ALAMEDA COUNTY

Bicycle & Pedestrian Master Plan

FOR UNINCORPORATED AREAS

Public Works Agency
Alameda County

TOOLE DESIGN

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Executive Summary

Residents throughout the Unincorporated Areas of Alameda County have expressed a strong interest in improving and expanding the walking and bicycling environment in their community. Community members would like the ability to safely and comfortably access destinations, such as schools, transit stops/stations, commercial areas, and parks and recreational areas, by foot and by bike. In order to achieve this vision, the 2019 Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Areas (BPMP) provides a roadmap for bicycle and pedestrian improvements throughout the unincorporated areas.

The 2019 Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Area (BPMP) is the culmination of over a year of public outreach and engagement, data-driven analysis of existing conditions, review of existing plans and policies, and completion of a needs assessment. The 2019 BPMP also builds on the vision and projects from the 2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas.

The 2019 BPMP updates goals, an implementable bicycle network, pedestrian network recommendations to improve safety and connectivity, and support programs for both the populated communities of West County and the rural communities of East County. Opportunities for walking and bicycling vary widely depending on the area of the county and the area's development pattern. This BPMP provides contextual recommendations to serve the topography and land uses of these areas.

Goals

The **BPMP's Goals and Associated Policies in Chapter 2** aim to achieve a safe, connected bicycle and pedestrian network in the unincorporated areas. These goals were developed based on input from residents, County staff, and best practices in bicycle and pedestrian planning. The goals create the framework for the BPMP's bicycle and pedestrian network.

Goal 1: Connectivity	Develop and maintain a connected and continuous bicycle and pedestrian network.
Goal 2: Access	Provide access for all users.
Goal 3: Safety	Improve safety for all modes of transportation.
Goal 4: Comfort	Consider the whole walking and biking experience through the provision of support amenities.
Goal 5: Awareness	Build community awareness of the benefits of walking and biking as an alternative to driving; and an understanding of the safety responsibilities of all users.
Goal 6: Supportive Land Uses	Ensure that land uses support and promote walking and biking.

Safety Analysis

When developing a bicycle and pedestrian network, understanding the current safety conditions and locations of high-injury corridors and intersections is a critical data point. The **safety analysis findings in Chapter 3** describes the locations of collisions, frequency, trends, and reasons that the crashes occurred.

The chapter also details the high-crash corridors, or the locations with the most bicycle and pedestrian crashes. Locations with the most bicycle crashes (from 2009-2013) include Hesperian Boulevard, E 14th Street, Redwood Road, Castro Valley Boulevard, and Grove Way. Locations with the most pedestrian crashes (from 2009-2013) include E 14th Street, Castro Valley Boulevard, Hesperian Boulevard, Redwood Road, and Meekland Avenue.

Bicycle Network

The **Bicycle Network in Chapter 4** focuses on the development of shared use paths, separated bike lanes, bicycle boulevards, and other low-stress facilities in more urbanized areas in the western portion of the county. These facilities will provide bicyclists of all ages and abilities with safe, connected, and comfortable routes. In the eastern portion of the county, rural routes are identified which provide connections through areas with low residential densities. Together, these facilities create a network that serves the needs of bicyclists riding for recreation and transportation.

In addition to bicycle infrastructure, support facilities provide increased comfort and predictability for bicyclists. Support facilities include wayfinding, bicycle parking, end-of-trip facilities, and bikeshare.

Pedestrian Network

Many of the walking trips in the unincorporated areas occur in the denser, more urbanized communities of Ashland, Castro Valley, Cherryland, Fairview, and San Lorenzo. The BPMP's **Pedestrian Network Projects in Chapter 5** focus on spot improvements and corridor-wide improvements and aim to enhance walking in these more urbanized communities. The pedestrian project list is a compilation of two major efforts – the Unincorporated Areas of Alameda County Safe Routes to School Project and a sidewalk construction priority project list.

Support Programs

Along with infrastructure, support programs are a key component of a complete bicycle and pedestrian network. The **Support Programs outlined in Chapter 6** encompass the five "E's" of bicycle and pedestrian planning – Engineering, Encouragement, Education, Enforcement, and Evaluation.

Implementation and Funding

After BPMP adoption, implementing the projects in the Bicycle Network and Pedestrian Network will be the next step for the ACPWA. Since not all projects can be implemented at once, the **prioritized projects in Chapter 7** list projects that should be considered for implementation within short-, medium-, and long-term timeframes. This chapter also includes cost estimates and funding opportunities to finance these projects, and in some cases, support programs.

Chapter 1: Introduction

The Alameda County Public Works Agency (ACPWA) is dedicated to creating a safe, comfortable, and connected environment for walking and biking within the Unincorporated Areas of Alameda County. Many community members already ride bicycles, both for recreation and transportation. Everyone is a pedestrian at some point in their day, even if most trips are made via automobile, transit, or bicycle. This Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Areas (BPMP) equips ACPWA with recommendations to enhance existing bicycle and pedestrian infrastructure and to develop new facilities that strengthen the bicycle and pedestrian network.

Purpose of the BPMP

The purpose of the BPMP is to outline implementable and visionary policies, projects, and programs that enhance the walking and biking environment in the Unincorporated Areas. These areas include San Lorenzo, Ashland, Cherryland, Castro Valley, and Fairview to the west; East County to the east; and Sunol to the south (see Figure 1.1).

The County has made great strides toward expanding bicycle and pedestrian networks since the adoption of the previous BPMPs in 2008 and 2012, and it continues to strive to provide safe and comfortable walking and biking environments. This Plan builds on the good work of the past 10 years to continue to improve and provide a connected network for active transportation.

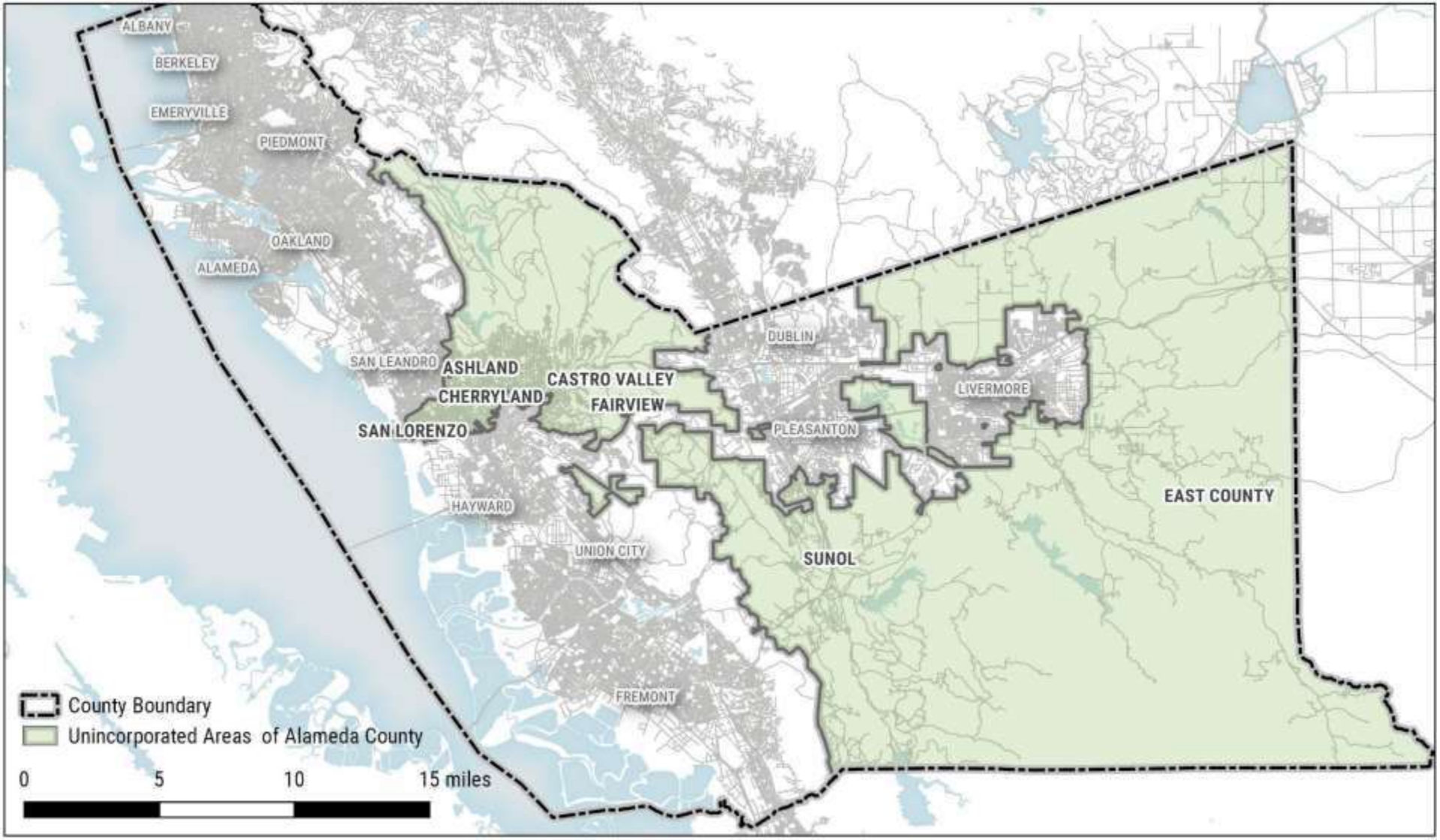


Figure 1.1. BPMP Project Area: Unincorporated Areas of Alameda County

BPMP Organization

This Plan is organized into seven chapters and nine appendices.

Chapter	Focus
Chapter 1	Introduction to the BPMP
Chapter 2	BPMP goals and policies
Chapter 3	Safety data and analysis
Chapter 4	Bicycling network and bicycle support facilities
Chapter 5	Pedestrian infrastructure projects network
Chapter 6	Recommendations for programs that support walking and bicycling
Chapter 7	Implementation and funding strategy for bicycle and pedestrian improvements
Appendix	**Focus**
Appendix A	Overview of the benefits of walking and biking
Appendix B	Summary of the public and stakeholder engagement that shaped the BPMP
Appendix C	Overview of relevant plans and policies related to walking and bicycling
Appendix D	State of bicycling and walking in the unincorporated areas, and an overview of existing support programs, and past expenditures
Appendix E	Bicycle and Pedestrian Facilities Toolkit, a guide for implementing bikeway and pedestrian facilities and improvements
Appendix F	Summary of the BPMP's fulfilment of Caltrans Active Transportation Program (ATP) grant requirements
Appendix G	Resolution of Adoption of this BPMP

Planning Process

This update to the 2012 BPMP is the culmination of over a year of community engagement paired with a data-driven analysis of existing conditions and needs assessment. This process formed the basis of the 2019 goals, policies, network, and recommendations.

Highlights of the outreach efforts are discussed in this section; additional information can be found in Appendix B: Public Outreach.

Online Outreach

The Alameda County Public Works Agency (ACPWA) launched an online interactive map, called a "WikiMap," to gather feedback and input about the existing bicycle and pedestrian network. The WikiMap was available online from May 2017 through November 2017. Participants were asked to identify routes they already ride or walk, where they would like to walk or bike, and any barriers to walking and biking.

The map, shown in Figure 1.2, was available as a link from the project webpage and was advertised and promoted through public outreach events. The WikiMap received comments from over 200 people, and the comments provided invaluable input about the state of walking and bicycling in the unincorporated areas and specific areas to address in this BPMP.

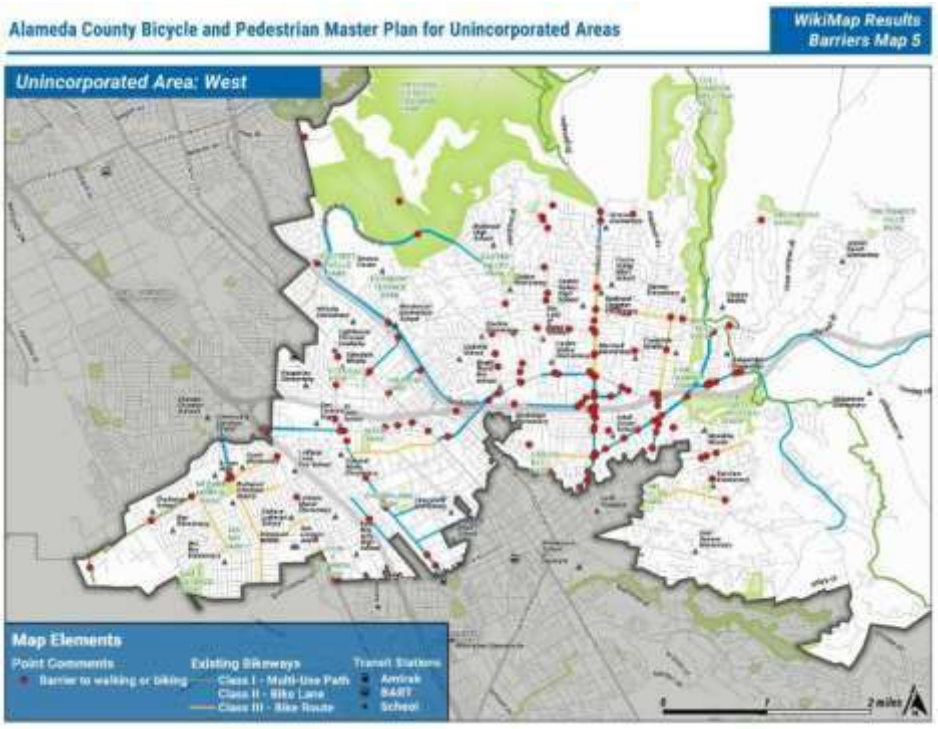


Figure 1.2. WikiMap Results – Barriers to Walking and Bicycling – Western Map

Community Open Houses

Two rounds of Open Houses were held to solicit input. Multiple meetings were held during each round to reach as many people throughout the county as possible.

The first round of Open Houses was held in August 2017 at the Dublin Public Library and at the Castro Valley Public Library. The purpose of the August Open Houses was to understand bicycling and walking in the unincorporated areas today and to gather feedback that informed the development of the Plan's recommendations. The BPMP planning process was introduced to the communities and presented information about bicycle and pedestrian facilities. During the Open Houses, participants were asked to share their thoughts on community values and areas where they would like to walk and bike (see Figure 1.3).

Figure 1.3. Participants at the Community Open House at the Dublin Public Library.

The second round of Open Houses was held in January 2018 at the San Lorenzo Public Library, Castro Valley Public Library, and the Livermore Public Library. The purpose of the January Open Houses was to present the draft bicycle network recommendations and pedestrian improvements and gather feedback on these drafts. The recommendations were revised based on the community's and County staff's on-the-ground knowledge and input.

Stakeholder Coordination

The development of the 2019 BPMP was also guided by strategic input from advisory committees, including:

- **Technical Advisory Committee**, comprised of Board of Supervisors members, County staff, planning and public works staff from adjacent jurisdictions, and representatives of regional agencies, such as the Alameda County Transportation Commission, AC Transit, and the Hayward Area Recreation and Parks District
- **Citizens Advisory Committee**, comprised of representatives from advocacy groups and community organizations
- **Castro Valley Bicycle and Pedestrian Advisory Committee**, a standing advisory committee that focuses on bicycle and pedestrian projects in the Castro Valley community

These committees met regularly throughout the process and provided input on stakeholder priorities; feedback from the community-at-large on specific locations and issues of concern; and preferred types of bicycle and pedestrian improvements.

Chapter 2: Goals and Policies

The BPMP goals and associated policies aim to achieve a safe and connected bicycle and pedestrian network within the unincorporated areas which also connects to networks in adjacent jurisdictions. This network serves people commuting to work or school, running errands, and riding or walking for recreation. The goals and policies envision a system that accommodates users of all ages and abilities, including children, seniors, and people with disabilities.

Adopted Plans and Policies

Adopted plans for the unincorporated areas provide the goals and project recommendations for this BPMP. Specifically, there are three plans that provide the primary existing guidance for bicycle and pedestrian planning within in the county, which are summarized here. More information about local, statewide, and federal policies that inform this BPMP can be found in Appendix C: Plans and Policies Review.

The previous **Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas** (2012) was the first plan to address bicycle and pedestrian transportation under one cover.

The **Alameda County General Plan's Community Climate Action Plan (CAP) Element** (2014) provides guidance for bicycle and pedestrian planning for the county, including establishing mode split goals of 2.5 percent for walking and 1.5 percent for bicycling by 2020. The CAP Element also calls for pedestrian and bicycle infrastructure improvements near activity centers; appropriate bicycle infrastructure for high traffic intersections and corridors; increased bicycle parking opportunities; expanded traffic calming efforts; improvements to pedestrian connectivity in neighborhoods and schools. The BPMP complies with the CAP element and furthers its goals by encouraging modes that reduce emissions.

The **Ashland and Cherryland Business Districts Specific Plan** (2015), developed by the Alameda County Community Development Agency, provides development guidance for the East 14th Street/Mission Boulevard and the Lewelling/East Lewelling Boulevard corridors. The plan envisions a transformation of these auto-dominated corridors into more transit-, bicycle-, and pedestrian-friendly areas through streetscape improvements, reduction of vehicle speeds, reducing crossing distances, and re-orienting parking lots.

The **Alameda County General Plan**, which contains three area plans:

- **Eden Area Plan (2010)**, including the communities of Ashland, Cherryland, Hayward Acres, San Lorenzo, and Fairview. The Eden Area General Plan specifies a desire to ensure new development is pedestrian-friendly and has a comprehensive network of bicycle lanes.
- **Castro Valley Area Plan (2012)**, consisting of the Castro Valley urban area and the surrounding canyonlands. The Castro Valley general plan looks to balance the seemingly "built out" nature of the area, while understanding that many sites are still available for residential and commercial development and have an important centralized transportation role for the county.
- **East County Area Plan (2000)**, for the remaining unincorporated areas beyond the Eden Area and Castro Valley. This plan details policies to expand a multi-modal and safe transportation system inside and outside of the designated urban growth boundary.

Goals and Policies

Goals are broad expressions of long-term vision that guide the Plan and express the desired direction for bicycle and pedestrian network investments. **Policies** are specific statements of how to accomplish the goals and identify specific targets to measure the attainment of a specific goal. This BPMP's goals and policies (see Table 2.1) are based on input from the community and Alameda County Public Works Agency staff, best practices, and guidance from adopted plans.

The goals and policies provide a level of specificity that shapes the bicycle and pedestrian network recommendations; provides a framework for prioritizing the BPMP's recommendations; and structures performance metrics for the BPMP's implementation.

Table 2.1. BPMP Goals and Policies

Goal 1: Connectivity
Develop and maintain a connected and continuous bicycle and pedestrian network
Policies
1.1. Create and maintain a safe, convenient, and effective bicycle and pedestrian networks that maximize bicycle use and walking for commuting, recreation, and local transportation.
1.2. Eliminate gaps in the existing network and improve bicycle and pedestrian connections to transit, schools, parks/trails, retail and employment centers, community/senior centers, and libraries.
1.3. Provide accommodations for bicyclists and pedestrians where natural or man-made barriers restrict access.
1.4. Construct and/or promote shared use paths and trails in rural and open space areas.
Goal 2: Access
Provide access for all users
Policies
2.1. Create and maintain a safe, comfortable, and continuous pedestrian network that provides access to all users, particularly disabled users, seniors, and children.
2.2. Incorporate Universal Design into the design process and achieve full American with Disabilities Act (ADA) public right-of-way compliance. Universal Design focuses on designing environments and buildings to be accessible to people of all ages and abilities.
2.3. Promote partnerships with transit providers (e.g., AC Transit, BART, Wheels, ACE, Amtrak) to increase bicycle access on board transit vehicles to bicycle users, especially during peak commute hours.
Goal 3: Safety
Improve safety for all modes of transportation
Policies
3.1. Reduce the rate and severity of bicycle and pedestrian collisions.
3.2. Target and improve areas that have high incidences of bicycle and pedestrian collisions.
3.3. Apply Complete Streets principles to enhance safety for all users.
3.4. Implement context-appropriate bicycle and pedestrian facilities through County street/road maintenance and roadway improvement projects.
3.5. Provide safe walking and biking routes to all schools.
Goal 4: Comfort
Consider the whole walking and biking experience through the provision of support facilities
Policies
4.1. Promote the installation of secure bicycle parking at public buildings, retail areas, employment centers, transit centers, recreational facilities, and other bicycle destinations.
4.2. Provide lighting where needed, including on bicycle facilities, and pedestrian walkways, trails, etc.
4.3. Install wayfinding signage to transit centers and other popular destinations.
4.4. Partner with transit providers (e.g., AC Transit, BART, Wheels, ACE, and Amtrak) to create more pleasant and comfortable and safe transit stop/station waiting environments.
Goal 5: Awareness
Build community awareness of walking and biking as an alternative to driving; and an understanding of the safety responsibilities of all users
Policies
5.1. Develop bicycling and walking maps.
5.2. Provide information to motorists, cyclists, and pedestrians on their rights and responsibilities as road users.
5.3. Continue training programs for planners and engineers on bicycle and pedestrian planning, design, and operations.
5.4. Develop outreach materials that promote the benefits of bicycling and walking such as improving health and fitness; reducing greenhouse gas emissions, consumption of non-renewable energy resources, and congestion; and saving money.
5.5 Promote and support active transportation incentive programs to encourage County employees and residents to bicycle and walk for commuting.

Goal 6: Supportive Land Uses
Ensure that land uses support and promote walking and bicycling
Policies
6.1. Require that development projects include bicycle and pedestrian considerations for safety, access/circulation, and amenities such as bicycle parking/lockers and showers, as appropriate.
6.2. Through traffic impact studies/analyses of proposed street changes, address impacts on bicycling and pedestrian transportation, specifically: Consistency with General Plan and the Bicycle and Pedestrian Master Plan policies; Impact on the existing and future Bicycle and Pedestrian Master Plan Bikeway System; Permanent travel pattern or access changes including the degree to which bicycle and pedestrian travel patterns are altered or restricted due to any change to the roadway network; and Conformity to accepted bicycle and pedestrian facility design standards and guidelines.

Performance Measures

Performance measures will be used to evaluate the how implementation is progressing and achieving the goals and policies. The performance measures for this BPMP are described in Table 2.2.

Table 2.2. Performance Measures

	Metric	Performance Measure
1	Level of comfort	Decrease in stress levels for bicyclists and pedestrians
2	Safety	Decrease in rate and severity of bicycle collisions and pedestrian collisions
3	Sidewalk network	Increase in number of miles, width, and quality of sidewalks
4	Bicycle network	Increase in number of miles and type of bicycle facilities
5	Mode share	Increase in mode share of bicycles and pedestrians

Chapter 3: Safety Analysis

Bicycle and pedestrian master plans have many functions, one of which is identifying projects and programs for reducing and eliminating bike-vehicle and pedestrian-vehicle collisions. Understanding the current safety conditions and locations of high-injury corridors and intersections can support decisions on infrastructure improvements and the allocation of funding resources.

Collision Summary

Between 2009-2013, there were an average of 30 reported collisions per year involving either a pedestrian or bicyclist and a motor vehicle. For pedestrian crashes, most were a result of a vehicle violating a pedestrian right-of-way (e.g., pedestrian is in a crosswalk, the vehicle enters the crosswalk). In a few cases, the pedestrian was deemed at fault due to factors such as crossing between signal controlled intersections and failing to yield to right-of-way to vehicles already in the crosswalk. In most cases though, the motorists were responsible for the collision. The most common reason for vehicle-bicycle crashes is improper turning. Vehicle speeds were also a top reason for pedestrian and bicycle crashes.

The next section, Collision Analysis, delves into more detail on the collisions, frequency, trends, and reasons that the crashes occurred. In addition to this BPMP, a collision summary was conducted for the Unincorporated Areas of Alameda County Safe Routes to School Project (SRTS) and provides more details on crashes near and around schools.[1]

While no two crashes are exactly alike, there are dominant trends that can help planners and engineers determine what sort of treatment(s) or program(s) could help reduce the number and severity of crashes. For example, many of the pedestrian and bicycle crashes were the result of vehicles entering a space where a pedestrian or bicyclist was. The driver most likely didn't do this intentionally and, instead, either did not see the pedestrian or bicyclist, was not paying proper attention, or didn't expect there to be a pedestrian or bicyclist in the area. While each roadway should be evaluated for appropriate countermeasures, treatments such as additional lighting, enforcement and programs aimed at distracted driving, or improved signals may address these issues. More about treatments that address pedestrian and/or bicycle crashes can be found in Appendix E: Bicycle and Pedestrian Facilities Toolkit.

Collision Analysis

The first step in the process to develop pedestrian and bicycle networks is understanding the current environment – the who, when, what, and how of bicycle and pedestrian crashes. This section summarizes key trends and findings that can be used to inform future bicycle and pedestrian improvements and priorities.

The data used in this analysis is from the Transportation Injury Mapping System (TIMS) database, produced by SafeTREC at University of California, Berkeley. This database compiles collision data from the California Highway Patrol's Statewide Integrated Traffic Records System. All reported crashes

[1] Additional information about the Unincorporated Areas of Alameda County Safe Routes to School Project, click here: https://www.acpwa.org/programs-services/transportation/Safe_Routes_to_School_Program.page

involving at least one bicycle or pedestrian that occurred between 2009 and 2013, were queried from the statewide dataset.

It is important to note that bicycle and pedestrian crashes are under-reported. For example, single-bicycle crashes not involving a motor vehicle are not captured in public crash databases, even though they can be severe. Also, crashes are not included in public crash databases when both the effected bicyclist and the motor vehicle driver do not report the crash.

The number of unreported crashes in the Unincorporated Areas of Alameda County is unknown; a study conducted by the Federal Highway Administration found that across the United States 33 to 57.5 percent of all bicycle crashes potentially go unreported. Lack of reporting is also an issue for pedestrian crashes, although the percentages are not known.[2]

Crash Trends and Severity

As shown in Figure 3.1, there were between 35 and 50 pedestrian crashes in the unincorporated areas each year from 2009 through 2013, or around 30 crashes annually per 100,000 residents.

Ten pedestrian fatalities and three bicycle fatalities were reported in the unincorporated areas between 2009-2013. The pedestrian fatality rate was just over 1.4 fatalities per 100,000 residents annually. By comparison, the fatality rate for pedestrians in California is 1.83 per 100,000 residents.[3]

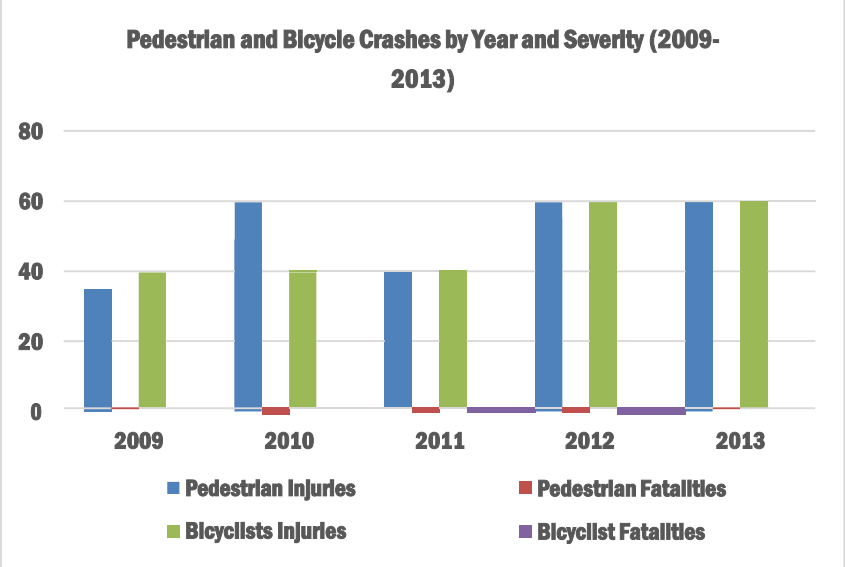


Figure 3.1. Pedestrian and Bicyclist Crashes by Year and Severity, 2009-2013

[2] Federal Highway Administration. Injury to Pedestrians and Bicyclists: An Analysis based on Hospital Emergency Department Data. FHWARD-99-078. 1999.

[3] Governors Highway Safety Administration. http://www.ghsa.org/

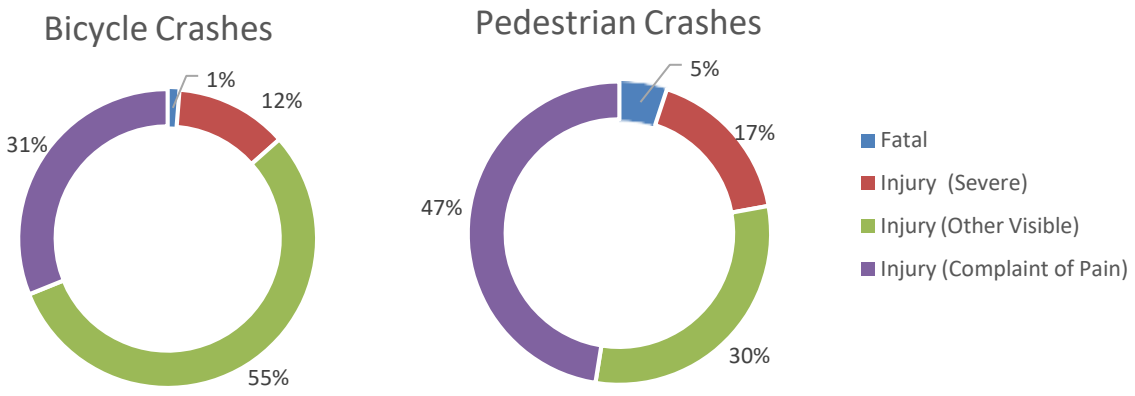


Figure 3.2. Percentage of Pedestrian and Bicycle Crashes Resulting in Fatality or Injury, 2009-2013

Crash Risk Factors

To address safety issues, it is important to understand the factors that contribute to a crash or affect the outcome. Important risk factors that are commonly associated with bicycle and pedestrian crashes includes the reason of the crash, time of day frequency, and lighting conditions.

Primary Collision Factors

TIMS data extracts the "Primary Collision Factor" (PCF) for each collision, which is the main cause of the crash. The following summarize some of the important takeaways from the PCF analysis. Table 3.1 shows all the PCF; orange cells indicate the highest collision factors, and the yellow cells indicate the second highest collision factors.

For Pedestrians

Due to Motorist

- **Forty percent of the injury-producing crashes were caused by an automobile violating the pedestrian right-of-way.**
- An additional 28 percent of crashes were caused by pedestrian violations.
- Additional common collision factors include improper turning by vehicles (8 percent) and unsafe vehicle speeds (6 percent).

Table 3.1. Primary Collision Factors

Primary Collision Factor	Percentage of Crashes	
	Pedestrian	Bicycle
Under the influence of Alcohol or Drug	3	3
Impeding Traffic	<1	0
Unsafe Speed	6	17
Following too Closely	<1	1
Wrong Side of Road	<1	13
Improper Passing	0	2
Unsafe Lane Change	<1	1
Improper Turning	8	22
Automobile Right-of-Way	4	12
Pedestrian Right-of-Way	40	<1
Pedestrian Violation	28	0
Traffic Signals and Signs	1	8
Hazardous Parking	<1	0
Other Hazardous Violation	2	4
Other That Driver (or Pedestrian)	<1	3
Unsafe Starting or Backing	4	3
Other Improper Driving	<1	<1
Unknown	<1	2
Not Stated	<1	<1

For Bicyclists

Due to Motorist

- **The most frequent reason for bicycle crashes (22 percent) was due to improper turning movements by vehicles.**
- Another 20 percent were caused by incorrect use of the automobile right-of-way by bicyclists. The types of crashes were consistent with the reasons for crashes; nearly 30 percent of crashes were broadside crashes, which are common with turning violation collisions.
- Additional common collision factors include unsafe vehicle speeds (17 percent).

Due to Bicyclist

- Thirteen percent of crashes were caused by bicyclists riding on the wrong side of the road.

Time of Day and Lighting Conditions

Motorists may have a harder time seeing pedestrians and bicyclists in low light conditions. In addition, pedestrians and bicyclists may have a harder time judging relative speed of, ensuring eye contact with, and/or seeing vehicles in darker conditions. That said, **A majority of both pedestrian and bicycle crashes occurred during daylight hours, 63 percent and 89 percent respectively.** Since the number of total walking and biking trips during daylight versus dark/dusk is unknown for the unincorporated areas, it cannot be determined if the crash rate is higher or lower during the day than during dark/dusk hours.

Data showed that the highest concentration of bicycle crashes occurred on Saturday mornings, a peak time for recreational bicycling trips. On weekdays, the hours of 6AM-9AM and 3PM-6PM were the next most frequent time for bicycle crashes, aligning with commute hours. **For pedestrians, crash frequency aligned with commute hours;** most crashes occurred on weekdays between 6AM-9AM and 3PM-9PM.

High-Crash Corridors

Identifying the roads with the highest number of crashes may help prioritize pedestrian and bicycle infrastructure investments when developing the network. To this end, a geographic analysis of the crash data was undertaken. High-crash corridors were identified by filtering the data for the most crashes per road. Tables 3.2 and 3.3 list the top five roads for bicycle and pedestrian crashes, respectively.

Table 3.2. Locations of the Most Bicycle Crashes, 2009-2013

Street	Injury Crashes	Fatal Crashes	Total Crashes
Hesperian Blvd	15	0	15
E 14th St/Mission Blvd	15	0	15
Redwood Rd	10	1	11
Castro Valley Blvd	10	0	10
Grove Way	8	0	8

Table 3.3. Locations of the Most Pedestrian Crashes, 2009-2013

Street	Injury Crashes	Fatal Crashes	Total Crashes
E 14th St (SR-185)	23	2	25
Castro Valley Blvd	17	1	18
Hesperian Blvd	16	2	18
Redwood Rd	14	0	14
Meekland Ave	6	0	6

Figures 3.3 to 3.7 illustrate the locations of collisions in the unincorporated areas of Alameda County. On the maps, each dot represents one crash. In rare cases, one crash may have more than one injury.

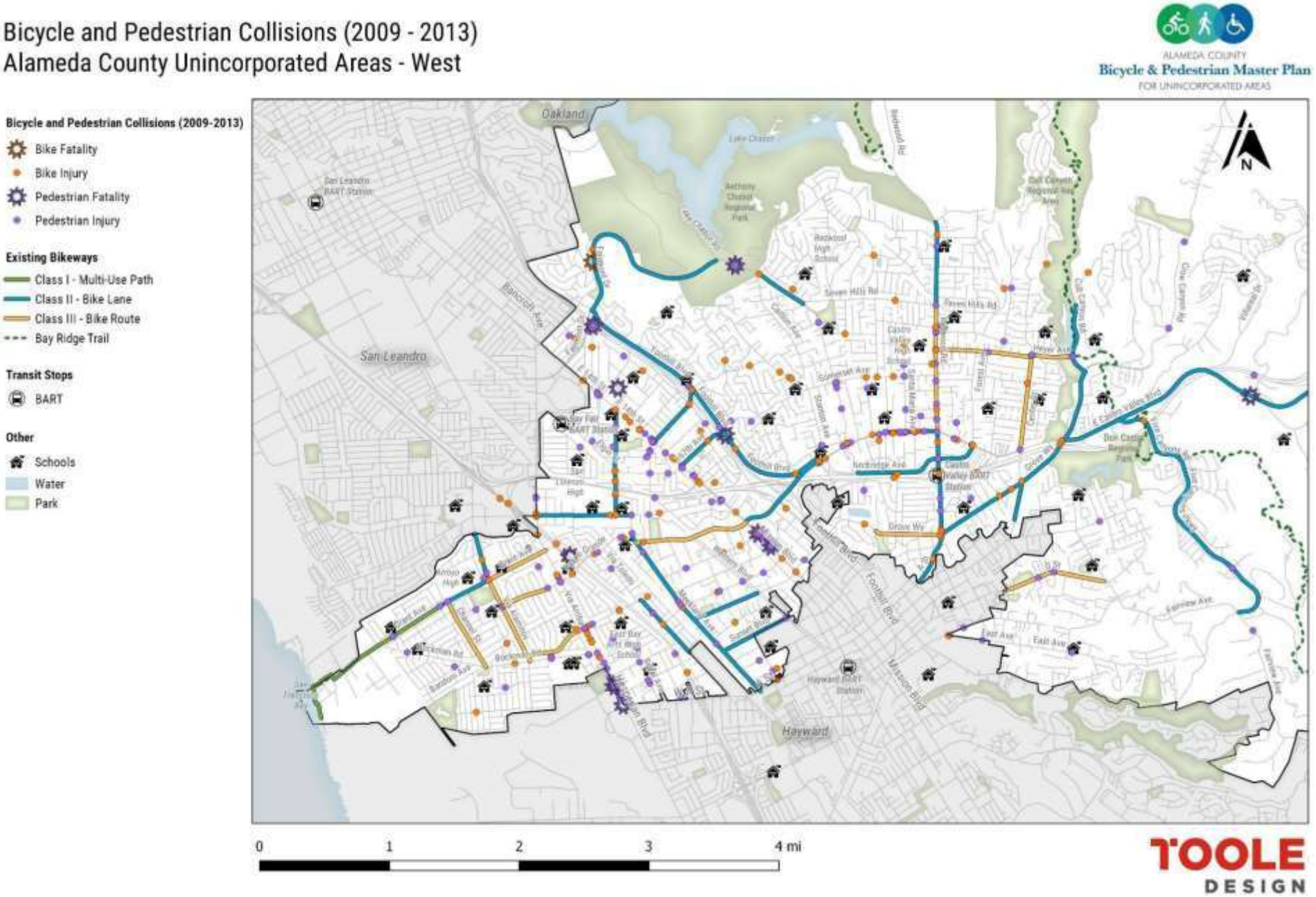


Figure 3.3. Bicycle and Pedestrian Collisions (2009-2013) in the Unincorporated Areas of Alameda County – West

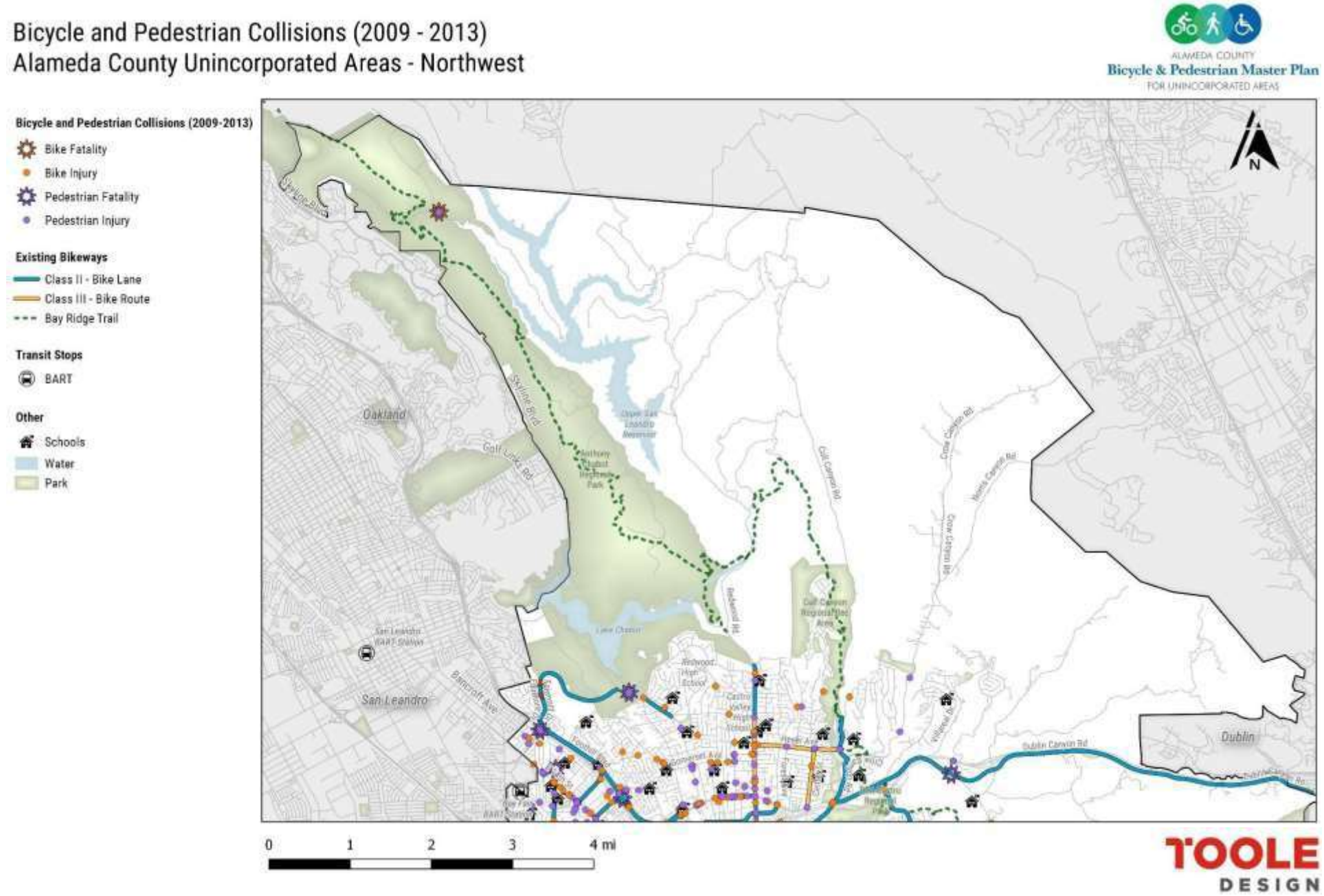


Figure 3.4. Bicycle and Pedestrian Collisions (2009-2013) in the Unincorporated Areas of Alameda County - Northwest

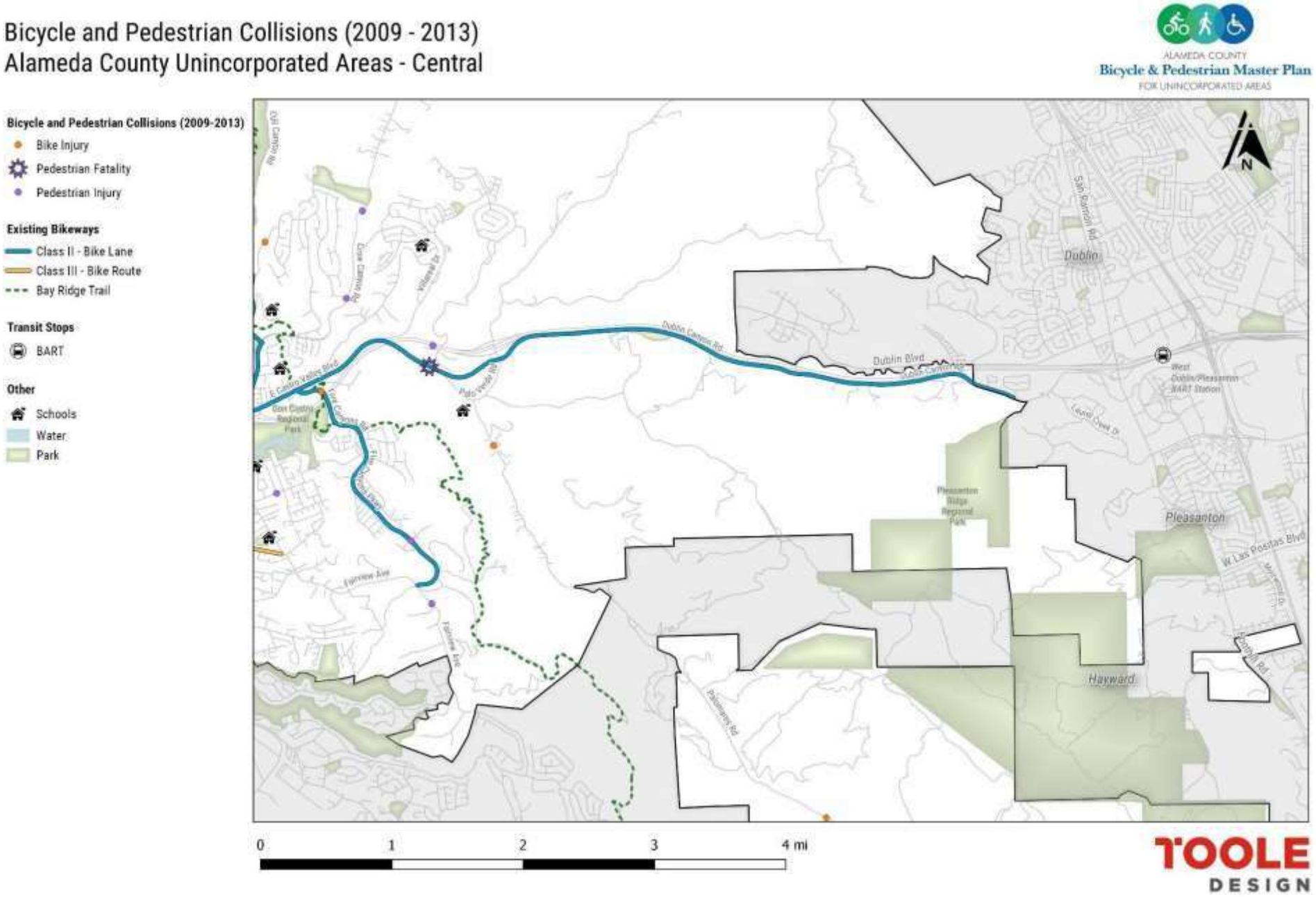


Figure 3.5. Bicycle and Pedestrian Collisions (2009-2013) in the Unincorporated Areas of Alameda County - Central

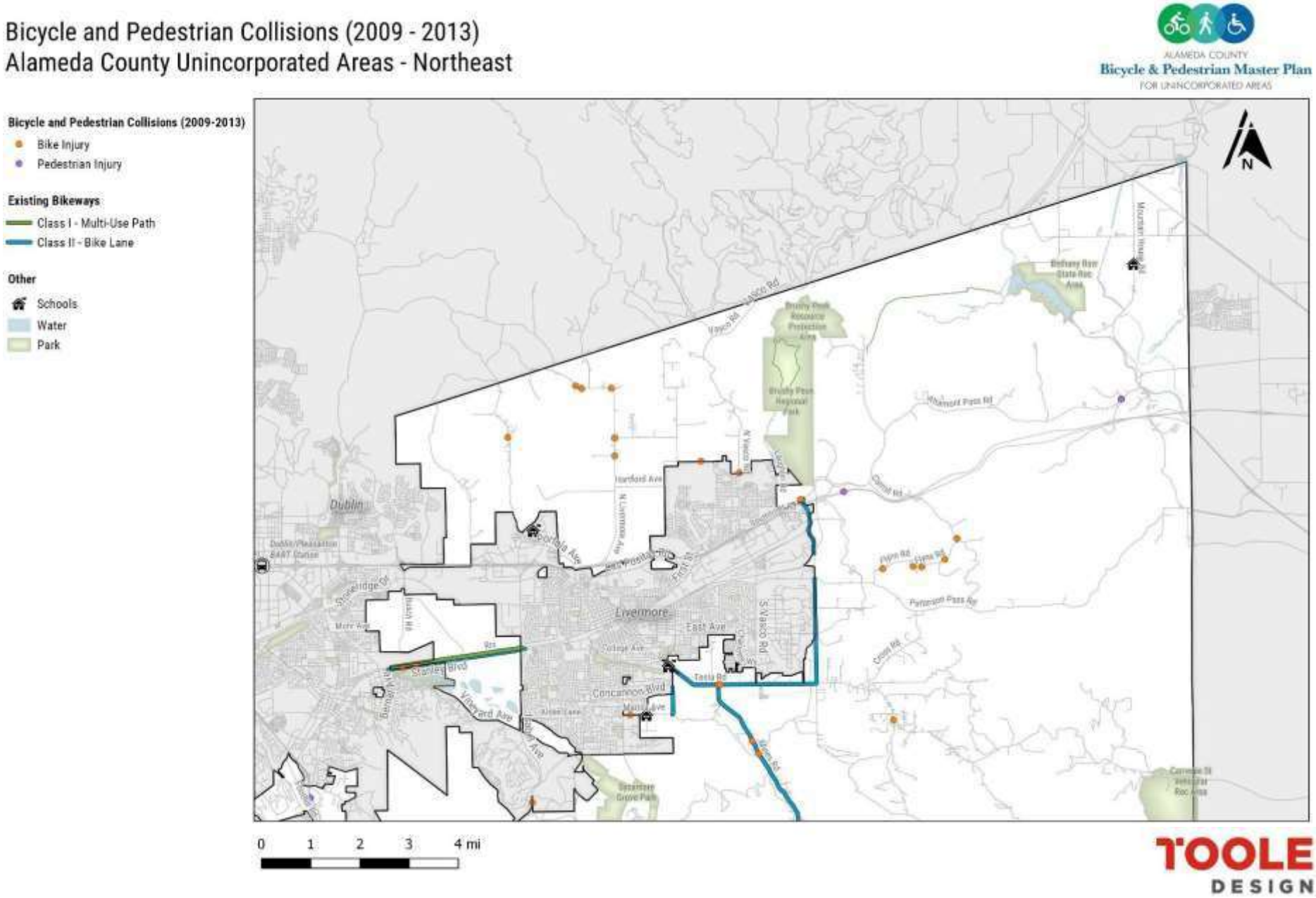


Figure 3.6. Bicycle and Pedestrian Collisions (2009-2013) in the Unincorporated Areas of Alameda County - Northeast

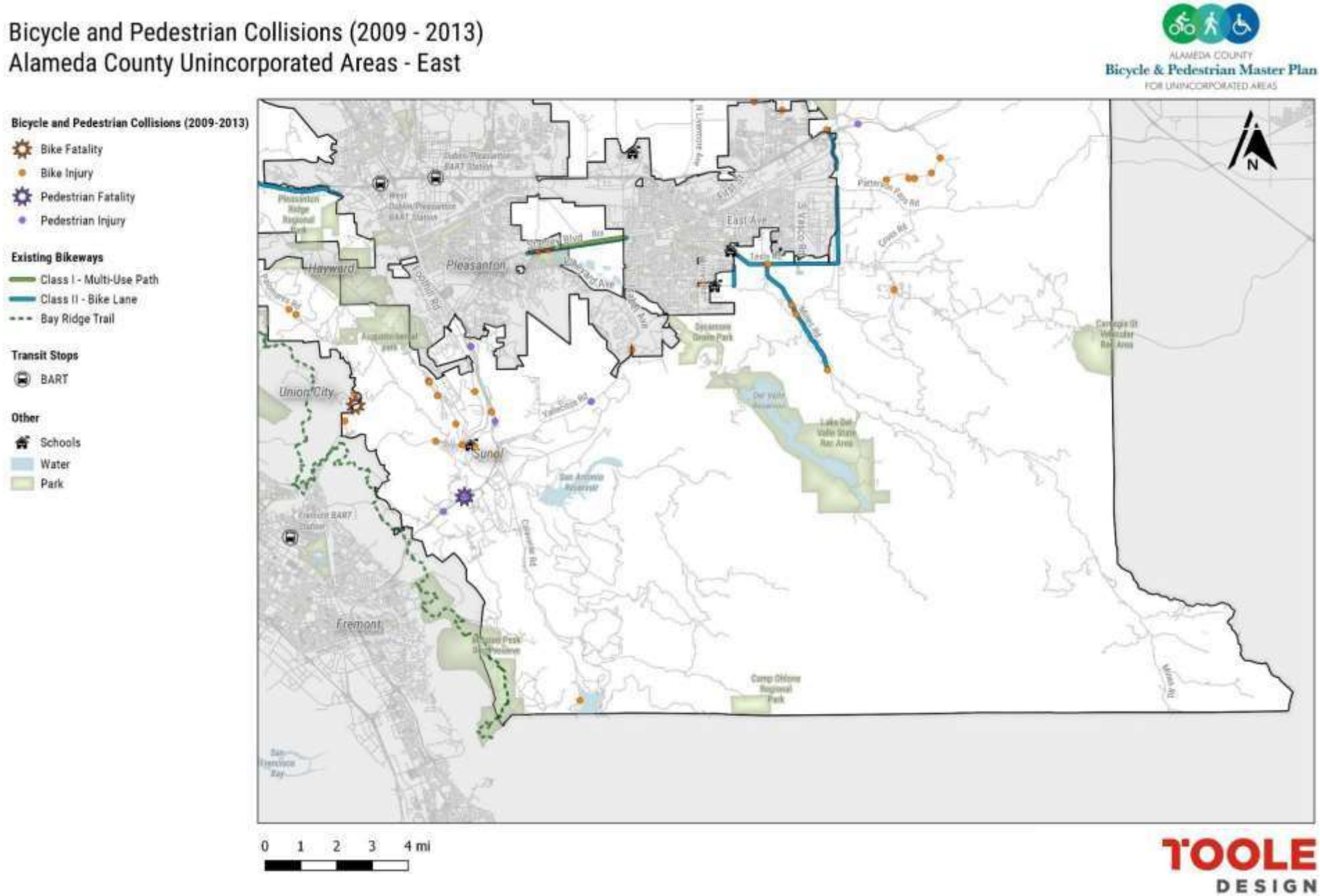


Figure 3.7. Bicycle and Pedestrian Collisions (2009-2013) in the Unincorporated Areas of Alameda County - East

Countermeasures

To address the safety issues and high-crash corridors identified by the safety analysis, specific strategies can be used. The strategies listed below aim to increase visibility, provide greater separation, and slow vehicle speeds.

For Both Bicyclists and Pedestrians

- Focusing investments along on high-crash corridors
- Addressing improper turning movements through signal changes, such as a leading pedestrian interval (LPI)
- Addressing unsafe speeds through traffic calming, roadway design changes, and other strategies
- Re-designing roadways to encourage lower speeds
- Improving visibility at intersections

For Bicyclists

- Developing physically-separated bicycle facilities so that bicyclists are not in the vehicle right-of-way

For Pedestrians

- Enhancing crosswalks to provide more awareness of pedestrian crossing locations and visibility for pedestrians when at crossing locations

The Bicycle and Pedestrian Facilities Toolkit (see Appendix E) includes details about various types of strategies which can be used to implement many of these bicycle and pedestrian countermeasures.

Complementary to this BPMP, ACPWA conducted a systemic safety analysis as part of the Alameda County Unincorporated Area's Systemic Safety Analysis Report Program (SSARP). The SSARP analysis examined all collisions and provide recommendations for specific countermeasures to reduce crashes in the unincorporated areas. These recommendations should be considered in tandem with the recommendations in this BPMP.

ACPWA also completed the Alameda County Safe Routes to School Report for unincorporated areas of Alameda County that includes school safety audits.

Chapter 4: Bicycle Network

The Bicycle Network presented in this chapter reflects the BPMP goals of a safe, more connected bicycle network by recommending contextually appropriate bicycle facilities including shared use paths, separated bike lanes, bicycle boulevards, and other low-stress facilities throughout the western urban and suburban areas. In the eastern portion of the county, rural routes are recommended to provide connections through areas with low densities. To complement the network, support facilities such as bicycle parking and wayfinding signage, are recommended to provide a complete and predictable environment for bicyclists.

Planning Context

The Unincorporated Areas of Alameda County include a variety of land uses and urban forms, with more populated areas in the western part of the county and more rural areas in the eastern part of the county. Bicycling opportunities differ dramatically depending on the area of the county and its development pattern.

The more urbanized Eden Area, including Ashland, Castro Valley, Cherryland, and San Lorenzo, have established bike routes (shared roadways), bike lanes, and shared use paths. East County has few identified shared roadways, and the long travel distances and high-speed roads make bicycling challenging. Yet, many people still bicycle in East County, mostly for recreational road and trail riding.

Serving All Types of Bicyclists

The percentage of people who commute by bicycling in Alameda County is 2.1 percent.[4] Research shows that most people feel safer and more comfortable riding on streets with the following characteristics[5]:

- Low vehicle speeds (typically ≤25 mph), for both public and private streets
- Low traffic volumes (typically <8,500 vehicles per day for bicycle lanes and <3,500 vehicles per day for bicycle boulevards/bicycle routes)
- Fewer travel lanes
- Greater separation from traffic (when speeds and volumes are higher)
- Wider bicycle facilities
- Smaller intersections

When potential riders consider their route to a destination, many will choose not to bicycle if they are concerned about their safety along the route or will choose an appropriate route.[6]

[4] Source: U.S. Census American Community Survey 5-year Summary, 2015

[5] For more information, see Appendix E: Bicycle and Pedestrian Facilities Toolkit.

Bicycle riders and the level of stress they can tolerate are often categorized, as shown in Figure 4.1.[6] This framework of stress and rider type was used to assess the existing bicycle network within the unincorporated areas of the county.

Comfort Typology of Bicyclists

Design User Profile	Not Interested or Able	Interested but Concerned	Somewhat Confident	Highly Confident
Percent of General Public	31-37%	51-56%	5-9%	4-7%

Figure 4.1. Level of Traffic Stress and Bicycle Riders

Components of the Bicycle Network

Bikeway classifications distinguish between different facility types, and the classifications are based on the degree of physical separation from vehicle traffic. The following facility types reflect existing bikeways as well as new ones identified in this plan.

[6] Source: Dill, J. McNeil, N. "Revisiting the Four Types of Cyclists: Findings from a National Survey" Transportation Research Board 95th Annual Meeting, 2016. Note that children and elderly have not been surveyed as a separate category, but are understood to have a very low tolerance of roadway stress.

Bicycle Network Classifications

Shared Use Paths (Class I) are two-way paved facilities, physically separated from motor vehicle traffic and used by bicyclists, pedestrians, and other non-motorized users. Shared use paths are often located in an independent alignment, such as a greenbelt, flood control channel park, or abandoned railroad.

Trails (Class I) are unpaved paths accessible by bicycle and pedestrians. They may or may not be considered accessible by American with Disability Act (ADA) standards.

Bike Lanes (Class II) provide an exclusive space for bicyclists in the roadway. Bicycle lanes have established painted lines and symbols on the roadway surface. Bicycle lanes are for one-way travel and are typically provided in both directions on two-way streets and/or on one side of a one-way street.

Buffered Bicycle Lanes (Class II) are implemented by painting or otherwise creating a flush buffer zone between a bicycle lane and the adjacent travel lane. While buffers are typically used between bicycle lanes and motor vehicle travel lanes, they may also be installed between bicycle lanes and parking lanes.

Bicycle Boulevards (Class III) are applied on quiet streets, often in residential neighborhoods. These treatments are designed to prioritize bicycle through-travel, while reducing through traffic volumes through traffic calming elements (traffic diverters and speed attenuators such as speed humps or chicanes) and maintaining relatively low motor vehicle speeds. Treatments vary depending on context and often include elements of traffic calming.

Rural Bicycle Routes (Class III) are designated rural roads that provide connections for bicyclists through areas with low densities. Rural bicycle routes frequently have higher bicycle volumes then other rural roads and are signed to provide wayfinding for bicyclists and as a notification to people driving that bicyclists will be present on the road.

Separated Bike Lanes (Class IV) are an exclusive bikeway facility that combines the user experience of a shared use path with the on-street infrastructure of a conventional bike lane. They are physically separated from motor vehicle traffic and distinct from the sidewalk.

Existing Facilities

The existing bikeway network provides varying levels of safety and comfort to riders, and differences can also be seen between the urban/suburban areas and the rural areas as described below.

Two critical aspects impact a person's level of comfort experienced on a bike facility: the type of bicyclists (as described earlier), and the roadway and traffic characteristics of the street where the bike facility is located. Both aspects were considered when evaluating existing bikeways and recommendations from the 2012 BPMP.

For additional information about current bicycling conditions, see Appendix D: Existing Conditions and Programs.

Urban and Suburban Areas

When evaluating the existing bicycle facilities in urban and suburban areas, the perspective of an "interested but concerned" rider was assumed. Most new riders are in the "interested but concerned" group; therefore, building facilities that serve them will provide the largest opportunity for meeting the BPMP's goal of increasing ridership. In these areas, short trips are possible, and this user group is more likely to ride if conditions are conducive.

Figure 4.2. Class III facility along Hampton Road in Cherryland

Key Takeaways

- The comfort levels of Class II and III facilities vary throughout the unincorporated areas.
- Some existing and proposed Class III facilities from the 2012 BPMP are comfortable for most people today, as they are located on low-speed, low-volume streets. An example includes the low-speed street of Hampton Road in Cherryland (see Figure 4.2).
- Other existing and proposed Class II and III facilities from the 2012 BPMP are not comfortable for most people. An example includes the Class II bike lane along Grove Way between Redwood Road and Castro Valley Boulevard in Castro Valley (see Figure 4.3).
- Similarly, there are more and less comfortable Class II bike lanes for less experienced bicyclists, based on the street's speed limit, traffic volume, available roadway width, and on-street parking demands.

Figure 4.3. Class II bike lane along Grove Way between Redwood Road and Castro Valley Boulevard in Castro Valley.

Rural Areas

For rural areas, the perspective of a "somewhat confident" rider was used. "Somewhat confident" riders have a higher tolerance of being adjacent to high automobile traffic speeds without physical separation. This rider profile was assumed in rural areas because of the areas' remote and scenic character, implying that most riders in these areas are experienced recreational riders who are comfortable biking long distances on roadways shared with vehicular traffic.

Key Takeaways

- Currently, most rural routes are marked by signage and, in some cases, pavement markings.
- In rural parts of the Livermore area, the shared use paths and trails provide a comfortable facility for all rider types.

Intersections

Even when the bicycle facility along a roadway is comfortable for most riders, issues at intersections may affect comfort and safety. The greater exposure to conflicts due to turning movements means that conditions at intersections must be addressed.

Key Takeaways

- Bike lanes dropping on intersection approaches, leaving bicyclists without dedicated roadway space and exposed to conflicts with vehicle traffic.
- Unmarked and lengthy approaches through intersections
- Major complex intersections are typically not suitable for even the most confident bicyclists.
- Smaller intersections also need attention; for example, bicyclists may need special accommodation for turning movements from off-street facilities.
- At unsignalized intersections with major streets, active warning devices or median islands may be needed to facilitate crossing for both pedestrians and bicyclists.
- Bicycle detection should be provided at intersections with actuated (i.e., demand-based) signals.

Appendix E: Bicycle and Pedestrian Facilities Toolkit provides additional information on intersection treatments.

Connectivity and Comfort

While the discussion thus far has assessed how individual segments and intersections function for bicyclists, the sum of these parts is the most important aspect of a bicycle network. Connectivity is the ability to get to destinations conveniently, cost-effectively, and reliably. For a bicycle network, connectivity means that residences, places of employment, shopping, educational campuses, transit stations, and community amenities are safely and comfortably accessible by bicycle. The network should provide continuous, comfortable bikeways for trips.

Today, many trips in the unincorporated areas would be uncomfortable for a rider with low tolerance for traffic stress. Though there are more connected bicycle facilities in the densely-developed western unincorporated areas, many facilities do not offer a low-stress riding experience.

The following is a summary of bikeway facility types and connectivity opportunities by community.

- **Ashland.** Ashland's bike lanes are located on or connecting to Foothill Boulevard, Ashland Avenue, and E. Lewelling Boulevard. While they provide connections to the commercial areas along these major streets, many are located on higher-speed, higher-volume streets that are not comfortable for the "interested but concerned" bicyclist.
- **Castro Valley.** Castro Valley's bike lanes are located on or connecting to Foothill Boulevard, Castro Valley Boulevard, and Redwood Boulevard. As in Ashland, the bike lanes in Castro Valley are located on higher-speed, high-volume roads with high levels of connectivity and lower levels of comfort for the "interested but concerned" bicyclist. For example, planned improvements at the intersection of Forest Avenue and Castro Valley Boulevard are included in the Alameda County Capital Improvement Plan.
- **Cherryland.** Cherryland's bike lanes and routes are generally more comfortable since they are located on smaller streets. These facilities connect neighborhoods, Meekland Avenue (the main thoroughfare), parks, and schools.
- **Fairview.** Fairview has one bike lane along Five Canyons Road and Maud Avenue which connects to Castro Valley Boulevard; however, the bike lane does not connect to the neighborhood's schools or parks. Bike routes are on streets with vehicle speeds that are higher than comfortable for the "interested but concerned" bicyclist.
- **San Lorenzo.** San Lorenzo's bicycle network is mostly bike routes, with bike lanes and a sidepath along Grant Avenue leading to the Bay Trail at its western terminus. In general, the bike facilities lead to, or near, destinations such as schools and parks that are along larger connector streets. Many likely provide a lower-stress riding experience since they are on smaller streets.
- **Sunol and East County.** There are few bike facilities in this area. The shared use paths and bike lanes that do exist are continuations of bike facilities from Livermore on Stanley Boulevard, Tesla Road, Greenville Road, Palo Verde Road, and Wand North Livermore Avenue. These facilities provide some access to the national labs and vineyard destinations, but they do not yet provide a connected, low-stress network for "interested but concerned" (or somewhat confident) riders.

Some bikeways cross municipal boundaries or are located near them. ACPWA will continue to facilitate collaboration with partner agencies and communities that neighbor unincorporated areas, including Hayward and San Leandro, especially with respect to Class IV separated bikeways.

As part of the forthcoming Hayward Bicycle and Pedestrian Master Plan Update and the 2018 San Leandro Bicycle and Pedestrian Master Plan, separated bikeways are planned on Mission Boulevard, in downtown Hayward, and near the Bay Fair BART station.

Bicycle Network

The proposed Bicycle Network includes the selection of streets in the unincorporated areas on which to implement appropriate bicycle infrastructure to meet the needs of the community while achieving the BPMP's goals of connectivity, accessibility, and safety.

The Bicycle Network is an approximately 266-mile network consisting of:

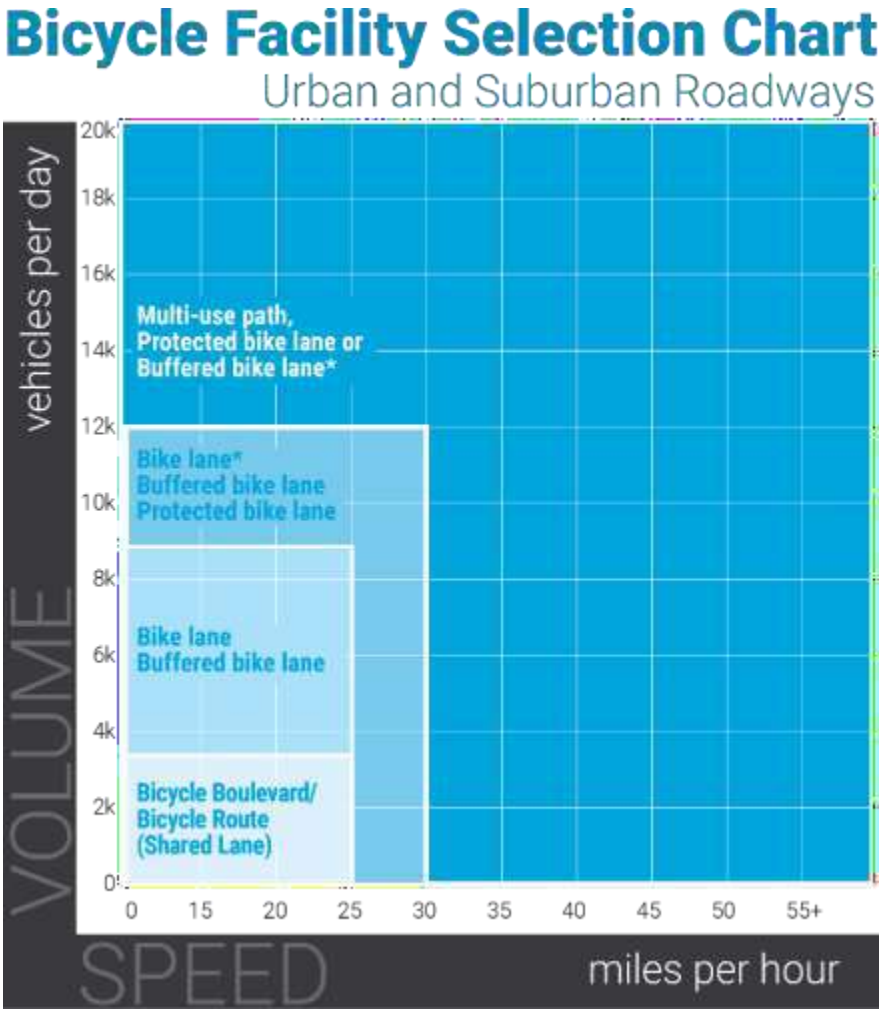
Facility	Proposed Length (approximate, in miles)	Existing Length (approximate, in miles)
Class I: Shared Use Paths	32.2	4.4
Class II: Bike Lanes, Buffered Bike Lanes, and Climbing Lanes	58.9	40.8
Class III: Bike Routes and Rural Routes	164.8	20.6
Class IV: Separated Bike Lanes	10	N/A
Total Network	**265.9**	**65.8**

Some facilities may be constructed in the short-term while others will require additional funding or right-of-way acquisition and may be implemented in the long-term. The full project list can be found in Chapter 7: Implementation and Funding.

Development of the Bicycle Network

When developing the Bicycle Network, current speed limits and traffic volumes were key data points. To guide recommendations, especially in urban and suburban areas, the Bicycle Facility Selection Chart was used (see Figure 4.4). More information can be found in Appendix E: Bicycle and Pedestrian Facilities Toolkit.

Facilities were only recommended if they fit within the existing curb-to-curb width, an assumption made to ease implementation of the recommendations. Actions identified to reallocate roadway space to implement facilities include lane diets (i.e., reducing the width of vehicle lanes), road diets (i.e., reducing the total number of vehicle lanes), and, in limited cases, roadway widening. Widening is only recommended on streets with open drainage. Traffic calming is recommended for implementation of bike boulevards in most cases, and installation of shared lane markings and wayfinding in others.



* To determine whether to provide a shared-use path, separated bike lane, or buffered bike lane, consider pedestrian and bicycle volumes or, in the absence of volume, consider land use

Figure 4.4. Bicycle Facility Selection Chart

Bicycle Network Maps

Figures 4.5 to 4.9 illustrate the Bicycle Network for the Unincorporated Areas of Alameda County.

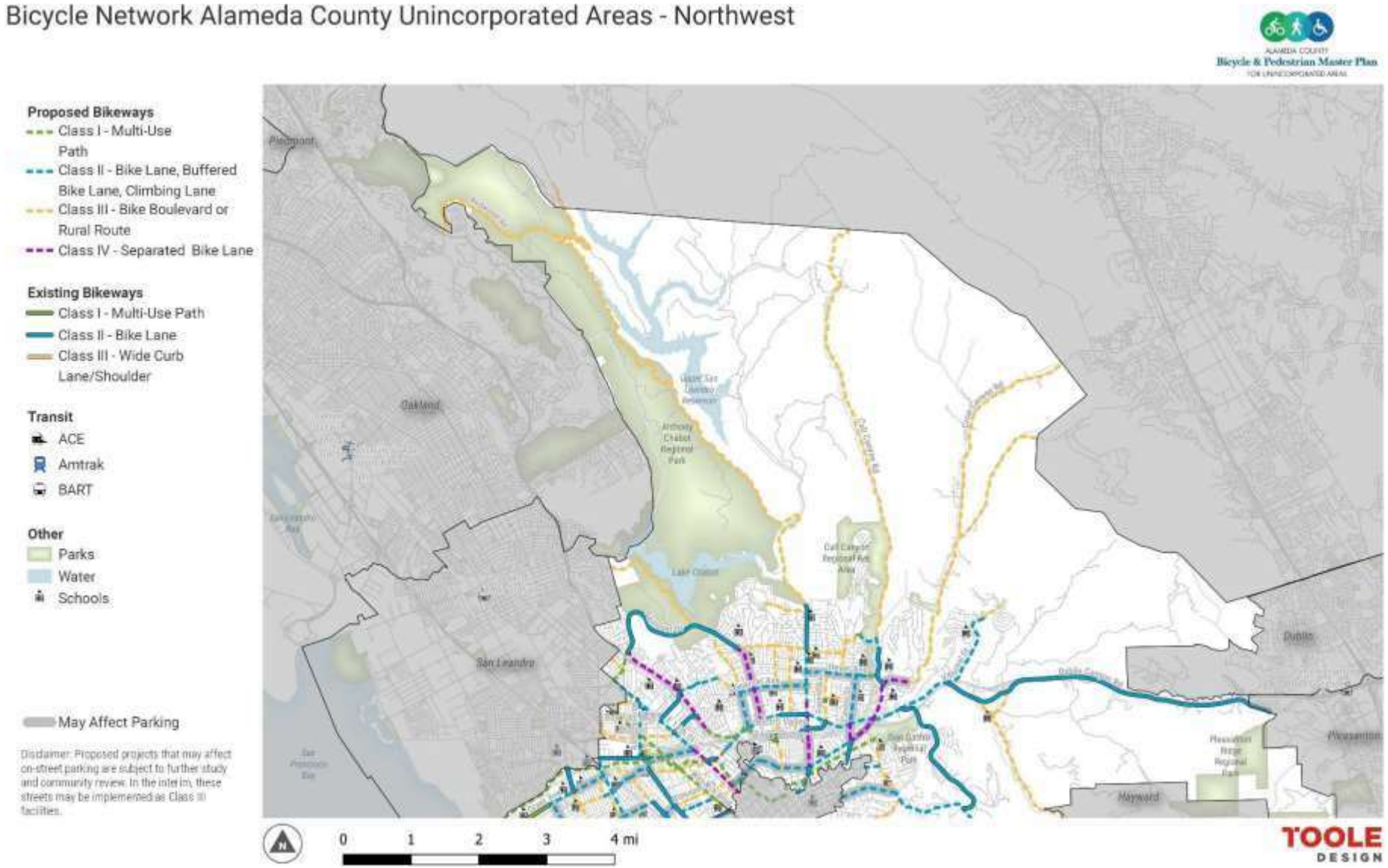


Figure 4.5. Bicycle Network - Northwest

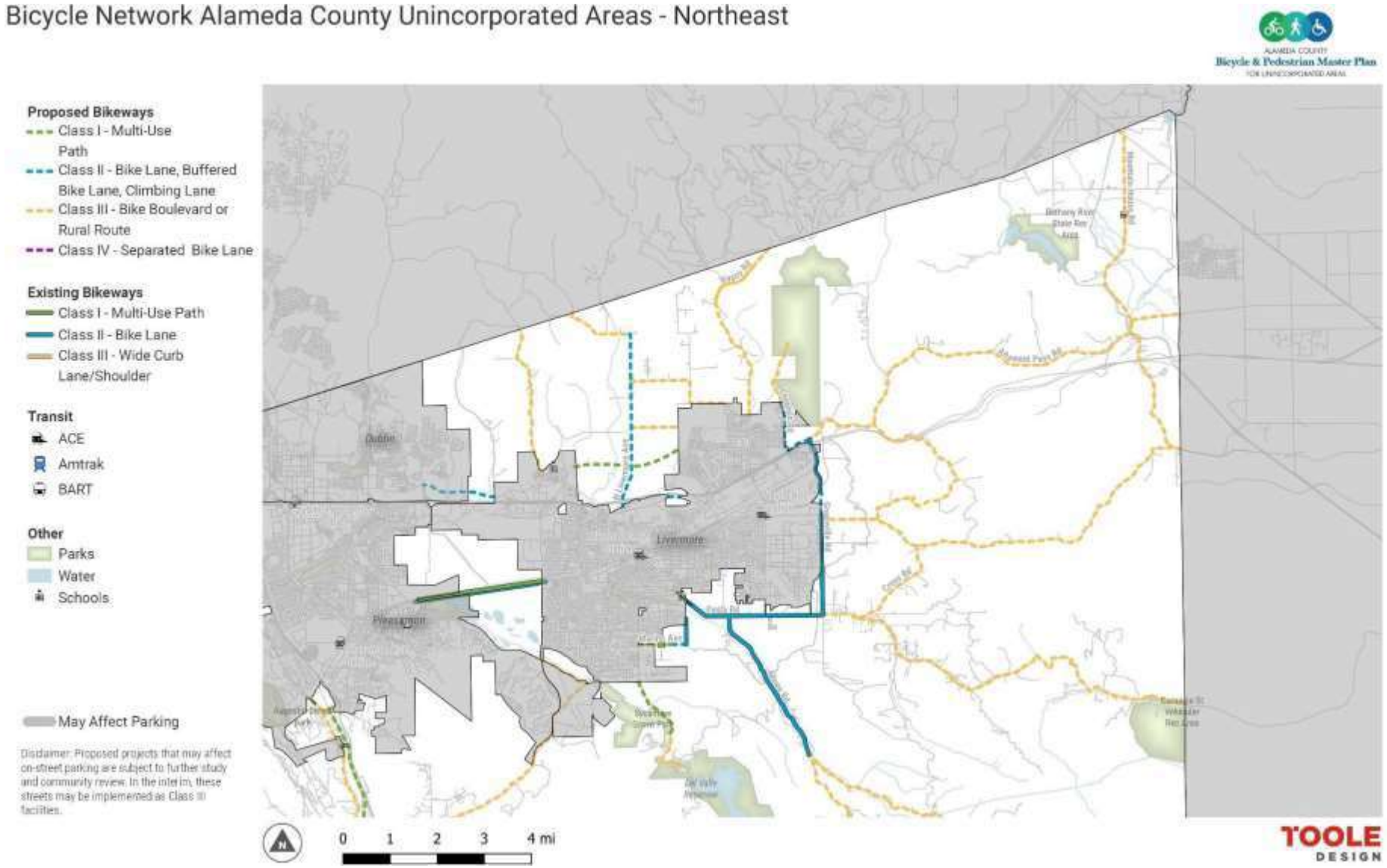


Figure 4.6. Bicycle Network - Northeast

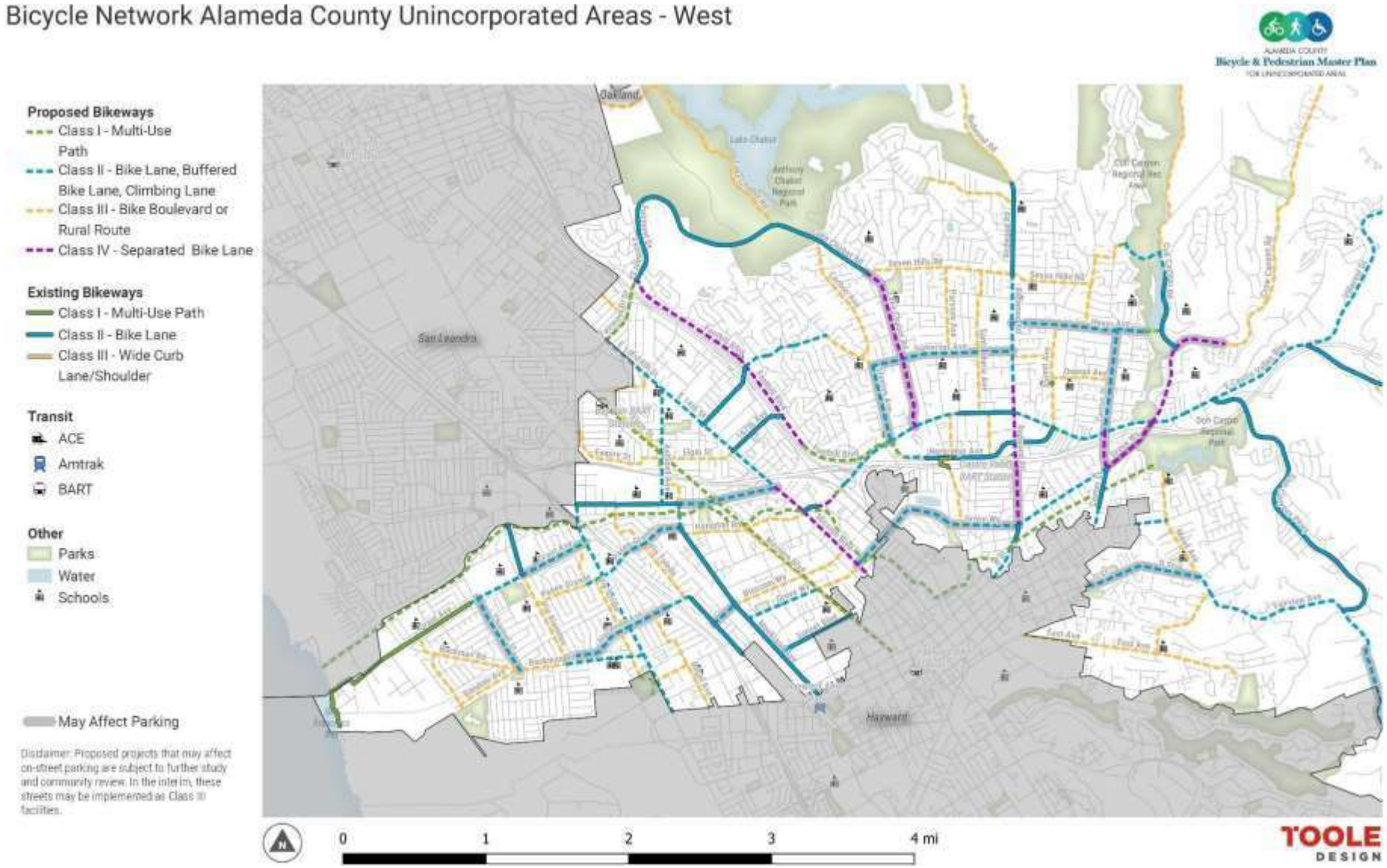


Figure 4.7. Bicycle Network – West

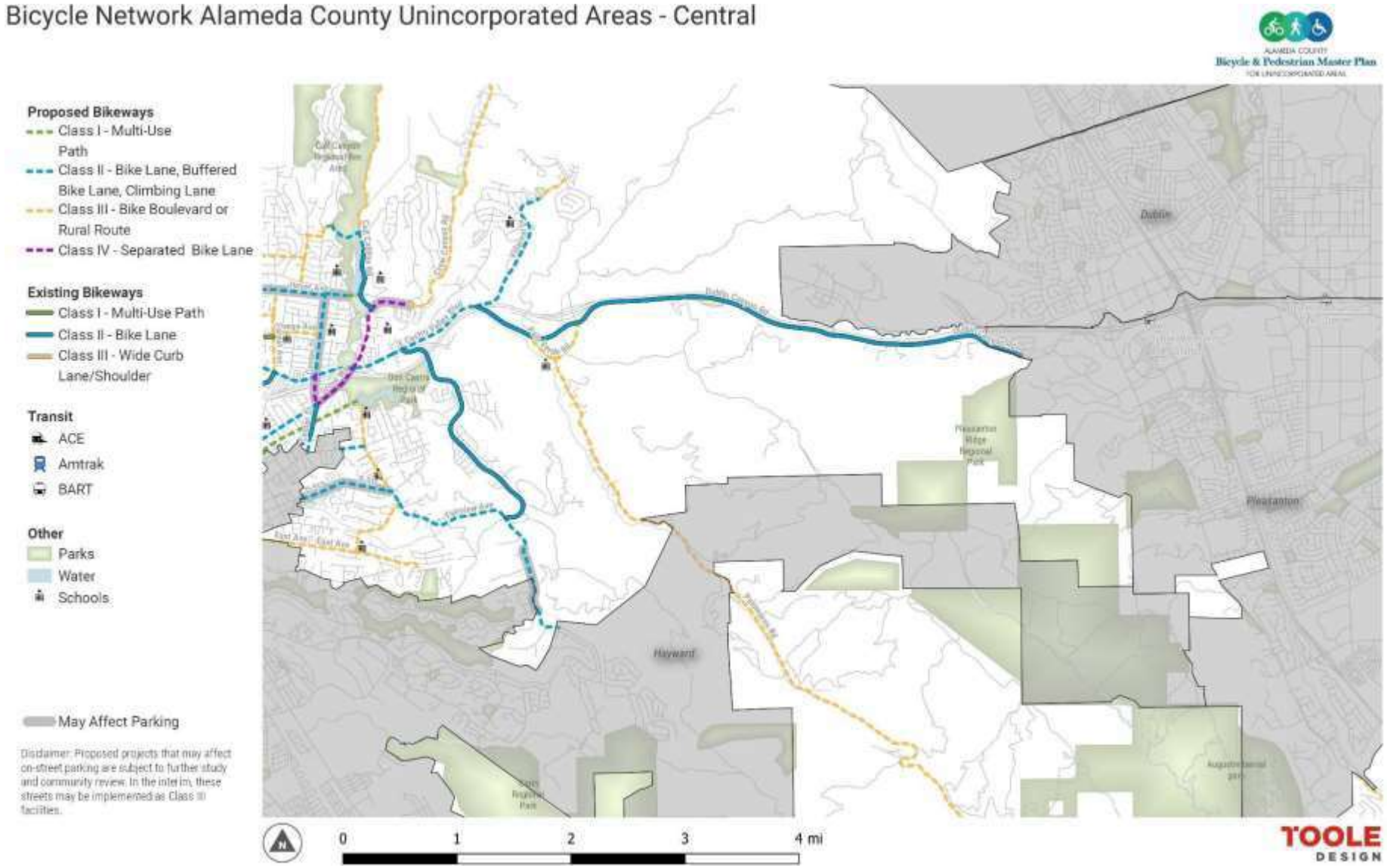


Figure 4.8. Bicycle Network - Central

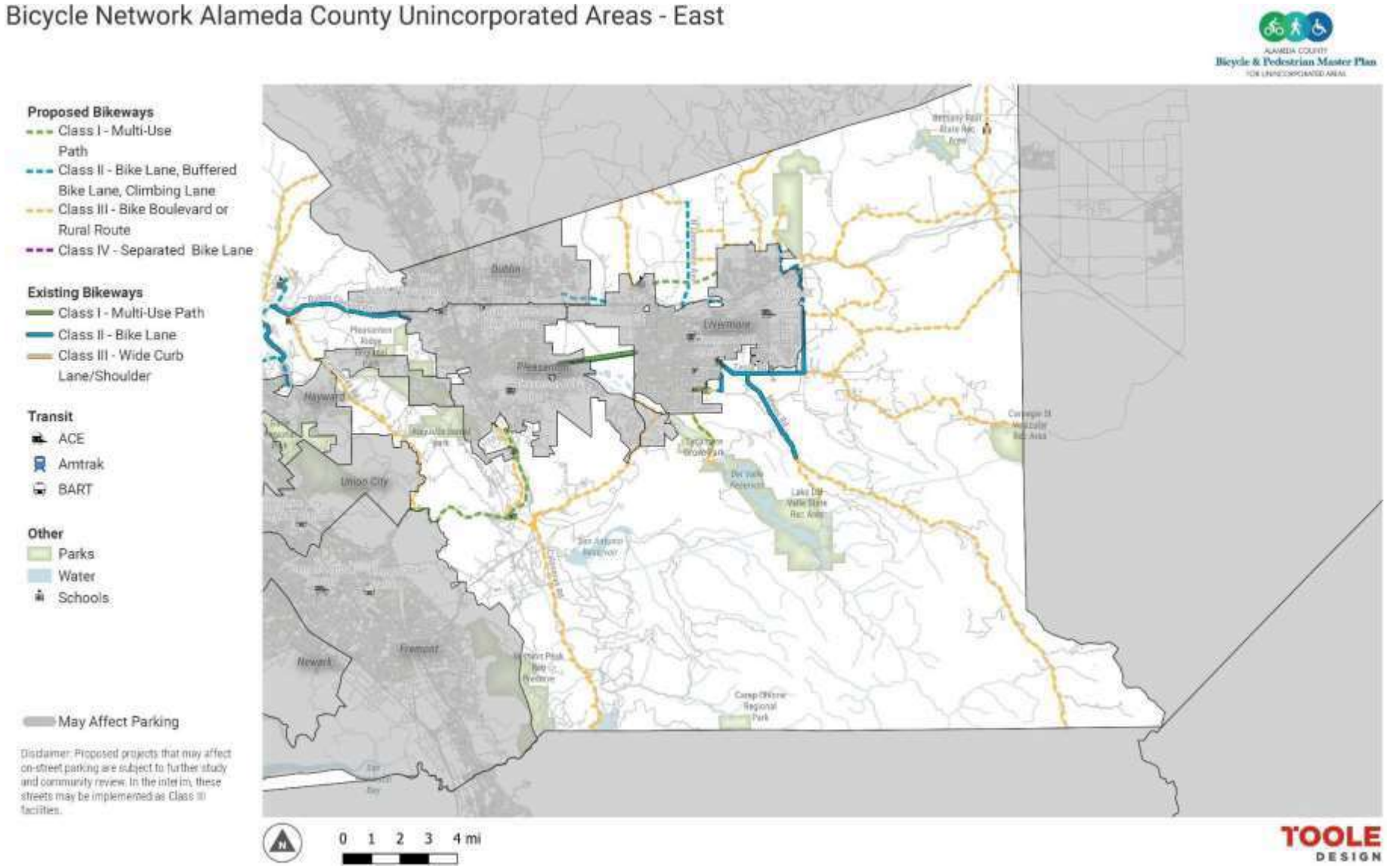


Figure 4.9. Bicycle Network - East

Bicycle Support Facilities

In addition to bicycle infrastructure, support facilities provide increased comfort and predictability for bicyclists. A summary of recommendations for bicycle support facilities in the unincorporated areas is provided in Table 4.1.

Table 4.1. Summary of Bicycle Support Facility Recommendations

Support Facility	Recommendation
Wayfinding Signage	Develop a regional wayfinding system
Bicycle parking on public property	Develop and fund a bicycle rack installation program
Bicycle parking on private property	Partner with the Alameda County Community Development Agency to develop a bicycle parking ordinance
End-of-Trip Facilities	Develop an end-of-trip planning guide for employers
Bike share	Conduct a feasibility study if/when ACPWA is interested in pursuing bike share

Signage and Wayfinding

Wayfinding is an important part of a complete pedestrian and bicycle network. Wayfinding can help people navigate the transportation network with confidence and find their way past barriers such as complex intersections, dead-end streets, high-stress roadways, or steep hills. Wayfinding signage also directs bicyclists and pedestrians to key destinations, such as commercial centers, public facilities, parks, or transit stations. Wayfinding signage can provide the distance, by mileage and/or time, to these destinations.

Existing Signage

Typical characteristics of the bicycle-oriented signage in the unincorporated areas include:

- Signs that state the type of facility on the roadway
- Posted signs and sharrows, which are painted on the roadway
- “SHARE THE ROAD” signs, indicating that motorists must share the roadway with bicyclists, in rural areas

Recommended Wayfinding Signage

Wayfinding, which can include stand-alone signs, markings painted on the street, or other signage, should be placed along walking and biking routes. Kiosks can be installed that provide detailed maps directing users to nearby destinations (see Figure 4.10).

Successful wayfinding systems include decision signs, confirmation signs, and turn signs.

- Decision signs are typically placed at decision points along bicycle routes, such as at intersections and key locations heading to and along bicycle routes.
- Confirmation signs indicate that bicyclists or pedestrians are on a designated bicycle or pedestrian facility.
- Turn signs indicate where a path turns from one street or facility to another.

ACPWA could partner with communities to develop a regional wayfinding system; this system could be based on successful systems in the incorporated areas. The system should have a similar brand throughout the unincorporated areas and be compatible with local wayfinding. Communities could adjust the brand to reflect local character while still maintaining consistent signage elements.

Figure 4.10. Wayfinding signage along a trail in Seattle, WA

Bicycle Parking

Secure bicycle parking is essential for encouraging bicycling for utilitarian trips, such as to work, shopping, and school. There are a variety of bike parking types, which reflect the need of the users, the location, and the length of time that the bicycle will be parked.

Long-term parking is designed to meet the needs of employees, residents, public transit users, and others who often leave their bicycles unmonitored for a period of several hours or longer. These users require security and weather protection that let them park without unreasonable concern for loss or damage (see Figure 4.11). Examples of long-term bicycle parking includes lockers or other secure, enclosed shelters.

Figure 4.11. Bike lockers are an example of long-term, secure bicycle storage.

Short-term parking is designed to meet the needs of people visiting businesses and institutions – typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the

parking should be readily visible. Recommended short-term racks include inverted-U, post and ring, or bike corrals at destinations with high demand.

Recommended Bike Parking

The following sections describe strategies for providing adequate bicycle parking both on public and private property. Table 4.2 summarizes the recommended types of bicycle parking and specifications for different land uses.

Table 4.2. Recommended Bicycle Parking by Location

Land Use	Short-term Spaces Specifications*	Long-term Spaces
Schools	One space for each 20 students (minimum of two spaces)	One space for 10 employees (minimum of two); for junior and high schools, also provide one space for each 20 students
Parks	Spaces for 2% of maximum daily attendance	One space for each 20 employees (minimum of two spaces)
Libraries	One space for each 8,000 square feet of floor area (minimum of two spaces)	One space for each 10 employees (minimum of two spaces)
Transit Hubs	Spaces for at least 1.5% of morning peak period daily ridership	Spaces for at least 5% of projected morning peak period daily ridership
Retail and Commercial	One space for each 5,000 square feet of floor area (minimum of two spaces)	One space for each 12,000 square feet of floor area (minimum of two spaces)
Office	One space for each 20,000 square feet of floor area (minimum of two spaces)	One space for each 10,000 square feet of floor area (minimum of two spaces)
Multi-family housing	For each bedroom, 0.05 spaces (minimum of two spaces)	*If a private garage is not provided for each unit:* For each bedroom, 0.05 spaces (minimum of two short and long-term spaces)

* These specifications are based on recommendations from the Association of Pedestrian and Bicycle Professional's *2010 Bicycle Parking Guidelines* which can be found at www.apbp.org.

Bike Parking on Public Property

ACPWA could develop a bicycle rack installation program in which residents, local employees, and business or property owners could request the installation of a rack in the public right-of-way. ACPWA staff could evaluate the requests and then install the racks, if physically feasible and as resources allow. Potential locations may include proximity to:

- Local commercial activity centers and downtowns
- Existing bicycle facilities
- Regional trails
- Schools
- Transit hubs
- Mid- to higher-density residential districts

Bike Parking on Private Property

Regulatory policies, such as ordinances in development and zoning codes, can require the provision of adequate, secure bicycle facilities. ACPWA could investigate how to partner with the Planning

Department in the Alameda County Community Development Agency to develop a bicycle parking ordinance which could specify:

- Type of racks that are permitted (such as inverted-U, post and ring, or wheel well-secure racks)
- Rubric for the number of short- and long-term racks based on a building's square footage or number of units
- Where the racks should be placed
- Incentives for developers to provide additional bicycle parking or amenities

Additional End-of-Trip Facilities

In addition to bicycle parking, other "end-of-trip facilities" make it easier and more comfortable for people to walk and bike, especially to work.

Examples of "end-of-trip" facilities include:

- Dedicated bicycle storage (see Figure 4.12)
- Extra wide hallways or bike elevators
- Bicycle workrooms
- Bike-washing stations
- Bike valet
- Shower and/or locker facilities
- Bicycle mechanic available on site
- Investment in on-site bike rentals or bike share
- Bike park and ride

Figure 4.12. Staffed bike stations, such as this station near the Berkeley BART station, are examples of end-of-trip facilities.

An end-of-trip planning guide should be considered by the County to help employers and communities increase the number of end-of-trip facilities throughout the region. This guide would be an appropriate addition to a Transportation Demand Management (TDM) program which encompasses a broad range of initiatives to support walking, biking, riding transit, and carpooling/ridesharing as an alternative to driving.

As a complement to the end-of-trip planning guide, the County may require secure parking (such as lockers or bike racks), repair equipment, and/or showers as a stipulation for new developments.

Bike Share

Bike share systems offer residents and visitors an easy transportation alternative that allows one-way or round trips to key destinations. Bike share bikes and stations can be located in the public right-of-way or on private property and are available around the clock (see Figure 4.13). Bike share trips tend to serve short trips, typically around 30 minutes, and can provide a first and last mile link to transit such as BART.

Bike share systems are currently in the incorporated areas of Alameda County in the cities of Alameda, Emeryville, Oakland, and Berkeley.

Feasibility studies provide a better understanding of the potential success of bike share systems. As a part of a feasibility study, the following factors are considered:

1. Community's context and other factors that may influence bike share demand, such as collocating the bikeshare stations near facilities that users are comfortable riding; and
2. Community's support for a bike share system, which includes the support of the public and key stakeholders, potential sponsors, grant funding, and a process for who will own, operate, and maintain the system.

Figure 4.13. Ford GoBike bike share station in Berkeley, CA

Bike share systems require the support of a broad range of community stakeholders, including public agencies, local advocacy groups, community program leaders, and the private sector. A primary decision for bike share programs is to determine who will own, manage, and operate the system. This decision typically comes from organizing the right team of stakeholders that will help to identify the ownership, management, and operations structure of the program.

To gain an understanding of whether a bike share program would be successful in the unincorporated areas, ACPWA could conduct a feasibility study to analyze the existing context, demand factors, and presence of community support for a bike share program.

Chapter 5: Pedestrian Network

Many of the walking trips in the Unincorporated Areas of Alameda County take place in the denser, more urbanized communities. These areas have opportunities to improve walking conditions through closing sidewalk gaps, improving pedestrian crosswalks at intersections, and implementing traffic calming and streetscape improvements.

This chapter presents pedestrian projects which focus on spot improvements and corridor-wide improvements and aim to enhance walking in these more urbanized communities. The Plan's recommendations are based upon updates to the 2012 Plan's pedestrian project list; identification of key destinations such as schools, transit hubs, shopping, trails, and others; Safe Routes to School projects; community comments; and best practices in pedestrian planning.

Planning Context

As stated in Chapter 4, the Unincorporated Areas of Alameda County include many different land uses and urban forms. The areas in the western part of the county include the more populated communities of Ashland, Castro Valley, Cherryland, Fairview, and San Lorenzo, and the areas in the eastern part of the county include more rural communities.

Throughout the unincorporated areas, many streets either lack sidewalks or have a disconnected sidewalk network. The sidewalk patterns are related to the adjacent land uses and, as such, where land uses are higher-intensity or are major trip generators (retail areas, schools, transit service, parks), sidewalks are usually present. Areas with low-density residential development or routes without adjacent development are less likely to have sidewalks, especially in the more rural areas of East County.

Summary of Existing Conditions by Community

The unincorporated areas vary greatly from one community to another. A wide range of pedestrian facility types will be needed to address the distinct characteristics of these communities.

San Lorenzo is the most heavily developed of the unincorporated areas and, as such, has the most complete pedestrian network. However, most of the roadway rights-of-ways are 50 feet, which provides opportunities to widen sidewalks. San Lorenzo also has limited connectivity throughout due to freeways and railroad lines and the existing infrastructure does not connect well to the neighboring cities of San Leandro and Hayward.

Ashland, Castro Valley, Cherryland, El Portal Ridge, Fairview, and Hillcrest Knolls, are mostly residential and have limited pedestrian facilities due to topography (hills), areas of low-density development patterns, and roadway conditions (some areas were developed completely without sidewalks, other areas lack curbs and gutters). Some areas with higher density patterns in Ashland and Cherryland also have incomplete pedestrian networks in several neighborhoods.

East County and Sunol, include most of the rural areas of the Unincorporated Areas of Alameda County and the least developed pedestrian network, which require pedestrians to use road shoulders to walk.

Constraints

Some challenges exist for further developing the pedestrian network in a convenient, safe, and comfortable way for all users. The most significant constraint is the lack of a street grid in many of the unincorporated areas. The disconnected nature of the street network in these areas lengthens walking times by forcing pedestrians to take longer, more circuitous routes.

High vehicle speeds and lack of sidewalks are also constraints for improving the pedestrian network, especially in the rural areas of East County. Missing sidewalks are a barrier on any street; however, it can be a serious safety concern when high speed roadways lack these facilities. Given the long stretches of road in East County where shoulders are the only walking option, pedestrians are likely to feel vulnerable and unsafe along many of these roadways.

In the 2012 Alameda County Bicycle and Pedestrian Plan for Unincorporated Areas, children, seniors, transit riders, and those without vehicles were assumed to be likely pedestrians (or more likely than others to be pedestrians). Given the rural and suburban nature of the unincorporated areas, it may be difficult and/or undesirable for children or seniors to walk because of distance or lack of continuous sidewalks. Still, the overall increase in population from 2010 to 2015 in communities throughout the unincorporated areas of Alameda County means that there will be more people who may walk, if they feel it is safe, comfortable, and have places in which to walk. The growth in the number of seniors in Castro Valley, Cherryland, Fairview, San Lorenzo, and Sunol offer promises that more people will see walking as a transportation option and may be looking for opportunities to drive less, if there is supportive infrastructure. Further discussion on the pedestrian activity trends within the unincorporated areas of Alameda County is provided in Appendix D.

Irrespective of these trends, the county's effort to create a safer, more connected pedestrian network in its unincorporated areas through this plan will ultimately benefit the entire population, regardless of age or vehicle ownership.

In the unincorporated areas in western Alameda County, completing the sidewalk network, especially in higher pedestrian demand areas, should be a priority. In the more rural eastern unincorporated areas of where a large sidewalk network may be infeasible, concentrated sidewalk networks, widened shoulders, crossings, and/or trail connections may be more resource-efficient approaches. See section on Recommended Pedestrian Improvements for a detailed listing of how to improve walking infrastructure.

Pedestrian Network Facilities

Pedestrian facilities are varied throughout the unincorporated areas and are usually associated with land uses. Higher density areas are more likely to have pedestrian facilities while lower density areas are less likely to have them. Existing conditions for sidewalks, crossings, and other pedestrian facilities are described below. See Appendix D for pedestrian projects completed since 2000.

Sidewalks

Sidewalks play a critical role in the character, function, enjoyment, and accessibility of neighborhoods, streets, and other community destinations. Sidewalks provide a dedicated space with the primary purpose of accommodating pedestrian travel.

Existing Conditions

- Many streets in the unincorporated areas do not have sidewalks, and there are frequent gaps in sidewalks where they are present (see Figure 5.1). A complete list of identified sidewalk gaps can be found in Appendix D.
- If streets do not have a sidewalk, pedestrians walk in the shoulder or roadways.
- On streets with rolled curbs, cars are often parked on sidewalks and areas usually reserved for pedestrians (see Figure 5.2).

Figure 5.1. Opportunity to fill in sidewalk gap on Heyer Ave in Castro Valley

Opportunities

- Streets near schools are high priorities for sidewalks and curb ramp improvement projects. Gap closures in the sidewalk network near schools may encourage more children to walk to school.
- Vertical curbs as part of a sidewalk will help to manage on-street parking and reduce vehicles encroaching on space for pedestrians.

Figure 5.2. Example of car parked on the sidewalk

Crossings

Well-designed marked crosswalks provide clarity and comfort to pedestrians when crossing streets (see Figure 5.3). Drivers are legally required to yield to pedestrians at intersections, even when there are no pavement markings, though providing marked crosswalks communicates to drivers that pedestrians may be present. At mid-block locations, a crosswalk exists only if it is marked.

Existing Conditions

- Pedestrian crossings at major arterials are restricted at some locations and often placed far apart. Where warranted, mid-block crossings are installed by the County.
- Many intersections with existing sidewalks have curb ramps.

Figure 5.3. Example of well-marked crosswalk on Somerset Ave in Castro Valley

Opportunities

- Improved pedestrian crossings treatments should be evaluated at all major intersections near pedestrian generators.
- Marked crossings with other enhancements such as signage, refuge islands, active waning beacons (at unsignalized locations) will help drivers become more aware of pedestrian crossing locations.

Shared Use Paths

Shared use paths are physically separated from motor vehicle traffic and are for pedestrians, bicyclists, and other non-motorized users (see Figure 5.4). Shared use paths, are often located in independent alignments, such as a greenbelt or riparian corridors. However, they are also regularly constructed along roadways.

Existing Conditions

- Shared use paths are considered part of the pedestrian network and attractors for recreational walking.
- Regional shared use paths such as the Bay Trail are popular destinations.

Figure 5.4. Example of shared use path adjacent to Stanley Boulevard in the Tri-Valley area

Opportunities

- Consistent signage will help to direct people to these facilities.
- ACPWA should seek opportunities to increase the number of shared use paths/off-street facilities by evaluating levees and other properties for potential facilities.

Traffic Calming

Traffic calming uses physical engineering measures to reduce speeds and improve conditions for pedestrians and bicyclists (see Figure 5.5). Traffic calming aims to slow the speeds of motorists to a "target speed," usually 20 miles per hour or less for residential streets.

Existing Conditions

- ACPWA's Neighborhood Traffic Calming Program provides a set of traffic calming guidelines for local and collector roadways.
- High speeds are common along major arterials, and can be uncomfortable for pedestrians.
- Traffic calming has been installed in parts of the unincorporated areas. An example of traffic calming can be found on Western Blvd between Hampton Rd and Sunset Blvd in the form of chicanes.

Opportunities

- Residents can request traffic calming elements for their street through the Neighborhood Traffic Calming Program.
- Installing traffic calming measures, such as speed humps and curb extensions, will greatly increase the comfort of both pedestrians and bicycles (see Figure 5.6).

Figure 5.5. Example of center island treatment to horizontally deflect traffic and reduce speeds on Western Blvd in Cherryland

Figure 5.6. Speed hump on a neighborhood street.

Pedestrian Amenities

The provision of street trees, landscaping, lighting and signage enhances the pedestrian experience and can encourage more people to walk. These types of amenities may vary by street and should be sensitive to the environmental context.

Existing Conditions

- Use of street trees, landscaping, and lighting vary throughout the county, providing a wide variety of pedestrian comfort and desirability. Pedestrian amenities are found as part of the Lewelling Boulevard streetscape project in the form of pedestrian scale lighting, street trees, street identity banners and improved medians (see Figure 5.7).

Opportunities

- Context-sensitive application of pedestrian amenities on corridors will help to encourage more people to walk to businesses and other destinations.

Figure 5.7. Streetscape treatments on Lewelling Blvd in Cherryland

Pedestrian Projects

As discussed in previous sections, the pedestrian experience in the Unincorporated Areas of Alameda County varies dramatically and is dependent on land uses, roadway type, and existing pedestrian infrastructure. This Plan presents a list of pedestrian improvements and sidewalk projects focused on providing a more comfortable and accessible walking environment, especially in the denser areas of the county. This list was based on the conditions described above as well as pedestrian demand and community input. The pedestrian and sidewalk projects complement the project list developed through the Safe Routes to School project for the Unincorporated Areas of Alameda County (discussed later in this chapter).

Planned Pedestrian Improvements

The following projects are unique to specific areas, versus the county's unincorporated areas as a whole.

Eden Area

This area includes Ashland, Cherryland, and San Lorenzo. Several of the ongoing and future projects and plans that would address pedestrian safety and accessibility include:

- Urban trails, particularly along San Lorenzo Creek, have been identified in recent trail plans: The proposed 8.7-mile San Lorenzo Creek Trail extends from the San Francisco Bay Trail at its western terminus, traveling along the creek through communities in San Leandro, San Lorenzo, Ashland, Cherryland, Hayward, Castro Valley, and Fairview, and terminating with a connection to the Bay Area Ridge Trail in Cull Canyon at its eastern terminus. This trail will bridge a gap in regional infrastructure, connecting with nearly 900 miles of existing and planned trails. This project will require additional study prior to implementation.

- East 14th Street Underground Utility and Streetscape Project – Phases II and III: ACPWA has initiated a streetscape project along East 14th Street, which includes utility undergrounding, widened sidewalks, bulb-outs, improved bus stops, landscaped medians, pedestrian scaled lighting and street furniture.
- Hesperian Corridor Streetscape Improvement Project Master Plan: The purpose of the project is to revitalize the corridor between I-880 and West A Street in San Lorenzo and to make it an inviting streetscape. The projects include pedestrian lighting, connections to points of interest, compliance with ADA, bus shelters, benches, sidewalk widenings, public gathering places, increased visibility of transit stops, traffic calming measures, retainage of parking and stamped colored concrete/accent paving.
- Lewelling Boulevard/East Lewelling Boulevard from Hesperian Boulevard to Mission Boulevard: Phase I of this project between Hesperian Boulevard and Meekland Avenue (Phase I) is completed. The recommendation is to complete the roadway widening, pedestrian and bicycle improvements on the remaining segment from Meekland Avenue to Mission Boulevard. The design phase is currently under way.
- Safe Routes to School projects at the elementary schools in the Eden Area with new sidewalks, improved crossings and lighting.
- Sidewalk Construction Program for Planning Area 2: The program has two components: (1) Sidewalk repairs, in which APCWA will pay one-half the costs to repair sidewalks up to $750, and (2) Sidewalk construction, which includes the ranked priority roadways.

Table 5.1 summarizes the sidewalk projects currently under construction, in design, pending funding approval, or planned for the Eden Area. A prioritized list of sidewalk gap projects can be found in Chapter 7: Implementation and Funding.

Table 5.1. Sidewalk Projects for the Eden Area

Project	Project Type	Project Limits		Length (ft)	Cost	Destination Served	Status
		From	To				
Ashland							
E. 14th St Phase 2	Major Corridor	162nd Ave	I-238	4,400	$20M	Central Business District	Design
164th Ave	Sidewalk	E. 14th	Liberty St	2,100	$0.5M	East 14th Corridor	Under construction
East Lewelling Blvd	Major Corridor	Meekland Ave	Mission Blvd	3,660	$10M	Nearby Schools	Design
Cherryland							
Western Blvd	Sidewalk	Sunset Blvd	Hampton Rd	4,935	$2.5M	Cherryland Elementary School	Under construction
Meekland Ave	Major Corridor	A St	Blossom Way	4,520	$6M	Meekland Commercial Corridor	Completed
Meekland Ave	Major Corridor	Blossom Way	East Lewelling Blvd	4,300	$11M	Colonial Acres Elementary School	Under construction
Haviland Ave	Sidewalk	Grove Way	Blossom Way	620	TBD	Cherryland Elementary School	Under construction
Mission Blvd	Major Corridor	I-238	Hayward City Limit	5,390	$50M	General Business District	Design

Project	Project Type	Project Limits		Length (ft)	Cost	Destination Served	Status
		From	To				
San Lorenzo							
Royal Ave	SR2S	Hayward City Limit	Bartlett	1,900	$1M	Royal Sunset HS, Lorenzo Manor	Design
Hesperian Blvd	Major Corridor	Hayward City Limit	I-238	8,000	$26M	San Lorenzo Commercial Corridor	Design

Castro Valley Area

This area includes Castro Valley and Fairview, which are lower density and suburban in character in part due to the geographic setting. This area also includes El Portal Ridge and Hillcrest Knolls.

The Castro Valley General Plan set policies that focus on revitalizing the downtown and commercial areas to create a pedestrian-friendly, vibrant environment. Several on-going and future projects and plans support this goal, including:

- Crossing improvements with new traffic signals and pedestrian accommodations at locations on Castro Valley Boulevard, Somerset Avenue, Stanton Avenue, and Lake Chabot Road.
- Safe Routes to School projects at the elementary, middle, and high schools in the Castro Valley Area with new sidewalks, improved crossings and lighting.
- Sidewalk Construction Program for Planning Area 2: The program has two components: (1) Sidewalk repairs, where the County will pay one-half the costs to repair sidewalks up to $750, and (2) Sidewalk construction, which includes the ranked priority roadways. Refer to Appendix D for a listing of these projects.
- Continued coordination with Hayward Area Recreation and Park District (HARD) and East Bay Regional Park District (EBRPD) regarding pedestrian access to and within park facilities and trails.

Table 5.2 summarizes the sidewalk projects currently under construction, in design, pending funding approval, or planned for the Castro Valley Area.

Table 5.2. Sidewalks Projects for the Castro Valley Area

Project	Project Type	Project Limits		Length (ft)	Cost	Destination Served	Status
		From	To				
Castro Valley							
Anita Ave	SR2S	Castro Valley Blvd	Somerset Ave	2,290	$5M	Castro Valley Elementary School	Design
Center St	SR2S	Heyer Ave	Paradise Knolls	1,310	$1.5M	Creekside Middle School	Under construction
Santa Maria	SR2S	Castro Valley Blvd	Wilson Ave	4,320	$4M	Castro Valley High School	Under construction
Stanton Ave	SR2S	Castro Valley Blvd	Miramar Ave	4,900	$5M	Stanton Elementary School	Design
Somerset Ave	SR2S	Lake Cabot Rd	Redwood Rd	4040	$4M	Nearby Schools	Design

Project	Project Type	Project Limits		Length (ft)	Cost	Destination Served	Status
		From	To				
Fairview							
East Ave	SR2S	E St	Camino Vista	6,950	$3M	East Avenue Elementary School	Under construction
D Street	SR2S	Fairview Ave	Hayward CL	4,040	$4M	Nearby Schools	Design

East County Area

This area includes East County and Sunol, which are low density, rural communities. Planning efforts in the East County have identified the following goals:

- East County Area Plan delineated an urban growth boundary and established policies for development in the area including:
    - Create and maintain a safe and convenient pedestrian system that connects residential, commercial and recreational uses.
    - Construct shared use trails along the Iron Horse alignment and the Altamont Pass Southern Pacific rights-of-way.
    - Require circulation and site plans for individual developments that minimize barriers to access by pedestrians, individuals with disabilities and bicyclists.
- Continued coordination with East Bay Regional Park District (EBRPD) and Livermore Area Parks & Recreation District regarding pedestrian access to and within park facilities and trails.

The Sunol Community Study recommended three high priority actions:

- Complete improvements to the public parking lots at Sunol Glen Elementary and train stations, including the construction of bicycle racks. (Note: This project is ineligible for funding allocated to roadway improvements.)
- Enhance character of community to maintain the rustic, small-town atmosphere with pedestrian amenities, park benches, landscaping, and pedestrian-scale streetlights.

Several on-going and future projects and plans would address these issues including:

- Safe Routes to School projects at Sunol Glen school with crosswalk improvements, curb extensions, and pedestrian ramps.
- Widened shoulders to accommodate bicyclists and pedestrians on many of the rural roads including: Mines Road, Tesla Road, Calaveras Road, and Pleasanton-Sunol Road.

Safe Routes to Schools Projects

In addition to the projects listed above Safe Routes to Schools projects for schools in the Unincorporated Areas of Alameda County are focused on enhancing pedestrian safety and network connectivity.

The Alameda County Unincorporated Areas Safe Routes to School Project (SRTS) was completed in 2019. The SRTS project identified projects around the 35 schools (32 public elementary, middle and high schools, and three charter schools) in the unincorporated areas. These projects were identified during workshops and through walk audits during pick-up or drop-off. Figures 5.8-5.12 illustrate the bike and pedestrian collision data and school walksheds.

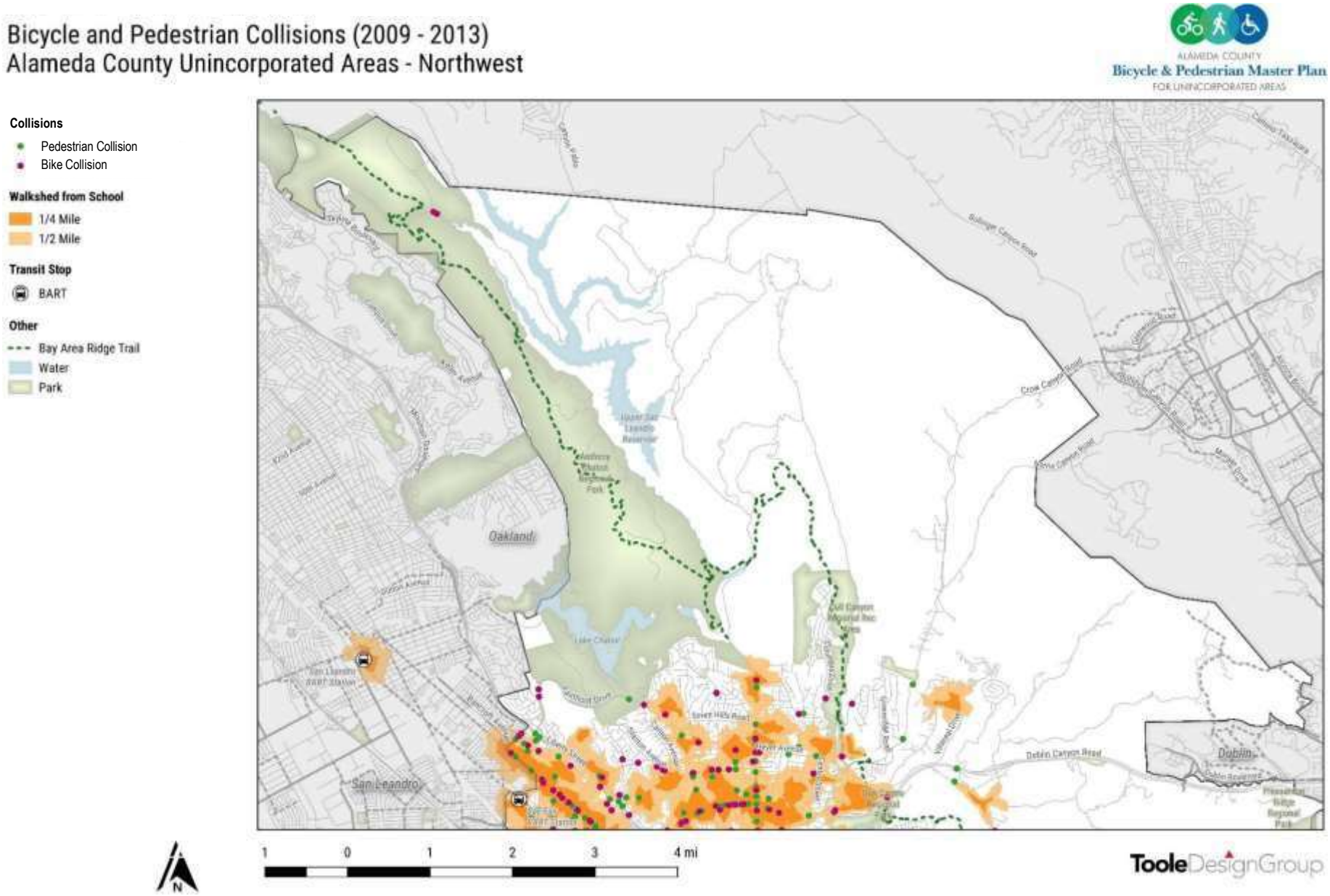


Figure 5.8. Bicycle and Pedestrian Collisions - Northwest

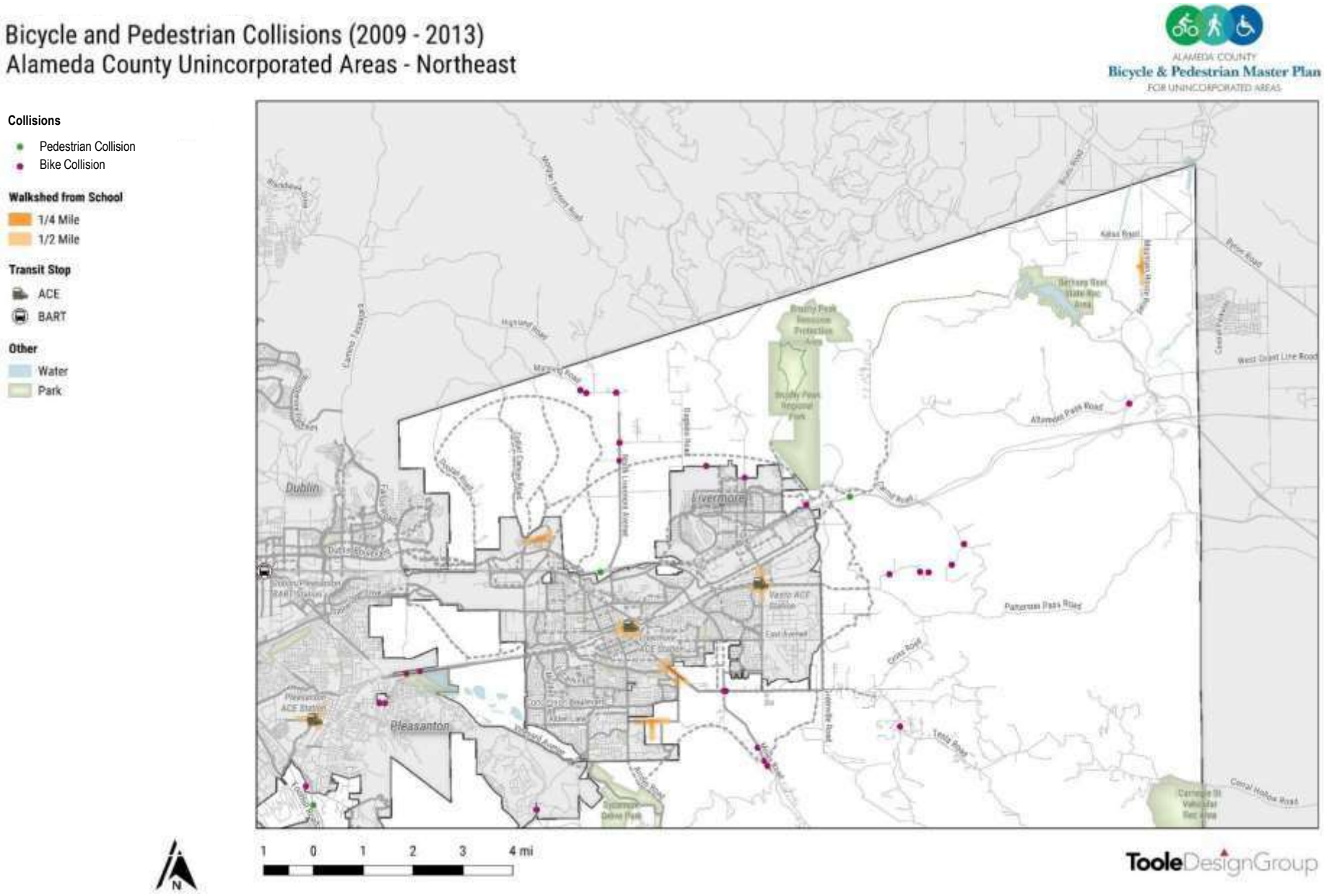


Figure 5.9. Bicycle and Pedestrian Collisions - Northeast

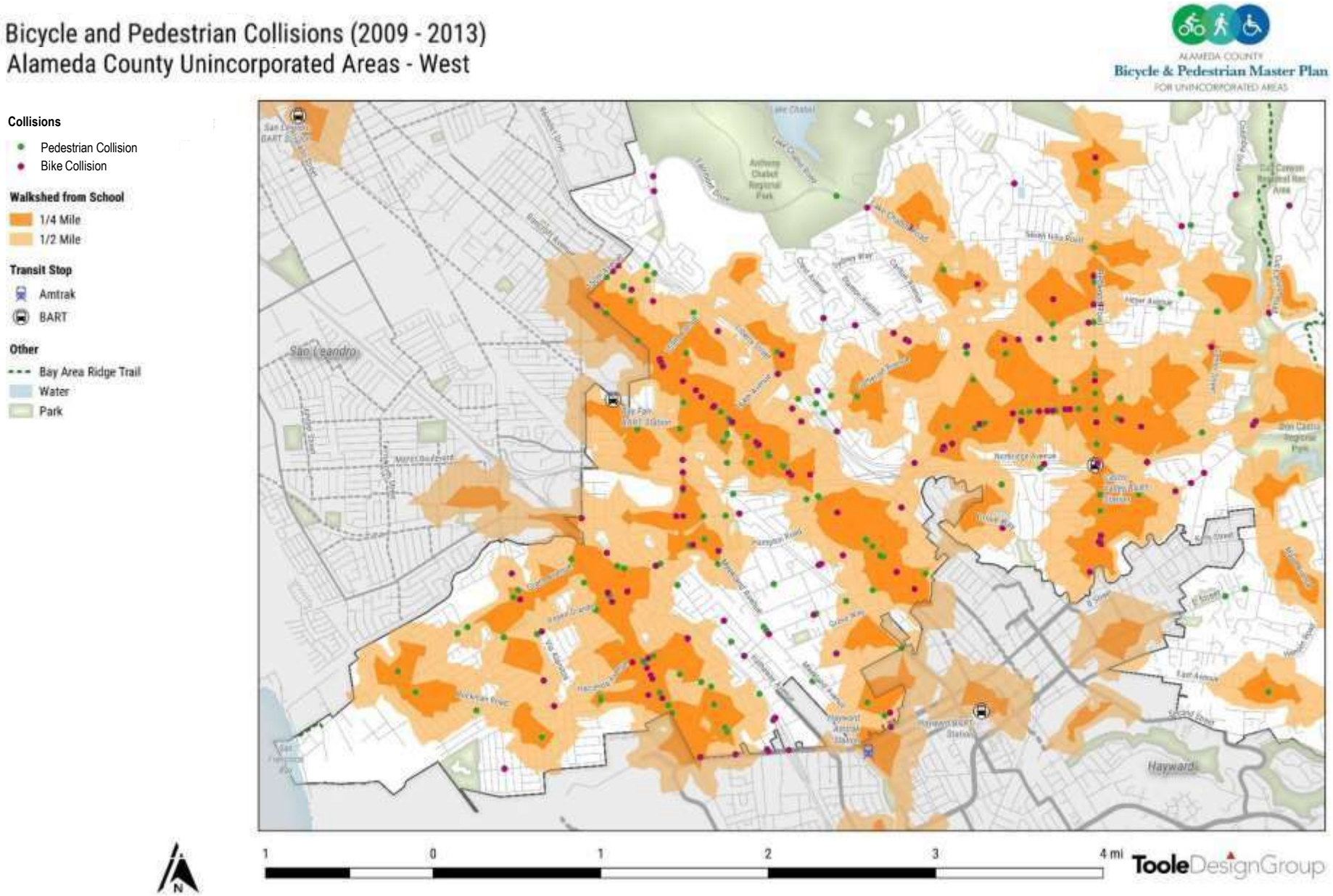


Figure 5.10. Bicycle and Pedestrian Collisions – West

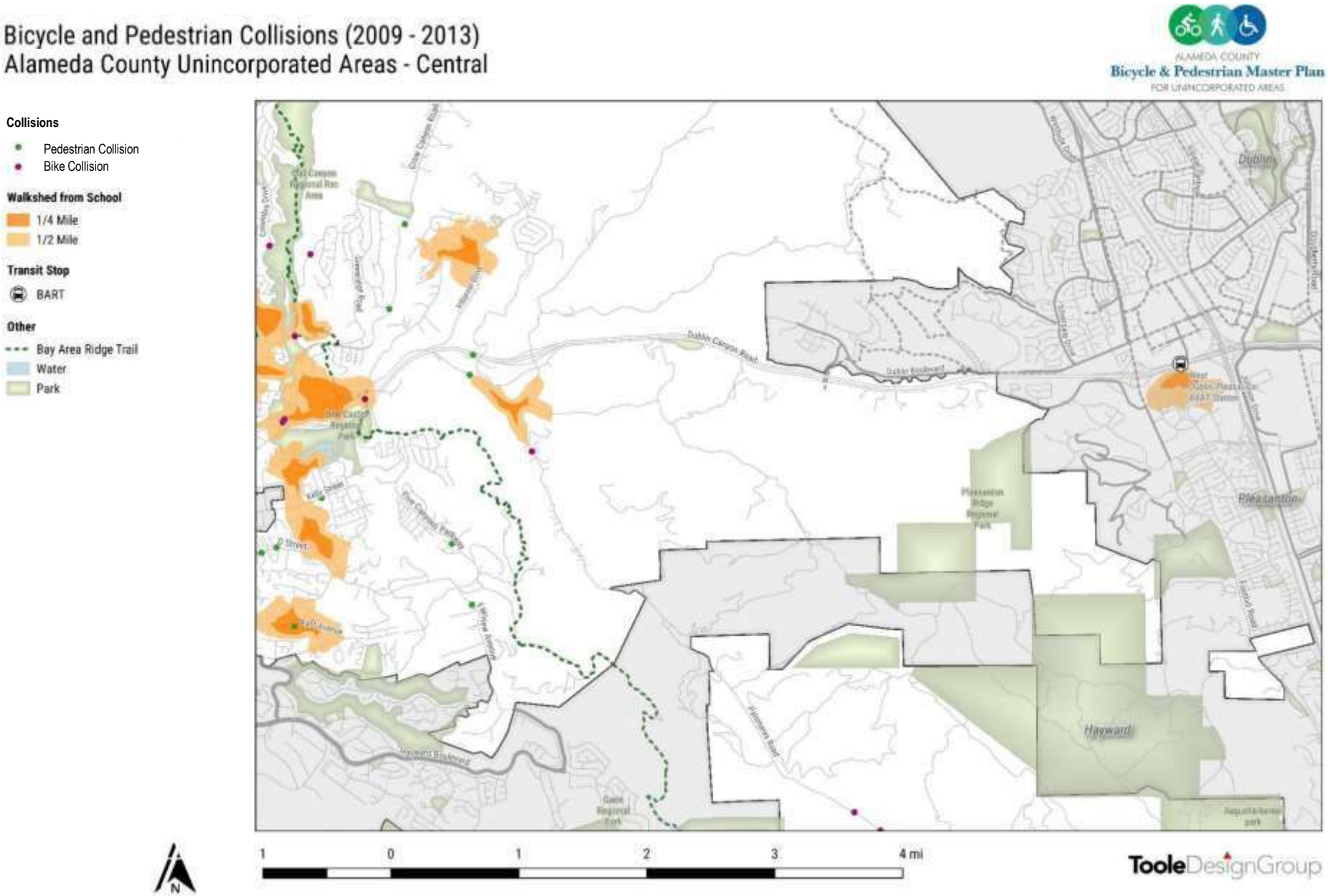


Figure 5.11. Bicycle and Pedestrian Collisions - Central

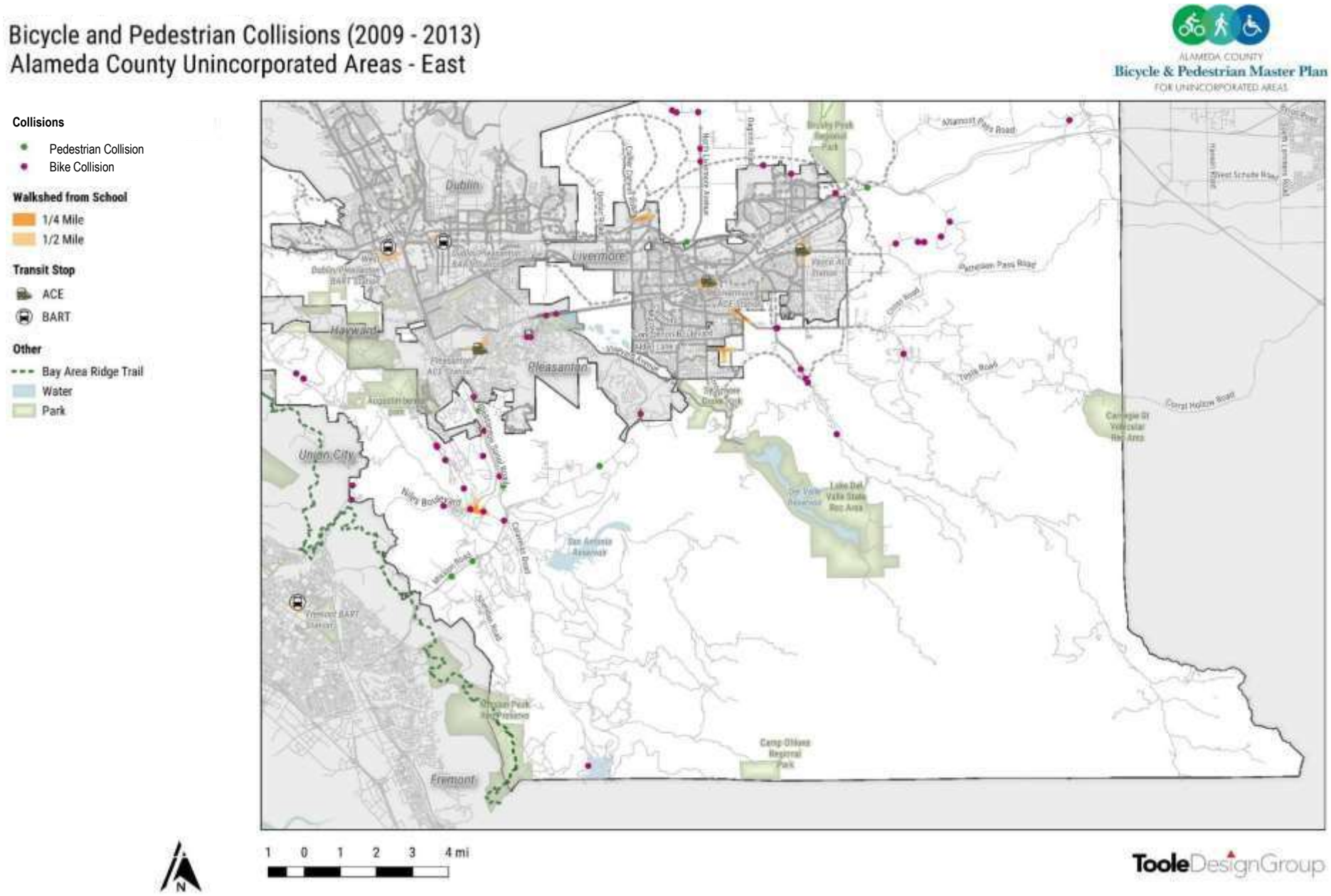


Figure 5.12. Bicycle and Pedestrian Collisions – East

Chapter 6: Support Programs

Support programs, in tandem with infrastructure, are key ingredients to encouraging more people to walk and bike. The unincorporated areas already have programs focusing on education and encouragement which are summarized below. See Appendix D for additional details on existing support programs.

To encourage more people to walk and bike in the unincorporated areas, several new programs are recommended to address the five programmatic categories of Engineering, Encouragement, Education, Enforcement, and Evaluation.

The League of American Bicyclists categorizes the five aspects of a Bicycle Community as follows. These aspects are also applicable to creating safe, comfortable spaces for pedestrians.

Engineering: Creating safe and convenient places to ride and park

Encouragement: Creates a strong bike culture that welcomes and celebrates bicycling

Education: Gives people of all ages and ability levels the skills and confidence to ride

Enforcement: Ensures safe roads for all users

Evaluation and Planning: Plans for bicycling as a safe and viable transportation option

Engineering

Existing and recommended support programs focused on engineering solutions are presented in Table 6.1.

Table 6.1. Existing and Recommended Engineering Programs

Support Facility	Description	Learn More	Plan Goal(s)
Existing			
Neighborhood Traffic Calming Program	This program employs traffic engineering practices, encourages neighborhood involvement, provides education, and outlines physical measures to help relieve the negative impact of vehicles on residential neighborhoods.	www.acpwa.org/programs-services/transportation/traffic-calming.page	Safety; Comfort
Sidewalk Repair Program	This program provides funding to assist property owners with sidewalk repairs.	www.acpwa.org/programs-services/transportation/sidewalk-repair.page	Access; Safety; Comfort
School Guard Crossing Programs	The ACPWA School Crossing Guard Program provides adult crossing guards in school areas to ensure the safe street crossing of school children.	www.acpwa.org/programs-services/transportation/crossing.page	Access; Safety; Comfort
Safe Routes to Transit	Ensure safe, accessible ways for people to walk and bike to transit stops and stations, including AC Transit bus stops, Castro Valley BART station, Bay Fair BART Station, Hayward Amtrak Station, and Vasco ACE station. Improvements could include widened sidewalks, landscaped buffer between the travel lanes and the sidewalk, trees, intersection	http://www.transformca.org/landing-page/safe-routes-transit-sr2t	Connectivity; Access; Safety; Comfort

Support Facility	Description	Learn More	Plan Goal(s)
	improvements, pedestrian-scale lighting, and wayfinding signage.		
Transportation Project Community Outreach	The County regularly updates its website with project information, public meeting notices, and meeting presentation materials for its Sidewalk Improvement Projects.	www.acpwa.org	Awareness
Recommended			
Wayfinding Program	Create and install wayfinding to help pedestrians and bicyclists navigate the transportation network with confidence and provide direction to their destinations; create a community identity; and build a sense of place and community pride. Building upon the Eden Area Signage Plan, ACPWA could partner with unincorporated communities to develop a regional wayfinding system has a similar brand throughout the unincorporated areas. The unincorporated communities may adjust the brand to reflect local character while still maintaining signage elements for consistency including placement, frequency of signs, and content.	For more information, see Chapter 4: Bicycle Network and Appendix D: Existing Conditions and Programs. http://americawalks.org/create-a-pedestrian-wayfinding-system/ https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/	Connectivity; Comfort; Supportive Land Uses
Demonstration and Pilot Programs for Safety Interventions	Implement demonstration or pilot programs to test innovative treatments to increase safety at high-injury intersections or corridors.	https://bikepedmemphis.wordpress.com/2017/05/03/introducing-the-great-streets-pilot-project/	Safety; Awareness
Bicycle Support Facilities	By ordinance, require the installation of bicycle support facilities in new development, such as bicycle parking and end-of-trip facilities, to support bicycle infrastructure throughout the unincorporated areas.	For more information, see Chapter 4: Bicycle Network	Connectivity; Comfort; Supportive Land Uses
Green Infrastructure	The planning and design of bicycle infrastructure projects present an opportunity for the ACPWA to incorporate green infrastructure (GI) into the public right of way and provide additional benefits. GI projects and bicycle projects can dovetail to provide safety features to bicycle and pedestrian projects, add urban greening, and improve the aesthetics of the streetscape. Combining GI and bicycle projects can also provide opportunities to leverage multiple funding sources.	https://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/green-infrastructure/ https://nacto.org/ (National Complete Streets Coalition No Date.PDF) https://www.citylab.com/life/2013/06/bike-path-also-helps-prevent-flood-sewers/5882/	Supportive Land Uses

Encouragement

Encouragement helps create a strong and fun culture around active transportation and can lead to increases in walking, biking and transit use. Table 6.2 lists the existing programs and recommended actions to increase the promotion of walking and bicycling in the unincorporated areas.

Table 6.2. Existing and Recommended Encouragement Programs

Support Program	Description	Learn More	Plan Goal(s)
Existing			
Walk and Roll to School Week	ACPWA sponsors an annual walk and roll to school week, first week of October, to encourage students to walk and bike their bikes to school.	https://www.acpwa.org/programs-services/transportation/Safe_Routes_to_School_Program.page	Safety; Awareness
Bike to Work/School Day events	ACPWA sponsors Energizer Stations at multiple locations during the annual Bike to Work/School Day event on the second Thursday in May.	https://www.acpwa.org/pas/safe-routes-to-school-program	Safety; Awareness
Recommended			
Bicycle and Pedestrian-Focused Events	Hold events that promote and celebrate walking and bicycling and encourage participation from residents throughout the unimported areas. For example, during an Open Streets events, a roadway is closed to motorized traffic on a pre-determined day to allow people to walk, bike, and roll on a street free of motor vehicles. During a Park(ing) Day, people turn parking spaces into public parks, libraries, and other community destinations.	http://openstreetsproject.org/ http://parkingday.org/	Awareness
Partnerships with Local Advocacy Groups	Continue to develop relationships with other local jurisdictions' staff, bicycle advocates, and bicycle clubs to realize the BPMP's vision and goals, share safety tips, and promote the benefits of walking and biking.	http://www.calbike.org/local_partners	Safety; Awareness
Active Transportation Incentive Program	Develop active transportation incentive program to encourage County employees and residents to bicycle and walk for commuting.	https://bikeeastbay.org/workplaces	Awareness

Education

Education around walking and biking helps people of all ages feel comfortable navigating the streets. Table 6.3 details the expansion of existing programs and new education opportunities to create a more pedestrian- and bicycle-friendly unincorporated areas.

Table 6.3. Existing and Recommended Education Programs

Support Program	Description	Learn More	Plan Goal(s)
Existing			
Support Program	**Description**	**Learn More**	**Plan Goal(s)**
Safe Routes to School Program and Website	The Alameda County Unincorporated Areas Safe Routes to School (SRTS) program provides engineering, education, and enforcement strategies and traffic safety countermeasures for improving safety for students walking and biking to schools. Additional information and tips are provided on the SRTS' website.	https://www.acpwa.org/programs-services/transportation/Safe_Routes_to_School_Program.page	Connectivity; Access; Safety; Awareness
Bicycle Safety Classes	Free bicycle safety classes, including classroom workshops and on-road trainings, are offered to adults and children 14 years and older by Bike East Bay.	https://bikeeastbay.org/education	Safety; Awareness
Recommended			
Safe Routes for Seniors	Create a program to encourage seniors to walk more through programs and improvements to the pedestrian environment. Collaborate with the United Seniors of Alameda County and other senior organizations.	https://www.transalt.org/issues/pedestrian/safeseniors http://www.usoac.org	Access; Safety; Awareness
Educational Campaign	Create a campaign and outreach materials to promote safety tips and the benefits of bicycling and walking such as improving health and fitness; reducing greenhouse gas emissions, consumption of non-renewable energy resources, and congestion; and saving money. The materials could take the form of Public Service Announcements, posters on transit, home mailings and public utility bill inserts, and warning signs at strategic locations.	https://www.transportation.gov/mission/health/Encourage-and-Promote-Safe-Bicycling-and-Walking	Awareness

Enforcement

Enforcement initiatives provide opportunities to institutionalize a safe and consistent transportation system for all users by establishing connections between law enforcement, bicyclists, pedestrians, and motorists. Table 6.4 includes recommended enforcement programs.

Table 6.4. Recommended Enforcement Programs

Support Program	Description	Learn More	Plan Goal(s)
Recommended			
Enforcement of High-Injury Intersections and Corridors	Partner with the Alameda County Sherriff's Office and CHP to conduct targeted enforcement of intersections and corridors with a high incidence of pedestrian and bicycle collisions.	http://www.pedbikeinfo.org/programs/enforcement.cfm	Safety
Bicycle/Pedestrian Safety-Related Activities	Partnering with the Alameda County Sherriff's Office and California Highway Patrol, develop a program to share information about safe roadway practices and reward good behavior		
Diversion Programs	Partnering with the Police Department, explore the feasibility of creating a diversion program, that	https://bikeeastbay.org/BikeTrafficSchool	Awareness; Safety
Support Program	**Description**	**Learn More**	**Plan Goal(s)**
	would provide driver, pedestrian, and bicyclist education in lieu of written citations and fines for traffic offenses.		

Evaluation and Planning

Evaluation serves to track progress in implementing the BPMP and to identify what's working, what's not, and where additional effort is needed. Planning helps to put new programs and policies into action. Table 6.5 outlines existing evaluation programs and opportunities to expand.

Table 6.5. Recommended Evaluation and Planning Programs

Support Program	Description	Learn More	Plan Goal(s)
Existing			
Castro Valley Bicycle and Pedestrian Advisory Committee	The Castro Valley Bicycle and Pedestrian Advisory Committee serves as an advisory committee to the ACPWA on matters related to bicycle and pedestrian projects in Castro Valley.	https://www.acpwa.org/programs-services/transportation/bike.page	Connectivity; Access
Recommended			
Bicycle and Pedestrian Advisory Committee	Establish a Bicycle and Pedestrian Advisory Committee within unincorporated communities to advise the Public Works Agency with the implementation of the BPMP.	https://www.half-moon-bay.ca.us/390/BicyclePedestrian-Advisory-Committee-BPA	Connectivity; Access
Collision Database	Establish an official collision database to be used by all Alameda County agencies and provide consistent collision reporting.	https://tims.berkeley.edu/	Safety

Bicycle and Pedestrian Count Program	Begin a bicycle and pedestrian count program, potentially including the strategic addition of automated bicycle counters at locations around the city, short duration counts to complement automated counts, and the application of count data to inform infrastructure, programmatic, and policy choices.	http://www.pedbikeinfo.org/planning/tools_counts.cfm	Awareness
Walking and Biking Audits	Partnering with County staff, Alameda County Sheriff's Office, and community advocates/stakeholders, conduct annual walking and biking audits at locations with high incidence of pedestrian and bicycle collisions and/or activity.	http://www.pedbikeinfo.org/planning/tools_audits.cfm	Connectivity; Access
Pre- and Post-Studies of New Bicycle Infrastructure Projects	Conduct pre- and post-studies of the new bicycle infrastructure projects to gauge ridership, safety benefits, and other measures of effectiveness.	https://ddot.dc.gov/	Connectivity; Access

Chapter 7: Implementation Priorities and Funding Opportunities

The Bicycle Network and Pedestrian Network outline a range of projects and strategies. While each of these projects are valuable, not all projects can be implemented at once due to a variety of constraints. Therefore, this chapter provides a strategy for the prioritization and implementation of the recommended projects and programs.

Prioritization Analysis

To assist ACPWA in prioritizing which projects to implement in the short-, medium-, and long-term, an analysis was conducted to determine which projects may provide the greatest return on investment. Several criteria related to safety, connectivity, demand, and equity were used to identify priority projects through a Geographic Information Systems (GIS) mapping analysis. The criteria used to prioritize bicycle projects are described in Table 7.1, and the criteria used to prioritize the sidewalk projects are described in Table 7.2.

Table 7.1. Prioritization Scoring for Bicycle Projects

Factor	Criteria	Measure	Points
Safety		**Total Points Possible**	**7**
	Crash analysis[7]	Tier 1 - High concentration	3
		Tier 2 - Medium to high concentration	2
		Tier 3 - Medium concentration	1
	Separation Between Modes (bike projects only)	Class I and IV – Greatest separation	4
		Class II (Buffered bike lanes)	3
		Class II (Bike lanes)	2
		Class III (Bicycle Boulevards only)	1
	Street speed/Volume (sidewalk gap projects only, street class as proxy)	Arterial	4
		Collector	3
		Local	2
Network Connectivity		**Total Points Possible**	**6**
	Connects with existing bike facility	Connects with 2 or more existing bike facilities	3
		Connects with any existing bike facilities	2
	Connects with 2 or more proposed bike facilities	Connects with 2 or more Alameda BPMP bike facilities	1
Access to Activity Centers		**Total Points Possible**	**13**
	Parks, Libraries, and Community/Senior Centers[8]	1/2 mile	3
		1 mile	2
	Transit stops	1/4 mile from a BART station or transit center	3
		250 feet from a bus stop	2
	Schools	1/4 mile	3
		1/4-1/2 mile	2
		1/2-3/4 mile	1
	PDAs/Retail corridor/areas	1/4 mile	4
Equity		**Total Points Possible**	**4**
	Community of Concern[9]	Within a Community of Concern	4
		TOTAL POINTS POSSIBLE	**30**

[7] A weighted crash total of bicycle crashes and pedestrian crashes that occurred between 2009 and 2013 along each project will be calculated. Crashes to be weighted based on the severity of the most severe injury resulting from the crash: fatal and serious injury crashes at 5 points, all other injury crashes at 3 points.

[8] Network distance will be used to calculate this measure, rather than straight line buffers.

[9] Communities of Concern are defined by the Metropolitan Transportation Commission as "all census tracts that have a concentration of both minority and low-income households at specified thresholds of significance, or that have a concentration of three or more of six additional factors if they also have a concentration of low-income households. Among the additional factors are people with disability, seniors 75 years and over, and cost-burdened renters." Communities of Concern "represent a diverse cross-section of populations and communities that could be considered disadvantaged or vulnerable in terms of both current conditions and potential impacts of future growth." Viewed on 1/24/2018 at: https://www.planbayarea.org/2040-plan/plan-details/equity-analysis

Table 7.2. Prioritization Scoring for Sidewalk Projects

Category	Criteria	Points
Access to Activity Centers		**45**
School Vicinity	Roadway in front of public school	35
	Roadway within ¼ mile from public school	25
	Roadway within ½ mile from public school	15
Pedestrian Generators - Parks, retail, senior centers	Pedestrian generators are within ¼ mile	5
	Pedestrian generators are located on the roadway	10
Safety		**5**
Collision History	5 points for each pedestrian collision in the last 3 years (2015, 2016, 2017)	
Feasibility		**5**
Right of Way	Right of Way	
	> 60 feet	3
	50-60 feet	2
	46-50 feet	1
Network Connectivity Gap Closure	If gap closure is accomplished	2
Functional Classification		**20**
Functional Classification	Cul-de-sac	0
	Minor	5
	Collector	15
	Arterial	20
Equity		**10**
Community of Concern	Roadways located within a community of concern	10

Implementation Strategy

Bicycle and sidewalk improvement projects are typically implemented in one of two ways: as part of a larger roadway project or as a standalone effort. The former is often more efficient, as costs for materials and labor can achieve economies of scale when folded into a larger project. Bicycle and pedestrian facilities can be a relatively small portion of a roadway project, whether it is a restriping, resurfacing, or reconstruction project. While planned and programmed street improvements can help guide the implementation schedule for this BPMP, ACPWA will also consider prioritizing improvements on streets where bicycle and pedestrian projects are recommended.

Some projects cross municipal boundaries or are located near them. ACPWA will continue to facilitate collaboration with partner agencies and communities that neighbor unincorporated areas, including Hayward and San Leandro, especially with respect to Class IV separated bikeways. Regional and cross-jurisdictional bikeways, such as the East Bay Greenway, the San Lorenzo Creek Trail, the Hayward Foothills Trail, and Hesperian Boulevard will require collaboration with multiple agencies, including the Alameda County Transportation Commission or the Hayward Area Recreation and Park District.

Prioritized bicycle and sidewalk projects are listed in **Table 7.3** and **Table 7.4.** High prioritization projects should be implemented in the short term, ideally within five years. An asterisk (*) indicates a high-crash corridor identified in Tables 3.2 and 3.3.

Table 7.3. Prioritized Bicycle Projects

An asterisk (*) indicates a high-crash corridor identified in Tables 3.2 and 3.3.

Project ID	Roadway	From	To	Recommendation	Recommended Actions	Prioritization Tier
Ashland						
81	E. 14th St*	Bayfair Center	Lewelling St	Class II - Buffered Bike Lane	lane diet	High
16	Delano St	Ashland Ave	Elgin St	Class III - Bike Boulevard	wayfinding, install sharrows	High
16	Elgin Ave	E. 14th St*	Bay Fair BART	Class III - Bike Boulevard	traffic calming, install sharrows	High
17	Coelho Dr	159th Ave	Bay Fair BART	Class III - Bike Boulevard	install sharrows	High
18	Lark St	Fairmont Dr	150th Ave	Class III - Bike Boulevard	traffic calming, wayfinding	Medium
11	Meekland Ave	Paseo Grande	Lewelling Blvd	Class II - Bike Lane	further study	Medium
11	Meekland Ave and Ano Ave	Lewelling Ave	Ashland Ave	Class III - Bike Boulevard	wayfinding	Medium
10	Drew St / Dermody Ave / Empire St / Galway Dr	Ashland Ave	Hesperian Blvd*	Class III - Bike Boulevard	wayfinding	Medium
Ashland/Cherryland						
39	East Lewelling Blvd	Meekland Ave	E. 14th St*	Class II - Buffered Bike Lane	further study	Medium
Castro Valley						
46	Redwood Rd*	Grove Way	I-580	Class IV - Separated Bike Lane	further study	High
88	Redwood Rd*	I-580	Castro Valley Blvd*	Class IV - Separated Bike Lane	lane diet	High
43	Center St	Grove Way	Castro Valley Blvd*	Class IV - Separated Bike Lane	further study	High
43	Center St	Castro Valley Blvd	Heyer Ave	Class II - Bike Lane	further study	High
93	Grove Way	Center St	Castro Valley Blvd*	Class IV - Separated Bike Lane	further study	High
91	Castro Valley Blvd*	I-580 underpass	Strobridge Ave	Class II - Bike Lane	further study	High
91	Castro Valley Blvd*	Strobridge Ave	Stanton Ave	Class II - Bike Lane	further study	High
91	Castro Valley Blvd* (South side)	Foothill Blvd	I-580 underpass	Class II - Bike Lane	further study	High
40	Grove Way	Oak St	Gail Dr	Class II - Climbing Lane	further study	High
40	Grove Way	Foothill Blvd	Oak St	Class II - Bike Lane	further study	High
40	Grove Way	Gail Dr	Tanglewood Rd	Class II - Climbing Lane	further study	High
40	Grove Way	Tanglewood Dr	A St	Class II - Bike Lane	further study	High
44	Castro Valley Blvd*	Redwood Rd*	Center St	Class II - Bike Lane	further study	High
44	Castro Valley Blvd*	San Miguel Ave	Wilbeam Ave	Class II - Bike Lane	further study	High
44	Castro Valley Blvd*	Wilbeam Ave	Redwood Rd*	Class II - Bike Lane	further study	High
44	Castro Valley Blvd*	Stanton Ave	San Miguel Ave	Class II - Bike Lane	further study	High
107	Foothill Blvd / John Dr (North side)	Castro Valley Blvd*	John Dr	Class I - Shared Use Path	further study	High
95	E. Castro Valley Blvd	Crow Canyon Rd	Safeway plaza entrance (East)	Class II - Bike Lane	further study	Medium
95	E. Castro Valley Blvd	Safeway plaza entrance (W end)	Chaparral Ln	Class II - Bike Lane	further study	Medium

Project ID	Roadway	From	To	Recommendation	Recommended Actions	Prioritization Tier
Castro Valley (continued)						
95	E. Castro Valley Blvd	Chaparral Ln	Five Canyons Rd	Class II - Bike Lane	further study	Medium
95	E. Castro Valley Blvd	Center St	Crow Canyon Rd	Class II - Bike Lane	further study	Medium
41	Lake Chabot Rd	Somerset Ave	Seven Hills Rd	Class IV - Separated Bike Lane	further study	Medium
41	Lake Chabot Rd	Castro Valley Blvd*	Somerset Ave	Class IV - Separated Bike Lane	further study	Medium
92	Norbridge Ave	Tyee Ct	Stanton Ave	Class II - Bike Lane	widen road	Medium
92	Norbridge Ave (North side)	Castro Valley Blvd*	Stanton Ave	Class I - Shared Use Path	widen sidewalk, mark/sign as Class I	Medium
30	Nunes Ave	Castro Valley Blvd*	Norbridge Avenue	Class III - Bike Boulevard	wayfinding	Medium
86	Redwood Rd*	Jamison Way	Seven Hills Rd	Class II - Bike Lane	further study	Medium
87	Redwood Rd*	Castro Valley Blvd*	Jamison Way	Class IV - Separated Bike Lane	further study	Medium
30	Wilbeam Ave	Castro Valley Blvd*	Norbridge Avenue	Class III - Bike Boulevard	traffic calming	Medium
111	E. Castro Valley Blvd	Five Canyons Rd	Villareal Dr	Class II - Bike Lane	further study	Medium
85	Lake Chabot Rd	Carlton Ave	Fairmont Dr	Class II - Buffered Bike Lane	further study	Medium
94	Crow Canyon Rd	Cull Canyon Rd	Shadow Creek Cir	Class IV - Separated Bike Lane	further study, lane diet	Medium
94	Crow Canyon Rd	Castro Valley Blvd*	Cull Canyon Rd	Class IV - Separated Bike Lane	add vertical separation	Medium
82	Miramar Ave	Miramar Pl	Foothill Blvd	Class II - Bike Lane	lane diet	Medium
82	Miramar Ave	Rolando Ave	Crest Ave	Class II - Bike Lane	further study	Medium
82	Miramar Ave	Crest Ave	Miramar Pl	Class II - Bike Lane	further study	Medium
82	Miramar Ave	Stanton Ave	Rolando Ave	Class II - Bike Lane	lane diet	Medium
24	Santa Maria Ave	Seven Hills Rd	Wilson Ave	Class III - Bike Boulevard	traffic calming, remove centerline	Medium
24	Santa Maria Ave	Castro Valley Blvd*	Wilson Ave	Class III - Bike Boulevard	traffic calming, install sharrows	Medium
110	Stanton Ave	Castro Valley Blvd*	Miramar Ave	Class III / Buffered Class II	install sharrows, lane diet	Medium
99	Center St	San Lorenzo Creek bridge	San Lorenzo Creek bridge	Class III - Bike Boulevard	install sharrows	Medium
99	Center St	Kelly St	San Lorenzo Creek	Class II - Bike Lane	lane diet	Medium
42	Heyer Ave	end of path	Gliddon St	Class II - Climbing Lane	further study	Medium
42	Heyer Ave	Gliddon St	Center St	Class II - Climbing Lane	further study	Medium
42	Heyer Ave	Center St	Redwood Rd*	Class II - Bike Lane	further study	Medium
25	Columbia Dr	Cull Canyon Rd	Nash Way (shared use path)	Class II - Bike Lane	lane diet	Medium
25	Nash Way (shared use path)	Nash Way (end)	Columbia Dr	Class I - Shared Use Path	upgrade path	Medium
25	Seaview Ave / Center St / Nash Way	Madison Ave	Nash Way (shared use path)	Class III - Bike Boulevard	wayfinding	Medium
45	Somerset Ave	Lake Chabot Rd	Redwood Rd*	Class II - Bike Lane	further study	Medium
45	Somerset Ave	Stanton Ave	Lake Chabot Rd	Class II - Bike Lane	further study, lane diet	Medium
22	Seven Hills Rd	Madison Ave	Redwood Rd*	Class III - Bike Boulevard	traffic calming, install sharrows	Medium
22	Seven Hills Rd	Redwood Rd*	Lake Chabot Rd	Class III - Bike Boulevard	traffic calming, install sharrows	Medium
20	Carlton Ave	Stanton Ave	Lake Chabot Rd	Class III - Bike Boulevard	traffic calming, remove centerline	Low

Project ID	Roadway	From	To	Recommendation	Recommended Actions	Prioritization Tier
Castro Valley (continued)						
112	Cull Canyon Rd	Briar Ridge Dr	Columbia Dr	Class II - Bike Lane	install bike lane markings	Low
33	Villareal Dr	E. Castro Valley Blvd	Laurelwood Dr	Class II - Bike Lane	install bike lane markings	Low
33	Villareal Dr	Laurelwood Dr	Greenville Pl	Class III - Bike Boulevard	install sharrows	Low
29	Baywood Ave	Grove Way	Lake Chabot Rd	Class III - Bike Boulevard	wayfinding	Low
29	Lake Chabot Rd	Baywood Rd	I-580 pedestrian bridge	Class III - Bike Boulevard	traffic calming	Low
26	Madison Ave	Seven Hills Rd	Seaview Ave	Class III - Bike Boulevard	traffic calming, wayfinding	Low
26	Madison Ave	Heyer Ave	Seven Hills Rd	Class III - Bike Boulevard	traffic calming	Low
27	Omega Ave	Center St	Forest Ave	Class III - Bike Boulevard	install sharrows	Low
54	Palomares Rd	Niles Canyon Rd	Palo Verde Rd	Class III - Rural Route	shoulder evaluation	Low
23	Parsons Ave	Somerset Ave	Seven Hills Rd	Class III - Bike Boulevard	traffic calming, install sharrows	Low
113	Proctor Rd	Redwood Rd*	Ewing Rd	Class III - Bike Boulevard	install sharrows	Low
52	Cull Canyon Rd	Columbia Dr	County Limit (North)	Class III - Rural Route	shoulder evaluation	Low
96	Palo Verde Rd	Palomares Rd	Dublin Canyon Rd	Class III - Rural Route	shoulder evaluation	Low
96	Palo Verde Rd	Dublin Canyon Rd	Palomares Rd	Class III - Rural Route	shoulder evaluation	Low
49	Redwood Rd*	Miller Rd	Skyline Blvd	Class III - Rural Route	shoulder evaluation	Low
49	Redwood Rd*	Camino Alta Mira	Miller Rd	Class III - Rural Route	shoulder evaluation	Low
53	Crow Canyon Rd	Cold Water Dr	County Limit (East)	Class III - Rural Route	shoulder evaluation	Low
53	Crow Canyon Rd (North)	Shadow Creek Cir	Cold Water Dr	Class III - Rural Route	shoulder evaluation	Low
51	Lake Chabot Rd	Fairmont Dr	Oakland City Limit	Class III - Rural Route	shoulder evaluation	Low
50	Pinehurst Rd	Redwood Rd*	County Limit	Class III - Rural Route	shoulder evaluation	Low
55	Crow Canyon Rd	Livermore City Limit	County Limit (North)	Class III - Rural Route	shoulder evaluation	Low
104	Norris Canyon Rd	Crow Canyon Rd	San Ramon City Limit	Class III - Rural Route	shoulder evaluation	Low
117	Berdina Rd	Redwood Rd*	Forest Ave	Class III - Bike Boulevard	install sharrows	Low
118	Forest Ave	Castro Valley Blvd*	Heyer Ave	Class III - Bike Boulevard	install sharrows	Low
Cherryland						
81	Mission Blvd*	Hampton Rd	Grove Way	Class IV - Separated Bike Lane	corridor study	High
81	Mission Blvd*	Lewelling Rd	Hampton Rd	Class IV - Separated Bike Lane	corridor study	High
40	Grove Way	Mission Blvd*	Foothill Blvd	Class II - Bike Lane	further study	High
91	Mattox Rd	Angus Way	Marion	Class IV - Separated Bike Lane	further study	High
91	Mattox Rd (Both sides)	Marion St	Foothill Blvd	Class I - Shared Use Path	further study	High
15	Grove Way	Western Blvd	Mission Blvd*	Class III - Bike Boulevard	remove centerline, install sharrows	High
12	Hampton Rd	Meekland Ave	Western Blvd	Class III - Bike Boulevard	wayfinding	High
12	Hampton Rd	Western Blvd	Mission Blvd*	Class III - Bike Boulevard	wayfinding	High
13	Western Blvd	Hampton Rd	Hayward City Limit (South)	Class III - Bike Boulevard	wayfinding	Medium
14	Blossom Way	Hathaway Ave	Meekland Ave	Class II - Bike Lane	further study	Medium
31	Hansen Rd	Fairview Ave	East Ave	Class III - Bike Boulevard	traffic calming	Low

Project ID	Roadway	From	To	Recommendation	Recommended Actions	Prioritization Tier
East County						
77	Pleasanton Sunol Road	Niles Canyon Road	Sunol Boulevard	Class II – Bike Lane	Install bike lane markings	Low
76	Arroyo Rd	Wetmore Rd	Arroyo Del Valle Regional Trail	Class I - Shared Use Path	construct new path	Low
101	Marina Ave	Arroyo Rd	unnamed shared use path	Class III - Bike Boulevard	add signage	Low
101	Marina Ave	unnamed shared use path	Arroyo Rd	Class I - Shared Use Path	construct new path	Low
75	new roadway North of I-580 / Livermore	Springtown neighborhood in Livermore	Las Positas College	Class I - Shared Use Path	construct new path	Low
73	Mines Rd	Tesla Rd	Bushy Peak to Del Valle Trail	Class I - Shared Use Path	further study	Low
60	Mountain House Rd	Altamont Pass Rd	County Limit (North)	Class III - Rural Route	shoulder evaluation	Low
74	Tesla Rd	Mines Rd	Greenville Rd	Class I - Shared Use Path	construct new path	Low
70	Castlewood Dr	Pleasanton Sunol Rd	Foothill Rd	Class III - Rural Route	wayfinding, add signage	Low
70	Foothill Rd	Castlewood Dr	County Limit (North)	Class III - Rural Route	shoulder evaluation	Low
70	Foothill Rd	Sunol Niles Canyon Rd	Castlewood Dr	Class III - Rural Route	shoulder evaluation	Low
103	Las Positas Rd	Las Collinas Rd	Livermore City Limit	Class II - Bike Lane	install bike lane markings	Low
72	Arroyo Rd	Wetmore Rd	Sycamore Grove Park	Class III - Rural Route	shoulder evaluation	Low
79	Dublin Boulevard	Fallon Rd	Doolin Rd	Class II - Bike Lane	install bike lane markings	Low
69	Hwy 84	I-680	Paloma Way	Class III - Rural Route	shoulder evaluation	Low
69	I-680 shoulder	Caleveras Rd	Vallecitos Rd	Class III - Rural Route	shoulder evaluation	Low
59	Laughlin Rd	Livermore City Limit (South)	Livermore City Limit (N end near Lake Dr)	Class II - Bike Lane	install bike lane markings	Low
59	Laughlin Rd	Livermore City Limit (South)	Brushy Peak	Class III - Rural Route	wayfinding	Low
57	Raymond Rd / Domingo Rd / May School Rd	Ames St	Livermore Ave	Class III - Rural Route	shoulder evaluation	Low
69	Vallecitos Rd	Isabel Ave	Vallecitos Ln	Class III - Rural Route	shoulder evaluation	Low
80	Vallecitos Rd	Vineyard Ave	Isabel Ave	Class III - Rural Route	shoulder evaluation	Low
80	Vineyard Ave	Isabel Ave	Vallecitos Rd	Class III - Rural Route	shoulder evaluation	Low
61	Altamont Pass Rd	Livermore City Limit	Greenville Rd	Class II - Bike Lane	install bike lane markings, lane diet	Low
61	Altamont Pass Rd	Greenville Rd	Mountain House Rd	Class III - Rural Route	shoulder evaluation	Low
71	Calaveras Rd	I-680	County Limit (South)	Class III - Rural Route	shoulder evaluation	Low
68	Del Valle Rd	Mines Rd	Del Valle State Recreation Area	Class III - Rural Route	shoulder evaluation	Low
61	Grant Line Rd	Mountain House Rd	County Limit (East)	Class III - Rural Route	wayfinding	Low
58	Hartford Ave	Livermore Ave	Lorraine Rd	Class III - Rural Route	shoulder evaluation	Low

Project ID	Roadway	From	To	Recommendation	Recommended Actions	Prioritization Tier
East County (continued)						
67	Mines Rd	Del Valle Rd	County Limit (South)	Class III - Rural Route	shoulder evaluation	Low
71	Paloma Way	I-680	Pleasanton Sunol Rd	Class III - Rural Route	shoulder evaluation	Low
66	Tesla Rd	Greenville Rd	Cross Rd	Class III - Rural Route	shoulder evaluation	Low
66	Tesla Rd	Cross Rd	County Limit (East)	Class III - Rural Route	shoulder evaluation	Low
64	Cross Rd	Tesla Rd	Patterson Pass Rd	Class III - Rural Route	shoulder evaluation	Low
62	Midway Rd	Grant Line Rd	Patterson Pass Rd	Class III - Rural Route	shoulder evaluation	Low
63	Patterson Pass Rd	Livermore City Limit	County Limit (East)	Class III - Rural Route	shoulder evaluation	Low
65	Carroll Rd	Altamont Pass Rd	Flynn Rd	Class III - Rural Route	shoulder evaluation	Low
65	Flynn Rd	Patterson Pass Rd	Carroll Rd	Class III - Rural Route	shoulder evaluation	Low
56	Manning Rd	Livermore Ave	County Limit (N end)	Class III - Rural Route	shoulder evaluation	Low
El Portal Ridge						
107	Foothill Blvd (North side)	John Dr	173rd Ave	Class I - Shared Use Path	further study	High
83	Foothill Blvd	Miramar Ave	167th Ave	Class IV - Separated Bike Lane	lane diet, reconfigure parking	Medium
83	Foothill Blvd	167th Ave	173rd Ave	Class IV - Separated Bike Lane	lane diet, reconfigure parking	Medium
Fairmont						
106	Fairmont Dr	Foothill Blvd	E. 14th St*	Class I - Shared Use Path	construct new path	High
85	Fairmont Dr	Lake Chabot Rd	Foothill Blvd	Class II - Bike Lane	lane diet	Medium
Fairmont Terrace						
84	Foothill Blvd	Fairmont Dr	159th Ave	Class IV - Separated Bike Lane	add vertical separation	Medium
84	Foothill Blvd	159th Ave	Miramar Ave	Class IV - Separated Bike Lane	add vertical separation	Medium
Fairview						
100	Kelly St	Maud Ave	Hayward City Limit	Class II - Bike Lane	lane diet	Medium
28	Maud Ave	D St	Kelly St	Class III - Bike Boulevard	traffic calming	Medium
28	Woodroe Ave	Kelly St	Don Castro Park	Class III - Bike Boulevard	traffic calming	Medium
97	Fairview Ave	Five Canyons Pkwy	Greenoaks Way	Class II - Bike Lane	further study	Medium
97	Fairview Ave	Hansen Rd	Five Canyons Pkwy	Class II - Climbing Lane	further study	Medium
97	Fairview Ave	Hansen Rd	D St	Class II - Bike Lane	further study	Medium
47	D St	Maud Ave	Hayward City Limit	Class II - Bike Lane	further study	Medium
32	East Ave	Hansen Rd	East Avenue Park	Class III - Bike Boulevard	traffic calming	Low
32	East Ave	Hayward City Limit	Hansen Ave	Class III - Bike Boulevard	traffic calming	Low
48	Fairview Ave	North of Greenoaks Way	Oakes Dr	Class II - Bike Lane	further study	Low
48	Fairview Ave	Oakes Dr	Hayward City Limit	Class II - Bike Lane	further study	Low

San Lorenzo						
90	Hesperian Blvd*	I-238	A St	Class II - Buffered Bike Lane	lane diet	High
105	JFK Park	located within JFK Park		Class I - Shared Use Path	construct new path	High
8	Bartlett Ave and Royal Ave	Hesperian Blvd*	A St	Class III - Bike Boulevard	traffic calming, wayfinding	High
108	Blossom Way	Meekland Ave	Mission Blvd*	Class III - Bike Boulevard	traffic calming, install sharrows	Medium
1	Bockman Rd	Grant Ave	Via Alamitos	Class III - Bike Boulevard	horizontal traffic calming	Medium
1	Bockman Rd	Via Alamitos	Hesperian Blvd*	Class II - Bike Lane	further study	Medium
35	Grant Ave	Washington Ave	Hesperian Blvd*	Class II - Bike Lane	further study	Medium
109	Hacienda Ave	Via Alamitos	Hesperian Blvd*	Class II - Bike Lane	further study	Medium
109	Hacienda Ave	Hesperian Blvd*	Ricardo Ave	Class II - Bike Lane	further study	Medium
36	Paseo Grande	Via Toledo	Meekland Ave	Class II - Bike Lane	further study	Medium
36	Paseo Grande	Via Granada	Via Toledo	Class II - Bike Lane	further study	Medium
36	Paseo Grande	Hesperian Blvd*	Via Granada	Class II - Bike Lane	lane diet, install bike lane markings	Medium
38	Hacienda Ave	Ricardo Ave	Via Toledo	Class II - Bike Lane	install bike lane markings	Medium
38	Hacienda Ave	Via Toledo	Ardis St	Class II - Bike Lane	lane diet	Medium
38	Hacienda Ave	Ricardo Ave	Hathaway Ave	Class II - Bike Lane	install bike lane markings	Medium
37	Paseo Grande	Via Alamitos	Paseo Largavista	Class III - Bike Boulevard	wayfinding	Medium
37	Paseo Grande	Paseo Largavista	Hesperian Blvd*	Class II - Bike Lane	lane diet	Medium
6	Via Arriba	Paseo Grande	JFK Park	Class III - Bike Boulevard	traffic calming	Medium
9	Bengal Ave and Royal Ave	Hacienda Ave	Bartlett Ave	Class III - Bike Boulevard	wayfinding	Medium
5	Paseo Largavista	Grant Ave	Paseo Grande	Class III - Bike Boulevard	wayfinding	Medium
7	Via Toledo and Via Granada	Hacienda Ave	Lewelling Blvd	Class III - Bike Boulevard	horizontal traffic calming	Medium
98	Grant Ave	Via Seco	Washington Ave	Class II - Buffered Bike Lane	no action	Medium
2	Via Alamitos	Grant Ave	Bockman Rd	Class III - Bike Boulevard	traffic calming	Medium
4	Bandoni Ave	Via Catherine	Bockman Ave	Class III - Bike Boulevard	traffic calming	Low
34	Channel St	Grant Ave	Bockman Rd	Class II - Bike Lane	further study	Low
3	Via Catherine	Bockman Rd	Bandoni Ave	Class III - Bike Boulevard	horizontal traffic calming, traffic calming	Low
Regional Projects						
78	East Bay Greenway	Bay Fair BART	Hayward City Limit	Class I - Shared Use Path	construct new path	High
114	San Lorenzo Creek Trail	SF Bay Trail	Don Castro Regional Park	Class I - Shared Use Path	construct new path	High
115	Niles Canyon Corridor Trail	Niles	City of Pleasanton	Class I - Shared Use Path	construct new path	High
116	Hayward Foothills Trail	Grove Way	A Street	Class I - Shared Use Path	construct new path	High

Note: As a part of Phase II of the East 14th Street Corridor Improvement Project, on East 14th Street from 162nd Avenue to near I-238, a protected bike lane will be constructed in the westbound direction and a buffered bike lane will be constructed in the eastbound direction. Pedestrian facilities such as street trees, pedestrian-scale lighting, high-visibility crosswalks, will make the corridor more attractive for multimodal access. Phase I introduced similar improvements closer to the Bay Fair BART station, and Phase III will continue into Hayward along Mission Boulevard.

Table 7.4. Prioritized Sidewalk Projects

An asterisk (*) indicates a high-crash corridor identified in Tables 3.2 and 3.3.

Roadway	Limits	Community
Redwood Rd*	Castro Valley Blvd* to Heyer Ave	Castro Valley
E. Lewelling Blvd	Meekland Ave* to E. 14th St	Cherryland
Lake Chabot Rd	Fairmont Dr to Somerset Ave	Castro Valley
Mabel Ave	Redwood Rd* to Santa Maria Ave	Castro Valley
Second St	Windfeldt Rd to Campus Dr	Fairview
West Sunset Blvd	Hesperian Blvd* to Garden Ave	Hayward Acres
D St	Hayward City Limit to Fairview Ave	Fairview
Meekland Ave*	E. Lewelling Blvd to Blossom Way	Cherryland
Somerset Ave	Lake Chabot Rd to Redwood Rd*	Castro Valley
Bartlett Ave	Hesperian Blvd* to Garden Ave	Hayward Acres
Seven Hills Rd	Lake Chabot Rd to Redwood Rd*	Castro Valley
Heyer Ave	Center St to Redwood Rd*	Castro Valley
Hansen Rd	Fairview Ave to East Ave	Fairview
Proctor Rd	Walnut Rd to Camino Alta Mira	Castro Valley
Liberty St	Oriole Ave to 164th Ave	Ashland
Maubert Ave	Tanager to 159th Ave	Ashland
Forest Ave	Heyer to Castro Valley Blvd*	Castro Valley
Blossom Way	Meekland Ave* to Haviland Ave	Cherryland
Medford Ave	Meekland Ave* to Western Blvd	Cherryland
Poplar Ave	Princeton Ave to Meekland Ave*	Cherryland
Christensen Ln	Parsons Ave to Simsbury Rd	Castro Valley
Royal Ave	A St to W. Sunset Blvd	Hayward Acres
San Miguel Ave	Somerset Ave to Castro Valley Blvd*	Castro Valley
Anita Ave	Castro Valley Blvd* to Somerset Ave	Castro Valley
Walnut Rd	Seven Hills Rd to Almond Rd	Castro Valley
Idena Ave	Vegas Ave to Lessley Ave	Castro Valley
Ronda St	Lewelling Blvd to Albion Ave	Ashland
Shasta St	Meekland Ave* to Rainier Ave	Cherryland
Smalley Ave	Meekland Ave* to Hayward City Limit	Cherryland
Grove Way*	Tanglewood Dr to N. 6th St	Castro Valley
Garden Ave	A St to Bartlett	Hayward Acres
Seaview Ave	Madison Ave to Redwood Rd*	Castro Valley
Somerset Ave	President Dr to Lake Chabot Rd	Castro Valley
Wilson Ave	Parsons Ave to Redwood Rd*	Castro Valley
166th Ave	Los Banos St to E. 14th St	Ashland
Woodroe Ave	Kelly St to End	Fairview
Marshall St	Omega Ave to Veronica Ave	Castro Valley
Paradise Knolls	Center St to End	Castro Valley
Harvard Ave	Hampton Ave to End	Cherryland

Roadway	Limits	Community
Parsons Ave	Somerset Ave to Seven Hills Rd	Castro Valley
Sharon St	Lewelling Blvd to End	Ashland
Tracy St	Albion Ave to Lewelling Blvd	Ashland
Emery Ct	Delano St to End	Ashland
Kelly St	Maud Ave to End	Fairview
Sycamore St	Hesperian Blvd* to Tracy St	Ashland
Lake Chabot Rd	Orange Ave to Strobridge Ave	Castro Valley
Medford Ave	Western Blvd to Mission Blvd*	Cherryland
Mattox Rd	Foothill Blvd to Angus Way	Cherryland
Jamison Way	Redwood Rd* to Santa Maria Ave	Castro Valley
Miramar Ave	Crest Ave to Stanton Ave	Castro Valley
Carlton Ave	Stanton to Lake Chabot	Castro Valley
Sydney Way	Stanton Ave to Lake Chabot Rd	Castro Valley
Cherry Way	Western Blvd to Mission Blvd*	Cherryland
Montgomery Ave	Medford Ave to Grove Way*	Cherryland
Keith Ave	Lake Chabot Rd to Carlton Ave	Castro Valley
Haviland Ave	Medford Ave to Blossom Way	Cherryland
Albion Ave	Ronda St to End	Ashland
Harmony Dr	Paradise Blvd (East) to Paradise Blvd (West)	Ashland
Usher St	Albion Ave to College St	Ashland
Vineyard Rd	Walnut Rd to Almond Rd	Castro Valley
Seven Hills Rd	Redwood Rd* to Madison Ave	Castro Valley
Haven St	Paradise Blvd to Harmony Dr	Ashland
Paradise Blvd	Harmony Dr to Mission Blvd*	Ashland
Huber Dr	Lake Chabot Rd to Keith Ave	Castro Valley
Lorena Ave	Redwood Rd* to Santa Maria Ave	Castro Valley
College St	Hesperian Blvd* to Usher St	Ashland
Stanton Ave	Miramar Ave to Sheffield Rd	Castro Valley
Almond Rd	Seven Hills to Christensen Ln	Castro Valley
James Ave	Redwood Rd* to Center St	Castro Valley
Windfeldt Rd	East Ave to Second St	Fairview
East Ave	Camino Vista to End	Fairview
167th Ave	Liberty St to Los Banos St	Ashland
Alana Rd	Omega Ave to Heyer Ave	Castro Valley
Beardsley St	Seaview Ave to Reedley Way	Castro Valley
Edwards Ln	Alana Rd to End	Castro Valley
Fern Way	Omega Ave to Edwards Ln	Castro Valley
Hidden Ln	Hansen Rd to End	Fairview
Romagnolo St	Maud Ave to End	Fairview
Sargent Ave	Center St to Alana Rd	Castro Valley
Apple Ave	Ocean View to Foothill Blvd	Cherryland
Birch St	Mattox Rd to Grove Way*	Cherryland

Roadway	Limits	Community
167th Ave	Foothill Blvd to Somerset Ave	Castro Valley
Gem Ave	Center St to Marshall St	Castro Valley
Gordon Rd	Redwood Rd* to End	Castro Valley
Ash St	Ocean View to Foothill Blvd	Cherryland
Ocean View Dr	Grove Way* to Birch St	Cherryland
Santos St	Blossom Way to Grove Way*	Cherryland
Banyan St	Willow Ave to End	Cherryland
Lamson Rd	Almond Rd to Seven Hills Rd	Castro Valley
Liberty St	164th Ave to 170th Ave	Ashland
Lupine Way	Garden Ave to End	Hayward Acres
Parker Rd	Reamer Rd to End	Castro Valley
Patton Dr	Wilson Ave to End	Castro Valley
Rizzo Ave	Orange Ave to Lake Chabot Rd	Castro Valley
Concord Ave	Hampton Rd to Medford Ave	Cherryland
Almond Rd	Seven Hills Rd to Vineyard Rd	Castro Valley
Hillside Dr	Redwood Rd* to Hillside Ct	Castro Valley
Madison Ave	Seaview Ave to Heyer Ave	Castro Valley
Sandy Rd	Seven Hills Rd to James Ave	Castro Valley
Second St	Campus Dr to Hayward City Limit	Fairview
Winding Blvd	166th Ave to Rolando Ave	Castro Valley
Ewing Rd	Vineyard Rd to Proctor Rd	Castro Valley
166th Ave	Foothill Blvd to Winding Blvd	Castro Valley
Bayview Ave	Ralston Way to Hayward City Limit	Fairview
Baywood Ave	Lake Chabot Rd to Grove Way*	Castro Valley
Brickell Way	Seven Hills Rd to James Ave	Castro Valley
Reamer Rd	Walnut Rd (North) to Walnut Rd (South)	Castro Valley
Regent Way	Ehle St to John Dr	Castro Valley
Rolando Ave	Cady Ct to End	Castro Valley
170th Ave	Foothill Blvd to President Dr	Castro Valley
Alma Ave	Redwood Rd* to Seven Hills Rd	Castro Valley
Camino Dolores	President Dr to John Dr	Castro Valley
Pomar Vista Ave	President Dr to Rolando Ave	Castro Valley
President Dr	167th Ave to 174th Ave	Castro Valley
Camden Ave	Hampton Rd to Medford Ave	Cherryland
Crest Ave	Miramar Ave to Sheffield Rd	Castro Valley
Henry Ln	Kelly St to Shawn Way	Fairview
Ruby St	Crescent Ave to A St	Castro Valley
Los Banos St	165th Ave to 170th Ave	Ashland
Carriage Ln	168th Ave to 168th Ave	Ashland
Knox St	N. 6th St to Hayward City Limit	Castro Valley
N. 5th St	Grove Way* to Ruby St	Castro Valley
Crescent Ave	A St to Hayward City Limit	Castro Valley

Roadway	Limits	Community
Roberto Ave	170th Ave to 173rd Ave	Castro Valley
Ehle St	166th Ave to 167th Ave	Castro Valley
Valley View Dr	Kelly St to End	Fairview
173rd Ave	Ehle St to Robey Dr	Castro Valley
174th Ave	Robey Dr to Rolando Ave	Castro Valley
Hannah Dr	167th Ave to End	Castro Valley
Robey Dr	174th Ave to End	Castro Valley

While these projects have been prioritized, ACPWA should remain nimble and opportunistic when implementing the BPMP's recommendations. Opportunities may arise to implement lower-priority projects in the short-term while the implementation of some higher-priority projects may be delayed for various reasons. While flexibility is key, this prioritization strategy offers a way for decision makers and ACPWA staff to have a thoughtful and intentional path forward for implementation.

Funding Sources

A variety of Federal, state, county, and local grant funds are available to assist the ACPWA in implementing the BPMP, as outlined in Table 7.5. Additional funding opportunities could come in the form of **leveraging new development** to construct bicycle and pedestrian facilities and install support facilities, such as bicycle parking. ACPWA could also dedicate additional funds from the **Capital Improvement Program** to construct bicycle and pedestrian facilities and could coordinate the installation of new facilities with **restriping and paving schedules**.

Table 7.5. Potential Funding Opportunities

Funding Sources	Administering Agency	Availability of Funding	Notes	Eligible Improvements	Weblink
Federal Funding Sources					
Fixing America's Surface Transportation (FAST) Act	U.S. Department of Transportation	Annually; Local match is required.	The FAST Act funds include several bicycle-related programs, such as the Surface Transportation Block Grant Program; Transportation Alternatives Program; Congestion Mitigation and Air Quality Improvement Program; and others.	Bikeways, bicycle-parking facilities, bicycle-activated control devices, equipment for transporting bicycles on transit, and roadway infrastructure improvements	https://www.fhwa.dot.gov/fastact/funding.cfm
State Funding Sources					
State Active Transportation Program	Caltrans	Varies; the last call for projects was May 2018.	Consolidation of several older grant programs, including State Safe Routes to School and Bicycle Transportation Account. Funds a wide range of capital and non-capital projects. Both programs give some preference to projects in disadvantaged communities. The State program is competitive among jurisdictions statewide; the regional program is competitive among Bay Area jurisdictions.	Bikeways, crossing improvements, and most programmatic activities.	www.dot.ca.gov/hq/LocalPrograms/atp
California Office of Traffic Safety grants	California OTS	Annually	For traffic-safety education, awareness and enforcement programs aimed at drivers, pedestrians and cyclists.	Certain activities under the SR2S, safety/education and enforcement programs.	www.ots.ca.gov/Grants/default.asp
California State Parks Recreational Trails Program (RTP)	California Department of Parks and Recreation and Caltrans Active Transportation Program	Next cycle is scheduled for 2019.	Applicants are required to provide a 12 percent match.	Recreational trails and trail-related projects, including Class I bicycle paths	www.parks.ca.gov/?page_id=24324
Highway Safety Improvement Program	Caltrans	Varies; most recent call for projects was in spring 2016 with projects selected in November 2016	For projects and programs that reduce traffic fatalities and serious injuries by correcting or improving a specific problem. Highly competitive at the state level.	Safety-related pedestrian, bikeway and crossing projects. Certain activities under the SR2S, safety/education and enforcement programs; also, certain spot improvements.	www.dot.ca.gov/hq/LocalPrograms/hsip.html
Affordable Housing and Sustainable Communities Program	California Strategic Growth Council	Annually; last call for projects expected in March 2017.	Projects that facilitate compact development, including bicycle infrastructure and amenities, with neighborhood scale impacts. Available to government agencies and institutions (including local government, transit agencies and school districts), developers and non-profit organizations.	Bikeways and crossing improvements, particularly those in the area covered in specific plans	www.sgc.ca.gov/Grant-Programs/AHSCProgram.html

Funding Sources	Administering Agency	Availability of Funding	Notes	Eligible Improvements	Weblink
Regional Funding Sources					
Regional Active Transportation Program	Metropolitan Transportation Commission	Varies; the last "Cycle" of projects (Cycle 3.5) was accepted in August 2017	Consolidation of several older grant programs, including State SR2S and Bicycle Transportation Account. Funds a wide range of capital and non-capital projects. Both programs give some preference to projects in disadvantaged communities.	Bikeways, crossing improvements and most programmatic activities.	http://www.mtc.ca.gov/
Transportation Fund for Clean Air	Bay Area Air Quality Management District	Annually (last submittals were due in April 2017)	Funds bicycle facilities, including paths, lanes, routes, lockers and racks.	Bikeways and bicycle crossing improvements.	www.baaqmd.gov/grant-funding/publicagencies/regional-fund
Bicycle Rack Voucher Program	Bay Area Air Quality Management District	Ongoing; last cycle closed in June 2016	Vouchers for up to $60 per bicycle parking space created (up to $15,000 per applicant per year. Racks must be installed within one-tenth of a mile of at least one major activity center and maintained in service for at least three years. Available only to public agencies.	Bicycle parking racks	www.baaqmd.gov/grant-funding/public-agencies/brvp
County Funding Sources					
One Bay Area Grant County Program	Alameda County Transportation Commission	OBAG current round of funding for projects from 2017/18 - 2021/22	Infrastructure projects that reduce vehicle trips, including pedestrian and bicycle facilities.	Bikeways and crossing improvements.	mtc.ca.gov/our-work/fund-invest/federalfunding/obag-2
Alameda County Measure BB Bicycle and Pedestrian Program	Alameda County Transportation Commission	Funding allocated monthly to Alameda County	Funded through a half-cent transportation sales tax	Expanding bicycle and pedestrian paths and facilities; upgrade local transportation infrastructure; and innovative technologies.	www.alamedactc.org/app_pages/view/17260
Transportation Development Act Article 3	Metropolitan Planning Commission/ Alameda County Public Works Agency	Every 2–3 years; the most recent submittals were due in January 2018	Funds plans, safety education, and design and construction of capital projects. Each county coordinates a consolidates annual request for projects to be funded in the county.	Bikeways, crossing improvements and safety/education/training programs for school children and the general population.	https://mtc.ca.gov/our-work/

Funding Sources	Administering Agency	Availability of Funding	Notes	Eligible Improvements	Weblink
Measure WW, Local Grant Program	East Bay Regional Parks District	Applications accepted February through March of each year.	Competitive among Contra Costa County and Alameda County cities, the two counties, and parks and recreation districts.	Trail and other non-motorized transportation projects	http://www.ebparks.org/

Next Steps

This BPMP provides a strategic plan for creating a safe and comfortable walking and biking environment in the Unincorporated Areas of Alameda County. To move forward with implementation, ACPWA should consider creating an annual action plan, which incorporates the BPMP's performance measures, to track progress in meeting the BPMP's six goals.

ALAMEDA COUNTY

Bicycle & Pedestrian Master Plan

FOR UNINCORPORATED AREAS

Public Works Agency
Alameda County

TOOLE DESIGN