bicycle and pedestrian networks will provide more comfortable, and more direct walking and bicycling routes throughout the City. The proposed bicycling and walking networks were developed based on the following criteria:

- **Connections to Key Activity Centers:** Local schools, community facilities, parks, the Dublin Library, Downtown Dublin, and BART Stations should all be conveniently accessed via the bicycle network.
- **Comfort and Level of Stress:** New bicycle facilities should provide low-stress facilities that users of all ages and abilities, including the young and old, can feel comfortable using.
- **Connections to Regional Trail System:** Many trips in Dublin may be longer distances and/or have a recreational purpose. The bicycle network should provide easy access to the extensive regional network from residential areas, BART stations, and commercial areas.
- **Connections to Adjacent Cities:** Many activity centers, including shopping and employment centers, are located nearby in the neighboring communities of Pleasanton, Livermore, and San Ramon.

RECOMMENDED BICYCLING FACILITIES

This section describes the proposed Dublin bicycle network, which builds off of recommendations made in the 2007 Plan to expand the bicycle network, including two new bikeway classifications and new segments of proposed bikeways. Bicycle facilities consist of the segments of bicycle networks as well as bicycle parking and other support facilities, such as showers and lockers.

PROPOSED BICYCLE NETWORK

The recommended bicycle network redefines the bikeway classifications set forth in the 2007 Plan in accordance with recent best practice guidelines, as defined below.

BIKEWAY CLASSIFICATION UPDATES

The 2007 Plan used the three basic bikeways classifications (Class I Bicycle Path, Class II Bicycle Lanes, and Class III Bicycle Routes) as defined in the *California Highway Design Manual* (HDM). This Plan subdivides those groups to create an expanded classification scheme for Dublin:

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

- Class I Bicycle Path
- Class IIA Bicycle Lanes
- Class IIB Buffered Bicycle Lanes
- Class IIIA Bicycle Routes with Sharrows

The four bikeway classifications are presented conceptually in **Figure 5-1**. All of these treatments are supported under the HDM, *California Vehicle Code*, and *California Uniform Manual on Traffic Control Devices* (CA MUTCD), and detailed design guidelines are provided in **Bicycle and Pedestrian Design Guidelines**.

New segments of Class IIIA Bicycle Routes are proposed on many local streets, connecting residential areas with key destinations such as regional trails, schools, and Downtown Dublin. The minimum standard for Class III Bicycle Routes is updated to require the striping of sharrows in addition to Bicycle Route signage. Class IIB Buffered Bicycle Lanes are proposed on roadways with existing wide bicycle lanes and/or wide travel lanes to offer increased separation between bicyclists and autos.

PROPOSED BICYCLE NETWORK

In total, over 37 miles of bikeways are proposed. **Table 5-1** presents existing and proposed mileage by bikeway classification. The proposed bikeways include those that will be included in developer-built projects.

Figure 5-2 illustrates the existing and proposed Dublin bicycle network. The project list is presented on **Table 5-2**. A comprehensive project list including cost estimates and tiered prioritization for each bikeway and planning-level cost estimates are presented in **Appendix A** and discussed in **Chapter 6 Priority Projects**. Unit cost estimates for each bikeways type are presented in **Table 9-2**.

TABLE 5-1 PROPOSED BICYCLE NETWORK

Bikeway Classification	Existing	Proposed	Total
Class I Bicycle Path	22.78	9.98	32.76
Class IIA Bicycle Lanes ¹	24.76	17.09	41.85
Class IIB Buffered Bicycle Lanes ¹	-	3.83	3.83
Class IIIA Bicycle Routes with Sharrows ²	0.3	4.42	4.72
<i>Total</i>	47.84	35.32	83.16

Notes:

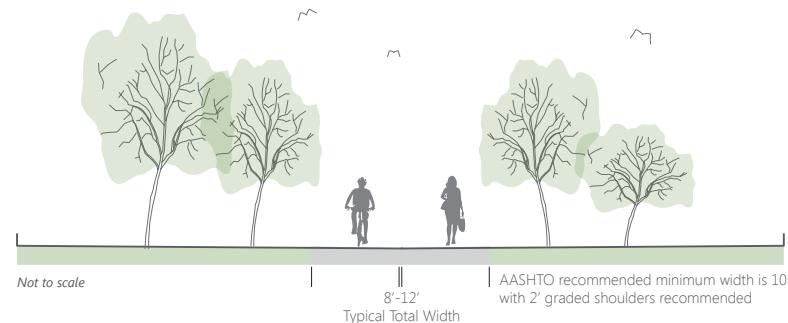
1. The Caltrans HDM labels these facilities as "Class II Bicycle Lanes".
2. The Caltrans HDM has a "Class III Bicycle Route" classification, which is demarcated by signage only. This Plan proposes that the minimum standard for the Caltrans HDM Class III designation also include sharrows every 150 feet.

Source: Fehr & Peers, 2013.

CLASS I BIKEWAY

(Bike Path)

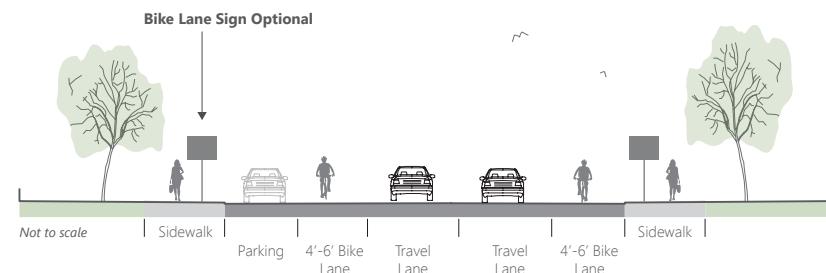
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.



CLASS IIA BIKEWAY

(Bike Lane)

Provides a striped lane for one-way bike travel on a street or highway.



CLASS IIB BIKEWAY

(Buffered Bike Lane)

Modified on-street bike lane with vehicle and/or parking-side buffer for additional comfort and safety on higher speed or volume roadways

Note: Chevrons should be used instead of diagonal hatching where striped buffers are over 3 feet in width. Buffers can either be located on either both sides of the bicycle lane or only one side.

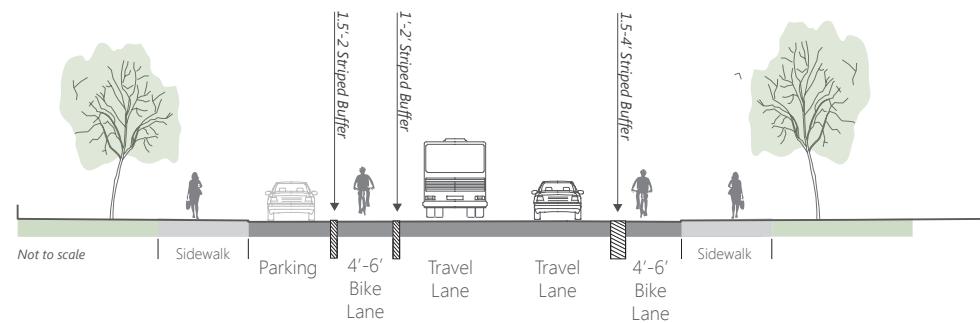


Figure 5-1a.

Bikeway Classifications

April 2013

CLASS IIIA BIKEWAY

(Signed Bike Route)

Provides for shared use with motor vehicle traffic.

Note: Additional traffic devices such as speed tables, chicanes, medians, wayfinding signs, and pavement markings are also included.

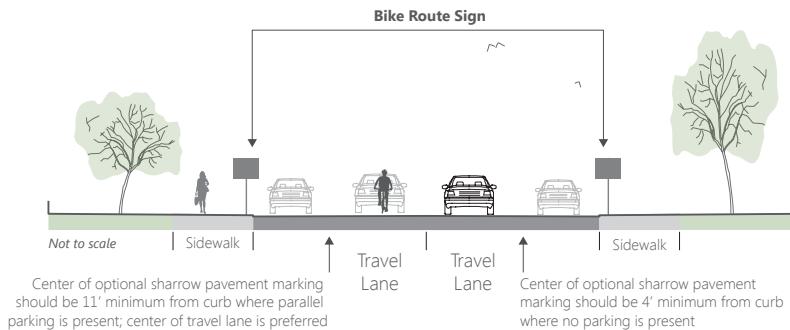


Figure 5-1b.

Bikeway Classifications

April 2013

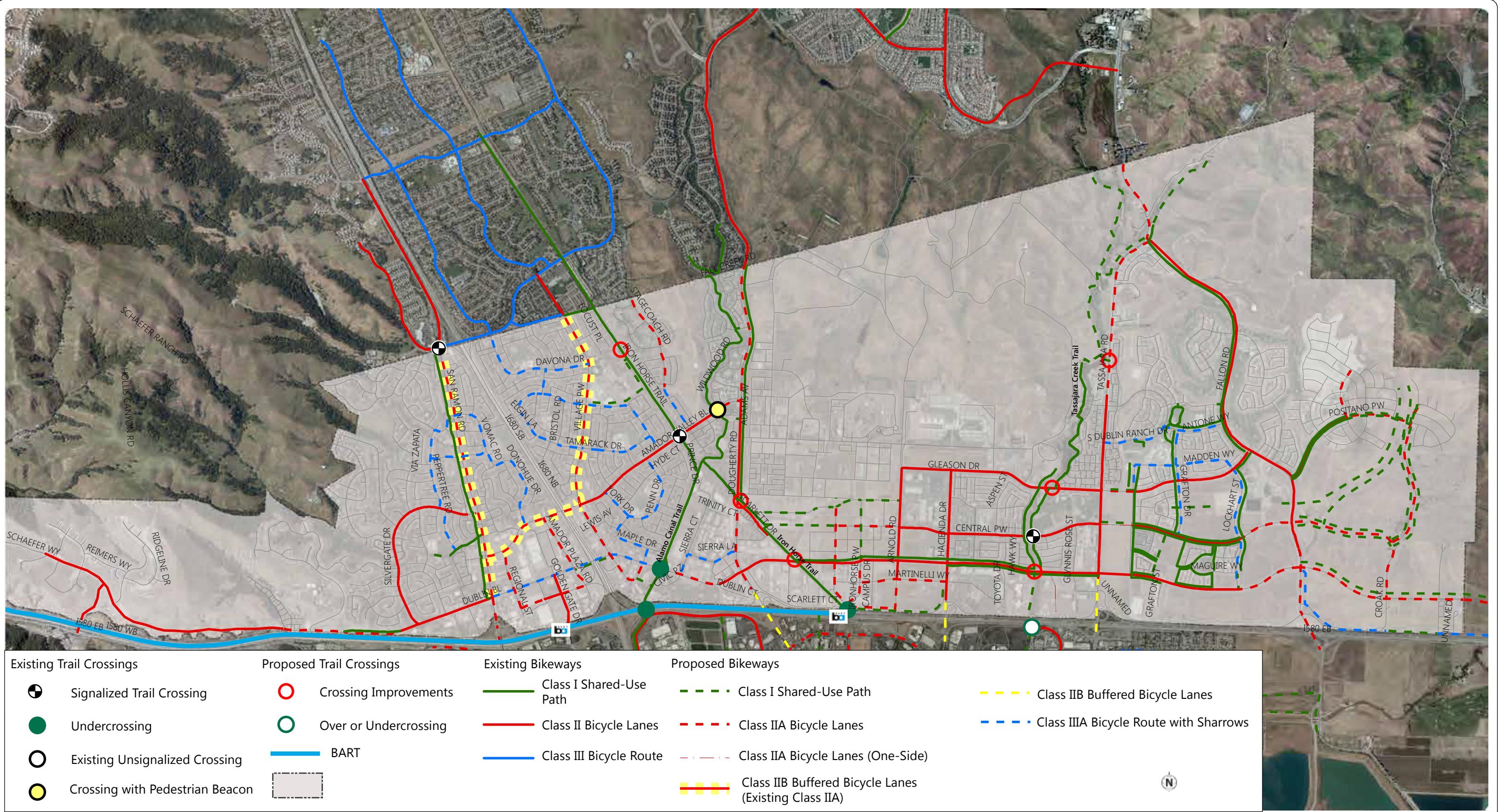


Figure 5-2
Dublin Existing & Proposed Bikeways

June 2014

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5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Alamo Canal Trail/Civic Plaza Class I Connector**	Shared-Use Path and Bridge	I	Class I connection between Clark Avenue at Alamo Canal Trail at City Public Safety Complex Site	Site acquired by City for future city offices;	Proposed 10' Class I with bicycle/pedestrian bridge connecting to Alamo Canal Trail	0.1
Altamirano Street	Shared-Use Path	1	Along Altamirano Street from Dublin BART station to Martinelli Way	Undeveloped road	-Proposed Class I facility along Altamirano Street from the BART Station to Martinelli Way. -Developer-Built Facility	0.65
Amador Plaza Road	Bicycle Lanes	IIA	Amador Plaza Road between Amador Valley Boulevard and Saint Patrick Way	Provides connection Downtown Boulevard and West Dublin BART Station	Proposed Class IIA Bicycle Lanes pending further Complete Street design of corridor	0.41
Amador Valley Boulevard Corridor	Buffered Bicycle Lanes	IIB	Amador Valley Boulevard from San Ramon Road to Village Parkway	Existing 10' Class II bicycle lanes between San Ramon Road and Village Parkway : narrow 13' travel lanes to 11',	Proposed Class IIB Buffered Bicycle Lane between San Ramon Road and Village Parkway	0.63
Amador Valley Boulevard Corridor	Bicycle Lanes	IIA	Amador Valley Boulevard from Village Parkway to York Drive	Existing bicycle lane and edgeline striping is inconsistent; long right-turn/bicycle lane merge areas	Stripe inverted Parking T's and striping standard Class IIA Bicycle Lanes	0.14

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Amador Valley Boulevard Corridor	Bicycle Lanes	IIA	Amador Valley Boulevard between Stagecoach Road and Wildwood Road	Class IIA WB between Stagecoach Road and Wildwood	Proposed Class IIA: narrow 13' travel lanes, stripe buffered bicycle lane	0.18
Amador Valley Boulevard Corridor	Bicycle Route with Sharrows	IIIA	Amador Valley Boulevard between Wildwood Road and Dougherty Road	Existing Class II Bicycle Lanes drop before Stagecoach Road (WB). No bikeways between Stagecoach Road and Dougherty Road	Proposed Class IIIA	0.14
Arnold Drive	Bicycle Lanes	IIA	Arnold Drive from Central Parkway to end of roadway when extended (just north of I-580)	Existing Class IIA from Central Parkway to Dublin Boulevard. SB Class IIA only between Dublin Boulevard and Martinelli Way	Proposed Class IIA between Dublin Boulevard and end of roadway (when extended)	0.3
B Street (Camp Parks/Dublin Crossing)	Bicycle Lanes	IIA	B Street (DeMarcus Boulevard) from Dublin Boulevard to G Street	Dublin Crossings EIR proposes B Street (DeMarcus Boulevard) between G Street and Dublin Boulevard	Proposed Class IIA Developer-Built Facility	0.51
Bicycle Rack Program	Complete the installation of Bicycle Racks at Public Facilities Citywide	-	Citywide	Bicycle racks exist at some public parks and civic buildings, businesses and at TriValley Rapid bus stops	Install bike racks as funding permits at various public buildings, parks and in the Downtown area.	-

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Brannigan St. Path	Shared-Use Path	I	West side of Brannigan Street from Central Parkway to Gleason Drive	Undeveloped.	-Developer-Built Facility	0.25
Brighton Drive	Bicycle Route with sharrows	IIIA	Brighton Drive between Luciana Street and Amador Valley Boulevard	Low-volume collector street; provides connection to Dublin High and Murray Elementary Schools; existing signalized crossing at Village Parkway	Proposed Class IIIA Bicycle Route with sharrows	0.17
Central Parkway Bicycle Path	Shared-Use Path, Street Crossing Enhancements	I	On north side of Central Parkway from Emerald Glen Park/Tassajara Road to Brannigan Street	Class II lanes striped on Central Parkway west of Tassajara Rd.	-	0.25
Central Parkway Corridor	Bicycle Lanes	IIA	Central Parkway from Tassajara Road to Brannigan Street	Roadway not widened. Existing Class II A EB	Proposed WB Class II A from Tassajara Road to Branigan Street	0.16
Central Parkway Corridor	Bicycle Lanes	IIA	Central Parkway from Lockhart Street to Eastern City Limit	Roadway not widened. Existing Class II A WB	Proposed EB Class II A from Lockhart Street and eastern city limit	0.3
Central Parkway Corridor (Camp Parks/Dublin Crossing)	Bicycle Lanes	IIA	Central Parkway between B Street and Arnold Road	Dublin Crossings EIR proposes B Street (Demarcus Boulevard) between G Street and Dublin Boulevard	Proposed Class II A -Developer-Built Facility	0.37

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Central Parkway Corridor to Iron Horse Path Connection (Camp Parks/Dublin Crossing)	-	I	Class I connection from Central Parkway to Iron Horse Trail	Undeveloped roadway	Proposed Class I connection between Iron Horse Trail and Central Parkway, extending from Central Parkway/B Street intersection through development and proposed Dublin Crossing Park to Iron Horse Trail-Developer-Built Facility	-
Central Parkway Paths	Shared-Use Path	I	From Fallon Road to Croak Road, on both sides of Central Parkway	Undeveloped; planned Fallon Village development	-Developer-Built Facility	0.75
Citywide Bicycle Signal Detection	-	-	Multiple locations	-	Planning study to assess existing inventory and detection type; identify and prioritize intersections needing bicycle detection; and recommendation bicycle detection type.	-
Citywide Wayfinding Project	-	-	Citywide	-	Prepare citywide wayfinding plan and install Guide signs as funding permits.	-
Clark Avenue	Bicycle Lanes	IIA	Clark Avenue between Dublin Boulevard and Alamo Canal Trail/City Hall Connector	Low-volume collector street; provides connection to Civic Plaza and Commercial Area	Proposed Class IIA Bicycle Lanes	0.07

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Croak Road	Bicycle Lanes	IIA	Croak Road from Dublin Boulevard to Upper Loop Road	Roadway under development	Proposed Class IIA Bicycle Lanes	1.14
Croak Road Paths	Shared-Use Path	I	From Dublin Boulevard to Upper Loop Road, on both sides of Croak Road	Undeveloped, planned Fallon Village development	-Developer-Built Facility	1
D Street (Camp Parks/Dublin Crossing)	Shared-Use Path	I	D Street (Iron Horse Parkway) from Dublin Boulevard to G Street	EIR proposes D Street (Iron Horse Parkway) between G Street and Dublin Boulevard	Proposed Shared-Use Path -Developer-Built Facility	0.51
Davona Drive	Bicycle Route with Sharrows	IIIA	Davona Drive from Luciana Street to Amador Valley Boulevard	Low-volume collector street; provides connection to Murray Elementary.	Proposed Class IIA from Luciana Street to Village Parkway	0.26
Davona Drive	Bicycle Route with sharrows	IIIA	Davona Drive from Alcosta Boulevard to Luciana Street	Low-volume collector street; provides connection to Murray Elementary.	Proposed Class IIIA Bicycle Route with Sharrows	0.46
Demarcus Boulevard	Bicycle Lanes	IIA	Demarcus Boulevard from Dublin Boulevard to Dublin/Pleasanton BART station.	Two-lane BART access road with on-street parking; 24' curb-to-median cross section	Proposed Class IIA: 11' travel lanes, 5' Class IIA, 8' parking; -Developer-Built Facility	0.25

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Dougherty Road Corridor	Bicycle Lanes	IIA	Dougherty Road from Dublin Boulevard to northern City limit. May need to be a Class III route between Dublin Boulevard and Sierra Lane.	Class II between Amador Valley Blvd and Iron Horse Trail	Class II A bicycle lanes north of Amador Valley Boulevard and south of Iron Horse Trail; Revise Class II A striping northbound to include bicycle lane pavement legends and widen or restripe Class II A northbound to provide consistent 6' width	1.36
Dougherty Road Corridor	Buffered Bicycle Lanes	IIB	Dougherty Road between I-580 Ramps	55' curb-to-curb cross-section in each direction on existing overpass.	Coordinate with Pleasanton and Caltrans on the feasibility of installing Class IIB bike lanes through interchanges per Draft ITE Recommended Practice.	0.41
Dougherty Road Path / Iron Horse Trail Connection Improvements & Overcrossing study	Reconfigure bicycle lanes and signage. Grade separation study.	I	Dougherty Road Path at Iron Horse Trail	Existing southbound Dougherty Path becomes one way northbound near 5th St. Cyclists continuing to Southbound Iron Horse trail must cross Dougherty twice. There is room to continue a southbound path to connect with the Iron Horse trail southbound. Study potential for Iron Horse Trail bicycle overcrossing above Dougherty Rd.	Modify SB pork-chop island to facilitate bicycle/pedestrian traffic; Modify signal phasing to provide Leading Pedestrian Interval for north crosswalk; Reduce crossing distance and crosswalk skew. Consider grade-separated solution..	n/a

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Dublin Boulevard Corridor	Bicycle Route with Sharrows	III A	Dublin Boulevard between Donlon Way and Alamo Canal Trail	Class II completed between 600' west of Silvergate Drive to San Ramon Road; Class II planned on Sierra Court/Civic Plaza to Dublin Court	Class IIIA Bicycle Route with Sharrows (Near-Term); Class I Path between Amador Plaza Road and Village Parkway	1.13
Dublin Boulevard Corridor	Shared-Use Path	I	Dublin Boulevard between Amador Plaza Road and Village Parkway	Existing 8' sidewalk	Widen existing sidewalk to construct shared-use path on south side of Dublin Boulevard	0.22
Dublin Boulevard Corridor	Bicycle Lanes	II A	Dublin Boulevard between Brigadoon Way and 600' west of Silvergate Drive	32-48' existing cross section	Proposed Class II A	0.69
Dublin Boulevard Corridor	Bicycle Lanes	II A	Extension of Dublin Boulevard to North Canyons Parkway in Livermore	Undeveloped roadway	Proposed Class II A when roadway is constructed; this is a long-term solution	1.56
Dublin Boulevard Corridor	Shared-Use Path	I	Interim connection between Croak Road (Dublin) and Collier Canyon Road (Livermore)	Croak Road and Collier Canyon Road do not currently connect, which limits access to City of Livermore	Proposed interim Class I connection between Croak Road and Collier Canyon Parkway prior to long-term connection of Dublin Boulevard and North Canyons Parkway (Livermore)	0.4

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Dublin Boulevard Path	Landscape improvements to eliminate puncture vine.	-	-	5' vegetated area from Iron Horse Parkway to SAP office complex.	Landscape improvements could be included in the development of frontage properties-	-
Dublin High School / Iron Horse Trail Path	Shared-Use Path	I	Class I bicycle path along south side of school grounds and Dublin Swim Center from Iron Horse Trail to Village Parkway	Unpaved pathway and landscaped area. Improvements needed to existing signage surfacing, fencing and landscaping at existing connection from Iron Horse Trail bridge to Dublin High property.	Preferred alignment along south side of Dublin High School grounds to connect to proposed Class IIIA on Davona Drive	0.17
East Dublin Bicycle/Pedestrian Corridor	Shared-Use Path	I	From Area F East Neighborhood Park to Area F West Neighborhood Square, with bridge crossing Grafton Street	Undeveloped, planned Sorrento development.	Proposed Class I path on Finnian Way between Chancery Lane and Fitzwilliam Street -Developer-Built Facility	0.3
Fallon Rd. Grade separation with Fallon Village Creek Trail / Dublin Sports Park	Bridge	I	From proposed Fallon Village Creek Westbank Trail to Future Fallon Sports Park	Undeveloped, planned Fallon Village development	Until long-term grade separation project is completed, implement stripe enhanced, at-grade high-visibility trail crossing at appropriate location. Install trail crossing signage.-Developer-Built Facility	0.16

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Fallon Road Corridor	Bicycle Lanes	IIA	Fallon Road from south of Dublin Boulevard to Tassajara Road, Tassajara Road to County Limit	Class IIa on one-side between Gleason and south of Central Parkway; some bicycle lane striping at intersections	Proposed Class IIa -Developer-Built Facility	2.01
Fallon Road Corridor	Bicycle Lane	IIA	Fallon Road from Dublin Boulevard across I-580 to El Charro Road	60' curb-to-curb cross-section on existing overpass. Need to coordinate with City of Pleasanton and Caltrans.	Proposed Class IIa with striping through interchanges per Draft ITE Recommended Practice. Stripe minimum 6' Class IIa with 11-11.5' travel lanes -Developer-Built Facility	0.2
Fallon Village Creek Eastbank Trail	Shared-Use Path	I	From Fallon Road to Open Space north of proposed Upper Loop Road	Undeveloped, planned Fallon Village development	Proposed Class I -Developer-Built Facility	1.06
Fallon Village Creek Westbank Trail	Shared-Use Path	I	From Fallon Road to Open Space north of proposed Upper Loop Road	Undeveloped, planned Fallon Village development	Proposed Class I -Developer-Built Facility	1
G Street (Camp Parks/Dublin Crossing)	Shared-Use Path	I	G Street from Scarlett Drive to Arnold Road	EIR proposes connection between Arnold Road and Scarlett Drive, including connection to Iron Horse Trail	Proposed Class I -Developer-Built Facility	0.23

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
G Street/Iron Horse Trail Crossing (Camp Parks/Dublin Crossing)	Trail Crossing Improvements	I	Scarlett Drive/G Street/Iron Horse Trail Intersection	EIR proposes connection between Arnold Road and Scarlett Drive, including connection to Iron Horse Trail	Crossing Improvements at proposed intersection of Scarlett Drive/G Street/Iron Horse Trail -Developer-Built Facility	-
Gleason Dr. Bicycle Path	Shared-Use Path, Street Crossing Enhancements	I	On south side of Gleason Drive from Emerald Glen Park/Tassajara Road to Brannigan Street	Class II lanes striped on Gleason Dr. west of Tassajara Rd., and striped intermittently between Tassajara Rd. and Fallon Rd.	-	0.25
Gleason Drive Corridor	Bicycle Lanes	IIA	Gleason Drive from Tassajara Road to Brannigan Street	-	Proposed Class II A	0.92
Grafton Street	Bicycle Route with Sharrows	IIIA	Grafton Street from Gleason Drive to Central Parkway	Existing roadway with narrow cross-section	Proposed Class IIIA Bicycle Route	0.3
Grafton Street	Bicycle Route with Sharrows	IIIA	Grafton Street from Saddlebrook Place to Gleason Drive		Proposed Class IIIA Bicycle Route with Sharrows -Developer-Built Facility	0.07
Grafton Street	Bicycle Route with Sharrows	IIIA	Grafton Street from Saddlebrook Place to Antone Way	Residential roadway with on-street parking	Proposed Class IIIA	0.25

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Hacienda Drive	Buffered Bicycle Lanes	IIIB	Hacienda Drive from Gleason Drive to southern City limit	Existing Class II A from Gleason Drive to Dublin Boulevard. 42' curb-to-curb cross-section on overpass	Proposed Class IIIB Buffered Bicycle Lanes from Dublin Boulevard to south of I-580 overpass (in Pleasanton) per Draft ITE Recommended Practice; requires approval and coordination from Caltrans and Pleasanton	0.07
Hacienda Drive	Bicycle Lanes	IIA	Hacienda Drive from Gleason Drive to I-580 Ramps	Existing Class II A between Gleason Drive and Dublin Boulevard (extends to I-580 Ramps for NB Class II A). Bicycle lane drops in all conflict areas.	Add green skip-stripe conflict zone treatment	-
Iron Horse Parkway	Bicycle Lanes	IIA	Iron Horse Parkway from Dublin Boulevard to BART Parking Lot	Two- to three-lane access road into BART with on-street parking	Proposed Class II A. Dublin Boulevard and Martinelli Way (11' travel lanes, 8' parking, and 6' Class II A); -Developer-Built Facility	0.18
Iron Horse Parkway	Bicycle Lanes/Bicycle Route with Sharrows	IIA/ IIIA	Iron Horse Parkway from BART Parking Lot to Dublin/Pleasanton BART Station	20' SB cross-section with mid-block bulb-outs; 12' SB travel lane with 18' transit lane/bus pull-out area	Proposed NB Class II A with green skip-stripe pavement marking to show continuation of bicycle lane through conflict zone with bus pullout areas on SE side of roadway; Proposed Class IIIA SB	0.85

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Iron Horse Trail / Dublin Blvd. Intersection Improvements & Overcrossing Study	Intersection improvements, signage and striping. Trail overcrossing study.	I	Iron Horse trail at Dublin Boulevard	Crosswalk striped on all legs of Dublin Boulevard/Scarlett Drive	Install trail and wayfinding signage; Install trail crossing signage	0.06
Iron Horse Trail / Dublin Blvd. Rest Area	-	I	North side of Dublin Boulevard, east side of Iron Horse Trail	Undeveloped.	Signage/ gateway element, map kiosk, benches, bicycle racks, trash/recycling bins, drinking water fountain	-
Lockhart Street	Bicycle Route with Sharrows	IIIA	Lockhart Street from Dublin Boulevard to Gleason Drive	Developed Roadway with narrow cross-section	Proposed Class IIIA -Developer-Built Facility	0.7
Luciana Street	Bicycle Route with Sharrows	IIIA	Lucina Street between Davona Drive and Brighton Drive	Low-volume collector street; provides connection to Dublin High and Murray Elementary Schools	Proposed Class IIIA Bicycle Route with sharrows	0.14
Maple Drive	Bicycle Route with Sharrows	IIIA	Maple Drive between York Drive and Dublin Boulevard	Low-volume collector street; provides connection to Wells Middle School	Proposed Class IIIA Bicycle Route with sharrows	0.42
Martinelli Way	Bicycle Lanes	IIA	Martinelli Way from Iron Horse Parkway to Hacienda Drive		Proposed Class II A from Iron Horse Parkway to Hacienda Drive-Developer-Built Facility	0.47

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Mape Memorial Park Path	Shared-Use Path	I	From Amarillo Road along southern edge of Nielson Elementary to existing path along Mape Memorial Park to San Ramon Road	Existing path along southern edge of Mape Memorial Park, with pedestrian bridge over Martin Canyon Creek and connection to San Ramon Rd. Class I path.	Proposed Class I	0.25
Oak Bluff Ln. - Fallon Ct. Connection	Shared-Use Path	I	From existing bicycle/pedestrian bridge along Fallon Rd. Path to Oak Bluff Court	Unpaved maintenance road	-	0.03
Penn Drive/York Drive	Bicycle Route with Sharrows	IIIA	Penn Drive/York Drive between Amador Valley Boulevard and Maple Drive	Low-volume collector street; provides connection to Wells Middle School	Proposed Class IIIA Bicycle Route with Sharrows	0.5
Regional Street	Bicycle Lanes	IIA	Regional Street from Amador Valley Boulevard to St. Patrick Way	Provides access through Downtown Dublin and to West Dublin BART	Proposed Class IIA Bicycle Lanes between Amador Valley Boulevard and St. Patrick Way with two 8' parking lanes, two 11' auto lanes, and 6' bicycle lanes	0.35

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
San Ramon Road Corridor	Buffered Bicycle Lanes	IIB	Alcosta Boulevard to Dublin Boulevard	Existing wide travel lanes; bicycle lane wide in some segments.	Proposed Class IIB Buffered Bicycle Lane where feasible, green skip-striping across turn pockets where roadways widens for right-turn pockets, reduce right-turn pocket length remove slip lanes at Silvergate Drive and Amador Valley Boulevard,	1.5
San Ramon Road Corridor	Bicycle Lanes	IIA	San Ramon Road from Dublin Blvd across I-580 to Foothill Road	40' curb-to-curb cross-section in each direction on existing overpass. Need to coordinate with City of Pleasanton and Caltrans.	Coordinate with Caltrans and Pleasanton on the feasibility of Class IIA bike lanes per Draft ITE Recommended Practice.	0.51
Scarlett Drive	Bicycle Lanes	IIA	Dougherty Road to Dublin Boulevard	Dublin Crossings EIR proposes on-street connection	Proposed Class IIA -Developer-Built Facility	0.64
Schaefer Ranch I-580 Underpass	Bicycle Lanes	IIA	Schaefer Ranch Road from Dublin Boulevard south under I-580 at existing underpass at Schaefer Ranch	Existing Class IIA between Dublin Boulevard and 50' north of I-580 overcrossing	Proposed Class IIA under I-580 overpass	0.07
Shannon Community Center Path	Shared-Use Path	I	From San Ramon Bicycle Path and future bicycle lanes up to Shannon Community Center	Existing steep, narrow path in need of widening and repaving.	Proposed Class I	0.04

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Sierra Court	Bicycle Lanes	IIA	Sierra Court between Sierra Lane and Dublin Boulevard	Existing 50'+ curb-to-curb distance with limited parking utilization	Connection between Dougherty Road/Iron Horse Trail and Civic Plaza/Alamo Canal Trail	0.12
Sierra Lane	Bicycle Lanes	IIA	Sierra Lane between Sierra Court and Dougherty Road	Existing 50'+ curb-to-curb distance with limited parking utilization	Connection between Dougherty Road/Iron Horse Trail and Civic Plaza/Alamo Canal Trail	0.3
Silvergate Drive	Bicycle Lanes	IIA	Woodren Court to San Ramon Road	EB Bicycle Lane not striped; WB bicycle lane striping starts in channelized SB right-turn lane	Proposed Class IIA EB between Woodren Court and San Ramon Road remove SB right slip lane and restripe WB Class IIA Bicycle Lane	0.06
St. Patrick Way	Bicycle Lanes	IIA	St. Patrick Way from Regional Street to Essex Development and Golden Gate Drive to Amador Plaza Road	Extends from Amador Plaza Road to Golden Gate Drive only; will be extended to Regional Street with West Dublin/Pleasanton BART development.	Proposed Class IIA in both directions to support "last mile" connections to West Dublin BART-Developer-Built Facility	0.25
Stagecoach Park / Iron Horse Trail Connector	Shared-Use Path and Bridge	I	From Stagecoach Road along edge of Stagecoach Park to Iron Horse Trail	Significant grade issues; Bridge needed across Alamo Canal; Crosses land owned by Southern Pacific.	Proposed Class I in coordination with proposed Iron Horse Nature Park.	0.06
Stagecoach Road	Bicycle Lanes	IIA	Stagecoach Road between Alcosta Boulevard and Stagecoach Park	Low-volume collector street; existing shoulder can be re-striped as bicycle lane.	Proposed Class IIA Bicycle Lanes	0.56

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Stagecoach Road	Bicycle Route with Sharrows	IIIA	Stagecoach Road between Turquoise Street and Amador Valley Boulevard	Low-volume collector street; insufficient width for bicycle lanes.	Proposed IIIA Bicycle Route with Sharrows	0.27
Tassajara Creek Trail Continuation on Gleason Dr.	-	-	Class I continuation of Tassajara Creek Trail on south side of Gleason Drive between Tassajara Creek Trail and Gleason Drive/Creekside Road intersection	Existing sidewalk does not meet Class I standards	Widen sidewalk to create Class I sidepath; Install wayfinding signage for trail crossing -Developer-Built Facility	0.05
Tassajara Creek Trail to Fallon Road Connection Path	Shared-Use Path	I	From northwest corner of Fallon Road /Tassajara Road intersection south along Tassajara Road, connecting with planned Class II lanes on Tassajara Road and continuing through the Wallis Ranch development, connecting to the Tassajara Creek Trail.	Tassajara Creek Trail unbuilt near Fallon Road	Include trail crossing at Fallon Road as part of Tassajara Creek Trail extension -Developer-Built Facility	0.4

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Tassajara Creek Trail, Freeway Grade Separated Crossing Study	Special study area for gap closure, including bridge overcrossing and shared-use path	I	Tassajara Creek, from Dublin Boulevard and over I-580 connecting to Pleasanton	Unpaved gravel maintenance road along Tassajara Creek	Feasibility Study for undercrossing or overcrossing at Tassajara Creek Trail/I-580	0.57
Tassajara Creek Trail, northern extension	Shared-Use Path	I	Tassajara Creek from Somerset Lane through Tassajara Creek Regional Park	Existing Class I ends at Hillbrook Place	Continue Class I north into Tassajara Creek Regional Park -Developer-Built Facility	1.5
Tassajara Creek Trail/Dublin Boulevard Trail Crossing	-	-	Tassajara Creek Trail Extension/Dublin Boulevard	Trail extension to Pleasanton not yet completed	Include study of mid-block trail crossing with RRFB, Pedestrian Hybrid Beacon, or Signal at Dublin Boulevard with Tassajara Creek Trail extension into Pleasanton	-
Tassajara Road Corridor	Bicycle Lanes	IIA	Tassajara Road from Dublin Boulevard to south of I-580 (in Pleasanton)	Existing cross-section on overpass may allow for 7-9' Class IIB Buffered Bicycle Lanes	Proposed Class IIB Buffered Bicycle Lanes; requires approval and coordination from Caltrans and Pleasanton	0.35
Tassajara Road Corridor	Bicycle Lane/Buffered Bicycle Lanes	IIA/IIB	Tassajara Road from Dublin Boulevard across I-580	45-52' curb-to-curb cross-section in each direction on existing overpass. Need to coordinate with City of Pleasanton and Caltrans.	Coordinate with Caltrans and Pleasanton on the feasibility of Class IIA SB and IIB NB bike lanes per Draft ITE Recommended Practice.	0.34

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Tassajara Road Path	Shared-Use Path	I	East side of Fallon Road from Fallon Road / Tassajara Road intersection north to planned Moller Ranch Trail	Tassajara Road not yet widened; existing Class I on west side of Fallon Road south of Tassajara Road	Proposed Class I on east side of Fallon Road- -Developer-Built Facility	0.15
Upper Loop Road	Bicycle Lanes	IIA	Upper Loop Road from Fallon Rd to Croak Road, via new park	Class II A on Positano Parkway between Fallon Road and La Strada Drive	Proposed Class II A -Developer-Built Facility	0.38
Upper Loop Road Paths	Shared-Use Path	I	From Fallon Road to Croak Road, on both sides of Upper Loop Road	Existing 8' Class I on Positano Parkway between Fallon Road and Valentano Drive. 8' Class I on north side between Valentano Drive and Croak Road. 8' Class I on south side between Avanti Avenue and Croak Road. Install signs indicating Class I Bicycle Path.	Close Class I gap	0.12
Village Parkway Corridor	Buffered Bicycle Lanes	IIB	Village Parkway between northern City limit and Amador Valley Boulevard	Existing 9' Class II lanes between Alcosta Boulevard and Amador Valley Boulevard. Bicycle lanes drop at intersection.	Proposed Class IIB Buffered Bicycle Lane between City Limit and Amador Valley Boulevard	1.15



5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-2 PROPOSED BICYCLE IMPROVEMENTS

Project Name	Proposal (Directions)	Class	Location	Existing Conditions	Recommendations	Length (miles)
Village Parkway Corridor	Bicycle Lanes	IIA	Village Parkway between Amador Valley Boulevard and Dublin Boulevard	Class IIIA route existing; 35' curb-to-curb cross-section in each direction	Proposed Class IIA between Amador Valley Boulevard and Dublin Boulevard	0.34

Source: Fehr & Peers, 2013.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



In Downtown, Class IIA Bicycle Lanes are proposed on Regional Street, Amador Plaza Road, St. Patrick Way, and Village Parkway/Clark Avenue to provide a comprehensive network through Downtown with continuous access from residential areas and commercial areas to the West Dublin BART Station. Bicycle Lanes are also proposed in new development at Dublin Crossings and near the Dublin/Pleasanton BART Station. Class IIA lanes are also proposed to close gaps in the existing network along Dougherty Road, Fallon Road, Tassajara Road, and Gleason Drive.

Buffered bicycle lanes are proposed in both directions on three roadways with existing wide travel lanes and wide Class IIA Bicycle Lanes: San Ramon Road, Amador Valley Boulevard, and Village Parkway north of Amador Valley Boulevard. Though not directly controlled by the City of Dublin, buffered bicycle lanes should be considered on I-580 overpasses, as right-of-way allows.

Class IIIA Bicycle Routes with Sharrows are proposed as neighborhood routes to connect residential areas with destinations, such as local schools, parks, and commercial destinations. These are typically used in areas with constrained right-of-way, typically with a 40-foot curb-to-curb cross section where on-street parking and Class IIA Bicycle Lanes cannot both be accommodated.

Class IIIA Bicycle Routes with sharrows are also proposed on Davona Drive/Brighton Drive/Penn Drive/Maple Drive/Clark Avenue, providing a north-south connection between residential neighborhoods, Murray Elementary School, Dublin High School, Wells Middle School, the Alamo Canal Trail, Dublin Library, and Dublin Sports Grounds Park.

PROPOSED SUPPORT FACILITIES

Support facilities consist of bicycle parking as well as additional facilities such as shower and lockers, which facilitate bicycling to work or school by providing storage and changing areas for long-distance riders.

BICYCLE PARKING

The City has adopted a provision regarding bicycle racks in Section 8.76.070.A.2 of the Dublin Municipal Code. The Code requires the provision of one bicycle parking space in a bicycle rack for each 40 vehicular parking spaces in parking lots with 20 or more spaces in non-residential zoning districts. In multi-family residential complexes, one bicycle storage space is required within each residence or within lockable containers outside of the dwelling unit. Bicycle racks are required to have four spaces per rack. These are consistent with the latest version of the California Green Building Standards Code and should be revisited as the Green Building Standards Code is updated.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



Example of decorative bicycle racks at Tralee Center in Dublin.

RECOMMENDATIONS

The City should continue to require short-term and long-term bicycle parking per the California Green Building Standards Code. To help guide the selection of short-term and long-term parking and its siting, additional design guidance is provided in the Bicycle and Pedestrian Design Guidelines.

SHOWER/CHANGING FACILITIES

CURRENT REQUIREMENTS

The City and the California Green Building Standards Code do not currently require that shower/changing facilities at non-residential buildings be provided.

RECOMMENDATIONS

The City is currently using the *2013 California Green Building Standards Cod (CAL Green)* which includes voluntary measures for shower/changing facilities which the City could encourage developers to implement. The voluntary measures include the following language regarding shower/changing facilities:

Changing rooms. For buildings with over ten tenant-occupants, provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3 or document arrangements with nearby changing/shower facilities. Refer to the 2013 California Green Building Standards Code Section A5.106.4.3 for more details.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



EVENT BICYCLE PARKING

Several large events are held throughout the year in Dublin. The Dublin St. Patrick's Day Festival is a particularly important gathering for the local community and draws over 80,000 visitors each St. Patrick's Day weekend. Festivities are centered near the Civic Center area. For these events, special bicycle parking arrangements should be made to provide event bicycle parking. Event bicycle parking has the following benefits:

- Reduces auto trips associated with the event
- Encourages a positive familial and community experience associated with getting to and from the event
- Reduces random lock of bicycles around the event
- Reduces the number of people walking with their bicycles through crowded spaces
- Raises the visibility of active modes of transportation at the event

Valet-style event bicycle parking or attended (self-park) parking are recommended for events in Dublin. Valet parking uses outdoor bicycle parking in an enclosed area or designated indoor room to store bicycles. It has one access point that is monitored by a valet parking attendant. People can access their bicycle using a claim-check system. This does not require the individual user to have his or her own lock.

Attended (self-park) event bicycle parking, there is similarly an enclosed area for parking that is monitored by an attendant. Bicyclists can stow and, if they chose, lock their own bicycles, rather than have an

attendant do it for them, under the valet system. The claim-check system can be used here so that attendants can make sure bicyclists are taking their own bicycles. Aisle widths should be five to six feet to handle circulating bicyclists.

Parking facilities should be located within easy access of major routes to Civic Center for St. Patrick's Day, such as near the Alamo Canal Trail and Dublin Boulevard. At the St. Patrick's Day Festival held in March 2014, the City sponsored a free Valet-style bike parking with over 50 bicyclists using the facility.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

RECOMMENDED WALKING FACILITIES

The pedestrian improvements recommended in this section are intended to enhance the walkability of Downtown Dublin in accordance with the General Plan and Downtown Dublin Specific Plan (DDSP). Both Plans support the enhancement and intensification of the Downtown Area to create a more aesthetically-pleasing, pedestrian-oriented focal point for the community and provide a strong connection between the City's commercial core, proposed residential development in the Downtown area and the West Dublin BART Station. The creation of a convenient, accessible pedestrian environment in Downtown is essential to implementing the community's vision for a vibrant Downtown Dublin. As such, both Plans limit the extent to which intersections may be improved or widened in the Downtown Area to maintain or minimize impacts to transit service without sacrificing safe and comfortable bicycle and pedestrian circulation. This section describes the primary pedestrian network and proposed pedestrian projects in Downtown Dublin, including sidewalk and intersection improvements. The proposed pedestrian network and project list were developed based on information received at public workshops, input from City Staff, and field observations. As Dublin has an extensive network of sidewalks with curb ramps at intersections, many of the improvements are focused on intersection improvements, such as reducing crossing distances, improving sightlines, and modifying signals to reduce conflict between pedestrians and turning vehicles. The Primary Pedestrian Network in

Downtown and proposed improvements are identified on **Figure 5-3**. The proposed project list is presented on **Table 5-5**. Prioritization of projects is presented in **Chapter 6 Priority Projects**. Proposed pedestrian improvements fall under five broad categories:

- Intersection Crossing Treatments
- Sidewalk Improvements
- ADA Improvements
- Signal Modifications
- Barriers

These categories are defined in the sections below.

INTERSECTION CROSSING TREATMENTS

The focus of many of the proposed improvements is intersection crossing treatments. Large intersections, long block sizes, and large curb radii of Downtown roadways do not create a comfortable pedestrian environment. Through treatments such as curb extensions, reduced curb radii, and advanced stop bars, pedestrian crossing distances and exposure to automobiles can be reduced, which will help transform Downtown into a more walkable environment. Yield-controlled right-turn slip-lanes exist at many intersections and may not be necessary to serve traffic volumes in all locations. Removal of these slip lanes will help to reduce crossing distances and create an accessible pedestrian environment. Where slip lanes cannot be removed due to high vehicle volumes, they should be controlled with a traffic signal. For example, at San Ramon Road/Dublin Boulevard, signalized right-turn slip lanes are

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

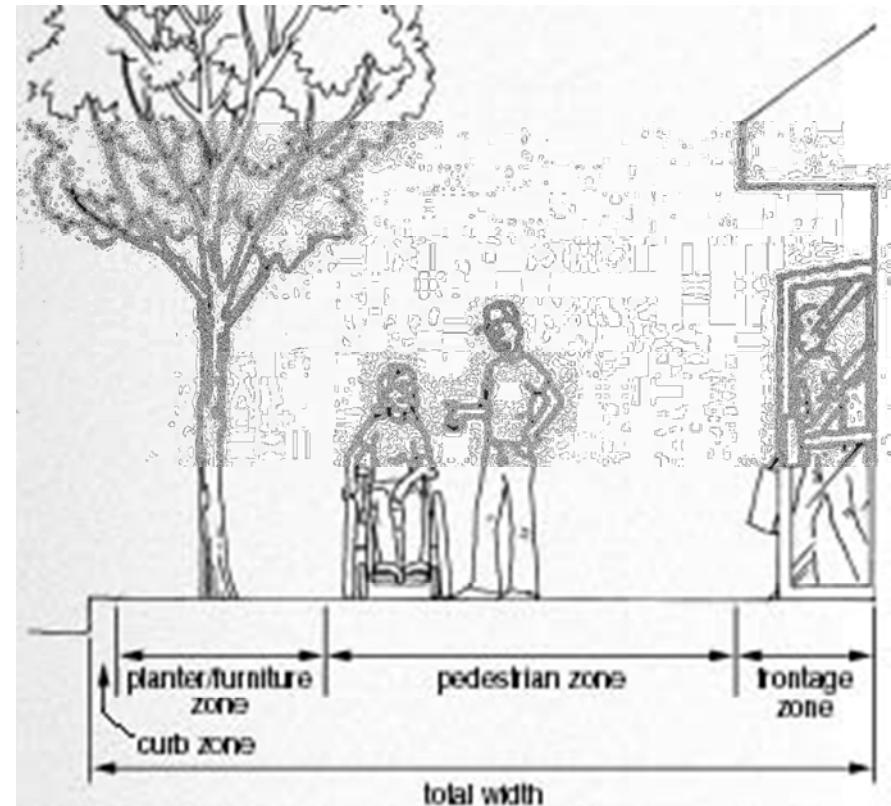


proposed to accommodate the large number of northbound vehicles turning east onto Dublin Boulevard while also addressing the need for a controlled pedestrian crossing on the south leg of the intersection.

SIDEWALK IMPROVEMENTS

Downtown Dublin has a continuous network of sidewalks. Sidewalks on most roadways in Downtown are wide, typically eight feet, which is wide enough to accommodate increased pedestrian activity where planters and tree wells do not take up part of the pedestrian zone. Tree grates on some roadways, however, constrain the sidewalk environment and creates narrow pinch-points in many cases and reduce the usable sidewalk width. Likewise, items such as fire hydrants and other utilities are often located near these pinch points or generally inside the pedestrian zone, limiting the usable sidewalk width. Large overhead highway wayfinding signs straddle the sidewalk and create a cluttered and unpleasant walking environment. Utilities and street furniture should be located with the planter furniture zone, adjacent to the curb zone. Signage should be an appropriate scale to the pedestrian environment.

Proposed improvements to the sidewalk realm include sidewalk widening where feasible, replacing street trees and tree wells where trees are at the end of their life cycle, and sidewalk repair.



Sidewalk space can be divided into three distinct zones: the frontage zone, adjacent to building frontages; the pedestrian zone, which is the usable sidewalk space; the furniture zone, which contains planting or other street furniture; and the curb zone, adjacent to the roadway.

Source: FHWA, Design Sidewalks for Trails and Access, 2001.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

ADA IMPROVEMENTS

Pedestrian facilities should be designed to accommodate pedestrians with visual and mobility impairments and should be designed to meet *Public Rights-of-Way Accessibility Guidelines* (PROWAG). Most of the curb ramps in Downtown Dublin are parallel or diagonal ramps. In order to maximize accessibility in the Downtown, directional curb ramps should become the standard curb ramp, as feasible. Directional curb ramps are aligned with and typically centered on each crosswalk, with two curb ramps on each corner. Directional ramps provide physical cues to the visually impaired and improve ease of use for those with mobility impairments.

Parallel curb ramps take up the full width of the sidewalk and require pedestrians continuing on the sidewalk to negotiate both ramp grades, which is inconvenient for all users and may be difficult for those with mobility impairments. Parallel curb ramps are typically used where right-of-way is constrained and a diagonal curb ramp with the full four-foot level landing area behind is not able to be accommodated. On some corners, multiple parallel ramps are provided to provide directional access to marked crosswalks.



Directional curb ramps create a predictable, convenient pedestrian environment for those with visual and mobility impairments.

In a Downtown area, directional curb ramps could be used whenever possible and can be accommodated with curb extensions or small right-of-way acquisition, as feasible. As properties redevelop in Downtown Dublin and as curb ramps are improved, directional curb ramps should be constructed as a standard.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



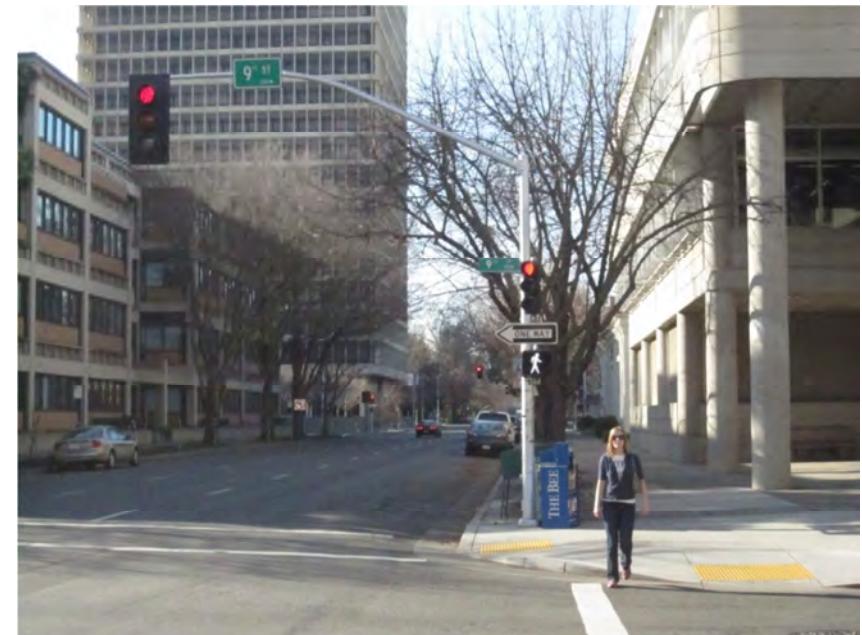
SIGNAL MODIFICATIONS

Signal modifications are proposed at several locations to improve pedestrian safety and the walkability of Downtown. In order to comply with the walkability policy standards set forth in the General Plan and the DDSP, marked crosswalks should be provided at all intersection approaches of signalized intersections in order to increase pedestrian connectivity. At several locations in Downtown Dublin, left-turn movements are not protected. Permitted left-turns occur during the pedestrian phase, creating potential conflict between pedestrians and turning vehicles. These left-turns should be protected to prevent potential conflicts.

Additionally, leading pedestrian intervals (LPIs) are proposed in this Plan to give pedestrians a head-start in crossing the street.

BARRIERS

Barriers can consist of both linear barriers, such as highways, as well as large block sizes, which limit pedestrian connectivity. Several linear barriers limit connectivity. I-580 provides a continuous southern barrier, limiting connections to Pleasanton. Two underpasses under I-680, at Dublin and Amador Valley Boulevards, are the only connections between the eastern and western parts of Downtown. While art murals have been painted on both underpasses, roadway and pedestrian lighting



Leading Pedestrian Intervals (LPIs) allow pedestrians to begin crossing before vehicles enter the intersection.

improvements, roadway median enhancement and additional public art may help to strengthen the connections across I-680. Even smaller roadways, such as Amador Plaza Road, can act as a linear barrier when connectivity is limited. Mid-block crosswalks are proposed on Amador Plaza Road between Amador Valley Boulevard and Dublin Boulevard with one mid-block crosswalk recommended for initial implementation.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

Large block sizes can also be a barrier to walkability in Downtown. A future pedestrian paseo or walkway connection could enhance walkability through the large block bounded by Regional Street, Amador Valley Boulevard, Dublin Boulevard, and Amador Plaza Road to provide east-west connections. An enhanced north-south connection, to connect Donohue Street and Golden Gate Drive, along the existing drive aisle fronting Target, could also enhance walkability. These potential walkway connections are situated within privately owned development and should be considered only if the sites redevelop.



Mid-block crosswalks with pedestrian refuges can help increase pedestrian connectivity while allow pedestrians to cross the roadway in two steps.

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-5 PROPOSED PEDESTRIAN IMPROVEMENTS

ID	Roadway	Location	Improvement Type	Detailed Improvement	
0-1	Amador Valley Boulevard	Unsignalized Crosswalk - 400' East of Regional Street	Geometry	Provide median closure at intersection with pedestrian refuge; Reconstruct the southern commercial driveway to provide level, clear extension of sidewalk (Scheduled project)	
			Signing & Striping	Install advanced yield markings and signage; Mark crosswalk across southern commercial driveway (Scheduled project)	
			Signal	Install Rectangular Rapid Flashing Beacons (RRFBs) (Scheduled project)	
1-1A	Amador Plaza Road	200' N of Dublin Boulevard	Mid-Block Crosswalk	Mark up to 3 decorative crosswalks to meet pedestrian needs.	
1-1B		750' N of Dublin Boulevard	Mid-Block Crosswalk	See above	
1-1C		1,200' N of Dublin Boulevard	Mid-Block Crosswalk	See above	
1-1D		Corridor	Geometry	Install curb extensions as feasible to support proposed mid-block crosswalks	
			Signing & Striping	Stripe Class II bicycle lanes; Install wayfinding signage; Stripe and sign back-in angled parking	
			Lighting	Install pedestrian scaled lighting along Amador Plaza Road	
1-1E	Amador Plaza Road/Amador Valley Boulevard Intersection	Crosswalk	Geometry	Mark crosswalk on east leg of intersection	
			Geometry	Widen median and add median tips as feasible to provide 6' pedestrian refuge; Reduce curb radii on all corners	
1-2A	Dublin Boulevard	Corridor	Sidewalk	Enhance sidewalks between San Ramon Road and Village Parkway and evaluate opportunities to improve walkability by reducing obstructions.	

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS

TABLE 5-5 PROPOSED PEDESTRIAN IMPROVEMENTS

ID	Roadway	Location	Improvement Type	Detailed Improvement
1-2B			Median	Enhance median and lighting along Dublin Boulevard under I-680
			Geometry	Improve sidewalk connection across commercial driveway and at bus stop (east of Regional Street)
			Lighting	Add pedestrian-scale lighting under I-680 Overpass. Install barrier in median underneath in median to prohibit pedestrian crossings.
		Amador Plaza Road Intersection	Geometry	Reduce curb radii on all corners; Install directional curb ramps. Observe speeds and yield behaviors after constructions to determine if additional signal or signage enhancements may be required.
		Golden Gate Drive Intersection	Geometry	Install directional curb ramps at each corner
			Signal	Modify signal phasing to include protected left-turns;; Install pedestrian countdown signals and audible warning signs
		San Ramon Road Intersection	Geometry	Reduce curb radii on all corners; Install directional curb ramps at all corners
			Signal	Subject to further analysis, remove permissive NB right-turn phase; Install pedestrian countdown signals and audible warning signs, subject to further analysis
			Crosswalk	Stripe crosswalk on south leg subject to further analysis
1-2F		Village Parkway Intersection	Geometry	Reduce width of SB right-turn lane, striped pork chop and reduce turning radii; Remove pork chop island; Remove NB right-turn slip lane and reduce curb radii; Reduce curb radii on NE and SE corners; Straighten crosswalks
2-1A	Golden Gate Drive	St. Patrick Way Intersection	Geometry	Install bulb-outs at all corners; Construct directional curb ramps
2-1B			Signage	Install wayfinding signage to West Dublin BART

5. PROPOSED BICYCLE & PEDESTRIAN NETWORKS



TABLE 5-5 PROPOSED PEDESTRIAN IMPROVEMENTS

ID	Roadway	Location	Improvement Type	Detailed Improvement
2-1C		Corridor	Sidewalk	As adjacent properties redevelop, implement Complete Streets frontage improvements, consistent with the improvements done with the Golden Gate Streetscape project.
2-1D			Roadway/Sidewalk	New roadway with sidewalk or continuous mid-block connection between Regional Street and Golden Gate Drive
2-2A	Amador Valley Boulevard	Corridor	Striping	Narrow travel lanes to 11' (and stripe buffered bicycle lanes)
2-2B		Donahue Drive Intersection	Geometry	Reduce curb radii on all corners; Widen medians and add median tips; Install directional curb ramps on all corners
2-2C		Regional Street Intersection	Geometry	Reduce curb radii on NE, SE, and SW corners
2-2D			Signal	Modify signal to include Leading Pedestrian Interval on EB and WB approaches; Consider protected left-turn phasing for NB and SB traffic
2-2E		San Ramon Road Intersection	Crosswalk	Consider striping crosswalk on south leg pending additional engineering analysis
2-2F			Geometry	Consider removing slip lanes on NW and NE corners and add curb extensions on SW, NW, and NE corners pending additional engineering analysis
2-2G			Signal	Consider installing leading pedestrian interval on all approaches pending additional engineering analysis
2-2H		Village Parkway Intersection	Geometry	Remove slip lanes; Reduce curb radii on all corners; Install curb extensions on the SE and SW corners of Village Parkway; Install directional curb ramps. Proposed improvements pending additional engineering analysis

Source: Fehr & Peers, 2013.

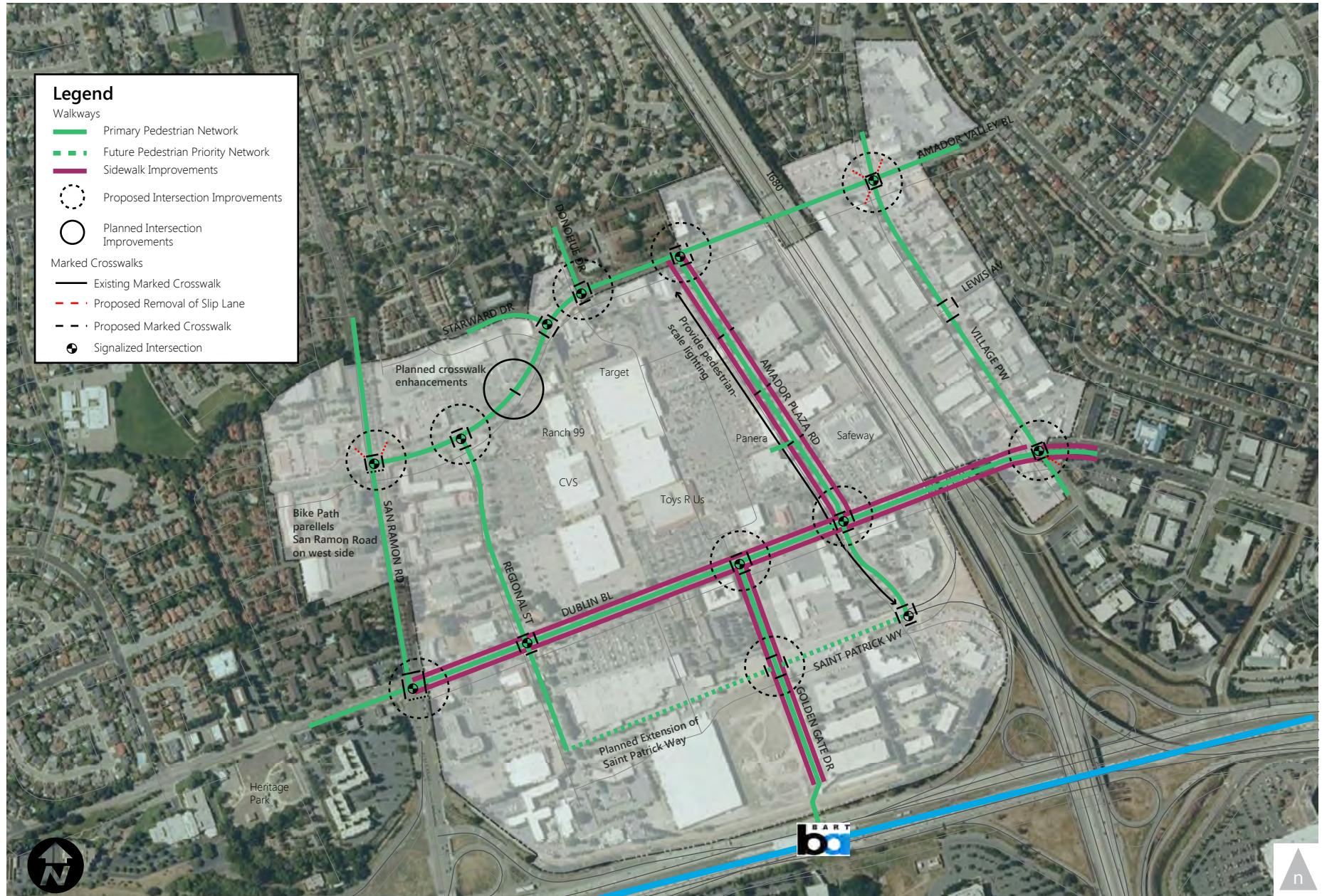


Figure 5-3.

Primary Pedestrian Network and Proposed Pedestrian Improvements

March 2014

6. PRIORITY PROJECTS



6. PRIORITY PROJECTS

The purpose of the bicycle and pedestrian networks is to provide safe, convenient, direct, and comfortable access to key destinations citywide. However, the entire network cannot be completed at once due to funding and implementation constraints. Thus, prioritization criteria are identified to rank projects that would have more community benefit. Relative priority is broken into four categories:

- **Tier Zero:** Designed and planned, under-construction, scheduled,
- **Tier One:** Highest priority projects for grant funding with initial feasibility analysis and concept development in the Plan update
- **Tier Two:** High priority projects for grant funding that may require additional feasibility analysis
- **Tier Three:** All other projects

Given the Downtown-focus on this first Pedestrian Plan, all projects are given Tier Zero, One, or Two designations. In the City's next Plan update, the pedestrian improvement projects are expected to be citywide in scope and should include all prioritization tiers. The four prioritization categories are described in detail below.

TIER ZERO

Tier Zero projects are projects that are assumed to be implemented in the near-term based on information provided by City staff. These are projects that may be under construction or under design and have secured funding.

TIER ONE

Tier One Priority Projects were identified in conjunction with City staff and based on meetings with the Technical Advisory Committee and the public workshops. Based on those discussions, three priority complete streets projects were identified:

1. Amador Plaza Road between Amador Valley Boulevard and St. Patrick Way/I-580 Ramps
2. Village Parkway between Alcosta Drive and Clarke Avenue/Dublin Boulevard
3. Downtown Connectivity Projects (Regional Street, Amador Valley Boulevard, Village Parkway, Amador Plaza Road, St. Patrick Way, and Dublin Boulevard)

Grant-ready fact sheets and concept drawings were prepared for the three Tier One Priority Projects as presented in detail on the following pages. As Tier One projects, the City has started to pursue and applied for federal and state grants to implement these projects. An initial phase of the Downtown Connectivity Project is being proposed for implementation in the coming fiscal year (see Section 9 – Implementation).

6. PRIORITY PROJECTS



AMADOR PLAZA ROAD

Amador Plaza Road is a roadway in Downtown Dublin extending between Amador Valley Boulevard and the area south of St. Patrick Way/I-580 Ramps. The existing cross-section is two travel lanes with a two-way left-turn lane between Amador Valley Boulevard and Dublin Boulevard. Between Dublin Boulevard and St. Patrick Way, Amador Plaza Road is two-lanes in each direction with a two-way left-turn lane. In this section it provides a key access to the I-680 freeway which limits changes to access and circulation near the ramps. Amador Plaza provides a critical north-south access route to West Dublin BART from the residential and commercial areas to the north. It also has many Downtown commercial destinations, including multiple groceries stores, restaurants, and other shopping areas. The Amador Plaza Road corridor appears to have the potential to become a major shopping and dining destination if coupled with "Complete Street" enhancements that could attract more pedestrians and bicyclists, and connect the shopping districts on both sides of Amador Plaza Road via pedestrian walkways.

At the public workshops, participants expressed a desire to maintain good access and parking in the downtown area and to create a "park-once" environment on Amador Plaza Road, as popular land uses are located on both sides of the roadway. However, no mid-block crosswalks are striped on the 1,700 foot-long block through Downtown. Public workshop participants indicated that aggressive driving leads to the perception of safety issues for all modes of travel. The roadway has a 30 MPH posted speed limit. In addition, some participants have expressed

the desire to have a place to congregate other than shopping and dining such as a "pedestrian plaza" adjacent to Amador Plaza Road where pedestrians and families can rest, eat or simply enjoy the outdoors. However, existing public rights-of-way will not facilitate development of a pedestrian plaza.

To improve multi-modal access on the corridor, sidewalk and crosswalk improvements, bicycle lanes, pedestrian-scale lighting and a landscaped median are proposed for the 0.5 mile segment between Amador Valley Boulevard and St. Patrick Way/I-580 Ramps. A summary of existing conditions and the proposed projects is presented on **Figure 6-1**. Scaled concept drawings of the preferred design are presented on **Figures 6-2, 6-3, and 6-4**. The fact sheet and drawings may be included in future funding applications.

1 Amador Plaza Road Bicycle and Pedestrian Improvements

Tier 1 Priority Project

Existing Conditions

- Popular land use destinations on both sides of the roadway
- Community desire for a “park-once” environment
- Large surface parking lots on both sides of the street, with most uses oriented toward parking lots
- Long crossing distances at signalized intersections
- Crossing prohibited at east leg of Amador Valley Boulevard/Amador Plaza Road intersection
- Many full-access driveways (some in close proximity to intersections) and continuous two-way left turn lane that do not create a predictable environment at high-volume driveways
- 30 MPH posted speed limit through Downtown
- No bicycle facilities
- No crosswalks on the 1,700 foot-long block between Amador Valley Boulevard and Dublin Boulevard
- Some of the street trees appear to be at the end of their life cycle



Proposed Improvements

- Raised, landscaped median with left-turn pockets between Amador Valley Boulevard and St. Patrick Way/I-580 Ramps
- Class II A bicycle lanes with skip-striped green conflict zones between Amador Valley Boulevard and Saint Patrick Way
- Reduced curb radii/curb extensions at Amador Valley Boulevard intersection (NE, SE, and SW corners), Dublin Boulevard intersection (NW corner), and St. Patrick Way/I-580 Ramps intersection (all corners) with directional curb ramps
- Three mid-block decorative crosswalks with bulb-outs where parking is present to support a “park-once” environment on Amador Plaza Road
- Pedestrian-scale LED street lighting between Amador Valley Boulevard and St. Patrick Way/I-580 Ramps
- Enhanced streetscape with Downtown Gateway Monuments at each intersection, new street trees and tree grates, and sidewalk replacement
- Proposed project may be phased subject to availability of funds



Cost

\$5,438,000, including total construction, contingencies, design, and environmental costs

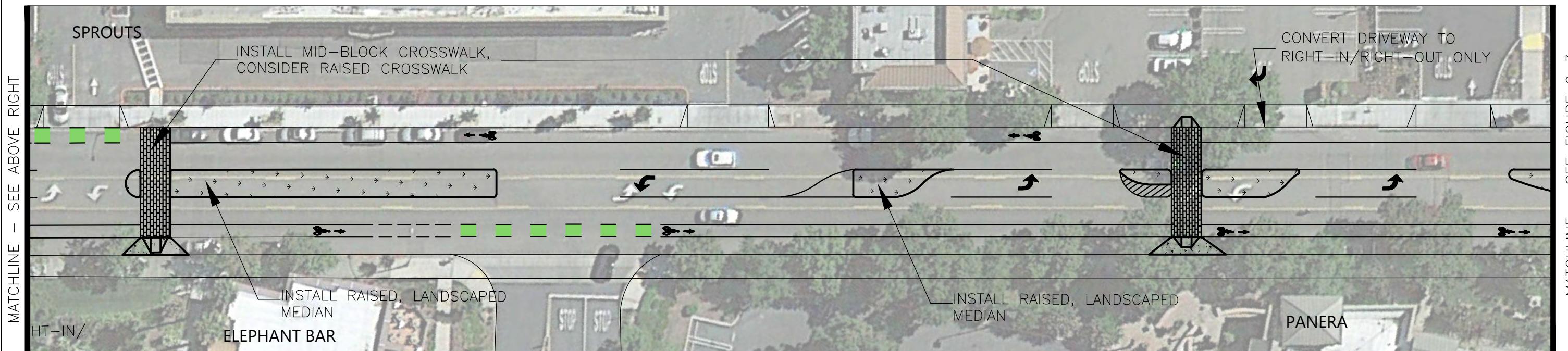
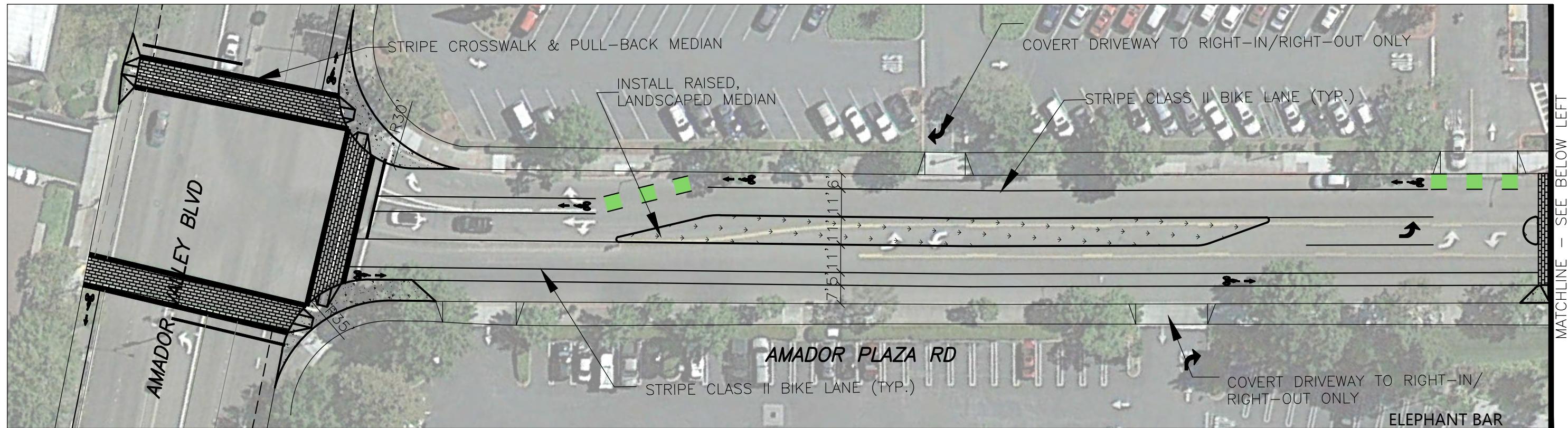


Related Projects

- Tier 1 Downtown Dublin Connectivity Project (Class II A on Regional Street, Class II B on Amador Valley Boulevard, Class I Path on Dublin Boulevard between Amador Plaza Road and Village Parkway and Class II A on Saint Patrick Way)
- Tier 2 Amador Valley Boulevard Class II B Buffered Bicycle Lane striping

GENERAL NOTES:

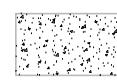
1. PEDESTRIAN SCALE LIGHTING TO BE INSTALLED ON BOTH SIDES OF AMADOR PLAZA ROAD BETWEEN AMADOR VALLEY BOULEVARD & ST. PATRICK WAY/I-580 RAMPS



LEGEND

FEHR PEERS

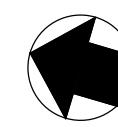
100 Pringle Avenue Walnut Creek, CA 94598
Suite 600 (925) 930-7100



CONCRETE



LANDSCAPE MEDIAN
WITH IRRIGATION



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1" = 40'

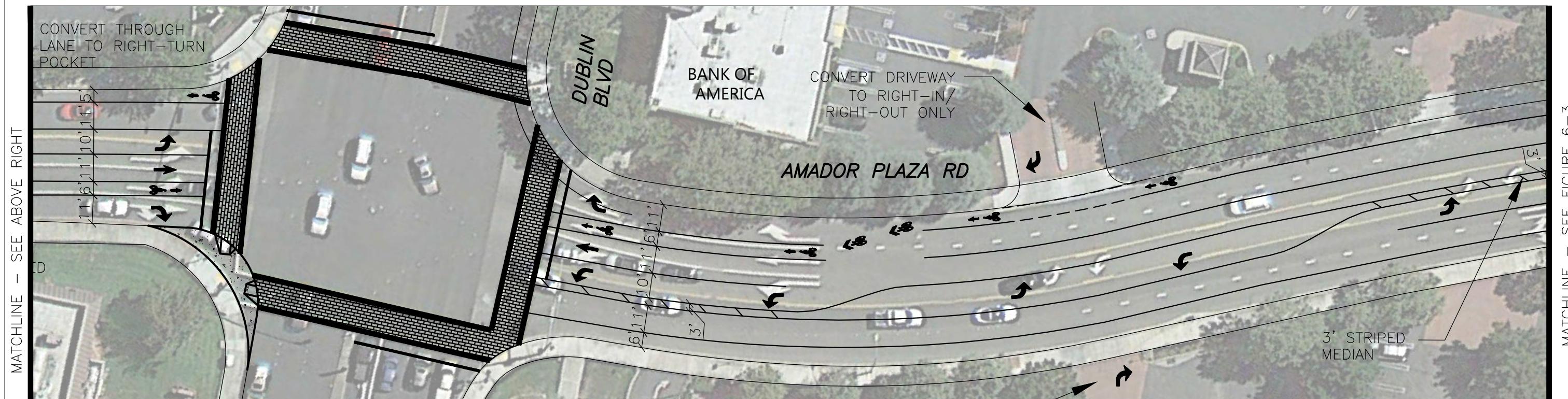
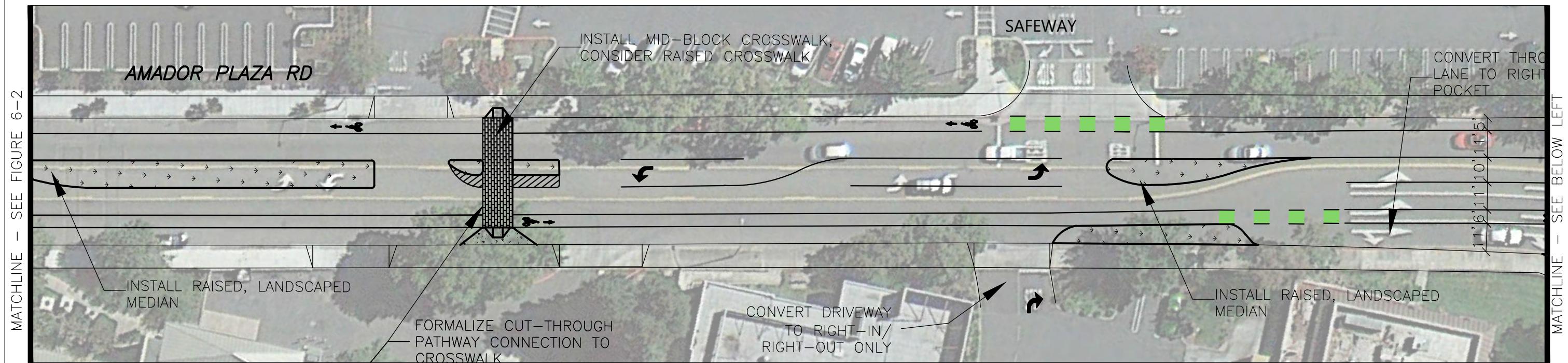
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GRAPHIC SCALE

AMADOR PLAZA ROAD CONCEPT DESIGN

FIGURE 6-2

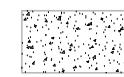
GENERAL NOTES:

1. PEDESTRIAN SCALE LIGHTING TO BE INSTALLED ON BOTH SIDES OF AMADOR PLAZA ROAD BETWEEN AMADOR VALLEY BOULEVARD & ST. PATRICK WAY/I-580 RAMPS



LEGEND

FEHR PEERS



CONCRETE



LANDSCAPE MEDIAN
WITH IRRIGATION

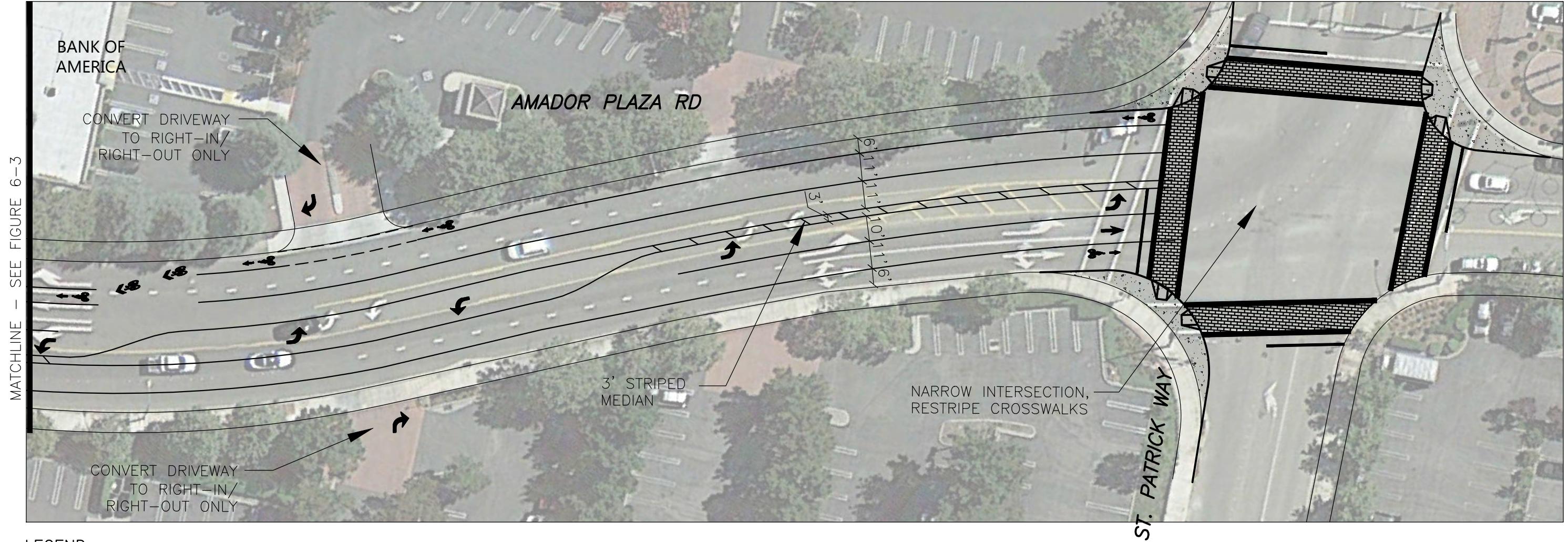
100 Pringle Avenue
Walnut Creek, CA 94586
(925) 930-7100

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1" = 40' GRAPHIC SCALE



GENERAL NOTES:

1. PEDESTRIAN SCALE LIGHTING TO BE INSTALLED ON BOTH SIDES OF AMADOR PLAZA ROAD BETWEEN AMADOR VALLEY BOULEVARD & ST. PATRICK WAY/I-580 RAMPS



LEGEND



FEHR PEERS

100 Pringle Avenue Walnut Creek, CA 94596
Suite 600 (925) 930-7100

Jan 07, 2014
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1" = 40' GRAPHIC SCALE



AMADOR PLAZA ROAD CONCEPT DESIGN

FIGURE 6-4

6. PRIORITY PROJECTS

VILLAGE PARKWAY

Village Parkway extends between the northern City Limit, becoming Clark Avenue south of Dublin Boulevard. North of Amador Valley Boulevard, Village Parkway is a four-lane divided roadway with wide travel lanes and bicycle lanes. This portion of the roadway is a residential collector street, bringing traffic from the residential neighborhoods south to Downtown and north to various schools, including Dublin High School. The cross-section is urban through Downtown Dublin, including on-street parking on both sides of the roadway, and is flanked by smaller commercial buildings, including stores and restaurants. South of Dublin Boulevard, where Village Parkway becomes Clark Avenue, light industrial and office uses have low parking utilization and lower traffic volumes.

To improve multi-modal access on the corridor, a variety of complete streets improvements are proposed on the 1.8-mile segment between the north City Limit and Clarke Avenue/Dublin Boulevard, including crossing improvements, dedicated bicycle facilities, and a path connection to the Alamo Canal Trail. A summary of existing conditions and the proposed projects is presented on **Figure 6-5**. Scaled concept drawings of the preferred design are presented on **Figures 6-6, 6-7, and 6-8**. The fact sheet and drawings may be included in future funding applications.

2 Village Parkway Bicycle and Pedestrian Improvements

Tier 1 Priority Project

Existing Conditions

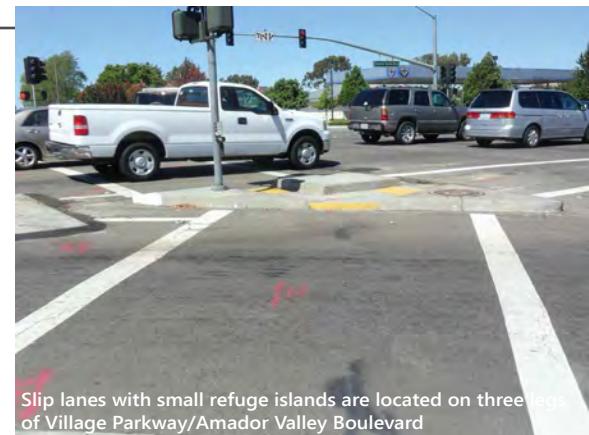
- 2 mile long segment from the northern City limit to the Alamo Canal Trail
- Nearby land uses include residential areas, Dublin High School, Downtown Dublin, Dublin Library, Dublin Civic Plaza, Alamo Canal Trail, and West Dublin BART Station.
- Existing 8 foot wide bicycle lanes north of Amador Valley Boulevard
- Long crossing distances at signalized intersections through Downtown, many of which have right-turn slip lanes
- Large turning radii on many intersection corners
- Excess lanes and low traffic volumes at northbound approach at Dublin Boulevard/Village Parkway
- Proximity to Alamo Canal Trail and Dublin Civic Plaza with no existing connections
- Smaller parcels with limited off-street parking between Amador Valley Boulevard and Dublin Boulevard



Large intersection and long crossing distances at Village Parkway/Dublin Boulevard

Proposed Improvements

- Class IIB Buffered Bicycle Lanes and reduced travel lane width between northern City Limit and Amador Valley Boulevard with skip-striped green conflict zones and bicycle lane line extension through intersections
- Class IIA Bicycle Lanes with skip-striped green conflict zones between Amador Valley Boulevard and Dublin Boulevard/Clark Avenue
- Reduced curb radii/curb extensions with directional curb ramps and removal of slip lanes at Amador Valley Boulevard intersection and Dublin Boulevard/Village Parkway intersection
- Class I shared-use path connection and bridge between Clark Avenue/Village Parkway and the Alamo Canal Trail on City of Dublin property, aligning with the existing Civic Plaza Parking Lot access path
- Wayfinding connecting the Alamo Canal Trail and Downtown Dublin
- Sidewalk widening on the east side of Village Parkway between Brighton Drive and Tamarack Drive



Slip lanes with small refuge islands are located on three legs of Village Parkway/Amador Valley Boulevard

Cost

\$2,863,000, including total construction, contingencies, design, and environmental costs

Related Projects

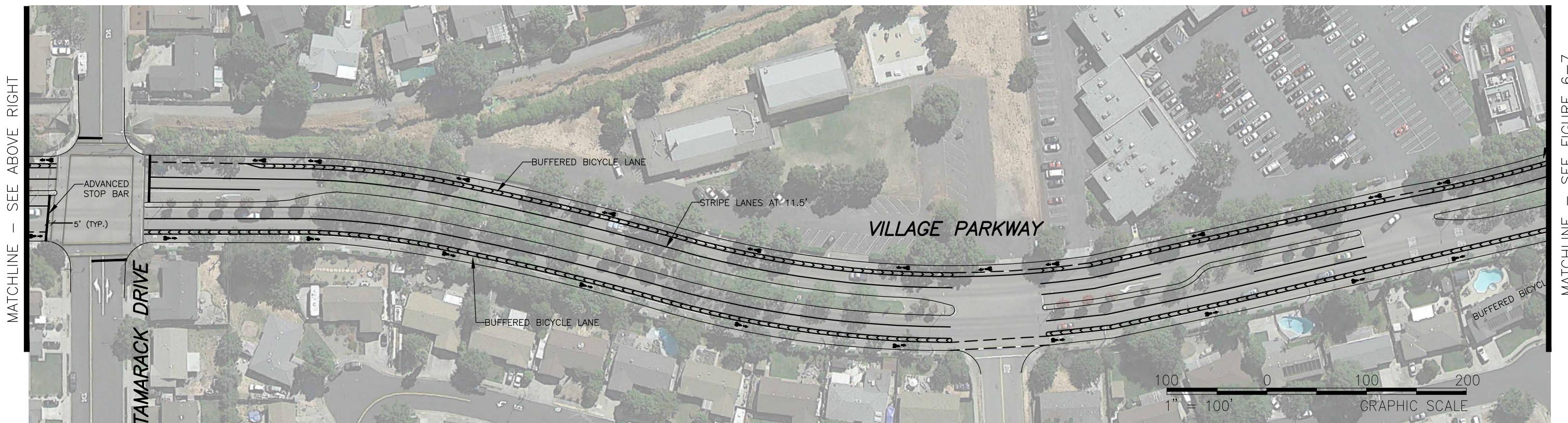
- Tier 1 Downtown Dublin Connectivity Project (Class IIA on Regional Street, Class IIB on Amador Valley Boulevard, Class I Path on Dublin Boulevard between Amador Plaza Road and Village Parkway and Class IIA on Saint Patrick Way)
- Tier 2 Brighton Drive Class IIIB Bicycle Boulevard
- Tier 2 Amador Valley Boulevard Class IIB Buffered Bicycle Lanes
- Parking utilization data should be collected between Amador Valley Boulevard and Dublin Boulevard to see if trade-offs between on-street parking and bicycle lane width could be made



Narrow sidewalks, wide travel lanes, and wide bicycle lane adjacent to Dublin High School

GENERAL NOTES:

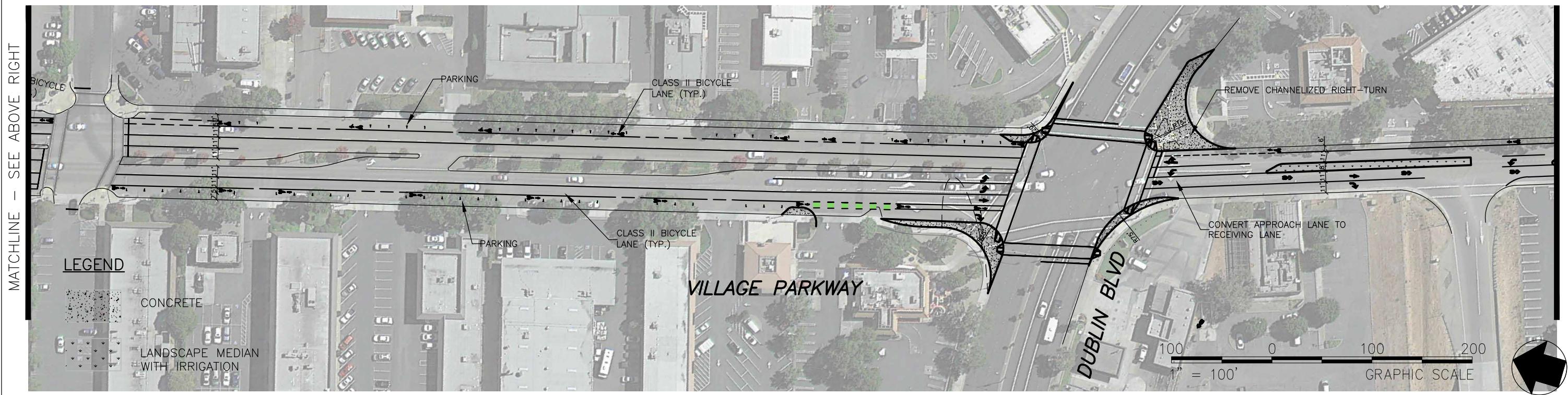
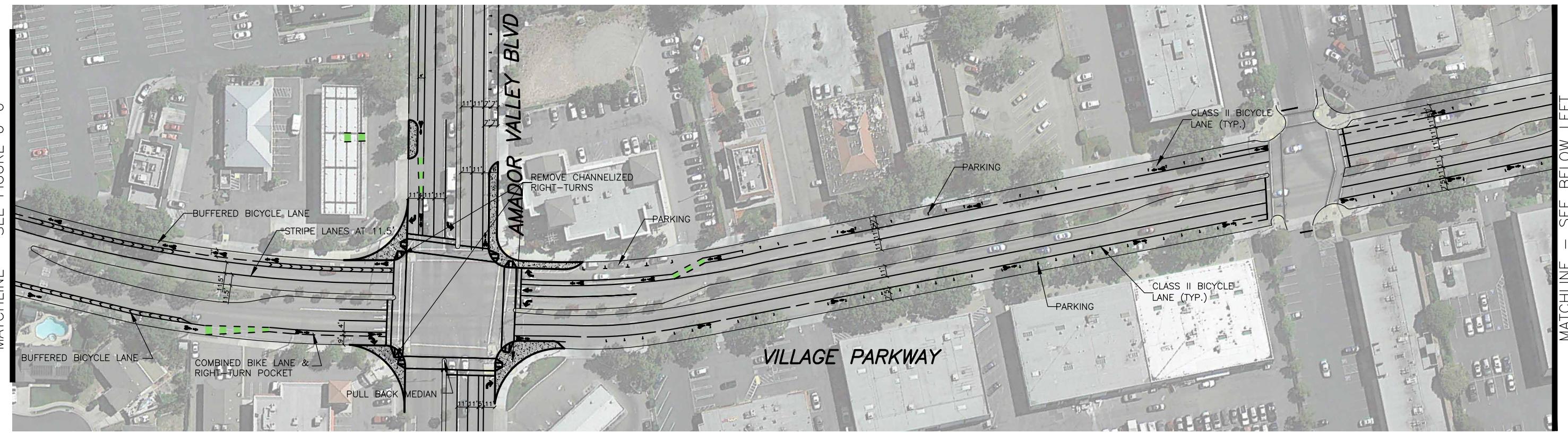
1. WIDEN EAST SIDEWALK BY 3' BETWEEN BRIGHTON DRIVE AND 880' SOUTH OF TAMARACK DRIVE



VILLAGE PARKWAY CONCEPT DESIGN
FIGURE 6-6

GENERAL NOTES:

1. WIDEN EAST SIDEWALK BY 3' BETWEEN BRIGHTON DRIVE AND 880' SOUTH OF TAMARACK DRIVE



FEHR & PEERS

100 Pringle Avenue Walnut Creek, CA 94596
Suite 600 (925) 930-7100

Apr. 25, 2013

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VILLAGE PARKWAY CONCEPT DESIGN

FIGURE 6-7

MATCHLINE – FIGURE 6-7



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Suite 600 (925) 930-7100

Apr 25, 2013

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VILLAGE PARKWAY CONCEPT DESIGN

FIGURE 6-8

6. PRIORITY PROJECTS



DOWNTOWN CONNECTIVITY PROJECT

The Downtown Connectivity Project consists of constructing bicycle facilities on multiple streets through Downtown Dublin to provide important last-mile connections to West Dublin BART and the businesses of Downtown Dublin. The roadways with bikeways proposed include:

- Regional Street
- Amador Valley Boulevard
- Village Parkway/Clark Avenue
- Amador Plaza Road
- Saint Patrick Way
- Dublin Boulevard

This project stems from the 2007 *Bikeways Master Plan*'s call for a feasibility analysis to address the existing bikeway gap on Dublin Boulevard between San Ramon Road and the Alamo Canal Trail. Class II Bicycle Lanes are striped on various segments of Dublin Boulevard to the east and west of Downtown, with several smaller gaps. The most significant gap in the bikeway is between San Ramon Road and the Alamo Canal Trail through Downtown Dublin.

While Dublin Boulevard provides an important continuous connection for motorists between Downtown and destinations to the east and west, Dublin Boulevard is also a high volume corridor that serves as a reliever route to I-580. The roadway is typically six-lanes plus turn pockets at intersections. Speed limits through Downtown are posted at 35 miles per hour, and the road serves approximately 29,000 autos each day.

As such, even with bicycle accommodation, it may remain a facility that primarily serves highly experienced bicyclists who feel comfortable riding in or adjacent to traffic. To accommodate a wider range of users of many abilities, the scope of the project was expanded to incorporate other roadways in Downtown that either serve less traffic and/or have more opportunities for dedicated or buffered bicycle facilities.

The Downtown Connectivity projects create a continuous network of dedicated facilities to provide last-mile connections to Downtown business and transit destinations. The existing wide bicycle lanes on Amador Valley Boulevard would be restriped to include a buffer area to provide separation between bicyclists and drivers. Class IIA Bicycle Lanes on St. Patrick Way would provide an east-west connection connecting Regional Street and Amador Plaza Road. Class IIA Bicycle Lanes on Regional Street would then provide a north-south connection through Downtown, connecting to the proposed facilities on Saint Patrick Way and Amador Valley Boulevard. Amador Plaza Road would also provide north-south bicycle lanes through Downtown. The existing Village Parkway bicycle lanes north of Amador Valley Boulevard would be extended south to Dublin Boulevard/Clark Avenue. A Class I Path would extend that route to the Alamo Canal Trail and Civic Plaza via a bicycle and pedestrian bridge. To connect the Village Parkway route to the west, widening of the existing sidewalk on the south side of Dublin Boulevard is proposed to create a Class I Path connecting to Amador Plaza Road.

In addition to enhancements to other routes Downtown, it is anticipated that Dublin Boulevard will be striped and signed as a Class IIIA Bicycle

6. PRIORITY PROJECTS

Route with Sharrows in 2015/2016. In the next update of the *Bicycle and Pedestrian Master Plan*, bicycle and pedestrian improvements on Dublin Boulevard could be revisited and considerations could be given to two alternatives studied for this segment, including a Class I Shared-Use Path on the south side of the roadway and Class IIB Buffered Bicycle Lanes, which would require a lane reduction.

A summary of existing conditions and the proposed projects is presented on **Figure 6-9**. A map of the Downtown Connectivity Project is presented on **Figures 6-10**.

3 Downtown Dublin Connectivity Project

Tier 1 Priority Project

Existing Conditions

- Though some dedicated bicycle facilities exist through Downtown, they do not provide continuous connections through Downtown and to West Dublin BART
- The existing 1 mile long gap through Downtown on Dublin Boulevard between San Ramon Road and the Alamo Canal Trail limits east-west connectivity to Downtown and BART
- Class II A Bicycle Lanes exist on Dublin Boulevard to the east and west of Downtown (with some gaps)
- Long crossing distances at signalized intersections, frequent driver encroachment into crosswalks, and large turning radii on most intersection corners limit walkability
- Usable sidewalk space is limited by large tree pits and bus stop furniture



Intersections are large through the corridor, as Dublin Boulevard has six-through lanes plus turn pockets

Proposed Improvements

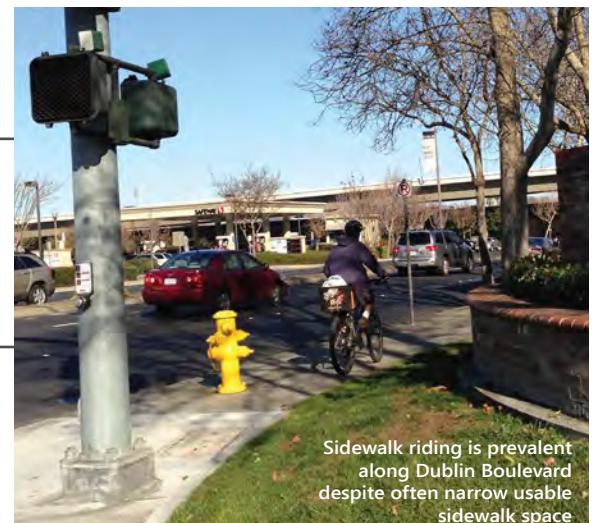
- Stripe and sign Class III A Bicycle Route with Sharrows between San Ramon Road and Alamo Canal Trail
- Under I-680 overpass, install lighting improvements, widen the existing sidewalk to create Class I Shared-Use Path on south side of Dublin Boulevard between Amador Plaza Road and Village Parkway
- Stripe Class II A Bicycle Lanes on Regional Street
- Stripe Class II A Bicycle Lanes on Saint Patrick Way
- Stripe Class III A Bicycle Lanes on Amador Plaza Road
- Stripe Class II B Buffered Bicycle Lanes on Amador Valley Boulevard between San Ramon Road and Village Parkway
- Stripe Class II A Bicycle Lanes on Village Parkway between Amador Valley Boulevard and Clark Avenue/Dublin Boulevard
- Construct Class I Shared-Use Path and bridge between Clark Street and Alamo Canal Trail/Civic Plaza
- Reduce curb radii and install curb extensions at the intersections of Amador Plaza Road and Amador Valley Boulevard, Dublin Boulevard, and Saint Patrick Way



The existing right-of-way of Regional Street allows for bicycle lanes in both directions

Cost

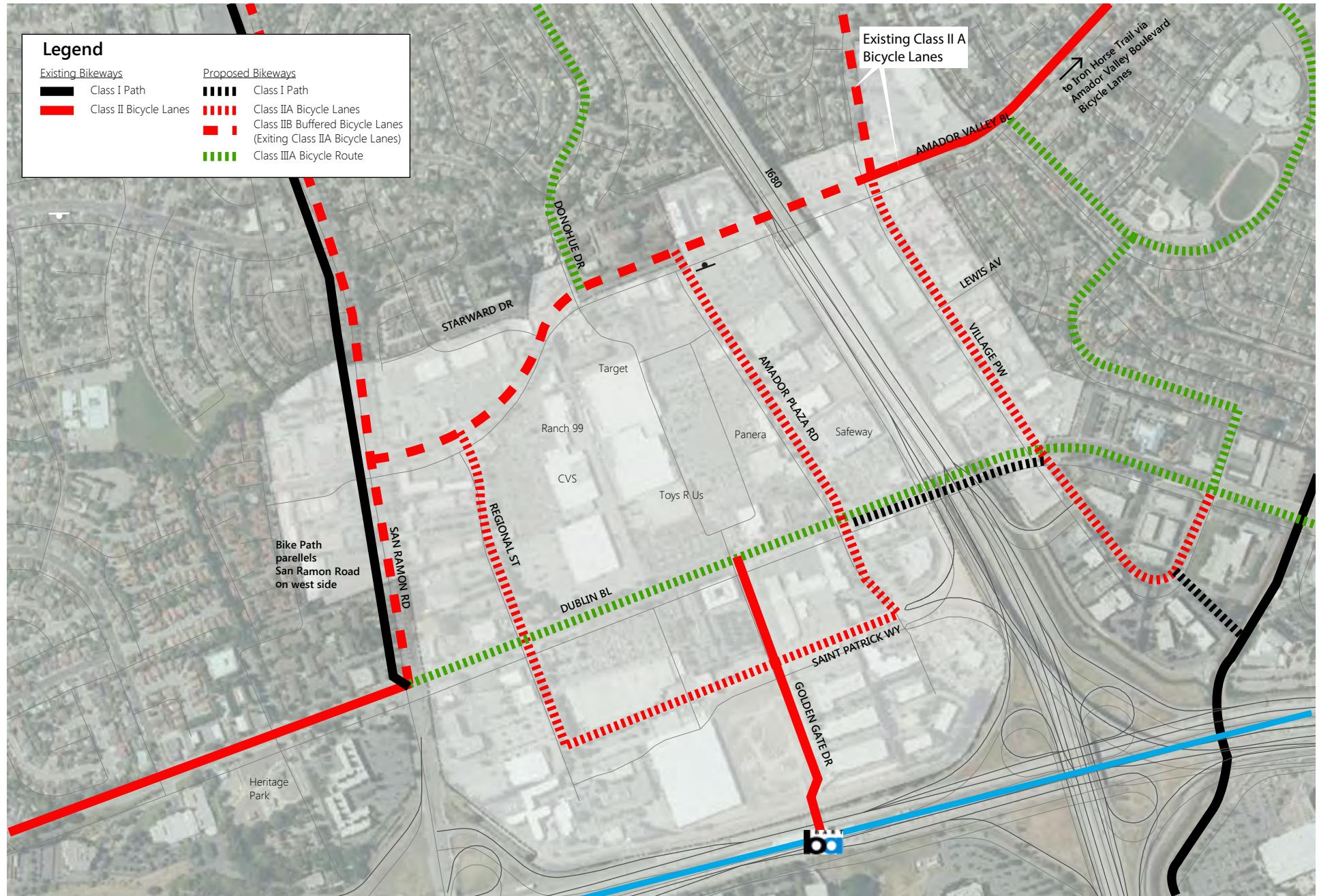
- \$256,110 for Regional Street, Amador Valley Boulevard, and Dublin Boulevard Class I Path
- Dublin Boulevard bicycle route covered under schedule pavement maintenance funds.
- Total project cost estimate is based upon Table 9-1: Bicycle Facility Unit Cost Estimates
- The estimate for Dublin Boulevard Class I Path does not include costs for lighting, barriers, demolition, or any required relocation of existing improvements, such as storm drain inlets or signal poles.



Sidewalk riding is prevalent along Dublin Boulevard despite often narrow usable sidewalk space

Related Projects

- Dublin Boulevard intersection improvements
- Village Parkway Class II B Buffered Bicycle Lanes between San Ramon City Limit and Amador Valley Boulevard



FEHR PEERS

Figure 6-10
Proposed Downtown Bikeway Connectivity Project

January 2014

6. PRIORITY PROJECTS



TIERS TWO & THREE

Remaining bicycle projects were sorted into second and third tier priority groups. Each criterion is given equal weight (up to 2 points), and bicycle projects are scored separately, as described in the next section. Given that the pedestrian projects are focused on Downtown, all remaining pedestrian projects are given a Tier Two designation. It is expected that the next update to the Bicycle and Pedestrian Plan will include Tier Two and Tier Three pedestrian projects when the scope is expanded to a citywide scale.

The prioritized comprehensive list of bikeways projects is presented in **Table A-1 of Appendix A Prioritized Project Lists**, with each project given a label of Tier Zero, Tier One, Tier Two, or Tier Three. The bikeways table includes planning-level cost estimates for each project. The prioritized comprehensive list of pedestrian projects is also presented in **Table A-2**, with each project given a label of Tier Zero, Tier One, or Tier Two.

BIKEWAYS PRIORITIZATION CRITERIA

Five criteria were used to sort the remaining bicycle projects into second and third tier priority groupings. The project list and prioritization criteria were developed to include input received at the City-hosted public workshop and meetings with City staff. Each criterion is given equal weight (up to 2 points each). Total score is out of 10 points, and projects

with a score of 6 or higher were given Tier Two designation. The criteria are further described in the following section.

CONNECTION TO ACTIVITY CENTERS AND/OR OFF-STREET PATHS

Bicycle connections between residential areas, neighborhood schools, BART stations, commercial areas, and bicycle paths and trails provide first/last mile connections to destinations and the existing bicycle and pedestrian network. Points are assigned as follows:

- 2 points for first/last mile connection to a BART station OR direct access to a PDA or two or more key destinations
- 1 point for direct access to one key destination
- 0 points for no access to key destinations

ADDRESSES IMMEDIATE SAFETY NEED

Collision data obtained from SWITRS was analyzed between 2006 and 2011 and were coded to the nearest intersection to identify high frequency collision locations. This data set was the latest available from SWITRS at the time of writing. Data on volume and speed was also examined for each roadway, since higher traffic speed increases the severity of a collision, should one occur. Points are assigned as follows:

6. PRIORITY PROJECTS

- 2 points for corridor or intersection location with two or more bicycle collisions and high speed/high volume streets²
- 1 point for corridor or intersection location with one bicycle collision OR high speed/high volume streets¹
- 0 points for location where no documented bicycle collisions have occurred and traffic speed/volume do not meet thresholds

CLOSURE OF A CRITICAL GAP

Points are assigned to projects that close a gap in the existing bikeway network, including new segments of bikeway; improved access through interchanges, at trail crossings, or through other physical barriers; and gaps in access to Class I paths. Points are assigned as follows:

- 2 points for gap closure or facility/network completion
- 1 point for improving access and reducing the impact of a gap
- 0 points for no gap closure

FEASIBILITY

Projects that do not require easements, property acquisition, or additional pavement are prioritized to focus on lower-cost improvements. Political support is defined here as expressed interest by City officials and/or members of the public. Points are assigned as follows:

- 2 points for projects that are feasible, have political support, AND are strong-contenders for grant funding
- 1 point for projects that are feasible, have political support, OR are strong-contenders for grant funding
- 0 points for projects with limited feasibility, without political support, and no identified potential funding source

COMFORT & ACCESS

Bicycle infrastructure should provide safe and equitable access for people of all levels of experience, including children and older people, to get to activity centers and regional trails. This criterion awards more points for facilities that provide a level of enhancement over standard bicycle facilities to accommodate less experienced cyclists. Points are assigned as follows:

- 2 points are assigned for a Class I path, or Class IIB Buffered Bicycle Lanes¹ point is assigned for Class IIA Bicycle Lanes
- 0 points are assigned for Class IIIA Bicycle Routes

² High-speed/high volume streets are defined here as roadways with speed limits of 30 MPH or more and with an ADT of 10,000 or more.

7. SUPPORT PROGRAMS



7. SUPPORT PROGRAMS

EXISTING PROGRAMS

The City of Dublin has a number of very strong support programs for bicycling and walking already in place. These fall into two broad categories:

- Education and encouragement programs
- Enforcement programs

EDUCATION AND ENCOURAGEMENT PROGRAMS

Education and encouragement programs focus on boosting bicycling and walking with strategic introduction, training and incentives. These targeted programs are informative and increase the enthusiasm and confidence in walking and bicycling among locals.

SAFE ROUTES TO SCHOOL

Safe Routes to School programs encourage and educate students and parents on how to safely walk and “roll” to school. The Dublin Unified School District has a particularly strong local Safe Routes to School Programs that reach students of all ages. The Alameda County Safe Routes to School Partnership operates in five Dublin Unified School District (DUSD) schools — four elementary schools (Murray, Kolb, Green, and Dougherty) and one high school (Dublin). High school participation is unique, and this level of education exceeds best practices and provides

an excellent example to other jurisdictions for targeting bicycling and walking outreach to students beyond elementary school.

Dublin’s Safe Routes program also stands out for the level of participation. In 2013, two-thirds of the City’s elementary schools had Safe Routes to School programs

At Dublin High School, students, parents, and leaders participate in walk audits. The audits focus on connections between the Iron Horse Trail, Stagecoach Park and the high school, as well as to Brighton/Village Parkway.

The City has encouraged wide participation in these programs with events like Walk and Roll to School Day, and the Golden Sneaker Contest. The Safe Routes to School program provides additional benefits and incentives to participating schools by including a monitoring component, a mode chart, and a walking audit.

CITY OF DUBLIN EDUCATION AND ENCOURAGEMENT PROGRAMS

Other Citywide education and encouragement programs include special events that promote active transportation, such as Bicycle to Work Day or bicycling skills courses. These include:

- Bicycle Month/Bicycle to Work Day
- Bicycle to the Farmers’ Market
- National Bicycle Month

7. SUPPORT PROGRAMS



- Bicycle Safety Brochures (available in multiple languages)

These programs are funded through Measure B funds and through donations from the public and private businesses. Grant funding also partially supports a Bicycle Programs coordinator to organize and lead these events.

General education materials such as bicycle safety brochures are available in Mandarin, Spanish, and English.

BICYCLE MONTH/BICYCLE TO WORK DAY

Dublin promotes National Bicycle Month through a City proclamation, public service announcements, a guide to Bicycle Month events, and a commuter challenge. The Family Bicycle Workshop, community-wide celebration of International Walk and Roll to School Week, the regional "Ride Into Life!" campaign, promotion of Bicycle to Work Day and the Cinderella Classic Challenge, an all-women/girls recreational bicycle ride, all increase enthusiasm for bicycling and walking.

The City currently hosts various events as part of National Bicycle Month .

Some of the key events include:

- Bicycle to School Day
- Flat Tire Repair Clinic
- Bicycle to Work Day
- Bicycle to the [Farmers'] Market.
- Adult Bicycle Safety Classes

Last year DUSD elementary schools encouraged students to bicycle to school every day during National Bicycle Month,. Dublin High School hosted a Bicycle to School Day for students and teachers, who received refreshments, giveaways, and helmets on an as-needed basis.

At the Flat Tire Repair Clinic, bicyclists receive free bicycle safety checks and helmet fittings. The City of Dublin, Cycles of Change, and REI Dublin hosted a Bicycle Donation Drive: individuals made a tax-deductible donation of gently used bicycles and bicycle parts and received a coupon to REI Dublin, a Chipotle coupon, and refreshments.

During the Bicycle to the Dublin Farmers' Market Night, cyclists who visit the City booth with some evidence of bicycling received a \$5 "Carrot Cash" voucher, to be used at one of the booths.

Participation is monitored at each event with a head count or with registration in a "Bicycle Month Raffle;" over 500 entries were registered in the prize drawing in May 2013. The City has also hosted multiple "Bicycle Mobile" events, wherein a mobile bicycle repair shop funded by ACTC conducts onsite bicycle maintenance and minor repairs.

TRAFFIC SKILLS

The City educates motorists and bicyclists on sharing the road safely through public service announcements, community newsletters and a dedicated bicycle page on the community website. Cycling skills classes are offered regularly in the community, including:

7. SUPPORT PROGRAMS

- Traffic Skills 101
- "Learn to Ride" Cycling Skills
- Family Bicycle Workshop

All three classes are offered by League of American Bicyclists-certified instructors. Traffic Skills 101 is a one-time classroom course for adults that covers the basics of bicycle maintenance, safety in and around traffic, and equipment. Family Bicycle Workshop is a one-day "on road" program that teaches families the basics of maintaining their bicycles, practices necessary bicycle skills for young cyclists with the use of obstacle courses, and rehearses cycling on road as a family unit in a safe residential area.

PROFESSIONAL TRAINING AND INFRASTRUCTURE

City staff attends bicycle-related conferences and training sponsored by ACTC. Recent training topics have included: complete streets design, policy and practice; crosswalk policies, tools and treatments; bicycle parking; and roadway separated bikeways.

As part of the City's Transportation Demand Management (TDM), the City's Employee Commute Alternative Program is designed to encourage alternative modes of transportation among City employees. The City provides a \$2.00 per day incentive to employees who use public transportation, bicycling, walking or carpooling to commute, and participates in the Alameda County Guaranteed Ride Home Program. Employees may elect to receive pre-tax transit benefits directly through the Clipper Card Program.

ENFORCEMENT PROGRAMS

POLICE ENFORCEMENT

Dublin Police Services (DPS) has a Traffic Unit and the City of Dublin contracts its law enforcement services to the Alameda County Sheriff's Office. The Crime Prevention Unit, with assistance from Traffic Unit, conducts bicycle rodeos for youth and operates other enforcement and educational programs.

The Traffic Safety Unit officers have received specific training on the relationship between bicycling and law enforcement.

Dublin Police Services also operates a traffic diversion program for bicyclists under 18. When a young person is observed violating traffic laws as a bicyclist, the officer requires the young person to write an essay on bicycle safety, focusing on the violation in question. If the essay shows an understanding of the issues, the officer issues a one-time warning. If the violation is for not wearing a helmet, the student is given the opportunity to do community service at the school to earn a free helmet.

RECOMMENDATIONS

As outlined above, Dublin has already established many strong bicycling and walking support programs. The following recommendations are structured around these programs and strategies for expansion and continued momentum. Many of these recommendations are also

7. SUPPORT PROGRAMS



summarized in the Programs, Policies, and Practices Benchmarking Analysis in **Chapter 3** of this Plan (Table 3-1) and are presented here in additional detail.

EDUCATION AND ENCOURAGEMENT PROGRAMS

SAFE ROUTES TO SCHOOL

To date, efforts have focused on education and encouragement, with less focus on infrastructure improvements near schools. Recommendations for enhancement include:

- Continue to identify “champions” for safe routes at each school site
- Coordinate with SR2S monitoring programs with the bicycle and pedestrian monitoring program established in this Plan
- Integrate walking audit and other infrastructure-related recommendations with this Plan to help prioritize projects and create packages of grant-ready projects
- Explore the feasibility of competitive funding for projects identified, either through SR2S or other grants

Many strong programs are in place and the precedent has been set to continue building on past successes and coordination with schools at all grade levels. In order for this to continue, the City of Dublin will need to continue to support the establishment of volunteer programs and help to

identify champions and members of the public as leaders at each school and throughout the community.

CITY OF DUBLIN EDUCATION AND ENCOURAGEMENT PROGRAMS

COMMUNITY EDUCATION AND ENCOURAGEMENT

The following enhancements are recommended for community education and enforcement programs:

- Work with City departments and LAVTA to promote the use of walking, bicycling, and transit access to City events, such as the St. Patrick’s Day Celebration. Events such as these present opportunities to introduce residents to fun walking and bicycling opportunities, while simultaneously reducing vehicle traffic associated with the events. The City can promote walking and bicycling with event-specific route information, temporary wayfinding, and services such as bicycle valet parking. Major events like the St. Patrick’s Day Festival also present opportunities for public outreach campaigns to promote the “share the road” message.

7. SUPPORT PROGRAMS

- Collaborate with volunteer groups to organize and execute programs, identify local needs, and inform the priorities of local education and encouragement programs through a direct connection to the community. Volunteers will reduce the burden on City staff. Continue to look for public volunteers to serve as project champions for organizing events and programs.

Wayfinding Signage

People are more likely to consider walking when they know that a trip is short and convenient. The City should consider developing wayfinding signage so that pedestrians and motorists are familiar with different sign types. Typically, these wayfinding programs are most effective in areas with multiple destinations within a reasonable walking distance, such as around transit stations and downtown commercial districts. A citywide wayfinding program for bicyclists and pedestrians is a proposed project in this Plan.

The City of Portland, OR has established a pedestrian-focused wayfinding program. Examples of the signs and design standards can be found online:

- <http://www.portlandoregon.gov/transportation/40500>

More details about bicycle- and pedestrian-specific wayfinding are included in the **Bicycle and Pedestrian Design Guidelines**.



This example focuses on bicycle wayfinding, but the information about distances and connections between key destinations is also very helpful for pedestrians.

PROFESSIONAL TRAINING

The City may consider revising staff hours for bicycle program coordination and use other City staff/resources to pursue grants. Specifically this could include:

7. SUPPORT PROGRAMS



- Seeking grant funding to expand staff time for bicycle education programs and to provide time for other staff to pursue competitive grants
- Revise the scope of staff time for bicycle program coordination to include time for pedestrian-oriented programs and activities
- Consider membership to the Association of Bicycle and Pedestrian Professionals (APBP) for staff for the resources and training opportunities available to members
- Continuing staff training on Complete Streets implementation
- Provide information to the public on traffic laws regarding driving, bicycling, and walking, and always continue to look for opportunities to encourage bicycling and walking. Police officers are community role models and can lend authority to messages and programs that support walking and bicycling.

POLICE ENFORCEMENT

Recommendations for enhancement to police enforcement programs include:

- Expand the scope of current police enforcement programs to include participation in bicycle and pedestrian-related education and classes, and enforcement programs as well as officer training in pedestrian safety enforcement.
- Ask police to use targeted information and enforcement to encourage motorists and cyclists to share the road. Targeted traffic enforcement may also be used in high pedestrian priority areas to call drivers' attention to important locations and common infractions that affect pedestrian safety.
- Coordinate with neighboring jurisdictions to resource share during enforcement campaigns. This will increase consistency and reinforce the importance of pedestrian and bicycle safety.

8. PERFORMANCE MEASURES



8. PERFORMANCE MEASURES



The City of Dublin intends to monitor progress over time on implementing the Bicycle and Pedestrian Plan. This chapter presents four key performance goals for the Plan's implementation, summarizes existing data sources related to walking and bicycling, and provides additional information on types of data collection methods and technologies currently available.

PERFORMANCE GOALS

Table 8-1 summarizes the four Performance Measure and Goals and includes information on the key stakeholders and associated metrics and policies to make progress toward meeting goals. These goals include: 1) Construct all the low-stress bicycle facilities that support all ages and abilities by 2035, and build out remainder of the bicycle network by 2050; 2) Increase the walkability of Downtown Dublin; 3) Enhance pedestrian and bicycle safety throughout Dublin, and 4) Encourage and facilitate a significant increase in active transportation mode share and trips. These goals provide consistency with the citywide policies established in **Chapter 3 Goals and Policies**, and should be followed and monitored per Policy 1-7 of this Plan.

In order to begin monitoring consider creating a performance baseline condition and a schedule of follow-on data collection, as addressed in this Chapter.

EXISTING BICYCLE AND PEDESTRIAN DATA SOURCES

Appendix B - Existing Bicycle and Pedestrian Volumes presents available bicycle and pedestrian count information to establish a baseline. In future Plan updates, these volumes can be used to measure increases in walking and biking. As bicycle and pedestrian volumes are collected, they should be consolidated to help document the performance of the Plan.



Example of an automated bicycle/pedestrian counter installed next to Alamo Canal Trail north of the I-580 undercrossing.

8. PERFORMANCE MEASURES

TABLE 8-1 PERFORMANCE GOALS

Goal	Metrics	Key Actions
1. Construct all the low-stress bicycle facilities that support users of all ages and abilities by 2035, and build out the remainder of the bicycle network by 2050.	Establish a construction pace of 0.5 miles of bicycle facilities per year.	<ul style="list-style-type: none"> Update the <i>Five-Year Capital Improvement Program</i> and Downtown Dublin TIF to prioritize low-stress bicycle facilities for funding and implementation. Continue to seek competitive grant funding sources to implement low-stress bicycle facilities and other Tier One and Two projects Consider bicycle and pedestrian facilities in all paving projects and intersection improvements Review environmental documents and proposed development plans for consistency with this Plan and for proposed facility's ability to accommodate the needs of users of all ages and abilities
2. Increase the walkability of Downtown Dublin	Establish a construction pace of one capitol pedestrian project per year in Downtown to complete all projects by 2040.	<ul style="list-style-type: none"> Update the <i>Five-Year Capital Improvement Program</i> and Downtown Dublin TIF to include pedestrian improvement projects Prioritize Tier One and Two pedestrian projects for funding and implementation Review environmental documents and proposed development plans for consistency with the Bicycle and Pedestrian Plan and to accommodate the needs of users of all ages and abilities
3. Enhance pedestrian and bicycle safety throughout Dublin	Reduce total number of annual bicycle and pedestrian related collision rate by half by 2030	<ul style="list-style-type: none"> Address collision locations identified in this Plan including but not limited to Dublin Boulevard, Amador Valley Boulevard, Hacienda Drive, Village Parkway, Dougherty Road, and San Ramon Road. Consider needs of bicyclists and pedestrians at these locations when trade-offs with vehicle operations are required in conjunction with the City's Complete Street Policy and local context.
4. Encourage and facilitate a significant increase in active	Increase the percentage of bicycle and	<ul style="list-style-type: none"> Require bicycle and pedestrian counts to be routinely collected with all intersection turning movement counts, such as for all environmental documents and traffic studies Monitor bicycle and pedestrian activity at key locations within the City using automated counting

8. PERFORMANCE MEASURES



TABLE 8-1 PERFORMANCE GOALS

Goal	Metrics	Key Actions
transportation mode share and trips.	pedestrian commute trips by next Plan update.	<p>technologies, where feasible.</p> <ul style="list-style-type: none">• Evaluate creating a GIS database of bicycle and pedestrian counts by location, including peak hour, weekday and weekend ADT, date, and source of data, as available• Update the GIS database as traffic studies and environmental documents are viewed by City staff and once data is available from ACTC and MTC's annual monitoring <p>Review and monitor bicycle and pedestrian commute mode share from American Community Survey (ACS) data</p>

Source: Fehr & Peers, 2013.

9. IMPLEMENTATION



9. IMPLEMENTATION

This chapter presents implementation guidance and funding sources and strategies available for bicycle and pedestrian infrastructure projects and programs. It also includes unit costs per mile for each bikeway classification used in this Plan. Unit costs for pedestrian facilities along with design guidelines for bicycle and pedestrian facilities are presented in the **Bicycle and Pedestrian Design Guidelines**. **Appendix C Funding**, provides information on funding sources.

IMPLEMENTATION

Subject to City Council approval, City staff has identified major next steps for the implementation of this Plan:

- Initiate for City Council consideration a Capital Improvement Project in Fiscal Year 2014-15 to implement the Downtown Multi-Modal Improvement-Project for pedestrian and bicycles, including the following: 1) Incorporate the Regional Street Class IIA bicycle lanes from Amador Valley Boulevard to southerly end of street, 2) Amador Valley Boulevard Class IIB buffered bicycle lanes from San Ramon Road to Village Parkway, 3) Installation of bicycle racks and bikeway guide signs in the Downtown area, and 4) Construct on Amador Plaza Road a mid-block crossing with enhanced crossing treatment such as Rectangular Rapid Flashing Beacon.
- Incorporate Class IIA bicycle lanes on Village Parkway from Amador Valley Boulevard to Clark Avenue into the next Village Parkway pavement overlay, currently planned in FY 2014-15.
- Incorporate Class IIB buffered bicycle lanes on Village Parkway between Amador Valley Boulevard and North City Limit line into the next Village Parkway slurry seal, currently planned for FY 2014-15.
- Incorporate Class IIA bicycle lanes on St. Patrick Way between Amador Plaza Road and Golden Gate Drive,.
- Incorporate Class IIIA bicycle route with sharrows treatment, including signage and striping, on Dublin Boulevard between San Ramon Road and the Alamo Canal Trail with One Bay Area Grant (OBAG) funding currently planned for FY 2015-16.
- Incorporate the top priority projects included in this Plan in the update of the Downtown Dublin Traffic Impact Fee (planned for FY 2014-15) as per the nexus analysis.
- Continue to fund the Bikeway Implementation Program education and encouragement efforts for 2014 using funds allocated from Measure B.
- Continue staff training for complete streets issues so that City staff can champion projects and apply for competitive grant funding sources, which are described in the following section.
- Opportunistically implement the other projects contained in this Plan. When opportunities arise to stripe or construct a project, the City should take advantage of that, even if the project is not a top tier priority project.
- While the project lists are by location for reference, look for opportunities to group projects together by type (striping projects, safe routes to transit, etc.) where funding sources and implementation efficiency allow.

9. IMPLEMENTATION

- Consult the bicycle and pedestrian project lists whenever making improvements to the transportation network, specifically when overlays or other routine projects are completed.
- Identify and incorporate bicycle and pedestrian improvements in private development projects as condition of development approvals.

COST OF NEW FACILITIES

Table 9-1 presents costs per mile for bikeways identified in this Plan.

These costs include **Table 9-2** presents the total cost of the plan by bikeway classification, and **Table 9-3A and 9-3B** divide out capital projects and developer built facilities. These costs include unit costs for standard treatments for each facility type with basic assumptions listed. The total cost per mile represents the total construction for a typical bikeway of that type, including engineering, design, construction management, mobilization, traffic control, and contingency. These numbers do not include right of way and environmental costs. Excluding the facilities anticipated to be funded and built by private developers, the estimated cost of the bicycle facilities proposed in this Plan is

TABLE 9-1: BICYCLE FACILITY UNIT COST ESTIMATES

Item	Assumptions	Cost/Unit
Bicycle Rack	Cost of typical U-shaped bicycle rack, including installation costs.	\$1,000 each
Wayfinding/Destination Sign	Customized sign with Dublin logo and fingerboard destinations signs with time to destination on new steel post	\$700 each
Class I Multi-Use Path	Design and construction if on a level surface with no major structures/retaining walls required; does not include right-of-way	\$1,000,000/mile
Class IIA Bicycle Lanes (Both Roadway Sides)	Includes \$2.50 LF thermoplastic striping, 20 \$150 pavement markings per mile (2 per block, with approximately 10 blocks per mile), and 10 \$700 signs per mile (1 per block, with approximately 10 blocks per mile)	\$23,200/mile
Class IIB Bicycle Lanes (Both Roadway Sides)	Includes \$6.50 LF striping (includes thermoplastic bicycle lane stripe and chevron stripe of \$2,50/LF), \$150 marking (8 per mile), \$700 sign (8 per mile)	\$44,300/mile
Class IIIA - Signed Bicycle Routes with Sharrows	Includes 35 \$150 pavement markings (1 per 150 linear feet) and one \$700 sign in each direction per block (approximately 10 blocks per mile)	\$19,250/mile

Source: Fehr & Peers, 2013.

9. IMPLEMENTATION

\$2,765,600. The estimated cost of the developer built facilities is \$7,865,700. The total cost of proposed pedestrian network is **\$5,044,500.** The estimated cost for each proposed bikeway and pedestrian improvement is presented in **Appendix A.** Design guidance are presented in the **Bicycle and Pedestrian Design Guidelines.**

TABLE 9-2 CONCEPTUAL COST OF TOTAL PROPOSED
BICYCLE NETWORK

Bikeway Classification	Existing (miles)	Proposed (miles)	Total Miles	Unit Cost per mile	Cost of Proposed Bikeways
Class I Bicycle Path-Total	23.62	9.98	33.03	\$1,000,000	\$9,980,000
Class II A Bicycle Lanes ⁵ - Total	25.27	17.09	41.85	\$ 23,200	\$385,000
Class II B Buffered Bicycle Lanes - Total	-	3.83	3.83	\$ 44,300	\$170,000
Class III A Bicycle Routes with Sharrows ² - Total	0.3	4.42	4.72	\$19,250	\$85,000
Total	49.19	35.32	83.42	-	-
Total Cost of Proposed Bikeway					\$10,631,300 (35.32 miles)

9. IMPLEMENTATION

**TABLE 9-3A CONCEPTUAL COST OF TOTAL PROPOSED
BICYCLE NETWORK – DEVELOPER BUILT FACILITIES**

Bikeway Classification	Existing (miles)	Proposed (miles)	Total Miles	Unit Cost per mile	Cost of Proposed Bikeways
Class I Bicycle Path	-	7.72	-	\$1,000,000	\$7,720,000
Class II A Bicycle Lane ¹	-	5.76	-	\$23,200	\$133,600
Class III A Bicycle Routes with Sharrows ²	-	0.63	-	\$19,250	\$12,000
Total Cost - Developer Built Facilities				\$7,865,700 (14.11 miles)	
Notes:					
1. The Caltrans HDM labels these facilities as "Class II Bicycle Lanes".					
2. The Caltrans HDM has a "Class III Bicycle Route" classification, which is demarcated by signage only. This Plan proposes that the minimum standard for the Caltrans HDM Class III designation also include sharrows pavement legends every 150 feet.					
Source: Fehr & Peers, 2014.					

**TABLE 9-3B CONCEPTUAL COST OF TOTAL PROPOSED
BICYCLE NETWORK – CITY CAPITAL PROJECTS**

Bikeway Classification	Existing (miles)	Proposed (miles)	Total Miles	Unit Cost per mile	Cost of Proposed Bikeways
Class I Bicycle Path-Total	-	2.26	-	\$1,000,000	\$2,260,000
Class II A Bicycle Lane ³ - Total	-	11.33	-	\$ 23,200	\$262,900
Class II B Buffered Bicycle Lanes - Total	-	3.83	-	\$ 44,300	\$169,700
Class III A Bicycle Routes with Sharrows ² - Total	-	3.79	-	\$19,250	\$73,000
Total	-	21.21	-	-	-
Total Cost of Proposed Bikeway					\$2,765,600 (21.21 miles)

9. IMPLEMENTATION



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APPENDIX A: PRIORITIZED PROJECT LIST



A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
Tier 1	Downtown Connectivity Project: Dublin Boulevard Corridor	IIIA Bicycle Route with Sharrows	Dublin Boulevard from San Ramon Road to Alamo Canal Trail	Class IIIA Bicycle Route with Sharrows (Near-Term); Class I Path between Amador Plaza Road and Village Parkway (Near-Term); Consider Class I Shared-Use Path or lane reduction with Class IIB Buffered Bicycle Lanes (Long-Term)	1.13							\$22,000
	Downtown Connectivity Project: Dublin Boulevard Corridor	I Shared-Use Path	Dublin Boulevard between Amador Plaza Road and Village Parkway	Widen existing sidewalk to construct shared-use path on south side of Dublin Boulevard	0.22							\$220,000
Tier 1	Downtown Connectivity Project: Regional Street	IIA Bicycle Lanes	Regional Street from Amador Valley Boulevard to St. Patrick Way	Proposed Class IIA Bicycle Lanes between Amador Valley Boulevard and St. Patrick Way with two 7' parking lanes, two 11' auto lanes, and 7' bicycle lanes	0.35							\$8,200

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Downtown Connectivity Project: Saint Patrick Way	IIA Bicycle Lanes	St. Patrick Way from Regional Street to Essex Development and Golden Gate Drive to Amador Plaza Road	Extension of St. Patrick Way (including Class II bike lanes) to Regional Street subject to development of the adjacent area.	0.25							Developer Built Facility
	Downtown Connectivity Project: Amador Valley Boulevard	IIIB Buffered Bicycle Lanes	Amador Valley Boulevard from San Ramon Road to Village Parkway	Proposed Class IIIB: narrow 13' travel lanes to 11', stripe buffered bicycle lane between San Ramon Road and Village Parkway	0.63							\$28,000
	Downtown Connectivity Project: Amador Plaza Road	IIA Bicycle Lanes	Amador Plaza Road between Amador Valley Boulevard and Saint. Patrick Way	Proposed Class II A Bicycle Lanes	0.50							\$5,438,000 -Cost is for a Complete Street Project
Tier 1	Downtown Connectivity Project: Village Parkway Corridor	IIIB Buffered Bicycle Lanes	Village Parkway between northern City limit and Amador Valley Blvd	Proposed Class IIIB Buffered Bicycle Lane between City Limit and Amador Valley Boulevard	1.15							\$2,863,000 -Cost is for a

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Downtown Connectivity Project: Village Parkway Corridor	IIA Bicycle Lanes	Village Parkway between Amador Valley Blvd and Alamo Canal Trail connector	Proposed Class IIA between Amador Valley Boulevard and Alamo Canal Trail connector	0.57							Complete Street Project
	Village Parkway Corridor: Alamo Canal Trail/Civic Plaza Class I Connector	I Bicycle/Multi-Use Path and Bridge	Class I connection between Village Parkway/Clark Avenue at Alamo Canal Trail at Dublin Public Safety Complex Site	Proposed 10' Class I with bicycle/pedestrian bridge connecting to Alamo Canal Trail	0.1							
	Village Parkway Corridor: Clark Avenue	IIA Bicycle Lanes	Clark Avenue between Dublin Boulevard and Alamo Canal Trail/City Hall Connector	Proposed Class IIA Bicycle Lanes	0.07							
Tier 2	Citywide Bicycle Signal Detection	-	Citywide	Planning study to assess existing inventory and detection type; identify and prioritize intersections needing bicycle detection; and recommendation bicycle detection type.	-							\$15,000*

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Citywide Wayfinding Program	-	Citywide	Planning study to develop siting and design of citywide wayfinding program	-							\$15,000*
	Downtown Bicycle Rack Program	-	Downtown	Identify and install bicycle racks at various locations in the Downtown area based on field study and public request.	-							\$10,000
Tier 2	Dougherty Road Corridor	IIA Bicycle Lanes	Dougherty Rd from Dublin Boulevard to northern City limit. May need to be a Class III route between Dublin Boulevard and Sierra Lane.	Class IIA bicycle lanes north of Amador Valley Boulevard and south of Iron Horse Trail; Revise Class IIA striping northbound to include bicycle lane pavement legends and widen or restripe Class IIA northbound to provide consistent 6' width as possible	1.36	2	2	1	1	2	8	\$31,600
	Amador Valley Boulevard Corridor	IIA Bicycle Lanes	Amador Valley Boulevard from Village Parkway to York Drive	Stripe inverted Parking T's and striping standard Class IIA Bicycle Lanes	0.14	2	1	1	2	2	8	\$3,300

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Amador Valley Boulevard Corridor	III Bicycle Route with Sharrows	Amador Valley Blvd between Stagecoach Road and Wildwood Road	Proposed Class IIa: narrow 13' travel lanes, stripe buffered bicycle lane	0.14	2	1	1	2	2	8	\$2,700
	Amador Valley Boulevard Corridor	IIA Bicycle Lanes	Amador Valley Blvd between Wildwood Road and Dougherty Road	Proposed IIa with two-block road diet to accommodate bicycle lanes pending feasibility analysis; Class IIIa if IIa not feasible	0.14	2	1	1	2	2	8	\$3,300
	Central Parkway Corridor (Camp Parks/Dublin Crossing)	IIA Bicycle Lanes	Central Parkway between B Street and Arnold Road	Proposed Class IIa	0.37	2	1	2	2	1	8	Developer-Built Facility
	Central Parkway Corridor to Iron Horse Path Connection (Camp Parks/Dublin Crossing)	I Shared-Use Path	Class I connection from Central Parkway to Iron Horse Trail	Proposed Class I connection between Iron Horse Trail and Central Parkway, extending from Central Parkway/B Street intersection through development and proposed Dublin Crossing Park to Iron Horse Trail	-	2	1	1	2	2	8	Developer-Built Facility

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	DeMarcus Boulevard	IIA Bicycle Lanes	DeMarcus Boulevard from Dublin Boulevard to Dublin/Pleasanton BART station.	Proposed Class IIa: 11' travel lanes, 6' Class IIa, 7' parking;	0.25	2	2	2	1	1	8	Developer-Built Facility
Tier 2	Dougherty Road Corridor	IIB Buffered Bicycle Lanes	Dougherty Road on I-580 Overpass	Coordinate with Caltrans and Pleasanton on the feasibility of Proposed Class IIB with striping through interchanges per Draft ITE Recommended Practice. Stripe Class IIB in existing shoulder to create 6'-18' buffered bicycle lanes	0.41	2	1	2	2	1	8	\$18,200
	Dublin Boulevard Corridor	I Shared-Use Path	Connection between Croak Road (Dublin) and Collier Canyon Road (Livermore)	Near Class I connection between Croak Road and Collier Canyon Parkway	0.4	2	1	2	2	1	8	\$400,000
	Gleason Dr. Bike Path	I Shared-Use Path, Street Crossing Enhancements	On south side of Gleason Drive from Emerald Glen Park/Tassajara Rd. to Brannigan St.	-	0.25	2	2	2	2	0	8	\$250,000

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Hacienda Drive	IIB Buffered Bicycle Lanes	Hacienda Drive from Gleason Drive to southern City limit	Coordinate with Caltrans and Pleasanton on proposed Class IIB Buffered Bicycle Lanes from Gleason Drive to I-580 Overpass (in Pleasanton) with striping through interchanges per Draft ITE Recommended Practice.	0.07	2	1	1	2	2	8	\$3,200
Tier 2	Iron Horse Parkway	IIA Bicycle Lanes	Iron Horse Parkway from Dublin Boulevard to BART Parking Lot	Proposed Class IIA. Dublin Boulevard and Martinelli Way (11' travel lanes, 8' parking, and 6' Class IIA);	0.18	2	1	1	2	2	8	Developer-Built Facility
	Iron Horse Parkway	IIA/IIIA Bicycle Lanes/Bicycle Route with Sharrows	Iron Horse Parkway from BART Parking Lot to Dublin/Pleasanton BART Station	Proposed NB Class IIA and use green skip-stripe pavement marking to show continuation of bike lane through conflict zone with bus pullout areas on SE side of roadway; Proposed Class IIIA SB	0.85	2	1	1	2	2	8	\$19,800

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
Tier 2	Arnold Drive	IIA Bicycle Lanes	Arnold Drive from Central Parkway to end of roadway when extended (just north of I-580)	Proposed Class IIA between Dublin Boulevard and end of roadway (when widened)	0.3	2	0	1	2	2	7	\$7,000
	B Street (Camp Parks/Dublin Crossing)	IIA Bicycle Lanes	B Street (Demarcus Boulevard) from Dublin Boulevard to G Street	Proposed Class IIA	0.51	1	1	2	2	1	7	Developer-Built Facility
	Brannigan Street Path	I Shared-Use Path	West side of Brannigan St. from Central Pkwy. to Gleason Blvd.	-	0.25	2	1	1	2	1	7	Developer-Built Facility
Tier 2	Central Parkway	IIA Bicycle Lanes	Central Parkway from Tassajara Road to Brannigan Street	Proposed WB Class IIA from Tassajara Road to Brannigan Street	0.16	2	1	1	2	1	7	\$3,800
Tier 2	Central Parkway	IIA Bicycle Lanes	Central Parkway from Lockhart Street to Eastern City Limit	Proposed EB Class IIA from Lockhart Street and eastern city limit	0.3	1	1	2	2	1	7	\$7,000

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Central Parkway Bike Path	I Shared-Use Path, Street Crossing Enhancements	On north side of Central Parkway from Emerald Glen Park/Tassajara Road to Brannigan Street	-	0.25	2	0	1	2	2	7	\$250,000
	D Street (Camp Parks/Dublin Crossing)	I Shared-Use Path	D Street (Iron Horse Parkway) from Dublin Boulevard to G Street	Proposed Class I Shared-Use Path	0.51	2	2	2	1	2	9	Developer-Built Facility
	Davona Drive-Brighton Drive-Luciana Street-Maple Drive Bicycle Boulevard	IIIA Bicycle Route with Sharrows	Davona Drive from Alcosta Boulevard to Luciana Street	Proposed Class IIIA Bicycle Route with Sharrows	0.46	2	0	2	1	2	7	\$19,300
		IIIA Bicycle Route with Sharrows	Brighton Drive between Luciana Street and Amador Valley Boulevard	Proposed Class IIIA Bicycle Route with Sharrows	0.17							
		IIIA Bicycle Route with Sharrows	Lucina Street between Davona Drive and Brighton Drive	Proposed Class IIIA Bicycle Route with Sharrows	0.14							
		IIIA Bicycle Route with Sharrows	Maple Drive between York Drive and Dublin Boulevard	Proposed Class IIIA Bicycle Route with Sharrows	0.42							

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
Tier 2	Dougherty Road Path / Iron Horse Trail Connection Improvements & Overcrossing study	Reconfigure bike lanes and signage. Grade separation study.	Dougherty Road Path at Iron Horse Trail	Modify SB pork-chop island to facilitate bicycle/pedestrian traffic; Modify signal phasing to provide Leading Pedestrian Interval for North Crosswalk; Reduce crossing distance and crosswalk skew. Consider grade-separated solution.	n/a	2	1	2	1	1	7	To be Determined*
	East Dublin Bike/Pedestrian Corridor	I Shared-Use Path	From Area F East Neighborhood Park to Area F West Neighborhood Square, with bridge crossing Grafton Street	Class I path on Finnian Way between Chancery Lane and Fitzwilliam Street	0.3	1	0	2	2	2	7	Developer-Built Facility
	G Street/Iron Horse Trail Crossing (Camp Parks/Dublin Crossing)	Trail Crossing Improvements	Scarlett Drive/G Street/Iron Horse Trail Intersection	Crossing Improvements at proposed intersection of Scarlett Drive/G Street/Iron Horse Trail	-	2	1	2	1	1	7	Developer-Built Facility
	Gleason Drive	IIA Bicycle Lanes	Gleason Drive from Tassajara Rd to Brannigan Street	Proposed Class IIA	0.92	2	1	1	2	1	7	\$21,400

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Grafton Street	IIIA Bicycle Route with Sharrows	Grafton Street from Saddlebrook Place to Gleason Drive	Proposed Class IIIA Bicycle Route with Sharrows	0.07	2	1	2	1	1	7	Developer-Built Facility
Tier 2	Iron Horse Trail / Dublin Boulevard Intersection Improvements & Overcrossing Study	Intersection improvements, signage and striping. Trail overcrossing study.	Iron Horse trail at Dublin Boulevard	Install trail and wayfinding signage; Modify signal to include Leading Pedestrian Interval; Install trail crossing signage	0.06	2	1	2	1	1	7	To be Determined*
	Penn Drive/York Drive	IIIA Bicycle Route with Sharrows	Penn Drive/York Drive between Amador Valley Boulevard and Maple Drive	Proposed Class IIIA Bicycle Route with Sharrows	0.5	2	0	2	1	2	7	\$9,630

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	San Ramon Road Corridor	IIIB Buffered Bicycle Lanes	Alcosta Boulevard to Dublin Boulevard	Proposed Class IIIB Buffered Bicycle Lane, green skip-striping across turn pockets where roadways widens for right-turn pockets, reduce turn right-turn pocket length to 150' maximum, remove slip lanes at Silvergate Drive and Amador Valley Boulevard, remove acceleration/deceleration lanes at Arbor Creek Road	0.23	2	2	2	0	1	7	\$10,200
	Stagecoach Park / Iron Horse Trail Connector	I Shared-Use Path and Bridge	From Stagecoach Road along edge of Stagecoach Park to Iron Horse Trail	Proposed Class I	0.06	2	0	2	2	1	7	Included in Iron Horse Nature Park plans

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Tassajara Road Corridor	IIA/ IIB Bicycle Lane/Buffered Bicycle Lanes	Tassajara Road over I-580	Coordinate with Caltrans and Pleasanton on the proposed Class IIA SB and IIB NB with striping through interchanges per Draft ITE Recommended Practice. Stripe Class IIB in existing shoulder to create 6'-18' buffered bicycle lanes	0.34	2	2	1	1	1	7	\$15,100
Tier 2	Altamirano Street	IIA Bicycle Lanes	Altamirano Street from Arnold Drive to BART parking lot	-	0.27	2	1	1	1	1	6	Developer-Built Facility
	Dublin Boulevard Corridor	IIA Bicycle Lanes	Extension of Dublin Boulevard to North Canyons Parkway in Livermore	Proposed Class IIA when roadway is constructed; this is a long-term solution	1.56	2	1	1	2	0	6	\$36,200
	Dublin Boulevard Corridor	I Shared-Use Path	Connection between Croak Road (Dublin) and Collier Canyon Road (Livermore)	Near Class I connection between Croak Road and Collier Canyon Parkway	0.4	1	0	2	2	1	6	\$400,000

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Dublin High School / Iron Horse Trail Path	I Shared-Use Path	Class I bike path along south side of school grounds and Dublin Swim Center from Iron Horse Trail to Village Parkway	Preferred alignment is south side of Dublin High School ground to connect to proposed Class IIB on Davona Drive	0.17	2	0	2	1	1	6	\$170,000
	Fallon Road	IIA Bicycle Lane	Fallon Road between Gleason Drive and Signal Hill Drive, Tassajara Road to County Limit	Complete gaps in existing Class IIA Bicycle Lanes	2.01	1	1	1	2	1	6	Developer-Built Facility
	Fallon Road Corridor	IIB Bicycle Lane	Fallon Road from Dublin Blvd across I-580 to El Charro Road	Coordinate with Caltrans, Pleasanton and Livermore on the proposed Class IIA with striping through interchanges per Draft ITE Recommended Practice. Stripe minimum 6' Class IIA with 11-11.5' travel lanes	0.2	2	1	2	1	0	6	Developer-Built Facility
Tier 2	G Street (Camp Parks/Dublin Crossing)	I Shared-Use Path	G Street from Scarlett Drive to Arnold Road	Proposed Class I Shared-Use Path	0.23	1	1	1	1	2	6	Developer-Built Facility

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Grafton Street	IIIA Bicycle Route with Sharrows	Grafton Street from Gleason Drive to Central Parkway	Proposed Class IIIA Bicycle Route	0.3	2	1	1	1	1	6	\$5,800
	Grafton Street	IIIA Bicycle Route with Sharrows	Grafton Street from Saddlebrook Place to Antone Way	Proposed Class IIIA	0.25	2	1	1	1	1	6	\$5,800
	Martinelli Way	IIA Bicycle Lanes	Martinelli Way from Iron Horse Parkway to Hacienda Drive	Proposed Class IIA from Iron Horse Parkway to Hacienda Drive	0.47	2	1	1	1	1	6	Developer-Built Facility
	San Ramon Road Corridor	IIA Bicycle Lane	San Ramon Road from Dublin Blvd across I-580 to Foothill Road	Coordinate with Caltrans and Pleasanton on proposed Class IIA with striping through interchanges per Draft ITE Recommended Practice. Stripe minimum 6' Class IIA with 11-11.5' travel lanes	1.5	2	2	1	0	1	6	\$34,800
	Scarlett Drive	IIA Bicycle Lanes	Dougherty Road to Dublin Boulevard	Proposed Class IIA per EIR	0.46	1	1	1	1	2	6	Developer-Built Facility

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES												
Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Silvergate Drive	IIA Bicycle Lanes	Woodren Court to San Ramon Road	Proposed Class IIA EB between Woodren Court and San Ramon Road, remove SB right slip lane and restripe WB Class IIA Bicycle Lane	0.06	2	0	1	2	1	6	\$1,400
Tier 2	Tassajara Creek Trail Northern Extension	I Shared-Use Path	Tassajara Creek from Somerset Lane through Tassajara Creek Regional Park	Existing Class I ends at Hillbrook Place. Continue Class I north into Tassajara Creek Regional Park	0.57	1	1	2	1	1	6	Developer-Built Facility
	Tassajara Creek Trail Continuation on Gleason Drive	I Shared-Use Path	Class I continuation of Tassajara Creek Trail on south side of Gleason Drive between Tassajara Creek Trail and Gleason Drive/Creekside Road intersection	Widen sidewalk to create Class I sidepath; Install wayfinding signage for trail crossing	0.05	1	1	2	1	1	6	Developer-Built Facility

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Tassajara Creek Trail, Freeway Grade Separated Crossing Study	1 Special study area for gap closure, including bridge overcrossing and shared-use path	Tassajara Creek, from Dublin Boulevard and over I-580 connecting to Pleasanton	Feasibility Study for undercrossing or overcrossing at Tassajara Creek Trail/I-580	0.57	1	1	2	2	0	6	*
	Tassajara Creek Trail/Dublin Boulevard Trail Crossing	-	Tassajara Creek Trail Extension/Dublin Boulevard	Include study of mid-block trail crossing with RRFB, HAWK, or Signal at Dublin Boulevard with Tassajara Creek Trail extension into Pleasanton	-	1	1	2	1	1	6	*
Tier 3	Croak Road	IIA Bicycle Lanes	Croak Road from Dublin Blvd to Upper Loop Road	Proposed Class IIA	1.14	2	0	1	1	1	5	\$26,500
	Dublin Boulevard Corridor	IIA Bicycle Lanes	Dublin Boulevard between Brigadoon Way and 600' west of Silvergate Drive	Proposed Class IIA	0.69	1	1	1	2	0	5	\$16,100

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Fallon Road Grade separation with Fallon Village Creek Trail / Dublin Sport Park	I Shared-Use Path/Bridge	From proposed Fallon Village Creek Westbank Trail to Future Fallon Sports Park	Stripe enhanced, at-grade high-visibility trail crossing with RRFB or HAWK. Install trail crossing signage.	0.16	1	1	2	1	0	5	Developer-Built Facility
	Iron Horse Trail / Dublin Blvd. Rest Area	1 Signage/gateway element, map kiosk, benches, bicycle racks, trash/recycling bins, drinking water fountain	North side of Dublin Boulevard, east side of Iron Horse Trail	-	n/a	2	0	2	0	1	5	**
	Lockhart Street	IIIA Bicycle Route with Sharrows	Lockhart Street from Dublin Boulevard to Gleason Drive	Proposed Class IIIA	0.7	2	1	1	1	0	5	Developer-Built Facility
	Nielson Elementary / Mape Memorial Park Path	I Shared-Use Path	From Amarillo Rd. along southern edge of Nielson Elementary to existing path along Mape Memorial Park to San Ramon Rd.	Proposed Class I	0.25	2	0	2	1	0	5	\$250,000

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Oak Bluff Lane - Fallon Court Connection	I Shared-Use Path	From existing bike/pedestrian bridge along Fallon Road Path to Oak Bluff Court	-	0.03	1	0	2	1	1	5	\$30,000
	Shannon Community Center Path	I Shared-Use Path	From San Ramon Bike Path and Class IIA Bicycle Lanes up to Shannon Community Center	Proposed Class I	0.04	1	0	2	1	1	5	\$40,000
	Sierra Court	IIA Bicycle Lanes	Sierra Court between Sierra Lane and Dublin boulevard	Connection between Dougherty Road/Iron Horse Trail and Civic Plaza/Alamo Canal Trail	0.12	1	0	1	1	2	5	\$2,800
	Sierra Lane	IIA Bicycle Lanes	Sierra Lane between Sierra Court and Dougherty Road	Connection between Dougherty Road/Iron Horse Trail and Civic Plaza/Alamo Canal Trail	0.3	1	0	1	1	2	5	\$7,000
	Stagecoach Road	IIA Bicycle Lanes	Stagecoach Road between Alcosta Blvd and Stagecoach Park	-	0.56	1	1	1	1	1	5	\$13,000

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES												
Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
		IIIA Bicycle Route with Sharrows	Stagecoach Road between Turquoise Street and Amador Valley Blvd	Proposed IIIA Bicycle Route with Sharrows	0.27							\$5,200
	Tassajara Creek Trail, northern extension	I Shared-Use Path	Tassajara Creek from Somerset Lane through Tassajara Creek Regional Park	Continue Class I north into Tassajara Creek Regional Park	1.5	1	0	2	2	0	5	Developer-Built Facility
	Tassajara Road Path	I Shared-Use Path	East side of Fallon Road from Fallon Road / Tassajara Road intersection north to planned Moller Ranch Trail	-	0.15	1	1	2	1	0	5	Developer-Built Facility
	Upper Loop Road Paths	1 I Shared-Use Path/ multi-use path	From Fallon Road to Croak Road, on both sides of Upper Loop Rd.	Close Class I gap	0.12	0	1	2	1	1	5	\$120,000
	Davona Drive	IIIA Bicycle Route with Sharrows	Davona Drive from Luciana Street to Amador Valley Boulevard	Proposed Class IIA from Luciana Street to Village Parkway	0.26	1	0	0	1	2	4	\$5,100

A. PRIORITIZED PROJECT LISTS



TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Tassajara Creek Trail to Fallon Road Connection Path	I Shared-Use Path	From northwest corner of Fallon Road /Tassajara Road intersection south along Tassajara Road, connecting with planned Class II lanes on Tassajara, and continuing through the Wallis Ranch development, connecting to the Tassajara Creek Trail.	Include trail crossing at Fallon Road as part of Tassajara Creek Trail extension	0.4	1	0	2	1	0	4	Developer-Built Facility
	Upper Loop Road	Class II A Bicycle Lanes	Upper Loop Road from Fallon Rd to Croak Road, via new park	Proposed Class II A	0.38	1	0	1	1	1	4	Developer-Built Facility
	Fallon Village Creek Westbank Trail	I Shared-Use Path	From Fallon Road to Open Space north of proposed Upper Loop Road	-	1	1	0	2	0	0	3	Developer-Built Facility
	Central Parkway Paths	I Shared-Use Path	From Fallon Road to Croak Road, on both sides of Central Parkway	-	0.75	0	0	2	0	0	2	Developer-Built Facility

A. PRIORITIZED PROJECT LISTS

TABLE A-1 PROPOSED BIKEWAYS COST TABLE WITH COST ESTIMATES

Tier	Project Name	Class	Location	Recommendations	Length (miles)	AC ¹	RSE	C/A	G	F	Total	Cost ²
	Croak Road Paths	I Shared-Use Path	From Dublin Blvd. to Upper Loop Road, on both sides of Croak Road	-	1	0	0	2	0	0	2	Developer-Built Facility
	Fallon Village Creek Eastbank Trail	I Shared-Use Path	From Fallon Road to Open Space north of proposed Upper Loop Road	-	1.06	0	0	2	0	0	2	Developer-Built Facility
	Schaefer Ranch I-580 Underpass	IIA Bicycle Lanes	Schaefer Ranch Road from Dublin Boulevard south under I-580 at existing underpass at Schaefer Ranch	Proposed Class IIA under overpass	0.07	0	0	1	1	0	2	\$1,700

Notes:

1. Priority project criteria Key: AC = Access to Activity Centers; RSE = Requires Safety Enhancement; C/A =Comfort and Access; G = Gap Closure; F = Feasibility. Scoring criteria are presented in **Chapter 6 Priority Projects**.
2. Costs are planning-level cost estimates based on the unit costs presented in **Table 9-2**. Except for projects noted to be built by developers, all projects qualify for federal, state and regional funding programs as discussed in Appendix C-Funding.

* = Feasibility Study is required. Where bikeways are proposed over I-580 Overpasses, coordination with Caltrans and the City of Pleasanton is required.

** = Project costs are not available or may be included as a part of a related project.

Source: Fehr & Peers, 2013.

A. PRIORITIZED PROJECT LISTS



TABLE A-2 PRIORITIZED PROPOSED PEDESTRIAN IMPROVEMENTS

Tier	Roadway	Location	Improvement Type	Detailed Improvement	Total Cost
Tier 0	Amador Valley Boulevard	Unsignalized Crosswalk - 400' East of Regional Street	Geometry	Provide median closure at intersection with pedestrian refuge; Reconstruct the southern commercial driveway to provide level, clear extension of sidewalk	\$207,000
			Signing & Striping	Install advanced yield markings and signage; Mark crosswalk across southern commercial driveway	
			Signal	Install Rectangular Rapid Flashing Beacons (RRFBs)	
Tier 1	Amador Plaza Road between Amador Valley Boulevard and St. Patrick Way	200' North of Dublin Boulevard	Mid-Block Crosswalk	Mark up to 3 decorative crosswalk to meet existing desire lines	\$5,438,000 -Cost is for a Complete Street Project -Proposed project may be phased subject to availability of funds
		750' North of Dublin Boulevard	Mid-Block Crosswalk	See above	
		1,200' North of Dublin Boulevard	Mid-Block Crosswalk	See above	
		Corridor	Geometry	Install curb extensions as feasible to support proposed mid-block crosswalks	
			Signing & Striping	Stripe Class II bicycle lanes; Install wayfinding signage; Stripe and sign back-in angled parking	
			Lighting	Install pedestrian scaled lighting along Amador Plaza Road	
		Amador Plaza Road/Amador Valley Boulevard Intersection	Crosswalk	Mark crosswalk on east leg of intersection	
			Geometry	Widen median and add median tips as feasible to provide 6' pedestrian refuge; Reduce curb radii on all corners	

A. PRIORITIZED PROJECT LISTS

TABLE A-2 PRIORITIZED PROPOSED PEDESTRIAN IMPROVEMENTS

Tier	Roadway	Location	Improvement Type	Detailed Improvement	Total Cost
Tier 1	Dublin Boulevard between San Ramon Road and Village Parkway	Corridor	Sidewalk	Enhance sidewalks and evaluate opportunities to improve walkability by reducing obstructions between San Ramon Road and Village Parkway	\$296,700
			Geometry	Improve sidewalk connection across commercial driveways and at bus stop (east of Regional Street)	\$597,300
			Median	Enhance median and lighting along Dublin Boulevard under I-680	\$791,000
			Lighting	Add pedestrian-scale lighting under I-680 Overpass. Install barrier in median underneath in median to prohibit pedestrian crossings.	
		Dublin Boulevard/Amador Plaza Road Intersection	Geometry	Reduce curb radii on all corners; Install directional curb ramps	\$126,000
		Dublin Boulevard/Golden Gate Drive Intersection	Geometry	Install directional curb ramps at each corner	\$159,700
			Signal	Modify signal phasing to include protected left-turns (as part of the Downtown Connectivity Project); Install pedestrian countdown signals and audible warning signs	
		Dublin Boulevard/San Ramon Road Intersection	Geometry	Reduce curb radii on all corners; Install directional curb ramps at all corners	\$788,800
			Signal	Subject to further analysis, remove permissive NB right-turn phase; Install pedestrian countdown signals and audible warning signs, subject to further analysis	
			Crosswalk	Stripe crosswalk on south leg subject to further analysis	

A. PRIORITIZED PROJECT LISTS



TABLE A-2 PRIORITIZED PROPOSED PEDESTRIAN IMPROVEMENTS

Tier	Roadway	Location	Improvement Type	Detailed Improvement	Total Cost
		Dublin Boulevard/Village Parkway Intersection	Geometry	Reduce width of SB right-turn lane, striped pork chop and reduce turning radii; Remove pork chop island; Remove NB right-turn slip lane and reduce curb radii; Reduce curb radii on NE and SE corners; Straighten crosswalks	\$336,000
Tier 2	Golden Gate Drive between Dublin Boulevard and BART Station	Corridor	Sidewalk	As adjacent properties redevelop on east side, implement Complete Streets frontage improvements consistent with the Golden Gate Drive Streetscape Project	Developer Built Facility
Tier 2	Amador Valley Boulevard	Corridor	Striping	Narrow travel lanes to 11' (and stripe buffered bicycle lanes)	Included in Downtown Connectivity Project
		Amador Valley Boulevard/Donahue Drive	Geometry	Reduce curb radii on all corners; Widen medians and add median tips; Install directional curb ramps on all corners	\$342,000
		Amador Valley Boulevard/Regional Street	Geometry	Reduce curb radii on NE, SE, and SW corners	\$450,000
			Signal	Modify signal to include Leading Pedestrian Interval (and RTOR restriction) on EB and WB approaches; Consider protected left-turn phasing for NB and SB traffic	
		Amador Valley Boulevard/San Ramon Road	Crosswalk	Consider striping crosswalk on south leg pending additional engineering analysis	\$950,000
			Geometry	Consider removing slip lanes on NW and NE corners and add curb extensions on SW, NW, and NE corners pending additional engineering analysis	

A. PRIORITIZED PROJECT LISTS

TABLE A-2 PRIORITIZED PROPOSED PEDESTRIAN IMPROVEMENTS

Tier	Roadway	Location	Improvement Type	Detailed Improvement	Total Cost
			Signal	Consider installing leading pedestrian interval on all approaches pending additional engineering analysis	
			Geometry	Remove slip lanes; Reduce curb radii on all corners; Install curb extensions on the SE and SW corners of Village Parkway; Install directional curb ramps. Proposed improvements pending additional engineering analysis	Included in Village Parkway Complete Streets Costs
	St. Patrick Way Extension	St. Patrick Way	Geometry	New roadway or continuous mid-block pathway between Regional Street and 530' west of Golden Gate Drive.	Developer Built Facility

Source: Fehr & Peers, 2014.

APPENDIX B: EXISTING BICYCLE AND PEDESTRIAN VOLUMES





VOLUMES KEY: # [#] (#) → AM [Midday] (PM)
Peak Hour Bicycle Volumes

[#] (#) → AM [Midday] (PM)
Peak Hour Pedestrian Volumes

MAP KEY: 1 Study Intersection

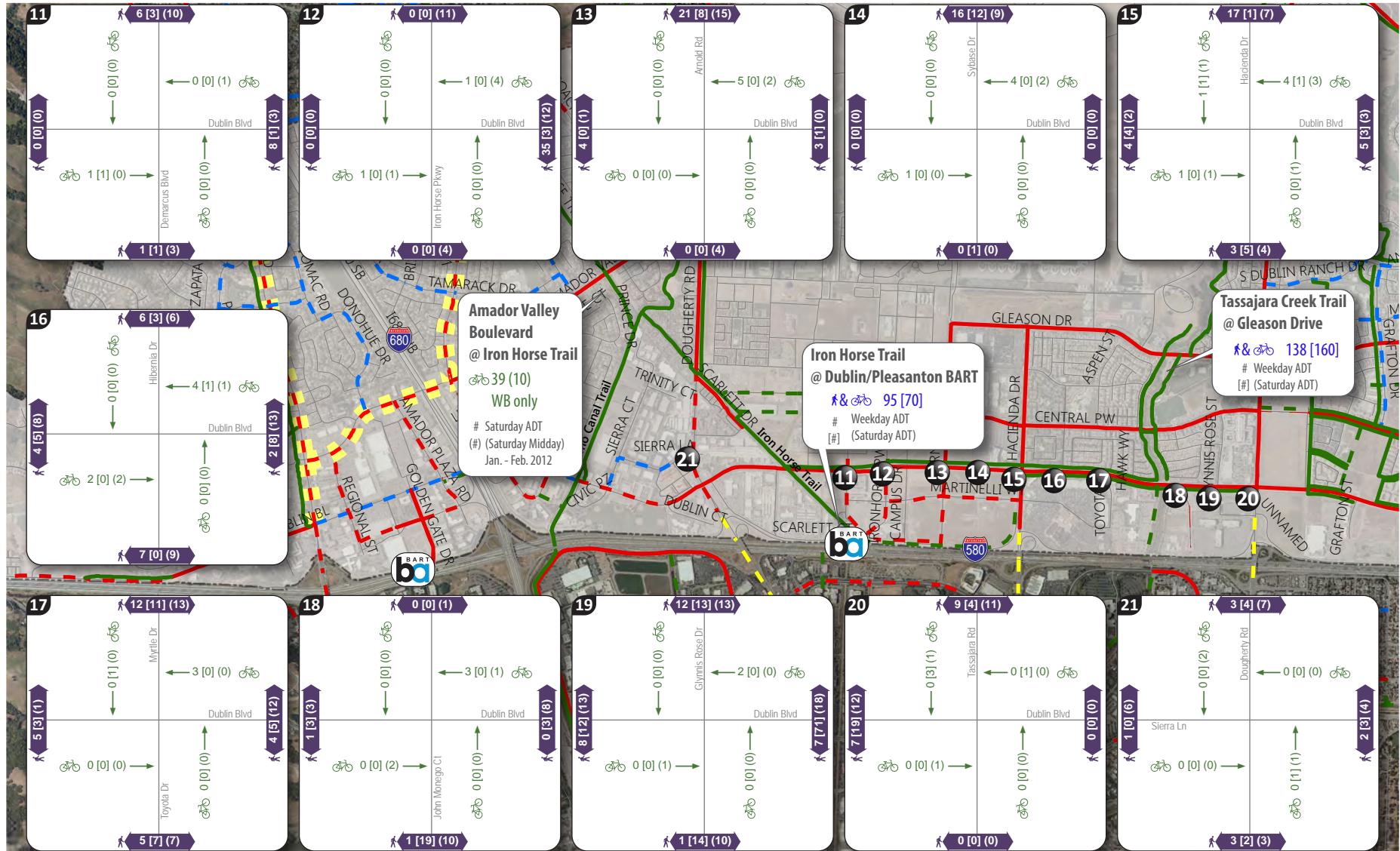
Bikeway Classifications
Existing Class I Existing Class II Existing Class III Proposed Class I Proposed Class II A
Proposed Class II B Proposed Class III A
Lanes, 1-Side

Proposed Class II A Proposed Class II B
Bicycle Lanes Existing Signalized
Proposed Class II C Existing Unsignalized
Lanes Trail Crossing
Existing Trail Crossing



Figure B-1
Existing Bicycle and Pedestrian Volumes

WC10-2749.G0_Fig8-1_BikePedVols



VOLUMES KEY: # [#] (#) → AM [Midday] (PM) Peak Hour Bicycle Volumes

← # [#] (#) → AM [Midday] (PM) Peak Hour Pedestrian Volumes

MAP KEY: 1 Study Intersection

Bikeway Classifications
Existing Class I Existing Class II Existing Class III Proposed Class I Proposed Class II A
Proposed Class II B Proposed Class III A
Bicycle Route w/Sharrow Trail Crossing

Proposed Class II A Proposed Class II B Proposed Class II C Existing Signalized Trail Crossing

Proposed Class II B Proposed Class II C Existing Unsignalized Trail Crossing City Limits

Figure B-2
Existing Bicycle and Pedestrian Volumes

WC10-2749.G0_Fig8-2_BikePedVols

APPENDIX C: FUNDING



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CITY OF
DUBLIN

FUNDING SOURCES

Federal, state, regional, county and local organizations provide funding for pedestrian and bicycle projects and programs. The most recent federal surface transportation funding program, Moving Ahead for Progress in the 21st Century Act (MAP-21), was signed into law in July 2012. This is the first long-term federal transportation authorization enacted since 2005, and the new authorization brings significant changes to typical funding sources and structures.

MAP-21 funding is distributed to federal and state surface transportation funds. Most of these resources are available to the City of Dublin through Caltrans, the Metropolitan Transportation Commission (MTC) and the Alameda County Transportation Commission (Alameda CTC).

This chapter includes details about current programs that are used to fund existing scheduled projects and an assessment of upcoming programs as of April 2013. These may change as state and local programs adapt to the new MAP-21 funding.

FEDERAL PROGRAMS

The majority of public funds for bicycle, pedestrian, and trails projects are derived through a core group of federal and state programs. Federal funding is authorized through the Surface Transportation Program (STP). STP provides flexible funding that may be used by States and localities for projects on any Federal-aid highway. In the past this funding was authorized by the Safe, Accountable, Flexible, Efficient Transportation

Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU was authorized in 2005 and addresses the challenges associated with safety, traffic congestion, freight, intermodal connectivity and environment by directing funds to state and local transportation decision makers. SAFETEA-LU expired in 2009, but authorized the funds that are currently being used to fund existing transportation programs and projects. Future funding for STP is authorized by MAP-21, with the same structure and goals of the existing STP funding.

Transportation Enhancements (TE) under SAFETEA-LU is now the Transportation Alternatives Program (TAP). TAP, authorized through MAP-21, consolidates TE, Safe Routes to School, and Recreational Trails and provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, transit access, mobility, and recreation trails program. TAP broadens eligibility and flexibility for state allocation of TAP funds. Safe Routes to School programs, including infrastructure, encouragement, campaigns, education, outreach and a Safe Routes coordinator, are eligible under TAP, though no funds are dedicated for this.

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) also authorizes federal funds, including education programs. MAP-21 maintains the existing CMAQ program and broadens eligibility for transit operations.

Federal funds from STP, TAP and CMAQ programs are allocated to MTC and distributed in Alameda County through Alameda CTC. Distribution is

C. FUNDING

allocated either competitively or proportionally according to jurisdiction population.

Other recent policies at the federal level have resulted in a series of programs that promise to provide increased funding in the coming years for bicycle projects. The HUD-DOT-EPA Interagency Partnership for Sustainable Communities has generated a series of new grant programs to-date, including Urban Circulator grants, TIGER grants, and Sustainable Communities Planning grants. The Department of Transportation recently announced a new DOT policy initiative, indicating “well-connected walking and bicycling networks [are] an important component for livable communities.”

STATE PROGRAMS

There are a number of state-wide funding sources and regionally administered funds. These are summarized below and in **Table C-1**, which shows the applicability of these various funding sources to projects, planning efforts, and programs proposed in this Plan.

SAFE ROUTES TO SCHOOL

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the

SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided \$24.25 million and \$21 million, respectively, in annual funding. While the future of Safe Routes funding is uncertain in California, ongoing legislative efforts are being considered to continue funding programs at or near historical levels. Neither MAP-21, the federal funding bill for transportation spending, nor the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects. See the regional funding discussion below for other sources for Safe Routes funding.

California state assembly bills currently under consideration propose continued state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways in this Plan could be eligible for Safe Routes to School programs. In general, the pedestrian and bikeway projects most competitive for Safe Routes to School funding have the following characteristics:

- Directly accesses a school
- Are part of the network of low-stress bikeways such that students and their parents will be comfortable bicycling on the facility
- Resolve a documented safety problem or safety concern
- Have strong support from school officials and nearby residents

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TABLE C-1: REGIONAL FUNDING SOURCE APPLICABILITY MATRIX

Funding Source	Class I Bicycle Path	Class II Bicycle Lane	Class III Bicycle Route	Pedestrian Projects	Other Projects	Planning and Programs
Safe Routes to School	●	●	●	●	●	●
Highway Safety Improvement Program (HSIP) Grants	○	●	○	●	●	○
Caltrans Transportation Planning Grants	○	○	○	○	○	●
California Bicycle Transportation Account (BTA)	●	●	●	○	●	●
Local Transportation Fund (LTf)	●	●	●	●	●	○
California State Parks Recreational Trails Program (RTP)	●	○	○	○	○	○
Land and Water Conservation Fund (LWCP)	●	○	○	○	○	○
Proposed Active Transportation Program (ATP)	●	●	●	●	●	●
One Bay Area Grant (OBAG)	●	●	●	●	●	●
BAAQMD Transportation Fund for Clean Air ²	●	●	●	○	○	○
Transportation Development Act (TDA)	●	●	●	●	●	●
Measure B	●	●	●	●	●	●
Measure F	●	●	●	●	●	○

Notes:

- indicate that funds may be used for this category; ○ indicate that funds may not be used for this category, and ○ indicate that funds may be used, though restrictions apply.
- Funds can also be used for bicycle parking, including lockers and racks (and those on transit vehicles).

Source: Fehr & Peers, 2013.

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HIGHWAY SAFETY IMPROVEMENT PROGRAM

The Highway Safety Improvement Program (HSIP) program was established as part of SAFETEA-LU in 2005 to implement infrastructure-related highway safety improvements to significantly reduce traffic fatalities and serious injuries on public roads.

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; in its most recent grant cycle (July 2012), Caltrans awarded \$111 million to 221 projects. HSIP funds can be used for projects such as bicycle lanes on local roadways, improvements to Class I shared-use paths, pedestrian safety improvements, 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.

Caltrans expects the available funding apportioned to local agencies in the 2013 Federal Statewide Transportation Improvement Program (FSTIP), which is a four-year funding cycle from 2012/13 through 2015/16, to be approximately \$100 million for the four-year HSIP plan. More information is available online:

<http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm>

EXISTING CALIFORNIA FUNDING PROGRAMS

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.

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, \$7.2 million is available for projects through the BTA.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a $\frac{1}{4}$ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The California State Parks administers the state's Recreational Trails Program (RTP). RTP provides funds annually for recreational trails and trails-related projects. Cities are eligible applicants for the approximately \$5.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

The National Park Service and California State Parks administer the Land and Water Conservation Fund (LWCF). The LWCF Program provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. Cities are eligible applicants. Approximately \$1.74 million is available annually; grants require a 50 percent local match.

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Some of these programs will no longer be funded under proposed and current federal and state funding plans, and may only be short-term funding resources for the current schedule of projects. See below for proposed funding structures related to some of these programs.

ACTIVE TRANSPORTATION PROGRAM

The Governor has proposed to consolidate five existing state funded programs: Transportation Alternatives Program, Recreational Trails program, Safe Routes to Schools, Environmental Enhancement and Mitigation Program and the Bicycle Transportation Account. Under the new plan the Governor proposes to create a single Active Transportation Program (ATP) administered by the state Business, Transportation and Housing Agency.

As it is proposed, the ATP provides approximately \$134 million annually, with a focus on implementing active transportation improvements to support the goals of local SB 375 sustainable community strategies. This program would be funded from a combination of federal and state funds from appropriations in the annual state budget act.

Project types allowed under the ATP would include: new bikeways serving major transportation corridors, new bikeways to improve bicycle commuting options, bicycle parking at transit and employment centers, traffic control devices to improve pedestrian and bicycle safety, improving and maintaining safety on existing bikeways, recreational facilities, Safe Routes to School projects, Safe Routes To Transit projects,

education programs, and other improvements to bicycle-transit connections and urban environments.

REGIONAL FUNDING PROGRAMS

TRANSPORTATION FOR LIVABLE COMMUNITIES/ONE BAY AREA GRANT

MTC created the Transportation for Livable Communities (TLC) program in 1998. It provides technical assistance and funding to cities, counties, transit agencies and nonprofit organizations for capital projects and community-based planning that encourage multimodal travel and the revitalization of town centers and other mixed-use neighborhoods. The program funds projects that improve bicycling to transit stations, neighborhood commercial districts and other major activity centers.

One Bay Area Grant Program (OBAG) is now an umbrella for the previous MTC grant programs. It combines funding for Transportation for Livable Communities, Bicycle, Local Streets and Roads Rehabilitation, and Safe Routes to School for the FY 2012-13 through 2015-16 funding cycles. This program is administered by MTC and awards funding to counties based on progress toward achieving local land-use and housing policies. Cities and counties can still use OBAG funds for projects described under these programs.

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MTC OBAG program information:

<http://www.mtc.ca.gov/funding/onebayarea/>

SURFACE TRANSPORTATION PROGRAM

The Surface Transportation Program (STP) block grant provides SAFETEA and MAP-21 funding for transportation projects, including pedestrian and bicycle projects (see above discussion about Federal programs for details). This program is administered by MTC, which can prioritize projects for RSTP funding.

MTC STP program information:

<http://www.mtc.ca.gov/funding/STPCMAQ/>

TRANSPORTATION DEVELOPMENT ACT, ARTICLE 3

Transportation Development Act (TDA), Article 3 funds statewide funds for planning and construction of pedestrian and bicycle facilities administered locally through MTC. TDA, Article 3 funds are allocated based on population and may be used for engineering, right of way, construction, retrofitting, route improvements, and an assortment of bicycle facilities.

SAFE ROUTES TO TRANSIT

Through MTC's Regional Measure 2, funded by an increase State-owned toll bridges in the Bay Area, the Safe Routes to Transit (SR2T) grant

program awards funding to projects that support "last-mile" walking and bicycling connections to regional transit stations. The goal is to make walking and bicycling to transit easier, faster, and safer. The program is administered by TransForm and the East Bay Bicycle Coalition. Cycle Four awarded eight cities and agencies with over \$4,000,000. A call for projects for the last SR2T funding cycle is anticipated in 2013.

CLIMATE ACTION PROGRAM

In partnership with the Bay Area Air Quality Management District (BAAQMD), Bay Conservation Development Commission and the Association of Bay Area Governments, MTC sponsors a transportation-oriented Climate Action Program, designed to reduce mobile source emissions through various strategies. The grant program provides funding for pedestrian and bicycle projects through new Safe Routes to School and Safe Routes to Transit programs, with total funding expected to be approximately \$400 million. As of April 2013 state Safe Routes to School funding is not yet finalized. This funding will be in addition to the state and federal Safe Routes to School programs and MTC's existing Safe Routes to Transit program.

BAAQMD TRANSPORTATION FUND FOR CLEAN AIR (TCFA)

Transportation Fund for Clean Air (TCFA) is a grant program administered by the Bay Area Air Quality Management District (BAAQMD). The purpose of the program, which is funded through a \$4 surcharge on

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motor vehicles registered in the Bay Area, is to fund projects and programs that will reduce air pollution from motor vehicles. Grant awards are generally made on a first-come, first-served basis to qualified projects. A portion of TFCA revenues collected in each Bay Area county is returned to that county's congestion management agency (CMA) for allocation (Alameda County Transportation Commission in Alameda County). Applications are made from local agencies directly to the CMAs, but must also be approved by the BAAQMD.

TFCA County Program Manager Fund:

<http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA/County-Program-Manager-Fund.aspx>

ALAMEDA COUNTY'S MEASURE B

Alameda County's Measure B sales tax increase of one-half of one percent was approved by Alameda County voters in 2000 to fund transportation improvements designated in the Alameda County 20-year Transportation Expenditure Plan. Measure B is administered by Alameda CTC and funds a wide variety of transportation projects, including the TransForm Safe Routes programs, Countywide Discretionary Fund Bicycle and Pedestrian Grant Program and Transit Oriented Development Grant Program.

Alameda CTC grant program information:

http://www.alamedactc.org/app_pages/view/4617

The last call for projects, the Gap Grant Cycle 5 Program, was in February 2013.

Voters considered Measure B1 on the November 2012 ballot, which would have extended the Measure B sales tax in perpetuity (it is now scheduled to expire in March of 2022) and increased that tax by one-half of one percent to a total one percent sales tax. This measure required two-thirds approval and narrowly failed.

ALAMEDA COUNTY'S MEASURE F

Alameda County's Measure F was approved by Alameda County voters in 2010 to increase vehicle registration fees by \$10. Measure F is expected to generate \$11 million per year for the county, which is administered through Alameda CTC and may be used for maintaining city and county roads, congestion relief efforts (including transit passes and station improvements), technology improvement and crosswalks, sidewalks, pedestrian-scale lighting and improvements to pedestrian and bicycle travel.

LOCAL FUNDING OPTIONS

Private/local funding for pedestrian projects comes primarily from development projects, either in the form of improvements constructed directly by developers, local funding mechanisms, or through development fee programs.

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NEW CONSTRUCTION

Future road repaving, widening and construction projects are methods of upgrading or installing new pedestrian and bicycle facilities. To ensure that roadway construction projects provide pedestrian and bicycle facilities where needed, the project review process should include a review of the City's proposed pedestrian and bicycle project list. Typically, new development projects are required to install sidewalks, crosswalk enhancements, bicycle facilities and parking or bus pullouts.

MTC provides a typical routine accommodations checklist that describes the items that the City should look for when reviewing projects:

http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist.pdf

CAPITAL IMPROVEMENT PLAN

The City of Dublin's Proposed Five Year Capital Improvement Plan (CIP) includes 32 projects within the current CIP time frame with a proposed funding allocation for 24 projects in Fiscal year 2012-2013 and 16 projects in Fiscal Year 2013-2014. The City may use the CIP to formulate its budget, but it does not preclude "opportunistic projects," such as a street resurfacing or development project. Opportunistic projects are unanticipated projects where the City may incorporate pedestrian facilities, even if the projects occur out of sequence.

ASSESSMENT DISTRICTS

Assessment districts or special improvement districts can be established to provide funding for specific public improvement projects within the districts. Property owners in the districts are assessed for the improvements, and can make payments immediately or over a number of years. Street pavement, sidewalk repair, curb ramps and streetlights are commonly funded through assessment districts. Business Improvement Districts in commercial centers are funded this way. The 1982 California State Legislature Mello-Roos Community Facilities District Act allows communities to establish districts for special property tax assessments.

IMPACT FEES

Another potential local source of funding is developer impact fees, typically tied to trip generation and traffic impacts as a result of proposed projects. The City of Dublin currently has two fee programs in place: the Downtown Dublin Traffic Impact Fee and the Eastern Dublin Traffic Impact Fee. Both impact fee programs are expected to be updated in the near future, with the Downtown TIF slated for updating in 2014. Many of the bicycle and pedestrian improvement projects proposed in this Plan should be considered for inclusion in the updated fee program, with highest priority for inclusion given to the Tier One priority projects.

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OPEN SPACE DISTRICT

Local Open Space Districts may float bonds that go to acquiring land or open space easements, which may also provide for some improvements to the local trail system. The East Bay Regional Park District (EBRPD) is the local open space district in Alameda County. EBRPD was awarded a \$10.2 million TIGER II grant in October 2012 to close critical gaps in the paved regional trail system.

OTHER FUNDING SOURCES

Local sales taxes, developer or public agency land dedications, community benefit payments, private donations, and fund-raising events are other local options to generate funding for pedestrian projects. For example, Kaiser Permanente Community Health Initiatives grants are available to public agencies to support increased physical activity in Alameda County. Creation of these potential sources usually requires substantial local support.

FUNDING STRATEGY

Grant funding is highly competitive and the following options should be considered by the City in pursuing the funding necessary to complete the proposed improvements:

- For multi-agency and cross-jurisdictional projects, prepare joint applications with other local and regional agencies, such as the

City of Pleasanton or Livermore, Alameda County, BART, and East Bay Regional Park District. Joint applications often increase the competitiveness of projects for funding; however, coordination amongst the participating jurisdictions is often challenging. The City should act as the lead agency, with a strong emphasis on coordination between participating jurisdictions and agencies (transit and public health organizations) on important projects to ensure they are implemented as quickly as possible.

- Leverage existing dedicated funding sources as matching funds for State and Federal funding.
- Include pedestrian and bicycle projects in the Downtown Dublin Transportation Impact Fee program. When traffic improvement mitigations are proposed to address level of service, potential secondary impacts to walking and bicycling at the intersection should be considered. Meeting the adopted policy goals for walkability, may require overriding traffic improvement mitigations and, instead, implementing proposed pedestrian and bicycle improvements at the intersection.
- Continue to require construction of pedestrian facilities, such as sidewalks, street trees and marked crossings, and bicycle facilities, including proposed projects on new roadways, bicycle parking, and bicycle detection, as part of new development.
- Continue to include proposed pedestrian and bicycle improvements as part of roadway projects involving widening, overlays, or other improvements.

C. FUNDING

The City should also take advantage of private contributions, if appropriate, in developing the proposed system. This could include a variety of resources, such as volunteer labor during construction, right-of-way donations, or monetary donations towards specific improvements associated with improving pedestrian and bicycle access near private developments.

Projects should be funded opportunistically. If funding becomes available for a medium- or long-term project before a short-term priority project, the funding should be used. Easy "quick fix" projects should be funded before larger construction projects, especially when they can be included with other short-term priority projects.

C. FUNDING



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APPENDIX D: PUBLIC PARTICIPANTS



D. PUBLIC PARTICIPANTS



PUBLIC WORKSHOP #1 PARTICIPANTS

OCTOBER 1, 2012

Mark Hall, Dublin Resident
Chuck Tyler, Dublin Cyclery
Dan Rodrigues, Dublin Resident
Ed Colby, San Ramon Resident
Rich Guarienti, Path Wanderers
Faye Guarienti, Trail Trekkers
Edwin Osada, Trail Terkkers
Michelle Lawton, Dublin Resident
Sheila Jessup Schwarz, Dublin Resident
Francie Cushman, Valley Spokesmen
Kristi Marlean, Dublin Resident
Mike Ansell, LPC
Jonathan Bricman, LPC
Ferd Del Rosario, City of Dublin
Erin Steffen, City of Dublin

PUBLIC WORKSHOP #2 PARTICIPANTS

FEBRUARY 28, 2013

Jane Moorhead, Valley Spokemen
Mark Hall, Dublin Resident
Kenneth Palmer, Dublin Resident
Howard Hirand, Dublin Resident
Larry Akinsiku, Zone 7
Amanda Barrett, Fit Potato
Rich Guarienti, Dublin Resident
Faye Guarienti, Dublin Resident
Jim Firm, Dublin Resident
Connie Mack, Dublin Resident
Francie Cushman, Valley Spokesmen
Chris Fleckner, East Bay Bicycle Coalition
Larkin Casey, Livermore Resident
Rosie Mesterhazy, Safe Routes to School National Partnership
Dave Campbell, East Bay Bicycle Coalition
Midori Tabata, Alameda CTC Bicycle & Pedestrian Advisory Committee
Bob Heady, Valley Spokeman
Chuck Tyler, Dublin Cyclery
Ferd Del Rosario, City of Dublin
Obaid Khan, City of Dublin
Andy Russell, City of Dublin
Erin Steffen, City of Dublin



CITY OF
DUBLIN

COMMUNITY MEETING

JULY 31, 2013

C.R. Tyler, Valley Spokemen/Chamber of Commerce

Nancy Feeley, Dublin Chamber of Commerce

Faye Guarienti, East Bay Bicycle Coalition

Rich Guarienti, Resident

Bonnie Power, Valley Spokesmen

Bob Power, Valley Spokesmen

Francie Cushman, Resident

Larry Akinsiku, Zone 7

Kristi Marleau, Resident

Tim Johnson, Resident

Susan O'Reilly, Resident

Kathy Johnson, Resident

Midori Tabata, Alameda CTC Bicycle & Pedestrian Advisory Committee

Rick Sanciangio, Resident

Dave Campbell, East Bay Bicycle Coalition

Carol Levine, City of Oakland BPAC and Spokemore Consulting

Edwin Osada, Resident

Michael Graff, CABO

Kevin Dielissen, Resident

D. PUBLIC PARTICIPANTS

RESOLUTION NO. 170 - 14

**A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF DUBLIN**

**APPROVING AMENDMENTS TO THE DUBLIN GENERAL PLAN, EASTERN DUBLIN
SPECIFIC PLAN, DUBLIN VILLAGE HISTORIC AREA SPECIFIC PLAN,
AND DOWNTOWN DUBLIN SPECIFIC PLAN FOR THE CITY OF DUBLIN
BICYCLE AND PEDESTRIAN MASTER PLAN**

**CITY-WIDE
PLPA-2014-00017**

WHEREAS, on July 17, 2007 the City Council adopted the Bikeways Master Plan and associated amendments to the Dublin General Plan and various Specific Plans for consistency with the Bikeways Master Plan; and

WHEREAS, Policy 1.3 of the Bikeways Master Plan is to update the Plan every five years; and

WHEREAS, the Bikeways Master Plan has been renamed the Dublin Bicycle and Pedestrian Master Plan and combines the update to the Bikeways Master Plan with adoption of the City's first Pedestrian Plan into a comprehensive document that provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin; and

WHEREAS, amendments are proposed to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance to ensure that the text and maps remain consistent with the Dublin Bicycle and Pedestrian Master Plan. The General Plan and Specific Plan amendments are attached as Exhibit A and incorporated herein by reference; and

WHEREAS, the Dublin General Plan was adopted on February 11, 1985 and has been amended a number of times since that date; and

WHEREAS, the Eastern Dublin Specific Plan was adopted on January 7, 1994 and has been amended a number of times since that date; and

WHEREAS, the Dublin Village Historic Area Specific Plan was adopted on August 1, 2006 and amended on July 17, 2007; and

WHEREAS, the Downtown Dublin Specific Plan was adopted on February 1, 2011 and amended on May 6, 2014; and

WHEREAS, consistent with section 65352.3 of the California Government Code, the City obtained a contact list of local Native American tribes from the Native American Heritage Commission and notified the tribes on the contact list of the opportunity to consult with the City on the proposed General Plan Amendments. None of the contacted tribes requested a consultation within the 90-day statutory consultation period and no further action is required under section 65352.3; and

WHEREAS, the California Environmental Quality Act (CEQA), together with State Guidelines and City Environmental Regulations require that certain projects be reviewed for environmental impacts and when applicable, environmental documents prepared; and

WHEREAS, the City of Dublin Public Works Department prepared a Negative Declaration dated June 2014 for the Dublin Bicycle and Pedestrian Master Plan and the amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance (the "Project") which reflects the City's independent judgment and analysis of the potential environmental impacts of the Project; and

WHEREAS, following a noticed public hearing on August 26, 2014, the City of Dublin Planning Commission adopted Resolution 14-46 recommending City Council adoption of the Negative Declaration for the Dublin Bicycle and Pedestrian Master Plan and related proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance, which resolution is incorporated herein by reference; and

WHEREAS, following the noticed public hearing on August 26, 2014, the City of Dublin Planning Commission also adopted Resolution 14-45 recommending City Council approval of the proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance; and

WHEREAS, a Staff Report, dated October 7, 2014 and incorporated herein by reference, was submitted to the City of Dublin City Council analyzing the Negative Declaration and the proposed amendments and recommending approval of the proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance for the Dublin Bicycle and Pedestrian Master Plan; and

WHEREAS, the City Council held a public hearing on said application on October 7, 2014; and

WHEREAS, proper notice of said hearing was given in all respects as required by law; and

WHEREAS, following the public hearing, the City Council adopted Resolution 169-14 adopting the Negative Declaration for the Dublin Bicycle and Pedestrian Master Plan and related amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Village Historic Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance, which resolution is incorporated herein by reference; and

WHEREAS, the City Council did hear and consider the Negative Declaration and all said reports, recommendations and testimony herein above set forth and used its independent judgment to evaluate the project.

NOW, THEREFORE, BE IT RESOLVED, that the foregoing recitals are true and correct and made part of this Resolution.

BE IT FURTHER RESOLVED that the City of Dublin City Council does hereby approve amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Village Historic Area Specific Plan, and Downtown Dublin Specific Plan, as set forth below, and finds that the Amendments are in the public interest; will not have an adverse effect on health or safety or be detrimental to the public welfare; will not be injurious to property or public improvements; and, as amended, the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Village Historic Area Specific Plan, and Downtown Dublin Specific Plan will each remain internally consistent.

SECTION 1. DUBLIN GENERAL PLAN AMENDMENTS

- A.** Figure 3-1 in Chapter 3 (Parks and Open Space Element) is revised to reflect existing and proposed bike lanes and trails consistent with the Dublin Bicycle and Pedestrian Master Plan, as generally depicted in Exhibit A.
- B.** Figure 4-1 in Chapter 4 (Schools, Public Lands and Utilities Element) is revised to include existing and proposed bike lanes and trails consistent with the Dublin Bicycle and Pedestrian Master Plan, as generally depicted in Exhibit B.
- C.** Portions of Chapter 5 (Circulation and Scenic Highways Element) are revised as follows:
 - 1.** Section 5.2.2.B.2. Design and construct all roads in the City's circulation network as defined in Figure 5-1 as well as bicycle and pedestrian networks as defined in the City of Dublin Bicycle and Pedestrian Master Plan.
 - 2.** Section 5.2.5.B.1. The City shall periodically review the improvements identified in the Downtown Traffic Impact Fee (TIF) Program to ensure that the improvements identified are consistent with the adopted Downtown Dublin Specific Plan and the Dublin Bicycle and Pedestrian Master Plan. The City may revise the list of improvements included in the TIF to remove any improvements as necessary or include additional improvements which are consistent with the General Plan policies, the DDSP, and the Dublin Bicycle and Pedestrian Master Plan and also improve the efficiency of the roadway network, especially for transit service, and enhance vehicular, bicyclist and pedestrian safety in the Specific Plan area.
 - 3.** Section 5.2.5.B.2. Projects within the Downtown Dublin Specific Plan area shall be reviewed to identify project-related improvements that can feasibly be implemented to increase vehicular, bicyclist and pedestrian safety, transit service efficiency, and the effectiveness of the roadway network as long as the identified improvements are consistent with the General Plan, the Downtown Dublin Specific Plan and the Dublin Bicycle and Pedestrian Master Plan.
 - 4.** Section 5.5 (Pedestrian Routes and Bikeways). The City adopted a Citywide Bikeways Master Plan in 2007. In 2014, the Bikeways Master Plan was updated and renamed the Dublin Bicycle and Pedestrian Master Plan. The Dublin Bicycle and Pedestrian Master Plan combines the update to the Bikeways Master Plan with the City's first Pedestrian Plan into a comprehensive document that provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin. The updated Master Plan contains goals and policies for development and implementing a bicycle and pedestrian network that provides a viable transportation alternative to the automobile, improves safety for bicyclists and pedestrians, and provides residents with access and good connections to parks, open space, trails and other

recreational opportunities. The Master Plan identifies existing and proposed bicycle and pedestrian routes and support facilities throughout the Planning area. Readers should refer to the Dublin Bicycle and Pedestrian Master Plan for additional information regarding existing and proposed bicycle and pedestrian routes and support facilities.

The greatest opportunities for successful pedestrian travel is to provide safe and comfortable connections between residential neighborhoods and key destinations including schools, parks, shopping districts, and transit. In the Downtown Dublin Specific Plan area this also includes connections to Downtown Dublin businesses and the West Dublin BART Station. The Downtown Dublin Specific Plan contains policies related to increasing pedestrian amenities in Downtown, and the City's Climate Action Plan also highlights the City's commitment to the continued development of successful bicycle and pedestrian trail corridors, improved access to parks and open space areas, improved bicycle lanes and/or routes on several key cross-city corridors, bikeways on key freeway crossings, the development of education and enforcement programs, and improvements to the City's Bicycle Parking Ordinance.

5. Section 5.5.1.A.1. Provide safe, continuous, comfortable and convenient bikeways throughout the City.
6. Section 5.5.1.A.2. Improve and maintain bikeways and pedestrian facilities and support facilities in conformance with the recommendations in the Dublin Bicycle and Pedestrian Master Plan.
7. Section 5.5.1.A.4. Provide comfortable, safe, and convenient walking routes throughout the City and, in particular, to key destinations such as Downtown Dublin, the BART Stations, schools, parks, and commercial centers.
8. Section 5.5.1.B.2. Improve bikeways, bicycle support facilities, and pedestrian facilities in accordance with the Dublin Bicycle and Pedestrian Master Plan in conjunction with development proposals.
9. Section 5.5.1.B.3. Ensure on-going maintenance of bikeways, bicycle support facilities and pedestrian facilities that are intended for public use and located on private property in conjunction with development proposals.
10. Figures 5-2a and 5-2b (Transit Maps) shall be revised as follows, and as generally depicted in Exhibits C and D:
 - a. Remove "Proposed BART Station" from the legend under Destinations.
 - b. Revise the description of "A2" from "Future West Dublin BART Station Parking" to "West Dublin BART Station Parking".
11. Figures 5-3a and 5-3b (Bicycle Circulation Maps) shall be revised as follows, and as generally depicted in Exhibits E and F:
 - a. Revise the description of "A2" from "Future West Dublin BART Station Parking" to "West Dublin BART Station Parking".

- b. Revise all bikeways, trails and study areas consistent with the Dublin Bicycle and Pedestrian Master Plan.

12. Figures 5-4a and 5-4b (Multi-Modal Maps) shall be revised as follows, and as generally depicted in Exhibits G and H:

- a. Revise the description of "A2" from "Future West Dublin BART Station Parking" to "West Dublin BART Station Parking".
- b. Revise all bikeways, trails and study areas consistent with the Dublin Bicycle and Pedestrian Master Plan.

D. Portions of Chapter 10 (Community Design and Sustainability Element) are revised as follows:

1. Section 10.2.H. Dublin Bicycle and Pedestrian Master Plan. The Dublin Bicycle and Pedestrian Master Plan provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin.
2. Section 10.7.3.5.D. Provide attractive and convenient bicycle parking (reference: Dublin Bicycle and Pedestrian Master Plan).
3. Section 10.7.4.H. Implement the Streetscape Master Plan, Dublin Bicycle and Pedestrian Master Plan, Public Art Ordinance, Heritage Tree Ordinance, the Eastern Dublin Scenic Corridor Policies and Standards, and all Specific Plans.
4. Section 10.8.3.B. Provide clear, identifiable, and ample pedestrian and bicycle pathways that connect sidewalks, parking areas, building entrances, trails and other site features by using wayfinding techniques such as signage, landscaping, hardscape, and prominent building entrances, where feasible (reference: Dublin Bicycle and Pedestrian Master Plan).
5. Section 10.8.3.C. Provide a continuous and ample network of pedestrian and bicycle routes within a project area and logical connections to the exterior of the project area and thereby create safe routes of travel to transit facilities, public gathering spaces, trails, parks, community centers, schools, City villages, gateways and entries (reference: Dublin Bicycle and Pedestrian Master Plan).
6. Section 10.8.3.E. Ensure that sidewalks, pedestrian and bicycle pathways, and trails are furnished with appropriate pedestrian amenities such as lighting, signage, trash receptacles, etc., where appropriate (reference: Streetscape Master Plan, Dublin Bicycle and Pedestrian Master Plan).
7. Section 10.8.4.A. Implement the Streetscape Master Plan and the Dublin Bicycle and Pedestrian Master Plan.
8. Section 10.9.4.J. Implement the Dublin Bicycle and Pedestrian Master Plan and the Public Art Ordinance.

SECTION 2. EASTERN DUBLIN SPECIFIC PLAN AMENDMENTS

- A. Section 3.4.4 (Bicycle Circulation).** The Specific Plan calls for the development of a safe, continuous, comfortable and convenient bicycle circulation system. The key components of the system will be bicycle routes and support facilities consistent with the Dublin Bicycle and Pedestrian Master Plan.
- B. Section 5.5 (Bicycle Circulation).** The Eastern Dublin Specific Plan provides for a network of bicycle routes (Figure 5-3b). Class I Shared-Use Paths, Class II Bicycle Lanes and Class III Bicycle Routes as well as bicycle support facilities will be provided throughout the Specific Plan area consistent with the Dublin Bicycle and Pedestrian Master Plan. The Master Plan includes the Eastern Dublin Specific Plan area and provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin. Readers should refer to the Dublin Bicycle and Pedestrian Master Plan for additional information regarding existing and proposed bicycle routes and support facilities.

Goal: To provide opportunities for safe, continuous, comfortable and convenient bikeways in eastern Dublin.

- C. Section 5.5.1 (Bicycle Routes).** Bicycle routes are classified as Class I, Class II and Class III.

A Class I Bikeway is a shared-use path that provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

A Class II Bikeway is further divided into Class IIA and Class IIB. Class IIA Bikeways are bicycle lanes that are striped for dedicated, one-way bike travel on a roadway. Class IIB Bikeways are buffered bicycle lanes which are modified on-street bicycle lanes with vehicle and/or parking-side striped buffers for additional comfort and safety on higher speed or volume roadways.

A Class III Bikeway is a bicycle route that is shared with pedestrian or motor vehicle traffic. A Class IIIA Bikeway includes sharrows within the roadway to designate shared-use travel with motor vehicle traffic.

Policy 5-17: Establish a bicycle circulation system which helps to serve the need for non-motorized transportation and recreation in eastern Dublin that is consistent with the Dublin Bicycle and Pedestrian Master Plan.

- D. Section 5.5.2 (Bicycle Parking Requirements).** In order to encourage the use of bicycles, safe and convenient bicycle parking areas are needed. Satisfactory bicycle parking is particularly needed at schools and recreation areas such as the Sports Park, major transit stops and commercial centers.

Policy 5-18: Provide convenient and secure bicycle parking and support facilities at key destinations in eastern Dublin, such as schools, recreation areas, transit stops and commercial centers.

Action Program: Bicycle Circulation

Program 5D: The City shall require development projects in eastern Dublin to include provisions for bicycle parking, circulation and support facilities consistent with the Dublin Bicycle and Pedestrian Master Plan.

E. Revise Figure 5-3b (East Dublin Bicycle Circulation System) in Chapter 5 (Traffic and Circulation) to reflect existing and proposed bike lanes and trails consistent with the Dublin Bicycle and Pedestrian Master Plan, as generally depicted in Exhibit I.

F. Portions of Chapter 7 (Community Design) are revised as follows:

1. Section 7.4.1 (Overall Gateway Design Guidelines), subsection Pedestrian/Bicycle Circulation is revised as follows:
 - Provide a system of comfortable, safe and convenient walking routes throughout the gateway subareas to provide east-west connections between campus office, general commercial and industrial areas, and north-south connections between the gateway areas and the Town Center. Install crosswalks at signalized intersections on Dublin Boulevard to insure safe pedestrian crossings (see Figure 7.36).
 - Provide bicycle parking and support facilities in accordance with the Dublin Bicycle and Pedestrian Master Plan.
2. The following paragraph shall be added to Section 7.5.1 (Pedestrian/Bike Paths) before the subheading, Siting. The subsections of Siting, Design and Bicycle Parking shall remain unchanged.

The design and location of bicycle and pedestrian routes, support facilities and bicycle parking is critical for encouraging alternative transportation choices. The following guidelines and those contained in the Dublin Bicycle and Pedestrian Master Plan support a reduced dependency on the automobile and promote alternative transportation choices that are convenient, comfortable and accessible for all users.

SECTION 3. DUBLIN VILLAGE HISTORIC AREA SPECIFIC PLAN AMENDMENTS

A. Section 4.6 Transportation and Circulation is amended to read as follows:

Section 4.6 Transportation and Circulation

Major streets serving the Specific Plan area include Dublin Boulevard, San Ramon Road, and Donlon Way. These circulation routes are described more fully below:

Dublin Boulevard is a major east-west arterial roadway through the middle of the planning area. Dublin Boulevard has six travel lanes and raised medians on the east side of San Ramon Road, four travel lanes and a raised median from San Ramon Road west to Donlon Way, and four travel lanes without a median west of Donlon Way. Dublin Boulevard is designated as a truck route and route of regional significance in the Tri-Valley Transportation Plan and Action Plan. It is also included in the Congestion Management Program (CMP) network for the Alameda County Congestion Management Plan.

San Ramon Road is oriented in a north-south direction immediately east of the planning area. A major arterial roadway, San Ramon Road has six travel lanes and raised medians

north of Interstate 580. A full east-west access interchange is located at San Ramon Road and I-580. North of Amador Valley Boulevard, San Ramon Road narrows to four travel lanes. In the West Dublin BART planning area, this roadway provides access to retail commercial uses. San Ramon Road is included in the Congestion Management Program (CMP) network for the Alameda County Congestion Management Plan.

Donlon Way is oriented in a north-south direction in the middle of the planning area. The most prominent street for this historic area, Donlon Way is a short two-lane street that serves the Dublin Heritage Center and was the area's historic stagecoach route before the construction of Interstate 580 turned the street into a cul-de-sac.

Exhibit 7 depicts the current Circulation System within the project area.

Regional circulation linkage is provided by I-680, a north-south freeway and I-580, an east-west freeway. The Livermore Amador Valley Transit Authority (LAVTA) provides bus transit service ("WHEELS") through the Dublin area. Bus routes serving the vicinity of the Dublin Village Historic Area include bus line R, 3, and 10, which offers regular/limited service and has a stop near the corner of Dublin Boulevard and San Ramon Road, and bus line 355, which offers school service and passes through the planning area on Dublin Boulevard.

The West Dublin BART Station is located at the end of Golden Gate Drive, less than one mile from the Specific Plan area. The BART Station provides a 722-space parking structure as well as bike racks and bike lockers. Bus service to the BART Station is provided by LAVTA.

A Class 2 bike lane is located along Dublin Boulevard between San Ramon Road and Hansen Drive and provides a striped lane for one-way bike travel on the street. A Class 2 bike lane is also proposed west of Hansen Drive. San Ramon Road has a Class 2 bike lane on the street and a Class 1 bike path on the west side of the street; a Class 1 bike path is a path separated from the roadway and designated solely for bike and pedestrian travel.

- B.** Exhibit 4, Dublin Village Historic Area Specific Plan Existing Land Uses is revised as follows, and as generally depicted in Exhibit J:
 - 1. The Heritage Center title in the legend is revised to reflect Heritage Park and Museums; and
 - 2. The Retail land use on the former shopping center (11811-11851 Dublin Blvd, excluding the bank at 11805 Dublin Blvd) is revised to reflect Heritage Park and Museums.
- C.** Exhibit 5, Dublin Village Historic Area Specific Plan Existing General Plan Land Use is revised to change the Retail/Office land use on the former shopping center (11805-11851 Dublin Blvd, inclusive of the bank), the cemetery, and the vacant land south of the cemetery to Parks/Public Recreation, as generally depicted in Exhibit K.
- D.** Exhibit 6, Dublin Village Historic Area Specific Plan Zoning is revised to change the C-1 (Retail Commercial) designation on the former shopping center (11805-11851 Dublin Blvd, inclusive of the bank), and the Agriculture designation on the cemetery and the vacant land south of the cemetery to reflect PD (Planned Development), as generally depicted in Exhibit L.

E. Exhibit 7 is revised to reflect the following, and as generally depicted in Exhibit M:

1. The existing Class 2 Bike Lane along San Ramon Road;
2. The existing Class 2 Bike Lane along Dublin Boulevard from San Ramon Road to Hansen Drive; and
3. The proposed Class 2 Bike Lane along Dublin Boulevard west of Hansen Drive.

SECTION 4. DOWNTOWN DUBLIN SPECIFIC PLAN AMENDMENTS

A. Section 1.6.3 (City of Dublin Bikeways Master Plan) shall be revised as follows:

1.6.3 City of Dublin Bicycle and Pedestrian Master Plan

The requirements within the Dublin Bicycle and Pedestrian Master Plan shall continue to apply to areas within the Specific Plan area. This Specific Plan is not intended to be in conflict with nor replace the Dublin Bicycle and Pedestrian Master Plan.

B. Section 2.2.4 (Circulation and Parking), subsection Existing Street Network shall be revised as follows:

Existing Street Network

The existing roadway network routes within the Specific Plan Area are shown on Figure 2.4: Vehicular Circulation. A description of each roadway is provided below:

I-580 and I-680: I-580 intersects with I-680 immediately adjacent to Downtown Dublin. I-680 traverses in a north-south direction and I-580 in an east-west direction. A full access interchange is located at I-580 and San Ramon Road. Partial access to I-680 is provided through a southbound on- and off-ramp from Amador Plaza Road and a northbound ramp from Village Parkway.

San Ramon Road: San Ramon Road is a major north-south arterial within the Specific Plan Area with a 40 miles per hour speed limit and raised center median. A full access interchange is located at I-580 and San Ramon Road. North of Amador Valley Boulevard, San Ramon Road narrows from six to four lanes. No parking is provided on the street. A Class I Shared-Use Path is provided on the west side of San Ramon Road between Dublin Boulevard and Amador Valley Boulevard within the Specific Plan Area; the path extends further north to Alcosta Boulevard. Class II Bicycle Lanes are provided on both the east and west sides of San Ramon Road between Dublin Boulevard and Amador Valley Boulevard and also extend further north to Alcosta Boulevard.

Regional Street: Regional Street extends in a north-south direction from Amador Valley Boulevard to its terminus south of Dublin Boulevard. It is a two-lane, Class 2 Collector with a two-way center turn lane. It provides access to adjacent commercial uses. On-street parking is provided south of Dublin Boulevard, but not between Dublin Boulevard and Amador Valley Boulevard. The speed limit is 30 miles per hour.

Golden Gate Drive: Golden Gate Drive is a short, two-lane Class 2 Collector that provides access to adjacent commercial businesses south of Dublin Boulevard and to the West Dublin/Pleasanton BART Station. The street extends south from Dublin Boulevard to the

BART Station and parking garage. On-street parallel parking is provided on both sides of the street. The speed limit is 25 miles per hour. Class II Bicycle Lanes are provided on the east and west sides of Golden Gate Drive. These bicycle lanes are the first green bicycle lanes in Dublin.

Amador Plaza Road: Amador Plaza Road is a north-south, two-lane Class II Collector with a two-way center turn lane between Amador Valley Boulevard and Dublin Boulevard. Between Dublin Boulevard and Saint Patrick Way, Amador Plaza Road is a four-lane Class II Collector. The speed limit is 25 miles per hour. Amador Plaza Road provides access to adjacent commercial land uses and access to and from southbound I-680.

Village Parkway: Village Parkway is a four-lane, north-south Class I Collector located to the east of I-680. Within the Specific Plan Area, the street has a raised center median and on-street parallel parking. Village Parkway has multiple commercial driveways and provides access to smaller properties. The speed limit is 30 miles per hour. Just south of Dublin Boulevard, Village Parkway provides access to a northbound I-680 on-ramp. Village Parkway provides a Class III Bicycle Route between Dublin Boulevard and Amador Valley Boulevard. North of Amador Valley Boulevard, it transitions to a Class II Bicycle Lane and extends north to Alcosta Boulevard.

Amador Valley Boulevard: Amador Valley Boulevard runs in an east-west direction parallel to Dublin Boulevard. Within the Specific Plan Area, it is a four-lane Class I Collector with a landscaped center median. The street provides access to most of the large retail shopping centers in the Specific Plan Area. The speed limit on Amador Valley Boulevard is 30 miles per hour. Class II Bicycle Lanes are provided on both sides of the street within the Specific Plan Area and extend further east to the Alamo Creek Trail. No on-street parking is provided along Amador Valley Boulevard within the Specific Plan Area.

Dublin Boulevard: Dublin Boulevard is a major, six-lane east-west arterial with a center landscaped median that extends through the Specific Plan Area. Dublin Boulevard has a speed limit of 35 miles per hour. No on-street parking or bike lanes are provided on the street within the Specific Plan Area. West and east of the Specific Plan Area, Dublin Boulevard narrows to four lanes. Signals are coordinated along Dublin Boulevard from Regional Street to Village Parkway. Dublin Boulevard provides local-serving access to most of the large retail shopping centers in the Specific Plan Area. It also carries high volumes of through traffic during the morning and afternoon peak hours, as motorists use the street as an alternative route to I-580.

Saint Patrick Way: Saint Patrick Way is a local two-lane Class II Collector street with a two-way center turn lane between Amador Plaza Road and Golden Gate Drive within the Specific Plan Area. Saint Patrick Way will be extended westward to Regional Street as future development occurs. The speed limit is 25 miles per hour. A small stretch of Saint Patrick Way west of Golden Gate Drive provides a Class II Bicycle Lane on both sides of the street and on-street parallel parking on the south side of the street.

Level of Service: Ten signalized intersections in Downtown Dublin were evaluated based on the Levels of Service (LOS) concept. LOS is a qualitative description of intersection and roadway operation, ranging from LOS A to LOS F. LOS A represents free flow, un-congested traffic conditions. LOS F represents highly congested traffic conditions with what is commonly considered unacceptable delays to vehicles on the road segments and at intersections. The intermediate levels of service represent incremental levels of congestion

and delays between these two extremes. The City has a goal to maintain LOS D or better for streets of “regional significance.” Intersection LOS is identified in Figure 2-4: Vehicular Circulation.

C. Section 2.2.4 (Circulation and Parking), subsection Pedestrian & Bicycle Circulation shall be revised as follows:

Pedestrian & Bicycle Circulation

Downtown Dublin consists of relatively large blocks and large arterial streets. Most buildings are set back from the street. On most properties, large surface parking lots are located between the buildings and the street. The streets and development patterns in the Specific Plan Area are primarily oriented towards automobiles and they generally do not promote pedestrian and bicycle circulation (please refer to Section 2.3 Community Character for a discussion of development patterns). Sidewalks are located along all streets within the Specific Plan Area as shown on Figure 2-6: Pedestrian Circulation.

A Class I Shared-Use Path is provided on the west side of San Ramon Road between Dublin Boulevard and Amador Valley Boulevard within the Specific Plan Area; the path extends further north to Alcosta Boulevard. Class II Bicycle Lanes are provided on both the east and west sides of San Ramon Road between Dublin Boulevard and Amador Valley Boulevard and also extend further north to Alcosta Boulevard. Amador Valley Boulevard provides Class II Bicycle Lanes on both sides of the street within the Specific Plan Area and extend further east to the Alamo Creek Trail. A Class IIIA Bicycle Route with Sharrows is proposed along Dublin Boulevard but have not yet been constructed. Class IIA Bicycle Lanes are proposed along Village Parkway to replace the existing Class III Bicycle Route between Dublin Boulevard and Amador Valley Boulevard; north of Amador Valley Boulevard is an existing Class II Bicycle Lane that extends north to Alcosta Boulevard. South of Dublin Boulevard, Class IIA Bicycle Lanes are proposed along Amador Plaza Road, Saint Patrick Way and Regional Street (see Figure 2-7: Bicycle Circulation).

D. Revise Figure 2-6: Pedestrian Circulation to reflect existing and proposed pedestrian networks consistent with the Dublin Bicycle and Pedestrian Master Plan, as generally depicted in Exhibit N.

E. Revise Figure 2-7: Bicycle Circulation to reflect existing and proposed bike lanes consistent with the Dublin Bicycle and Pedestrian Master Plan, as generally depicted in Exhibit O.

F. Portions of the following tables in Chapter 4 (Development Standards and Design Guidelines) shall be amended as follows:

Section 4.1.3 Development Standards, Table “Parking Requirements”, 7. Minimum Bicycle Parking Requirements

Residential and Non-Residential bicycle parking requirements and support facilities shall conform to the California Green Building Standards Code.

Section 4.2.3 Development Standards, Table “Parking Requirements”, 7. Minimum Bicycle Parking Requirements

Residential and Non-Residential bicycle parking requirements and support facilities shall conform to the California Green Building Standards Code.

Section 4.3.3 Development Standards, Table “Parking Requirements”, 7. Minimum Bicycle Parking Requirements

Residential and Non-Residential bicycle parking requirements and support facilities shall conform to the California Green Building Standards Code.

G. Section 5.2.1 Pedestrian Pathways shall be revised as follows:

East-west pedestrian pathways on the properties extending from Regional Street to Amador Plaza Road should be improved consistent with the Dublin Bicycle and Pedestrian Master Plan to provide a better connection for pedestrians. Access to this pathway should be provided from sidewalks and across the rear service alley behind the retail establishments which is the planned future extension of Saint Patrick Way. The pathway may be improved as private outdoor space (such as a paseo) and follow the appropriate standards and guidelines. Landscaping, benches, building-mounted and string lighting, small product vendors, entrances to retail establishments, projecting shade elements, and other similar elements may be provided to enhance the pedestrian realm.

H. Section 5.2.2 Bikeways and Bicycle Connections shall be revised as follows:

The City of Dublin Bicycle and Pedestrian Master Plan identifies and proposed bikeways throughout the City (see Section 2.2.4 Circulation and Parking). As an implementation measure, this Specific Plan recommends exploring opportunities to expand the network throughout Downtown Dublin and creating improved connections to the West Dublin/Pleasanton BART Station. Bicycle support facilities, such as bike lockers, bike racks, and shower facilities are encourage in or near the Station. Direct access to bicycle parking should be provided throughout Downtown Dublin consistent with the Dublin Bicycle and Pedestrian Master Plan and turning movements at intersections and into/out of major developments should be explored.

I. Section 5.2.3 Golden Gate Drive Bicycle Improvements shall be revised as follows:

The Specific Plan recommended improving Golden Gate Drive with Class II bike lanes between Dublin Boulevard and the West Dublin/Pleasanton BART Station. The Downtown Transit District Streetscape Project was completed in June 2013 and enhanced pedestrian and bicycle access on Golden Gate Drive and made the Downtown Transit District entryway more aesthetically pleasing. The main features of the project included: widening of sidewalks; installation of pedestrian-scaled lighting; construction of bicycle lanes between Dublin Boulevard and the BART Station; enhancement of pedestrian crosswalks with decorative stamped asphalt at the intersections of Golden Gate Drive with Dublin Boulevard and Saint Patrick Way; and, installation of street trees, a raised center landscaped median and landscaping.

BE IT FURTHER RESOLVED, that this Resolution shall take effect thirty (30) days after the date of adoption.

PASSED, APPROVED AND ADOPTED the 7th day of October, 2014 by the following vote:

AYES: Councilmembers Biddle, Gupta, Hart, Haubert, and Mayor Sbranti

NOES: None

ABSENT: None

ABSTAIN: None

Tim Sbranti

Mayor

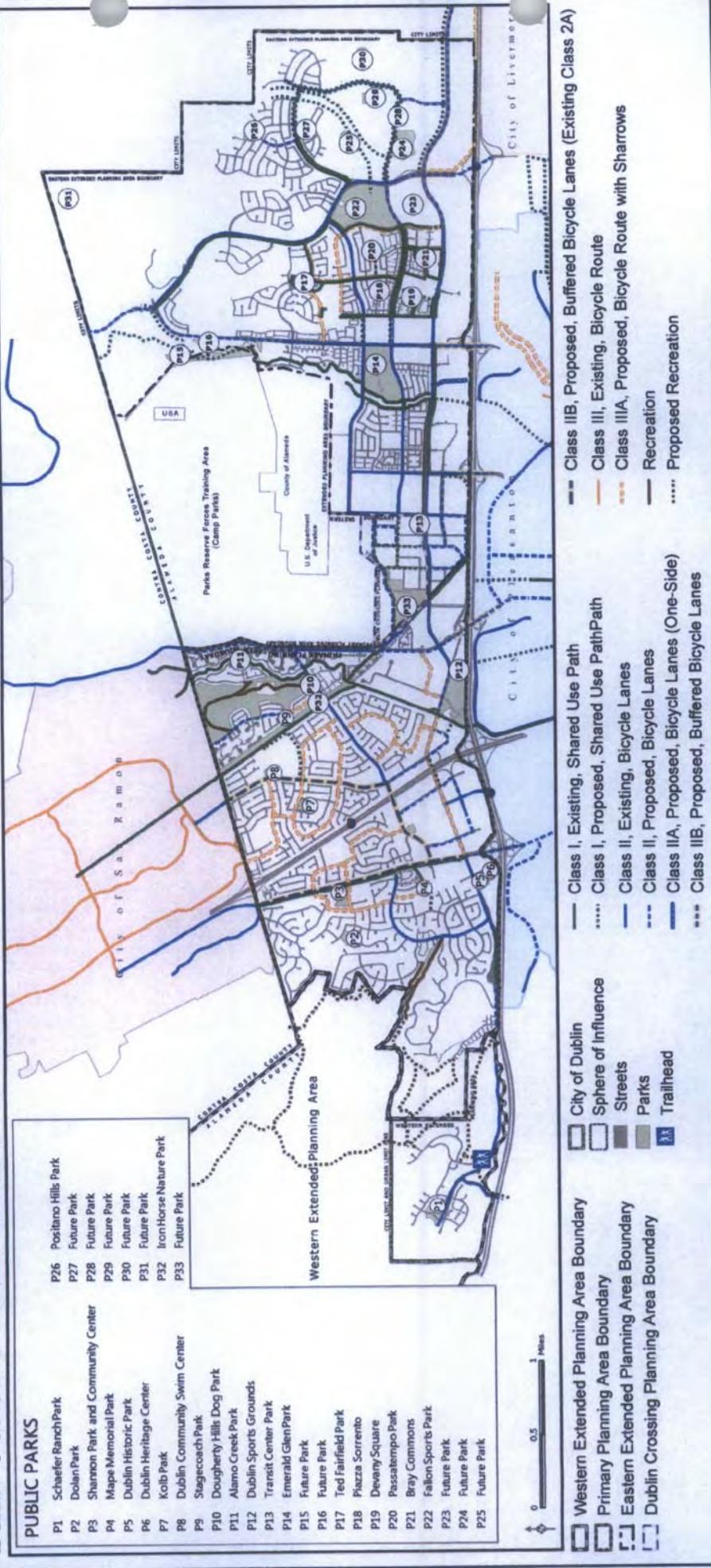
ATTEST:

Carol P. Sod

City Clerk

DUBLIN GENERAL PLAN CITY OF DUBLIN PARKS AND OPEN SPACE

(Figure 3-1)
July 21, 2014

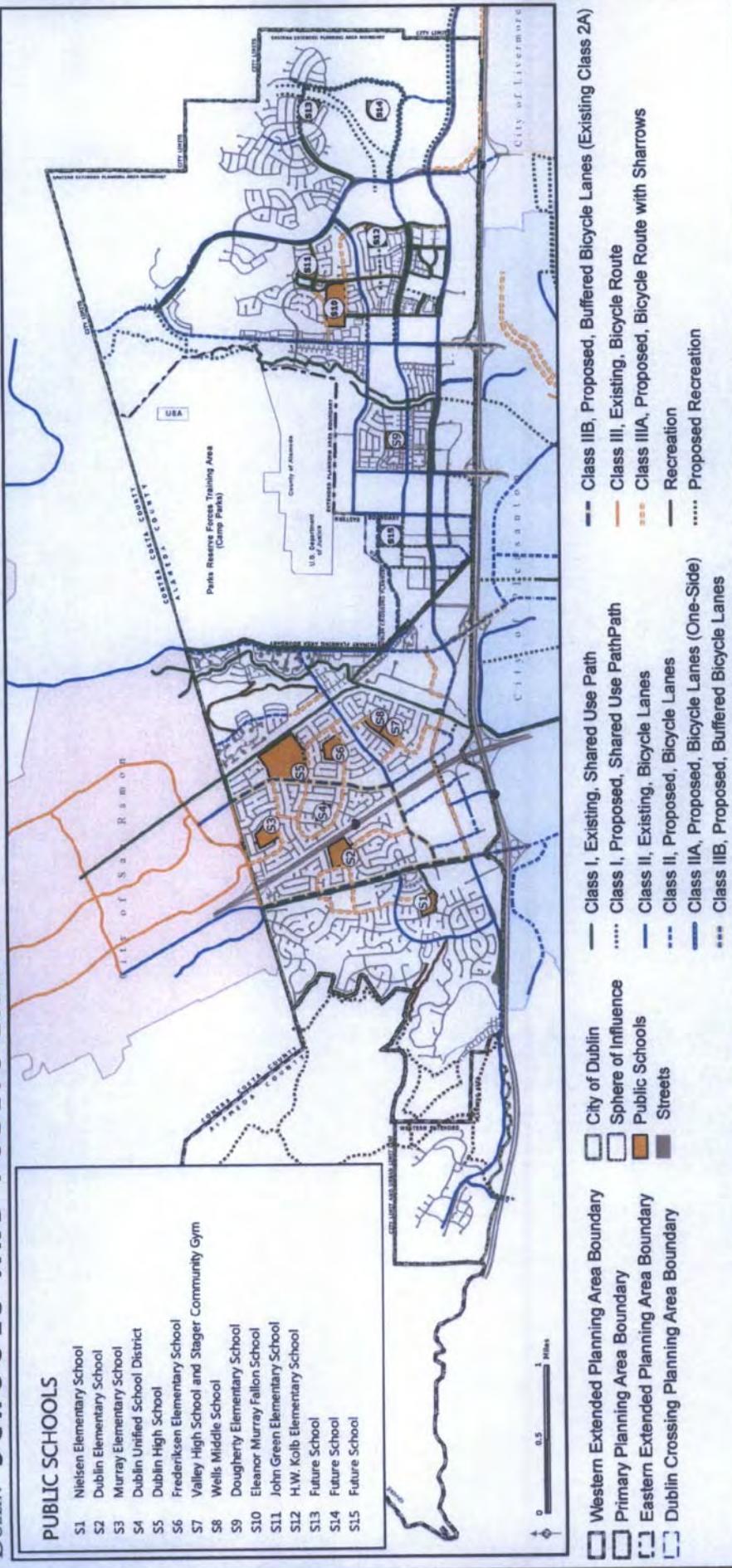


**DUBLIN GENERAL PLAN
SCHOOLS AND PUBLIC LANDS**

(Figure 4-1)
July 21, 2014

PUBLIC SCHOOLS

- S1 Nielsen Elementary School
- S2 Dublin Elementary School
- S3 Murray Elementary School
- S4 Dublin Unified School District
- S5 Dublin High School
- S6 Frederiksen Elementary School
- S7 Valley High School and Stager Community Gym
- S8 Wells Middle School
- S9 Dougherty Elementary School
- S10 Eleanor Murray Fallon School
- S11 John Green Elementary School
- S12 H.W. Kolb Elementary School
- S13 Future School
- S14 Future School
- S15 Future School



DUBLIN GENERAL PLAN
DUBLIN TRANSIT MAP

((Figure 5-2 a))
July 21, 2014

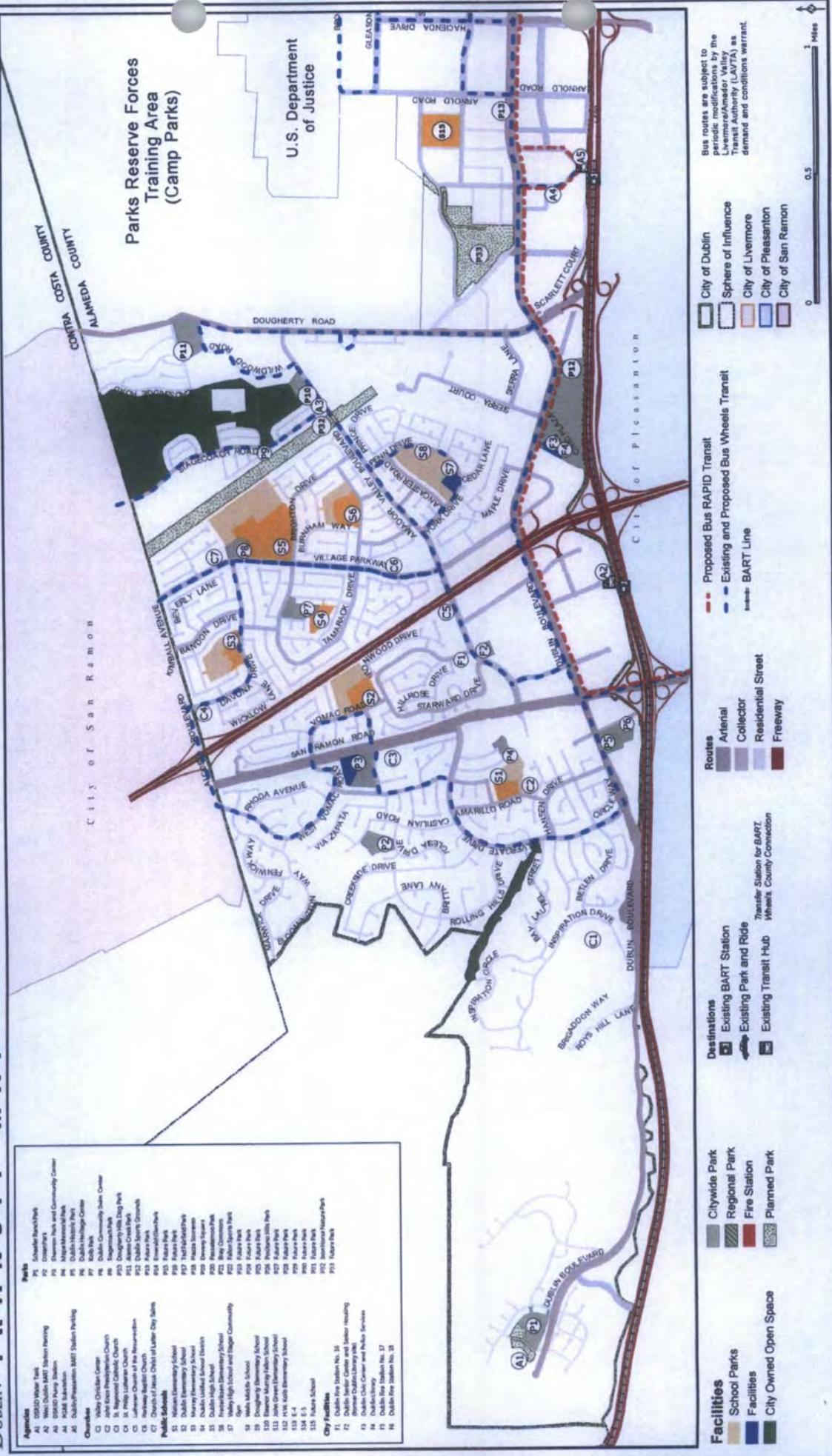


EXHIBIT C

DUBLIN GENERAL PLAN

DUBLIN TRANSIT MAP

(Figure 5-2b)
July 21, 2014

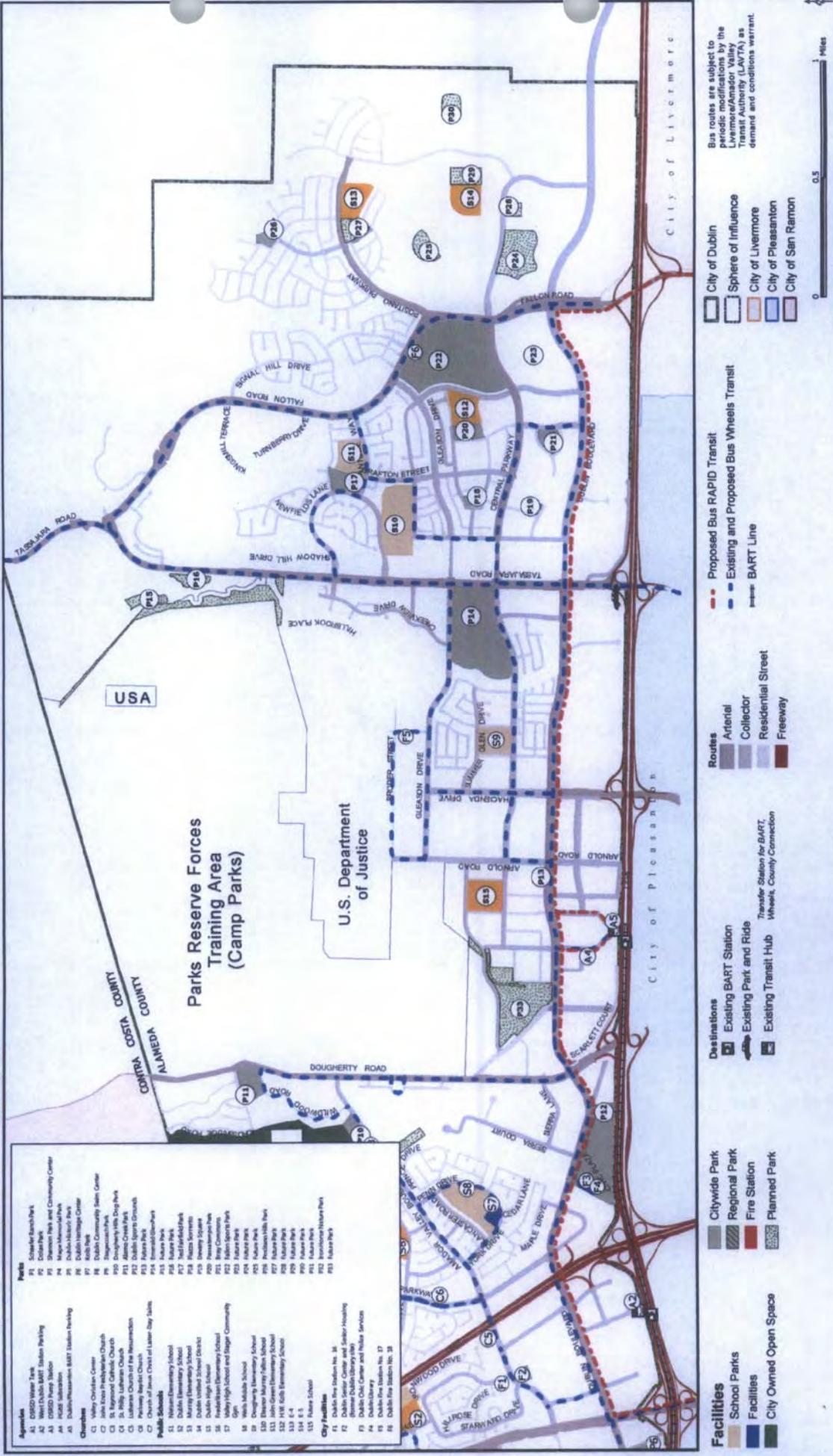
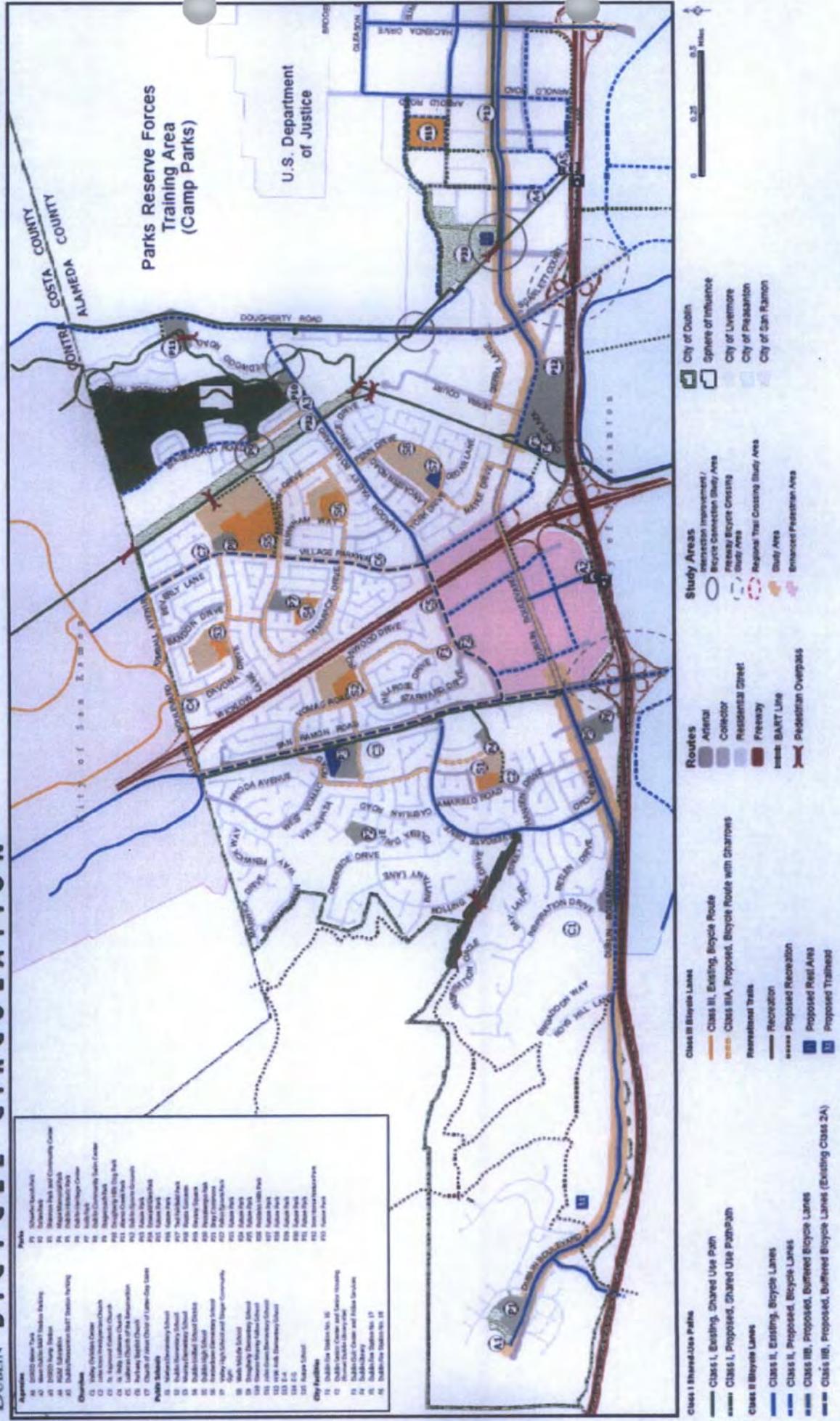


EXHIBIT D

DUBLIN GENERAL PLAN

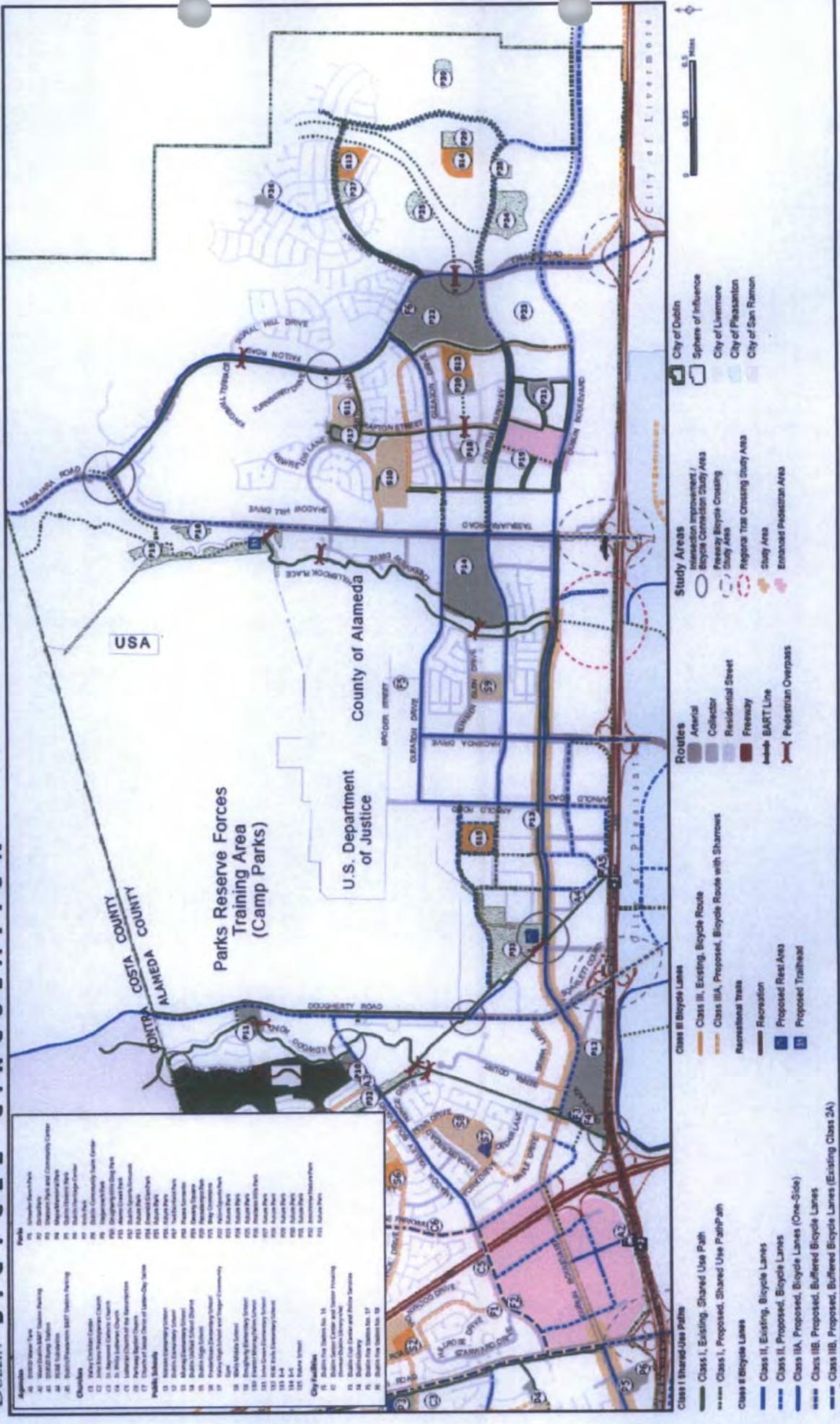
DUBLIN BICYCLE CIRCULATION

(Figure 5-3a)
July 21, 2014



CITY OF DUBLIN
DUBLIN GENERAL PLAN
BICYCLE CIRCULATION

(Figure 5-3b)
July 21, 2014



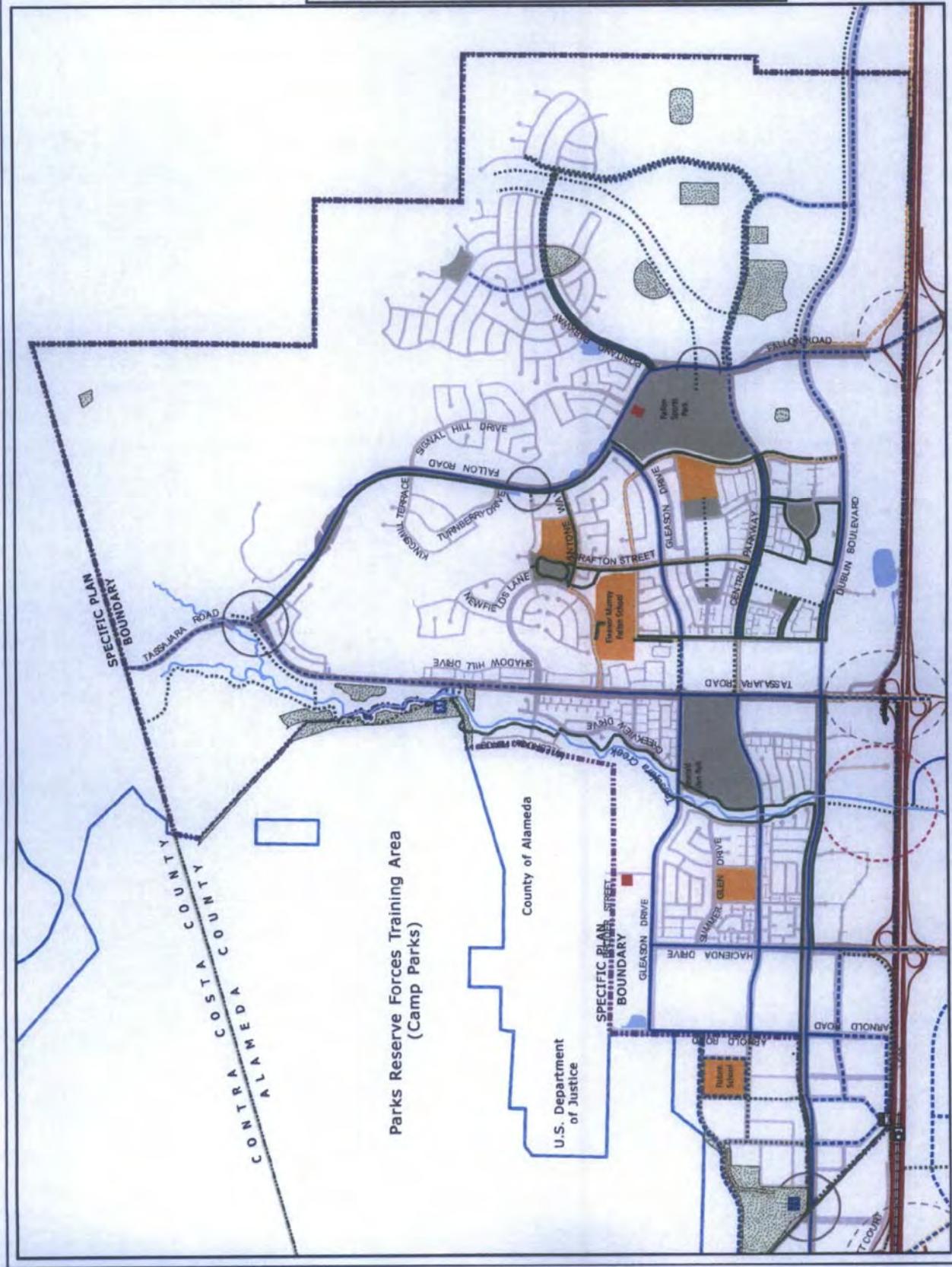
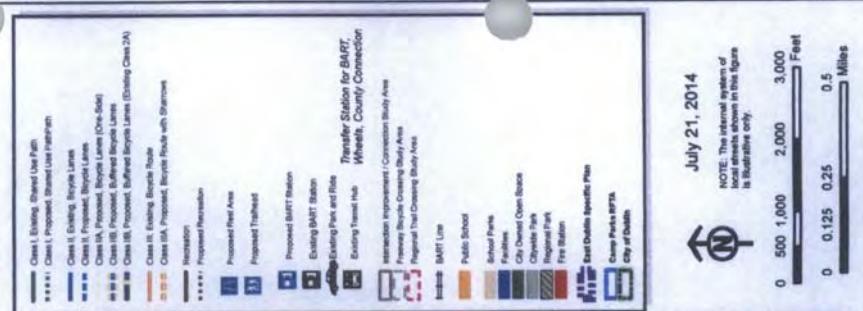
**DUBLIN GENERAL PLAN
CITY OF DUBLIN
MULTI-MODAL MAP**

Figure 5-4a)
July 21, 2014





Figure 5-3b
East Dublin
Bicycle Circulation
System





CITY OF
DUBLIN

Exhibit 4

Dublin Village
Historic Area
Specific Plan
Existing Land Use

Existing Land Use Apartment Complex

A horizontal legend consisting of 15 colored squares, each paired with a category name. The categories are: Cemetery (orange), Church (dark grey), Daycare Center (dark blue), Gas Station (yellow with diagonal lines), Heritage Parks and Museums (brown), Residential/Kennel (red-orange), Office Complex (purple), Office and Manufacturing (blue), Restaurant (light blue), Retail (dark red), Vacant (dark brown), Parcels (white), Buildings (dark blue), Streets (light blue), and Specific Properties (dark blue).

July 21, 2014

NOTE: The internal system of local streets shown in this figure is illustrative only.

EXHIBIT J

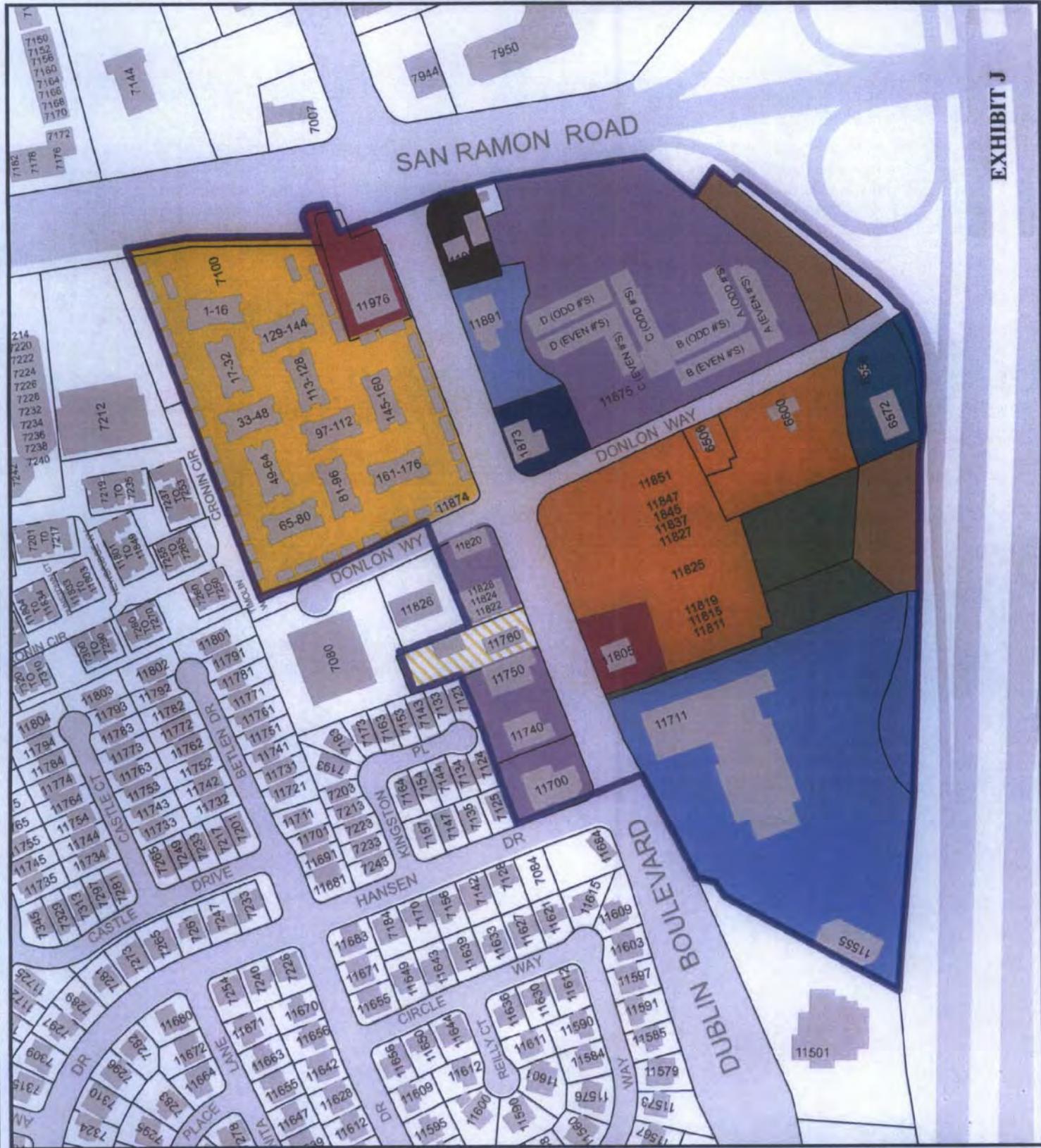




Exhibit 5

Dublin Village
Historic Area
Specific Plan

Existing
General Plan
Land Use

General Plan Land Use	Public/Semi-Public/Open Space
Public/Semi-Public Facility	
Parks/ Public Recreation	
Commercial/Industrial	
Retail/Office	
Business Park/Industrial	
Residential	Medium/High-Density Residential
	Parcels
	Buildings
	Streets
	Specific Plan Area

July 21, 2014

NOTE: The internal system of local streets shown in this figure is illustrative only.

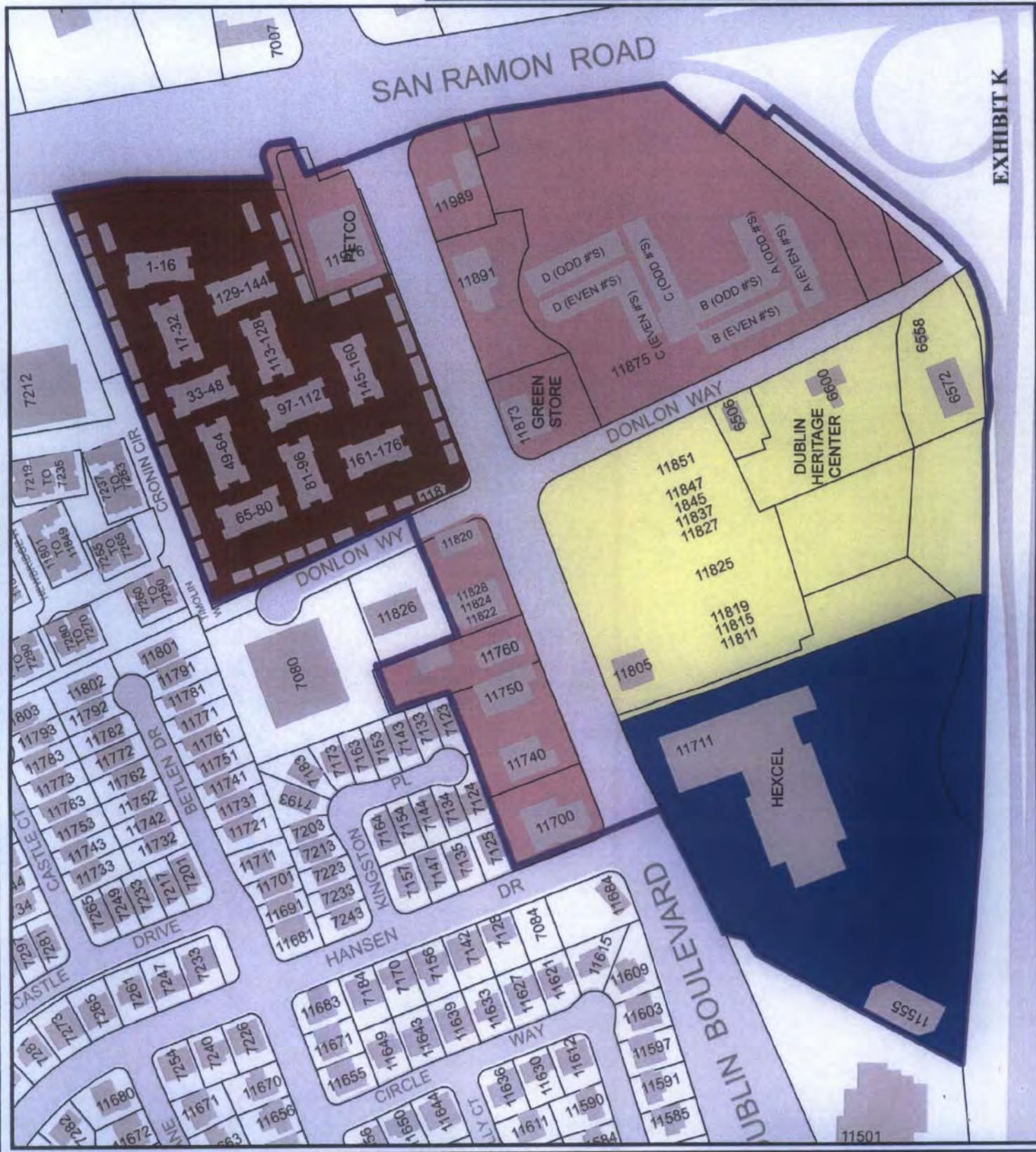




Exhibit 6

Dublin Village Historic Area Specific Plan Zoning

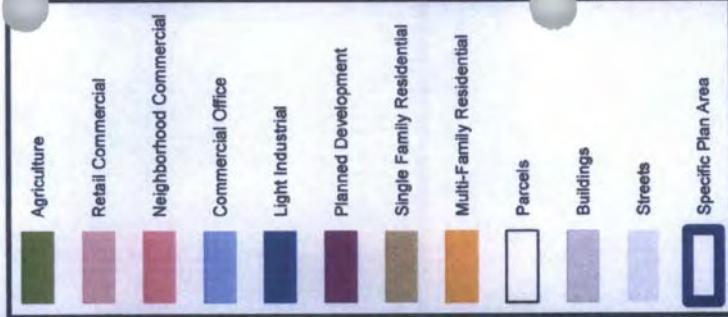
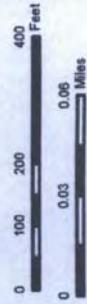


EXHIBIT L

July 21, 2014
NOTE: The historical evidence of
local street names shown in this figure
is illustrative only.





CITY OF
DUBLIN

Exhibit 7
Dublin Village
Historic Area
Specific Plan

Circulation

Proposed Class II
Bicycle Lanes

- Proposed Class 1B
Buffered Bicycle Lanes
(Existing Class 2A)
- Proposed Class 1B
Buffered Bicycle Lanes
(Existing Class 2A)

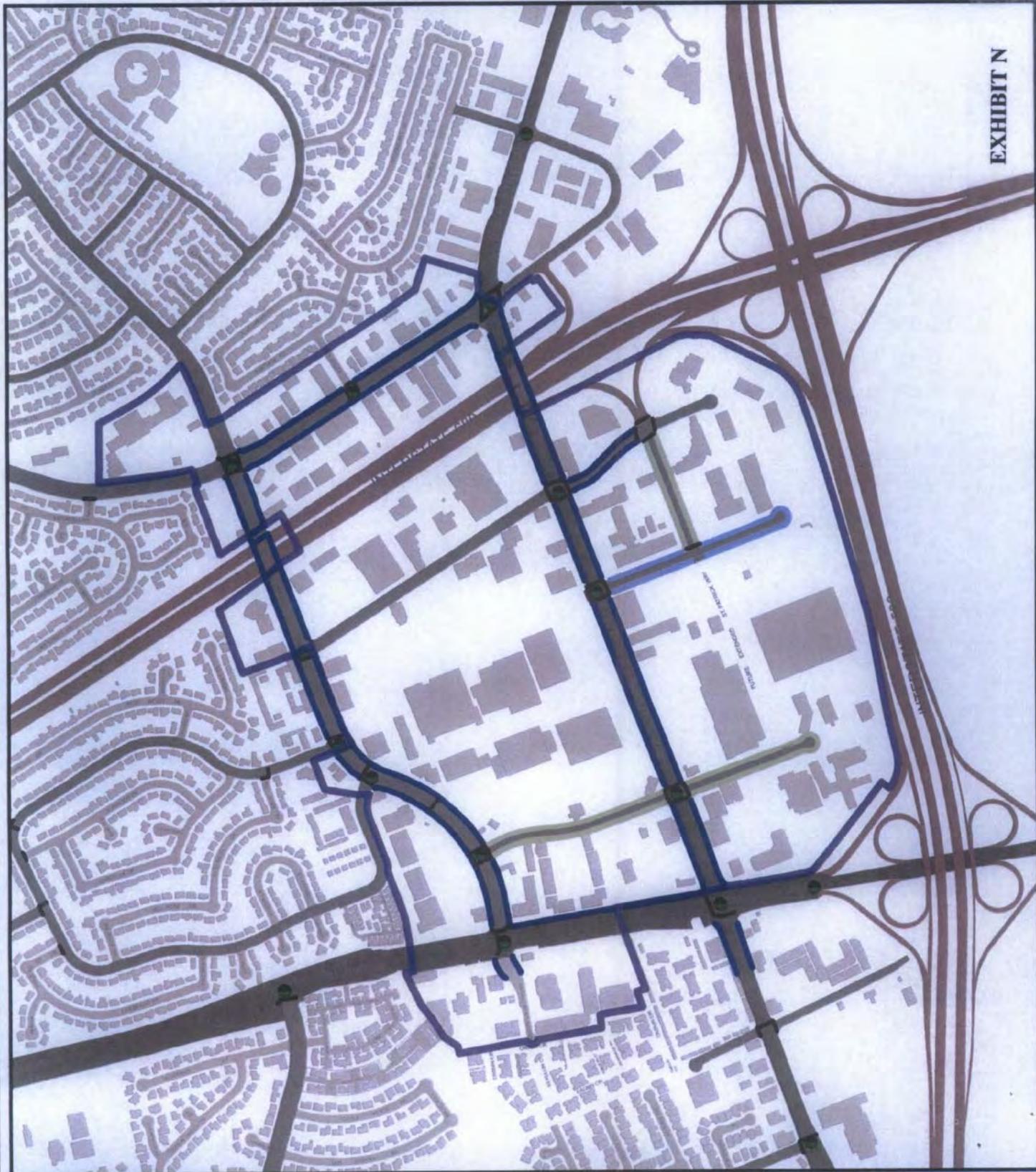
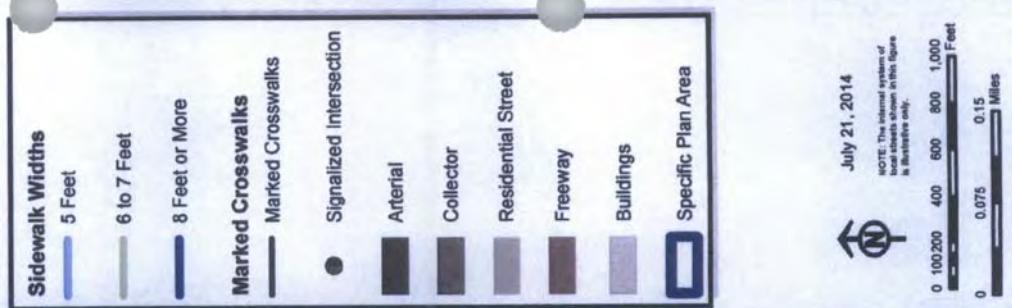
Arterial	Collector	Residential Street	Freeway	Parcels	Buildings	Specific Plan Areas
----------	-----------	--------------------	---------	---------	-----------	---------------------

July 21, 2014





CITY OF
DUBLIN
Figure 2-7
Downtown Dublin
Specific Plan
Pedestrian Circulation



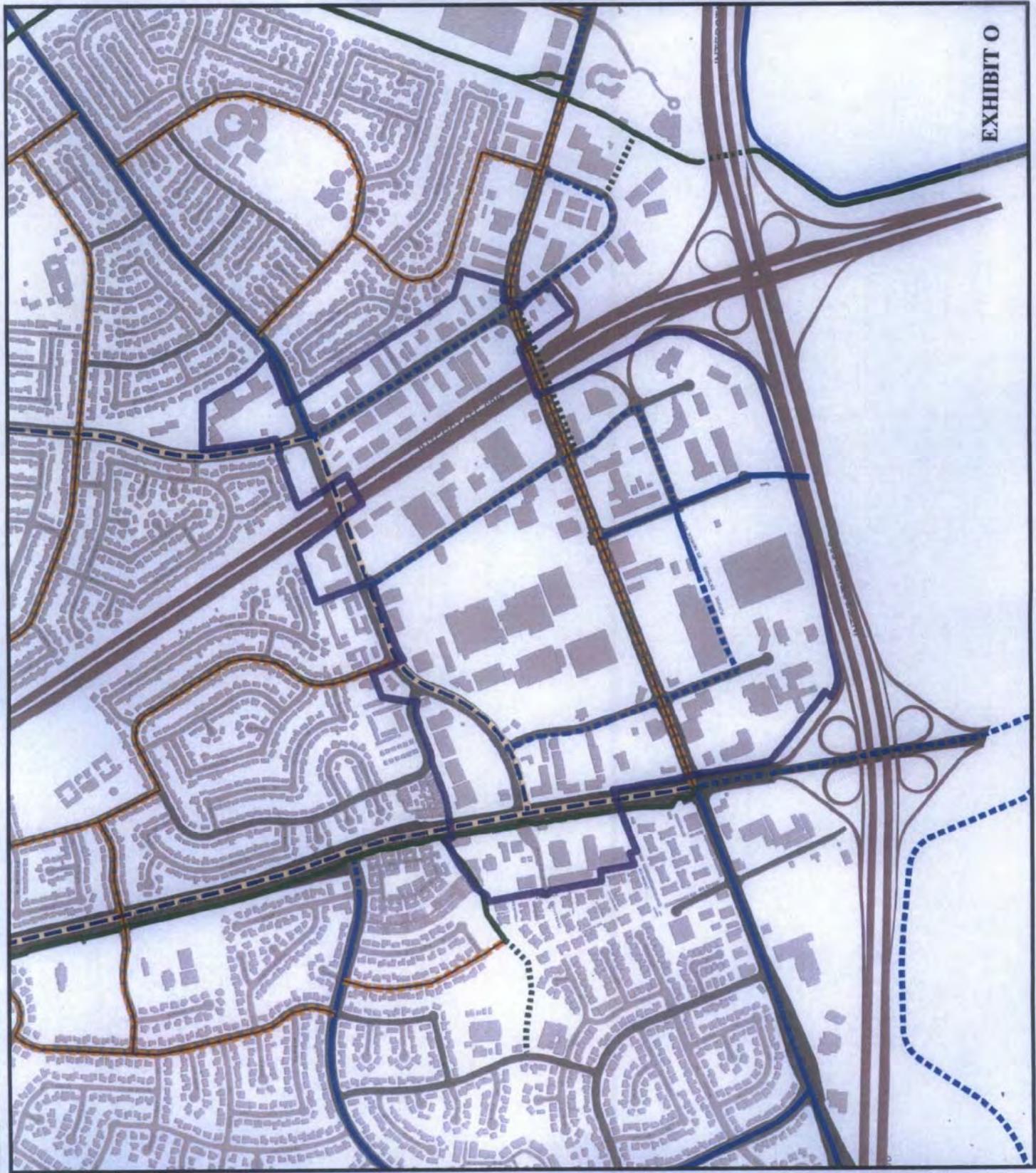


CITY OF
DUBLIN
Figure 2-7

Downtown Dublin
Specific Plan
Bicycle Circulation



July 21, 2014
NOTE: The network system of
bicycle paths shown in this figure
is illustrative only.
0 10000 400 800 900 1,200
0 0.1 0.2 Miles
0 0.1 0.2 Kilometers



RESOLUTION NO. 169 - 14

**A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF DUBLIN**

**ADOPTING A NEGATIVE DECLARATION FOR THE CITY OF DUBLIN BICYCLE AND
PEDESTRIAN MASTER PLAN AND RELATED AMENDMENTS TO THE DUBLIN GENERAL
PLAN, EASTERN DUBLIN SPECIFIC PLAN, DUBLIN VILLAGE HISTORIC AREA SPECIFIC
PLAN, DOWNTOWN DUBLIN SPECIFIC PLAN AND DUBLIN ZONING ORDINANCE**

CITY-WIDE

PLPA-2014-00017

WHEREAS, on July 17, 2007 the City Council adopted the Bikeways Master Plan and associated amendments to the Dublin General Plan and various Specific Plans for consistency with the Bikeways Master Plan; and

WHEREAS, Policy 1.3 of the Bikeways Master Plan is to update the Plan every five years; and

WHEREAS, the Bikeways Master Plan has been renamed the Dublin Bicycle and Pedestrian Plan and combines the update to the Bikeways Master Plan with adoption of the City's first Pedestrian Plan into a comprehensive document that provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin; and

WHEREAS, amendments are proposed to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance to ensure that the text and maps remain consistent with the Dublin Bicycle and Pedestrian Plan; and

WHEREAS, the Dublin General Plan was adopted on February 11, 1985 and has been amended a number of times since that date; and

WHEREAS, the Eastern Dublin Specific Plan was adopted on January 7, 1994 and has been amended a number of times since that date; and

WHEREAS, the Dublin Village Historic Area Specific Plan was adopted on August 1, 2006 and was amended on July 17, 2007; and

WHEREAS, the Downtown Dublin Specific Plan was adopted on February 1, 2011 and was amended on May 6, 2014; and

WHEREAS, the Dublin Zoning Ordinance was substantially revised and adopted on September 2, 1997 and has been amended a number of times since that date; and

WHEREAS, the California Environmental Quality Act (CEQA), together with State Guidelines and City Environmental Regulations require that certain projects be reviewed for environmental impacts and when applicable, environmental documents prepared; and

WHEREAS, the City prepared a Negative Declaration dated June 2014 for the Dublin Bicycle and Pedestrian Plan and the amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance (the "Project") which reflects the City's independent judgment and analysis of the potential environmental impacts of the Project. The Negative Declaration, including its supporting Initial Study, is attached as Exhibit A and incorporated herein by reference; and

WHEREAS, the Negative Declaration was circulated from June 14, 2014 to July 14, 2014 (30 days) for public comment; and

WHEREAS, three comments received on the Negative Declaration were reviewed and responded to. The comments and responses are attached as Exhibit B and incorporated herein by reference; and

WHEREAS, a Staff Report, dated August 26, 2014 and incorporated herein by reference, was submitted to the City of Dublin Planning Commission recommending City Council approval of the Negative Declaration and the proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance; and

WHEREAS, the Planning Commission held a properly noticed public hearing on the project on August 26, 2014 and adopted Resolution 14-46 recommending City Council adoption of the Negative Declaration; and

WHEREAS, a Staff Report, dated October 7, 2014 and incorporated herein by reference, was submitted to the City of Dublin City Council recommending approval of the Negative Declaration and the proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance for the Dublin Bicycle and Pedestrian Master Plan; and

WHEREAS, the City Council held a public hearing on the project on October 7, 2014; and

WHEREAS, proper notice of said hearing was given in all respects as required by law; and

WHEREAS, the City Council did hear and consider the Negative Declaration and related comments and responses, all said reports, recommendations and testimony herein above set forth and used its independent judgment to evaluate the project; and

WHEREAS, the location and custodian of the documents or other material which constitute the record of proceedings for the project is the City of Dublin Public Works Department, City Hall, 100 Civic Plaza, Dublin, CA 94568.

NOW, THEREFORE, BE IT RESOLVED that the City of Dublin City Council does hereby find that:

- 1) The foregoing recitals are true and correct and made a part of this Resolution.

- 2) On the basis of the whole record before it (including the initial study, and related comments and responses), there is no substantial evidence that the project will have a significant effect on the environment.
- 3) The Negative Declaration is complete and adequate and reflects the City's independent judgment and analysis as to the environmental effects of the City of Dublin Bicycle and Pedestrian Plan and amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance as described in the Negative Declaration.

BE IT FURTHER RESOLVED that on the basis of the findings above, the City of Dublin City Council does hereby adopt a Negative Declaration (including related comments and responses) for the Dublin Bicycle and Pedestrian Master Plan and the amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance, attached as Exhibits A and incorporated herein by reference.

PASSED, APPROVED AND ADOPTED this 7th day of October, 2014, by the following vote:

AYES: Councilmembers Biddle, Gupta, Hart, Haubert, and Mayor Sbranti

NOES: None

ABSENT: None

ABSTAIN: None



Mayor

ATTEST:



City Clerk

CITY OF DUBLIN

100 Civic Plaza
Dublin, California 94568
Phone: (925) 833-6650
Fax: (925) 833-6651

City Council
(925) 833-6650
City Manager
(925) 833-6650
Community Development
(925) 833-6610
Economic Development
(925) 833-6650
Finance/Admin Services
(925) 833-6640
Fire Prevention
(925) 833-6606
Human Resources
(925) 833-6605
Parks & Community Services
(925) 556-4500
Police
(925) 833-6670
Public Works/Engineering
(925) 833-6630



www.dublin.ca.gov

CITY OF DUBLIN

NEGATIVE DECLARATION

Project Title: City of Dublin Bicycle and Pedestrian Master Plan

Description of Project: Consideration of the City of Dublin Bicycle and Pedestrian Master Plan that would encourage walking and bicycling within the community. The Plan includes recommendations for specific implementing projects along certain major roadways in Dublin. The project also includes Amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Downtown Dublin Specific Plan, Dublin Village Historic Area Specific Plan and Zoning Ordinance to ensure consistency between these documents and the Plan.

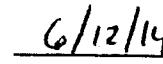
Project Location: City-wide applicability

Name of Proponent: City of Dublin
Attn: Ferd Del Rosario, Senior Civil Engineer
Public Works Department
100 Civic Plaza Dublin, CA 94568

Determination: I hereby find that the above project could not have a significant effect on the environment and a NEGATIVE DECLARATION has been prepared.



Gary Huisingsh, Public Works Director



6/12/14
Date

The Initial Study documenting the reasons to support the above finding and Draft City of Dublin Bicycle and Pedestrian Master Plan are available for public review on the City of Dublin Public Works Department webpage at www.dublin.ca.gov and at the City of Dublin, Public Works Department, 100 Civic Plaza, Dublin, CA 94568 during normal business hours.

Attachments

Date Published: _____
Date Posted: _____
Date Notice Mailed: _____
Considered by: _____
On: _____
N.O.D. filed: _____
Council Resolution No. _____

Bicycle & Pedestrian Master Plan

INITIAL STUDY/ NEGATIVE DECLARATION

**Lead Agency:
City of Dublin**

**Prepared By:
Jerry Haag, Urban Planner**

June, 2014

City of Dublin

Environmental Checklist/ Initial Study

This Initial Study has been prepared in accord with the provisions of the California Environmental Quality Act (CEQA) and assesses the potential environmental impacts of implementing the proposed project described below. The Initial Study consists of a completed environmental checklist and a brief explanation of the environmental topics addressed in the checklist.

Project Sponsor & Contact Person

City of Dublin
Public Works Department
100 Civic Plaza
Dublin CA 94568
(925) 833 6630

Attn: Ferd Del Rosario, PE, Senior Civil Engineer

Project Location and Context

The City of Dublin Planning Area consists of approximately 18.76 square miles of land area lying in eastern Alameda County, also known as the Livermore-Amador Valley, or the Tri-Valley area. Surrounding jurisdictions include the City of San Ramon and unincorporated Contra Costa County to the north, unincorporated Alameda County to the east and west and the cities of Pleasanton and Livermore to the south.

Exhibits 1 and 2 show the location of Dublin in relation to surrounding communities and other major features.

Project Description

The project being considered by the City of Dublin is the Bicycle and Pedestrian Master Plan (to be identified as the "Plan" in this document) dated June 2014. The proposed Plan would update and replace the City's existing Bikeways Master Plan adopted in 2007. The proposed Plan reflects the recently updated Circulation and Scenic Highways Element of the General Plan and the Downtown Dublin Specific Plan.

Existing Bikeways Master Plan. The City adopted a Bikeways Master Plan in 2007 that primarily addressed existing and future bicycle lanes, trails, and related improvements in the community. The existing Master Plan does not address pedestrian facilities, which is now required under the state-mandated "Complete Streets" program.

- Goal 3: Incorporate the needs and concerns of bicyclists and pedestrians in all transportation and development projects.
- Goal 4: Support infrastructure investments with targeted bicycle and pedestrian education, encouragement, enforcement and evaluation programs.
- Goal 5: Maximize multi-modal connections in the transportation network.
- Goal 6: Improve bicycle and pedestrian safety Citywide.

Proposed Bicycle and Pedestrian Improvements. **Exhibit 3** depicts existing and proposed bicycle improvements in Dublin. This is also Figure 5-2 contained in the Plan.

Further, the Plan establishes a listing of specific construction projects in the community that are intended to implement the ultimate bicycle and pedestrian system. These projects are prioritized as Tier Zero, Tier 1, Tier 2 and Tier 3 improvements and are described below.

- *Tier Zero Projects:* These projects are those that are assumed to be implemented in the near future since they generally have been designed and necessary funding secured and may be under construction.
- *Tier One Projects:* Bicycle and Pedestrian improvement projects in this classification are identified as high priority projects proposed to be implemented following Tier Zero projects. The focus of improvements would be on major roadways in or adjacent to downtown Dublin. Future specific implementing projects are anticipated to include enhanced landscaping along these roadways, adding bicycle lanes and/or shared pathways, widening existing sidewalks, adding "bulb-outs" at intersections to improve pedestrian usability, pedestrian lighting improvements and installing wayfinding signs. A bridge overcrossing is proposed between Clark Street and the Alamo Trail Canal near the Civic Center.
 - Amador Plaza Road between Amador Valley Boulevard and St. Patrick Way/I-580 ramps. Sidewalk and crosswalk improvements, bicycle lanes, pedestrian-scale lighting and a landscaped median are proposed for the 0.5 mile segment.
 - Village Parkway between northern City limits and Clark Avenue/Dublin Boulevard. A variety of complete streets improvements are proposed on the 1.8-mile segment, including crossing improvements, dedicated bicycle facilities, and a path connection to the Alamo Canal Trail.
 - Downtown Dublin connectivity projects, including pedestrian and bicycle improvements to Regional Street, Amador Valley Boulevard, Village Parkway, Amador Plaza Road, St. Patrick Way and Dublin Boulevard. This project would create a continuous network of dedicated facilities to provide last-mile connections to Downtown business and transit destinations. The existing wide bicycle lanes on Amador Valley Boulevard would be restriped

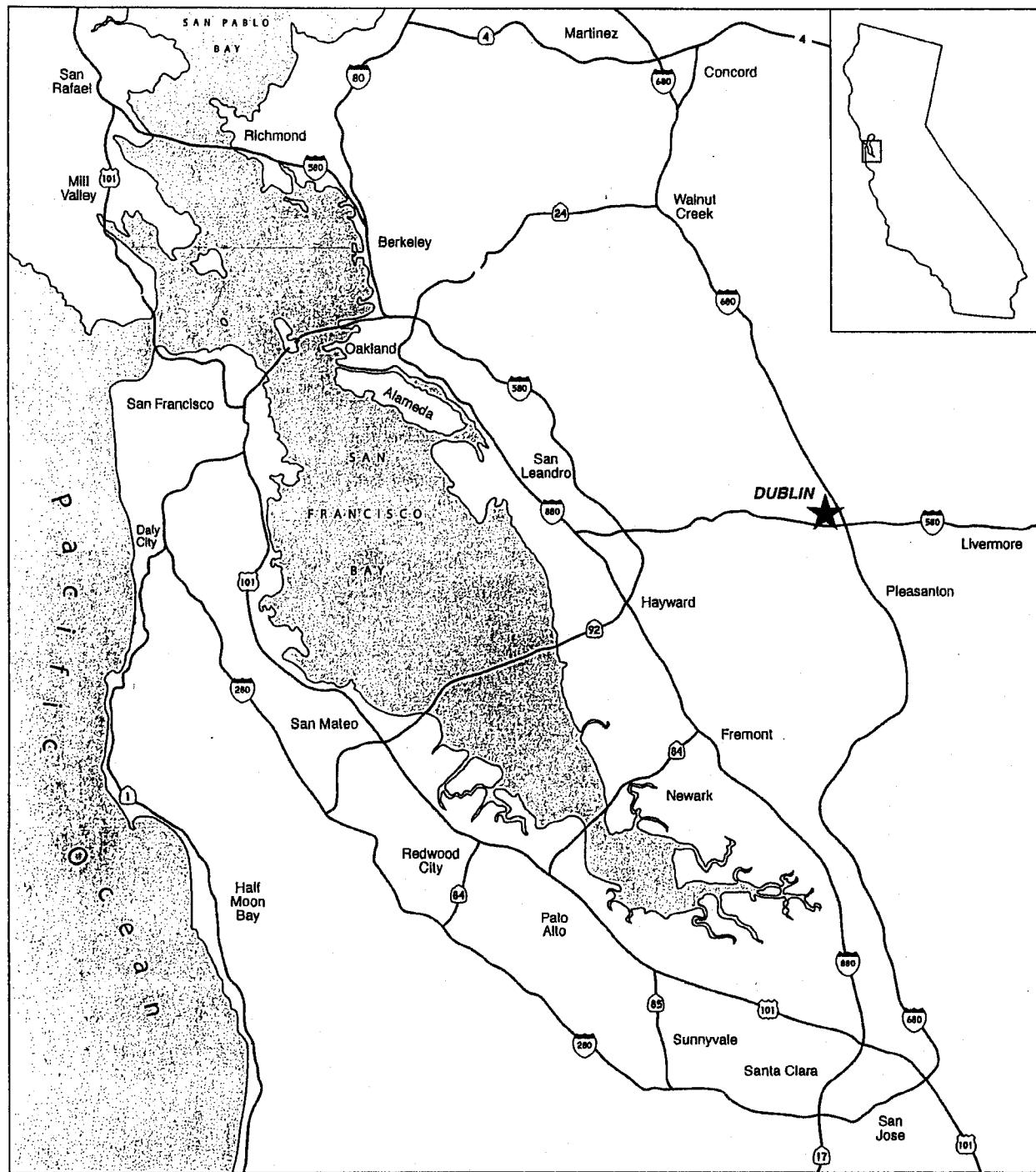
- Revise specific references to bicycling to also include walking.
- Update Table 5.1 to include proposed biking and walking facilities.
- Revise implementing policy 5.2.2.B.2 to include a reference to the bicycle and pedestrian network maps contained in the City's Bicycle and Pedestrian Master Plan.
- Update implementing policies 5.2.5.B.1 and 5.2.5.B.2 to include a reference to updating the Downtown Traffic Impact Fee Program for consistency with the Downtown Dublin Specific Plan and the Dublin Bicycle and Pedestrian Master Plan.
- Revise Section 5.5 to summarize and refer to the Bicycle and Pedestrian Master Plan; remove references to the Dublin Blvd gap closure study; and include references to Downtown Dublin businesses and the Dublin BART Station.
- Revise policy 5.5.1.A.1 to include "continuous, comfortable and convenient bikeways."
- Revise policy 5.5.1.A.2 to include "bikeways, bicycle support facilities and pedestrian facilities."
- Add the following policy: 5.5.1.A.4 Provide comfortable, safe and convenient walking routes throughout the City and, in particular, to key destinations such as Downtown Dublin, the BART Stations, schools, parks and commercial centers.
- Revise policy 5.5.1.B.2 to include "bikeways, bicycle support facilities and pedestrian facilities in accordance with the Bicycle and Pedestrian Master Plan."
- Revise policy 5.5.1.B.3 to include "bikeways, bicycle support facilities and pedestrian facilities."

Downtown Dublin Specific Plan:

- Replace all references to "Bikeways Master Plan" with "Dublin Bicycle and Pedestrian Master Plan."
- Revise applicable Figures to reflect bicycle and pedestrian circulation.
- Revise development standards for bicycle parking requirements.
- Revise Section 5.2 (Mobility and Infrastructure Plan, Pedestrian and Bicycle Circulation) to reflect existing and proposed infrastructure improvements.

Eastern Dublin Specific Plan:

- Replace all references to "Bikeways Master Plan" with "Dublin Bicycle and Pedestrian Master Plan."
- Revise Policy 5-18 to include support facilities for bicycle parking consistent with the Dublin Bicycle and Pedestrian Master Plan.
- Revise Action Program 5D consistent with the Dublin Bicycle and Pedestrian Master Plan.
- Revise Figures 5.3 and 5.3b to reflect bicycle and pedestrian circulation.
- Revise Policy 4-23 to require facilities to be consistent with the Dublin Bicycle and Pedestrian Master Plan.
- Revise development standards for bicycle parking requirements.



**CITY OF DUBLIN
PEDESTRIAN & BICYCLE MASTER PLAN
INITIAL STUDY**

**Exhibit 1
REGIONAL LOCATION**

0 2 4 6 8 10 miles

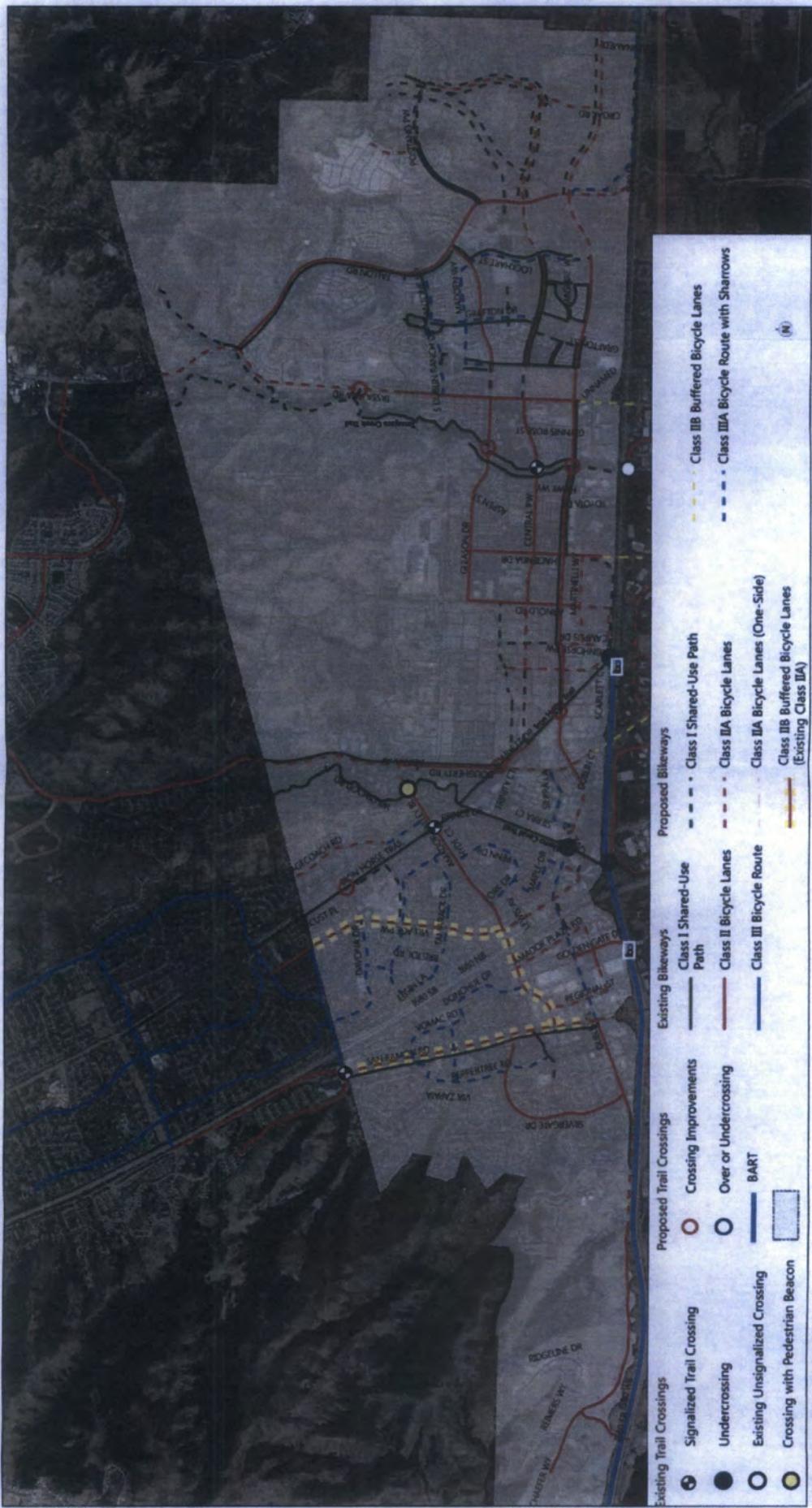


Exhibit 3
EXISTING AND PROPOSED
BIKEWAYS

**CITY OF DUBLIN
PEDESTRIAN & BICYCLE MASTER PLAN
INITIAL STUDY**

1. Project description: Consideration of a Pedestrian and Bicycle Master Plan to encourage use of walking and bicycling within the community. The Plan includes recommendations for specific implementing projects along certain major roadways in Dublin. The project also includes Amendments to the Dublin General Plan, Downtown Dublin Specific Plan, Dublin Village Historic Area Specific Plan and zoning ordinance to ensure consistency between these documents and the proposed Plan.

2. Lead agency/sponsor: City of Dublin

3. Contact person: Ferd Del Rosario PE, Senior Civil Engineer

4. Project location: City-wide applicability

5. General Plan designation: Includes all General Plan land use designations within the City

6. Zoning: Includes all zoning districts within the City

7. Other public agency required approvals:
None, although permits from other agencies may be required to implement individual project components.

Signature: Jerry Haag

Date: 6/10/14

Printed Name: Jerry Haag

For: City of Dublin

Evaluation of Environmental Impacts

- 1) A brief explanation is required for all answers except "no impact" answers that are adequately supported by the information sources a lead agency cites in the parenthesis following each question. A "no impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "no impact" answer should be explained where it is based on project-specific factors as well as general factors (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less-than-significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less-than-Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVII, "Earlier Analysis," may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less-Than-Significant with Mitigation Measures Incorporated," describe the mitigation measures

Environmental Impacts (Note: Source of determination listed in parenthesis. See listing of sources at end of checklist used to determine each potential impact).

Note: A full discussion of each item is found following the checklist.

1. Aesthetics. Would the project:

- a) Have a substantial adverse impact on a scenic vista?
- b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings and historic buildings within a state scenic highway? (Source: 1, 5)
- c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Source: 1, 3)
- d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (Source: 2, 3)

2. Agricultural Resources. Would the project:

- a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a non-agricultural use? (Source: 1, 3)
- b) Conflict with existing zoning for agriculture use or a Williamson Act contract? (1)
- c) Conflict with existing zoning for, or cause rezoning of forestland (as defined by PRC Sec. 12220(g)), timberland (as defined in PRC Sec. 4526), or timberland zoned Timberland Production (as defined in PRC Sec. 51104 (g))? (Source: 1, 5)
- d) Result in the loss of forest land or conversion of forest land to non-forest use? (1,3)
- e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to a non-agricultural use or conversion of forestland to a non-forest use? (Source: 1, 3)

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
		X	
			X
			X
		X	
			X
			X
			X
			X
			X
			X

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites? (3)

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional or state habitat conservation plan? (Source: 1, 5)

5. Cultural Resources. Would the project

a) Cause a substantial adverse impact in the significance of a historical resource as defined in Sec. 15064.5? (Source: 1, 3, 5)

b) Cause a substantial adverse change in the significance of an archeological resource pursuant to Sec. 15064.5? (Source: 1, 5)

c) Directly or indirectly destroy a unique paleontological resource or unique geologic feature? (Source: 1, 3, 5)

d) Disturb any human remains, including those interred outside of a formal cemetery? (3)

6. Geology and Soils. Would the project

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Fault Zoning Map issued by the State Geologist or based on other known evidence of a known fault? (Source: 1, 3)

ii) Strong seismic ground shaking? (1, 5)

iii) Seismic-related ground failure, including liquefaction? (Source: 1, 5)

iv) Landslides? (Source: 1, 3)

b) Result in substantial soil erosion or the loss of topsoil? (Source: 1, 4))

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
			X
			X
			X
			X
		X	
		X	
			X
			X
			X
			X
			X
		X	
			X
			X

d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Sec. 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (5)

e) For a project located within an airport land use plan or, where such plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (Source: 1, 5)

f) For a project within the vicinity of private airstrip, would the project result in a safety hazard for people residing or working in the project area? (Source: 1, 5)

g) Impair implementation of or physically interfere with the adopted emergency response plan or emergency evacuation plan? (Source: 1, 4)

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (4)

9. Hydrology and Water Quality. *Would the project:*

a) Violate any water quality standards or waste discharge requirements? (Source: 1, 4, 5)

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (Source: 1, 3)

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
			X
			X
			X
			X
			X
			X
			X
			X
			X

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (Source: 1, 3)

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? (Source: 1, 3)

11. Mineral Resources. Would the project

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (1)

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (Source: 1)

12. Noise. Would the proposal result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the general plan or noise ordinance, or applicable standards of other agencies? (1)

b) Exposure of persons or to generation of excessive groundborne vibration or groundborne noise levels? (Source: 1, 3)

c) A substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project? (1, 3)

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project? (1, 3)

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (1, 5)

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
			X
			X
			X
			X
		X	
			X
			X
		X	
			X

16. Transportation and Traffic. Would the project:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and all non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit? (Source: 1, 4)
- b) Conflict with an applicable congestion management program, including but not limited to, level of service and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? (Source: 1, 4)
- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (Source: 1, 5)
- d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses, such as farm equipment? (Source: 4)
- e) Result in inadequate emergency access? (4)
- f) Conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance of safety of such facilities? (1)

17. Utilities and Service Systems. Would the project

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (Source: 4)

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
			X
			X
			X
			X
			X
			X
			X
			X

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects).

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
			X
			X

Source used to determine potential environmental impacts

1. Dublin General Plan and General Plan CEQA document
2. Draft Pedestrian & Bicycle Master Plan
3. Site Visit
4. Discussion with City staff or service provider.
5. Other Source

XVII. Earlier Analyses

Earlier analyses used. Identify earlier analyses and state where they are available for review.

None have been used in the preparation of this document.

- b) *Substantially damage scenic resources, including but not limited to trees, rock outcroppings and historic buildings within a state scenic highway?* NI. Implementation of the Plan would facilitate limited new construction within existing public rights-of-way. No major stands of trees, large rock outcroppings or other significant natural features exist adjacent to any of the roadways that could be affected by approval of the Plan and no impact would result.
- c) *Substantially degrade the existing visual character or quality of the site and its surroundings?* NI. Future construction of pedestrian and bicycle improvements would be located within existing rights-of-way and within largely urbanized areas. Therefore, there would be no degradation of the visual character of properties adjacent to major roads that would be improved with new or enhanced bicycle and pedestrian facilities. No impact would result with respect to this topic.
- d) *Create light or glare?* LS. Implementation of the Plan could facilitate new lighting adjacent to new bicycle lanes and pedestrian paths. It is anticipated that any new lighting fixtures would be in existing developed areas. The lighting would generally be the same type as presently exists in the community and new lighting could represent a minimal increase in the amount of overall light within the City of Dublin. This impact is therefore expected to be less-than-significant.

2. Agricultural and Forestry Resources

Project Impacts

- a-e) *Convert Prime Farmland, conflict with agricultural zoning, convert prime farmland to a non-agricultural use or impact forest or timberland?* NI. Proposed improvements that could be facilitated by the Plan would be located within urbanized areas within the City of Dublin. Therefore no impacts would result in terms of loss of agricultural lands, agricultural operations, Williamson Act contracts or any timberland or forests.

3. Air Quality

Project Impacts

- a-c) *Would the project conflict or obstruct implementation of an air quality plan, violate any air quality standards or result in cumulatively considerable air pollutants?* LS. Approval of the Plan and construction of individual pedestrian and bicycle improvements pursuant to the Plan could create minor and less-than-significant short-term air quality impacts related to restriping of roadways for new bicycle lanes, demolition of portions of damaged sidewalk and other similar construction activities. These improvements would occur over a number of years and would fall below the level of significance identified by the Bay Area Air Quality Management District (BAAQMD) (see BAAQMD Guidelines, May 2012). There would also be limited short-term use of vehicles for construction activities. The purpose of the project is to encourage non-automotive trips in Dublin by constructing improvements that

since these improvements would generally occur within or immediately adjacent to public rights-of-way.

- d) *Interfere with movement of native fish or wildlife species?* NI. No major structures would be constructed as part of implementing the Plan in undeveloped areas that could block or interfere with native fish or wildlife species and no impact would result.
- e, f) *Conflict with local policies or ordinances protecting biological resources or any adopted Habitat Conservation Plans or Natural Community Conservation Plans?* NI. The project site lies within the Eastern Alameda County Conservation Strategy (EACCS) planning area. The City of Dublin utilizes the Conservation Strategy as guidance for environmental permitting for public projects, and private development projects are encouraged to use the EACCS as a resource as well. The Conservation Strategy embodies a regional approach to permitting and mitigation for wildlife habitat impacts associated with land development, infrastructure, and other activities. The Conservation Strategy is neither a Habitat Conservation Plan nor a Natural Community Conservation Plan, but is a document intended to provide guidance during the project planning and permitting process to ensure that impacts are offset in a biologically effective manner. No impacts would therefore result.

5. Cultural Resources

Project Impacts

- a) *Cause substantial adverse change to significant historic resources?* NI. Future pedestrian and bicycle improvements envisioned as part of the Plan would be located within public rights-of-way that contain no structures. No impacts are therefore anticipated with regard to historic structures.
- b, c) *Cause a substantial adverse impact or destruction to archeological or paleontological resources?* LS. Limited subsurface excavation would occur as a result of constructing pedestrian or bicycle improvements envisioned in the Plan. This would include excavating for sidewalk and bicycle path improvements, new lights and for structural footings for the proposed Alamo Creek overcrossing. All grading and excavation will be subject to City of Dublin General Plan Conservation Element Guiding Policy 7.7.1.2 that requires grading operations within the City to follow State regulations regarding stop-work and other procedures upon discovery of archeological and historic sites as set forth in the California Public Resources Code. Less-than-significant impacts would result with respect to this topic.
- d) *Disturb any human remains, including those interred outside of a formal cemetery?* NI. There would be minimal ground disturbance as a result of constructing pedestrian and bicycle improvements since most of the improvements would be along in or along existing roadways. Consistency with CEQA Guidelines Section 15064.5 (f), as required by the General Plan, will ensure that stop-work and

term due to construction activities to stripe bike lanes on selected streets, repair of sidewalks and similar actions. Such impacts would be less-than-significant and would occur over a period of time. There would be no long-term increases in greenhouse gas emissions, since the purpose of the Plan is to promote non-automotive modes of transportation as an alternative to vehicle use. The effect of implementing the Plan would therefore be to slightly reduce the emission of greenhouse gasses over the long-term.

8. Hazards and Hazardous Materials

Project Impacts

- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?* NI. The proposed project would not involve the routine transport, use or disposal of significant amounts of hazardous materials since it would include non-auto transportation improvements with minimal use of any chemicals. No impacts would result.
- b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material into the environment?* NI. There would be minimal disruption of existing ground surfaces in order to construct planned pedestrian and bicycle improvements envisioned in the Plan. Generally, planned improvements would be at existing topographic grades and within public rights-of-way in developed areas. No impacts are expected to occur with respect to this topic.
- c) *Emit hazardous materials or handle hazardous or acutely hazardous materials, substances, waste within one-quarter mile of a school?* NI. The proposed project is not anticipated to emit or handle hazardous materials or substances since it would involve bicycle and pedestrian transportation improvements. No impacts would occur with respect to this topic.
- d) *Is the site listed as a hazardous materials site?* NI. The project area is not listed on the State of California Department of Toxics Substances Control list (the Cortese List) as of January 15, 2014 (see www.calepa.ca.gov/Site.Cleanup/Cortese_List.cfm). No impacts are therefore anticipated with respect to this topic.
- e,f) *Is the site located within an airport land use plan of a public airport or private airstrip?* NI. Although portions of Eastern Dublin are located within the Airport Influence Area of Livermore Municipal Airport, the Plan would not result in the construction of new residential or non-residential buildings so that no impacts would result.
- g) *Interference with an emergency evacuation plan?* NI. Transportation improvements associated with the Plan would occur within public rights-of-way and would improve the ability of residents, visitors and employees to evacuate portions of Dublin in the event of an emergency. Proposed improvements would therefore not interfere with an emergency evacuation plan and no impact would result with respect to this topic.

- f) *Substantially degrade water quality?* NI. As noted in the above response, all specific development projects constructed as envisioned in the draft Plan would be subject to surface water pollution controls as mandated by the Alameda County Clean Water Program to ensure that no impacts would result with respect to this project. Under the Clean Water Program, project contractor(s) for pedestrian and bicycle improvements constructed under the auspices of the Plan will be required to install silt fencing, hay bales and similar features to minimize polluted runoff during the annual rainy period of each year. No impacts would therefore occur.
- g-i) *Place housing within a 100-year flood hazard area as mapped by a Flood Insurance Rate Map, or impede or redirect flood flow, including dam failure?* NI. No residences would be constructed as part of the proposed project, so no impacts would result with respect to this topic.
- j) *Result in inundation by seiche, tsunami or mudflows?* NI. There are expected to be no impacts with regard to seiche, tsunami or mudflows, since the project site is located significantly east of San Francisco Bay that would be affected by a seiche or tsunami. Proposed pedestrian and bicycle improvements constructed pursuant to the Plan would generally be located in the flatter portions of Dublin so as not to be significantly impacted by mudflows. No impacts are anticipated with respect to this topic.

10. Land Use and Planning

Project Impacts

- a) *Physically divide an established community?* NI. A majority of project-related improvements would occur within existing public rights-of-way so as not to divide any existing communities. In addition, one of the purposes of the proposed project is to increase connectivity within Dublin by providing non-automotive modes of transportation to link various areas of the community. No impacts would occur with respect to this topic.
- b) *Conflict with any applicable land use plan, policy or regulation?* NI. The proposed project would comply with a number of goals and policies contained in the Circulation and Scenic Highways and the Community Design and Sustainability Elements of the Dublin General Plan as well as other regional policy planning documents as noted in the Plan. A number of amendments are being proposed to the Dublin General Plan and the Downtown Dublin and Eastern Dublin Specific Plans as noted in the Project description section; however, there would be for the purpose of ensuring consistency between the proposed Plan and the General and Specific Plans. No impacts would occur with respect to this topic.
- c) *Conflict with a habitat conservation plan or natural community conservation plan?* NI. The City of Dublin lies within the Eastern Alameda County Conservation Strategy (EACCS) planning area. The City utilizes the Conservation Strategy as guidance for environmental permitting for public projects, and private development projects are encouraged to use the EACCS as a resource as well. The Conservation Strategy

new bicycle lanes, painting trucks to restripe roadways, adding bike lanes, remove of damaged sidewalks and replacing sidewalks and similar noises. Any short-term noise would generally be located within a public right-of-way and would blend in with existing noise generated by vehicles. Future construction activities would also be limited to normal construction hours by the City of Dublin that would restrict late evening, nighttime or Sunday construction activities.

e,f) *Be located within an airport land use plan area, within two miles of a public or private airport or airstrip?* NI Although portion of Eastern Dublin lie within the Airport Influence Area of Livermore Municipal Airport, no significant noise contours from the airport extend north of the I-580 freeway no impact would result with respect to this topic (source: Livermore Municipal Airport Land Use Compatibility Plan, 2012).

13. Population and Housing

Project Impacts

a) *Induce substantial population growth in an area, either directly or indirectly?* NI. The project would include a number of pedestrian and bicycle improvements within the City of Dublin that would be facilitated by the Plan. No structures would be built or other facilities constructed that could induce population growth within Dublin, either directly or indirectly.

b,c) *Would the project displace substantial numbers of existing housing units or people?* All construction work that could be facilitated under the Plan would occur within public rights-of-way or currently vacant land. No existing housing or populations would be displaced as a result of approving and implementing the proposed project. No impacts would occur with respect to this topic.

14. Public Services

Environmental Impacts

a) *Fire protection?* LS. Pedestrian and bicycle improvements that could be constructed under the auspices of the Plan would primarily be installed within public rights-of-way and would not result in new fire hazards or increase the number of calls for service for fire service. While proposed non-automotive transportation improvements could change existing circulation routes and add bicyclists and pedestrians to local roadways, such changes would not substantially impair emergency access.

The Dublin Fire Department staff states that installation of certain traffic calming features noted in the Plan could increase the response times for emergency vehicles. Installation of these improvements will require Fire Department approval prior to installation. However, no new or expanded Fire Department facilities would be required to serve the proposed project, (Bonnie Terra, Alameda County

15. Transportation/Traffic

Project Impacts

a,b) *Conflict with applicable plans related to the effectiveness of the circulation system, including all modes of travel, including intersections, streets, highways and other components or conflict with an applicable congestion management program, including level of service standards, travel demand measures and other applicable standards?* NI. The Plan does not include any recommended components that would generate permanent vehicle trips or increase existing volumes of motorized vehicles on local roads, regional roads or CMA-designated roads. Instead, approval and implementation of the Plan would improve the City's non-automotive transportation infrastructure, enhance pedestrian safety and encourage both walking and bicycling as alternative modes of local transportation. Use of automobile traffic could be slightly reduced as individuals may choose alternative modes of transportation constructed pursuant to the Plan. No impacts are anticipated with respect to increasing motorized traffic volumes on local, regional and CMA designated roadways.

c) *Result in a change of air traffic patterns?* NI. The proposed project would have no impact on air traffic patterns, since it involves consideration of a Plan to guide future pedestrian and bicycle improvements within the community and no changes to air traffic patterns would occur.

d) *Substantially increase hazards due to a design feature or incompatible use?* NI. Based on discussions with the City of Dublin Public Works Department, the design of future transportation improvements that could be facilitated under the Plan will be consistent with City of Dublin public works and engineering design standards and standards contained in the Plan to ensure that no impact would occur with respect to any design hazard.

e) *Result in inadequate emergency access?* NI. Proposed pedestrian and bicycle improvements that could be constructed under the auspices of the Plan would generally occur within public rights-of-way and would not require emergency access. No impacts would occur with respect to this topic.

f) *Conflict with adopted policies, plans or programs supporting alternative transportation modes?* NI. As documented in the text of the Plan, the Plan would be consistent with a number of local and regional plans to improve and enhance non-automotive transportation modes, including the Circulation and Scenic Highways Element of the Dublin General Plan and others. Therefore, no impact would occur with respect to this topic.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?* No. No such impacts have been discovered in the course of preparing this Initial Study.

July, 2014

City of Dublin

Bicycle and Pedestrian Master Plan Project

Response to Environmental Comments

Introduction

The City of Dublin issued a Negative Declaration for this project on June 16, 2014, to ensure California Environmental Quality Act compliance. The proposed Master Plan would update and replace the City's existing Bikeways Master Plan adopted in 2007. The proposed project also includes a number of amendments to the City of Dublin General Plan and several Specific Plan documents to ensure consistency between the proposed Master Plan and these various documents.

The project includes the entire City of Dublin located within Alameda County.

The Negative Declaration was published and circulated for a 30-day review.

Three comment letters were received:

- Comment 1: Leonia Meima
- Comment 2: Kristi Marleau
- Comment 3: Dublin Unified School District

Following is a response to these comments.

Letter 1: Leonia Memia

Comment 1.1: What can be done to work with Pleasanton and Caltrans to provide bicycle lanes over the I-580 freeway interchanges at Hacienda Drive and at Tassajara Road?

Response: Bicycle lanes over the I-580 freeway interchanges at Hacienda Drive and Tassajara Road are included in the Plan as proposed bicycle improvements. To move forward with I-580 bikeways recommended in the bicycle plan, close coordination between the City of Dublin and the City of Pleasanton will be necessary to create a successful project that meets the needs of both jurisdictions. Having that strong working relationship will likely also help in securing grant funding and implementing the project, as it demonstrates support from both agencies. The two cities could jointly apply for competitive grant funding to implement the project.

The other critical piece for coordination is with Caltrans. Reaching out to Caltrans staff members who are very involved with bicycle and pedestrian issues will be a key first step. This will help alert them to the process and help clarify needs and expectations from Caltrans' end.

Comment 1.2: The commenter asks what can be done to shift the priority status of bike lanes on the two overpasses.

Response: Efforts to fund, develop and implement the I-580 bikeways will require collaboration between the City of Dublin, City of Pleasanton and Caltrans. Initially the three agencies could jointly apply for funding to conduct a bikeway feasibility study, and based on the results of the study, apply for competitive grant funding to implement the recommended bikeway projects.

Comment 1.3: What can be done to get Caltrans to prioritize bike lane development on the overpass?

Response: See response to Comment 1.2

Letter 2: Kristi Marleau

Comment: The commenter is pleased to see the Plan nearing approval stage. The commenter would like to see bicycle lanes on Dublin Boulevard, but this may need to wait until a future master plan update. The commenter would like to see more progress made on bicycle lane striping and a safer downtown.

Response: These comments are noted.

Letter 3: Dublin Unified School District

Comment 3.1: The commenter agrees with the Initial Study, that the proposed project would not generate a change in local school enrollment but there could be potential impacts to student attending schools in the vicinity of pedestrian and bicycle improvements. The commenter requests that during construction of future improvements, consideration be given to campus scheduled to minimize potential disruption to bicycle and pedestrian patterns and vehicle transportation patterns at during peak drop-off periods during the school year.

Response: This comment is noted. The City of Dublin Public Works Department will coordinate with the School District and affected school(s) to avoid or minimize potential disruption during construction of projects.

Comment 3.2: The commenter respectfully requests that the DUSD be added to the City's list of organizations contacted in the course of similar studies in the future to add another layer of potentially new or more significant impacts to students and school sites not otherwise anticipated.

Response: This comment is noted. The Dublin Unified School District is already included on the City of Dublin's contact list to receive all CEQA environmental documents.

ND Comment Letters

From: Andrew Russell <Andrew.Russell@dublin.ca.gov>

Subject: FW: Bike Paths

Date: July 1, 2014 12:09:20 PM PDT

To: Ferd Del Rosario <Ferd.delrosario@dublin.ca.gov>, Obaid Khan <Obaid.Khan@dublin.ca.gov>

Cc: Gary Huisingsh <Gary.Huisingsh@dublin.ca.gov>

FYI.

Comment 1

From: Leonie Meima [mailto:lmeima@me.com]

Sent: Tuesday, July 01, 2014 10:22 AM

To: Andrew Russell

Cc: Tim Sbrantl; Timat timsbrantidotcom; Chris Foss; Linda Smith; Gary Huisingsh

Subject: Re: Bike Paths

Andrew,

Thank you for this summary.

I'm very happy to see the potential for buffered bicycle lanes throughout the city, and plans for bike paths over the two overpasses. Unfortunately however, it seems that the top priority projects are those which are already reasonably manageable, i.e. lower cycle risk areas. I do shop at Sprouts, and the biggest challenge getting to and from Sprouts on bicycle is navigating Dublin Blvd, and the narrow to non-existent bike lanes on portions of that street combined with the relatively high rate of speed of motorized vehicles along Dublin Blvd. Amador Plaza Road is easy, and not a problem at all; that said I am in favor of creating official bike paths and landscaped medians along that road.

Crossing the overpasses however, is extremely high risk due to the much higher speed of motorized vehicular traffic on those routes, and the lack of bike lanes. My questions are as follows:

- If the City of Pleasanton, in coordination with CalTrans, is responsible for these overpasses, what can be done to motivate these two entities to begin work on overpass bike paths?
- What can be done to shift the priority status of bike lanes on the two overpasses?
- What can we do to get CalTrans to prioritize bike lane development on the overpasses?

I recall seeing an older bike lane plan, and I believe the overpass bike lanes have been in the plans for over a decade now, which is concerning.

I will study the plans you provided in greater detail, and provide specific feedback at a later date.

Best regards,

Leonie Meima

From: Kristi Marleau <kmarleau@gmail.com>
Subject: Dublin Bicycle and Pedestrian Master Plan
Date: July 10, 2014 11:40:54 AM PDT
To: Ferd Del Rosario <Ferd.delrosario@dublin.ca.gov>

Comment 2

Hello Ferd,

I hope you are doing well. I am very happy to see the Dublin Bicycle and Pedestrian Master Plan nearing the approval stage. A few thoughts for you: Of course I would love to see protected bike lanes on Dublin Blvd, but that's a dream I'll hold on to for the next plan update. I am very excited about the implementation plan that has a lot of the striping projects for other streets downtown scheduled for FY14-15. I hope that staff will push for that plan to be followed rather than the very unambitious benchmark of .5mi/year. I would love to see a safer downtown this year. I also think that the city should adopt the NACTO design guide for these projects.

Thanks to all the staff and consultants for the hard work of putting this plan together.

Kristi Marleau



All Dublin Students Will
Become Lifelong Learners

SUPERINTENDENT
Stephen Hanke, Ed.D.
(925) 828-2551

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DUBLIN SCHOOLS

DUBLIN UNIFIED SCHOOL DISTRICT

7471 Larkdale Avenue, Dublin, CA 94568-1599 • 925-828-2551 • FAX 925-479-0689

July 14, 2014

Ferd Del Rosario
Senior Civil Engineer
City of Dublin
Public Works Department
100 Civic Plaza
Dublin, CA 94568

Comment 3

Re: Bicycle & Pedestrian Master Plan
Initial Study/Negative Declaration

Dear Mr. Del Rosario,

Thank you for the opportunity to comment on the Initial Study/Negative Declaration for the City of Dublin Bicycle & Pedestrian Master Plan.

District staff has reviewed the document and respectfully submits the following comments in response to the Initial Study/Negative Declaration.

1. In Section 14. "Public Services", Item c. "Schools", the document notes, "*There would be no impact to the Dublin Unified School District, since no dwellings would be constructed that generate school-aged children.*" While it is recognized the project will not generate a change in enrollment in the District, there could be potential impacts to students attending schools in the vicinity of proposed bicycle and pedestrian improvements. While it is understood one of the project goals upon completion is to improve bicycle and pedestrian safety, we ask that during construction, consideration be given to campus schedules to minimize potential disruption to student pedestrian/bicycle patterns and vehicle transportation/circulation at the sites during peak drop off and pick up times throughout the school year.
2. Additionally, the District respectfully requests our agency be added to the city's list of agencies and organizations contacted in the course of similar studies in the future, to add another layer of review for potentially new or significant impacts to our students and school sites not otherwise anticipated.

Thank you again for the opportunity to provide comments on the document.

Sincerely,

Patricia Benavidez
Facilities Planner

ORDINANCE NO. 22 – 14

**AN ORDINANCE OF THE CITY COUNCIL
OF THE CITY OF DUBLIN**

**AMENDING CHAPTER 8.76 (OFF-STREET PARING AND LOADING REGULATIONS)
OF THE DUBLIN ZONING ORDINANCE
CITY-WIDE
PLPA-2014-00017**

WHEREAS, on July 17, 2007 the City Council adopted the Bikeways Master Plan and associated amendments to the Dublin General Plan and various Specific Plans for consistency with the Bikeways Master Plan; and

WHEREAS, Policy 1.3 of the Bikeways Master Plan is to update the Plan every five years; and

WHEREAS, the Bikeways Master Plan has been renamed the Dublin Bicycle and Pedestrian Master Plan and combines the update to the Bikeways Master Plan with adoption of the City's first Pedestrian Plan into a comprehensive document that provides policies, network plans, prioritized project lists, support programs and best practice design guidelines for bicycling and walking in Dublin; and

WHEREAS, amendments are proposed to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance to ensure that the text and maps remain consistent with the Dublin Bicycle and Pedestrian Master Plan; and

WHEREAS, the California Environmental Quality Act (CEQA), together with State Guidelines and City Environmental Regulations require that certain projects be reviewed for environmental impacts and when applicable, environmental documents prepared; and

WHEREAS, the City of Dublin Public Works Department prepared a Negative Declaration dated June 2014 for the Dublin Bicycle and Pedestrian Master Plan and the amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance (the "Project") which reflects the City's independent judgment and analysis of the potential environmental impacts of the Project; and

WHEREAS, following a noticed public hearing on August 26, 2014, the City of Dublin Planning Commission adopted Resolution 14-46 recommending City Council adoption of the Negative Declaration for the Dublin Bicycle and Pedestrian Master Plan and proposed related amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance; and

WHEREAS, following the noticed public hearing on August 26, 2014, the City of Dublin Planning Commission also adopted Resolution 14-45 recommending City Council approval of the proposed amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance; and

WHEREAS, a Staff Report, dated October 7, 2014 and incorporated herein by reference, was submitted to the City of Dublin City Council recommending approval of the proposed Negative Declaration and amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Historic Village Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance for the Dublin Bicycle and Pedestrian Master Plan; and

WHEREAS, the City Council held a public hearing on the project on October 7, 2014; and

WHEREAS, proper notice of said hearing was given in all respects as required by law; and

WHEREAS, following the public hearing, the City Council adopted Resolution 169-14 adopting the Negative Declaration for the Dublin Bicycle and Pedestrian Master Plan and related amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Village Historic Area Specific Plan, Downtown Dublin Specific Plan and Dublin Zoning Ordinance, and Resolution 170-14 approving the above referenced General Plan and Specific Plan amendments, which resolutions are incorporated herein by reference; and

WHEREAS, the City Council did hear and consider the Negative Declaration (including comments and responses) and all said reports, recommendations and testimony herein above set forth and used its independent judgment to evaluate the project.

NOW, THEREFORE, the City Council of the City of Dublin does ordain as follows:

SECTION 1:

The City Council finds that this Ordinance is consistent with the Dublin General Plan and all applicable Specific Plans, as amended, in that the General Plan and applicable Specific Plans include policies which support bikeways and bicycle support facilities consistent with the Dublin Bicycle and Pedestrian Master Plan and the proposed Zoning Ordinance Amendment sets forth bicycle parking and support facility requirements consistent with the General Plan, applicable Specific Plans and the Dublin Bicycle and Pedestrian Master Plan.

SECTION 2:

Compliance with California Environmental Quality Act (“CEQA”): The City Council adopted a Negative Declaration on October 7, 2014 through Resolution 197-14, incorporated herein by reference.

SECTION 3:

Section 8.76.070.A.2 (Bicycle Racks) of Title 8 of the Dublin Municipal Code is hereby deleted and replaced with the following:

2. **Bicycle Parking and Support Facilities.** Residential and Non-Residential bicycle parking requirements and support facilities shall conform to the California Green Building Standards Code.

SECTION 4: Effective Date and Posting of Ordinance

This Ordinance shall take effect and be in force thirty (30) days from and after the date of its final adoption. The City Clerk of the City of Dublin shall cause this Ordinance to be posted in at least three (3) public places in the City of Dublin in accordance with Section 39633 of the Government Code of California.

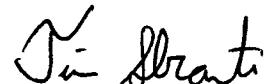
PASSED, APPROVED, AND ADOPTED this 21st day of October, 2014, by the following vote:

AYES: Councilmembers Biddle, Gupta, Hart, Haubert, and Mayor Sbranti

NOES: None

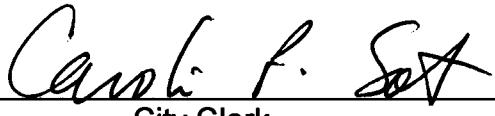
ABSENT: None

ABSTAIN: None



Mayor

ATTEST:



City Clerk

RESOLUTION NO. 171 - 14

**A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF DUBLIN**

ADOPTING THE DUBLIN BICYCLE AND PEDESTRIAN MASTER PLAN

WHEREAS, on July 17, 2007, the City Council adopted the City of Dublin Bikeways Master Plan to help the City implement a bikeway system that could provide a viable transportation alternative to the automobile; improve safety for bicyclists; and provide residents with access to open space, trails and other recreational amenities; and

WHEREAS, Policy 1.3 of the Bikeways Master Plan is to update the Plan every five years; and

WHEREAS, in 2012 the Public Works Department initiated the update of the Bikeways Master Plan along with the development of a Pedestrian Plan which will include adoption of a pedestrian policy framework and implementation strategy with emphasis on the Downtown area; and

WHEREAS, the two master plans will be combined together to create a single Bicycle and Pedestrian Master Plan document; and

WHEREAS, the Dublin General Plan sets forth a blueprint for a system of bikeways in Dublin and the Bicycle and Pedestrian Master Plan builds upon that blueprint by creating a comprehensive plan that includes an evaluation of existing conditions, a prioritized list of recommended bicycle and pedestrian improvements, and recommendations pertaining to bicycle parking, safety, education and enforcement; and

WHEREAS, the Dublin General Plan was originally adopted on February 11, 1985, and has since been amended numerous times; and

WHEREAS, the Environmental Impact Report for the original General Plan was prepared and adopted in 1984 and subsequent environmental reviews have been undertaken in accordance with the California Environmental Quality Act (CEQA) for the various General Plan Amendments which have been approved over the years; and

WHEREAS, in accordance with CEQA a Negative Declaration has been prepared to evaluate the potential environmental effects of implementing the proposed Bicycle and Pedestrian Master Plan; and

WHEREAS, on August 18, 2014, Staff presented to the City of Dublin Parks and Community Services Commission the draft Bicycle and Pedestrian Master Plan; and

WHEREAS, on August 26, 2014, the City of Dublin Planning Commission ("Planning Commission") held a public hearing on the Negative Declaration for the Dublin Bicycle and Pedestrian Master Plan and related amendments to the Dublin General Plan, Eastern Dublin Specific Plan, Dublin Village Historic Area Specific Plan, Downtown Dublin Specific Plan, and Dublin Zoning Ordinance; and

WHEREAS, the Staff Report was submitted recommending that the Planning Commission recommend City Council approval of amendments to the General Plan, Eastern Dublin Specific Plan Amendment, Dublin Village Historic Area Specific Plan, Downtown Dublin Specific Plan, and Dublin Zoning Ordinance for the proposed City of Dublin Bicycle and Pedestrian Master Plan. The Staff Report further recommended that the Planning Commission make a determination that the proposed Bicycle and Pedestrian Master Plan is in conformance with the General Plan; and

WHEREAS, the Planning Commission did hear and consider the said foregoing reports, recommendations and testimony and used its independent judgment to evaluate the project; and

WHEREAS, following the public hearing, the Planning Commission adopted Resolution No. 14-46 recommending that the City Council adopt the Negative Declaration for the City of Dublin Bicycle and Pedestrian Master Plan, which is incorporated herein by reference; and

WHEREAS, following the public hearing, the Planning Commission adopted Resolution No. 14-45 recommending that the City Council approve a General Plan Amendment, Eastern Dublin Specific Plan Amendment, Dublin Village Historic Area Specific Plan Amendment, Downtown Dublin Specific Plan Amendment, and Dublin Zoning Ordinance Amendment to incorporate changes related to bicycle and pedestrian circulation. The Planning Commission further made a determination that with the proposed General Plan Amendments, the proposed Bicycle and Pedestrian Master Plan is in conformance with the General Plan; and

WHEREAS, on October 7, 2014, the City Council held a duly noticed public hearing on the project, including the proposed Negative Declaration, General Plan Amendment, Eastern Dublin Specific Plan Amendment, Dublin Village Historic Area Specific Plan Amendment, Downtown Dublin Specific Plan Amendment, and Dublin Zoning Ordinance Amendment and the City of Dublin Bicycle and Pedestrian Master Plan, at which time all interested parties had the opportunity to be heard. The City Council considered a Staff Report dated October 7, 2014, and incorporated herein by reference, and all written and oral testimony; and

WHEREAS, following the public hearing, the City Council adopted Resolution 169-14 adopting the Negative Declaration, and Resolution 170-14 adopting the General Plan Amendment, Eastern Dublin Specific Plan Amendment, Dublin Village Historic Area Specific Plan Amendment and Downtown Dublin Specific Plan Amendment,

NOW, THEREFORE, BE IT RESOLVED that the Dublin City Council does hereby find that the foregoing recitals are true and correct and made a part of this resolution.

BE IT FURTHER RESOLVED that the Dublin City Council does hereby adopt the City of Dublin Bicycle and Pedestrian Master Plan as set forth in Exhibits A and B, attached hereto.

PASSED, APPROVED AND ADOPTED this 7th day of October, 2014, by the following vote:

AYES: Councilmembers Biddle, Gupta, Hart, Haubert, and Mayor Sbranti

NOES: None

ABSENT: None

ABSTAIN: None



Mayor

ATTEST:



Carol P. Sos
City Clerk

CITY OF DUBLIN

BICYCLE AND PEDESTRIAN DESIGN GUIDELINES



Prepared by:

FEHR PEERS

100 Pringle Avenue, Suite 600
Walnut Creek, CA 94596

Prepared for the:



Adopted by the City Council on October 7, 2014



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INTRODUCTION



This Bicycle and Pedestrian Design Guidelines document will guide the design and installation of bicycle and pedestrian facilities Citywide and should be used along with the guidelines specified in the Downtown Dublin Specific Plan and City of Dublin Streetscape Master Plan. This document is intended to be a living document that will be updated regularly by the City of Dublin's Public Works Department to make it consistent with best practices in bicycle and pedestrian planning and design.

This document is divided into two basic chapters:

- Pedestrian Design Guidelines
- Bicycle Design Guidelines

The Pedestrian Design Guidelines chapter also includes a detailed section on the design and installation of crosswalks. The Crosswalk Design section includes key considerations for the installation, enhancement, and/or removal of marked crosswalks in Dublin. The Crosswalk Design Guidelines are intended to apply Citywide.

The Bicycle and Pedestrian Design Guidelines should be consulted by City staff, developers, and transportation engineers working in Dublin. For example, new development site designs should refer to this document to inform project development and recommendations. This Policy should also be consulted anytime new public infrastructure development, redevelopment, or upgrades occur. Final application of the Guidelines will require engineering judgment at all times.

INTRODUCTION

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PEDESTRIAN DESIGN

GUIDELINES



PEDESTRIAN DESIGN GUIDELINES



This section outlines guidelines for the design of walking facilities in the City of Dublin. Safe, walkable streets are a vital aspect of City life and enhance the health of our communities. Well-designed walking spaces should be comfortable for all residents – young and old – to enjoy.

THE PEDESTRIAN REALM

The pedestrian realm consists of walkways, pedestrian crossings, and open spaces. Walkways are “prepared exterior routes, designed to provide walking accessibility. Walkways are general walking routes, including plazas and courts, and sidewalks are walkways that parallel a vehicular roadway.”¹ Additionally, pedestrian crossings, where pedestrians traverse a roadway, are considered part of the pedestrian realm. Plazas and courts are locations, either publicly or privately-owned, accessible to pedestrians. The quality of the pedestrian realm has two components: accessibility and comfort. The City of Dublin seeks to maximize both elements for all users.

A well-connected pedestrian network is a vital component of livable communities, which thrive on multimodal travel for all roadway users, regardless of age or ability. Multimodal travel incorporates the needs of not just motor vehicles in roadway design, but the needs of pedestrians, bicyclists, and transit users as well. The primary goal of the Pedestrian Design Guidelines is to assist the City of Dublin in creating streets that accommodate pedestrians through a set of recommended practices that enhance the walkability of all streets within the City. These guidelines will help the City make decisions about the preferred application of pedestrian treatments in the following areas:

- Streets and Sidewalks
- Uncontrolled Intersections / Mid-block Crossing Treatments
- Controlled Intersections and Crossings

The pedestrian enhancements described throughout these guidelines provide street design best practice guidance, which can enhance the safety, convenience, and mobility for pedestrians. In particular, they provide guidance on appropriate treatments for the various “areas of focus” throughout Dublin, including downtown districts, access to transit stations, school zones, and barrier crossings. Potential treatment types for each of these areas include different design options for streets/sidewalks, pedestrian crossings, multimodal connections and community vitality.

¹ U.S. Department of Transportation



PEDESTRIAN DESIGN GUIDELINES

COMPLETE STREETS

Complete streets practices improve the pedestrian realm when properly integrated with the adjacent land use context, because they encourage the design of streets with well-connected and comfortable sidewalks, traffic calming measures to manage vehicle speeds and enhanced pedestrian crossings. Though the level of accommodation of all modes will vary in different land use contexts, incomplete streets—those designed primarily for automobile access—can be a barrier in any neighborhood, particularly for people with disabilities, older adults, and children.

STREETS AND SIDEWALKS

Streets and sidewalks should support the activities and pedestrian levels along the street. Streets should be well-connected to ensure that destinations are within walking distance. Sidewalks should be wide enough to support the expected pedestrian volumes. This Plan recommends a minimum width of six feet for the pedestrian pathway section of a sidewalk, which is wide enough for two people to walk side by side, can be navigated by persons with mobility impairments, and meets current ADA requirements.

SIDEWALK ZONES

Sidewalks in existing residential developments may remain at current widths (City approved minimum of 48 inches, or four feet) unless a substantial new development of multi-family dwelling units is planned. ADA sidewalk regulations specify that routes with less than 60 inches, or five feet of clear width must provide passing spaces at least 60 inches wide at reasonable intervals not exceeding 200 feet, and a five feet by five feet turning space should be provided where turning or maneuvering is necessary. This section provides guidelines on the design of sidewalk widths that meet walking demand, and provide buffer space between motor vehicle lanes and sidewalks and space for walking, sitting, and lingering.

PEDESTRIAN DESIGN GUIDELINES



Table 1: Sidewalk Zones and Corners

Discussion	
<p>The sidewalk zone is the portion of the street right-of-way between the curb and building front. Within this zone, four distinct areas serve different organizational purposes (see below for more detail about how these apply to different settings).</p>	
Design Example	
<p>Edge Furnishings</p>	<p>Throughway Frontage</p>
Design Summary	
<p>These designs are recommended minimums, and ideally sidewalks with high pedestrian volumes should be 16 to 18 feet wide, and could include wider landscaped buffers, a seven and a half to 11 foot wide pedestrian pathway, and/or vegetative strips along the building face.</p>	

PEDESTRIAN DESIGN GUIDELINES

On commercial streets, especially in Downtown Dublin, eight feet is the minimum desired sidewalk width. This includes a two to three foot comfort zone on either side of the pedestrian walkway, as pedestrians generally keep about 1.5 feet clear of planters, street furniture and other obstructions near the curb. This should not prevent the City from installing wider sidewalks in commercial districts and other locations with outdoor seating and amenities. Sidewalks on local streets should be a minimum of five feet wide.

Landscaping separating the street from the sidewalk should be five feet wide. In addition to separating pedestrians from vehicle traffic, landscape buffers provide space for driveway curb cuts and reduce cross-slopes on sidewalks.

Elements such as street furniture, newspaper racks, bicycle parking racks, and trash bins should be kept in the furniture zone and should not impede a straight travel path along the sidewalk. Additionally, "meandering" sidewalks are discouraged. They may prove challenging for visually-impaired pedestrians and lengthen travel distance.

- Edge/ Curb Zone - At a minimum, such as in areas with lower pedestrian activity, there should be a 6-inch wide curb. Other areas, such as downtowns, should have at least an extra foot to accommodate car doors to not conflict with the sidewalk.
- Furnishing/Landscape Zone - This area acts as a buffer between the curb and throughway zone. This is the areas where trees should be planted and benches should be located. Any sidewalk amenities should be located within this area and should not interfere with the throughway zone. Streets with higher speeds should have larger furnishing zones.
- Throughway zone - The minimum width of this zone is typically six feet. See sidewalk width discussion above for exceptions and details about ADA compliance.
- Frontage Zone - This area borders the building façade or fence. The primary purpose of this zone is to create a buffer between pedestrians walking in the throughway zone from people entering and exiting buildings. It provides opportunities for shops to place signs, planters, or chairs that do not encroach into the throughway zone.

Some zones are more important in specific settings; for example, most residential streets will not include a frontage zone and will only include a furnishing/landscape zone on streets with higher speeds. Only the curb and throughway zone have minimum widths specified.

Land Use Context	Minimum Recommended Sidewalk Width
Residential	5'
Commercial	8'
School Areas	8'
Industrial	6'

PEDESTRIAN DESIGN GUIDELINES



Pedestrian Area at Corners

Corners must be functional and must accommodate those waiting to cross the street, those traveling along the sidewalk, and those who stop to congregate on the corner. The greater the number of expected pedestrians, the larger the pedestrian area should be. Other considerations sometimes erode the amount of usable space and hence the functionality of corners. Several strategies exist for expanding the pedestrian area at corners. Small corner radii generally provide the most usable space and the shortest crossing distances for pedestrians. Designers may also consider curb extensions, right-of-way acquisition, public easements across private property to expand the pedestrian area.

The pedestrian area should be clear of obstructions, especially in the triangle created by extending the property lines to the face of curb. Where existing obstructions such as utility poles or newspaper racks are removed, they should not be relocated such that they obstruct a pedestrian's line of travel.

The general rule for choosing a corner radius should be to choose the smallest possible, acknowledging that each location has a unique set of factors that determines the appropriate radius. Small corner radii improve comfort, and create a more enjoyable walking environment because they create more usable space for pedestrians at the corner. They improve safety because they slow vehicle speeds and shorten the crossing distance for pedestrians and improve sightlines. Smaller corner radii are also beneficial for street sweeping operations.

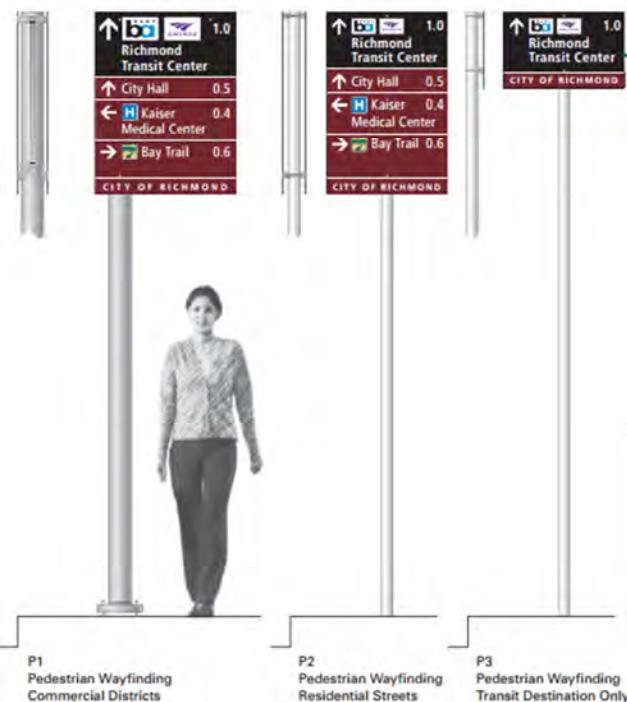
While corner radii may be as small as 1'6", locations with any amount of turning traffic cannot accommodate a radius this tight. At locations with curbside parking, a 10' radius is recommended. At locations with no parking lane, a typical 20' radius is recommended. Locations with heavy truck or transit traffic may require a wider turning radius.

Street Type	Recommended Curb Radius
Residential	15 ft
Local/Collector	20-30 ft
Arterial	30 ft
Industrial	Up to 50 ft

Image Sources: Valley Transportation Authority Pedestrian Technical Guidelines; Chula Vista Pedestrian Master Plan; Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES

Table 2: Pedestrian Wayfinding

Discussion
<p>A pedestrian wayfinding system provides consistent and user-friendly information about distances and routes to and from major transit centers and popular destinations, making these places easier to connect to, and encouraging people to make short trips on foot. Signs that explain pedestrian directions and summarize route distances make for a more enjoyable and comfortable walking experience. Wayfinding is an essential aspect of street infrastructure which makes pedestrians a priority within the streetscape and enhances the character of the street.</p>
Design Example
<p>Transit Wayfinding (WCCTAC examples)</p>  <p>P1 Pedestrian Wayfinding Commercial Districts</p> <p>P2 Pedestrian Wayfinding Residential Streets</p> <p>P3 Pedestrian Wayfinding Transit Destination Only</p>

PEDESTRIAN DESIGN GUIDELINES



Design Summary

Wayfinding signage should cater to both vehicles and pedestrians, particularly in districts with high levels of walking activity. Signs and routes that direct pedestrians to specific destinations are key to providing adequate wayfinding for pedestrians.

Image Source: WCCTAC Wayfinding, <http://www.wcaccessstransit.com/wayfinding/>

PEDESTRIAN DESIGN GUIDELINES

Table 3: Pedestrian-Scale Lighting

Discussion
Pedestrian-scale lighting improves pedestrian visibility and the perception of safety and comfort while walking. Well-lit pedestrian facilities are more inviting, and function well for pedestrians after sunset.
Design Example
Pedestrian-scale Lighting (South San Francisco and Seattle) 
Design Summary
Pedestrian-scale lighting provides a better-lit environment for pedestrians while improving visibility for motorists. Sidewalks with frequent nighttime pedestrian activity particularly in the Downtown area should have pedestrian lighting. All crosswalks should have pedestrian-scale lighting. Pedestrians tend to observe more details of the street environment since they travel at a slower pace than vehicles, and thus pedestrian-scale lighting should have shorter light poles and shorter spacing between posts. A height of 12- 20 feet is common for pedestrian lighting. The level of lighting should reflect the location and level of pedestrian activity.

Image Source: Fehr & Peers and Seattle.gov

PEDESTRIAN DESIGN GUIDELINES



Table 4: High-Quality Street Furniture

Discussion
High-quality street furniture provides pedestrians with inviting places to rest, and clearly defines the furnishings zone of a sidewalk. Street furniture enhances the streetscape with consistent design character, can protect landscape features, and formalizes waiting areas such as bus stops and street corners.
Design Example
Design Summary
<ul style="list-style-type: none">Street furniture is normally placed on a sidewalk in the Frontage Zone, as described in Table 1, to provide additional comfort for pedestrians and enhance place making within the pedestrian realm. Street furniture makes pedestrians feel welcome, but should not conflict with the pedestrian travel path. Street furniture can include benches, specially designed newspaper racks, fountains, special garbage/recycling containers, etc. and shall be consistent with the City's Streetscape Master Plan. Costs for street furniture vary widely depending on what is included and how it is integrated with other landscaping elements.

Image Source: Fehr & Peers

Table 5: Standard Crosswalk Striping

Discussion
<p>Crosswalks should be marked on <i>all approaches</i> of an intersection where feasible to delineate space for pedestrians to cross. While heavy vehicle volumes may present an exception, this should only be considered when all other options to accommodate motor vehicle demand have been dismissed.</p> <p>At intersections, crosswalks are essentially an extension of the sidewalk; if the sidewalk extends to the intersection, crosswalk striping directs the pedestrian to the other side of the intersection in a direct path.</p>
Design Example
<p>Standard Crosswalk at Signalized Intersection</p> 
Design Summary
<ul style="list-style-type: none">• Standard dual white lane stripes are recommended for pedestrian crossings at signalized or stop-controlled intersections. These bars should be one foot wide and extend from curb ramp to curb ramp.• Particularly in the Downtown area, an advance stop bar is recommended five to seven feet in advance of the crosswalk.

Image Source: Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES



Table 6: High Visibility Crosswalk Striping

Discussion
<p>High visibility striping is a tool that brings attention to pedestrians. This striping should be reserved for uncontrolled or mid-block locations and helps to direct pedestrian traffic to specific locations. As detailed in the crosswalk policy included in this Plan, high visibility markings should be used in combination with other design treatments, like refuge islands, bulb-outs, and other active device enhancements for roadways with more than four lanes or speeds over 40 mph.</p>
Design Example
<p>Example Crosswalk Types Approved by FHWA</p> <p>Continental Crosswalk</p> <p>High Visibility Ladder Crosswalk (school zone)</p>
Design Summary
<ul style="list-style-type: none">• The use of high visibility striping is recommended at uncontrolled crossing locations.• Communities should choose a preferred style of high visibility striping so it is consistently applied. Costs to install crosswalks vary depending on the width and number of high visibility stripes used.

Image Source: FHWA, Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES

Table 7: Special Paving Treatments

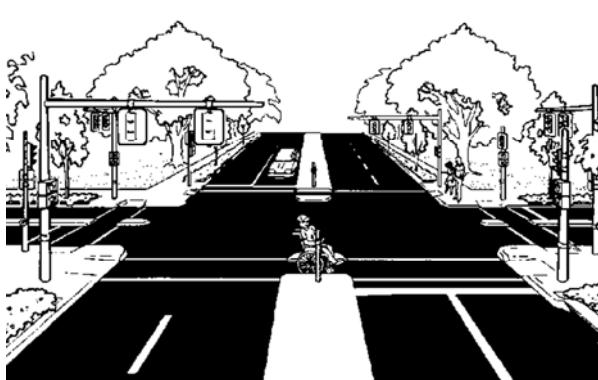
Discussion
Special paving treatments include adding texture to surfaces or coloring pavement to distinguish the sidewalk or crosswalk. This treatment enhances the character of the overall pedestrian environment. The rougher roadway surface may also slow vehicles and draw more attention to the pedestrian realm.
Design Example
<p>Brick Pattern Streetprint Design</p>  <p>Brick, Pavers and Concrete</p>  <p>Decorative Streetprint</p> 
Design Summary
<p>Types of special paving treatments typically include:</p> <ul style="list-style-type: none"> • Colored concrete • Stamped asphalt or concrete painted to resemble bricks. • Pavement stencils <p>Designers must be careful to not confuse the visually impaired and cause problems for people with disabilities. Surfaces should be adapted to accommodate people using wheelchairs. A standard white stripe must be provided on either side of the crosswalk even when special paving treatments are used to enhance the contrast between the crossing and the roadway (and legally establish the crosswalk at midblock locations).</p>

Image Source: Fehr & Peers (top left and top right), <http://www.visualtexture.net/page/2/> (bottom)

PEDESTRIAN DESIGN GUIDELINES



Table 8: Median Island / Pedestrian Refuge

Discussion
Refuge islands are raised islands in the center of a roadway that separate opposing lanes of traffic with a cutout or ramp for an accessible pedestrian path. They reduce pedestrian exposure to motor vehicles, and allow a pedestrian to cross a roadway in two stages. Their application is most pertinent in higher traffic volume areas that have four-lane or wider streets or when crossing distances exceed 60 feet.
Design Example
<p>Pedestrian Refuge Island</p>  <p>Split Pedestrian Cross-Over</p>  <p>Staggered Crosswalk</p> 



PEDESTRIAN DESIGN GUIDELINES

Pedestrian refuge islands should extend through the crosswalk, with a curb cut for wheelchair accessibility. Refuge islands should be clear of obstructions and have adequate drainage. They should be at least 12 feet long or the width of the crosswalk (whichever is greater) and 60 feet square. At actuated pedestrian signals, an accessible pedestrian push button should also be located in the median.

Refuges can be a low cost way to reduce the crossing distance at wide intersections because often no curb (drainage) modifications are required.

Image Source: www.tfhrc.gov, www.flickr.com/photos/luton

Recommended Refuge Island Widths	
Speed	Minimum Width*
25-30 mph	5 feet
30-35 mph	6 feet
35-45 mph	8 feet

*Where bikes are expected to use the crosswalk, medians should be at least six feet wide, the length of an average bike.

PEDESTRIAN DESIGN GUIDELINES



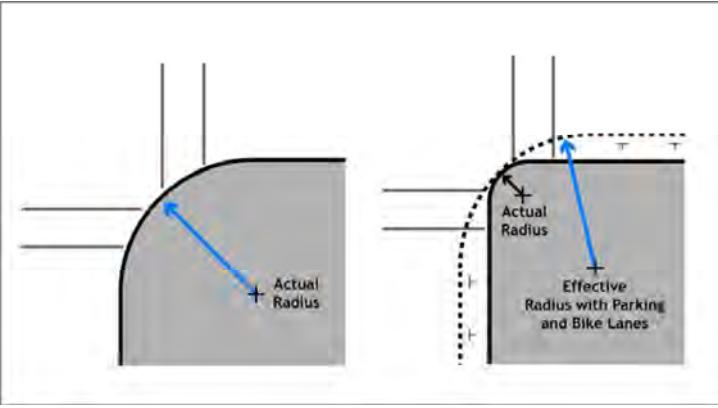
Table 9: In-Street Pedestrian Crossing Signs

Discussion
This tool involves placing regulatory pedestrian signage in the middle of the roadway centerline, either in front or behind the crosswalk. It is MUTCD-approved and assists to remind road users of laws regarding to the right of way at unsignalized pedestrian crossings.
Design Example
 
Design Summary
Signs may be placed on the roadway centerline directly, as in the picture above. Careful placement is necessary to avoid maintenance issues with vehicles knocking down the sign. One option is to temporarily place the sign during specific time periods, such as when school is in session. Another option is to put the sign within a raised median or place in-pavement raised markers around the sign. They can be placed either at mid-block crosswalk locations or intersections with significant pedestrian activity, such as near transit stations or schools.

Image Source: FHWA, Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES

Table 10: Reduced Radii

Discussion
<p>Reduced turning radii can create a more compact intersection design and improve sight distance. Dimensions of the curb at the intersection directly affect the speed of the approaching vehicle, especially for turning vehicles. Compact intersection design with low corner radii can also improve pedestrian visibility by removing barriers to sight distance. Improving sight distances gives motorists a clear view of pedestrians, while allowing the pedestrian to observe and react to any hazards. Ensuring proper sight distances between pedestrians and vehicles can decrease the rate and severity of turning related pedestrian-vehicle collisions.</p>
Design Example

Design Summary
<p>Compact intersections are more comfortable for pedestrians and improve visibility between motorists and pedestrians. A large turning radius (generally 30 feet or greater) allows vehicles to turn at high speeds. Reducing the radius forces approaching vehicles to slow down while still accommodating larger vehicles, thus reducing the frequency and severity of pedestrian collisions at intersections. On-street parking and bicycle lanes can also allow for smaller curb radii while maintaining the same effective curb radius. Note that on-street parking should be restricted in advance of crosswalks, to improve visibility for pedestrians. Cost of curb radius adjustments will depend on the site-specific drainage conditions and existing and desired dimensions, and may include costs associated with concrete sidewalk removal and new curb and gutter.</p>

PEDESTRIAN DESIGN GUIDELINES



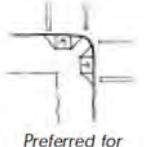
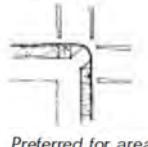
Table 11: Curb Extensions

Discussion
<p>Also known as pedestrian bulb-outs, curb extensions increase driver awareness of pedestrians and help slow traffic. They provide a larger space for pedestrians to wait before crossing and prevent cars from parking near the crosswalk. Curb extensions are highly beneficial in downtown or transit station areas, which generate significant pedestrian activity. They may also be beneficial in school zones or neighborhood districts, which have vulnerable pedestrians, such as children or older adults that would benefit from an enhanced treatment that reduces crossing distances.</p> <p>Generally, curb extensions should extend a minimum of six feet into the street adjacent to parallel parking, or 12 feet adjacent to diagonal parking, and no farther than the edge of the travel lane or bicycle lane. The leading edge of all curb extensions should be treated with reflective material for higher visibility, unless otherwise determined by the City Engineer. Designers should exercise special care not to create conflicts between bicyclists and pedestrians and not to design the curb extension such that cyclists are forced to "take the lane" at intersections where it is not appropriate. Curb extensions can also improve the visibility of stop signs at stop-controlled locations.</p>
Design Example
  <p>The diagram illustrates the effects of curb extensions on sight distance. It shows a cross-section of a street with a curb extension. A 'Line of Sight' is drawn from a 'Pedestrian' position across the street. The 'Sight Distance Blocked By Parked Car' is indicated by a shaded area. The 'Extended Curb Shortens Crossing Distance and Increases Pedestrian Visibility' is shown as a greyed-out area. A note at the bottom states: '*Parking space can be added closer to intersection when curb extensions are installed.'</p>
Design Summary
<p>Curb extensions involve extending the curb space into the street to create a shorter pedestrian crossing. They should not extend into the bicyclist line of travel to avoid impeding bicyclists and motorists. This can be achieved by designing the bulb-out width to be the same as the adjacent on-street parking (7-8' for parallel parking, or wider as necessary at locations with angled parking). They may also require removal of on street parking.</p> <p>Low-height landscaping within bulb-outs can further enhance the character and comfort of the pedestrian realm. Bulb-outs may also create space for pedestrian amenities or bicycle parking.</p>

Image Source: Dan Burden (top left), Fehr & Peers (top right) and City of Sacramento (bottom)

PEDESTRIAN DESIGN GUIDELINES

Table 12: Curb Ramps

Discussion
<p>Pedestrians with mobility impairments, such as people using wheelchairs or canes, need curb ramps to safely access a sidewalk and crosswalk.</p>
Design Example
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="flex: 1;"> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Recommended</p>  <p>Preferred for radii of 5'</p>  <p>Preferred for radii >15'</p>    </div> <div style="flex: 1; padding-left: 20px;"> <p>Not Recommended for New Construction: (existing constrained situations only)</p>    </div> </div> <div style="flex: 1; margin-top: 20px;">  </div> </div> </div>
Design Summary
<p>The Architectural and Transportation Barriers Compliance Board and the U.S. Access Board have developed Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way to ensure that sidewalks, pedestrian street crossings, pedestrian signals, and other facilities for pedestrian circulation and use constructed or altered in the public right-of-way by state and local governments are readily accessible to and usable by pedestrians with</p>

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disabilities. Public Rights-of Way (PROWAG) Notice of Proposed Rule Making was last updated in 2011, and is subject to updates. The most recent version can be found online:

<http://www.access-board.gov/prowac/nprm.htm>

Directional (dual) ramps should be standard; these ramps point the pedestrian toward the crosswalk. In some cases this design may be cost prohibitive due to utility relocation or curb reconstruction. Dual curb ramps are especially desirable at locations with narrow sidewalks and a wide corner radius. At locations with narrow sidewalks and a tight corner radius, a single curb ramp may be appropriate. Ramps and dropped landings that end directly in the roadway should have a truncated dome tactile surface.

All new curb ramps in Dublin must comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the State of California Code of Regulations Title 24. The California Disabled Accessibility Guidebook (CalDAG) synthesizes the recommendations from both sources. As depicted in the illustration, directional ramps are preferred over diagonal ramps as they provide direct access to each crosswalk. Curb ramps should be ADA compliant to accommodate mobility and visually impaired pedestrians. Detectable warnings are required by the ADA Accessibility Guidelines with any new curb ramp or reconstruction. These guidelines call for raised truncated domes of 23 mm diameter and 5mm height. Curb ramps should align in the direction of the crosswalk and have enough clear space beyond the curb line so the pedestrian is not drawn right into the line of traffic.

Image Source: Valley Transportation Authority Technical Pedestrian Guidelines, Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES

Table 13: Right-Turn Slip Lane Design

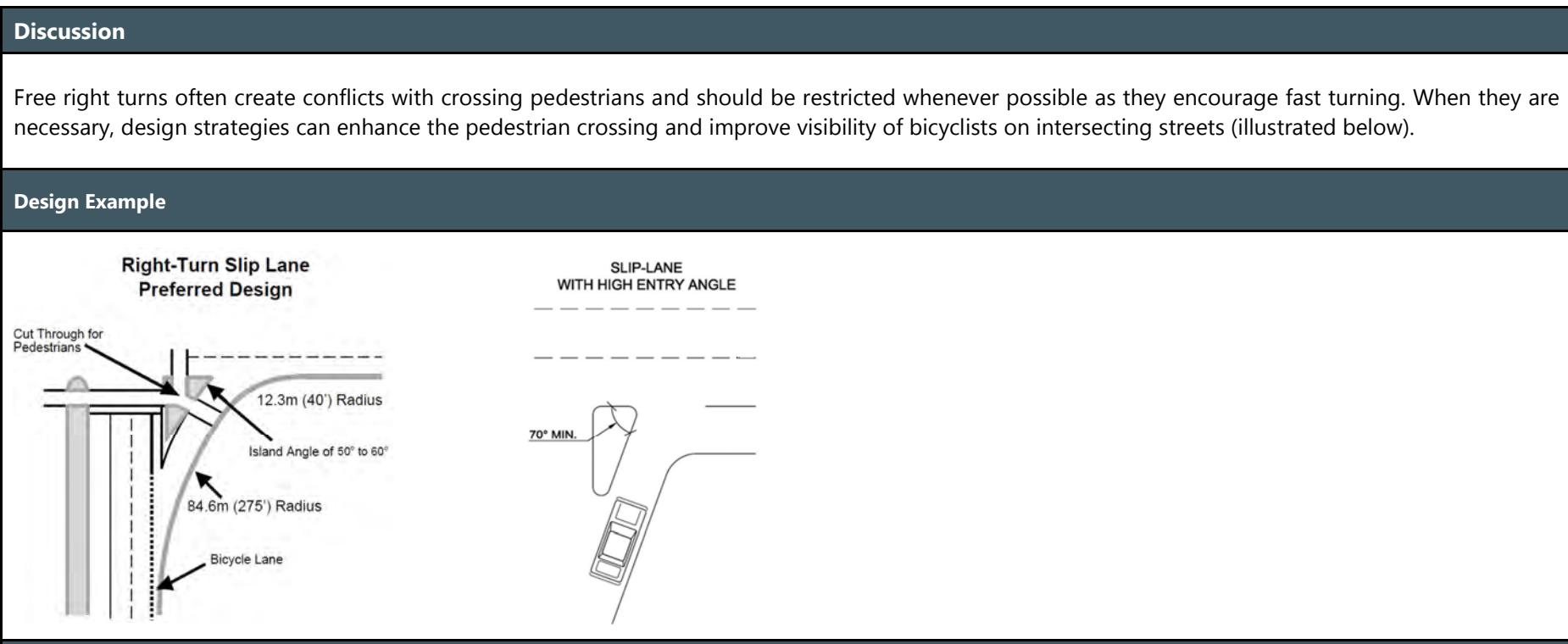
Discussion
<p>Free right turns often create conflicts with crossing pedestrians and should be restricted whenever possible as they encourage fast turning. When they are necessary, design strategies can enhance the pedestrian crossing and improve visibility of bicyclists on intersecting streets (illustrated below).</p>
Design Example
 <p>Right-Turn Slip Lane Preferred Design</p> <p>Diagram illustrating the preferred design for a right-turn slip lane. It shows a curved slip lane merging onto a straight arterial street. Key dimensions and features are labeled:</p> <ul style="list-style-type: none"> Cut Through for Pedestrians: A dashed line indicating a pedestrian crossing point. 12.3m (40') Radius: The radius of the curved slip lane. Island Angle of 50° to 60°: The angle of the island where the slip lane meets the arterial. 84.6m (275') Radius: The radius of the arterial street. Bicycle Lane: A separate lane for bicycles. <p>SLIP-LANE WITH HIGH ENTRY ANGLE</p> <p>Diagram illustrating a slip lane with a high entry angle. The slip lane merges onto the arterial street at a sharp angle, indicated by a 70° MIN. entry angle. The slip lane is shown as a dashed line.</p>
Design Summary
<p>A slip lane with a high entry angle provides improved sight distance in an area where traffic speeds are slower than farther downstream. In an urban interchange that has a right-turn merge onto the arterial, the acute angle of the merging approach can create visibility problems, especially as motor vehicles are hyper-focused on merging into traffic. The configuration may also discourage drivers from reducing their speeds to the level safe enough for merging as well as pedestrians and bicyclists crossing the ramp lane. Research findings call for designing a right merge lane at an interchange using a right turn slip lane with an entry angle greater than 70 degrees.</p> <p>Where the angle cannot be reduced, the slip lane can be improved for pedestrians by adding a raised crosswalk or signalizing the pedestrian crossing.</p>

Image Source: Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES



Table 14: Advanced Yield Markings

Discussion
Advanced yield markings designate the yielding location for vehicles yielding the right-of-way to pedestrians at an uncontrolled location. They should be installed with every uncontrolled crosswalk on multi-lane roads, and are an option for single lane crossings where enhanced visibility of the crosswalk is desired.
Design Example
<p>Advanced Stop Bars Advanced Yield Markings</p> 
Design Summary
Advanced yield markings are a row of white triangles, with the points facing drivers and the flat edges facing the crosswalk. They should be placed seven feet in advance of a single lane crosswalk and 20-50 feet (ideally 30 feet) in advance of a multi-lane crosswalk. The "yield here to pedestrians" sign (FHWA MUTCD sign R1-5a, or CA MUTCD R1-2) should accompany the striping installation.

Image Source: Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES

Table 15: Advanced Warning Signs

Discussion
Advanced warning signs alert drivers to upcoming stops and pedestrian crossings. Warning signs inform unfamiliar drivers of unexpected crossings and possible pedestrian conflicts at midblock or poor visibility locations. They may also be used at high-volume pedestrian crossing locations to add emphasis to the crosswalk, school crossings, and school bus stop locations.
Design Example

Design Summary
Advanced warning signs for pedestrian crossings should not be mounted with other warning signs, except for supplemental distance signs indicating the proximity of the crossing, to avoid visual clutter and information overload. The CA MUTCD specifies a 36in x 36in x 36in sign size. The CA MUTCD specifies a number of examples that may be used for advanced warning (including FHWA MUTCD sign R1-5a, or CA MUTCD R1-2).

Image Source: FHWA

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Table 16: Rectangular Rapid Flashing Beacon

Discussion
The Rectangular Rapid Flashing Beacon (RRFB) is considered an important new device for improving pedestrian safety at uncontrolled, multi-lane crosswalks. The RRFB device is a pedestrian-activated beacon system located at the roadside below side-mounted pedestrian crosswalk signs.
Design Example
Rectangular Rapid Flashing Beacon 
Design Summary
The RRFB enhances the flashing beacon by replacing the slow flashing incandescent lamps with rapid flashing LED lamps. The lights can be activated either by a push-button or with remote pedestrian detection. They can be solar-powered. This treatment has received interim, blanket approval for use in California (Caltrans must be notified of any installation).

Image Source: Fehr & Peers

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Table 17: Pedestrian Hybrid Beacon

Discussion
The Pedestrian Hybrid Beacon, also known as the High-intensity Activated Crosswalks (HAWK), provide protected pedestrian crossing at locations via a red signal indication. This treatment is not widely used, but is included in the Federal and CA MUTCD, with a warrant for use.
Design Example

Design Summary
HAWKs are used in circumstances with high vehicle speeds as well as a high demand for pedestrian crossings. The device combines the beacon flasher with a traffic signal to generate a higher driver yield rate. They are pedestrian activated and will display a yellow indication to warn vehicles, then a solid red light. While pedestrians are crossing, the driver sees a flashing red light in a "wig wag" pattern until the pedestrian clearance phase has ended, then returns to a dark signal.

Image Source: Fehr & Peers

PEDESTRIAN DESIGN GUIDELINES



Table 18: Grade Separated Crossing

Discussion
A grade-separated pedestrian crossing provides a complete separation of pedestrians from vehicles through a pedestrian-only overpass or underpass (generally bicycles are permitted as well). Grade separations are a tool to help overcome barriers and help pedestrians connect to sidewalks, off-road trails and paths. They should be used where topography is supportive and no other pedestrian facility is available.
Design Example
Design Summary
Grade separated crossings should be constructed within the most direct path of a pedestrian. They should have visual appeal and entrances that are visible so pedestrians feel safe and not isolated from others. Because they can be costly, grade separated crossings should only be used in instances with unsafe vehicle speeds and volumes or no convenient substitute for the pedestrian.

Image Source: Fehr & Peers, <http://www.walkinginfo.org/library/details.cfm?id=2882>

<http://www.opacengineers.com/features/BerkeleyPOC>

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Table 19: Leading Pedestrian Interval

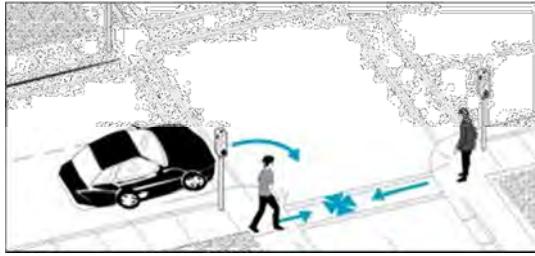
Discussion
<p>Leading pedestrian interval (LPI) treatments enhance the visibility and convenience of pedestrian crossings at traffic signals by beginning the pedestrian phase before the vehicle green phase in the same direction. This allows the pedestrian to enter the crosswalk before vehicles advance, and to be in a highly visible position before vehicles begin right or permissive left turns.</p>
Design Example
 
Design Summary
<p>Leading pedestrian intervals are an enhanced pedestrian treatment that gives pedestrians a walk indication while other approaches are red to prevent advancing. Crossing with this "head start" allows pedestrians to be more visible to motorists approaching an intersection. The following best practices should be used:</p> <ul style="list-style-type: none"> • Install at locations with heavy right turn vehicle volumes as well as frequent pedestrian crossings. • Ensure vehicles are stopped for two to four seconds while pedestrians are allowed to begin crossing.

Image Source: <http://www.walkinginfo.org, Fehr & Peers>

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Table 20: Pedestrian Friendly Signal Timing and Countdown

Discussion
<p>Signal timing typically favors vehicle travel. However, in areas with high pedestrian activity, signal timing can be enhanced to meet the needs of pedestrians. The walk interval of a pedestrian phase is, at a minimum, four to seven seconds, followed by a pedestrian clearance interval, called the "flash don't walk" (FDW) phase. The FDW phase uses a standard rate to determine the amount of time provided for the pedestrian to clear an intersection. It is determined by dividing the width of an intersection by the pedestrian walking speed. The solid "Don't Walk" sign typically coincides with the yellow vehicle signal. The pedestrian timing is an important element to traffic signals since the green time for cars might not be sufficient for pedestrians to cross an intersection.</p> <p>Pedestrian heads include "Walk" and "Don't Walk" displays, which are figures of a walking person and a hand. When the "Don't Walk" display (hand) is flashing pedestrians should not start to cross, and those who are already crossing should continue. A steady "Don't Walk" display indicates that just a few seconds remain before opposing vehicles are given a green signal. The 'count down' pedestrian head supplements the typical display with a countdown timer that shows the number of seconds left before the steady hand is displayed, giving both pedestrians and drivers notice about how much time remains. These are considered a best practice for pedestrian safety.</p> <p>Pedestrian push buttons are used to activate pedestrian recall at actuated signals. When the pedestrian recall is enabled, both the vehicular and pedestrian timing for phase are active. At busy pedestrian intersections, the signal timing may be set to always include the pedestrian timing for the active phase.</p>
Design Example



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Design Summary

The standard for walking speeds at signalized intersections has changed from 4 feet per second to 3.5 feet per second to more accurately reflect the average pedestrian walking speed and aging population.

A slower walking rate of 2.8 feet per second (MUTCD 4E.10(CA)) is recommended in areas with a high number of children, older adults, or disabled pedestrians crossing. Pre-timed signals may warrant a longer walk phase in order to accommodate pedestrians. This should ultimately be at the discretion of the City's traffic engineer.

Image Source: Dan Burden

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Table 21: Pedestrian Friendly Signal Phasing

Discussion
<p>Left- and right-turning vehicles are required to yield to pedestrians in the crosswalk on permissive phases. The following signal phasing sequences can enhance pedestrian accommodation and safety:</p> <ul style="list-style-type: none">Protected left turns allow vehicles turning left an exclusive phase, ultimately eliminating conflicts between pedestrians in the crosswalk.Split phasing allows opposing intersection approaches to receive a dedicated phase. Pedestrian phases for parallel crosswalks will be activated with each adjacent vehicle phase. This phasing plan can reduce intersection capacity, since cycle lengths are typically long, but eliminates conflicts with pedestrians and opposing left-turns.
Design Example
<p>Example of a Pedestrian Signal Head Mounted on a Signal Pole</p>
Design Summary
<p>At intersections with heavy vehicle traffic volumes, providing convenient and comfortable pedestrian crossings must be balanced with the need to maintain intersection capacity and operations for automobiles. In these instances, it is important to incorporate additional treatments to enhance pedestrian visibility, such as special striping or signage. If a permitted left turn phase is used, the traffic and pedestrian signal should be located next to each other on</p>

the corner pole (as depicted in the picture) to attract driver's attention. A flashing yellow arrow may be considered. Where possible, protected left turns are always preferable for pedestrian safety.

Image Source: Fehr & Peers

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Table 22: Bus Stop Accessibility

Discussion
<p>The specific location and design of a bus stop within the right-of-way and pedestrian facilities are important for bus operations and accessibility. The best bus stops are operationally safe and efficient for both buses and passengers. The stop should be located to cause the minimum interference with pedestrian, bicycle and other vehicle movements. Bus stops should be located adjacent to the street curb in most cases, or at a bus bulb along busy transit routes or at transit centers and hubs. Minimum sidewalk and clearance is required for ADA accessibility. Ideally, bus stops also include a bus shelter for protection from sun or rain, and other amenities; at minimum they should include a bus stop pole and ADA compliant bench.</p>
Design Example
<p><i>Bus shelter with bench at back of sidewalk, leaving adequate ADA compliant clearance at curb.</i></p> <p><i>Image Source: www.actransit.org, www.vta.org</i></p> 
Design Summary
<p>Avoid bus turnouts/pullouts where possible because this slows operations when buses must pull out of and back into traffic.</p>



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Bus stops must be long enough for the buses that use them so the buses do not hang into the travel lane when pulling in to the bus stop. Buses must stop flush with the curb to provide ADA compliant access to passengers with disabilities. Bus stop dimensions should be coordinated with Wheels or appropriate transit agencies. For a far side stop, this length addresses:

- Bus clearance from the crosswalk: Minimum 5 feet for pedestrian safety
- Stopping space for bus: 60 feet (length of articulated bus)
- "Take off" space for bus to leave stop: 15 feet
- Total Length- Far Side Stop for one bus: 80 feet

Near side stops require slightly more space. The recommended length is 90 feet, divided up as follows:

- Approach space for the bus: 15 feet
- Stopping space for the bus: 65 feet
- Bus clearance from crosswalk 10 feet
- Total length- Near Side Stop for one bus: 90 feet

Sidewalks at bus stops must be free of clutter, and curbs must be painted red.

ADA Accessibility Guidelines (ADAAG) specifies that the paved boarding/alighting area must be at least eight feet deep from the curb and five feet along the curb. ADAAG also requires a minimum path of travel (sidewalk) clear of obstructions to and from this boarding area at least three feet wide. Many cities use four feet or even six feet as their standard.

In most cases bus shelters should be placed at the back of the sidewalk in order to maintain pedestrian travel and meet ADA path of travel requirements. Exceptions are made and placement must consider security and line of sight at intersections and driveways.

Concrete bus pads are recommended at bus stop locations, to prevent and minimize pavement wear and maintain level grade at locations with heavy bus traffic.

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CROSSWALK DESIGN

The elements of this section are based on research from the National Cooperative Highway Research Program (NCHRP) and the Federal Highway Administration (FHWA), in addition to other best practice guidance. This includes three topic areas:

- **Crosswalk Fundamentals**, which provides an overview of statewide policy and guidance on marked and unmarked crosswalks
- **Uncontrolled Crosswalks**, which provides considerations for siting, enhancing, and removing unsignalized crosswalks, and
- **Controlled Crosswalks**, which provides information on crosswalks at signalized intersections.

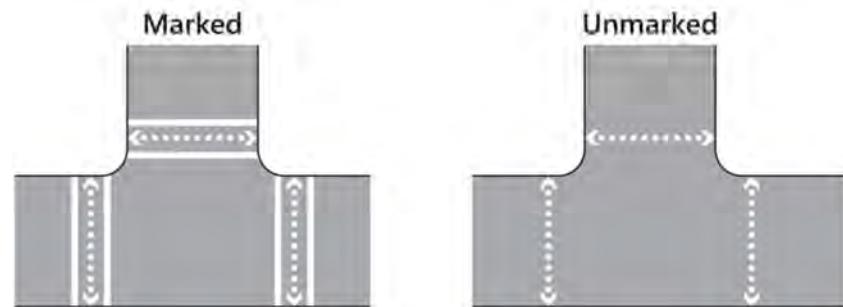
CROSSWALK FUNDAMENTALS

Pedestrian crossing and right-of-way laws vary state to state, and are often a source of driver or pedestrian uncertainty and confusion. This section outlines the types of crosswalks, California laws related to crosswalks, and the steps the City may take in identifying appropriate locations to mark (and potentially enhance) a crosswalk.

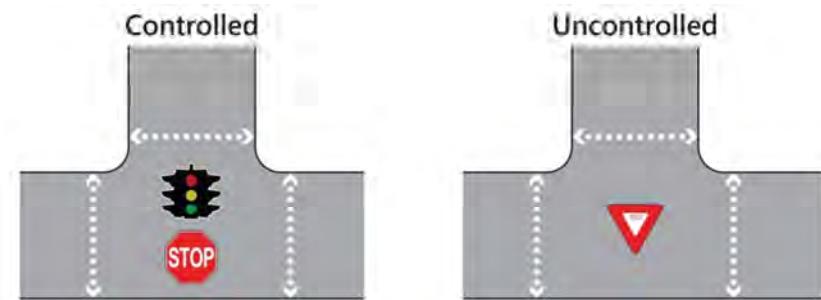
TYPES OF CROSSWALKS

Crosswalks are primarily classified by three characteristics:

- 1) Whether they are marked (demarcated with striping on the street) or unmarked (no striping)

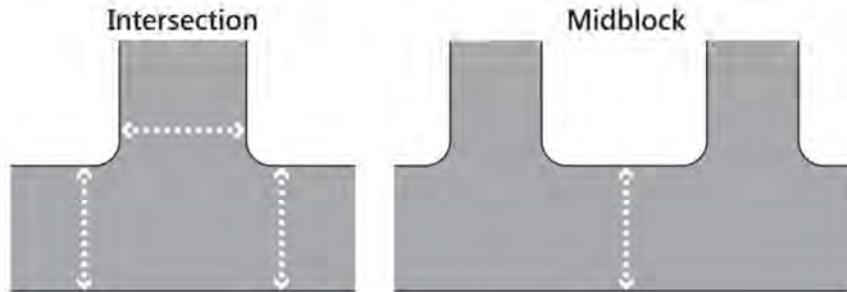


- 2) Whether they are controlled (by a traffic signal or stop-sign) or uncontrolled (with no intersection control)



- 3) Whether they are located at an intersection (where two streets meet) or mid-block (between intersections)

PEDESTRIAN DESIGN GUIDELINES



The following section outlines California's laws related to crosswalks. Additionally, based on pedestrian safety and crosswalk marking research, some types of crosswalks are safer than others in certain contexts. This follow sections provide guidance on why, where, and how to treat crosswalks at controlled and uncontrolled locations, respectively, based on this recent state of the practice research.

CROSSWALK LAWS

In California, a legal crosswalk exists where a sidewalk meets a street, regardless of the presence of markings (i.e., with or without striping to denote the crosswalk). Pedestrians may legally cross any street at any location, except at unmarked locations between immediately adjacent signalized crossings, or where crossing is expressly prohibited. Marked crosswalks reinforce the location and legitimacy of a pedestrian crossing. Vehicles must yield the right-of-way to pedestrians in marked or unmarked crosswalks. At other legal crossing locations, the pedestrian must yield the right-of-way to motorists.

These legal statutes are contained in the California Vehicle Code (CVC) as follows:

- Section 275 defines a legal crosswalk as:
 - That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.
 - Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.
- Section 21950 describes right-of-way at a crosswalk:
 - The driver of a vehicle shall yield the right-of-way to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at an intersection.
- Section 21955 describes where pedestrians may *not* cross a street:
 - Between adjacent intersections controlled by traffic control signal devices or by police officers, pedestrians shall not cross the roadway at any place except in a crosswalk.

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WHY DO CITIES MARK CROSSWALKS?

Sidewalks and crosswalks are essential links within a pedestrian network. Whether commuting, running an errand, exercising, or wandering, pedestrians need safe and convenient crossing opportunities to reach their destinations. A marked crosswalk has four (4) primary functions:

1. To create reasonable expectations where pedestrians may cross a roadway
2. To improve predictability of pedestrian actions and movement
3. To channel pedestrians to designated crossing locations (often selected for their optimal sight distance)
4. To establish a legal midblock crossing location between adjacent signalized intersections.

Advantages of Marked Crosswalks

Marked crosswalks offer the following advantages:

- They help pedestrians find their way across complex intersections
- They can designate the shortest path
- They can direct pedestrians to locations of best sight distance
- They can re-assure pedestrians of their legal right to cross a roadway at an intersection or mid-block crossing

This last point is important. The California Vehicle Code gives the right of way to pedestrians at any marked or unmarked crosswalk (as noted above), but the law is not always obeyed by road users, including both drivers and pedestrians. Drivers fail to yield the right of way without the

visual cue of a marked crosswalk. Pedestrians also do not always know the right-of-way law, and will either wait for a gap in traffic, or assert their right-of-way by stepping into the roadway. Strategies for this challenge are discussed in the Education and Enforcement section of this document.

CANDIDATE LOCATIONS FOR MARKED CROSSWALKS

The identification of candidate locations for marked crosswalks involves two steps.

The first step is to locate the places people would like to cross the street. These locations are called *pedestrian desire lines*, which represent the most desirable, and typically most direct, crossings. Pedestrian desire lines are influenced by elements of the roadway network, such as transit stops, and nearby land uses (homes, schools, parks, trails, commercial centers, etc.).

The second step in identifying candidate locations for marked crosswalks is to identify where people can cross safely. Of all road users, pedestrians have the highest risk of injury in a collision because they are the least protected.

UNCONTROLLED CROSSING ENHANCEMENTS

This section presents best practices for the installation of marked crosswalks at uncontrolled intersections and mid-block locations. Uncontrolled crossings require additional consideration during planning and design since traffic signals and stop-signs are not provided to require motorists to stop – they must recognize the pedestrian and yield accordingly. Thus, providing appropriate enhancements to improve the visibility and safety of pedestrians crossing the street at an uncontrolled location is critical.

Several studies of pedestrian safety at uncontrolled crossings have been completed, from which conflicting research had emerged. Studies conducted in San Diego in the 1970s showed that pedestrian collision risk at marked, uncontrolled crosswalks was greater than at unmarked crossings. This led many cities to remove marked crosswalks, as they were suspected of providing a false sense of security that drivers would yield to pedestrians in the crosswalk. However, as a more recent and comprehensive 2002 study by the Federal Highway Administration (FHWA) found that marked crosswalks, when appropriately designed with visibility enhancements, were not inherently less safe than unmarked locations. The research found that context matters and that appropriate selection of visibility enhancements is tantamount.

DETERMINING WHERE AND HOW TO MARK UNCONTROLLED CROSSWALKS

As summarized in above, two key steps are involved in identifying candidate locations for marked crosswalks:

1. Identify pedestrian desire lines
2. Identify places where people can cross safely

WHEN TO INSTALL MARKED CROSSWALKS

Once candidate locations are identified, an engineering evaluation is typically conducted to determine if a marked crosswalk should be installed at an uncontrolled or mid-block location, and if so, what enhancements beyond striping should be included in the design. Marked crossings may be considered where all of the following occur:

- Sufficient demand exists to justify the installation of a crosswalk (see Demand Considerations below)
- Sufficient sight distance as measured by stopping sight distance calculations exists and/or sight distance will be improved prior to crosswalk marking
- No other safety considerations preclude a marked crosswalk

Demand Considerations

Uncontrolled and mid-block crossings should be identified as a candidate for marking with a demonstrated need for a crosswalk.

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Engineering judgment will ultimately be used to select locations appropriate for a marked, uncontrolled crossing.

Considerations for Multi-Lane, High Volume, and/or High Speed Locations

At uncontrolled locations, enhanced treatments beyond striping and signing may be needed for marked crosswalks under the following conditions:

- Multi-lane streets (three or more lanes); or
- Two-lane streets with daily traffic volumes (ADT) greater than 12,000; or
- Streets with posted speed limit exceeding 30 miles per hour²

Additional funding sources should be identified as needed for these enhancements. Failing to provide an enhanced crosswalk and/or removing a crosswalk should be an option of last resort.

MID-BLOCK CROSSWALKS

Crosswalks can be marked at intersections and mid-block points. Mid-block crossings play an important role for pedestrian access; without mid-block crossing locations, pedestrians may face the undesirable choice to detour to a controlled crossing location, detour to an intersection where it is legal to cross even if not controlled, or cross illegally (if the midblock crossing is between two signalized intersections). Where signals are spaced far apart (generally more than 600-800 feet), pedestrians may have to detour several minutes to a controlled crossing location. Pedestrians are more likely to wait for a gap in traffic and cross at an unmarked location, rather than travel a distance out of their way to find a marked crosswalk. Midblock locations may also offer an important safety benefit, as they have fewer potential vehicle-pedestrian conflict points than crosswalks at intersections.

² Zegeer, et al. "Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations." Federal Highway Administration, 2005.

CONTROLLED CROSSWALK TREATMENTS

Controlled crosswalks are those that are provided at stop-controlled or signalized intersections. Generally, these crossings do not need enhancements beyond standard crosswalk markings (two parallel lines), as the traffic signal or stop-sign controls allocation of right-of-way. However, in some cases, such as in the Downtown, the City may consider providing enhanced crossings to create a sense of place or improved aesthetics. This chapter presents preferred and enhanced measures for pedestrian treatments at controlled locations to:

- Improve the visibility of pedestrians to motorists and vice-versa
- Communicate to motorists and pedestrians who has the right-of-way
- Accommodate vulnerable populations such as the disabled, children, and the elderly
- Reduce conflicts between pedestrians and vehicles
- Reduce vehicular speeds at locations with potential pedestrian conflicts

All treatments identified in this chapter are required or allowed by the standards and specifications in the California Manual on Uniform Traffic Control Devices (CA MUTCD).

PREFERRED CROSSING TREATMENTS

Preferred crossing treatments are identified as the basic pedestrian crossing improvements to be provided at stop-controlled and signalized intersections. It is recommended that new controlled intersections be designed with these treatments included; existing controlled intersections that require retrofits may be prioritized and upgraded as City funds become available. These treatments are based on recommended best practices in pedestrian safety:³

- Mark crosswalks on all legs of the intersection unless it is not feasible due to safety reasons determined by engineering judgment
- Provide advanced stop bars in advance of each crosswalk
- Minimize the number of vehicle traffic lanes pedestrians must cross
- Provide median refuge islands and thumbnails, as width and path of turn maneuvers allow
- Remove sight-distance obstructions
- Provide directional curb ramps for each crosswalk (e.g., two per corner)
- Eliminate free right-turn slip lanes, where feasible

³ See America Walks *Signalized Intersection Enhancements that Benefit Pedestrians* <http://americawalks.org/wp-content/upload/America-Walks-Signalized-Intersection-Enhancement-Report-Updated-8.16.2012.pdf> (2012).

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- Locate bus stops on the far-side of the intersection
- Minimize cycle lengths
- Provide pedestrian signals on all legs at signalized intersections if feasible as per safety analysis and engineering judgment
- Provide adequate pedestrian clearance intervals (crossing time) at signalized intersections

ENHANCED CROSSING TREATMENTS

At high volume pedestrian crossing locations or areas designated by the City as pedestrian zones, the City may desire to provide additional

crosswalk enhancements at controlled intersections. These treatments provide additional enhancements to improve visibility between drivers and pedestrians by slowing traffic through geometric changes, providing signal timing or phasing modifications, or enhancing striping or signing to improve visibility.

Tables 5 – 18 describe recommended crossing treatments and enhancements.



PEDESTRIAN DESIGN GUIDELINES

RESOURCE DOCUMENTS

Federal Standards and Resource Documents:

Guide to the Development of Pedestrian Facilities, American Association of State Highway and Transportation Officials, 2000

Manual on Uniform Traffic Control Devices, Federal Highways Administration, December 2009.

Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2004.

Americans with Disabilities Act Accessibility Guidelines (ADAAG). United States Access Board.

California Standards and Resource Documents:

California Manual on Uniform Traffic Control Devices, Caltrans, January 2010.

Highway Design Manual, California Department of Transportation.

Other Guidelines and Resource Documents:

TCRP Report 112/NCHRP Report 562: Improving Pedestrian Safety at Unsignalized Crossings. Washington D.C.: TCRP and NCHRP, 2006.

Pedestrian Technical Guideilnes: A Guide to Planning and Design for Local Agencies in Santa Clara City, Santa Clara Valley Transportation Authority, October 2003.

Routine Accommodations of Pedestrians and Bicyclists in the Bay Area, Metropolitan Transportation Commission, Available: http://www.mtc.ca.gov/planning/bicyclespedestrians/routine_accommodations.htm, 2006.

Pedestrian Safety Resource Guide, Metropolitan Transportation Commission Regional Pedestrian Committee, Available: <http://www.mtc.ca.gov/planning/bicyclespedestrians/PEDSAFETYRESOURCEGUIDE.doc>, 2004.

BICYCLE DESIGN GUIDELINES





BICYCLE DESIGN GUIDELINES

This section provides guidance and standards for the design of bikeways and bicycle parking facilities in the City of Dublin. The appropriate design of bicycle facilities is an integral component of encouraging the use of bicycles for commuting and recreational purposes. Good design affects the experience, enjoyment and comfort for bicyclists, and should ultimately provide the highest level of safety possible for all road and path users. The Dublin Bicycle and Pedestrian Master Plan envisions a convenient, comfortable, and safe comprehensive bicycle network that attracts bicyclists of all users for utilitarian and recreational trips.

Bikeway planning and design in California typically relies on the guidelines and design standards established by Caltrans and documented the 2012 Highway Design Manual (HDM). The HDM bicycle design guidelines follow standards developed by the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) and identify specific design standards for various conditions and bikeway-to-roadway relationships. These standards provide a good framework for future implementation, but depending on the circumstances may not always be feasible given specific constraints and can often be expanded. Whatever the case may be, local jurisdictions must be protected from liability concerns so most agencies adopt the Caltrans or AASHTO standards as a minimum.

This chapter presents design guidelines for the following topics:

Class I Shared-Use Paths

- Minimum and Preferred Widths
- Shared-Use Path Features
- Crossing Treatments
- Path Amenities

Class II A Bicycle Lanes

- Next to Parallel Parking
- Next to Angled Parking
- Without Parking
- On Hills

Class II B Buffered Bicycle Lanes

- Striping Treatments

Bicycle Markings and Intersections

- Treatments at Interchanges, Bridges and Tunnels
- Bicycle Loops and Detectors

Class III A Bicycle Routes with Sharrows

- Bicycle Routes
- Sharrows Markings

Bicycling Signage

- Wayfinding/Destination Signage
- Signs for Shared Roadways

Bicycle Parking

Maintenance Standards

- Utility Covers and Construction Plates

BICYCLE DESIGN GUIDELINES



Caltrans standards provide for three distinct types of bikeway facilities: Class I bicycle paths, Class II bicycle lanes, and Class III bicycle routes, as described in **Table 23**. In addition to those three classifications, the proposed Dublin network includes the Buffered Bicycle Lane classification (Class IIB). Each bikeway classification proposed in this plan is presented on **Figures 1a and 1b**.

Bicycle design guidance is also provided in a variety of best practice documents, including the National Association of City and Transportation Official's (NATCO) *Urban Bikeway Design Guide*, 2nd edition, and the AASHTO *Guide for the Development of Bicycle Facilities* (2012). Each document provide guidance on innovative facilities that are not directly addressed in the HDM, such as buffered bicycle lanes, conflict zone treatment, and physically separated bikeways.

TABLE 23: DUBLIN BIKEWAYS CLASSIFICATIONS

Class I: Shared Use Path

These facilities provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle cross-flow minimized.

Class II A: Bicycle Lane

Bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

Class II B: Buffered Bicycle Lane

Buffered bicycle lanes are conventional bicycle lanes that provide a restricted right-of-way with an added buffer space separating the bike lane from the adjacent vehicle lane and/or parking lane. The buffered area provides greater distance between bicyclists and parked cars and moving traffic and allows for bicyclists to pass one another within the bicycle lane without entering the vehicle lane. Buffered bicycle lanes are generally made up of a six foot wide bicycle lane and a two-foot wide buffer. The buffer is striped with two solid white lines with diagonal hatching or chevron markings within the buffer zone.

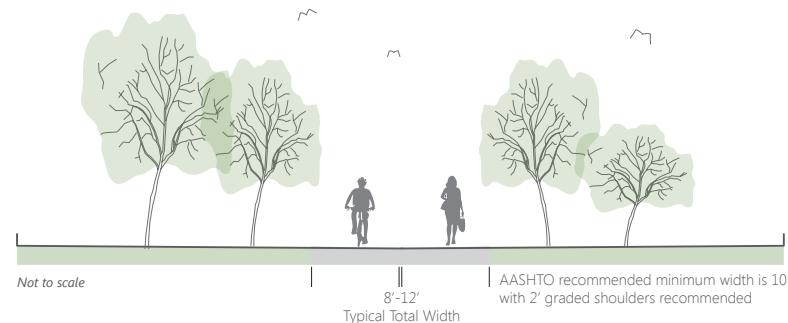
Class III A: Bicycle Route with Sharrows

These bikeways provide a right-of-way designated by signs or pavement markings for shared use with motor vehicles. These include sharrows or "shared-lane markings" to highlight the presence of bicyclists.

CLASS I BIKEWAY

(Bike Path)

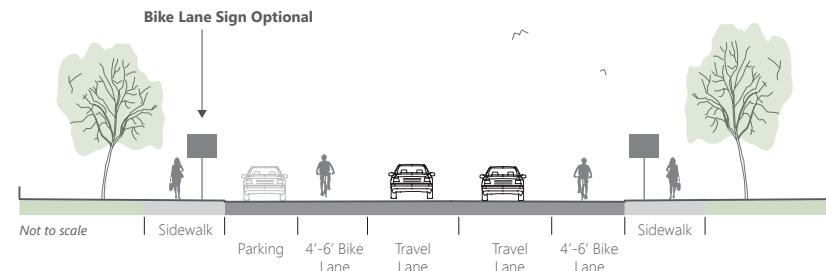
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.



CLASS IIA BIKEWAY

(Bike Lane)

Provides a striped lane for one-way bike travel on a street or highway.



CLASS IIB BIKEWAY

(Buffered Bike Lane)

Modified on-street bike lane with vehicle and/or parking-side buffer for additional comfort and safety on higher speed or volume roadways

Note: Chevrons should be used instead of diagonal hatching where striped buffers are over 3 feet in width. Buffers can either be located on either both sides of the bicycle lane or only one side.

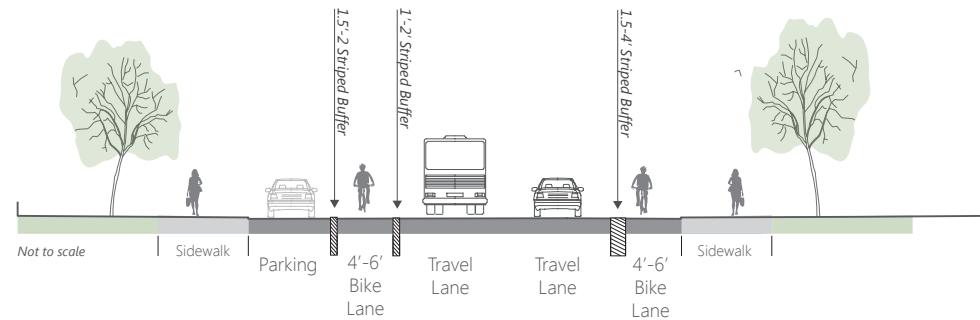


Figure 1a.

Bikeway Classifications

April 2013

CLASS IIIA BIKEWAY

(Signed Bike Route)

Provides for shared use with motor vehicle traffic.

Note: Additional traffic devices such as speed tables, chicanes, medians, wayfinding signs, and pavement markings are also included.

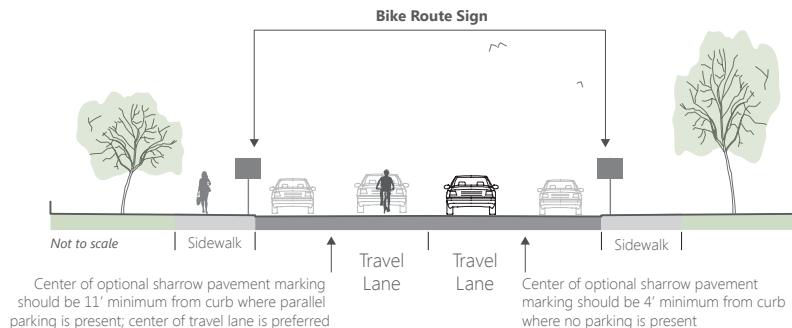


Figure 1b.

Bikeway Classifications

April 2013

CLASS I SHARED USE PATH

Class I bikeways are typically called bicycling paths, multi-use or shared use paths and are typically located along separate right-of-way such as creeks, canals, or rail lines and are completely separated from vehicle traffic. Cross traffic by motor vehicles should be minimized along bicycle paths to avoid conflicts. Bicycle paths can offer opportunities not provided by the road system by serving as both recreational areas and/or desirable commuter routes.

According to the Caltrans and AASHTO standards, two-way bicycle paths should be ten feet wide under most conditions, with a minimum two-foot wide graded area on both sides. In constrained areas, an eight-foot wide path may be adequate. Bicycle paths are usually shared with pedestrians and if pedestrian use is expected to be significant, the path should be greater than ten feet, preferably twelve feet wide. **Table 28** presents recommended Class I path widths.

Where possible, bicycle paths should have an adjacent four-foot wide unpaved area to accommodate joggers. This jogging path should be placed on the side with the best view, such as adjacent to the waterfront or other vista, as shown on **Figure 2**.

Decomposed granite, which is a better running surface for preventing injuries, is the preferred surface type for side areas and jogging path, while asphaltic concrete or Portland cement concrete should be used for the bicycle path. A yellow centerline stripe may be used to separate

opposite directions of travel. A centerline strip is particularly beneficial to bicycle commuters who may use unlighted bicycle paths after dark.

Sidewalks and meandering paths are usually not appropriate to serve as bicycle paths because they are primarily intended to serve pedestrians, generally do not meet Caltrans' design standards, and do not minimize motor vehicle cross flows. Where a shared use path is parallel and adjacent to a roadway, there should be a five-foot or greater width separating the path from the edge of roadway, or a physical barrier of sufficient height should be installed. Side paths require appropriate intersection controls or additional conflict treatments at intersections and driveways. This may include the use of bicycle signals and protected turns for autos, for example.

TABLE 24: STANDARDS FOR CLASS I FACILITIES

Design Element	AASHTO Standards	Preferred Standards ¹
Minimum Width	8.0'	10.0'
Vertical Clearance	8.0'	8.0'
Horizontal Clearance	2.0'	3.0'
Maximum Cross Slope	2.0%	2.0%

Notes:

1. Where feasible, use of preferred standards is desirable.

Source: Caltrans HDM, 2012; AASHTO Guide for the Development Bicycle Facilities, 2012, 4th Edition.

BICYCLE DESIGN GUIDELINES

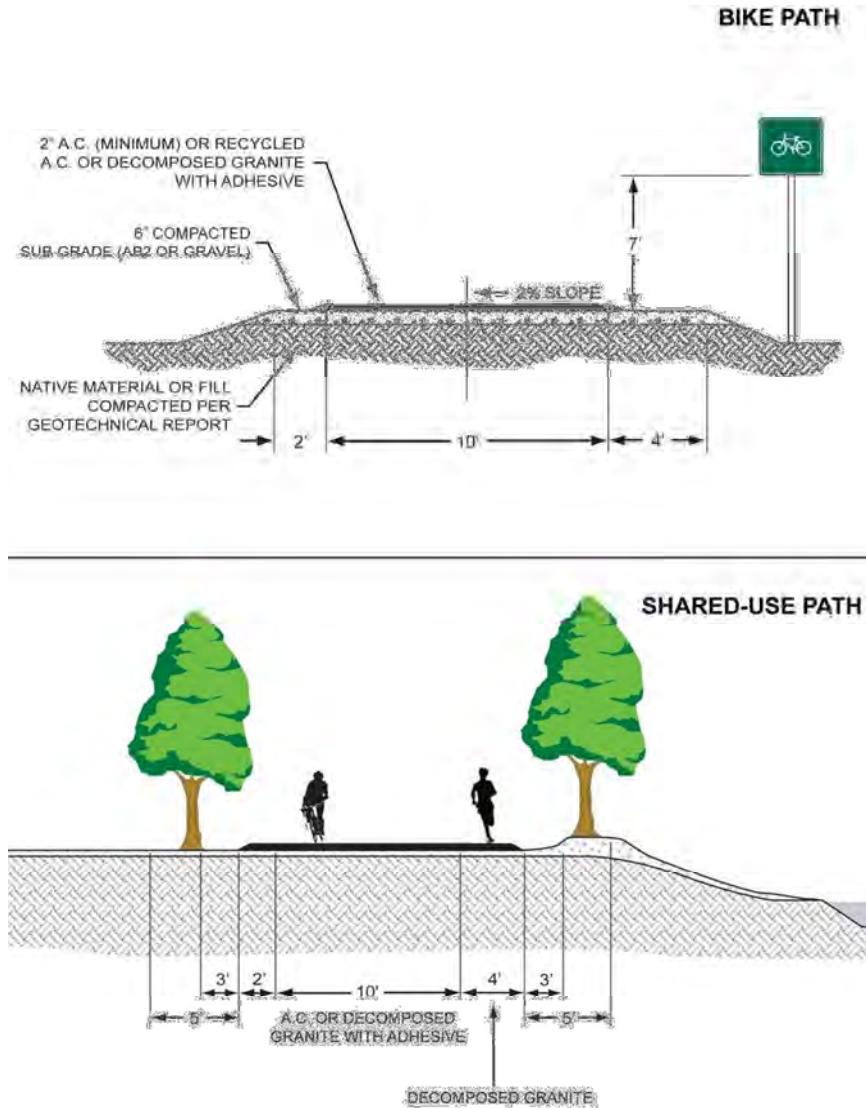


Figure 2. Typical Class I Shared Use Path

SHARED USE PATH FEATURES

The following sections present typical design features found on Class I facilities.

BOLLARDS

Bollards are not recommended. Where there is a demonstrated need for a physical barrier due to concerns regarding motorized vehicles accessing the pathway, for example split design treatment should be used.

SPLIT TRAILWAY

The California MUTCD discourages the use of bollards if other options are practical, and bollards are general not a preferred treatment for path design. The preferred option would be to split the path by direction to go around a small center landscape feature. Rather than one 8' or 10' trail, the trail would be split into two 4' or 5' paths. This feature not only narrows the trail and prevents vehicles from entering, but also introduces a lateral shift for cyclists, encouraging slower speeds in conflict zones.

GRADE SEPARATION

Bridges or undercrossings will be required wherever shared use paths cross creeks, waterways, major streets and limited access freeways. Crossings can utilize pre-fabricated bridges made from self-weathering steel with wood decks. Bridges should be a minimum of 8' wide (between

BICYCLE DESIGN GUIDELINES

handrails) and preferably as wide as the approaching trails. Openings between railings should be 4" maximum. Railing height should be a minimum of 42" high.

FENCING

Fencing may be necessary on some shared use paths to prevent path users from trespassing on adjacent lands, or to protect the user from dangerous areas. Fences should maintain safety without compromising security. They should be tall enough to prevent trespassing, but they should maintain clear sight lights from the trail to the adjacent land uses. In areas where private residences are passed, privacy may be a concern. Screen fences should be used to maintain privacy of residents. Screen fences can be made of wood, concrete block or chain link if combined with vine planting. However, if fencing is used, there must be at least 2' of lateral clearance from the edge of the bicycle path.

CURB RAMPS

Where curbs are present, curb ramps should be provided and be as wide as the entire path. Designs should also follow the most recent Public Right-of-Way Accessibility Guidelines (PROWAG) to provide universal accessibility.



CROSSING TREATMENTS

Shared-use path crossings come in many configurations, with many variables: the number of roadway lanes to be crossed, divided or undivided roadways, number of approach legs, the speeds and volumes of traffic, and traffic controls that range from uncontrolled to yield, stop or signal controlled. Each intersection is unique and requires engineering judgment to determine the appropriate intersection treatment. The safe and convenient passage of all modes through the intersection is the primary design objective. Regardless of whether a pathway crosses a roadway at an existing roadway intersection, or at a new midblock location, the principles that apply to general pedestrian safety at crossings (controlled and uncontrolled) are transferable to pathway intersection design.

When shared use paths parallel roadways at intersections, the path should generally be assigned the same traffic control as the parallel roadway (i.e., if the adjacent roadway has a green signal, the path should also have a green/walk signal; if the parallel roadway is assigned the right-of-way with a stop or yield sign for the intersecting street, the path should also be given priority). Where right-turn conflicts are expected, protecting the right-turn phase, separating out the pedestrian phase, and/or adding a separate bicycle signal phase may be appropriate. At signalized intersections, if the parallel roadway has signals that are set to recall to green every cycle, the pedestrian signal heads for the path should generally be set to recall to walk. Where the signals for the parallel roadway are actuated, the path crossing will also need actuated

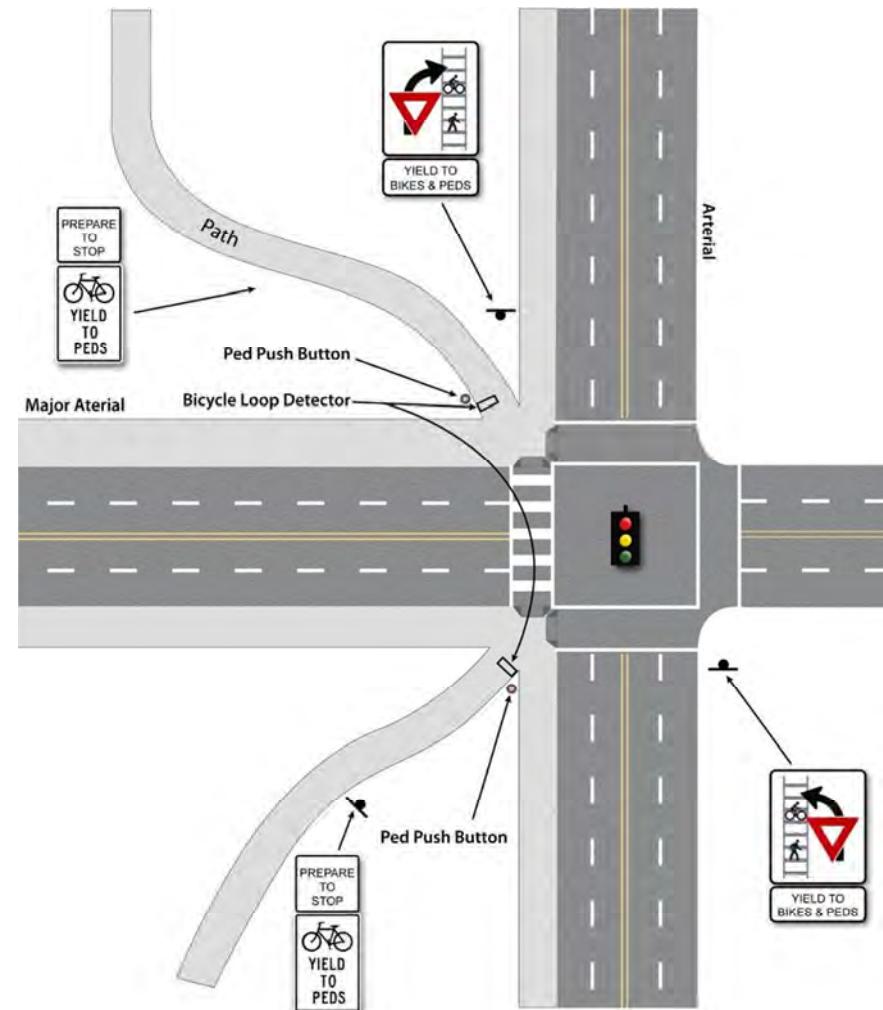
BICYCLE DESIGN GUIDELINES



bike detection and is required under CA MUTCD (Section 4D.105). The minimum required clearance interval for bicycles in the CA MUTCD is six seconds of initial start-up time plus 14.7 feet/second to finish the crossing (Section 4D.105). The USE PED SIGNAL sign should be used at shared use path crossings at signalized intersections. Pedestrian pushbuttons should be located within easy reach of both pedestrians and bicyclists, who should not have to dismount to reach the pushbutton.⁴

Signs on Paths

Some jurisdictions have used STOP signs and BICYCLISTS MUST DISMOUNT signs to regulate bicycle traffic on shared-use paths. These signs are generally ineffective and result in frequent violations and disregard for other types of path signage.



⁴ Per California Vehicle Code Sections 21200-21212 and Streets and Highway Code 885-886, 887-888.8, and 890-894.2, bicycles are generally prohibited from riding on sidewalks or in crosswalks. An exception to this is on marked crosswalks of multi-use paths. On multi-use paths, bicyclists function as pedestrians at intersections by activating the pedestrian signal and waiting for the light to change in their favor.

BICYCLE DESIGN GUIDELINES

Countdown pedestrian signals should be installed at all new signalized path crossings and retrofitted as signal heads are replaced. As required by the MUTCD, the walk signal for any path shall not conflict with a protected left- or right-turn interval. While bicyclists can benefit from the safe passage that pedestrian signals provide, bicycle signals are the preferred practice for a path crossing to address right-of-way issues. Consideration should be given to providing a leading pedestrian interval at path crossings (i.e., three seconds of green/walk signal time are given to path users before any potentially-conflicting motor vehicle movements are given a green signal). This allows pedestrians and bicyclists to have a head start into the roadway to become more visible to turning traffic.

The figure on the previous page illustrates the preferred approach for a shared use path at a controlled intersection. Paths should cross at the intersection to encourage use of the intersection crossing and have path users in the location where they are most anticipated. In many cases, a path will be separated from a roadway by between 20 and 50 feet. Locating path crossings along these alignments (that is 20 to 50 feet away from the intersection) creates a condition where vehicles do not expect to encounter a path crossing and vehicles leaving the intersection are accelerating away from it when they cross the path crossing. For signalized pathway crossings, an advance loop detector within 100 feet of the intersection should be considered, so bicyclists can approach the intersection slowly but without having to stop.

BICYCLE SIGNAL HEADS

Bicycle signal heads permit an exclusive bicycle-only signal phase and movement at signalized intersections. This takes the form of a new signal head installed with red, amber and green indications for bicycle traffic only. Bicycle signals are an approved traffic control device in California, described in Part 4 and 9 of the CAMUTCD. Bicycle signal faces (at right) also have interim approval under the Federal MUTCD. Bicycle signals can be actuated with bicycle sensitive loop detectors, video detection or push buttons. The City of Dublin may install bicycle signals at intersections with heavy bicycle volumes, on bicycle paths adjacent to intersections where heavy bicycle traffic in the crosswalk may conflict with turning vehicles, or at three-legged intersections where bikes may enter or exit a bicycle path at the intersection. Bicycle signal warrants defined in Section 4.C of the CA MUTCD should be considered before installing a bicycle signal. The thresholds require bicycle volumes to exceed 50 per hour and vehicle volumes are greater than 1,000 vehicles per hour, or in locations that have a history of bicyclist-involved collisions (>2 in one calendar year), or in locations where a multi-use path intersects a roadway.



BICYCLE DESIGN GUIDELINES



UNSIGNALIZED INTERSECTIONS

At unsignalized or stop controlled locations, crossing design and placement should adhere to the Crosswalk Design Guidelines section of this document.

SHARED-USE PATH AMENITIES

Furnishings along a shared-use path should be concentrated at specific points to form gathering nodes. These nodes occur at intersections between different path types, special viewpoints, or at distinctive landscape features. Shared-use path support facilities consist of staging areas, seating and tables, weather-protection structures, drinking fountains, waste receptacles, fencing, bicycle racks, interpretive and directional signage and restrooms.

STAGING AREAS

Staging areas should be provided at path entrances. These areas should include basic information such as directional information and signage, bicycle parking, seating and waste receptacles. Restrooms, water fountains, and weather structures should be provided where practical and feasible. At path entrances where a substantial number of users are likely to drive, a parking lot should be provided; however, vehicle parking should be minimized to encourage non-motorized access to recreational facilities.

PEDESTRIAN-SCALE LIGHTING

Motor-vehicle scale street lights on travel lanes and intersections, often keeping the edge of the roadway and sidewalk areas in the dark. Pedestrian-scale lighting is street lighting at a lower height and placed to provide direct illumination of the path area. Lamp posts are spaced more frequently and at lower heights, approximately 10 to 16 feet in height. Pedestrian-scale lighting can improve safety at night time, allowing trails and paths to be illuminated. Such lighting is particularly important on paths and trails that connect to transit stations, for example, where bicyclists and pedestrians may be using the path after dark.

REST AREAS

Rest areas are portions of paths that are wide enough to provide wheelchair users and others a place to rest while on trails without blocking continuing traffic. Rest areas are more effective when placed at intermediate points, scenic lookouts, or near other trail amenities. Most rest areas will have seating, shade, a place to rest bicycles, and waste receptacles. On longer paths, restrooms and/or water fountains may be desirable where feasible.

SEATING

Benches provide people of all ages and abilities a place to sit and rest along trails. Seating should be placed away from the path, at least 3 feet from the trail edge, to allow room for people to sit with outstretched



BICYCLE DESIGN GUIDELINES

legs. An area adjacent to the bench should be able to accommodate a wheelchair.

WASTE

Trash receptacles should be installed along bicycle paths at regular intervals, as well as at rest areas, path entrances, and seating areas, to encourage proper waste disposal.

CLASS IIA BICYCLE LANES

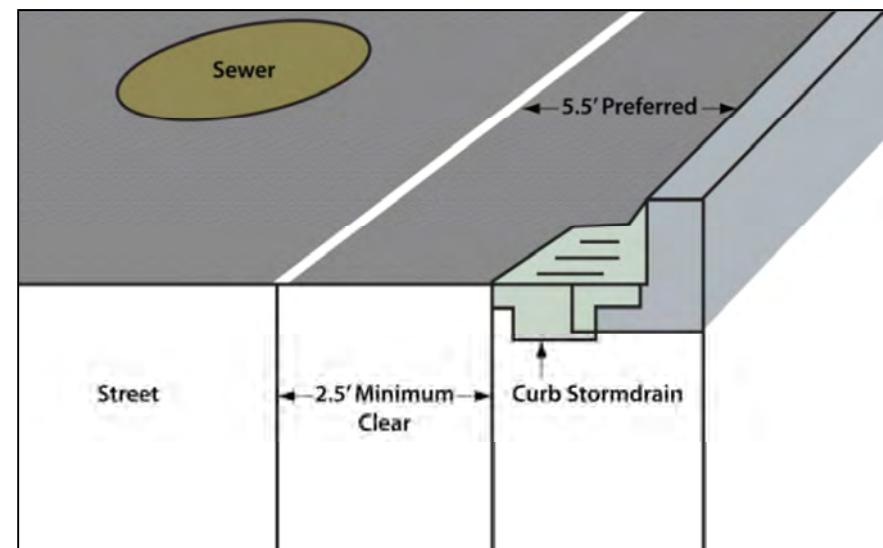
This section includes guidelines for Class II A bicycle lanes along roadways and at intersections. Class II A bicycle lanes provide a designated space within the roadway for bicyclists to ride. Most bicyclists benefit by having a lane that is separate from motor vehicle traffic. Conventional bicycle lanes are described in this section; the following section on Class II B addresses buffered bicycle lanes.

In a mostly built-out location such as Dublin, adding to the bicycle network is mostly accomplished through retrofitting existing roadways. Adding bicycle facilities to existing streets may be done through right-of-way reallocation (narrowing or removal of vehicle travel lanes) or widening the right-of-way to accommodate additional space needed. To accommodate bicycle lanes, vehicle lanes may be narrowed to a minimum of 10 feet of most City roadways; however, transit agencies prefer that any roadway with bus routes have 11-foot travel lanes. The following pages illustrate minimum and preferred dimensions for on-street bicycle lanes under the following conditions:

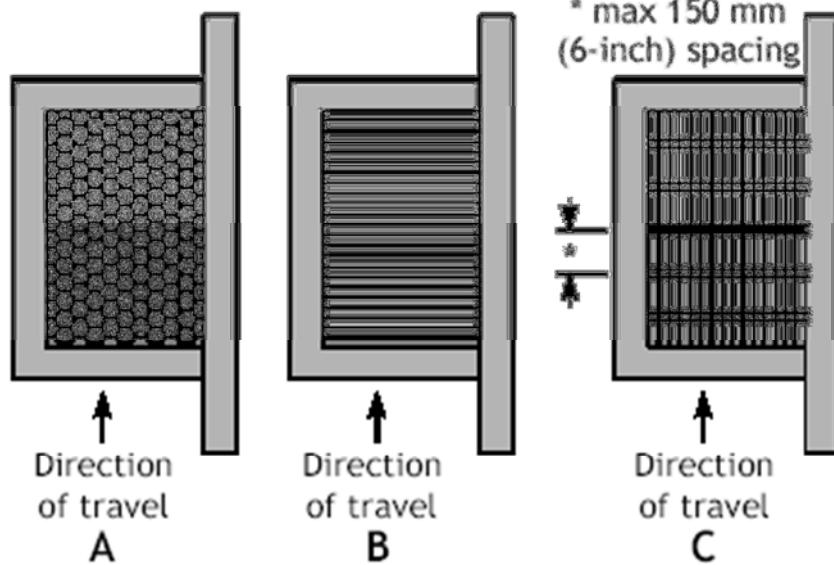
- Adjacent to Parallel Parking
- Adjacent to Angled Parking
- Without Parking
- On a Hill

The figures on the following pages illustrate the preferred widths for bicycle lanes in the following situations:

Conventional Bicycle Lane Standards: Bicycle lanes should be designed to meet Caltrans standards, which require a minimum width of 4 feet with no gutter pan; otherwise a minimum of 5 feet should be provided. The preferred bicycle lane width is 6 feet. Where drainage or other obstructions constrict clearance between the vehicle travel lane and storm drains, designers should take care to maintain a 2.5-foot clear longitudinal surface, free from drainage grates and other obstructions in order to give the cyclist adequate width to ride. Where present, the direction of the drain gate should be perpendicular to the bicyclist's path of travel. Signs that say BICYCLISTS WRONG WAY may be used on the back of bicycle lane signs or on separate posts to discourage wrong way riding.



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BICYCLE LANE MARKINGS

Pavement stencils should be reflectorized and be capable of maintaining an appropriate skid resistance under rainy or wet conditions to maximize safety for bicyclists. The minimum coefficient of friction should be 0.30. Thermoplastic can meet all of these requirements. It is optimized when the composition has been modified with crushed glass to increase the coefficient of friction and the maximum thickness is no larger than 100 mils (2.5 mm).

The Caltrans standard for placement of bicycle lane stencils states that markings should be on the far side of each intersection and at other locations as desired. Generally, bicycle lane markings should be provided at transition points, particularly where the bicycle lane disappears and reappears, as it transitions from curb side to the left side of the right-turn lane. Otherwise, place them at least every 500 feet or once per block. Symbols shown in the figures are for illustration purposes and should not be used as spacing or placement guidelines.

Bicycle lane markings should continue at least up to the intersection approach, and continued skip-stripe markings through the intersection are preferred. Details about innovative intersection treatments are included in this section.

BICYCLE DESIGN GUIDELINES



BICYCLE LANES ADJACENT TO PARALLEL PARKING

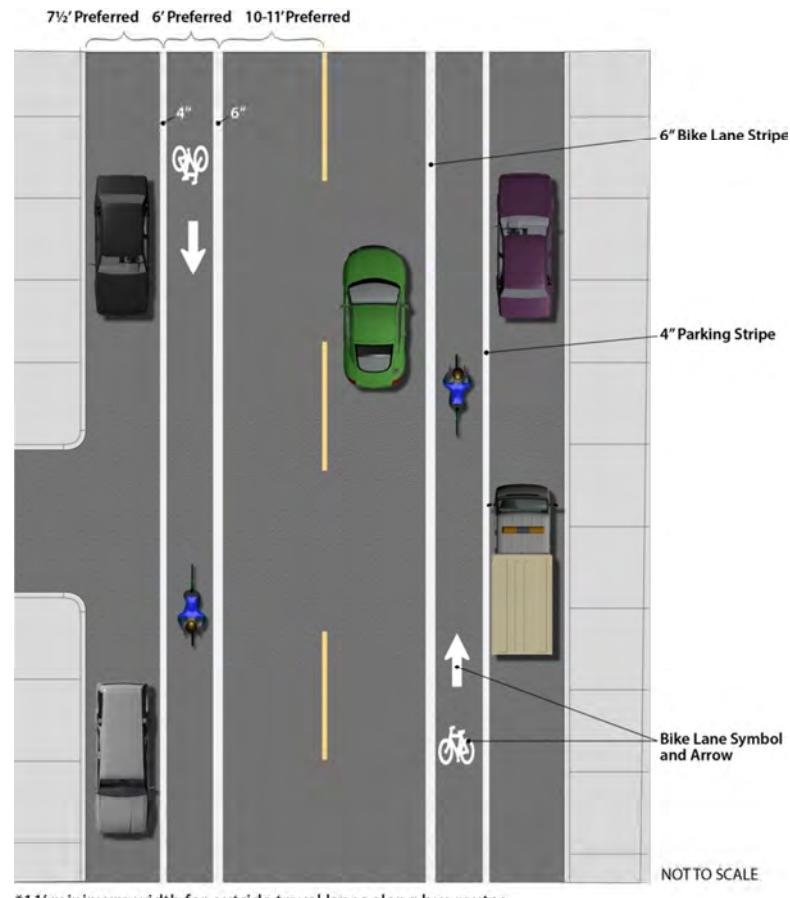
Key Considerations:

- Bicycle lanes adjacent to parallel parking need to provide adequate space for bicyclists to ride out of the "door-zone". Riding in the door-zone presents a risk to cyclists, as the area is adjacent to the parking lane where, if a car door was opened, it may hit the cyclist.
- Bicycle lane stencils and arrows should be marked at the start of every block, then as needed but not less than every 500 feet. Additional stencils and arrows may be placed for wayfinding.
- Parking "T's" may be used in lieu of the 4-inch parking stripe, if preferred.
- Bicycle lane signs (R81 CA) may be provided along the edge of the travel way to reinforce presence of the bicycle lane.
- BICYCLISTS WRONG WAY (R-51b) signs may be used on the back of bicycle lane signs or on separate posts to discourage wrong way riding.
- Treatment may be combined with other supplemental treatments such as colorized pavement, conflict zone and/or intersection enhancements described in Bicycle Lanes at Intersections.
- See Bicycle Lanes at Intersections Section for guidance on striping bicycle lanes at intersections and turn lane treatment options.

Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities

Cost:



BICYCLE LANES WITHOUT PARKING

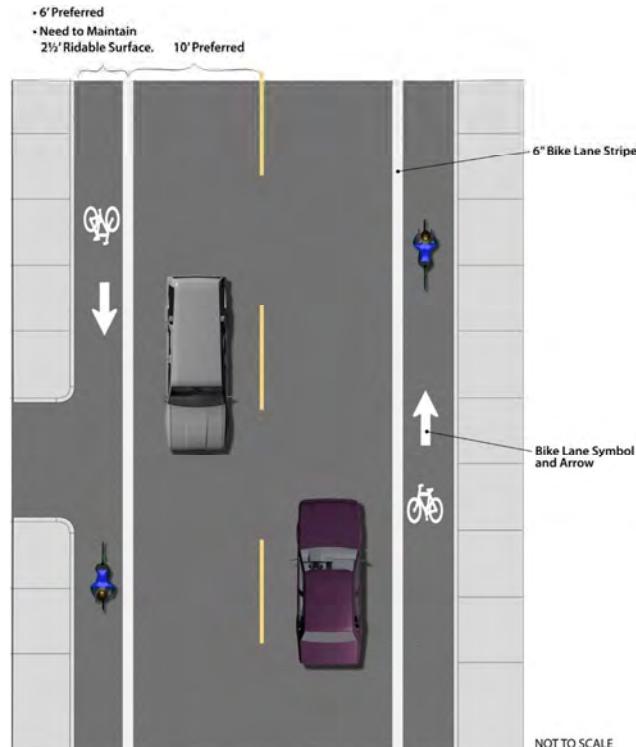
Key Considerations:

- If no gutterpan is present, bicycle lanes should be a minimum of 4 feet wide.
- With a gutterpan, bicycle lanes should be a minimum of 5 feet, preferred 6 feet.
- Bicycle lanes adjacent to the curb should provide adequate width for bicyclists to avoid obstructions (i.e., drainage grates, sewer covers, etc.). A continuous clear riding zone of 2.5' (minimum) is recommended.
- Consider providing "No Parking: Bike Lane" signs (R7-9) and painting curb red to reduce likelihood of parking in the bicycle lane.
- Bicycle lane stencils and arrows should be marked at the start of every block, then as needed but not less than every 500 feet. Additional stencils and arrows may be placed for wayfinding.
- Bicycle lane signs (R81 CA) may be provided along the edge of the travel way to reinforce presence of the bicycle lane.
- BICYCLISTS WRONG WAY (R-51b) signs may be used on the back of bicycle lane signs or on separate posts to discourage wrong way riding.
- Treatment may be combined with other supplemental treatments such as colorized pavement, conflict zone and/or intersection enhancements described in Bicycle Lanes at Intersections.

- See Bicycle Lanes at Intersections Section for guidance on striping bicycle lanes at intersections and turn lane treatment options.

Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities



BICYCLE DESIGN GUIDELINES



CLIMBING LANES

In most cases, bicycle lanes should be provided on both sides of a two-way street; however, in cases where roadways have steep grades and limited right-of-way, a bicycle lane in the uphill direction and shared lane markings (sharrows) in the downhill direction would be considered acceptable (AASHTO, 2012). This facilitates slower bicycle travel speeds in the uphill direction.

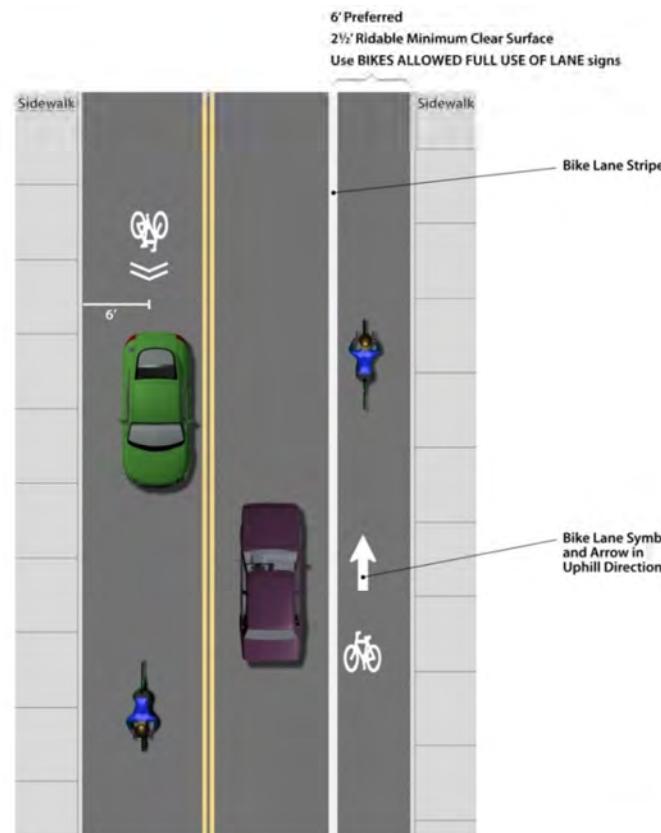
Key Considerations:

- On narrower roadways, shared lane markings may be placed in the center of the lane to discourage vehicles from passing cyclists
- BIKES ALLOWED FULL USE OF LANE (MUTCD R4-11) signage may be appropriate on downhill segments to supplement shared lane markings.
- Treatment is most appropriate on streets with posted speed limits of 25 mph or lower.
- Bicycle lane stencils and arrows should be marked at the start of every block, then as needed but not less than every 500 feet. Additional stencils and arrows may be placed for wayfinding or where motorist compliance is expected to be low
- Bicycle lane signs (R81 CA) may be provided along the edge of the travelway to reinforce presence of the bicycle lane.

- BICYCLISTS WRONG WAY (R-51b) signs may be used on the back of bicycle lane signs or on separate posts to discourage wrong way riding.

Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities



CLASS IIB BUFFERED BICYCLE LANES

Some cyclists are comfortable riding next to vehicle traffic; however, the close proximity to automobiles may discourage new riders from bicycling, especially on high volume or high speed roadways. Thus, many cities have addressed this barrier by using a painted buffer zone that provides additional separation between automobiles and bicyclists in order to increase cyclists comfort levels. Buffers may be provided on either/both the travel lane and on-street parking side of the bike lane. Where space constraints do not allow for buffers on both sides, care should be taken to assess the risk of speed differentials between vehicles and bicyclists and parking turnover and door-zone risks to determine which side of the bike lane receives the buffer treatment.

Buffered bike lanes are considered "allowable" treatments within current bike design standards outlined in the California *Manual on Uniform Traffic Control Devices*. The guidance for appropriate striping of these facilities, however, has been limited and is somewhat implicit within transportation design standards. Recommended practices for striping buffered bike lanes are provided in some guidance documents, including the NACTO *Urban Bikeway Design Guide*, as well as several other international bike design guides. Potential conflicts between vehicle codes and striping standards has led some agencies to hesitate in applying buffered bike lane treatments. The California MUTCD describes the appropriate striping for buffer treatments in Chapter 3D on preferential lane markings. This section outlines what striping patterns should be used to allow and prohibit vehicles from crossing a buffer. The

California MUTCD differs from the federal MUTCD in its interpretation of this section (Figure 3A-113(CA), Detail 44 and Figure 3D-2), where in California:

- A single dotted white lane line = Permitted crossing
- Solid parallel white lane lines = Prohibited crossing
- Solid double parallel white lane lines = Prohibited crossing

Buffer zones are typically striped with solid parallel white lane lines, with an option to add diagonal or chevron markings within the buffer area. The following page depicts recommended striping and dimensions for buffered bike lanes. Since crossing the buffer zone with such striping is technically prohibited in California, one of two striping patterns may be used to allow vehicles to cross the buffer zone to turn or to access on-street parking:

- One of the two buffer lane lines may be dotted
- The buffer may be consolidated to a single lane line

Buffered Lanes and Turn Lanes: The California Vehicle Code (CVC) addresses requirements for turning across *double* parallel white lane lines (section 21460). This has been a point of confusion for bicyclists and drivers who interpret this provision as a restriction of their ability to cross the buffer zone to make a turn or park. However, buffer treatments are generally striped with parallel white lines (two lines), as opposed to *double* parallel white lines (four lines). More details about conventional and buffered bike lanes and turn lanes are included in the Intersection section below, which includes an illustration of buffered bike lanes at right turn lanes.

BICYCLE DESIGN GUIDELINES



Example buffered bike lane with chevron-style buffer zone, which breaks at intersections to denote vehicle crossing locations. Image source: NACTO. Austin, TX.



Example striping that complies with California guidance to dash buffer to indicate crossing the buffer is allowed for turning or parking maneuvers. Image source: Fehr & Peers. San Jose, California (2012).



BICYCLE DESIGN GUIDELINES

BUFFERED BICYCLE LANES

Key Considerations:

- Buffer should be a minimum of 18 inches; preferred width of 3 to 4 feet.
- Buffer placement may be on either or both vehicle travel lane or on-street parking side. Where space constraints do not allow for buffers on both sides, care should be taken to assess the risk of speed differentials between vehicles and bicyclists and parking turnover and door-zone risks to determine which side of the bike lane receives the buffer treatment.
- Inside buffer lane line should be dashed where vehicle cross-traffic (turn maneuvers or on-street parking) is expected.
- Diagonal cross-hatching or chevron markings should be used where the buffer zone is 2 feet or wider.
- Where the buffer space is wider than 4 feet and through traffic is allowed on both sides of the buffer, it is recommended that chevron markings (with the point of the "v" facing oncoming traffic) be used to discourage drivers from traveling in the buffer space and remind them that travel is permitted on both sides of the buffer space.
- Bicycle lane stencils and arrows should be marked at the start of every block, then as needed but not less than every 500 feet. Additional stencils and arrows may be placed for wayfinding.
- Bicycle lane signs (R81 CA) may be provided along the edge of the travelway to reinforce presence of the bicycle lane.

- BICYCLISTS WRONG WAY (R-51b) signs may be used on the back of bicycle lane signs or on separate posts to discourage wrong way riding.

Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities

BICYCLE LANES AT INTERSECTIONS

Nationally, the majority of collisions between motorists and bicyclists occur at intersections. While design guidance for bicycle lanes acknowledges that intersections are often constrained by the desire for additional turn lanes for autos and allows engineers to drop bicycle lanes at intersections, this practice is not recommended. There are several engineering treatments to significantly reduce conflicts at intersections, as summarized on the following pages.

BICYCLE DESIGN GUIDELINES



BICYCLE LANES AT INTERSECTION APPROACHES

Bicycle lane pockets between right-turn lanes and through lanes should be provided where available lane width allows.

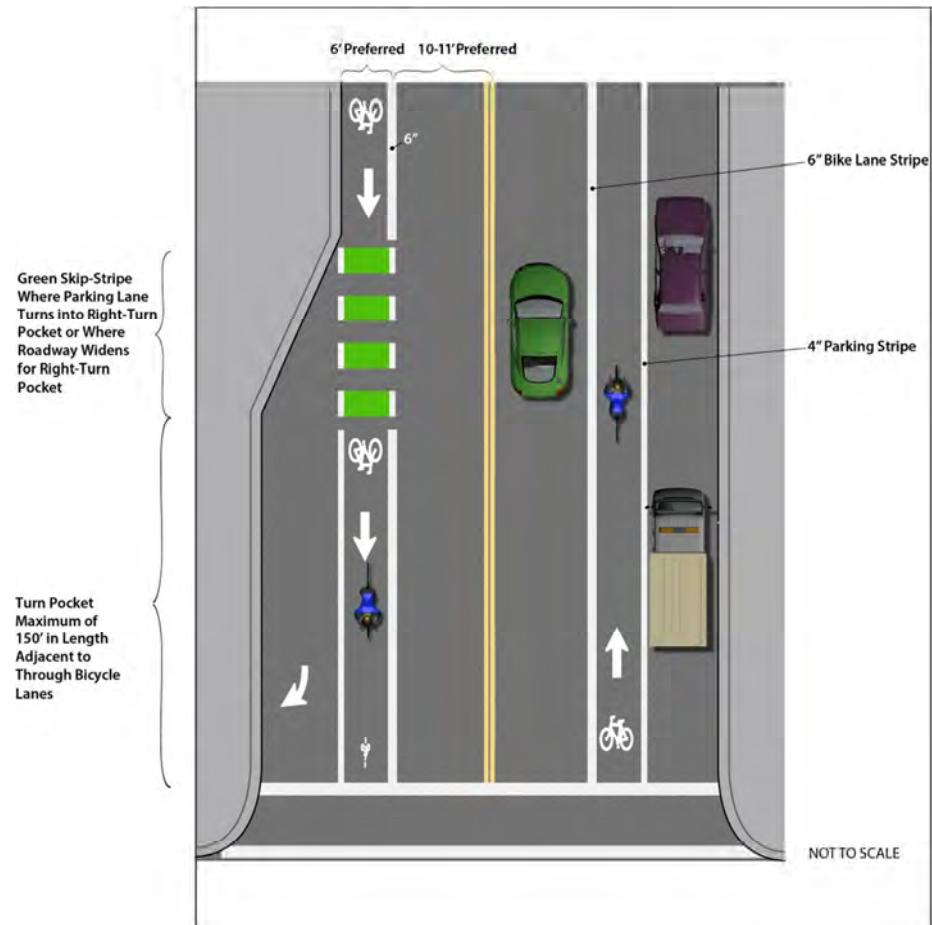
Key Considerations:

- Bicycle lane pockets should be provided to the left of right-turn only lanes.
- If a shared through/right-turn vehicle lane is provided, no bicycle lane pocket should be marked. If vehicle volumes require striping of a through/right-turn lane, consider use of shared lane markings to denote preferred path of bicycle travel.
- The maximum recommended turn pocket length for right-turn lanes adjacent to bicycle lanes is 150' to avoid excessively long turn pockets, which leave bicyclists exposed, riding between two lanes of traffic.
- Treatment may be combined with other supplemental treatments such as colorized pavement, conflict zone and/or intersection enhancements described in Bicycle Lanes at Intersections.
- Bicycle detection should be provided per CA MUTCD.

Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities

- NACTO Urban Bikeway Guide
- NACTO Design Urban Bikeway Design Guide:



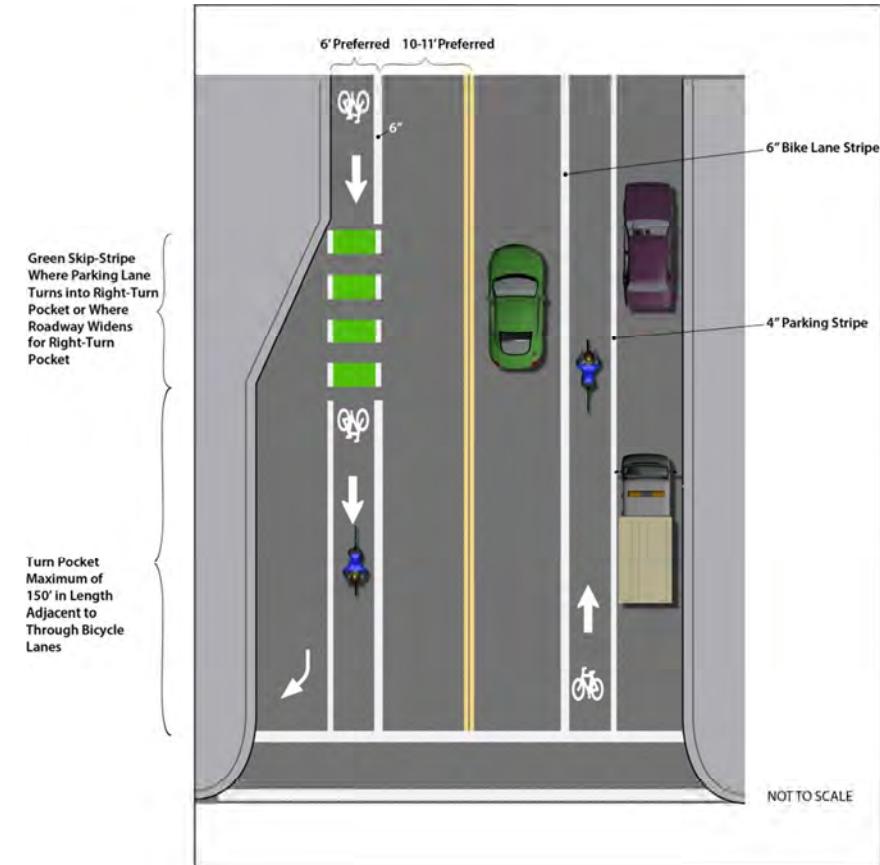
BICYCLE DESIGN GUIDELINES

BUFFERED BICYCLE LANES AT INTERSECTION APPROACHES

Bicycle lane pockets between right-turn lanes and through lanes should be provided where available lane width allows.

Key Considerations:

- Bicycle lane pockets should be provided to the left of right-turn only lanes.
- If a shared through/right-turn vehicle lane is provided, no bicycle lane pocket should be marked. If vehicle volumes require striping of a through/right-turn lane, consider use of shared lane markings to denote preferred path of bicycle travel.
- Generally, the maximum recommended bicycle lane length adjacent to auto turn lanes is 150' to avoid excessively long distances in which bicyclists are exposed and riding between two lanes of traffic.
- Treatment may be combined with other supplemental treatments such as colorized pavement, conflict zone and/or intersection enhancements described in Bicycle Lanes at Intersections.
- Bicycle detection should be provided per the CA MUTCD.



Resources:

- California Highway Design Manual
- AASHTO Guide for the Design of Bicycle Facilities

BICYCLE DESIGN GUIDELINES



COLORED BICYCLE LANES

Colored bicycle lanes can be used in high-conflict areas to alert motorists to the presence of bicyclists and bicycle lanes. Dublin has installed continuous green bicycle lanes on Golden Gate Drive in Downtown Dublin. Other cities including San Francisco, Portland, and New York City have successfully experimented with colored bicycle lanes at highway interchanges and locations where drivers have otherwise encroached on bicycle lanes.

Key Considerations

- Green can consist of colored paint or thermoplastic
- FHWA Interim Approval outlines specifications for green pigment
- Use of continuous green colored bicycle lanes, conflict zones, and striping through intersections has interim approval under at the federal and state levels, with green as the preferred color. More information is available on the federal MUTCD website: http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/index.htm
- Use of green colored pavement outside of bicycle lanes and conflict zones is not currently allowed under the interim approval and is considered experimental; though some cities, such as San Francisco, have used green pavement to provide wayfinding at intersections and to indicate the preferred path of travel, often with shared lane markings, as shown at bottom right.

Resources:

- FHWA Interim Approval for Green Pavement: http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/index.htm
- FHWA Bicycle Facilities Currently Approved and Under Experiment: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/mutcd_bike.cfm



BICYCLE DESIGN GUIDELINES



BICYCLE DESIGN GUIDELINES



SKIP-STRIPING THROUGH INTERSECTIONS AND CONFLICT ZONES

This “skip-striping” directs cyclists to the bicycle lane and increases the visibility of cyclists to motorists traveling through the intersection. To identify that the markings are for bicyclists, the City of Dublin may consider striping chevrons or sharrows through the intersection as well.

Key Considerations

- Use at intersections with moderate to high bicycle volumes or where bicyclists may need to reposition themselves to continue in the bicycle lane
- Use across right-turn pockets, where on-street parking is provided prior to the intersection or where the intersection widens to accommodate a right-turn pocket
- Use to delineate bicycle-bus conflict zone through bus stop areas
- Recommend use of green pavement with skip-striping in Dublin
- Generally do not use across right-turn only lanes, as indicated at right
- Use 4 foot skip-strip with 8 foot space for green skip-striping
- Include BEGIN RIGHT-TURN LANE YIELD TO BIKES sign (R4-4) and RIGHT LANE MUST TURN RIGHT (R3-7R) with skip-striping at right-turn pockets
- Skip-striping should begin a minimum of 50 feet before the intersection. On high volume roadways, dotted lines are recommended 100 feet before the intersection

Resources:

- FHWA Interim Approval for Green Pavement:
http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/index.htm
- FHWA Bicycle Facilities Currently Approved and Under Experiment:
http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/mutcd_bike.cfm



TREATMENTS AT HIGHWAY INTERCHANGES

Bicycling and walking routes at highway interchanges require special treatment to ensure the safety and comfort for all road users. Fast moving traffic, highway on and off-ramps and wide travel lanes make interchanges difficult areas for bicyclists and pedestrians to navigate.

Key Considerations

- Travel lanes should be reduced from 12 feet or more to 10 or 11 feet to slow motor vehicle speeds and provide additional space for bicycle lanes and sidewalks.
- Class II A or B bicycle lanes should be striped continuously across overpasses and underpasses wherever feasible
- Minimize distances in which bicyclists are required to travel between two moving traffic lanes
- Use skip stripes to delineate bicycle path travel through conflict zones
- Consider colored bicycle lanes in conflict areas
- Avoid high-speed, uncontrolled movements. A tight diamond configuration with square off and on-ramps to encourage slower motor vehicle speeds and is recommended
- Avoid multiple right-turn lanes on cross-street. Dedicated right turn lanes create a conflict for cyclists traveling through an intersection that must cross the right turn lane to continue to ride straight. Where possible, retain single right-turn lanes, even

if greater than 200 feet. Where possible, avoid right-turn lanes greater than 200 feet.

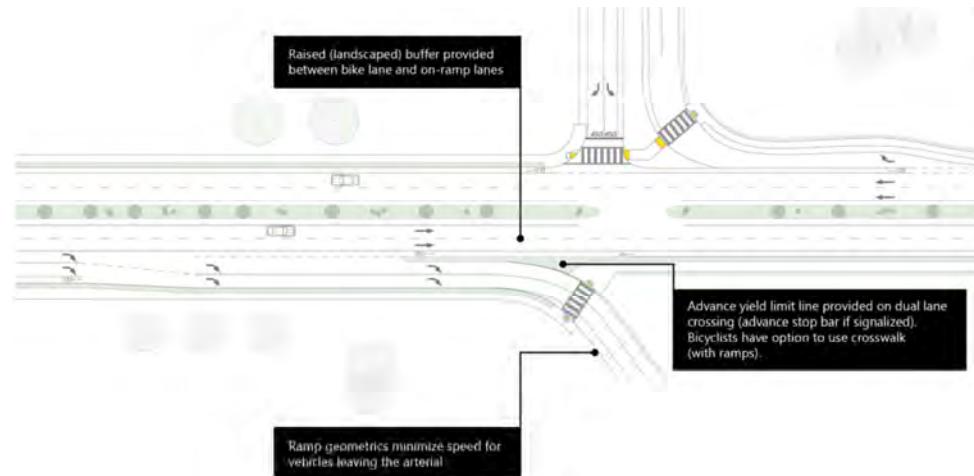
Resources:

ITE has developed best practices guidelines for bicycle treatments at interchanges, as outlined in the draft publication *A Recommended Practice for Accommodating Bicycles and Pedestrians at Interchanges*. Each type of interchange design calls for unique design details. Two examples are illustrated here:

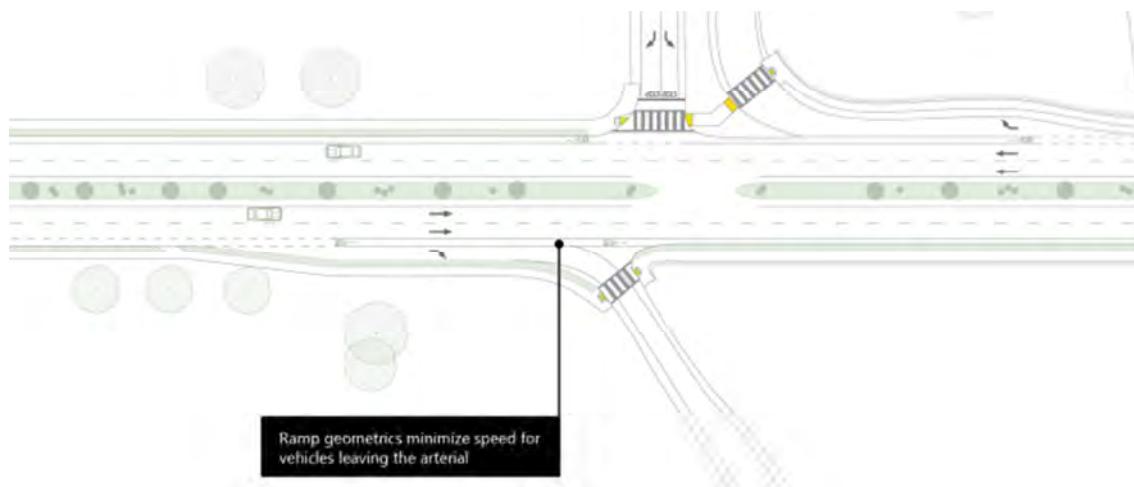
BICYCLE DESIGN GUIDELINES



Bike lane at a long dual right lane on-ramp



Bike lane at a short single right lane on-ramp.



BICYCLE DETECTION

As new signals are installed or major updates occur to existing signalized locations, bicycle detection is required to be installed on the bikeway system for all actuated movements of the signal. Bicycle detection may be provided by the following methods:

- Loop detectors
- Bicycle push buttons
- Video
- Infrared

Key Considerations

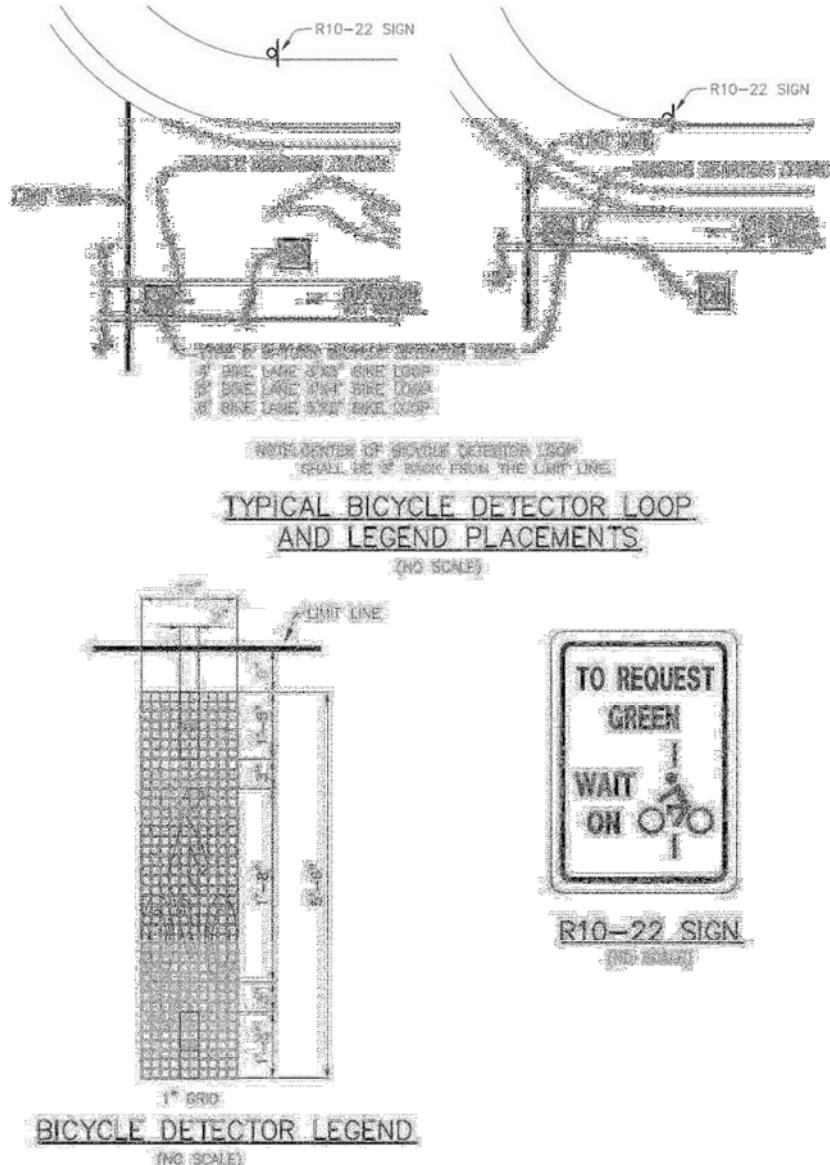
Decisions regarding type of passive detection to use should be coordinated with upgrading of auto detection on a citywide basis. If the City installs newer technologies such as video and infrared detection for automobiles, these should be calibrated to detect bicyclists as well. These technologies may have higher startup costs but may be more cost effective over time with reduced maintenance costs.

LOOP DETECTORS

Where loop detectors are installed, they should be located in the approach bicycle lane 100 feet in advance of the intersection as well as at the intersection itself. The upstream loop should not be used when it would be triggered by right-turning vehicles. When the upstream loop is triggered, the green time should be extended for the cyclist to reach the loop at the stop bar, at which point the signal should allow the cyclist to

clear the intersection. The time that a bicyclist needs to cross an intersection is longer than the time needed for a motorist, but shorter than the time needed for pedestrians. In general, while the normal yellow interval is usually adequate for bikes, an adjustment to the minimum green should be considered, particularly for bicyclists entering from side streets. Sections 4.12.4 and 4.12.5 of the *AASHTO Guide for the Development of Bicycle Facilities* and Section 4D.105 (CA) of the California MUTCD include detailed equations for bicycle signal timing and clearance intervals.

BICYCLE DESIGN GUIDELINES



PUSHBUTTONS

Pushbuttons are appropriate when other methods of detection are not feasible, particularly at narrow tunnels or where multi-use paths cross signalized intersections.

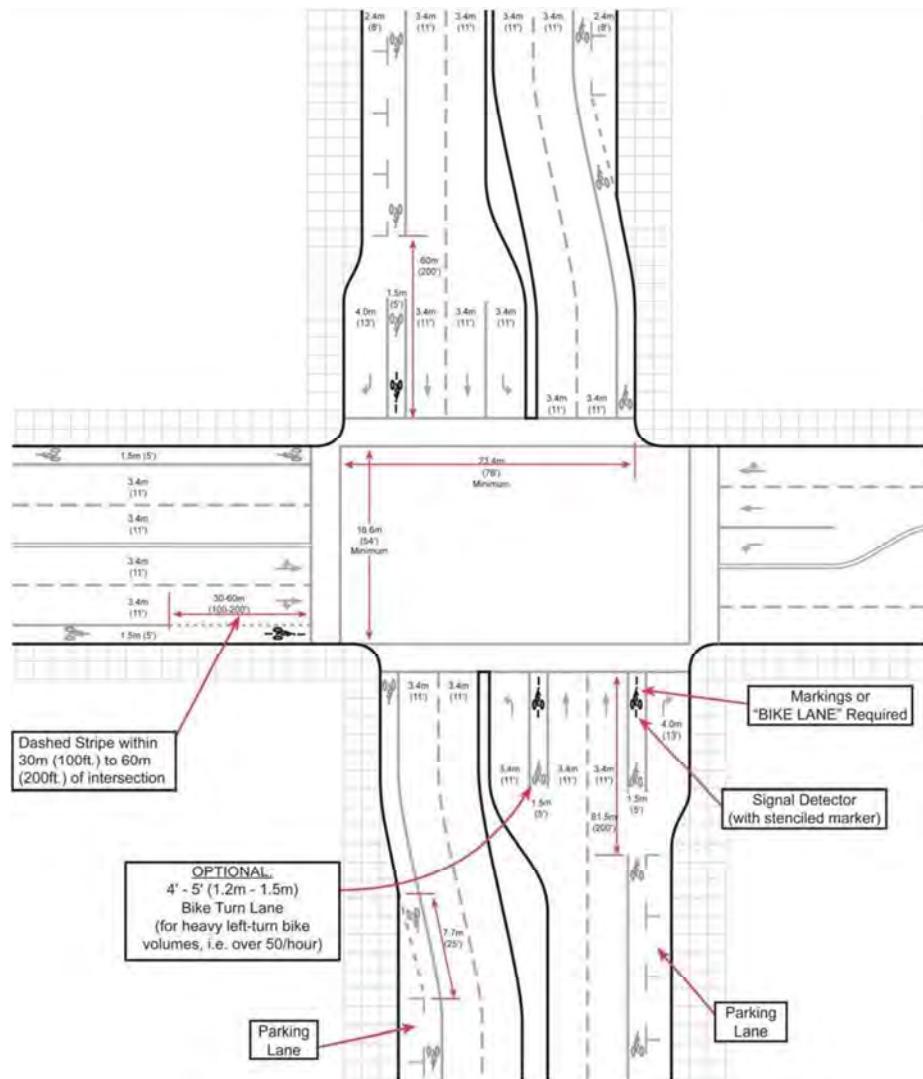
A bicycle pushbutton/pad/bar is similar to those used

for pedestrians, but installed in a location most convenient for bicycles and actuates a signal timing most appropriate for bicyclists. The sign plate located above the pushbutton/pad/bar indicates that it is for use by bicyclists. The larger the surface of the button, the easier it is for cyclists to use, thus a push pad is preferential to a pushbutton, and a push bar is preferential to a push pad, as it can be actuated without removing one's hands from the handlebars. Advantages of the pushbutton are that it is typically less expensive than other means of detection, and it allows for different signal timing for different user needs. The disadvantages of the pushbutton are that the location of the pushbutton usually does not allow the cyclist to prepare for through or left-turning movements at the intersection, and that it forces the bicyclist to stop completely in order to actuate the signal.



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Figure 3. Placement of In-Pavement Bicycle Detectors at Intersections



BICYCLE DESIGN GUIDELINES



CLASS IIIA BICYCLE ROUTES WITH SHARROWS

Class III bicycle routes are intended to provide continuity throughout a bikeway network and are primarily identified with signage. Bicycle routes are shared facilities with motorists on roadways. Bicycle routes can be used to connect discontinuous segments of a Class I or Class II bikeway, typically on low volume roadways or where right-of-way constraints do not allow for dedicated bikeways and speed differentials between bicycle and motor vehicle traffic are low. Minimum widths for bicycle routes are not presented in the Highway Design Manual, as the acceptable width is dependent on many factors. **Table 29** presents recommended average daily traffic (ADT) and speed thresholds for bicycle routes.

In the Dublin Bicycle and Pedestrian Plan, California HDM Class III Bicycle Routes are designated Class IIIA Bicycle Routes with Shared Lane Markings (sharrows), as the minimum standard for bicycle routes in Dublin includes the use of sharrow markings and "BIKES MAY USE FULL LANE" signage, which are described below.

TABLE 25: RECOMMENDED GUIDELINES FOR CLASS IIIA FACILITIES

Curb Lane Width (in feet)	Average Daily Traffic (ADT)	Travel Speed
12' arterial; 11' collector, no minimum on local streets	Under 5,000 vehicles	Under 25 mph
14'	5,000 – 20,000	23-35 mph
15'	Over 20,000	Over 35 mph (Class III facilities are permitted but not recommended on streets with travel speeds over 35 mph)

Source: Fehr & Peers, 2013.

SHARED LANE MARKINGS

Shared lane markings (sharrows) are pavement markings that indicate a shared lane for bicycles and vehicles, and recommend appropriate positioning for bicyclists away from the "door zone" of parked cars. Sharrows reinforce the potential presence of bicycles within the travel lane, and indicate to all users that bicyclists are allowed to ride in the center of the lane where there is not adequate space to allow for safe side-by-side travel of both vehicles and bicycles. Sharrows are typically used to enhance Class III bicycle routes.

Sharrows are especially useful on traffic calmed streets where the bicycle-vehicle speed differential is low, on streets with insufficient space to

BICYCLE DESIGN GUIDELINES

accommodate a separate bike lane, where a gap may be filled in an existing network, and to designate safe positioning through an intersection. Sharrows may be used to direct through-traveling bicyclists to the outside of turning lanes, and to appropriately position bicyclists in the middle of a travel lane adjacent to front-in angled parking, where a traditional bike lane does not allow for safe visibility. Another potential application for sharrows is in high-conflict zones.

Sharrows are approved by the Federal and California State guidance and are widely used. As they are still a relatively new bicycle treatment type, applications will likely change over time. Sharrows should not be used as a substitute for other separated bicycle facilities when warranted by on-road conditions and lane width. Sharrow pavement markings provide a reduced level of comfort compared to separated bicycle facilities, and are usually not appropriate on roads with speeds above 35 mph, though it is allowed under the CA MUTCD.

BMUFL SIGNAGE



"BICYCLES MAY USE FULL LANE" sign (R4-11) may be used in addition to the Share the Road Markings to inform road users that bicyclists might occupy the travel lane. These signs are included in the MUTCD, and they should be used included on Class IIIA facilities.



Typical Sharrow placement
 Source: Ohio State University

SHARE THE ROAD SIGNAGE



A "Share the Road" sign assembly (W11-1 + W16-1P) is intended to alert motorists that bicyclists may be encountered and that they should be mindful and respectful of them. However, the sign is not a substitute for appropriate geometric design measures that are needed to accommodate bicyclists. The sign should not be used to address reported operational issues, as the addition of this

BICYCLE DESIGN GUIDELINES



warning sign will not significantly improve bicycling conditions. The sign may be useful under certain limited conditions, such as at the end of a bicycle lane, or where a shared use path ends and bicyclists must share a lane with traffic. The sign may also be useful during construction operations, when bicyclists may need to share a narrower space than usual on a travel way. This sign should not be used to indicate a bicycle route. A fluorescent yellow-green background can be used for this sign.

CLASS IIIA BICYCLE ROUTES WITH SHARROWS

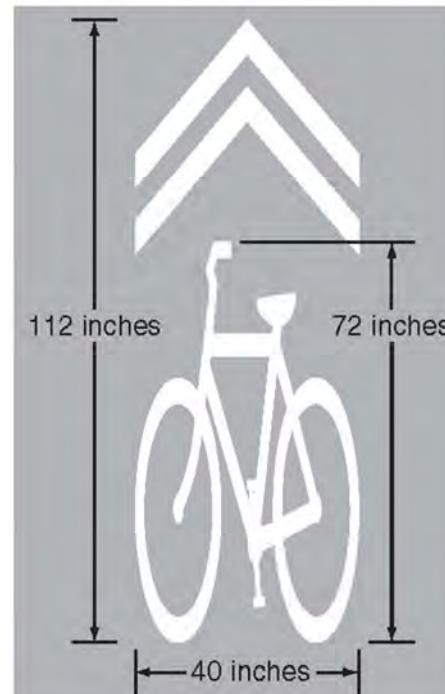
Class IIIA Bicycle Routes with Sharrows are signed bicycle routes with sharrow markings centered on the travel lane.

Key Considerations

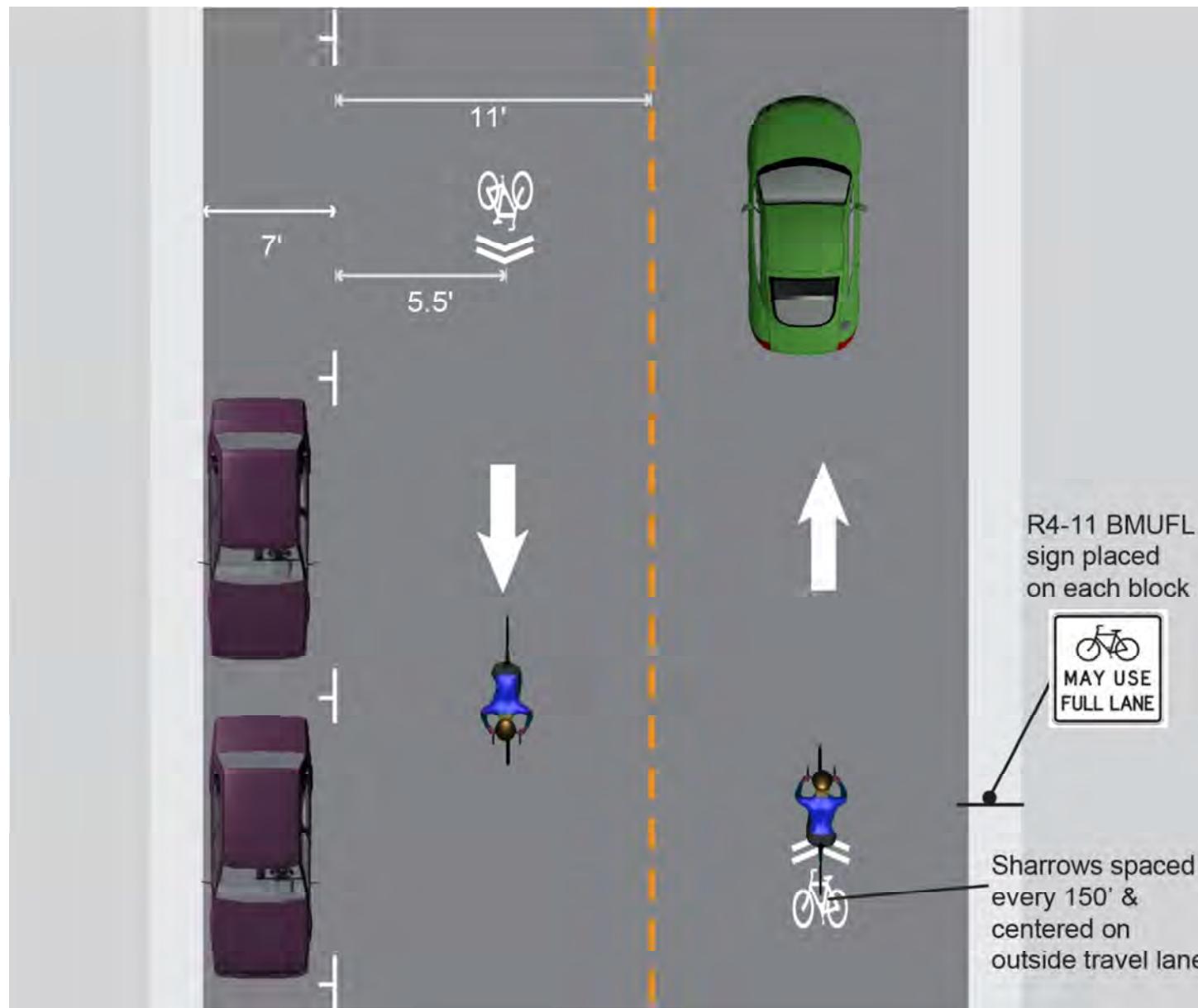
- Stripe sharrows on the center of the travel lane to promote single-file travel and reduce wear of the marking under vehicles' tires
- MUTCD guidance requires sharrow placement at a minimum distance of 11 feet from the curb in lanes adjacent to parallel parking, and four feet from the curb in lanes on streets with no on-street parking.
- Place sharrows immediately after the intersection and not greater than every 250 feet, with spacing of 150 feet recommended
- BICYCLES MAY USE FULL LANE sign (R4-11) should be used on all Class IIIA Bicycle Routes, with a minimum of 2 signs per block, including one sign located immediately after the intersection

Resources:

- NACTO Urban Bikeway Guide: <http://nacto.org/cities-for-cycling/design-guide/bikeway-signing-marking/shared-lane-markings/>



BICYCLE DESIGN GUIDELINES



WAYFINDING AND DESTINATION SIGNAGE

The 20102 CA MUTCD includes guidelines for wayfinding signage. These signs provide flexibility and may reduce costs for signing bicycle routes in urban areas where multiple routes intersect or overlap. The City of Oakland and West Contra Costa Transportation Advisory Committee (WCCTAC) wayfinding program provide examples of wayfinding signage that can be deployed at citywide scale or for particular kinds of uses, such as in downtown districts or adjacent to transit.

Key Considerations:

- Identify key destinations that require wayfinding, including regional trails, Downtown Dublin, and Dublin/Pleasanton BART Stations, and community destinations
- Conduct a study to determine the location of key "decision-points", where signs would need to be placed to give bicyclists and pedestrian advance warning of the route
- Include time estimates for walking and biking, respectively, to each destination
- Follow best practice guidance, such as the WCCTAC Transit Wayfinding Plan, to determine the type of sign to use for land use context and mode (bicyclist or pedestrian)

Resources:

[City of Oakland](#) In July 2009, the City of Oakland adopted a new system for bicycle wayfinding signage based on these new MUTCD sign standards, with the addition of the City of Oakland logo (see image, right).

The green sign system includes three sign types:

- **Confirmation Signs:** Confirm that a cyclist is on a designated bikeway. Confirmation signs are located mid-block or on the far side of intersections, and include destinations and distances
- **Turn Signs:** Indicate where a bikeway turns from one street on to another street. Turn signs are located on the near side of intersections, and include directional arrows.
- **Decision Signs:** Mark the junction of two or more bikeways. Decision signs are located on the near-side of intersections, and include destinations and directional arrows.

Destination symbols, such as to Dublin/Pleasanton BART Stations, regional trail access, Downtown Dublin, and community destinations may be used.

More information available at:

<http://www.oaklandpw.com/AssetFactory.aspx?did=3528>

BICYCLE DESIGN GUIDELINES



Source: *City of Oakland Design Guidelines for Bicycling Wayfinding Signage, July, 2009*

BICYCLE DESIGN GUIDELINES

WCCTAC: The WCCTAC Transit Wayfinding Plan provides consistent route and distance information for transit users, pedestrians and bicyclists. This plan identifies preferred routes, locations and content for signage, and provides preferred sign design options. Signs are available for different land uses contexts and differentiate between the needs of bicyclist and pedestrians.

More information is available at:

<http://www.wcaccessstransit.com/wayfinding/>



10 feet: max. height for message at this scale (ADA)

Concept: Transit destination highlighted in contrasting color (black shown)

7 feet: min. height for clearance (ADA)



4 ft-5 ft: sign base height (MUTCD)

3 feet: recommended base height

B1
Bike/Ped Wayfinding
Off-Street Path

B2
Bicycle Wayfinding
Bicycle Boulevards

B3
Bicycle Wayfinding
On-Street Routes

BICYCLE DESIGN GUIDELINES



BICYCLE PARKING

Secure and convenient bicycle parking is an essential element of a bicycle trip, and critical in the effort to increase bicycle activity. Bicycle parking can be categorized as either short- or long-term, and the different purpose and design of short- and long-term bicycle parking must be considered:

- **Short-Term Parking** is intended for less than two hours and should be conveniently located at destinations. They are typically bike racks, and should allow the bike frame and one wheel to be securely locked to the rack in a stable position without damage to the bicycle. Short-term parking should be free, as security is minimal, and use of proper bicycle parking facilities should be encouraged. Inverted U-racks meet these criteria and are recommended.
- **Long-Term Parking** is meant to accommodate users expected to park bikes for several hours, and should therefore be secure and weather protected. Long-term bicycle parking facilities should protect the entire bicycle and components from theft and exposure to weather. Lockers, check-in facilities, monitored parking, restricted access parking, and personal storage are appropriate for long-term parking. Long-term parking is considerably more secure than short-term parking, and many users may be willing to pay a nominal fee to guarantee the safe storage of their bicycles. However, long-term parking should be free in places where vehicle parking is free.

Parking should be highly visible, accessible and easy to use. Facilities should be located in well-lit areas and covered where possible. Installation is equally important; for example a rack that is too close to a wall or other obstruction will not be effectively utilized. See the figures on the following pages for design specifications.

The existing bicycle parking ordinance is discussed in **Chapter 5 Recommended Networks**. The purpose of this section is to provide corresponding design guidance on the selection and siting of bicycle parking. Three categories of bicycle parking are discussed in this section:

- In-street/Sidewalk Parking
- Lockers
- Enclosed Facilities

Table 26 provides a summary of these categories including typical types of bicycle parking and how they should be used.

For more information about the design and siting of bicycle parking, consult the Association of Pedestrian and Bicycle Professionals (APBP's) Bicycle Parking Guidelines, 2nd edition for national best practices for bicycle parking guidance. See their website, <http://www.apbp.org/?page=Publications> for additional information.

BICYCLE DESIGN GUIDELINES

TABLE 26: BICYCLE PARKING FACILITIES

Type	Where	Why
In-street/Sidewalk Parking (Short-Term)		
<ul style="list-style-type: none"> • Inverted U-Rack • In-Street Bicycle Corral • Covered Bicycle Parking Facilities • Surface Parking Lot Conversion 	Appropriate in areas with pedestrian activity and commercial areas. In-street facilities are ideal for areas with constrained sidewalk space.	Ideal for short-term parking needs (2-3 hours)
Lockers (Long-Term)		
<ul style="list-style-type: none"> • Key Lockers • Electronic Lockers 	Appropriate for areas with low street activity or isolated areas.	Provides a high level of security, useful for long-term parking needs (>3 hours)
Enclosed Facilities (Long-Term)		
<ul style="list-style-type: none"> • Bicycle Cage • Bicycle Room • Bicycle Station 	Ideal for major transit hubs and areas with high bike volumes. Enclosed facilities can also be located in residential, commercial or employment centers with indoor space.	Provides the highest level of security, particularly when parking is attended. Ideal for long-term and over-night parking needs.



Inverted U-Racks are the most typical form of short-term bicycle parking.

Photo: Dan Burden

BICYCLE DESIGN GUIDELINES



IN-STREET/SIDEWALK PARKING

This section describes several types of typical short-term, in-street and sidewalk parking techniques.

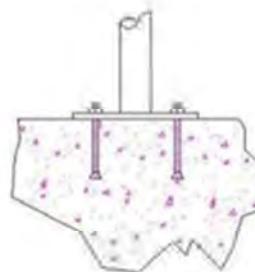
Key Considerations:

- Bicyclists need to be able to lock both their frame and wheels to the rack
- Racks should be in a highly visible location secured to the ground, preferably within 50 feet of a main entrance to a building or facility
- Whenever possible, the racks should be visible from the doorways and/or windows of buildings, and not in an out of the way location, such as an alley
- Care should be taken to not site the rack too close to a wall or fence, orient the rack the wrong way, or impede pedestrians
- To accommodate a range of bicycle styles and sizes, racks must be installed to allow sufficient space between bicycles and between racks, as indicated at right
- Where multiple racks are installed adjacent to each other, racks must be spaced to allow sufficient space for bicyclists and their bicycles to move about between racks, typically four-feet apart where aisles are provided
- Install racks with surface mount (rather than cast-in place) in concrete (rather than asphalt) wherever possible. Anti-tampering bolts and other hardware should be used. If an asphalt substrate

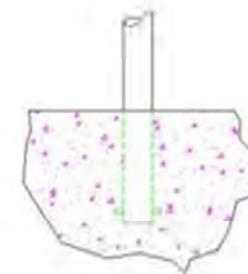
is all that is available, concrete footings should be poured.

Multiple loop racks on flanges may be installed in asphalt, which can be useful for in-street bike corrals. For a more secure rack installation, perpendicular bars could be installed under the surface to prevent the rack from being pulled directly from the concrete.

- Consult the diagrams that follow for guidance on siting and spacing of short-term racks



Surface mount bicycle rack installation



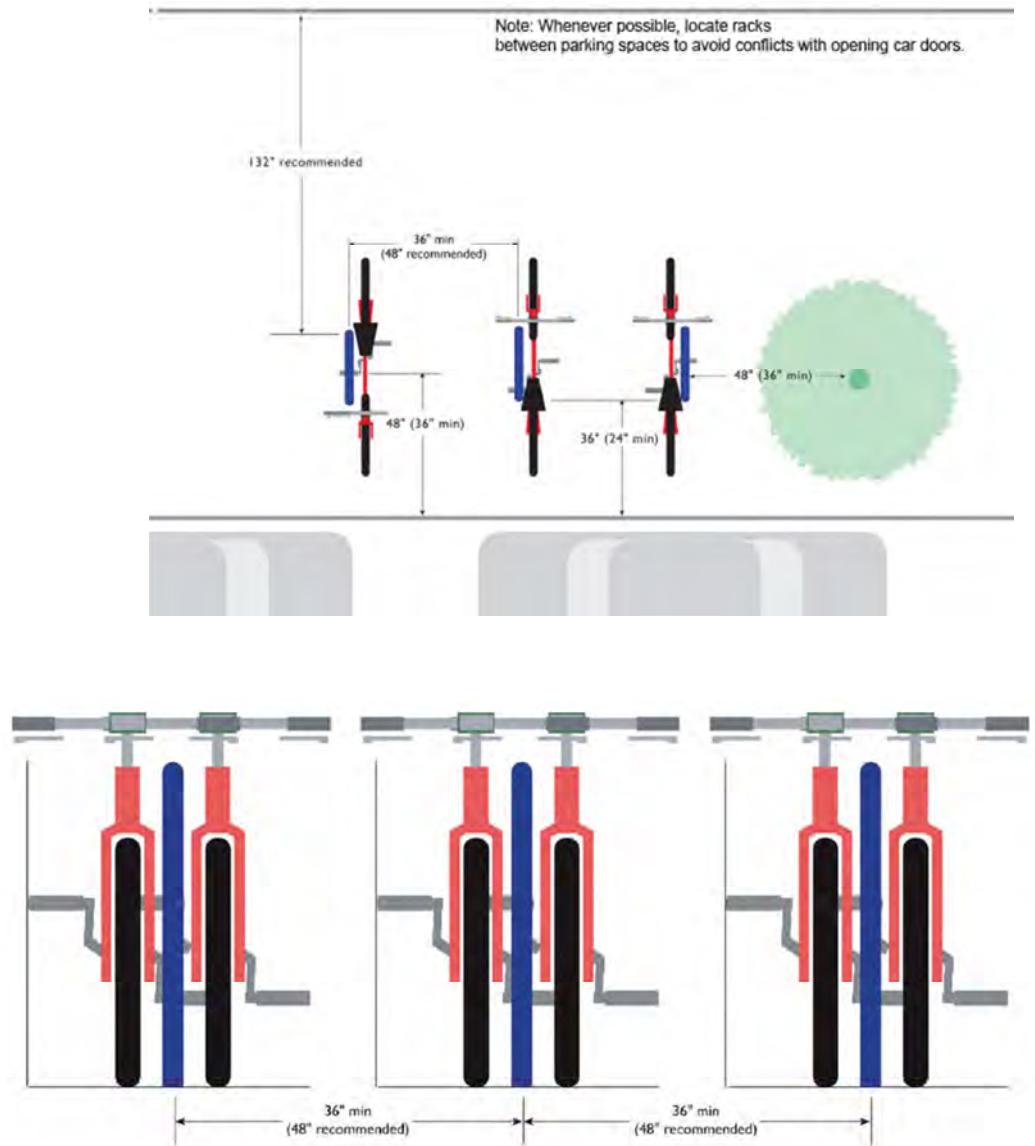
Embedded bicycle rack installation, also known as "cast-in-place"

(courtesy of Creative Metalworks)

BICYCLE DESIGN GUIDELINES



Bike racks must be placed so that both sides are accessible for use; this photo illustrates poor rack placement.



BICYCLE DESIGN GUIDELINES



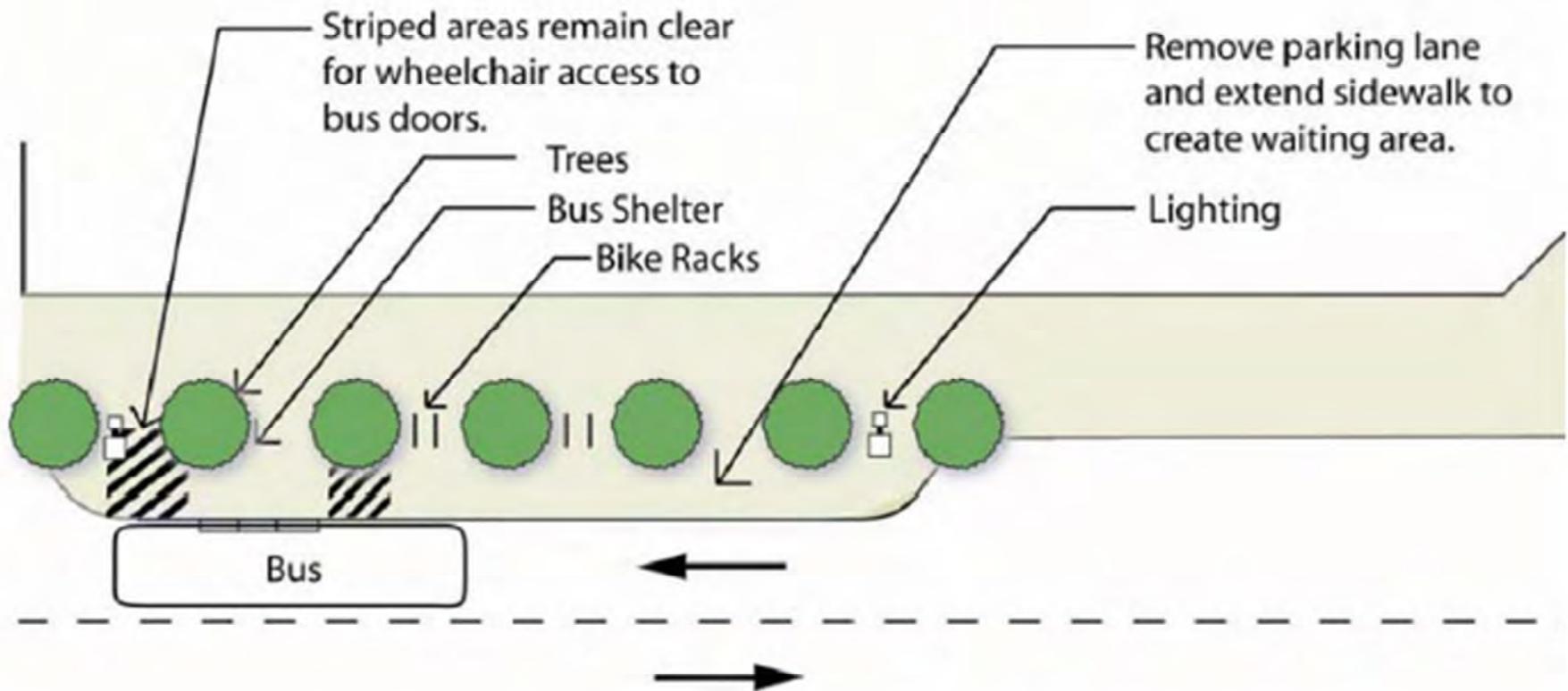
Additional Considerations:

- Consider consolidating bicycle racks and providing a sheltered structure, also referred to as a "bicycle oasis" (shown at right). The cover should be at least seven feet above the ground. Existing covers such as overhangs or awnings are a low cost way of incorporating covered parking.
- At bus stops, bike racks should be placed outside of the bus pad area, adjacent to the front and back door of the bus to allow for increased pedestrian circulation at the bus stop and ADA access Surface Parking Space Conversion
- Look for opportunities to convert auto parking spaces near key destinations to short term or long-term bicycle parking. Six racks can fit into the space occupied by one car. Bike cages can also be used in parking lots and provide security access through electric pass key systems.



A Bicycle Oasis (left) provides multiple bicycle racks underneath a sheltered awning. This protects bikes from the elements.

BICYCLE DESIGN GUIDELINES



Bicycle rack siting recommendations (below) from APBP Bicycle Parking Guide, 2nd Edition

BICYCLE DESIGN GUIDELINES



BICYCLE LOCKERS

Bicycle Lockers are long-term covered storage units that can be locked individually, providing secure parking for one bicycle. Bicycle cages are secure areas with limited-access doors. Occasionally, they are attended. Each of these means is designed to provide bicyclists with a high level of security so that they feel comfortable leaving their bicycles for long periods of time. They are appropriate for employees of large buildings and at transit stations. Lockers provide a secure place for bicyclists to store their helmets or other riding gear.

Key Considerations:

- Electronic bike lockers provide secure individualized parking that can be accessed with an electronic card. Unlike standard key lockers, which provide one key for one renter, a single e-locker can be rented by multiple cyclists each week by using smart card technology. The improved efficiency translates into greater availability, and is a popular option at transit stations throughout the Bay Area.
- Bicycle lockers come in a variety of shapes and sizes depending on the need and the amount of space available, and the most common bicycle locker size is approximately 40" wide by 48" high by 72" long, which typically includes a diagonal divider inside the locker so that they will accommodate two bikes.
- Most lockers with diagonal dividers are designed to open from two sides, so there should be adequate room on both sides of

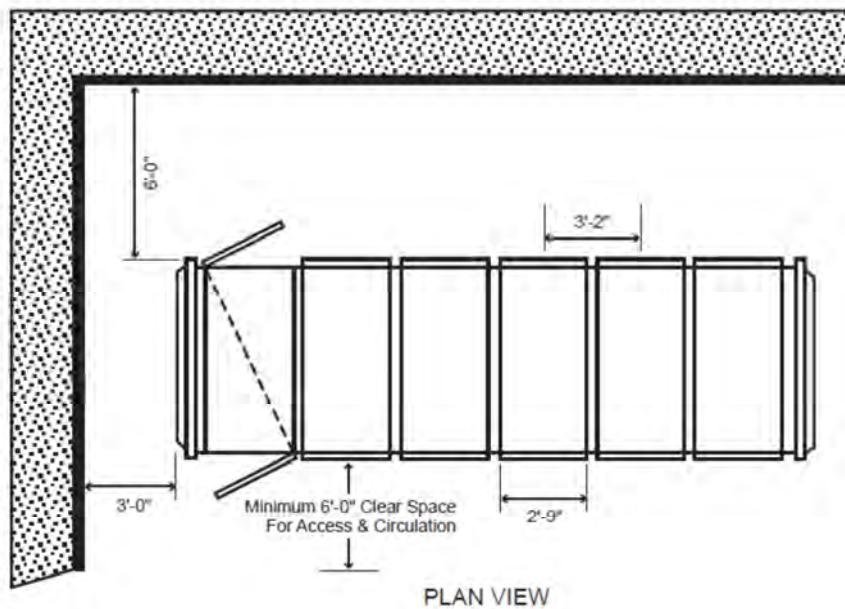
the locker to comfortably open the door and slide the bicycle in and out, which equates to six feet of clearance from both doors.

- Wedge-shaped locker units can also be used—these accommodate one bicycle, and are a useful design for corner areas. They can also be placed against walls in areas with a constrained public right-of-way.

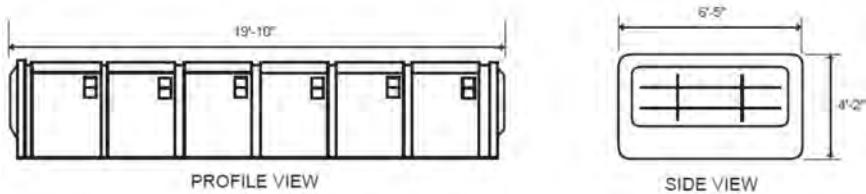


19th Street & Broadway Downtown Oakland BART electronic lockers.
Source: Jason Patton, City of Oakland

BICYCLE DESIGN GUIDELINES



Bike Locker Placement Guidance



BICYCLE DESIGN GUIDELINES



ENCLOSED FACILITIES

This section describes several types of typical off-street and enclosed parking facilities, which are typically used for long-term parking. There are two basic types of enclosed long-term parking facilities:

- **Bicycle Cages** are shared access storage areas in which cyclists lock their own bikes
- **Bicycle Rooms** provide indoor enclosed and sheltered parking and protection from theft.

Key Considerations for Bicycle Cages:

- Often used at transit centers and large employers or universities to provide an extra layer of security for long-term bike parking
- Typically a popular option for bike commuters because they provide a high degree of security and they protect bikes
- Can be accessed by registered users at any time, and with unlimited ins and outs.
- Provide additional security over U-racks or other on-street parking facilities though many people may have access to the facility
- Small cages are preferred to limit the number of people with access to any single cage.
- Security may be bolstered by surveillance cameras and monitoring.
- A single cage of 18' by 20' occupies the same footprint as two standard parking stalls (or 9' by 20' each.)

- Cyclists gain access to the bike cage by signing up in advance for a key or a key code. Magnetic pass keys also allow parking managers to monitor who goes in and out of the bike cages.
- Local jurisdictions or local non-profit organizations are typically responsible for implementing and maintaining this type of facility.

Key Considerations for Bicycle Rooms:

- May have wall racks or floor racks, and should allow easy access by elevator or ramp to the ground level
- Bike rooms provide enclosed and sheltered parking and protection from theft
- Typically found at transit terminal, but any available building floor space can be converted into a bike room
- Adding self-serve features such as bike pumps, bike stand and basic tools creates extra amenities to cyclists.
- Require little maintenance and an attendant is not needed because users are provided with an access code to enter facility.
- Bike rooms are ideal in business parks or apartment or condominium complexes. Individual businesses or apartment complexes would be responsible for providing bike room facilities.

BICYCLE DESIGN GUIDELINES



High Security Bicycle Cages. Source: J. Luton and J. Stanley

BICYCLE FACILITY MAINTENANCE STANDARDS

Since most cycling occurs on public roads, roadway maintenance is an important part of accommodating cycling. Below are some types of targeted maintenance.⁵

Surface Repairs: Inspect bikeways and road shoulders regularly for surface irregularities, such as potholes, pavement gaps or ridges. Such hazards should be repaired quickly.

Sweeping: Prioritize bicycle routes when establishing a street sweeping schedule. Sweep road shoulders of accumulated sand and gravel in the springtime and fallen leaves in the autumn where they accumulate. Sweepings should be picked up rather than just pushed aside in areas with curbs. Driveway approaches may be paved to reduce loose gravel on paved roadway shoulders. Off-street bicycle facilities should have an established maintenance schedule that includes routine sweeping.

Pavement Overlays: Where new pavement is installed, extend the overlay to the edge of the roadway. If this is not possible, ensure that no ridge remains at the edge of the road shoulder or bicycle lane. Do not

leave a ridge within the bicycle travel area. Drain grates should be within 6 millimeters of the pavement height to create a smooth travel surface. Special attention should be given to ensure that utility covers and other road hardware are flush with new pavement.

Rail Crossings: Rail crossings can be hazardous to cyclists, particularly if they are at an oblique angle. Warning signs and extra space at the road shoulder can allow cyclists to cross at a 90° angle. A special smooth concrete apron or rubber flange may be justified at some crossings.

Vegetation: Vegetation may impede sight lines, or roots may break up the travel surface. Vegetation should be cut back to ensure adequate sight lines, and invasive tree roots may be cut back to preserve the travel surface.

Street Markings: Bicycle lane markings and signal loop indicators may become hard to see over time. These should be inspected regularly and retraced when necessary.

Markings: Whenever roadway markings are used, traction or non-skid paint should be used to avoid the markings becoming slippery in wet weather.

⁵ Todd Litman, Robin Blair, Bill Demopoulos, Nils Eddy, Anne Fritz, Danelle Laidlaw, Heath Maddox, and Katherine Forster. *Pedestrian and Bicycle Planning: A Guide to Best Practices*. Victoria Transport Policy Institute (2010)