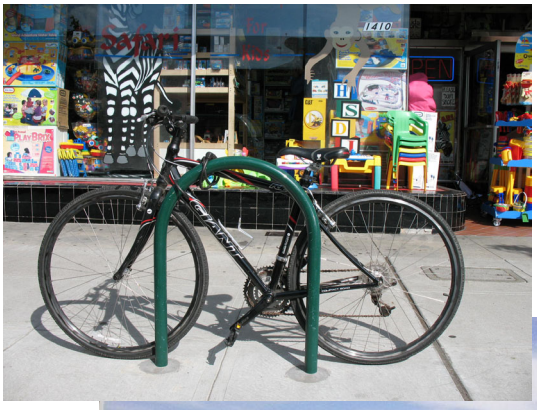
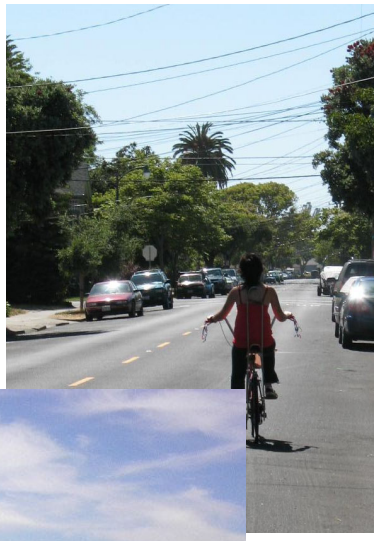
City of Alameda

1999 Bicycle Master Plan

(updated November 2010)





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City of Alameda Public Works Department

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Table of Contents

List of Figures

List of Tables

Executive Summary

Introduction

The City of Alameda Bicycle Master Plan was initially adopted by the Alameda City Council in 1999. This update of the Plan has attempted to: 1) account for recent and planned changes in the City of Alameda, 2) build on the work that has been accomplished in the past 11 years, 3) support recently-adopted City policies, such as the updated Transportation Element and climate protection plan, 4) recommend projects and programs that are achievable within the next 10 years based on the anticipated availability of resources in the current fiscal environment, and 5) support the City's efforts to secure funding from a variety of sources.

Due to Alameda's geographical constraints, enhancing the bicycling environment will be a key strategy in the City's efforts to develop sustainably, while maintaining acceptable traffic congestion levels and limiting greenhouse gas emissions. Fortunately, Alameda has many characteristics that make it a desirable place to ride a bicycle, including flat topography, mild temperatures, relatively slow traffic speeds, and a bikeway network that provides access to many of the City's key destinations.

The 2010 update of the Bicycle Master Plan (referred to throughout this document as "the Plan") is organized into the following chapters:

1. Introduction
2. Policy Context
3. Vision, Goals, and Policies
4. Outreach
5. Bicycling in Alameda
6. Existing Conditions
7. Bicycle Facility Network Needs and Plan Recommendations
8. Description of Recommended Bicycle Plan Projects and Programs
9. Funding and Implementation

A companion document to this Plan, the *City of Alameda Bicycle Facility Design Guidelines*, will be used to help staff, residents, developers, and elected officials to determine the characteristics, spacing, or other design feature of a particular project. The design guidelines will be used to supplement the existing guidelines from the Caltrans *Highway Design Manual.*

Vision

The Vision of the Plan is as follows:

> *The City of Alameda will implement policies, projects and programs to facilitate bicycling for riders of all abilities, for all types of trips, throughout the City and to neighboring jurisdictions.*

This established the intent of the Plan to focus on the needs of the entire Alameda community, to provide opportunities for a comfortable bicycling

experience to a broad cross-section of residents, employees, and visitors. In addition, the City's bicycle facilities will attempt to meet the needs of both commuter/utilitarian bicyclists as well as recreational riders.

Key Plan Recommendations

The Transportation Element of the City of Alameda's General Plan includes a number of policies that encourage the development of a multimodal transportation system, including measures to increase bicycling. Based on the resources estimated to be available over a 10-year period, the Plan includes a set of priorities for capital improvements as well as programmatic activities to support and enhance the bicycling environment.

Projects were evaluated and scored based on a number of criteria, such as connectivity, potential demand, and future operations and maintenance costs. The recommended projects and programs are listed below. Note that definitions for Class I, Class II, and Class III are provided on Page 47.

High Priority – Studies and Capital Projects (funded and initiated within 10 years)

Project	Project/ Location	Phase/Type	Description	Estimated Cost (2009 dollars)
H1	West End Estuary Crossing	Project Study Report	Analysis of recommended alternatives to connect west Alameda to Jack London Square, Oakland	Funded through Pedestrian Plan
H2	Cross Alameda Trail – Alameda Point to Sherman Street	Construction – Class I	Funding sufficient to complete only a portion of this project; City to pursue appropriate segment based on project readiness	$1,414,000
H3	Clement Avenue (Cross Alameda Trail segment)	Construction – Class II	Grand Street to Broadway	$42,000*
H4	Shoreline Drive/Westline Drive	Construction – Class II***	Otis Drive to Broadway	$205,000
H5	Encinal Avenue	Construction – Class II	Versailles Avenue to Broadway	$13,000
H6	Central Avenue	Construction – Class II and III	Class III from Pacific Avenue to Third Street; Class II from Third Street to Grand Street	$95,000

Project	Project/ Location	Phase/Type	Description	Estimated Cost (2009 dollars)
H7	Oak Street	Construction – Class II and III**	Class II from Blanding Avenue to Encinal Avenue; Class III from Encinal Avenue to Powell Street	$26,000
H8	Lincoln Avenue	Construction – Class II**	Oak Street to Park Street	$15,000
H9	San Jose Avenue	Construction – Class III	Sherman St. to Fernside Blvd.; includes extension of Class III on Versailles Ave. from San Jose Ave. to Encinal Ave.	$22,000
H10	Pacific Avenue	Construction – Class III	Marshall Way to 8th St. and Grand St. to Park St.	$25,000
H11	San Antonio Avenue/Ninth Street	Construction – Class III	Sherman Street to Pacific Avenue	$12,000
H12	Sherman Street	Construction – Class III	Eagle Avenue to San Antonio Avenue	$8,000
H13	Third Street	Construction – Class III	Central Avenue to Ralph Appezzato Memorial Parkway	$7,000
H14	Maitland Drive	Construction – Class III	Mecartney Road to Harbor Bay Parkway	$6,000
H15	Fifth Street	Construction – Class III	Central Avenue to Pacific Avenue	$5,000
H16	Bayview Shoreline Bicycle Path Feasibility Study	Feasibility Study	Intersection of Broadway at Shoreline Drive to Towata Park	$100,000
H17	Blanding Avenue Bikeway	Construction – Class II and Class III	Oak Street to Broadway	$10,000
TOTAL HIGH PRIORITY				**$2,005,000**

NOTE: All bicycle facilities within Alameda are to be consistent with Surface Transportation Board authorized rail operations and nothing herein is to be viewed as inconsistent with joint rail-trail use.

* Railroad track removal required prior to implementation. Estimated cost does not include cost of removing railroad tracks. It is assumed that the tracks would be removed as part of reconstructing the street.

** Interim project. For long-term proposal see project N1.

*** Class II to be implemented on these segments only if it is determined that removal of on-street parking or reductions in traffic capacity would be acceptable. Otherwise, they would be implemented as Class III facilities.

High Priority – Maintenance and Minor Capital Projects

Project Number	Project	Description	Estimated Cost (2009 dollars)
C1	Trail Maintenance	Repair of pavement surface	$100,000
C2	Maintain and Enhance Signage	Replace existing signs as needed, install additional signs to enhance the user experience of the network	$125,000
C3	Bicycle Parking Enhancement Program	Install additional bike racks	$75,000
TOTAL HIGH PRIORITY			**$300,000**

High Priority – Programs

Program Number	Program	Description	Estimated Cost (2009 dollars)
P1	Project planning		$250,000
P2	Promotion of Bicycling-Related Events and Services	Bike to Work Day, Walk and Roll to School Day, etc.	$50,000
P3	Education and Enforcement	Provide educational materials to bicyclists and drivers, in combination with police enforcement activities.	$100,000
P4	Bike Maps	Updating and production of maps	$45,000
P5	Safe Routes to School	Mapping	Funded through Pedestrian Plan
P6	Individualized Marketing	Customized traveler information to encourage mode shift	Funded through Pedestrian Plan
P7	Operations and Maintenance		Funded through Public Works maintenance budget
TOTAL HIGH PRIORITY			**$445,000**

TOTAL HIGH PRIORITY PROJECTS AND PROGRAMS: $2,750,000

A second tier of projects and programs is included in this Plan in the event that additional revenues can be secured, beyond the level assumed in this analysis. Conversely, if insufficient revenues are available to complete the recommendations, the scope of this Plan will have to be reduced accordingly.

General Comments About the 2010 Bicycle Master Plan Update

The intent of this Plan is that it will serve as an evolving document to guide the development of Alameda bicycle facilities. It was designed to be flexible enough to account for unforeseen changes in the availability of revenues as well as the unanswered questions regarding potential development at key sites. While most of the recommended projects are located within the public right-of-way or on City-owned property, some major segments of the proposed Alameda bicycle facilities network are located on land that is not under City jurisdiction. To help ensure that these projects are completed, they are included in the Plan, although the timing of their completion is largely beyond the control of the City. Similarly, it is difficult to estimate the timing for completion of projects located within, or in close proximity to, development or redevelopment sites, as implementation of bicycle projects will likely depend on the timing of the related development. Such projects are also included in the Plan due to their importance to the citywide network.

Chapter I
Introduction

Background

The City of Alameda offers bicyclists a combination of features that are available in few other cities – mild weather, flat topography, scenic views, and slower vehicle speeds. The grid street network on the main island provides bicyclists with a range of options and direct routes to their destinations, and the availability of both bike lanes and paths provide bicycling opportunities for riders of all skill levels. While bicycling was once primarily seen as a recreational activity, it has emerged as an increasingly important part of the City's strategy to address its current and future transportation needs. As a result, during the past 10 years, the City has continued to enhance its bicycle facilities, both in terms of building new infrastructure and in integrating the accommodation of bicyclists into the City's development process.

The City of Alameda's current Bicycle Master Plan was initially adopted by the City Council in 1999. The Plan has since been readopted in 2002 and 2008 to reemphasize the priorities established in the Plan and to maintain the City's eligibility for funding from Caltrans' Bicycle Transportation Account (BTA). BTA provides one of the primary sources of funding for bicycle facilities in California.

Purpose

The recent and planned development in Alameda, as well as an increased emphasis on multimodal transportation planning by the City, have highlighted the need for the current Bicycle Master Plan update. While the City's General Plan identified the reduction of single occupant vehicle (SOV) traffic as a goal in 1991, the need to pursue this objective has intensified in recent years. Since the early 1990s, there has been a broad recognition of the negative impacts of transportation-related emissions and the potentially important role that bicycling and other modes could play in meeting our future transportation needs.

In January 2009, the City Council adopted an update to the General Plan's Transportation Element, which places an increased emphasis on supporting a balanced, multimodal transportation system in Alameda. The Transportation Element includes a set of policies intended to enhance the bicycle mode.

The scope of this Bicycle Plan update also included the development of guidelines to facilitate implementation of the Plan's recommendations: 1) bicycle facility design guidelines, 2) bicycle parking guidelines, 3) shoreline access guidelines, and 4) wayfinding signage guidelines. In addition to recommended bicycle facility designs to be utilized, the guidelines will include a formalized

building inspection checklist to ensure that bike racks are installed according to the project conditions of approval prior to the City issuing a permit to occupy the building or final acceptance of the project, whichever comes first. These guidelines are available as a companion document to this Plan.

Plan Area

Alameda is a medium-sized city in San Francisco Bay, adjacent to Oakland. The City's area is 12.4 square miles, and it has a population of approximately 75,000. Alameda consists of two islands – the main island and Coast Guard Island– and a peninsula, Bay Farm Island. As Coast Guard Island is not accessible to the general public, it is not addressed in this Plan. Maps of the plan area are included as Figure 1 and 2.

Process of Developing the Bicycle Master Plan Update

The Bicycle Master Plan Update was developed by the City's Transportation Commission, with technical support from Public Works staff and a consultant. The Transportation Commission Chair appointed three Commissioners to serve on the Bicycle Plan Subcommittee. The Subcommittee, in turn, worked closely with a Task Force which included participation from members of five other City boards and commissions, which was assembled to help provide a broad perspective on bicycling needs. The various activities used to solicit input from the public in identifying needs for new bicycling policies, programs, and projects are described in the Outreach chapter.

FIGURE 1: Bicycle Plan Area – City of Alameda – Main Island

FIGURE 2: Bicycle Plan Area – City of Alameda – Bay Farm Island

Chapter II
Policy Context

The City of Alameda Bicycle Plan Update was undertaken in the context of many other planning efforts, both within Alameda and the larger surrounding area. These plans, projects, and programs need to be accounted for to ensure consistency and coordination between the City's plans and those of other agencies and jurisdictions. This is essential in terms of developing an attractive and convenient local network, supporting a regional bicycle network, maximizing potential funding opportunities, and ensuring that the limited resources are used in the most cost-effective manner possible.

Federal Policies

Since 1991, the federal government has implemented three major pieces of transportation legislation – the Intermodal Surface Transportation Efficiency Act (ISTEA), the Transportation Enhancements Act for the 21st Century (TEA-21), and the Safe, Accountable, Flexible, Efficient, Transportation Equity Act (SAFETEA-LU). These pieces of legislation incorporated provisions into Title 23 U.S.C. to require consideration of the needs of bicyclists and pedestrians in planning and designing transportation infrastructure.

In March 2010, the U.S. Department of Transportation issued its "Policy Statement on Bicycle and Pedestrian Accommodation, Regulation and Recommendations" to reiterate its commitment to meeting the needs of bicyclists and pedestrians. The policy states that…

> [e]very transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

Regional and State Policies and Plans

California Bicycle Transportation Act (CA Streets and Highways Code, Sections 890-894.2)

The Bicycle Transportation Act illustrated the state's commitment to enhancing bicycle infrastructure. The purpose of the Act was "to establish a bicycle transportation system" and …

> to achieve the functional commuting needs of the employee, student, business person, and shopper as the foremost consideration in route selection, to have the physical safety of the bicyclist and bicyclist's property as a major planning component, and to have the capacity to accommodate bicyclists of all ages and skills.

Complete Streets Act of 2008 (AB 1358)

The development of "complete streets" refers to the design and operation of streets that can accommodate the needs of all users, including bicyclists. The State of California has supported this concept through the Complete Streets Act of 2008. Beginning in 2011, revisions to the circulation of general plans are required to plan for a "balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan."

Caltrans Deputy Directive 64 (DD-64-R1, 2008): "Complete Streets – Integrating the Transportation System"

DD-64-R1 supports the Complete Streets Act and the inclusion of the needs of bicyclists and other transportation modes in all projects. Specifically, this Directive outlines responsibilities for Caltrans staff to "ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of 'complete streets.'"

Routine Accommodation Policy, Metropolitan Transportation Commission

This policy requires that all projects funded with regional funds consider the accommodation of bicyclists and pedestrians in accordance with DD-64. It also includes requirements to ensure that this routine accommodation is provided in the development and review of such projects.

Bay Trail Plan (prepared by the Association of Bay Area Governments, 1989)

The Plan includes an alignment for the Bay Trail; policies to guide the identification, design and implementation of routes; and strategies for implementation and financing. Ultimately the Bay Trail will consist of a 500-mile network of paths along the perimeter of the San Francisco Bay shoreline, and approximately 290 miles of the alignment has been completed to date. A map of the designated Bay Trail alignment in Alameda is included as Figure 3.

FIGURE 3: Designated Bay Trail Alignment in Alameda

Regional Bicycle Plan for the San Francisco Bay Region (prepared by Metropolitan Transportation Commission, updated in 2009)

The plan includes projects that provide connections to each Bay Area jurisdiction, to the regional transit system, major activity centers, within or through central business districts, and the Bay Trail. The Alameda projects included in the Regional Bicycle Plan are a subset of those in the Alameda Countywide Bicycle Plan (see below). In addition to projects, the Plan also includes ongoing programs, such as data collection and analysis, working with transit operators to enhance bicycle parking and on-board bicycle storage, as well as improving access to key transit stops/stations, and conducting marketing and outreach activities related to bicycling. The City of Alameda projects to be completed in the Regional Bicycle Plan are: 1) Oakland-Alameda Estuary Crossing, 2) the corridor from Alameda Point to Tilden Way along the route of the former Alameda

Belt line railroad, 3) the Miller-Sweeney/Fruitvale bridge crossing, and 4) completion of the remaining sections of Bay Trail along the shoreline.

San Francisco Bay Plan (prepared by the Bay Conservation Development Commission, 1998)

The Bay Plan establishes policies and maps and provides guidance regarding the development of the San Francisco Bay and shoreline. The Bay Conservation Development Commission (BCDC), which is charged with implementing the plan, generally has jurisdiction regarding the development of land within 100 feet of the Bay. BCDC typically requires the provision of a 10-foot path, where feasible, as part of development projects within its jurisdiction, and this plays a critical role in the implementation of the San Francisco Bay Trail.

County Level Plans

Alameda Countywide Bicycle Plan (prepared by Alameda County Congestion Management Agency, updated in 2006)

The plan includes: 1) a Vision Network, including 549 total miles of facilities, which are further defined into 22 corridors and a total of 60 projects; 2) a Financially Constrained Network defining what is anticipated to be completed given anticipated funding over the next 25 years; and 3) a set of High Priority Projects, which is a subset of the Financially Constrained Network, and which includes projects that can be implemented in next 4-5 years, when the next update of the countywide plan is anticipated.

The Countywide Plan includes the following segments in Alameda:

TABLE 1
Alameda Countywide Bicycle Plan
City of Alameda Projects

Segment No.	Roadway	From	To	Miles	Facility Type
3-O*	Miller-Sweeney Bridge	Oakland City limit	Alameda City limit	0.1	To be determined
3-P*	Tilden Way	Miller-Sweeney Bridge	Broadway	0.3	To be determined
3-S	Broadway	Otis Drive	La Jolla Drive	0.1	Bike lane
3-U	Broadway	Bayview Drive	Shoreline Drive	0.0	Bike lane
4-A*	Atlantic Ave./ Appezzato Mem. Pkwy.	Ferry Point Rd.	Constitution Way	1.3	To be determined

Segment No.	Roadway	From	To	Miles	Facility Type
4-B*	New bike path through rail yard	Constitution Way	Sherman St./ Atlantic Ave.	0.7	To be determined
4-C*	Clement Ave. extension	Sherman St./ Atlantic Ave.	Clement Ave./ Grand St.	0.6	To be determined
4-D*	Clement Ave.	Grand St.	Tilden Way	1.2	To be determined
4-K1	Fernside Blvd.	San Jose Ave.	Bay Farm Island Bike Bridge	0.3	Bike path
51-SPR1B	Oakland-Alameda Connection	Constitution Way Bike Path	Oakland Bay Trail	0.5	To be determined
54-B	Central Ave.	Lincoln Ave.	Grand St.	1.9	Bike lane

* All bicycle facilities within Alameda are to be consistent with Surface Transportation Board authorized rail operations and nothing herein is to be viewed as inconsistent with joint rail-trail use.

Plans from Other Jurisdictions

City of Oakland Bicycle Master Plan, updated in 2007

Oakland is the only jurisdiction that borders on Alameda, making the connections between the two jurisdictions critical in terms of access to and from Alameda. Since the boundary between the main island and Oakland is located in the estuary, both cities – as well as other agencies with jurisdiction over the estuary – have a critical role to play in the improvement of these connections. Oakland has indicated its commitment to enhancing these connections in its Bicycle Master Plan through Action 1B.4, which recommends the inclusion of "two-way bicycle access in projects that would rebuild or create new bridges over the Oakland Estuary, Lake Merritt Channel, railroad tracks, or freeways."

City of Alameda Plans

General Plan Transportation Element, updated 2009

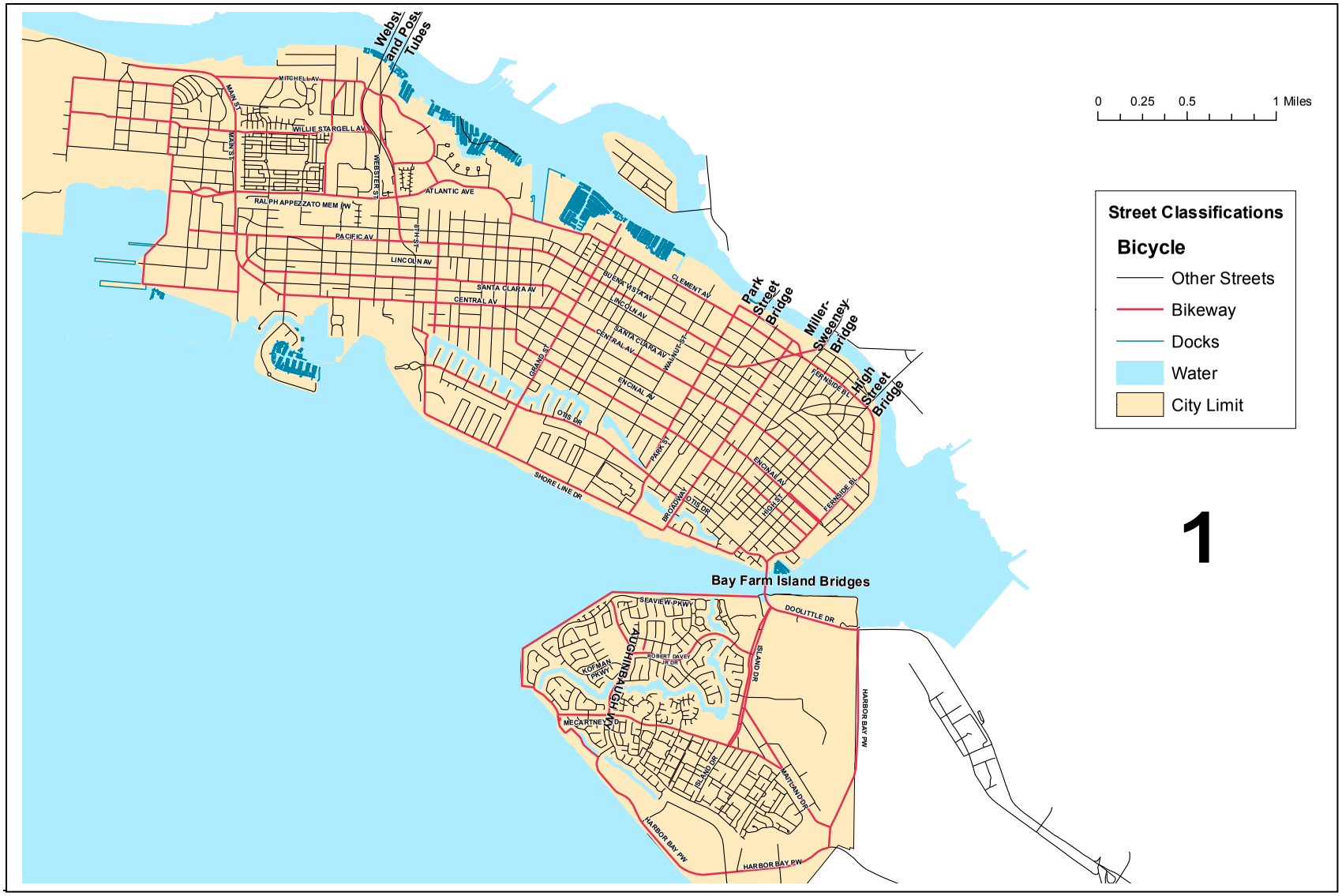
The Transportation Element of the Alameda General Plan was updated as part of the development of a comprehensive, multimodal Transportation Master Plan (TMP). The Transportation Element consists of a set of transportation policies and a new street functional classification system, which both have a multimodal emphasis. While the street classifications are based on the conventional categories used by Caltrans and the Federal Highway Administration – arterial, collector, and local streets – overlays were developed to consider the priority

corridors for non-automobile transportation modes, and to coordinate street designs with the adjacent land uses planned for each corridor. The map of bicycle priority streets developed as part of this process is included as Figure 4; the streets indicated on this map include existing bikeways as well as candidates for new bikeways. Note that the map does not indicate the specific type of bicycle facility for that street, as this level of detail was to be defined through this Bicycle Master Plan Update. In addition to considering the context of each proposed bikeway – such as connectivity to other bikeways and physical constraints at each site – the street classification system provided key policy guidance to help determine the type of facility to be recommended for a particular street segment.

Estuary Crossing Feasibility Study, 2009

Bicyclists attempting to travel between Alameda's west end and downtown Oakland currently have three options: 1) the four foot wide bike path through the Posey Tube, 2) a bicycle rack on an AC Transit bus, or 3) an indirect route through Alameda's east end. The current conditions serve as a significant deterrent to bicyclists traveling in this corridor, and as a result an improved estuary crossing was identified as the highest priority in the City's 1999 Bicycle Master Plan. A bicycle/pedestrian bridge with potential transit lanes was identified as the preferred long-range alternative for this connection. Other alternatives identified for further study were improvements to the Posey Tube bike path to provide short-term improvements to the estuary crossing, and 2) a water shuttle as an intermediate-term solution. The capital costs and on-going operation and maintenance costs were recognized as significant financial constraints.

FIGURE 4: Bicycle Priority Overlay,
City of Alameda General Plan Transportation Element



City of Alameda Bicycle Master Plan, adopted in 1999, readopted in 2002, 2008

The Plan included a set of policies, priority projects, recommendations for education and enforcement programs, and design guidelines. The proposed bicycle facilities network map was adopted as part of the update of the Transportation Element of the City's General Plan. The development of the 1999 plan included a public outreach process.

The Bicycle Master Plan identified the following priority projects:

TABLE 2
High Priority Projects from the
1999 City of Alameda Bicycle Master Plan

Priority	Project Title	Project Type
1	Webster/Posey Tubes, Oakland Connection	Tube improvements, feasibility study for water taxi
2	Central Avenue Bike Lanes	Bike lanes
3	Bicycle Support Facilities	Bicycle parking, loop detectors
4	Shoreline Trail Enhancements	Widen and improve existing bike path, eliminate gaps
5	Bay Farm Island Bike Bridge Access	Improvements to bike paths at bridge approaches
6	Northern Bikeway Corridor and Park/Fruitvale Bridges Bicycle Access	East-west route, enhanced access to Park Street and Miller-Sweeney Bridges
7	San Jose-Sherman Bicycle Corridor	Bike lanes or bike routes; traffic calming
8	Commercial Area Bicycle Corridors	Enhance bicycle circulation and parking near Park and Webster Street
9	Fifth Street Corridor	Bike lanes
10	Atlantic Avenue Bikeway	Linear park from Main Street to Webster Street
11	Bay Farm Island Bikeways	Bike lanes and bike paths
12	Alameda Point and FISC Bikeway Systems	Bike lanes and bike paths

Local Action Plan for Climate Protection, 2008

According to the Action Plan, an estimated 54 percent of Alameda's greenhouse gas emissions are from transportation[1]. The Plan recommends projects and programs that increase the use of alternatives to automobile travel, such as the construction of bikeways and end-of-trip support facilities at employment sites, to help the City reach its target of reducing greenhouse gas emissions by 25 percent below 2005 levels by 2020.

Economic Development Strategic Plan, 2008

The Economic Development Strategic Plan outlines the City's approach toward generating economic growth in the City. The plan's recommendations include the provision of transportation and recreation facilities. The following bicycling-related objectives were identified through the Plan's outreach process:[2]

- increase bicycle facilities and transit access to the business parks (p. 8)
- develop a Waterfront Design Access Plan to help activate both day- and night-time uses, create a safe public environment (p. 17)
- continue the development process for the recreational/open space improvements of the Belt Line property (p. 19)
- incorporate waterfront orientation, public access, possible recreation and parks opportunities with the development of the Northern Waterfront (p. 19)
- create bike paths and lanes throughout Alameda Point (p. 19)
- promote Walk and Bike-to-school/Bike-to-work (p. 21)
- encourage the location of shower facilities in new commercial development (p. 22)
- implement development standards that encourage the use of alternative modes of transportation and strongly support transit-oriented development projects and initiate programs that could subsidize development (p. 22)
- implement plans to use the corridor of the former Alameda Belt Line property for transit, bicycle, and pedestrian transportation (p. 22)
- maintain and implement the Bicycle Master Plan with regard to physical system improvements (especially the identified priority projects), as well as programs and policies relating to encouragement, education and enforcement (p. 22).

Downtown Vision Plan, 2000

The Alameda Downtown Vision Plan outlines a strategy for the revitalization and development of the area in the vicinity of Park Street, one of two downtown commercial districts. The Vision Plan included the following recommendations to address the need for improved bicycle circulation and parking facilities in the area:

[1] *Local Action Plan for Climate Protection*, City of Alameda, 2008, p. 19.
[2] *Economic Development Strategic Plan*, City of Alameda, 2008.

- Implement bicycle facilities to improve business districts and help manage the automobile parking supply.
- Determine a feasible pedestrian/bicycle connection from Park Street to the Estuary as part of the General Plan update (1-3 years).
- Improve services and facilities that increase accessibility to Downtown by bus, bicycle or other alternative modes of transportation. Incorporate these facilities (e.g. bus shelters, bicycle racks, etc.).

Cross Alameda Trail Feasibility Study, 2005

The study examined the potential development of a major bicycle/pedestrian corridor, using a combination of on-street and off-street facilities, approximately along the corridor formerly used by the Alameda Belt Line Railroad. Such a Trail would connect a number of key destination points on the northern side of Alameda's main island, including Alameda Point, the Webster Street and Park Street business districts, College of Alameda, Marina Village, Northern Waterfront area, Bridgeside Shopping Center, and the Miller-Sweeney Bridge. The corridor is also under consideration for use as a future high-capacity transit service, so the provision of both transit and a bicycle/pedestrian facility was analyzed. In June 2009, the California Court of Appeals ruled that the City had ownership rights to the corridor; the City purchased the property in March 2010.

Regulations, Standards and Guidelines

The rules governing appropriate bicycling behavior, provision of bicycle facilities, and facility design are largely determined by state and local regulations, as summarized below.

California Vehicle Code (CVC)

The California Vehicle Code (CVC) regulates traffic law in California. Cities and counties may not regulate traffic on their streets, including bicycle traffic, except where they are expressly authorized to do so by the CVC. Sections 21200 through 21212 address bicycle operations, including Section 21200(a), which states that "[e]very person riding a bicycle upon a highway has all the rights and is subject to all the provisions applicable to the driver of a vehicle…" The complete California Vehicle Code is available at the California Department of Motor Vehicles (DMV) web site at www.dmv.ca.gov/pubs/vctop/vc/vc.htm.

Alameda Municipal Code

The Alameda Municipal Code includes numerous provisions regarding the operation of bicycles as well as the provision of bicycle facilities. These are included in this Plan as Appendix A.

California Manual on Uniform Traffic Control Devices (CA MUTCD)

In 2006, the State of California replaced the California Traffic Manual with the California Manual on Uniform Traffic Control Devices. Similar to the previous document, the manual prescribes uniform standards and specifications for all official traffic control devices in California. The California MUTCD is based on the Federal Highway Administration's MUTCD, but with modifications made specifically for California. Chapter 9 of the California MUTCD addresses traffic controls for bicycle facilities.

Caltrans Highway Design Manual

Section 891 of the California Streets and Highways Code specifies that local agencies must comply with the design criteria provided by Chapter 1000 in the current Highway Design Manual. Chapter 1000 of the Caltrans Highway Design Manual provides guidance and standards for bikeway designation and design.

Policies and Procedures

The policies and regulations currently in place by the City and partner agencies lend significant support to the ongoing enhancement of bicycle facilities in Alameda. In particular, the provision of bicycle facilities has become increasingly integrated into the development review process, largely due to the regulatory responsibilities of BCDC, discussed earlier, as well as project elements that the City typically requires of developers:

- *Project requirements* – If a new development or redevelopment project impacts a location where an adopted plan includes the construction of a bicycle facility, the development is typically required to pay for the construction of this facility as part of the project. The City's Transportation Commission has recommended the adoption of revised thresholds of significance for California Environmental Quality Act (CEQA) review. The proposed thresholds would identify a more specific threshold for impacts to bicycling conditions than what is currently in place; once adopted, developments will be required to mitigate any significant impacts as defined by the threshold.
- *Bicycle parking requirements* – For development and redevelopment projects, Alameda Municipal Code Section 30-7.15 requires the installation of one off-street bicycle parking space for every ten off-street motor vehicle parking spaces. The City also requires monitored bicycle parking at events expected to attract at least 100 participants; this requirement is implemented as part of the event permit application process. The details of this event bicycle parking requirement are included in this Plan as Appendix B.
- *Collaboration with developers* – There have been examples where specific bicycle accommodations were not included in an adopted City plan, but based on project impacts the City successfully worked with the developer

to include bicycle accommodations in its plans. An example of this is the bike lanes and bike paths for the Alameda Towne Centre redevelopment.

Conformance With State Requirements

The State of California established eligibility requirements for Bicycle Transportation Account (BTA) funds as part of the California Bicycle Transportation Act, which was codified as Streets and Highway Code Section 891.2. One of the requirements for BTA funds is that jurisdictions must have an approved Bicycle Transportation Plan that includes the following:

(a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan (see Chapter V, "Bicycling in Alameda," p. 31).

(b) A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers (see Chapter VI, "Existing Conditions," p. 40).

(c) A map and description of existing and proposed bikeways (see Chapter VI, "Existing Conditions," (p. 40), Figure 9 (p. 84), and Chapter VIII, "Description of Recommended Bicycle Plan Projects and Programs, (p. 85).

(d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers (see Chapter VI, "Existing Conditions," p. 40).

(e) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels (see Chapter VI, "Existing Conditions," p. 40).

(f) A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities (see Chapter VI, "Existing Conditions," p. 40).

(g) A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists (see Chapter VI, "Existing Conditions," p. 40).

(h) A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support (see Chapter IV, "Outreach," p. 27).

(i) A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting (see Chapter III, “Policy Context,” p. 10).

(j) A description of the projects proposed in the plan and a listing of their priorities for implementation (see Chapter VII, “Bicycle Facility Network Needs and Plan Recommendations” (p. 69) and Chapter VIII, “Description of Recommended Bicycle Plan Projects and Programs,” (p. 85)).

(k) A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area (see Chapter VII, “Bicycle Facility Network Needs and Plan Recommendations,” (p. 69).

The City of Alameda Bicycle Plan Update was prepared in accordance with these requirements.

Chapter III
Vision, Goals, and Policies

Vision Statement

The vision statement for the City of Alameda Bicycle Master Plan Update is as follows:

> *The City of Alameda will implement policies, projects and programs to facilitate bicycling for riders of all abilities, for all types of trips, throughout the City and to neighboring jurisdictions.*

Bicycle Master Plan Guiding Principles

The following general principles were established to guide this Bicycle Plan, consistent with the Transportation Element of the Alameda General Plan:

- Reduce peak hour traffic congestion by shifting motor vehicle trips to bicycle trips.
- Reduce air pollution emissions by shifting motor vehicle trips to bicycle trips.
- Encourage additional economic activity by enhancing bicycle access and parking to Alameda's major commercial districts.
- Improve bicycle facilities to offer local opportunities for recreation.
- Enhance bicyclists' education about traffic laws.
- Design facilities and implement programs to enhance bicyclists' comfort and minimize conflicts with other transportation modes.
- Coordinate the development of bicycle facilities with other transportation modes to facilitate the integration of bicycling with the regional transportation system.
- Review and modify City procedures and guidelines, as needed, to ensure bicycle accessibility is included in the design and implementation of the City's transportation network.
- Leverage outside funding sources to support the implementation of bicycle projects and programs, including grants and private sector funding.

Goals, Guiding Policies, and Implementing Policies

The Transportation Element of the Alameda General Plan places a strong emphasis on supporting the development of a multimodal transportation system. This includes goals, objectives and policies that encourage increased bicycling,

the expansion of the City's bicycle network, and the preservation and enhancement of bicycling conditions on City streets. The bicycle-related policies from the Transportation Element are included as Appendix C of this Plan, and the complete Transportation Element is available on the City of Alameda web site at www.ci.alameda.ca.us.

The Transportation Element addressed bicycling in a general sense, based on how it interacts with other transportation modes. Therefore, some supplemental, more specific policies are included in this Bicycle Plan Update:

TABLE 3
Supplemental Bicycle Master Plan Policies
(in addition to City of Alameda General Plan Transportation Element)

Number	Goal	Policy	Potential Action Item
BP-1	Facilitate Connection of Bicycling and Transit	a) Work with AC Transit, Bay Area Rapid Transit (BART), Water Emergency Transit Authority (WETA), the City of Oakland, and other agencies to improve bicycle access to major transit stops/stations and to transit vehicles. b) Encourage the installation of guide signs to facilitate the bicycle-transit connection at high-demand locations.	• Staff Activities • Planning • Capital Improvements • Development Review
BP-2	Provide Additional End-of-Trip Facilities	a) Support the provision of secure bicycle parking at major transit stops/ stations/ hubs, including bike stations where there is sufficient demand. b) Support the provision of secure bicycle parking at other significant trip attractors and generators, such as large employers, retail businesses, and multi-unit residential facilities. c) Modify the City's bicycle parking requirements to provide more specific guidance regarding the provision of bicycle parking facilities, showers, and changing rooms, based on land use and bicycling demand. d) Encourage fitness centers to provide access to showers and lockers to bicyclists for a nominal fee. e) Require major developers and businesses to monitor use of existing bicycle parking facilities in their properties and the immediate vicinity to help determine adequate needs for bicycle racks and lockers in the area.	• Planning • Development Review • Staff Activities

Number	Goal	Policy	Potential Action Item
BP-3	Enhance Directional Signage	Consider providing information for best routes to popular destinations, where to park bicycles, and how to bring bicycles on transit vehicles.	• Planning • Capital Improvements • Education
BP-4	Implement Identified Priorities	a) Actively seek grant funding to implement Bicycle Master Plan priority projects. b) Pursue funding for ongoing operations and maintenance of bicycle lockers. c) Include the routine accommodation of bicyclists and pedestrians in accordance with federal, state, and regional policies in Transportation projects. d) Coordinate with utility construction, maintenance schedule and public agencies. e) Seek opportunities to provide cost-effective improvements to enhance the bicycling environment through projects such as street resurfacing.	• Staff Activities • Development Review • Capital Improvements
BP-5	Expand the Bicycle Network	a) Establish and maintain bikeways to priority destinations in Alameda, especially for travel to employment centers, commercial districts, transit stations and corridors, institutions, and recreational destinations. b) At locations where constraints preclude the near-term implementation of recommended improvements, provide enhancements to accommodate bicyclists to the degree that is feasible.	• Planning • Capital Improvements • Development Review
BP-6	Promote Bicycling	a) Continue to work with partners to support Bike to Work Day, Walk and Roll to School Day, Earth Day, and other events that encourage bicycling. b) Continue to update the bicycle information presented on the City's web site, including educational information about the responsibilities of bicyclists and motorists in a mixed traffic environment, as well as links to local bicycling resources. c) Work with schools in Alameda to increase the number of students who bicycle to school. d) Continue to provide support to update and distribute a bicycle facilities network map.	• Staff Activities • Education

Number	Goal	Policy	Potential Action Item
BP-7	Develop Design Guidelines	a) Develop City Bicycle Facility Design Guidelines for bikeways and bicycle parking facilities to supplement Caltrans standards. b) Wherever possible, design bike paths to accommodate all anticipated users, such as including additional width for heavily used corridors or providing adjacent soft surfaces for running. c) Develop shoreline access design guidelines to ensure provision of bicycle and pedestrian facilities, and the successful completion of the Bay Trail.	• Staff Activities
BP-8	Review and Update Alameda Municipal Code	Review the provisions in the Alameda Municipal Code (AMC) regarding the provision of bicycle facilities and operations and update them as needed to be consistent with the General Plan's Transportation Element, this Bicycle Plan Update, and the associated Bicycle Facility Design Guidelines (per BP-7 above).	• Staff Activities
BF-9	Pursue the Bicycle Friendly Community Designation	Pursue recognition by the League of American Bicyclists, a national bicycle advocacy organization, if it meets the City's plans and policies relating to the bicycling in the City.	• Staff Activities
BF-10	Facilitate Public Involvement	Maintain an ongoing public forum such as the Transportation Commission (if resources are available), to solicit citizen input on bicycle-related policies.	• Staff Activities

Chapter IV
Outreach

Public input for the Bicycle Master Plan Update was collected through the following strategies and activities:

1) 1999 Bicycle Master Plan
2) Surveys
3) Public workshop
4) Task Force meetings
5) Community ride
6) Board and Commission meetings
7) Web site/Email
8) Community-Based Transportation Plan

Participants gathering for the BikeAlameda-sponsored Bicycle Plan Update community ride

1999 Alameda Bicycle Master Plan

The 1999 Alameda Bicycle Master Plan included a public outreach process, through which key priority projects and programs were identified. The plan was adopted by the City Council, and the plan map was incorporated into the City's General Plan.

While changes have occurred in Alameda, many of the needs identified at that time are still relevant. As a result, the 1999 plan served as the starting point for the Bicycle Plan Update effort. All projects from the original plan were therefore included in the list of proposed projects analyzed for this Update.

Surveys

The City completed a Pedestrian and Bicyclist Survey in 2007 – collecting 242 responses – to provide input into this Bicycle Plan Update and the Pedestrian Plan. In addition, the City previously completed two surveys that addressed bicycle access in a more limited way, the first one as part of the Transportation Master Plan (297 responses) in 2003 and a second one through the Economic Development Strategic Plan (400 responses) in 2007. Highlights of the surveys included:

1) **Pedestrian and Bicycle Survey** – This survey (included as Appendix D) provided the most detailed recommendations.

   - Requested improvements: The addition of bike lanes, named by 100 respondents, was the top response to the question of what improvements would increase bicycling. Other responses were improved intersections (65 respondents supported this improvement), bicycle parking (62 respondents supported this improvement), improved access to the main island (53 respondents supported this improvement), multi-use path access (51 respondents supported this improvement), signal detection (49 respondents supported this improvement), improved routes to major transit facilities (42 respondents supported this improvement), and enhancements in the vicinity of schools (26 respondents supported this improvement).
   - Top concerns: When asked to identify their top two concerns regarding the on-street bicycling environment, the most frequently named items were 1) lack of sufficient space on the street (119 respondents); 2) traffic congestion (65 respondents); and 3) street crossings (52 respondents).
   - Pavement condition: The most frequently identified issue regarding pavement condition was potholes and cracks, cited by 42 respondents.
   - Bicycle parking: The availability of bicycle parking at shopping destinations was identified by 49 respondents.
   - Off-street bike path concerns: The two main issues identified by respondents regarding off-street bike paths were the surface quality (16 respondents) and width (12 respondents) of the bike paths.

2) **Transportation Master Plan (TMP) Survey** – Eighty-four (84) percent of respondents supported encouraging bicycling as a form of transportation for trips under five miles. Forty-two (42) percent of respondents indicated that the City's current network of bike paths and bike lanes met their needs, while 28 percent stated that they system did not meet their needs. When asked if the City currently had a good system, but needing some

improvements, 56 percent agreed with this statement while 18 percent disagreed.

3) **Economic Development Strategic Plan Survey** – When asked to name their highest priorities for the City related to any issue, 66 percent of respondents cited "improve public transportation, bicycle and pedestrian accessibility, and amenities to assist local residents traveling in and around Alameda." – the fourth highest-ranked issue. In addition, when asked to identify their highest transportation priorities for the City, 64 percent selected "complete public access trail for all of Alameda's shoreline" (fifth highest-ranked response) and 54 percent named "improve pedestrian and bicycle connectivity to Oakland" (sixth highest-ranked response)

Public Workshop

A public workshop was held on March 26, 2009 at Alameda High School. The workshop format utilized six stations for attendees to offer input. One station focused on the draft vision statement. The remaining five stations provided maps to enable participants to specify locations where they could identify concerns and recommend improvements – 1) existing conditions, 2) support facilities, 3) destinations, 4) challenges, and 5) wish list. There were ten participants at the workshop.

Task Force Meetings

As with the City's Pedestrian Plan, a Task Force was established to provide broad-based input into the development of proposed policies and projects, as well as opportunities for public input. The Bicycle Plan Task Force was led by the Transportation Commission's Bicycle Plan Subcommittee and included representatives of the City's Planning Board, Economic Development Commission, Recreation and Parks Commission, Housing Commission, and the Alameda Youth Commission. Three Task Force meetings were held on June 16, 2008, June 23, 2009, and March 15, 2010 as part of the planning process.

Community Ride

On August 2, 2008, BikeAlameda organized a ride to provide a direct experience of the strengths and weaknesses of the City's existing bicycle network, and to identify potential projects to be included in the Plan. There were several stops along the ride, where BikeAlameda members led discussions that focused on strategies to enhance bicycle access to key destinations. The ride was attended by 35 people including elected officials, board and commission members, City staff, media, and the public.

Safe Routes to School Maps

The Public Works Department has worked closely with school principals and parents to develop Safe Routes to School (SR2S) maps. The department developed and distributed draft maps of recommended bicycle and pedestrian routes and requested feedback from staff and parents. The maps were updated to incorporate these comments, and distributed as "official" SR2S maps.

Board and Commission Meetings

The draft Plan was presented to the Transportation Commission, Economic Development Commission, and Recreation and Parks Commission, Youth Advisory Commission, and the Planning Board. These meetings provide additional opportunities for public comment.

Web Site/Email

As part of the TMP web site, the City developed a page for the Bicycle Master Plan Update. The page provided documents for people to review, including the previous bicycle plan and draft policy documents as they were being developed through the planning process. The site also provided the opportunity to register to receive email updates, which announced upcoming meetings and the availability of draft documents for review. Approximately 300 individuals were included on the TMP email list.

Community-Based Transportation Plan

The Alameda County Congestion Management Agency[3] (ACCMA) completed a Community-Based Transportation Plan to identify transportation needs in lower income areas of Alameda, and to develop recommendations for addressing these needs. Comments and recommendations regarding bicycling needs that were collected through this process were considered in the development of recommendations of the Bicycle Plan Update.

[3] ACCMA has since merged with the Alameda County Transportation Improvement Authority (ACTIA) to form the Alameda County Transportation Commission (ACTC).

Chapter V
Bicycling in Alameda

As expressed in the Vision statement, the intent of this Plan is to encourage bicycling for all trip purposes by continuing to implement a range of facility types to meet the needs of a broad cross-section of the population. To assess the potential for increasing bicycling in Alameda, this chapter reviews existing information on estimated number of bicycling trips in Alameda, the observed or recorded characteristics of bicyclists, and the types of trips taken by bicycle. Local data was used where available; otherwise, this section relies on regional and national averages.

Current Levels of Bicycling in Alameda

Work/Commute Trips

In general, work trips comprise about 16 percent of all person trips.[4] These trips are largely concentrated in the morning and late afternoon, and responsible for much of the motor vehicle traffic congestion in Alameda and elsewhere. A key strategy in reducing traffic congestion has been to shift work trips from automobiles to other transportation modes such as bicycling.

According to the 2000 Census, Alameda had approximately 37,000 employed residents, and 24,000 local jobs. Among employed Alameda residents, 25 percent work in Alameda, while another 24 percent work in Oakland, and 19 percent commute to San Francisco.[5] Combined, these three destinations account for over two-thirds of journey-to-work commute trips by Alameda residents. Enhancing bicycle access within Alameda; as well as to Oakland and San Francisco; via bus, train, or ferry, would therefore address the work commute needs of most Alameda residents.

Bicycle commuting is generally more viable as a primary commute transportation mode for workers who travel short distances. While only 0.4 percent of employees in the U.S. currently bicycle to work, a much larger number of workers live close enough to their place of employment that they could potentially commute by bicycle. According to the 1995 National Personal Transportation Survey (NPTS), nearly 40 percent of commute trips, nationwide, were less than two miles, and 63 percent of commute trips were less than five miles.

According to the 2000 Census, City of Alameda residents exhibit moderately higher bicycle commuting than Alameda County as a whole, and more than three times the national average, as indicated in Table 5.

[4] National Household Transportation Survey, 2001.
[5] Census Transportation Planning Package, 2000 Census.

TABLE 4
Journey to Work by Transportation Mode for
City of Alameda, Alameda County, and the United States

Transportation Mode	City of Alameda	Alameda County	United States
Drive alone	63.0%	66.3%	75.7%
Transit	15.8%	10.6%	4.6%
Carpool	11.9%	13.7%	12.2%
Work at home	4.1%	3.6%	3.3%
Walk	2.7%	3.2%	2.9%
Bicycle	***1.4%***	***1.2%***	***0.4%***
Other	1.1%	1.2%	1.0%

Source: Census Transportation Planning Package, 2000 Census.

Bicycle commuting is not for everyone. While some people live only a short distance from their workplace, bicycle commuting may still be impractical – someone may need to pick up a child after work, travel to a class at night, have physical limitations, etc. Nevertheless, given that 25 percent of Alameda residents work locally, the City has the potential to attract additional bicycle commuting.

For those commuters who travel outside the City, and must cross geographical limitations, such as the estuary between Alameda and Oakland or the San Francisco Bay, bicycle commuting can be more challenging. However, factors such as vehicle congestion, the cost of parking in downtown areas, the connectivity to transit and the cost of gasoline can provide a powerful incentive for many City residents to explore alternative modes, such as bicycling. The addition of new facilities in the regional transit system – such as the bike station at the Fruitvale BART station, bike racks on all AC Transit buses, and bicycle lockers at the Harbor Bay Ferry Terminal – has made such long distance commutes a more convenient option.

While journey-to-work data only describes one segment of the bicycling activity in Alameda, it does provide important baseline information. As noted above, the 2000 Census found that bicycle commuting was the preferred means of travel to work by 1.4 percent of Alameda residents. For workers who both lived and were employed in Alameda, 3.8 percent traveled to work by bicycle. These data are possibly a conservative estimate of the number of bicycle commuters. A key limitation of the data is that it only counts workers who primarily commute by bicycle during the week the Census data is collected. Bicyclists who chose another mode that week, or who combined bicycling with transit, may not be counted. The weather during the survey week may also influence the mode choice for the week.

School trips are another type of commute trips that are a likely source for increasing bicycle trips. Discussions with school principals in Alameda found a

wide variation in percentages of students bicycling to school, depending on the school. The principal at Lincoln Middle School, for example, indicated that when the weather is warm, as many as 40 percent of its nearly 1,000 students bicycle to school. At other schools, however, only a handful of daily bicyclists were reported.

Non-Work Trips

Shifting work trips from automobiles to bicycles and other transportation modes is an important strategy in reducing traffic congestion. However, focusing on the 84 percent of person trips that are not work-related is essential to achieving the other objectives of this Plan. While Alameda-specific data are not available regarding rates of bicycling for non-work trips, there were nearly 3,000 Alameda households in 2000 – 9.6 percent of the total – that did not have an automobile available. The number of people without access to an automobile is even greater if households with fewer vehicles than registered drivers are considered. For households that must rely on alternative transportation modes, bicycling may be a viable option for at least some of their trips.

There has been encouraging evidence that Alameda residents have an interest in increasing their rates of bicycling. In 2006, the Transportation and Land Use Coalition (now known as TransForm), conducted an initiative called TravelChoice, which conducted interviews with over 3,100 Alameda residents. The TravelChoice program encouraged participants to try non-motor vehicle transportation modes by providing them with information about other available options. This program replicated similar efforts undertaken in other U.S. cities and a number of other countries, where it was found that such an approach could result in a significant mode shift. For the Alameda portion of this project, while bicycle trips made up a relatively small portion of total trips, the follow-up survey found that program participants took nearly three times as many bicycle trips than before the project.

Bicycle Counts in Alameda

As part of its traffic count program for the Transportation Element Update, the City conducted bicycle counts at 102 intersections in May 2007, with the 25 highest count locations listed in Table 6. These data are likely a conservative estimate of current levels of bicycling throughout Alameda for several reasons:

- Counts were only conducted on weekdays from 7-9 AM and 4-6 PM. At some locations, such as schools, for the largest number of bicycle trips may be at other times of day.
- Count locations were identified as part of the traffic analysis for the Transportation Element General Plan Amendment, so they were not based on where the highest number of bicyclists were likely to be. Heavily used off-street bike paths, such as the one on the south side of Shoreline Drive, were not included.
- Bicyclists were only counted if they crossed through an intersection.

Despite these limitations, the data provide valuable baseline information of bicycle ridership levels, especially in terms of their potential interactions with motor vehicles during peak vehicle traffic. This information can help target areas where additional bicycle facilities may be beneficial.

TABLE 5
Peak Period Bicyclist Counts at Key Intersections
(7-9 AM and 4-6 PM)

Rank	Street	Cross Street	Bicyclists Crossing		Total Peak Trips	Land Uses Within 1 Block of Intersection	Proximity to Bikeways
			7-9 AM	4-6 PM			
1	High St.	Otis Dr.	50	43	93	Elem. School	½ block from bike path
2	Webster St.	Central Ave.	30	50	80	Business	2 blocks from bike lane
3	Webster St.	Lincoln Ave.	29	50	79	Business	2 blocks from bike lane
4	Webster St.	Santa Clara Ave.	26	50	76	Business	Bike lane on Santa Clara
5	Versailles Ave.	Otis Dr.	27	43	70	Residential	2 blocks from bike lane
6	Chestnut Ave.	Encinal Ave.	45	23	68	Elem. School/ High School/ Neighbor- hood Commercial	2 blocks from bike lane on Santa Clara
7	Broadway	Otis Dr.	26	40	66	Residential	Bike lane on Broadway
	Webster St.	Buena Vista Ave.	19	47	66	Business	3 blocks from bike lane
9	Webster St.	Haight St.	20	44	64	Business	1 block from bike lane
10	Webster St.	Pacific Ave.	23	40	63	Business	3 blocks from bike lane
11	High St./ Gibbons Dr.	Fernside Blvd.	21	39	60	Bridge	Bike lane on Fernside
12	High St.	Central Ave.	37	21	58	Park	Bike lane on Central
	Willow St.	Otis Dr.	20	38	58	Shopping	3 blocks from bike path
	Pearl St.	Otis Dr.	14	44	58	Residential	1 block from bike lane
15	Walnut St.	Encinal Ave.	22	34	56	School	2 blocks from bike lane
16	Webster St.	Atlantic Ave.	19	33	52	Business/ School	1 block from bike lane
17	Harbor Bay Pkwy.	Doolittle Dr.	15	35	50	Bike path, park	Bike lane on Doolittle/Bike path along Harbor Bay

Rank	Street	Cross Street	Bicyclists Crossing		Total Peak Trips	Land Uses Within 1 Block of Intersection	Proximity to Bikeways
			7-9 AM	4-6 PM			
							Pkwy.
18	Aughin-baugh Way	Robert Davey Jr. Dr.	30	19	49	School	Bike lanes on both streets
	High St.	Encinal Ave.	18	31	49	Neighborhood commercial	Bike lane on Encinal
20	Eighth St.	Santa Clara Ave.	30	18	48	School	Bike lane on Santa Clara
21	Island Dr.	Robert Davey Jr. Dr.	20	25	45	School	Bike lane on Robert Davey/bike path along Island
22	Aughin-baugh Way	Mecart-ney Rd.	25	19	44	Residential	Bike lanes on both streets
23	Island Dr.	Mecart-ney Rd.	28	14	42	Shopping	Bike lane on Mecartney/bike paths along both streets
	Park St.	Shoreline Dr.	18	24	42	Shopping	Bike path along Shoreline
25	Gibbons Dr.	Lincoln Ave.	25	15	40	School	2 blocks from bike lane
	Packet Landing Rd.	Robert Davey Jr. Dr.	18	22	40	School	Bike lanes on both streets
	Sherman St.	Lincoln Ave.	16	24	40	Neighborhood commercial	1 block from bike lane

Data collected in May 2007

All locations listed in Table 6 are within three blocks of a bike lane or bike path, and the highest concentrations of bicyclists were in close proximity to commercial areas or schools. Further study would be required to establish the primary origins and destinations for bicyclists, and to determine the popularity of particular routes in getting from one part of Alameda to another.

In addition, to quantify the demand for bicycle travel from west Alameda, BikeAlameda conducted counts of bicyclists riding through the Posey Tube in October 2006 from 7AM-7PM. Seventy-two (72) bicyclists were counted riding on the path through the Posey Tube, not including bicycles that were carried on AC Transit buses. During the same week, for the same 12-hour period, 282 bicyclists were counted using the Park Street Bridge.

Characteristics of Bicycle Trips

The characteristics of bicycle trips can provide guidance as to the populations and types of trips that should be targeted through this Plan. The 2002 *National Survey of Pedestrian and Bicyclist Attitudes and Behaviors*, sponsored by the US Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics, studied a broader cross-section of bicyclists nationwide, including those who bicycle for recreational purposes or infrequently. Respondents were age 16 and older, 27 percent of whom rode a bicycle at least once from May-August 2002. There were significant differences in riding behavior across the population by sex and by age, as indicated in Table 7 below. The exclusion of bicyclists less than 16 years of age is significant, as this is below the minimum driving age and could potentially account for a significant number of bicyclists that were not counted.

TABLE 6
U. S. Bicycle Riders by Sex and Age, May-August 2002

	Population Segment	Percentage Taking at Least One Bicycle Trip
Gender	Males	34%
	Females	21%
Age	16-24	39%
	25-34	33%
	35-44	34%
	45-54	26%
	55-64	18%
	65 and older	9%
TOTAL SAMPLE		27%

Source: *National Survey of Pedestrian and Bicyclist Attitudes and Behaviors,* NHTSA/BTS, 2002.

As indicated in Table 7 below, the distance that bicyclists travel varies considerably. For trips surveyed on a typical summer day, 39 percent of the sample studied traveled one mile or less, and 35.6 percent traveled between two and ten miles. Trips for exercise and recreation averaged 5.6 miles, significantly longer than the 2.2-mile average for trips taken for other purposes.

TABLE 7
Length of Bicycle Trips by U.S. Bicyclists

Length of Trip	Percentage of Trips
<= 1 mile	39.0%
1.1 to 2 miles	18.5%
2.1 to 5 miles	23.8%
5.1 to 10 miles	11.8%
> 10 miles	7.3%

Source: *National Survey of Pedestrian and Bicyclist Attitudes and Behaviors,* NHTSA/BTS, 2002.

A major limitation of relying too heavily on the journey-to-work data is that most bicycle trips are not commute trips. Given that many workers live a long distance from their place of work, work commute trips are often the most difficult trips for shifting transportation modes. Other types of trips listed below – shopping, social/recreation, and school – can generally be done locally, so shifting the modes of non-work trips is a critical part of enhancing the bicycling mode share. The range of trip types and differing patterns on weekdays and weekends also highlight the importance of building a range of facility types to address the needs of all bicyclists.

TABLE 8
Purpose of Trips by Alameda County Bicyclists

	Home-based				Non-home-based	Bicycle Trips as a Percentage of Total Trips
	work	shopping	social/ recreation	school		
Weekday	23.7	17.2	28.0	10.8	20.4	2.1
Weekend	8.6	24.5	53.0	-	13.9	1.9

Source: Bay Area Travel Study, Metropolitan Transportation Commission, 2000.

Increasing Bicycling in Alameda

It is difficult to accurately forecast the future number of bicyclists. Many factors can influence bicycling including the development of additional bicycle facilities, the implementation of support programs, the price of gasoline, future land use and traffic patterns, and demographic changes. However, based on current levels of bicycling, and the City's emphasis on increasing the use of alternative transportation modes, this Plan has developed goals for future levels of bicycle use.

Commute (work/school) and Non-Commute Trips: Of the estimated 1.4 percent of workers living in Alameda (519 individuals) identified as bicycle commuters in the 2000 Census, 68 percent also work in Alameda. Considering only this subset that both work and live in Alameda, 3.8 percent identified bicycling as their primary commute mode. This illustrates the importance of distance to increasing bicycling, as these intra-city trips tend to be shorter.

However, the limitations of the west end estuary crossing also reduce the number of potential bicycle commuters. Forty-three percent (43%) of employed Alameda residents work in Oakland or San Francisco, which can potentially be accessed directly by bicycle or using a combination of a bicycle and AC Transit, Ferry or BART service. For residents that work in downtown Oakland, one of the region's major employment centers, the work commute is shorter in terms of distance than it is for some residents that live and work in Alameda. While commute versus non-commute trips were not specifically analyzed as part of the Estuary Crossing Feasibility Study, the study estimated that there would be

approximately 2,500-4,000 pedestrian and bicycle trips per day between Alameda and Oakland after the construction of an improved estuary crossing and the anticipated development along the estuary in Alameda and Oakland.

School trips are another trip purpose that can potentially contribute to an increase in bicycling trips. Based on estimates from school principals at eight of the Alameda Unified School District's 16 schools, approximately 650 of the nearly 5,000 students, or 13 percent, bicycle to school at least some of the time. Given the proximity of many students to their schools, the addition of new facilities and support programs through this Plan could increase these levels.

An estimate for the percentage of bicycle trips for the combined total of commuting and non-commuting purposes was developed based on the pattern of bicycling in the City compared to Alameda County. The commute share in the City was 17 percent higher than the figure for the County; therefore a similar increment was used to estimate bicycle trips of all trip types in Alameda, or 2.3 percent.

Potential Future Bicycle Trips: An increase in bicycling is expected as a result of several factors:

- Ongoing funding of projects and programs to enhance and maintain the bicycle facilities network.
- The City's increasing reliance on transportation demand management measures as a means of addressing development impacts.
- Redevelopment at Alameda Landing, Alameda Point, the Northern Waterfront, and other sites is expected to add to the employment base in Alameda Potential enhancement of the west end estuary crossing, in combination with the new development, could increase the number of bicycle trips.
- Alameda's favorable characteristics for bicycling, such as weather and topography.

This Plan is establishing a goal of a three percent (3%) bicycle mode share by 2020 for work trips, approximately double the rate that was reported in 2000. The number of non-work bicycle trips is also expected to increase. As Alameda's commercial and office uses increase, residents will have more local opportunities to meet their needs, such as grocery shopping. This means that the distance required to reach such destinations, as well as the need for crossing the estuary into Oakland, will be reduced. As a result, these local trips are expected to offer the City its best opportunity to shift driving trips to bicycle trips. The Plan's goal for the bicycle mode share for all trip types – including work and non-work trips – is five percent (5%) by 2020. As with the goal for work trips, this number is slightly more than double current levels.

TABLE 9
Potential Increase in Bicycling in Alameda, 2020*

	CURRENT		2020	
	Number of People	Percent of Trips	Number of People	Percent of Trips
Work Trips	519	1.4%	1,243	3%
All Trip Types	N/A	2.3%	N/A	5%

* Assumes City of Alameda population of 82,000, per ABAG 2007 population projections.

Motor Vehicle/Bicyclist Collisions

According to the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS), there were 218 reported collisions in Alameda involving bicycles between 2001 and 2008, resulting in 217 bicyclist injuries. These data most likely represent only the more severe collisions, since people involved in minor collisions tend not to report them to law enforcement personnel. In addition to the under-reporting of collisions, there are other reasons to be cautious about interpreting collision data. The number of collisions at a given location should be looked at in the context of the total number of bicyclists that typically travel through that location. Also, the characteristics of the street or intersection where the collision occurred must be considered, as well as the behavior of parties involved in the collision. The collision data are used to identify those locations that may require an improvement as part of the Capitol Improvement Program. The collision data are also used during the review of State Warrants (requirements) for a traffic control device such as an all-way Stop sign or a signal.

TABLE 10
Collisions in Alameda Involving Bicycles, 2001-2008

Year	Number of Collisions
2001	34
2002	29
2003	20
2004	32
2005	26
2006	28
2007	16
2008	33
TOTAL COLLISIONS, 2001-2008	**218**

Source: California Highway Patrol, SWITRS database

Chapter VI
Existing Conditions

Introduction

The City of Alameda's environment is ideal for bicycling because Alameda…

- Is relatively compact.
- Receives relatively low levels of precipitation, approximately 23 inches of rain per year.
- Has mild temperatures, rarely outside a range of 40-80 degrees Fahrenheit.
- Has virtually flat topography.
- Has a grid street network on the main island, which provides bicyclists with numerous alternatives to reach most destinations.
- Has on-street bike lanes or adjacent off-street bike paths on the major streets on Bay Farm Island/Harbor Bay.
- Has a posted speed limit of 25 miles per hour on most streets, which supports a comfortable environment for on-street bicycling.

There are, however, additional opportunities to enhance Alameda's bicycling environment. This section provides an overview of the current conditions for bicycling in Alameda, and includes:

1) Existing Land Use Patterns
2) Proposed Land Uses
3) Transportation Infrastructure
4) Bicycle Facilities
5) Education, Encouragement, and Enforcement Programs

Existing Land Use Patterns

Figure 5 is the City of Alameda zoning map. In the future, most of the land uses are anticipated to remain as they currently are, as the City is mostly built out, but significant development and redevelopment are anticipated in the west end, the Northern Waterfront area, and the Harbor Bay Business Park. This section of the Plan provides an overview of Alameda's existing and proposed land uses, including a description of key travel destinations, general layout of the City, and anticipated changes during the coming years that will affect the demand for bicycle facilities.

Residential Development

Alameda is primarily a residential community. While the proposed development in the west end will create a more diverse mix of land uses, the City's overall land

use pattern will remain primarily residential in character. The themes of the General Plan include supporting Alameda's "small town feeling." This small town concept especially characterizes the main island, which was primarily developed in the late 19th and early 20th centuries, before street designs became more focused on serving the needs of vehicular traffic. As a result, it is denser than more recently developed suburban communities in the Bay Area.

Alameda's housing stock includes a mix of single- and multi-unit buildings. Fifty-three (53) percent of housing units in 1-unit buildings, while the remaining 47 percent of units are in buildings with at least two units.[6] Parcels are relatively small, generally about 5,000 square feet, and as a result, Alameda is relatively densely developed. Alameda Point, the Webster Street business district, and the Park Street business district are all located within a three-mile span on the City's main island, so bicycling within Alameda is a viable option for many local trips.

The land use pattern on Bay Farm Island/Harbor Bay is distinctly different than that on the main island. With the exception of the Harbor Bay Landing shopping center at the intersection of Island Drive and Mecartney Road, there is limited commercial development. The northern and western portions are characterized by residential development, while the southern portion consists of a business park. These two areas are not well connected. The limited commercial development and street network with many cul-de-sacs generally require residents to make longer trips to meet their basic needs than those on the main island, where there is a greater mix of uses and grid street network. The inclusion of bike paths in the Harbor Bay Area facilitates bicycle travel along the main streets in the area, and provides path connections within the development that are more direct than the street network.

The Bay Farm Island Bicycle Bridge, which is connected to the bike path network on Bay Farm Island/Harbor Bay, provides a convenient way for bicyclists to cross the San Leandro Channel and access key destinations on the main island. The distance from the intersection of Island Drive and Mecartney Road to the Park Street business district is approximately two miles, a distance that can easily be covered by bicycle for most people.

Commercial Areas

The City features two major business districts, along Park Street and Webster Street. Other major shopping destinations include the Alameda Towne Centre, Bridgeside Shopping Center, Marina Village, and Harbor Bay Landing. There are also smaller neighborhood-based commercial areas at historic streetcar stations along Lincoln and Encinal Avenues.

[6] *American Community Survey*, U.S. Census, 2006.

FIGURE 5: City of Alameda Zoning Map

Schools

The Alameda Unified School District attendance boundaries are drawn so that the vast majority of students live within ½ mile of one of Alameda's eight elementary schools. The District also includes three middle schools and three high schools. While the average distance from students' homes to the middle schools is further than the elementary schools, most students live within two miles of these facilities. For those students who attend schools in other parts of the City, many still live close enough that bicycling is a viable transportation mode. Private schools in Alameda have fewer bicycling trips, as attendance at these schools is not determined by residence, but some students do live locally and could potentially bicycle to school. Traffic congestion adjacent to schools is common at the beginning and end of the school day, due to parents dropping off or picking up their children.

Colleges are typically major generators of bicycle trips, as students have relatively low levels of motor vehicle ownership. The College of Alameda, a two-year community college located at the intersection of Webster Street and Ralph Appezzato Memorial Parkway, has an enrollment of 5,500 students, plus faculty and staff. The proximity of the college to the estuary, and the lack of a convenient way to bicycle across it, is a disincentive for bicycle commuters coming to the college from Oakland. The City has recently added a bike lane along Wilver "Willie" Stargell Avenue from 5th Street to Webster Street and the college also installed a bike lane on its access road off Wilver "Willie" Stargell Avenue. These improvements will improve its connectivity to other City of Alameda bicycle facilities.

Parks

There are over 500 acres of parks in Alameda, which feature a range of facilities, such as bike paths, a beach, ball fields, swimming pools, and basketball courts. The parks are destinations for bicyclists and some parks, such as Crown Memorial State Beach, Washington Park, and Shoreline Park, include bike paths that are among the most heavily used bicycle facilities in the City. The City's parks also include many amenities that serve bicyclists, such as restrooms, water fountains, and bicycle parking.

Proposed Land Uses

Significant development and redevelopment opportunities exist in Alameda as a result of the departure of the Navy from the former Alameda Naval Air Station and the former Fleet Industrial Supply Center. In addition, the Northern Waterfront, which includes the former Del Monte building, Encinal Terminals and Grand Marina (currently undergoing redevelopment) in central Alameda have redevelopment potential. The status of these projects is summarized in Table 11 below.

One of Alameda's principal challenges is accommodating the transportation needs associated with these development and redevelopment opportunities.

Significant traffic congestion is anticipated on the bridges and Tubes that provide access to the main island. Through various adopted policies and plans, the City has committed to develop a balanced transportation system that reduces reliance on single-occupant vehicles and offer viable alternatives, such as transit, bicycling and walking. The inclusion of a mix of land uses in future development projects, an enhanced job and housing balance to reduce estuary crossing trips during peak times, and requirements for bicycle infrastructure and transportation demand management strategies will make bicycling a more viable transportation option.

TABLE 11
Major Alameda Development Projects Recently Completed or Under Way

Project	Location	Project Description	Status/ Anticipated Completion Date
Bridgeside Shopping Center	North side of Blanding Ave./Broadway	Expand shopping center to 108,500 square feet of commercial space	Completed
Bayport	Bounded by Ralph Appezzato Memorial Pkwy, Main St., Stargell Ave., and Fifth St.	485 residential units	Completed
Grand Marina	West of Grand St., north of Fortmann Way	Up to 180 new residential units.	2012
Alameda Towne Centre	Bounded by Otis Dr., Park St., Shoreline Dr., and Willow St.	Expand shopping center to over 700,000 square feet of commercial space	2012
Alameda Point	West of Main St.	Up to 1,800 residential units and over 3 million square feet of nonresidential uses use*	2030
Alameda Landing	Between College of Alameda and estuary	300 residential units, up to 400,000 square feet of office space, 300,000 square feet of retail space	2015
Del Monte	North of Buena Vista Ave., east of Sherman St.	Future redevelopment	2012
Encinal Terminals	North of Buena Vista Ave., west of Fortmann Marina	Future redevelopment	2015
Park Street	Between Lincoln Avenue and Park Street Bridge	Future redevelopment	To be determined

* Per the *Alameda Point Preliminary Development Concept*, 2006.

Transportation Infrastructure

The City's transportation infrastructure, including streets and sidewalks, as well as dedicated bicycle facilities, has been developed to support the City's land use pattern. However, accommodating bicycle transportation is not confined to constructing designated bicycle facilities. While priority bicycle streets have been designated by striping bike lanes (Class II) or signing bike routes (Class III), and bicycle/pedestrian corridors have been identified through the construction of bike paths (Class I), all streets in Alameda are available for bicycles.

Street and Sidewalk Network

Alameda's main island consists of a highly connected grid street system, which allows for short, direct bicycle trips. In contrast, Bay Farm Island/Harbor Bay was primarily constructed in the 1980s, and its street network is more typical of contemporary suburban developments. Harbor Bay Isle's street system consists of tree-lined arterial and collector streets that connect to local streets, including cul-de-sacs. All of the higher-volume streets include an adjacent off-street bike path, bike lanes or both. Additional off-street bike paths enhance Harbor Bay Isle's connectivity for bicyclists and pedestrians.

Other characteristics of Alameda's street network support bicycling, especially in terms of vehicle speeds and traffic volumes. Alameda features relatively slow vehicle speeds, with most streets having a posted speed of 25 miles per hour. As a result, the speed differential between motor vehicles and bicyclists is lower than in other communities. In addition to increasing bicyclist comfort level in the on-street environment, the relatively slow vehicles speeds also reduce the potential severity of collisions. In terms of traffic volumes, there are few streets in Alameda with average daily traffic (ADT) greater than 10,000 vehicles per day.

Bicycling is permitted on City sidewalks, with the exception of sidewalks in front of stores, schools or businesses during their hours of operation.[7] This requirement helps minimize conflicts between bicyclists and pedestrians in areas of high pedestrian activity. However, sidewalk bicycle riding is not recommended for most riders, due to concerns about potential conflicts with pedestrians and with vehicles at intersections and driveways.

Additional information on sidewalks and other pedestrian facilities can be found in the City of Alameda Pedestrian Plan (2009, available at www.ci.alameda.ca.us/tmp/pdf/PedPlanFinal.pdf).

Intersections

Common concerns at intersections are potential conflicts with turning vehicles, bike lanes that are dropped before the intersection, reduction in lane width due to

[7] Alameda Municipal Code, Section 11-4.2.

turning pockets, lack of adherence to traffic laws by motorists and bicyclists, and traffic signal loop detectors that cannot be triggered by bicycles.

In addition to issues related to intersection operations, many drivers and bicyclists are simply unaware of the proper way to travel through an intersection, especially when making a left turn. According to California Vehicle Code (CVC) Section 21202, bicyclists riding on a roadway slower than vehicle traffic "shall ride as close as practicable to the right-hand curb or edge of the roadway," with four exceptions, two of which involve intersections: 1) to make a left turn, and 2) to avoid right-turning traffic. When making a left turn, bicyclists generally use one of two options – 1) like a motor vehicle driver, signal and move over to the left lane, then turn, or 2) like a pedestrian, using the crosswalks, after dismounting and walking the bicycle. To avoid conflicts with right-turning traffic, bicyclists need to merge left with the through traffic and proceed through the intersection.

The City has 81 traffic signals, 49 of which are fully or partially actuated, and 40 of these are along a designated bikeway. In the City's on-going efforts to encourage bicycling and improve access for bicyclists at traffic signals, the City has installed bicycle loop detectors at 13 intersections where signal actuation was determined to be a concern.

Furthermore, the Public Works Department has implemented a policy to:

- Install Type D loop detectors at new actuated traffic signals or at locations where the detectors are being replaced. Type D loop detectors allow for bicycles to be detected more easily than other detector types.
- Where bike lanes exist, install separate loop detectors in the bike lane at actuated traffic signals.
- Install stencils to indicate the correct positioning of the bicycle over the loop detector at selected locations, as indicated in the photo below.

Stencil indicating the proper positioning of a bicycle to activate loop detector at a traffic signal.

Bicycle Facilities

Chapter 1000 of the Caltrans *Highway Design Manual* defines three types of bikeways:

(1) Class I Bikeway (Bike Path) – Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized. Class I facilities "should be used to serve corridors not served by streets and highways or where wide rights of way exists…" Examples include shoreline bike paths, abandoned railroad rights-of-way, or within parks. Class I facilities are generally not recommended adjacent to streets unless crossing by motor vehicles and pedestrian conflicts can be minimized.

(2) Class II Bikeway (Bike Lane) – Provides a striped lane for one-way bicycle travel on a street or highway. Bike lanes are established along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them.

(3) Class III Bikeway (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic. Bike routes are typically used to provide continuity to other bicycle facilities (usually bike lanes), or to designate preferred routes through high demand corridors. The *Highway Design Manual* recommends installing bike routes only if some of the following apply:

   (a) They provide for through and direct travel in bicycle-demand corridors.

   (b) Connect discontinuous segments of bike lanes.

   (c) An effort has been made to adjust traffic control devices (stop signs, signals) to give greater priority to bicyclists, as compared with alternative streets. This could include placement of bicycle-sensitive detectors on the right-hand portion of the road, where bicyclists are expected to ride.

   (d) Street parking has been removed or restricted in areas of critical width to provide improved safety.

   (e) Surface imperfections or irregularities have been corrected (e.g., utility covers adjusted to grade, potholes filled, etc.).

   (f) Maintenance of the route will be at a higher standard than that of other comparable streets (e.g., more frequent street sweeping).

A range of facility types is needed to adequately address the needs of all groups. However, identification of the preferred bikeway type at a particular location requires consideration of a range of factors, such as the type of riders being served, as well an the physical characteristics of the street, e.g. width, volume and speed of vehicle traffic, connectivity to existing or proposed bicycle facilities, the number of cross streets, and the presence of traffic control devices.

Bicyclists, who primarily use their bicycles for utilitarian trips, such as shopping or commuting to work, are more comfortable in a mixed traffic environment, and

typically prefer the shortest and most direct route. It is more difficult, however, to categorize preferences for recreational riders, which may include members of bicycling clubs, occasional bike path users, and young children. Recreational riders often prefer facilities that offer scenic vistas or access to a popular destination point. Many children and some adults do not feel comfortable riding with traffic and chose to ride on the sidewalk. This may be appropriate if bicyclists travel at slow speeds, pedestrian volumes are low, and there are few driveways. However, sidewalk bicycling is generally not recommended and is restricted by the Alameda Municipal Code in front of businesses and schools to avoid conflicts with pedestrians.[8]

Inventory of Existing Bikeways in Alameda

Alameda's bicycle facilities network includes 15.9 miles of off-street bike paths, 12.5 miles of bike lanes and 4.3 miles of bike routes for a total of 32.7 miles of designated bikeways. These facilities are listed in Table 13 below, and are displayed in Figures 6 and 7. In corridors where bicycle access is desirable but bike paths or bike lanes are not feasible, on-street bike routes have been designated. These facilities are primarily on low-volume residential streets or at locations where there are gaps in the bicycle network.

TABLE 12
Existing City of Alameda Bikeways*

Type	Location	From	To	Length (mi.)
Bike Path	Shoreline Drive	Westline Drive	Broadway	1.5
	Crown Memorial State Beach/ Washington Park/ Crown Drive	Westline Drive	Central Avenue at Crown Drive	1.1
	Main Street (east side)	Ralph Appezzato Memorial Parkway	Singleton Avenue	0.5
	Main Street / Central Avenue (west side)	Main St. Ferry Terminal	North of Lincoln Avenue / Central Avenue intersection	1.2
	Island Drive	Mecartney Road	Veterans Court	0.8
	Mecartney Road	Island Drive	Aughinbaugh Way	0.7
	Fernside Boulevard	San Jose Avenue	Bay Farm Island Bicycle Bridge	0.2
	Bay Farm Island Bicycle Bridge approach (main island)	Towata Park	Bicycle Bridge	0.3
	Bay Farm Island Bicycle Bridge approach (Bay Farm Island)	Doolittle Drive	Bicycle Bridge	0.1
	Bicycle Bridge	Main island	Bay Farm Island	0.2
	Bay Farm Island Shoreline			5.8
	Bay Farm Island bike paths			2.4
	Constitution Way	Marina Village Parkway	South of Atlantic Avenue	0.6

[8] Alameda Municipal Code, Section 11-4.2.

Type	Location	From	To	Length (mi.)
	Wilver “Willie” Stargell Avenue	Mariner Square Loop	Webster Street	0.2
	Alameda Park	U.S.S. Hornet	Boat landing	0.5
Bike Lanes	Central Avenue	Grand Street	High Street	1.6
	Grand Street	Shoreline Drive	Boat launch / estuary	1.4
	Santa Clara Avenue	Webster Street	Grand Street	1.1
	Atlantic Avenue	Constitution Way	Eagle Avenue	0.8
	Fernside Boulevard	Versailles	Washington Court	1.4
	Tilden Way	Park Street	West of Broadway	0.3
	Robert Davey Jr. Drive	Island Drive	Aughinbaugh Way	0.8
	Mecartney Road	Island Drive	Aughinbaugh Way	1.7
	Encinal Avenue	Versailles Avenue	Fernside Boulevard	0.5
	Aughinbaugh Way	Seaview Parkway	Bay Edge Road	0.9
	Marina Village Parkway	Mariner Square Drive	Constitution Way	0.7
	Challenger Drive	Marina Village Parkway	Atlantic Avenue	0.1
	Broadway	Otis Drive	Blanding Avenue	1.1
	Singleton Avenue	Main Street	Island High School	0.3
	Wilver “Willie” Stargell Avenue	Fifth Street	Mariner Square Loop	0.2
	Fifth Street	Ralph Appezzato Memorial Parkway	Wilver “Willie” Stargell Avenue	0.4
	Doolittle Drive	Island Drive	Harbor Bay Parkway	0.5
Bike Routes	Pacific Avenue	Ninth Street	Grand Street	0.9
	8th Street	Pacific Avenue	Eagle Street	0.1
	Eagle Avenue	Eighth Street	Thau Way	0.1
	Thau Way	Eagle Street	End	0.1
	Santa Clara Avenue	Webster Street	3rd Street	0.6
	Versailles Avenue	Encinal Avenue	Marina Drive	0.7
	Bayview Drive	Broadway	Otis Drive	0.5
	Wilver “Willie” Stargell Avenue	Main Street	Mariner Square Loop	0.4
	Sherman Street	Buena Vista Avenue	Lincoln Avenue	0.1
	McKay Avenue	Central Avenue	End	0.2
	Blanding Avenue	Broadway	Tilden Way	0.1
	Triumph Drive	Atlantic Avenue	End	0.1
	Oak Street	Encinal Avenue	Lincoln Avenue	0.3
	Hancock Street	Central Avenue	End	0.2
	Central Avenue	Fernside Boulevard	Eastshore Drive	0.1
	Encinal Avenue	Fernside Boulevard	Eastshore Drive	0.1
	Blanding Avenue	Broadway	Tilden Way	0.1
	Independence Drive	Marina Village Parkway	Triumph Drive	0.3
Total miles – bike paths				**16.1**
Total miles – bike lanes				**13.7**
Total miles – bike routes				**5.0**
Total miles – all bikeways				**34.8**

* Facilities from 1999 City of Alameda Bicycle Master Plan, plus additional completed projects.
Total miles does not equal summary of segment lengths due to rounding.

Off-Street Bike Paths

Most of the 16.1 miles of existing bike paths in Alameda are components of the San Francisco Bay Trail, a multi-jurisdictional facility that, once complete, will form a 500-mile recreational corridor along the perimeter of the Bay. However, the Bay Trail has the potential to serve utilitarian trips as well as recreational ones. The adopted Bay Trail alignment includes several key segments in terms of Alameda's regional connectivity, such as the Posey Tube, and the High Street, Miller-Sweeney, and Bay Farm Island Bridges.

The Posey Tube bike path is the only direct access for bicyclists between Alameda's west end and downtown Oakland. The path, which is approximately four feet wide, serves bi-directional bicycle and pedestrian traffic. Other, less convenient options include loading a bicycle onto the rack on an AC Transit bus, using the limited runs of the Alameda/Oakland Ferry Service, or riding east to the Park Street Bridge and taking a more circuitous route.

Both the Miller-Sweeney and High Street bridges are on the designated Bay Trail alignment. The path on the Miller-Sweeney Bridge is relatively narrow, but the crossing distance to Oakland is considerably shorter than the Posey Tube crossing. Due to the low height of the railing between the path and the roadway on the Park Street and High Street Bridges, bicyclists are required to walk their bicycles.[9]

The Bay Farm Island Bicycle Bridge, also a link in the Bay Trail, facilitates bicycle travel between the main island and Bay Farm Island/Harbor Bay, providing a route which separates bicyclists from the over 40,000 vehicles per day that cross the Bay Farm Island motor vehicle bridge. This is a key link in the City's bike path system as well as providing an important connection for utilitarian trips to destinations such as the Park Street business district, Alameda Towne Centre, Lincoln Middle School, and Alameda High School, which are one mile or less from the bridge. For main island residents, the bridge provides a connection to the Harbor Bay Business Park and the Harbor Bay Ferry Terminal. The Bicycle Bridge is a drawbridge and is operated by Alameda County, in conjunction with the Bay Farm Island Bridge.

[9] Alameda Municipal Code Section 11-4.3.

FIGURE 6
Existing City of Alameda Bicycle Facilities – Main Island

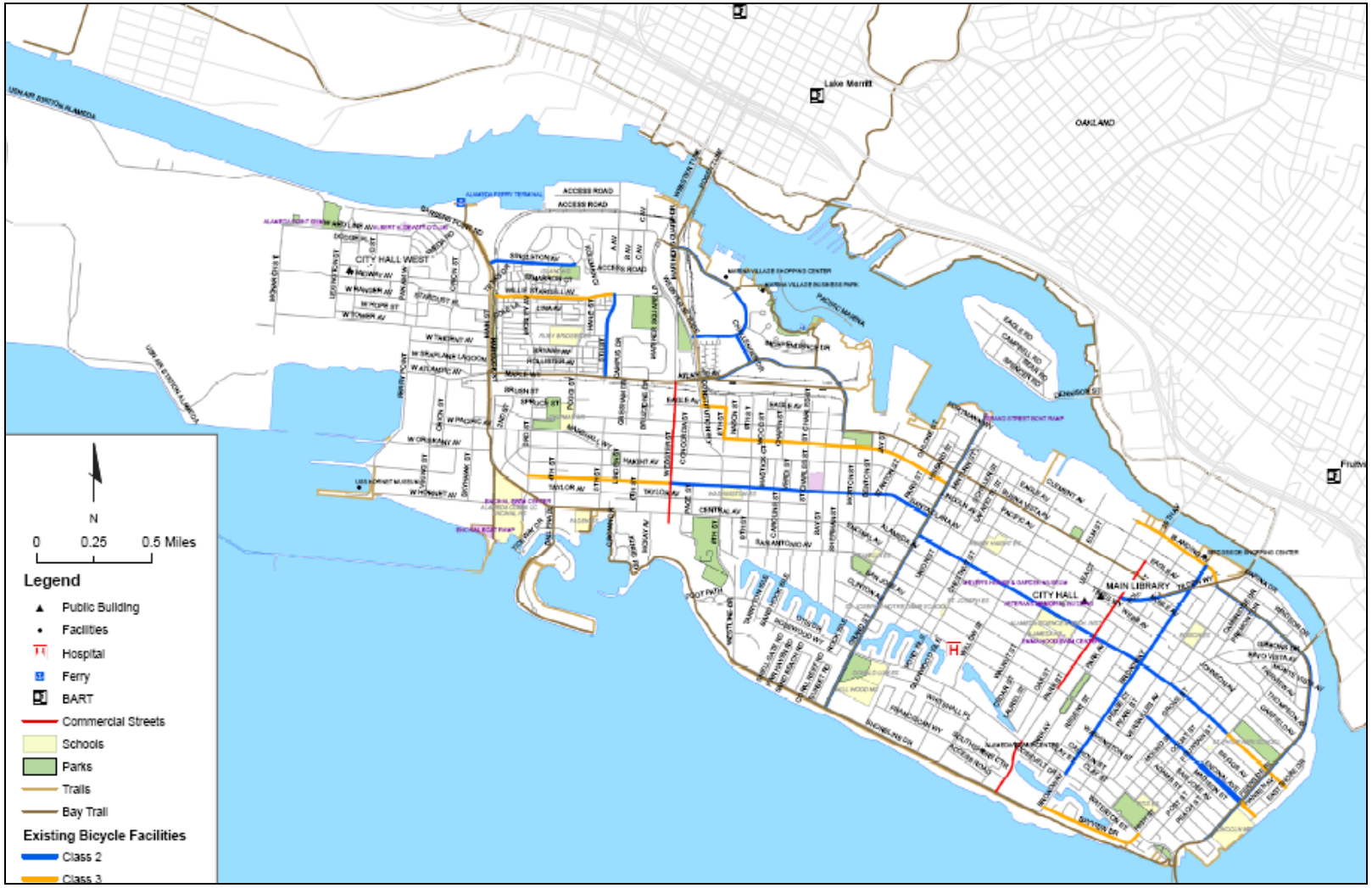
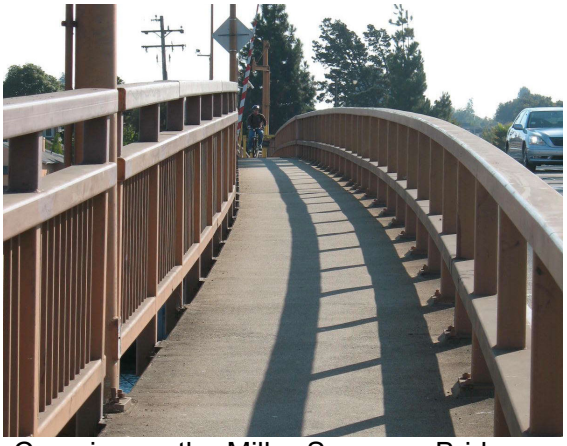


FIGURE 7
Existing City of Alameda Bicycle Facilities – Bay Farm Island/Harbor Bay

Existing Conditions on Cross-Estuary Facilities

Path in the Posey Tube, width is approximately four feet



Crossing on the Miller-Sweeney Bridge – railing between path and roadway

Path along High Street Bridge

Path along Park Street Bridge

In addition to the bridges and tubes themselves, corridors providing access to these facilities are critical to enable bicyclists to travel between the City and key regional destinations. At all three bridges, there are existing or potential future connections to the Bay Trail, however, the existing path segments in both Alameda and Oakland are fragmented and currently extend only for a short distance.

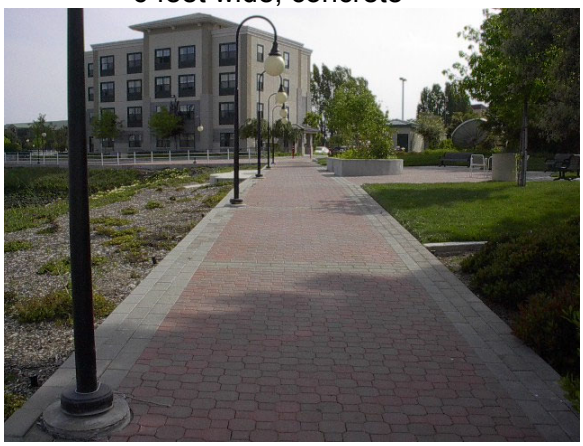
The development of many Bay Trail segments is the result of the requirement that all development projects within 100 feet of the Bay shoreline must be approved by the Bay Conservation Development Commission (BCDC). Typically BCDC requires the provision of bicycle and pedestrian access along shoreline parcels, where feasible. A major benefit of this for local jurisdictions is that much of the construction of these public access routes is paid for with private resources.

Unfortunately, since development typically occurs one parcel at a time, there has been a lack of consistency in facility design. Bay Trail segments in Alameda vary considerably in terms of their characteristics, such as width, paving materials, usage levels, and design features, such as curves for appropriate speed and access at intersections. As a result, different paths attract different types of riders. For example, the Main Street Greenway includes separate bike and pedestrian paths to avoid conflicts between these user groups, while the heavily used path along Shoreline Drive is a joint use facility. Heavy use by pedestrians, especially if two or more walk abreast, and by young children who may not be capable of bicycling in a straight line along the path, may discourage bicyclists that prefer to travel at a higher speed. The photos below illustrate the variation in facility characteristics:

Comparison of Shoreline Access in Marina Village/Mariner Square Area

Path east of Mariner Square Dr. – 6 feet wide, concrete

Bike path at Barnhill Marina – 12 feet wide, concrete, circuitous path of travel



Path at Extended Stay America – 11 feet wide, brick pavers

Bike path at shoreline park in Marina Village – 8 feet wide, asphalt

The main island's off-street bike paths also include a number of public walkways, one block or less in length, that enhance the connectivity of the City's street network for bicyclists and pedestrians. These facilities are primarily located

between Otis Drive and Shoreline Drive, west of Willow Street. A complete list of these walkways is included in Table 13.

As noted above, Harbor Bay Isle's system of bike paths provide an enhancement to the connectivity of the sidewalk and street network for bicyclists and pedestrians. This network includes a bike path around the perimeter of the development, as well as bike paths adjacent to Island Drive and Mecartney Road, two of the major streets in the area. There are also bike paths located adjacent to the lagoons, which are typically about eight feet wide and wind through the development. These facilities are appropriate for slower speed bicyclists.

On-Street Bike Lanes (Class II) and Bike Routes (Class III)

The City's bike lanes serve several key corridors on the main island. The Santa Clara Avenue and Central Avenue bike lanes provide a link between the east and west end, including direct access to key destinations such as Webster Street, Park Street, Alameda High School, and Washington and Haight Elementary schools. The bike lanes on Grand Street, Broadway, and Fernside Boulevard are key north-south corridors. All major streets in Marina Village and several of the ones on Bay Farm Island/Harbor Bay include bike lanes as well.

Most of the Class III bike routes in Alameda have been installed on low-volume residential streets. These facilities include treatments such as signage and pavement markings, and the low volumes and slow vehicle speeds provide an alternative to riding in bike lanes. Bike routes can also be used to eliminate gaps in the bicycle network on streets with higher traffic volumes. In 2008, the Public Works Department established this type of facility on Oak Street between Encinal Avenue and Lincoln Avenue to facilitate bicycle travel in the Park Street corridor. The Oak Street bike route included stencils known as "shared lane markings" or "sharrows" to supplement the bike route signage. Sharrows are a treatment recently added to the California MUTCD that can be used to enhance mixed-traffic environments such as Class III facilities.

TABLE 13
Public Walkways

ID	Walkway Name	Limits	Adjacent Land Use Description	Length (Feet)
A	Bayview Walk	Bayview Drive to San Francisco Bay	Residential; shoreline access	115
B	Blossom Walk	Fair Haven Road to Sand Beach Road	State beach, residential; Lum and Wood Schools; shoreline access	185
C	Candy Tuft Walk	Kitty Hawk Road to Wood School	Between 333 and 337 Kitty Hawk Road; residential; Lum and Wood Schools; Rittler Park; Towne Centre	100
D	Central Avenue Walk	Eastshore Drive to San Leandro Bay	Residential; Lincoln Park; shoreline access	200
E	Cherry Walk	Shell Gate Road to Shore Walk	State beach, residential; Lum and Wood Schools; Rittler Park; shoreline access	90
F	Coral Bell Walk	Sunset Road to Grand Street	Residential; Lum and Wood Schools; Rittler Park; shoreline access	195
G	Doolittle Walk	Doolittle Drive to Bay Farm Island Bridge	Main island; golf complex; shoreline access; Doolittle Landfill	380
H	Fairview Avenue Walk	Fernside Blvd. to Tidal Canal	Residential; shoreline access	150
I	Ferndell Walk	Greenbrier Road to Yorkshire Road	Residential; Lum and Wood Schools; Rittler Park; Towne Centre shopping center	190
J	Fernside Blvd Walk	Fernside Blvd. to Tidal Canal	Residential; located between 3227 and 3229 Fernside Blvd.; shoreline access	150
K	Heather Walk – Section 1	Sand Beach Place to Rosewood Way	Residential; Lum and Wood Schools; Rittler Park; state beach	200
L	Heather Walk – Section 2	Rosewood Way to Otis Drive	Residential; Lum and Wood Schools; Rittler Park; state beach	200
M	Ivy Walk – Section 1	Yorkshire Road to Sandcreek Way	Residential; Lum and Wood Schools; Rittler Park; Towne Centre shopping center	200

ID	Walkway Name	Limits	Adjacent Land Use Description	Length (Feet)
N	Ivy Walk – Section 2	Sandcreek Way to Otis Drive	Residential; Lum and Wood Schools; Rittler Park; Towne Centre shopping center	195
O	Liberty Avenue Walk	East Shore Drive to San Leandro Bay	Residential; shoreline access	200
P	Meadow Walk	Harbor Light Road to Coral Reef Road	Residential; Lum and Wood Schools; Rittler Park; state beach; shoreline access	185
Q	Meyers Avenue Walk	East Shore Drive to San Leandro Bay	Residential; shoreline access	150
R	Monte Vista Avenue Walk	Fernside Drive to Tidal Canal	Residential; shoreline access	150
S	Myrtle Walk	Camden Road to Whitehall Road	Residential; Lum and Wood Schools; Rittler Park; Towne Centre shopping center	180
T	Park Walk	Park Street to Park Avenue	Park Street Business District between Central Avenue and Santa Clara Avenue; multi-unit housing	250
U	Post Office Court	Park Street to Back parking lot	Park Street Business District between Central Avenue and Encinal Avenue; multi-unit housing	150
V	Powell Walk	Powell Street to Otis Drive	Towne Centre shopping center; residential	40
W	Snowberry Walk	Kitty Hawk Road to Lum School	Residential; Lum and Wood Schools; Rittler Park; Towne Centre shopping center	85
X	Storybook Walk	Shore Walk to Rosewood Way	State beach, residential; Lum and Wood Schools; Rittler Park; shoreline access	210
Y	Westline Drive Stairs	Westline Drive to Portola Avenue	Residential; state beach	100

Shared lane marking on Oak Street

Recently Completed Bicycle Master Plan Projects in Alameda

Since the initial adoption of the Bicycle Master Plan in 1999, the City has made progress in completing the Plan's priority projects. These projects primarily helped to close gaps in the existing network, such as the transition from the bike lanes on Fernside Boulevard to the Bay Farm Island Bicycle Bridge. Another emphasis of recent work was the provision of support facilities such as bicycle parking and bicycle-sensitive loop detectors at signalized intersections. For complex projects, such as the west end estuary crossing and the proposed Cross Alameda Trail, feasibility studies have been completed. As indicated in Table 15, the City utilized a range of funding sources for these projects. The resources used to complete these projects consist of a combination of funds the City receives through annual allocation formulas, competitive grants, and redevelopment funds. Future funding could vary significantly in accordance with changes in the availability of federal and state grant funds, tax revenues, and other factors.

TABLE 14

City of Alameda Bicycle Projects Completed Since 1999

Year	Project	Cost	Primary Funding Source(s)
2000	Main Street Greenway	$2.7 million	Economic Development Administration, California Defense Adjustment Matching
2003	Bicycle-sensitive loop detectors	$100,000	Bicycle Transportation Account, Measure B
2003	Island Drive Bike Path resurfacing	$58,000	Transportation Development Act Article 3
2005	Cross Alameda Trail Feasibility Study	$63,000	Bay Trail Grant, Measure B
2005	5th Street Bike lanes	$13,000	Redevelopment
2006	Mecartney Road Bike Lane	$25,000	Measure B
2007	Lincoln Middle School Bicycle/Pedestrian Access Improvements	$640,000	Safe Routes to School, Measure B
2008	Wilver "Willie" Stargell Avenue Bike Route	$4,000	Redevelopment
2008	Civic Center Parking Structure Bicycle Parking	$50,000	Bonds, Dept. of Housing and Urban Development
2008	Central Avenue Bike Lane restoration	$20,000	Bonds, Dept. of Housing and Urban Development
2008	Oak Street Bike Route	$5,000	Bonds, Dept. of Housing and Urban Development
2008	Bay Farm Island Bicycle Bridge Approach Gap Closure	$630,000	Bicycle Transportation Account, Measure B
2008	Harbor Bay Ferry Terminal Bicycle Lockers	$47,000	Bicycle Facility Program, Measure B
2008/ 2009	City of Alameda Electronic Bicycle Lockers and Bike Racks	$61,000	Bicycle Facility Program, Measure B
2009	Estuary Crossing Feasibility Study	$210,000	Measure B Discretionary Fund; City of Oakland
2009	Bicycle Bridge Approach path realignment	$40,000	Caltrans
various	Bay Trail projects (Barnhill Marina, Marina Cove, Alameda Park to USS Hornet)	N/A	Various
various	Bicycle racks (Approximately 50 racks installed in Park Street and Webster Street areas.)	$10,000	Various
TOTAL EXPENDITURES		**$4,676,000**	

Connections Between the Alameda and Oakland Bikeway Networks

To facilitate inter-jurisdictional connectivity, the Cities of Alameda and Oakland coordinate their planning efforts. Each of the connections between Alameda and Oakland link to either existing or proposed bicycle facilities in Oakland:

- Park Street Bridge – This bridge is a commonly used crossing to access downtown Oakland, via the bike lane along The Embarcadero. Traveling from the bridge to the bike lane involves continuing on 29th Avenue and crossing under the 29th Avenue overpass. There is a bike route on 7th Avenue to the Embarcadero. Traveling from Oakland into Alameda is more direct, as the bike lanes on the Embarcadero feed into 23rd Avenue just prior to the bridge.
- Miller-Sweeney Bridge – There is a bike lane on Fruitvale Avenue in Oakland that links Alameda to the Fruitvale BART station.
- High Street Bridge – The City of Oakland's Bicycle Master Plan includes a proposed bike lane on High Street.
- Doolittle Drive – The bike lane on Doolittle Drive in Alameda terminates once the street enters Oakland. A future bike lane is included in the Oakland bicycle plan.
- Ron Cowan Parkway – There is an existing bike lane from Alameda to the Oakland Airport.

Bicycling and Transit

AC Transit is the major transit service provider in Alameda, with 12 routes, and most Alameda residents live within one-quarter mile of a major transit route. However, frequency varies by route, and some routes do not run in the evenings or on weekends, which reduces transit access. Bicycling helps transit users avoid these inconveniences and the need to transfer, and can provide a way to extend the reach of the regional transit system. Bicycling is also a popular way to access BART stations in Oakland and the transbay ferry services, as it enables bicyclists to avoid coordinating bus schedules with those of the train or ferry. By improving reliability and increasing flexibility, bicycling can make transit a more attractive transportation alternative.

For bicycling to be successfully combined with transit, riders need to be able to access a transit stop or station, and then to either bring their bicycles on board the transit vehicle or park them at the stop or station. Each of the major regional transit service providers within or near Alameda provides some level of accommodations for bicycles on its vehicles, as follows:

- AC Transit: All AC Transit buses have front-mounted racks, which can accommodate two bicycles at a time. The commuter coaches are also

capable of storing two additional bicycles, one per bay, when the rack is full. Drivers may permit bicycles on board buses late at night.

- Alameda/Oakland Ferry Service and Harbor Bay Ferry: Both ferries allow bicycles on board and have racks where bicycles can be parked during the trip. In addition, there are bicycle lockers at both ferry terminals. At the Main Street terminal, there are eight lockers, which are rented by individuals. At the Harbor Bay Ferry Terminal, there are 16 electronic lockers, which are rented on a first-come-first-served basis. In May 2007, 32 bicyclists per day used the Harbor Bay Ferry, and on Bike to Work Day, there were 94 riders who brought their bicycles on board.
- BART: BART patrons from Alameda have several options in terms of traveling to or on BART with bicycles.
    - Bicycles are permitted on BART trains except as indicated on the BART schedule. Generally, bicycles are prohibited during peak travel times in the peak direction of travel. Bicycles are not permitted on the first car of a train or on crowded cars at any time.
    - The Fruitvale Bike Station, located adjacent to the Fruitvale BART station, is the second largest bike station in the U.S., offering free attended bicycle parking for over 200 bicycles and a bicycle repair station. The facility is designed to serve commuters, and is open Monday through Friday from 6:00 AM to 8:00 PM.
    - There are over 300 electronic bicycle lockers at BART stations, including at the Lake Merritt (32 lockers) and West Oakland (six lockers) stations near Alameda.
- Amtrak: Amtrak offers two options for riders to transport bicycles. All Capital Corridor and San Joaquin trains include a limited number of bike racks in each train car. If racks are full, conductors may assist bicyclists identify a place where a bicycle can be safely secured.

Safe Routes to Transit

In addition to providing bicycle access on transit vehicles and at transit stations, facilities along routes leading to transit stops are critical to encourage bicycle/transit travel. In Alameda, the Main Street Ferry Terminal can be accessed via a Class I bikeway adjacent to Main Street. The Harbor Bay Ferry Terminal is also served by a Class I facility as well as by bike lanes on Mecartney Road. The Santa Clara Avenue and Central Avenue bike lanes provide convenient access to Park and Webster Street, the City's two principal bus route corridors.

Access to BART stations from Alameda's west end is indirect and requires bicyclists to either travel through the Posey Tube or place their bicycle on the rack of an AC Transit bus. From the east end, Fruitvale Avenue in Oakland

includes a bike lane (initially paid for through a grant applied for and received by the City of Alameda) to San Leandro Street, near the Fruitvale BART station.

The nearest Amtrak stations to Alameda are at Oakland's Jack London Square and near the Coliseum. Bicycle access from the west end to Jack London Square is through the Posey Tube crossing. From Alameda's east end, riders have the option of crossing into Oakland on one of the bridges and using bike lanes along the Embarcadero to reach Amtrak. There are no existing bicycle facilities in the vicinity of the Coliseum station.

Bicycle Parking

The availability of secure bicycle parking is a critical component of a bicycle-friendly community. Alameda has a wide range of bicycle rack types located throughout the City, as shown in the subsequent photos. This diversity is largely due to racks that were installed prior to the establishment of guidelines for rack design. The 1999 Bicycle Master Plan provided guidance regarding the design and location of bicycle parking, and this has resulted in more standardized facilities across the City. Preference is given to "inverted U" racks or other designs that provide support for the bicycle frame and wheel. Bicycle parking options include:

- Bicycle racks: Preference is given to "inverted U" racks or other designs that provide support for the bicycle frame and wheel. Where the demand for bicycle parking is high, these racks can be installed in a series, as the City did in Municipal Parking Lot C on Central Avenue. The recommended design and placement of racks is described in the *Bicycle Facility Guidelines* prepared as a companion document to this Plan.
- Bicycle lockers: Conventional bicycle lockers can only be assigned to a single individual, who accesses the locker with a key. More recently, in Alameda as well as in other jurisdictions, multi-user electronic lockers have been installed. A single locker can support many users. Users who purchase the required smart card have access to a region wide network of over 400 lockers, primarily at BART stations. Electronic lockers have been installed at both the Civic Center Parking Structure and the Harbor Bay Ferry Terminal.
- Bicycle cage: Most of Alameda's public schools have installed bicycle cages. Cages are enclosures where students' bicycles can be locked for the school day.
- Indoor bicycle storage: Some businesses and multi-unit residential complexes install indoor bicycle parking for their employees or residents. This provides a secure parking option for bicyclists, and protects bicycles from inclement weather.

- Attended (valet) bicycle parking: Alameda requires sponsors of large public events, such as street festivals, to provide attended bicycle parking for event patrons. BikeAlameda often provides this service.

Examples of Existing Bicycle Parking in Alameda

Electronic multi-user bicycle lockers at the Civic Center Parking Structure

Series of "inverted U" racks in parking lot near the Alameda Theatre

Bike cage at Lincoln Middle School

"Wave" racks provide less support for bicycles than inverted U racks.

An inventory of bicycle parking throughout the City estimated that there are over 800 bicycle parking spaces currently available, including over 150 spaces in the Park Street area. Approximately 100 of the spaces on Park Street are for use by the general public, while the other racks were installed by individual businesses for use by their patrons. Locations of bicycle parking in Alameda are indicated in Figures 8 and 9.

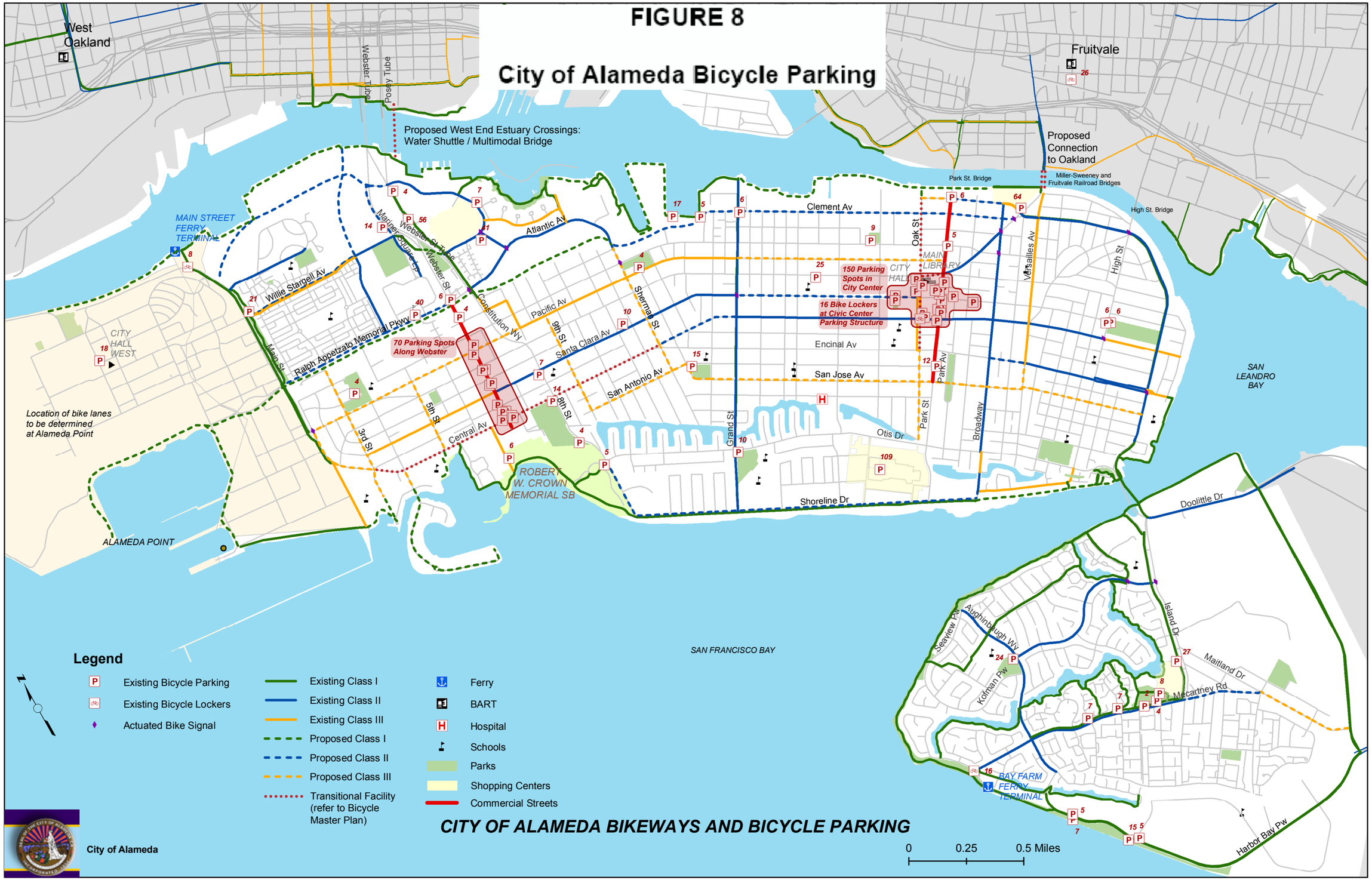
Maintenance

Factors such as the accumulation of debris along bikeways and poor pavement conditions impact negatively on bicycle access. All streets in Alameda are swept once a week, with commercial districts swept daily Monday through Friday. City

streets are designed so that they should be resurfaced every 20 years, although the timing of this may vary depending on the street condition, and the availability of funding. Off-street bike paths are resurfaced on an as-needed basis, as funding is available.

FIGURE 8

City of Alameda Bicycle Parking



City of Alameda

CITY OF ALAMEDA BICYCLE MASTER PLAN UPDATE

October 2010

Education, Encouragement, and Enforcement

There is a range of education, encouragement, and enforcement efforts in place, some of which are sponsored by the City and others by partnering organizations. Much of these initiatives are coordinated with the Alameda Unified School District, which not only serves to promote bicycling and walking to school, but to develop habits that students will retain in future years.

Education

School Safety Program

The City's Public Works Department and Police Department are partnering with the Alameda Unified School District on a School Safety Program. Several elements are included in this collaborative effort, including the development of an educational brochure and Safe Routes to School maps for distribution to students and parents, analysis and redesign of school drop-off zones, and traffic enforcement.

Bicycle Riding Education Classes

Periodically the East Bay Bicycle Coalition (EBBC) and BikeAlameda sponsor bicycle riding education classes. Road One, which was developed by the League of American Bicyclists, consists of a nine-hour class, including instruction regarding riding techniques for a shared road environment or on bike paths, fixing a flat tire, on-bike skills, and crash avoidance techniques. Other courses, such as bicycle commuting, are offered as well.

Safety Town

Each year, the City's Fire and Police Departments assemble a "Safety Town" to provide pedestrian and bicycle education for all kindergarteners in Alameda. Through this activity, a scaled down city is set up and children are taught how to cross the street and about the importance of wearing bicycle helmets.

Encouragement

511

The 511-web site (www.511.org) developed by the Metropolitan Transportation Commission provides a range of resources to support increased bicycling in the Bay Area. This includes bicycle maps (see the "Bicycle Maps" section below), information about taking bicycles onto various transit systems, bicycle access to bridges, bicycle commuting tips, and a "Bike Buddy" matching service to help bicyclists find riding partners for commuting or recreational rides.

Bicycle Maps

BikeAlameda has produced a detailed map of Alameda with existing bicycle facilities since 2004. Public Works Department provided the initial map data for the effort. The map includes other useful information such as bicycle shops, public restrooms, and gas stations. The EBBC has produced maps that cover a broader geographic area, including all streets throughout Alameda and Contra Costa counties, featuring designated bicycle facilities, recommended routes, transit information, and more. Other mapping information is available at the 511 web site (described above), where the 511 BikeMapper on-line tool is available to assist bicyclists with identifying routes throughout the nine-county Bay Area.

Bike to Work Day

The City has been a partner in the regional Bike to Work Day efforts conducted in the Bay Area. Local efforts have been led by BikeAlameda, while the Public Works Department has helped to provide staff assistance and publicity. Each year, the City Council adopts a resolution proclaiming Bike to Work Day and announcing the City's support for the event.

Safe Routes to School

The proximity of Alameda's residential neighborhoods to schools makes walking and bicycling realistic options for traveling to and from school each day. The Public Works Department works closely with the Alameda Unified School District to encourage students to bicycle and walk to school. In addition to fostering a culture of bicycling and walking among students, these efforts also help to reduce the number of parents driving their children to school, reducing traffic congestion near the schools and reducing vehicle emissions. Recently, the City has received support in these efforts from TransForm, a nonprofit organization, which has received funding to conduct Safe Routes to School programs in Alameda County communities. Safe Routes to School activities include:

- Walk and Roll to School Day – An annual international event promoting bicycling and walking to school. All of Alameda's public elementary and middle schools are regular participants. The activity has been coordinated by Pedestrian Friendly Alameda and the Parent Teacher Association (PTA) Council, with support from the school district, and participation by the Alameda City Council. Staff from the City's Public Works and Police Departments have participated in the event every year since its inception.

  Based on surveys that were conducted, over 22 percent of elementary school students either walked or bicycled to school on Walk and Roll to School Day in 2007. At Franklin and Otis Elementary Schools, participation exceeded 50 percent. Parent participation has been central to this success, and at some schools, parents and staff have extended efforts to promote walking and bicycling to school throughout the year.

- Puppet shows – Sponsored by the Alameda County Safe Routes to School program and performed by the Big Tadoo Puppet Crew, these shows emphasizing bicycle education have been performed at several elementary schools in Alameda.

- Bicycle Riding Education classes – Also implemented through Alameda County's Safe Routes to School Program, these classes are conducted by Cycles of Change, an East Bay organization that conducts a range of bicycle education initiatives. Cycles of Change particularly targets youth in low-income urban communities, and has a bicycle shop at Alameda Point, where students can learn bicycle mechanics and earn a bicycle through their work.

Bicycle Advocacy Organizations

BikeAlameda is a local organization devoted to encouraging bicycle use in Alameda through its participation in a range of activities:

- Advocacy for improved bicycle facilities – BikeAlameda works with City staff and participates in public involvement processes to encourage the accommodation of bicyclists as part of transportation and land development projects.
- Valet bike parking – BikeAlameda frequently provides the valet bicycle parking services that the City requires sponsors of large events to provide as a condition of event permits.
- Bicycle riding education classes – BikeAlameda periodically sponsors bicycle riding education classes, such as the Road I curriculum developed by the League of American Bicyclists.
- Bike map – Using information provided by the City, BikeAlameda produced and distributed a local map that displays all bikeways and related amenities.

While BikeAlameda is the most active bicycle advocacy organization in Alameda, there are other groups working on a larger geographic scale, and often on broader issues. The major advocacy organization in this area is the East Bay Bicycle Coalition (EBBC), which works with jurisdictions and agencies throughout Alameda and Contra Costa counties. This includes involvement in plans, projects, programs, and legislative campaigns, as well as assuming a lead role in Bike to Work Day activities in the area.

Enforcement Efforts

The Police Department encourages bicyclists to obey the rules of the road as part of its citywide traffic enforcement efforts. This includes participation in Walk and Roll to School Day, helmet use through its annual Safety Town program, and periodic targeted motor vehicle traffic enforcement to help enhance the bicycling environment for students in the vicinity of schools.

Chapter VII

Bicycle Facility Network Needs and Plan Recommendations

The information presented in the previous chapters –was compiled to identify the key facility and program needs to be addressed through this Plan. The key objectives identified – in no particular order – are described below, along with the type of projects and programs needed to address these concerns:

- Enhance intra-Alameda connections: The City has been successful in expanding its bicycle network as part of new development and redevelopment projects, and should continue to strengthen network connectivity. New bicycle facilities and/or enhanced access to major destinations, such as the City's major commercial districts, schools, major transit facilities, and popular recreation sites should continue to be addressed. Geographic equity should also continue to be addressed to ensure that key corridors and all neighborhoods in Alameda are well served by the bicycle facilities network. This project category also includes the elimination of gaps in the network.
- Develop short- and long-term routing options for the Bay Trail: Although much of Alameda's Bay Trail is completed, there are a number of segments along the shoreline where existing land uses either limit or preclude public access, such as the U.S. Navy facility on Clement Avenue currently restricts any public access. The City should continue to monitor conditions along the Bay and take advantage of opportunities to extend the Bay Trail as close to the shoreline as possible. Where a shoreline alignment appears to be infeasible for the foreseeable future, the City should pursue an interim alignment to provide continuity for Bay Trail users. For example, while the proposed bike lanes on Clement Avenue would provide a valuable commuter route, they could also function as an interim Bay Trail alignment.
- Improve intersection crossings: Street crossings were the third most common issue identified for improvement in the Pedestrian and Bicyclist Survey. In particular, respondents noted that motor vehicle loop detectors at some of the City's actuated traffic signals do not detect bicycles.
- Improve inter-jurisdictional connections: Access between Alameda and Oakland is critical to link Alameda to major Bay Area destinations and the regional public transportation system. The need for an improved west end estuary crossing was highlighted in the 1999 Bicycle Master Plan, and this remains a critical need for bicyclists. The Posey Tube path is approximately half of the minimum bike path width currently recommended by Caltrans. Other concerns in the Tube cited by bicyclists include vehicle noise and emissions. The City should pursue funding to conduct a more detailed analysis of the three alternatives identified in the *Estuary*

Crossing Feasibility Study. In addition, the City should continue to work with the City of Oakland, Alameda County, and the Army Corps of Engineers to develop short- and long-term solutions for improved bicycle access in the Fruitvale Bridge corridor, and with the City of Oakland and Alameda County to enhance access in the Park Street Bridge corridor.

- Provide additional bicycle parking: While the number of bicycle racks in Alameda has increased significantly in recent years, field observations and survey results suggest that additional bicycle parking is warranted along with education and enforcement for proper use of these parking facilities. This is particularly true in the Webster Street corridor, and outside of the core of the Park Street business district, where many bicycles were observed locked to parking meters, signs, and other objects where bicycle racks were not available. Beach access points along the Shoreline bike path are a major recreational destination that has been identified as locations where bicycle parking is needed. Staff should conduct a field review to determine if bicycle racks are currently located along the bike path. If not, staff shall work with the East Bay Regional Park District to install a sufficient number of bike racks along the length of the bike path to accommodate bicyclist demands.
- Enhance signage: Alameda implements regulatory and advisory signs consistent with the California Manual on Uniform Traffic Control Devices (CA MUTCD). Directional signage, while not required, could help to enhance Alameda's bicycle-friendliness by helping bicyclists access key destinations. Wayfinding signage could be especially helpful in navigating bicyclists to a route of travel that does not coincide with the simplest and most direct driving route. While Oak Street does not offer a connection for motor vehicles to Otis Drive or Alameda Towne Centre, there is a sidewalk connection that is available to bicyclists and pedestrians. Since Oak Street is roughly parallel to Park Street and provides a lower traffic volume environment, many bicyclists prefer this route.
- Provide education and encouragement programs: In addition to continuing with existing programs, Transportation Master Plan survey respondents supported implementation of additional measures by the City or other stakeholders to increase rates of bicycling in Alameda.
- Enforce traffic laws: Obedience of traffic laws by both bicyclists and drivers is an essential component of reducing the number of collisions and creating a more comfortable bicycling environment. The City should continue to devote resources to enforce traffic laws and to raise awareness among drivers and bicyclists of their responsibilities when operating their respective vehicles.
- Continue to maintain and upgrade existing facilities: While some facilities were constructed prior to the development of current standards, older facilities could better serve bicyclists if they were enhanced, especially along current or potential segments of Bay Trail. This includes some of

the pedestrian access provided along the shoreline, as well as some of the paths on Harbor Bay Isle, which do not meet Caltrans current guidelines for Class I bikeways. Additional width along these paths would increase the comfort level of bicyclists and enable bicyclists and pedestrians to more easily share these facilities.

- Continue to coordinate with new development and redevelopment projects: In light of the major redevelopment projects that will be proposed in the next few years, the City should continue this practice.

Selecting the Appropriate Bicycle Facility Type

The previous chapter concluded with a list of the key issues to be addressed by the projects and programs recommended by this Plan.

Bikeways

The Caltrans *Highway Design Manual* (HDM) definitions of Class I, Class II, and Class III bikeways were provided on page 46 of this Plan. The HDM also provides guidance for the use of each type of bikeway. The guidelines note "the designation of bikeways as Class I, II, and III should not be construed as a hierarchy of bikeways; that one is better than the other. Each class of bikeway has its appropriate application." In addition, the guidelines state that two important considerations in selecting the appropriate bikeway type are 1) the facility would not encourage or require bicyclists to violate traffic laws, and 2) continuity should be maintained, so that Class I facilities should not alternate with Class II or III facilities.

While not defined by the *Highway Design Manual*, "bicycle boulevards" are a facility type that have been implemented in numerous jurisdictions in the U.S., Canada, and Europe, including the Bay Area communities of Berkeley and Palo Alto. The purpose of bicycle boulevards is typically to improve connectivity within the bicycle facilities network and to enhance access to key destinations.

While the characteristics of bicycle boulevards vary based on site-specific conditions, the guidebook *Fundamentals of Bicycle Boulevard Planning and Design* has defined them as "… low-volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reduction, signage and pavement markings, and intersection crossing treatments."[10] Traffic calming features are utilized to facilitate bicycle travel while not encouraging additional motor vehicle traffic on the street. Based on facilities that have been implemented to date, the guidebook cites the following typical characteristics of streets with bicycle boulevards: 1) traffic volumes of no more than 3,000 to 4,000 per day, but volumes under 1,500 per day are preferred, 2) motor vehicle speeds ideally no more than 25 miles per hour, and 3) no

[10] *Fundamentals of Bicycle Boulevard Planning and Design*, Initiative for Bicycle and Pedestrian Innovation and Alta Planning and Design, July 2009, p.2.

centerline.[11] Because they are located on low-volume, low-speed streets, they provide an alternative facility type for bicyclists who may not be comfortable riding in mixed traffic on arterial streets.

Based on the characteristics described above, several streets may be implemented as potential bicycle boulevards in Alameda. However, a detailed site-specific analysis is required to determine which treatments may be appropriate at each location. The Plan recommends that if bicycle boulevard designations and treatments are not deemed appropriate for these streets that they be implemented as Class III facilities to enhance bicycle network connectivity.

Bicycle Parking

Since bicycle trips are made for a variety of purposes, the appropriate type of bicycle parking varies as well. For example, bicyclists that are commuting to work or to school typically need to park their bicycle for the day. For these individuals, there are various bicycle parking options that provide a greater level of security, such as a bicycle locker or bicycle cage. For shopping or other trips that typically involve shorter term parking, bicycle racks are generally appropriate. Recommended bicycle parking infrastructure and applications are to be developed as part of the Bicycle Facility Design Guidelines.

Project Prioritization

This section of the Bicycle Master Plan Update describes the process used to evaluate proposed projects, and concludes with a list of recommended projects and programs to be implemented in the City of Alameda. The list of projects analyzed for inclusion in the Bicycle Plan Update was based on recommendations from the 1999 Alameda Bicycle Master Plan, input from participants in the outreach activities for this Plan described earlier, and staff analysis. Prior to calculating the prioritization score, a number of projects were either modified or removed from consideration for this Plan based on staff analysis. An explanation of the staff recommendations regarding each of these projects is provided in Appendix E.

Prioritization Criteria

Prioritization criteria were developed to evaluate proposed projects for the Bicycle Master Plan Update based on the four goals of the Transportation Element:

1. ***Circulation Goal***: Plan, develop and maintain a safe, barrier-free and efficient transportation system to provide the community with adequate present and future mobility.

[11] Ibid. p. 8.

2. ***Livability Goal***: Balance the mobility needs of the community with the overall community objective of creating a livable human and natural environment. Coordinate the interaction of transportation systems development with land use planning activities.
3. ***Transportation Choice Goal***: Encourage the use of transportation modes, especially at peak-period, other than the single-occupant automobile in such a way as to allow all modes to be mutually supportive and to function together as one transportation system.
4. ***Implementation Goal***: Implement and maintain the planned transportation system in a coordinated and cost-effective manner.

As indicated in Table 15 below, criteria were identified for each of the four goals, with point values as indicated. A maximum score of 100 points was possible for each project.

TABLE 15
Project Prioritization Criteria

Goal	Criteria	Description	Points
Circulation	Connectivity	Maximum points if project connects to two or more existing bikeways,	10
	Geographic equity	Project is located in an area of Alameda currently underserved by bicycle facilities.	5
	Latent Demand	Anticipated demand based on a number of variables including population, employment, proximity to the regional transit system, and proximity to schools.	25
Livability	Reduce Conflicts	Reduces conflicts between bicyclists and users of other transportation modes.	10
	School access	Project located on street identified on Safe Routes to School map.	5
Transportation Choice	Regional Access Route	Project provides improvements along a major travel route or a location that serves the same corridor.	10
	Multimodal Connectivity	Project serves a major transit stop or intermodal transfer point.	5
Implementation	Public support	Project included in City or regional plan (5 points per plan).	10
	Complexity	Project appears to be technically feasible based on completed analysis or feasibility study (complex projects receive fewer points).	10
	Operations and Maintenance Costs	Projects with high operations and maintenance costs receive fewer points.	10
Maximum points			**100**

The guidelines used to assign points for prioritization purposes are included as Appendix F. In order to be considered as a potential project, proposed bikeways were required to be identified as a potential bicycle corridor in the Transportation Element. The General Plan's street classification system identified the priority transportation modes for the City's street network to facilitate circulation and minimize potential conflicts between modes. The resulting Bicycle Priority overlay (Figure 4) developed through this process was used as a preliminary screen for potential Bicycle Master Plan projects.

Future updates of this bicycle plan should revise the rating schedule by increasing the total number of points assigned to reducing conflicts and school access (under the Livability goal) while retaining the overall 100 total point scale. This will provide greater emphasis for these categories in the future.

Estimate of Future Revenues

Based on historical funding levels, it is estimated that the City would have approximately $2.75 million available for bicycle projects and programs over the next 10 years. This estimate was based on the methodology used in the Alameda Countywide Bicycle Plan and was developed solely for planning purposes. Two major assumptions underlie the funding estimate:

- Past funding levels for federal, state, regional and county programs will continue.
- Alameda will receive competitive grant funds in proportion to the size of its population.

In addition to the currently available funding sources that may be used for bicycle facilities and programs, new resources may become available in future years. For example, MTC and the Alameda County Transportation Commission (ACTC) are currently developing new Safe Routes to School programs focused on reducing greenhouse gas emissions. It is unclear at present how much of these funds will be available to local jurisdictions, so such sources were not accounted for the revenue estimates prepared for this Plan. Any such funding is likely to be very competitive, and the City's success in implementing this Plan will be strongly influenced by the level of funding the City is able to secure.

TABLE 16
Estimates of Revenues Available for Implementation of Bicycle Projects and Programs in Alameda, 2011-2020

Program	Administering Agency	Project Types	Estimated Funds to Alameda over 10 years
Formula-Based Funding Sources			
Measure B pass-through (bicycle/pedestrian)	ACTC (successor agency to ACTIA)	May be used for capital projects, programs, and planning projects.	$900,000
Transportation Development Act, Article 3	MTC	Funds may be used for capital projects, bicycle plans (once every five years), and education programs.	$300,000
Transportation Fund for Clean Air (TFCA) Program Manager	ACTC	Projects must meet minimum emission reduction requirements	$90,000
ESTIMATED FORMULA-BASED FUNDING			**$1,290,000**
Competitive Grant Funds			
Regional Bicycle Program	MTC/ACTC	Projects identified on regional bicycle network	$270,000
Measure B Bicycle and Pedestrian Countywide Discretionary Fund	ACTC	Projects must be of countywide significance; funds may be used for capital projects, plans, and programs.	$260,000
Bicycle Facility Program	BAAQMD	Pays for facility costs only	$100,000
Safe Routes to Transit	TransForm/ EBBC	Access to major transit stops, project must reduce transbay motor vehicle trips	$220,000
Bicycle Transportation Account	Caltrans	Facilities that will increase bicycle commuting	$180,000
Surface Transportation Program (STP)/ Local Streets and Roads	ACTC	Assumed that two percent of Local Streets and Roads funds would be spent on bicycle facilities	$50,000

Other – Bay Trail grants, OTS, Recreational Trails Program, SR2S private sources	various	Based on proportionate share of countywide estimate	$230,000
ESTIMATED COMPETITIVE GRANT FUNDS			**$1,460,000**
TOTAL ESTIMATED REVENUES – ALL SOURCES			**$2,750,000**

Selection of High- and Medium-Priority Projects

Projects that received a prioritization score of at least 65 points have been included on the list of high priority projects for this Plan. Based on the above revenue estimate, these projects can be realistically funded and initiated in the next 10 years. As noted above, the City may be able to secure additional funding, in which case implementation of medium-priority projects could be pursued; projects receiving a minimum prioritization score of 60 points were included in this list. Projects scoring below this level were considered to be beyond the scope of this Plan. In addition to the resources to be used for major capital projects, the Plan also recommends the allocation of resources for annual program expenditures for facility maintenance, as well as education, encouragement, and enforcement programs.

There were three types of projects that are included in the Plan that were not evaluated using the prioritization scoring. These projects are included in the Plan in the event that a proposed development project or future street progresses toward construction, to ensure that these bicycle facilities are completed.

1. Projects associated with future development or redevelopment – A number of critical links in the proposed bicycle facilities network are anticipated to be funded and constructed as part of development projects, such as segments of the Bay Trail at Alameda Point. Since the highest scoring projects are typically those located near population centers, commercial districts, schools, etc., the ranking of projects in currently undeveloped areas does not reflect their true value to the City's bicycle facilities network.
2. Facilities requiring upgrades to comply with current design guidelines – There are many locations where shoreline access areas were constructed prior to the development of the Americans with Disabilities Act (ADA) and current Bay Trail guidelines. These access areas were designed to provide pedestrian access.
3. Projects to be constructed as part of future streets or other major infrastructure improvements – There are some new streets that the City is planning to construct to provide improved circulation and support for planned development. These bikeways should be incorporated into the project design, if feasible.

Planning-Level Project Cost Estimates

For planning purposes, cost estimates were developed for the high- and medium-priority projects recommended through this Plan. Since the necessary site-level work has not yet been conducted to determine accurate project-specific costs, the estimates used for this Plan were taken from other plans or studies where available, or were derived using approximate unit costs for the appropriate bicycle facility type. These numbers are intended to provide an order of magnitude estimate of the costs to implement the Alameda Bicycle Master Plan, and therefore a reasonable expectation of what can be accomplished using the resources anticipated to be available. More detail on the development of project cost estimates is provided in Appendix G.

Grouping of Proposed Projects and Programs

Table 17 below summarizes the resources needed to implement the high- and medium-priority projects and programs included in this Plan. The table provides a breakdown of the capital projects with estimated costs, and the subsequent text summarizes each of these proposed improvements. Note that some projects, such as the Cross Alameda Trail, actually consist of several smaller projects. Projects were segmented to facilitate the pursuit of funding, as in some cases a portion of a project can stand on its own. Individual project segments are described in the text. The proposed projects are displayed in Figures 10 and 11.

TABLE 17
High-Priority Bicycle Plan Projects and Programs

Studies and Capital Projects
(funded and initiated within 10 years)

Project	Project/ Location	Phase/Type	Description	Estimated Cost (2009 dollars)
H1	West End Estuary Crossing	Project Study Report	Analysis of recommended alternatives to connect west Alameda to Jack London Square, Oakland	Funded through Pedestrian Plan
H2	Cross Alameda Trail – Alameda Point to Sherman Street	Construction – Class I	Funding sufficient to complete only a portion of this project; City to pursue appropriate segment based on project readiness	$1,414,000
H3	Clement Avenue (Cross Alameda Trail segment)	Construction – Class II	Grand Street to Broadway	$42,000*
H4	Shoreline Dr./ Westline Dr.	Construction – Class II***	Otis Drive to Broadway	$205,000
H5	Encinal Avenue	Construction – Class II	Versailles Avenue to Broadway	$13,000

Project	Project/ Location	Phase/Type	Description	Estimated Cost (2009 dollars)
H6	Central Avenue	Construction – Class II and III	Class III from Pacific Ave. to Third St.; Class II from Third St. to Grand St.	$95,000
H7	Oak Street	Construction – Class II and III**	Class II, Blanding Ave. to Encinal Ave.; Class III, Encinal Ave. to Powell St.	$26,000
H8	Lincoln Avenue	Construction – Class II**	Oak Street to Park Street	$15,000
H9	San Jose Avenue	Construction – Class III	Sherman St. to Fernside Blvd.; includes extension of Class III on Versailles Ave. from San Jose Ave. to Encinal Ave.	$22,000
H10	Pacific Avenue	Construction – Class III	Marshall Way to 8th St and Grand St. to Park St.	$25,000
H11	San Antonio Ave./Ninth St.	Construction – Class III	Sherman St. to Pacific Ave.	$12,000
H12	Sherman Street	Construction – Class III	Eagle Avenue to San Antonio Avenue	$8,000
H13	Third Street	Construction – Class III	Central Ave. to Ralph Appezzato Memorial Pkwy.	$7,000
H14	Maitland Drive	Construction – Class III	Mecartney Road to Harbor Bay Parkway	$6,000
H15	Fifth Street	Construction – Class III	Central Avenue to Pacific Avenue	$5,000
H16	Bayview Shoreline Bicycle Path Feasibility Study	Feasibility Study	Intersection of Broadway at Shoreline Drive to Towata Park	$100,000
H17	Blanding Avenue Bikeway	Construction – Class II and Class III	Oak Street to Broadway	$10,000
TOTAL				**$2,005,000**

NOTE: All bicycle facilities within Alameda are to be consistent with Surface Transportation Board authorized rail operations and nothing herein is to be viewed as inconsistent with joint rail-trail use.

* Railroad track removal required prior to implementation. Estimated cost does not include cost of removing railroad tracks. It is assumed that the tracks would be removed as part of reconstructing the street.

** Interim project. For long-term proposal see project N1.

*** Class II to be implemented on these segments only if it is determined that removal of on-street parking or reductions in traffic capacity would be acceptable. Otherwise, they would be implemented as Class III facilities.

Maintenance and Minor Capital Projects

Project Number	Project	Description	Estimated Cost (2009 dollars)
C1	Trail Maintenance	Repair of pavement surface	$100,000
C2	Maintain and Enhance Signage	Replace existing signs as needed, install additional signs to enhance the user experience of the network	$125,000
C3	Bicycle Parking Enhancement Program	Install additional bike racks	$75,000
TOTAL			**$300,000**

Programs

Program Number	Program	Description	Estimated Cost (2009 dollars)
P1	Project planning		$250,000
P2	Promotion of Bicycling-Related Events and Services	Bike to Work Day, Walk and Roll to School Day, etc.	$50,000
P3	Education and Enforcement	Provide educational materials to bicyclists and drivers, in combination with police enforcement activities.	$100,000
P4	Bike Maps	Updating and production of maps	$45,000
P5	Safe Routes to School	Mapping	Funded through Pedestrian Plan
P6	Individualized Marketing	Customized traveler information to encourage mode shift	Funded through Pedestrian Plan
P7	Operations and Maintenance		Funded through Public Works maintenance budget
TOTAL			**$445,000**

TOTAL HIGH PRIORITY PROJECTS AND PROGRAMS: $2,750,000

The estimated cost of high priority projects and programs is equal to the revenues that the City of Alameda is estimated to receive for bicycle projects over 10 years. If actual revenues are lower than projections, project implementation will be impacted accordingly. If the estimated revenues are exceeded, medium-priority projects can be funded to the degree that funding is available.

TABLE 18
Medium-Priority Bicycle Plan Projects and Programs
(to be pursued within 10 years if funding is available)

Project Number	Project	Phase/ Type	Description	Estimated Cost (2009 dollars)
M1	Neptune Park Bike Path	Construction – Class I	Webster Street to Constitution Way/Marina Village Parkway intersection	$100,000
M2	Bayview Shoreline Bike Path	Construction – Class I	Section A: Bay Farm Island Bicycle Bridge, connect to Bayview Drive via existing public access Section B: Extend shoreline path to Broadway	$600,000*
M3	Shoreline Park Bike Path enhancements – Bay Farm Island	Construction – Class I	Widening and resurfacing	$2,300,000
M4	Mecartney Road Bike Lane	Construction – Class II	Mecartney Road to Maitland Drive	$13,000
M5	Santa Clara Avenue Bike Lane	Construction – Class II	Grand Avenue to Oak Street	$29,000
M6	Ballena Bike Path/Bike Route	Construction – Class I and III	Central Ave. to Shoreline	$505,000
M7	Signal Detection	Construction	Install loop detectors	$150,000
M8	Education Classes	Program	Bicyclist skills training classes	$25,000
TOTAL MEDIUM PRIORITY				**$3,722,000**

* Association of Bay Area Governments, Bay Trail Project, *The San Francisco Bay Trail Project Gap Analysis*, August 2005.

TABLE 19

Projects Not Under City Jurisdiction

Project Number	Project	Project Description	Entity with Primary Jurisdiction
N1	Shoreline Drive Bike Path Enhancements	Resurface path and widen at selected locations from Westline Drive to Broadway	East Bay Regional Parks District
N2	Wooden bridge – south side bike bridge approach	Replace decking and enhance riding surface	East Bay Regional Parks District
N3	West End Estuary Crossing	Interim: modification to Posey Tube path Long-term: Construct bicycle/pedestrian bridge between west Alameda and downtown Oakland	Caltrans
N4	West End Water Shuttle	Design, construct, and operate a bicycle/pedestrian shuttle between west Alameda and downtown Oakland	City of Alameda/ City of Oakland
N5	Miller-Sweeney Bridge/ Fruitvale Railroad Bridge	Enhance/replace one or both bridges and provide improved bicycle access.	Alameda County/ Army Corp of Engineers
N6	Paden School Bike Path	Reconstruct bike path to provide enhanced shoreline access.	Alameda Unified School District
N7	Encinal High School Bike Path	Construct path along shoreline from Alameda Park to end of Third Street; also designate Third Street south of Central Avenue as Class III bike route.	Alameda Unified School District
N8	Park Street Bridge	Enhance bicycle access as part of seismic or other bridge improvements.	Alameda County
N9	High Street Bridge	Enhance bicycle access as part of seismic or other bridge improvements.	Alameda County

NOTE: All bicycle facilities within Alameda are to be consistent with Surface Transportation Board authorized rail operations and nothing herein is to be viewed as inconsistent with joint rail-trail use.

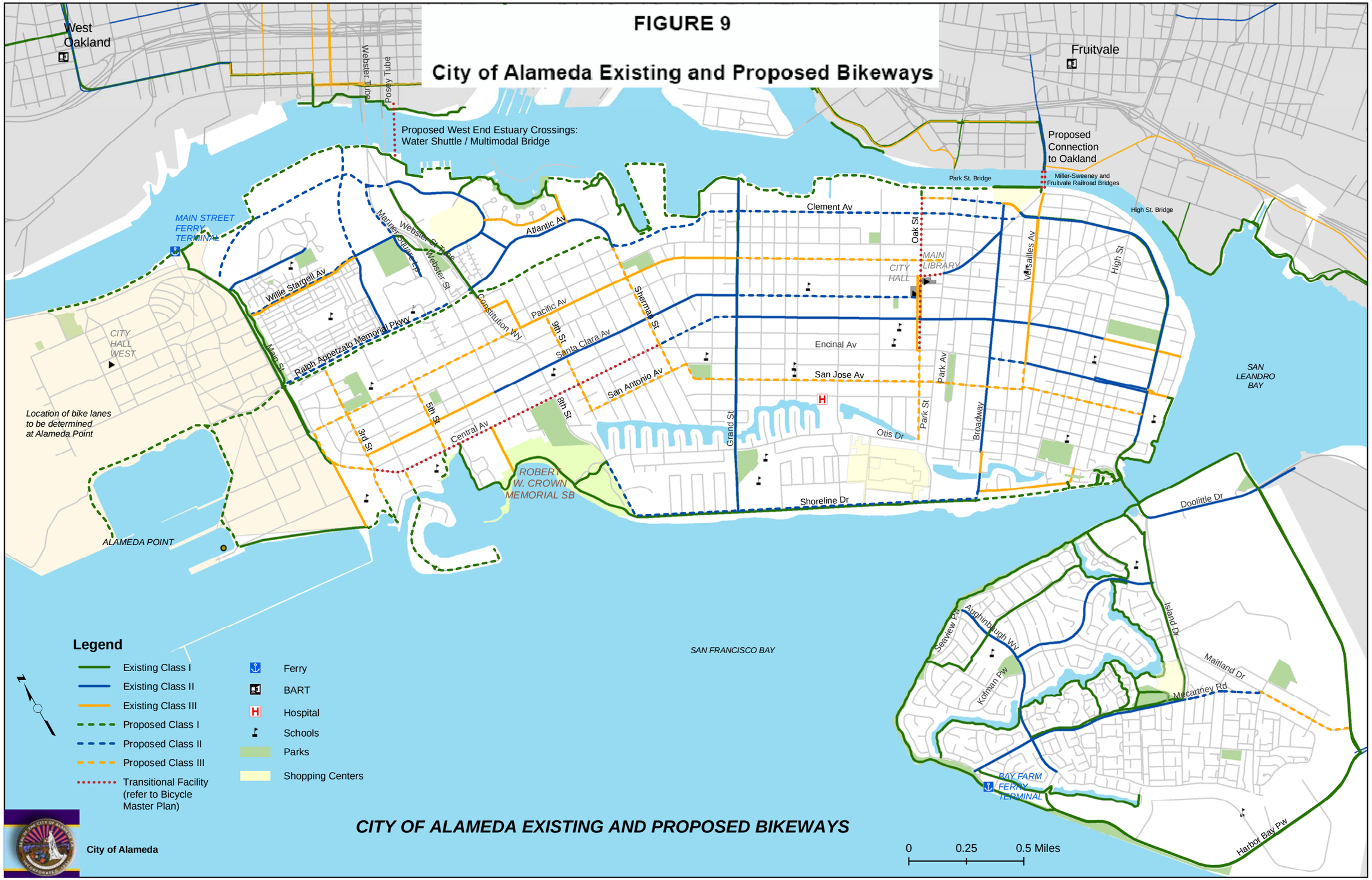
TABLE 20

Bicycle Plan Projects Associated with Potential Development or Redevelopment

Project Number	Project	Project Limits	Related Development
D1	Cross Alameda Trail/ Bay Trail	Grand Street to Fruitvale Railroad Bridge	Numerous private properties
D2	Cross Alameda Trail – Clement Avenue Extension bike lanes	Sherman Street to Grand Street	Northern Waterrfront
D3	Cross Alameda Trail – Clement Avenue Extension bike lanes	Broadway to Tilden Way	To be determined
D4	Cross Alameda Trail – Ralph Appezzato Memorial Parkway bike lanes	Main Street to Webster Street	Alameda Point
D5	Marina Village/Northern Waterfront Bay Trail	Mariner Square Drive to Grand Marina	Marina Village, Northern Waterfront
D6	Alameda Landing/ Alameda Gateway Bay Trail	Main Street to Mariner Square Drive	Alameda Landing, other private property
D7	Mitchell Avenue bike lanes	Main Street to Mariner Square Loop	Alameda Landing/ Alameda Point
D8	5th Street bike lanes	Wilver "Willie" Stargell Avenue to Mitchell Avenue	Alameda Landing
D9	Wilver "Willie" Stargell Avenue bike lanes	Main Street to Mariner Square Loop	Alameda Point
D10	Alameda Point Bay Trail	Perimeter of Alameda Point	Alameda Point
D11	Alameda Point bike lanes	Along major streets within Alameda Point development; specific locations to be determined	Alameda Point
D12	Main Street Bay Trail	Ferry Terminal to Navy Way	Alameda Point
D13	Mariner Square Drive Extension bike lanes	Marina Village Parkway to Constitution Way	City of Alameda transportation project
D14	Oak Street to Alameda Towne Centre connection	Oak Street to Otis Drive and connection to Alameda Towne Centre	Alameda Towne Centre

FIGURE 9

City of Alameda Existing and Proposed Bikeways



CITY OF ALAMEDA BICYCLE MASTER PLAN UPDATE

October 2010

Chapter VIII

Description of Recommended Bicycle Plan Projects and Programs

The Bicycle Master Plan's projects and programs are intended to address a wide range of bicyclist needs, as described in the Plan's goals, objectives and policies. To support the Plan's Vision, the recommendations include a range of bikeway types – Class I, Class II and Class III facilities. The recommended projects are described in this chapter. A summary table of the recommended projects is included as Appendix H.

The facility type for each project was selected based on the physical characteristics of the street and the existing adjacent bikeway facility types. For some corridors, additional analysis will be required before a particular facility type can be recommended. For example, a Class III bike route could potentially be replaced by a bicycle boulevard or Class II bike lane if it is operationally appropriate for the street, in accordance with Chapter 1000 of the *Highway Design Manual* and the supplementary design guidelines prepared in conjunction with this Plan. In addition, the impacts of implementing these other facility types would have to be analyzed in accordance with the California Environmental Quality Act (CEQA). Projects listed below include new construction as well as upgrades of existing facilities.

The estimated 2020 traffic volumes were based on the most current counts available for each location. Volumes were estimated for the future by assuming a 0.5 percent growth rate, and do not account for traffic generated by future development. Therefore numbers should be used for planning purposes only and not for traffic analysis or (re)development impact analysis.

To illustrate how the projects and programs support the needs identified in Chapter VII, they have been classified by the following functional groupings:

- Intra-Alameda Connectivity
- Shoreline Access
- Intersection Enhancements
- Interjurisdictional Connectivity
- Bicycle Parking
- Signage
- Education/Encouragement
- Enforcement
- Maintenance

Within each project category – High, Medium, etc. – projects are considered to be of equal priority level. Project numbers were assigned to make them easier to reference, and do not indicate rank order. This means of grouping priorities was used to provide the City with flexibility in pursuing funding opportunities, so that

applications could be submitted on behalf of the projects most likely to compete successfully for a particular grant.

High-Priority Projects

The Bicycle Master Plan high priority projects are described below. For three of the identified high priority bicycle lane projects – Central Avenue (H6), Oak Street (H7), and Lincoln Avenue (H8) – impediments have been identified that may render the projects infeasible. Due to the strong public support for these projects, the City is committed to working to remove these impediments and implementing these projects as proposed. However, if all concerns cannot be addressed, these projects will instead be implemented as bicycle routes.

WEST END ESTUARY CROSSING – PROJECT STUDY REPORT EQUIVALENT
Project Number: H1
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.1.6.d, 4.1.8.d, 4.3.3.c, 4.3.6.d
After evaluating the physical constraints in the *Estuary Crossing Feasibility Study*, three recommendations were identified for additional study.

- Minor Modifications to the Posey Tube – (short term) This is considered to be a short-term solution for improving the estuary crossing in this corridor. The project would include improving the surface of the existing bike path.
- Water Shuttle/Taxi – (intermediate) This would operate between a new or modified dock in Alameda and Jack London Square in Oakland. This could be operated on a regular schedule or on an on-call basis.
- Bicycle-Pedestrian Bridge – (long-term) A bicycle-pedestrian bridge across the estuary would have to be a drawbridge.

While the study determined that the bridge project would be physically feasible, the City does not believe that this project could be completed in the foreseeable future due to the estimated $60 million construction cost and the significant annual operations costs. Therefore, the recommended next step is to conduct a Project Study Report equivalent for the water shuttle/taxi option and create a holding account to set aside some funding as it becomes available. These steps will help ensure readiness when funding becomes available for design, environmental, and construction, and will facilitate efforts to pursue outside funding for phases of the work. As part of this project, additional consideration should be given to options for utilizing the path in the Webster Street Tube, including modifications to the westerly retaining wall. The estimated cost for the PSR equivalent is approximately $500,000. Since funding for this project and the holding account is identified in the City's Pedestrian Plan from resources devoted to pedestrian projects, additional resources from bicycle-related projects are not needed for this effort.

CROSS ALAMEDA TRAIL

The Cross Alameda Trail is proposed as a major east-west bicycle/pedestrian corridor across the northern side of Alameda's main island, extending from Alameda Point to Tilden Way. A feasibility study for the Trail was completed in 2005.[12] Once completed, the Trail would link together key commercial sites and redevelopment areas. The Cross Alameda Trail is listed in this Plan as six separate projects, of which two have been identified as high priority projects, as described below. The remaining four projects (projects D1, D2, D3, and D4) are associated with the anticipated completion of development projects.

- **CROSS ALAMEDA TRAIL (Alameda Point to Sherman Street, along former Alameda Belt Line right-of-way)**
  Project Number: H2
  Facility Type: Class I
  Function: Intra-Alameda connectivity
  General Plan Policies supported: 4.1.1.d, 4.1.7.d

This portion of the Trail would be a Class I bike path through the former Alameda Belt Line rail yard, connecting the intersection of Constitution Way and Atlantic Avenue with the planned new intersection of Sherman Street and the extension of Clement Avenue. The City recently acquired ownership of this property. Based on anticipated revenues, the City has identified $1.414 million to direct toward the completion of this project. This will only be sufficient to complete a portion of the project, the limits to be determined based on project readiness – in particular, the timing of nearby development and resolution of any site-level issues.

- **CLEMENT AVENUE (Grand Street to Broadway)**
  Project Number: H3
  Proposed Facility Type: Class II (subsequent to railroad track removal)
  Function: Intra-Alameda connectivity
  General Plan Policies supported: 4.1.1.d

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
48'	8,700	4	No

This segment was identified in the Cross Alameda Trail Feasibility Study as a short-term alternative to a shoreline bike path, as the current uses of the shoreline properties in this area are not expected to change in the foreseeable future. These bike lanes also would provide a direct, commuter-oriented route linking central Alameda to the east end. The street is 48 feet wide, with two travel lanes and on-street parking. The City has also identified Clement Avenue as a potential high-capacity transit corridor for bus rapid transit or light rail, so the needs of all transportation modes would have to be considered in the design of an appropriate cross-section for the street. The railroad tracks embedded in the

[12] City of Alameda Public Works Department, *Cross Alameda Trail Feasibility Study*, 2005, p. VIII-2.

street should be removed prior to the implementation of a bicycle facility in this corridor.

SHORELINE DRIVE/WESTLINE DRIVE (Otis Drive to Broadway)
Project Number: H4
Proposed Facility Type: Class II
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.6.d

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
48’	6,700-9,300	4	No

This project could provide a commuter-oriented bicycle facility along Alameda’s southern shoreline, as well as divert bicyclists off the heavily used bicycle/pedestrian path on the south side of Shoreline Drive. Constructing a wider or new bike path is included in this Plan as a long-term solution for this corridor, but bike lanes are recommended as a lower-cost, near-term option. Shoreline Drive and Westline Drive both consist of four travel lanes plus on-street parking on the outside northbound/westbound lane; at night, parking is permitted in the southbound/eastbound travel lane (park and beach side). Both streets are 48 feet wide. The traffic volumes are approximately 6,700-9,300 vehicles per day. The staff analysis of the area suggest that these streets could potentially be restriped to include bike lanes without reducing any lanes in the surrounding streets like Otis Drive. Environmental review, including detailed traffic analysis, would be required, and the need for on-street parking in this area would have to be addressed as part of this project.

ENCINAL AVENUE (Versailles Avenue to Broadway)
Project Number: H5
Proposed Facility Type: Class II
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
56’	8,200	2 to 3	No

The existing bike lanes on Encinal Avenue are located between Versailles Avenue to Fernside Boulevard. Completion of this project would extend the existing bike lanes from Versailles Avenue to the existing bike lane on Broadway, two blocks to the west, improving connectivity for bicyclists in this corridor. The street is sufficiently wide to accommodate the bike lanes without removing on-street parking, but restriping would be required. This project would require traffic analysis to determine if the restriping is feasible, and would have to be coordinated with Caltrans, as the segment of Encinal Avenue west of Broadway is a state route.

CENTRAL AVENUE (Pacific Avenue to Grand Street)
Project Number: H6
Proposed Facility Type: Class II if traffic capacity needs can be accommodated, otherwise Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d

Central Avenue currently includes a dedicated bike lane (Class II) from Grand Street to High Street and a bike route (Class III) from High Street to East Shore Drive. This project would extend the bike lanes across to the west end, improving access to the Webster Street business district, Paden Elementary School, Encinal High School, and Washington Park. West of Third Street, a bike route is recommended due to the available street width. Portions of Central Avenue are on State Route 61, so designation of bikeways on these segments would need to be approved by Caltrans. Central Avenue includes a range of conditions:

- Pacific Avenue to Webster Street

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
45'-56'	10,000	2-4	No

Between Pacific Avenue and Third Street, Central Avenue is 45 feet wide, with two travel lanes and on-street parking. The installation of bike lanes on this segment would require the removal of on-street parking, which would impact area residents and Encinal High School; as a result, it is recommended that this segment be implemented as a bike route. The addition of a bikeway here would provide enhanced connectivity for bicyclists in this corridor, including Bay Trail users.

Between Third Street and Webster Street, Central Avenue is 56 feet wide with four travel lanes. If feasible, the resulting configuration would include bike lanes, two travel lanes, a center turn lane, and on-street parking. However, the most recent environmental document regarding proposed development in the west end indicates that a turn lane would be required at the intersection of Webster Street. Until the Alameda Point development is further defined and approved by the City Council, the future traffic capacity needs on this segment cannot be determined.

- Webster Street to Eighth Street

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
56'	16,000	4	No

This segment is under Caltrans jurisdiction, and its lane configuration is similar to the Third Street to Webster Street segment. Installation of bike lanes along this segment would require the removal of a travel lane, and the impact of the reduced capacity would be significant and needs to be evaluated and potentially mitigated. The potential reduction in capacity could have more significant effects

in the future, as the intersections of Central Avenue at Webster Street and at Eighth Street will be impacted by future west end development.

- Eighth Street to Encinal Avenue

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
56’	10,000	4	No

This segment is under Caltrans jurisdiction. This segment also consists of four travel lanes with on-street parking, and the installation of bike lanes would require the elimination of a travel lane. Traffic volumes are approximately 10,000 vehicles per day. Additional traffic analysis would be required to determine feasibility.

- Encinal Avenue to Grand Street

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
48’	8,200	4	No

This segment has the same cross-section as the portion of Central Avenue east of Grand Street, which currently has bike lanes, so the bike lane striping could be added without impacting traffic capacity.

OAK STREET (Blanding Avenue to Powell Street)
Project Number: H7
Proposed Facility Type: Class II if traffic capacity needs can be accommodated, otherwise Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c, 4.3.6.b

The implementation of a bikeway along Oak Street would provide a “lower traffic” alternative route for bicyclists in proximity to Park Street. This would provide connections to Alameda City Hall, the main library, Alameda Towne Centre, and the bicycle parking in the Civic Center Parking Garage. Park Street itself could be accessed from Oak Street via the bike lanes on Central Avenue.

- Lincoln Avenue to Blanding Avenue

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
30’-36’	9,500	2	Yes

If it is determined that the existing on-street parking is not needed, this segment could be striped as a bike lane. However, it would be especially challenging to implement a bike lane in both directions between Lincoln Avenue and Clement Avenue; this segment is only 30 feet wide, so parking would need to be removed on both sides of the street. If the on-street parking is needed, this segment should be implemented as a bike route.

- Encinal Avenue to Lincoln Avenue

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
36’		2	Yes

This four-block segment of Oak Street is currently designated as a bike route. If it is determined that the on-street parking is not needed, it could be striped as a bike lane.

- Encinal Avenue to Powell Street

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
30’-36’	N/A	2	No

Oak Street between Encinal Avenue and Powell Street is a low-volume residential street and is recommended as a bike route. The extension of this bikeway to Powell Street would enable Oak Street to serve as an alternative to Park Street between the Park Street Bridge and Alameda Towne Centre. A sidewalk connection between Oak Street and Otis Drive allows bicyclists and pedestrians – but not autos – to pass through to Otis Drive.

LINCOLN AVENUE (Oak Street to Park Street)
Project Number: H8
Proposed Facility Type: Class II
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c, 4.3.6.b

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
56’	9,300	2	Restriping required; some on-street parking would have to be removed

The addition of bike lanes along this one block segment of Lincoln Avenue would link together two designated bikeways – the bike route on Oak Street from Lincoln Avenue to Encinal Avenue, and the bike lane on Tilden Way, from Park Street to approximately 200 feet west of Broadway. This connection would significantly enhance the connectivity of the bicycle network in the Park Street area.

There is diagonal parking along the south side of Lincoln Avenue along this block. At the eastern end of the segment in the westbound direction, there are four through travel lanes, which tapers to two through lanes at the western end of the segment. There are also turn pockets at the intersections with Oak Street and Park Street, as well as at the library entrance.

While this project is proposed as a bike lane, bike lanes are not feasible under current conditions; in the near term, it is recommended that this segment be

implemented as a bike route. A primary constraint is that the City is committed to meeting requirements for parking serving the main library, for which angled parking on the south side of Lincoln Avenue is needed. As a result, there is currently insufficient street width available to stripe bike lanes along this street segment. If the on-street parking is at some point not needed, this segment should be reconsidered for bike lanes.

Aside from the available street width, another potential constraint to the installation of bike lanes on this segment is the potential use of this corridor as a major transit route. The Lincoln Avenue corridor has been identified in the City's General Plan as potential transit service utilizing an exclusive right-of-way.

SAN JOSE AVENUE / SAN ANTONIO AVENUE / MORTON STREET / VERSAILLES AVENUE (Sherman Street to Fernside Boulevard)
Project Number: H9
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
36'	2,200 (San Jose Avenue)	2	No

This corridor would provide a cross-town bike route from central Alameda to the east end on a low-volume street. Kay destinations along this route include Park Street, Franklin Elementary School, and Jackson Park. San Jose Avenue was identified in the 1999 Bicycle Master Plan for potential traffic calming treatments to facilitate east-west bicycle travel, pending further analysis and consultation with other City departments regarding appropriate traffic treatments. This project includes a one block extension of the bike route on Versailles Avenue to provide a connection to San Jose Avenue.

PACIFIC AVENUE (Main Street to Park Street)
Project Number: H10
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

- Main Street to Marshall Way

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
76'	3,400	4	No

- Marshall Way to Park Street

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
38’	<1,000	2	No

This project would extend the existing bike route on Pacific Avenue, which is currently designated from Eighth Street to Grand Street. On the west end, the facility would connect to Webster Street and Alameda Point, and in the east end to Park Street.

SAN ANTONIO AVENUE / NINTH STREET (Sherman Street to Pacific Avenue)
Project Number: H11
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
36’	N/A	2	No

Bike routes on San Antonio Avenue and Ninth Street would improve connectivity between existing bikeways in central Alameda and Marina Village, and would enhance access to the Posey Tube. Ninth Street also provides a north-south alternative to Webster Street.

SHERMAN STREET (Eagle Avenue to San Antonio Avenue)
Project Number: H12
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
36’	5,300	2	No

Sherman Street would enhance connectivity for the bicycle facilities network, by extending the existing bike lane on Atlantic Avenue, providing connections to Marina Village and Franklin Elementary School. It also would add a new facility in a part of the City lacking north-south bikeways.

THIRD STREET (Ralph Appezzato Memorial Parkway to Central Avenue)
Project Number: H13
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
30'-36'	N/A	2	No

A bike route on Third Street would improve connectivity between bicycle facilities in Alameda's west end, including enhanced access to Encinal High School and the Alameda Community Learning Center.

MAITLAND DRIVE (Mecartney Road to Harbor Bay Parkway)
Project Number: H14
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
38'	3,800	2	No

The designation of Maitland Drive as a bike route would connect to the proposed bike lane on Mecartney Road and the existing Bay Trail segment along Harbor Bay Parkway. This would link the center of Bay Farm Island to the eastern part of the Harbor Bay Business Park, and could serve commuter and recreational riders.

FIFTH STREET (Central Avenue to Pacific Avenue)
Project Number: H15
Proposed Facility Type: Class III
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
36'	N/A	2	No

Fifth Street would provide enhanced connectivity, as there are few north-south bikeways in west Alameda. It would also provide improved links to Longfellow and Paden Elementary Schools, and Chipman Middle School.

BAYVIEW SHORELINE BICYCLE PATH – FEASIBILITY STUDY
Project Number: H16
Project Number: M2
Function: Shoreline Access, Intersection Enhancements
General Plan Policies supported: 4.3.3.c
This Bay Trail segment would eliminate the gap between the shoreline bicycle path at Robert Crown Memorial State Beach and the Bay Farm Island Bicycle Bridge. Currently bicyclists need to use the on-street bicycle route on Bayview Drive, which requires riders to navigate the intersections of Bayview Drive at Broadway and at Otis Drive. Both locations require bicyclists to transition between riding in the street and an off-street bicycle path. Currently the bicycle path along the Bayview shoreline is unpaved and open to the public; any upgrade of the bicycle path would require careful evaluation of design elements, such as width, materials to be used for the bicycle path, and appropriate buffering between the bicycle path and the adjacent neighborhood. Due to the complex nature of this path upgrade, the City will also work with BCDC, on an expedited basis, to enhance bicycle access on the existing path until a long-term solution can be completed.

BLANDING AVENUE BIKEWAY
Project Number: H17
Proposed Facility Type: Class II subsequent to railroad track removal, otherwise Class III
Function: Interjurisdictional connectivity
General Plan Policies Supported: 4.1.1.d, 4.3.3.c
This project proposes to implement a bicycle lane on Blanding Avenue from Park Street to Tilden Way and a bicycle route between Oak Street and Park Street. These facilities would connect to existing and proposed bikeways on Oak Street, Broadway, and Fernside Boulevard, and enhance access to the Miller-Sweeney and Park Street bridges. The implementation of bicycle facilities on Blanding Avenue is recommended only after the removal of railroad tracks currently embedded in the street (in accordance with Surface Transportation Board requirements). The cost of the track removal has been estimated at approximately $375,000; the track removal is anticipated to be completed as part of the reconstruction of the street, so the resources are not allocated from bicycle plan funding.

TRAIL MAINTENANCE
Project Number: C1
Function: Maintenance
General Plan Policies supported:
The purpose of this project was to identify funds to make needed repairs on bike paths, to ensure that the paths continue to have a high quality, comfortable riding surface.

MAINTAIN AND ENHANCE SIGNAGE
Project Number: C2
Function: Signage
General Plan Policies supported: 4.1.1.d, 4.1.7.a, 4.3.1.d, 4.3.3.c

In addition to the existing bikeway signage for bicyclists that is currently used in the City, the implementation of guide signs at selected locations would enable bicyclists to more easily navigate the City's bicycle facilities network, and facilitate access to key destinations in Alameda and Oakland. The guide signs could include a distinctive Alameda design, directional information, and distances to key destinations. Such information would especially benefit riders traveling to destinations that are located on streets with high traffic volumes that bicyclists could more comfortably reach using other routes. The wayfinding signs will be developed in accordance with the guidelines to be developed through this Plan's Bicycle Facilities Guidelines. Resources will also be required to maintain the existing and proposed signs.

BICYCLE PARKING ENHANCEMENT PROGRAM
Project Number: C3
Function: Bicycle Parking
General Plan Policies supported: 4.3.3.a

To help determine locations where there is demand for bicycle parking, Public Works should reserve funding each year for the purpose of purchasing and installing bicycle parking. Priority locations would be determined based on the existing availability of bicycle parking and the estimated need for additional facilities, based on observations, proximity to key destinations, and input from community groups, businesses, and property owners. For locations not identified as a priority, Public Works could partner with adjacent property owners or business owners. For example, if a business would be willing to purchase a bicycle rack, the City could cover the installation costs.

PROJECT PLANNING
Project Number: P1
Function:
General Plan Policies supported: 4.1.1.d, 4.1.2.e, 4.3.3.a, 4.3.3.b, 4.3.3.c

For the City to successfully compete for the limited grant funds available for capital projects, it is necessary that grant applications demonstrate the viability of proposed projects and the City's commitment to completing them. This Plan includes resources for Public Works staff project planning activities so that this work can be completed.

PROMOTION OF BICYCLING-RELATED EVENTS AND SERVICES
Project Number: P2
Function: Education/Encouragement
General Plan Policies supported: 4.2.3.d, 4.3.1.d
The Public Works should continue its past support of events that promote bicycling, such as Bike to Work Day, Earth Day, and Walk and Roll to School Day. Public Works support has typically included assisting with staffing and outreach regarding these events, and coordinating activities with community organizations and individuals involved in these events.

To further encourage bicycling, the Public Works could help promote existing efforts carried out by partner agencies, such as the Metropolitan Transportation Commission's bike buddy matching service. This service is available through the www.511.org web site, and links up novice bicyclists with experienced riders for commuting or weekend rides. The intent of the program is to address the concerns of many first-time bicycle commuters, who may be intimidated by riding in a mixed-traffic environment.

EDUCATION / ENFORCEMENT
Project Number: P3
Function: Enforcement
General Plan Policies supported: 4.3.3.a,
Enforcement efforts focusing on bicycling would typically be conducted by the Police Department as part of its general traffic enforcement activities. This could also receive special emphasis in the vicinity of schools in the morning and afternoon, when large concentrations of student bicyclists are known to be present. The Public Works Department could support enforcement efforts through the distribution of educational materials.

Traffic enforcement programs are heavily labor-intensive. Given the limited resources available in the current fiscal climate, and the tendency of most grant programs to fund capital projects rather than staff, the City's ability to implement expanded enforcement programs will be limited in the near term.

BIKE MAPS
Project Number: P4
Function: Education/Encouragement
General Plan Policies supported: 4.3.1.d
Public Works could partner with bicycle advocacy groups and local businesses to produce and regularly update a bicycle map to provide bicyclists with information about the City's bikeways, bicycle parking, key destinations, bicycle shops, and facilities such as restrooms.

SAFE ROUTES TO SCHOOL
Project Number: P5
Function: Education/Encouragement
General Plan Policies supported: 4.2.3.d, 4.3.1.d
Public Works has completed Safe Routes to School (SR2S) maps for all elementary and middle schools in the Alameda Unified School District (AUSD). These maps should be reviewed and updated, as necessary, every three years, or as significant changes in traffic patterns occur. Due to budgetary constraints, AUSD is considering options to close and consolidate schools. If implemented, these changes would affect the bicycling and walking routes for students as well as existing traffic patterns. Therefore, should the closure and consolidation of schools occur, the City should make the updating of the SR2S maps a high priority.

Public Works will also continue to work with the AUSD to support other Safe Routes to School initiatives, including Walk and Roll to School Day, and bicycle education that specifically targets students. Funding for these activities was identified in the City's pedestrian plan, so additional resources have not been allocated in the bicycle plan for this activity.

INDIVIDUALIZED MARKETING
Project Number: P6
Function: Education/Encouragement
General Plan Policies supported: 4.2.3.d, 4.3.1.d, 4.3.3.a
The TravelChoice program, an example of "individualized marketing," was conducted as a pilot program in Alameda in 2006 by the Transportation and Land Use Coalition (now known as TransForm) using multiple funding sources, including the the City of Alameda's Measure B funds. Through this program, the 3,100 participating Alameda households were provided with support and information regarding the use of alternative transportation modes, such as recommended routes and a comparison of door-to-door travel times. Participants in the TravelChoice program achieved a 13 percent increase in their use of environmentally friendly transportation modes. Similar programs have proven successful in Portland, OR, and numerous locations in Europe and Australia. An ongoing, expanded version of this program in Alameda would further encourage a long-term shift to bicycling, walking and transit. Funding for these activities was identified in the City's Pedestrian Plan, so additional resources have not been allocated in the Bicycle Master Plan for this activity.

OPERATIONS AND MAINTENANCE
Project Number: P7
Function: Maintenance
General Plan Policies supported: 4.3.3.a, 4.3.6.a, 4.4.4.a

- **Street Surface Repairs**

Since bicyclists are more vulnerable than other street users to degradation in pavement conditions, the Public Works Department should continue to address pavement surface concerns in a timely way.

- **Signal Detection**

While the sensitivity of many of the City's loop detectors is calibrated to detect bicycles, they occasionally need to be adjusted. The Public Works Department does a good job in this area and concerns are currently addressed as part of the City's annual maintenance budget. It is recommended that this practice continue.

- **Street Sweeping**

The City currently sweeps its streets weekly, which is more frequent than most other jurisdictions in the area. The Public Works Department does a good job in this area and should maintain its current street sweeping policy, as debris in the street and in bike lanes can pose a problem for bicyclists.

- **Bicycle Lockers and Racks**

The City has an ongoing maintenance service contract to ensure the continued functioning of its electronic bicycle lockers. Through this agreement, the contractor performs regular locker maintenance, and also prepares reports for the City on bicycle locker usage. For bicycle racks, the maintenance costs are minimal, such as periodic repainting, or replacement if they are damaged.

- **Signage**

Bicycle-related signs throughout Alameda will periodically need to be replaced, either because they will have deteriorated or because the sign standards are revised. The Public Works Department does a good job in this area and currently funds sign replacement through its annual maintenance budget. It should continue to do so.

Medium Priority Projects

NEPTUNE PARK BIKE PATH (Webster Street to Constitution Way)
Project Number: M1
Facility Type: Class I
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

With the addition of a traffic signal at the intersection of Wilver "Willie" Stargell Avenue and Webster Street, it is possible for bicyclists to cross Webster Street at this location. A bike path through Neptune Park would connect Webster Street with the intersection of Constitution Way and Marina Village Parkway, enhancing connectivity between bicycle facilities in the west end and Marina Village, as well as an improved connection to the College of Alameda.

BAYVIEW SHORELINE BIKE PATH – CONSTRUCTION
Project Number: M2
Function: Shoreline Access, Intersection Enhancements
General Plan Policies supported: 4.3.3.c
See description for Project H16 (page 95).

SHORELINE PARK BIKE PATH ENHANCEMENTS (Bay Farm Island/Harbor Bay Isle)
Project number: M3
Function: Shoreline Access, Maintenance
General Plan Policies supported: 4.3.3.c
This project would resurface the existing bike path along Shoreline Park on Bay Farm Island/Harbor Bay Isle. In spot locations, the City would widen the bike path, and this could potentially be done with permeable materials to minimize environmental impacts. This Bay Trail section has a length of three miles and would cost approximately $2.28 million to upgrade; this assumes a ten-foot wide bike path, the recommended width for Class I facilities.

MECARTNEY ROAD (Island Drive to Maitland Drive)
Project Number: M4
Proposed Facility Type: Class II
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
Varies	6,600	2	No

This project would extend the existing bike lane on Mecartney Road, providing improved on-street connectivity for the bicycle facilities network on Bay Farm Island/Harbor Bay Isle and enhanced access to the Harbor Bay Landing shopping center. The street is wide enough to accommodate bike lanes without the removal of on-street parking.

SANTA CLARA AVENUE (Grand Street to Oak Street)
Project Number: M5
Proposed Facility Type: Class II
Function: Intra-Alameda connectivity
General Plan Policies supported: 4.1.1.d, 4.3.3.c

Curb-to-Curb Street Width	Estimated 2020 Traffic Volume (vehicles/day)	Travel Lanes	Removal of on-Street Parking Required?
50'	6,400	2	No

The extension of the existing bike lane on Santa Clara Avenue would enhance access to the Park Street area. This segment has the same cross section as Santa Clara Avenue west of Grand Street, which currently has bike lanes; as a result, the extension of these bike lanes could be accommodated without any impacts to on-street parking or reduction in traffic capacity.

BALLENA BIKE PATH/BIKE ROUTE
Project Number: M6
Proposed Facility Type: Class I and Class III
Function: Shoreline Access
General Plan Policies supported: 4.3.3.c
This project would provide enhanced bicycle access to the shoreline area along Ballena Blvd. This project is located on the designated Bay Trail alignment.

ENHANCED BICYCLE DETECTION AT ACTUATED TRAFFIC SIGNALS
Project Number: M7
Function: Intersection Enhancements
General Plan Policies supported: 4.1.7.a, 4.3.3.c
To enhance the ability of bicyclists to navigate intersections with actuated traffic signals, Public Works should continue to receive and respond to resident requests. At locations where there are loop detectors, Public Works may have to adjust their sensitivity for bicycles to be detected. If the street is frequented by bicyclists, it may be appropriate to install a stencil indicating the optimal location to place a bicycle to be detected. Also, Public Works is in the process of replacing loop detectors at some intersections with video detection, and these systems may require adjustment to ensure that bicyclists are readily detected. This work can generally be completed as part of the Public Works' existing maintenance budget or in conjunction with capital projects.

BICYCLING SKILLS TRAINING
Project Number: M8
Function: Education/Encouragement
General Plan Policies supported: 4.3.1.d
The City should continue to support its existing Safety Town program for school students, and provide additional support for the bicycling skills workshops sponsored by local groups to help raise the skill levels of bicyclists of all ages in Alameda. Examples of workshops the City could supports are: 1) the League of American Bicyclists' nationally recognized Road I program, taught by certified

instructors, that provides training on the rights and responsibilities of bicyclists, 2) bicycle commuting tips, and 3) bicycle repair clinics.

Projects Not Under City Jurisdiction

SHORELINE DRIVE BIKE PATH ENHANCEMENTS
Project Number: N1
Facility Type: Class I (enhance existing facility)
Function: Shoreline Access
General Plan Policies supported: 4.3.3.c
This project would enhance the existing path along the south side of Shoreline Drive between Robert Crown Memorial State Beach and Broadway by increasing the width to 10 feet in width and resurface the path. The City will work in conjunction with the East Bay Regional Park District to initiate this project. This Bay Trail segment has a length of 2.13 miles and is estimated to cost approximately $1.6 million to complete.

WOODEN BRIDGE – BAY FARM ISLAND BICYCLE BRIDGE ACCESS
Project Number: N2
Facility Type: Class I (enhance existing facility)
Function: Shoreline Access, Maintenance
General Plan Policies supported: 4.4.5
Maintenance of the wooden bridge connecting the Bay Farm Island Bicycle Bridge to the terminus of Veterans Court is the responsibility of the East Bay Regional Parks District. This is an important link in the City's bicycle facilities network, as it is the only direct bikeway connection from the residential neighborhoods of Bay Farm Island to the bike bridge. Over time, the riding surface has become uneven, so replacement of the bridge decking is needed to create a more comfortable bicycling environment. The City will work with the District in assisting the District to secure funding and implement this improvement.

WEST END ESTUARY CROSSING
Project Number: N3
Facility Type: Class I
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.1.6.d, 4.1.8.d, 4.3.3.c, 4.3.6.d

- Posey Tube Path Improvements (Interim)

Improvements to the Posey Tube path are recommended as a short-term solution to better accommodate existing bicyclist and pedestrian demand. Potential improvements to the existing path include replacing existing plate covers, filling in grooves on the concrete path, and establishing a regular maintenance program.

- Bicycle/Pedestrian Bridge Design/Construction (Long-Term)

The design and construction of the Estuary Crossing bridge project is placed as a medium-priority project primarily because of the time needed to further refine the project scope and address the concerns of the multiple agencies with jurisdiction in the project area. In addition, a construction project of this size will require multiple funding sources, and there is a need to secure funds for operations and maintenance.

WEST END WATER SHUTTLE – DESIGN/CONSTRUCTION/OPERATIONS
Project Number: N4
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.1.6.d, 4.1.8.d, 4.3.3.c, 4.3.6.d

This project includes design and construction of infrastructure to support a water shuttle service, as well as the provision of funding for ongoing shuttle operations. This has been identified as a medium priority project given the anticipated time frame for implementation. In addition, the project is expected to compete better for grant funding after construction of approved developments projects in the area – Alameda Landing as well as projects in Oakland – has been initiated. To the degree possible, the City should seek to share the cost of this project with other stakeholder jurisdictions and agencies, such as the City of Oakland and Caltrans.

FRUITVALE RAILROAD BRIDGE / MILLER-SWEENEY BRIDGE CORRIDOR IMPROVEMENTS
Project Number: N5
Facility Type: to be determined
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.3.3.c, 4.3.6.d

This project will improve access between the City of Alameda and Oakland's Fruitvale neighborhood, including the BART station. The Plan recommends the use of Fruitvale Railroad Bridge right-of-way for bicyclists and pedestrians as an interim measure, until the potential implementation of high-capacity transit service in this corridor, in accordance with the City's General Plan. As a long-term option, the City and Alameda County are seeking funding to replace both the railroad bridge and the adjacent Miller-Sweeney Bridge to address seismic issues and to provide a bridge to accommodate all transportation modes. This project also will improve the connection between the bridge and Bridgeside Shopping Center and to the Marina Drive/Fernside Boulevard area on the east side. The railroad bridge is owned by Army Corps of Engineers and maintained by the County. To facilitate the implementation of improvements in this corridor, the cities of Alameda and Oakland will need to closely collaborate to explore options on the bridge as well as access routes to the bridge on both sides of the estuary. In addition, to the degree possible, the City should seek to share the cost of this project with other stakeholder jurisdictions and agencies, such as the City of Oakland, Alameda County, and the Army Corps of Engineers.

PADEN SCHOOL BIKE PATH
Project Number: N6
Facility Type: Class I
Function: Shoreline Access
General Plan Policies supported: 4.3.3.c
This project would reconstruct an existing bike path in the area adjacent to Paden Elementary School and connecting to the shoreline. It is located on Alameda Unified School District property. A feasibility study for this project was completed in 2003 using Bay Trail grant funds.

ENCINAL HIGH SCHOOL SCHOOL BIKE PATH
Project Number: N7
Facility Type: Class I
Function: Shoreline Access
General Plan Policies supported: 4.3.3.c
This path would extend the existing Bay Trail by connecting the path in Alameda Park, along the shoreline, to the southern end of Third Street, next to Encinal High School. At the time the path is constructed, the segment of Third Street south of Central Avenue should be designated as a Class III bike route to provide connectivity to the bicycle facilities network. The proposed path location is on Alameda Unified School District property.

PARK STREET BRIDGE IMPROVEMENTS
Project Number: N8
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.3.3.c, 4.3.6.d
Bicyclists are currently permitted to dismount and walk their bicycles across the Park Street Bridge on the pathways adjacent to the travel lanes. To create an enhanced environment for bicyclists requires construction of a wider pathway, including a protective railing between bicyclists and motor vehicle traffic. The Plan recommends that the City continue to work with the City of Oakland and Alameda County to explore opportunities to enhance multimodal access, including bicycle access, in the bridge corridor as well as on the bridge structure itself as part of any future construction projects. The City has already been actively involved in the proposed redesign of the "Park Street Triangle" area north of the bridge and other regional projects in Oakland and along I880, and advocated for the inclusion of bicycle facilities to enhance connectivity between Alameda and Oakland bikeways. To facilitate the implementation of improvements in this corridor, the cities of Alameda and Oakland will need to closely collaborate to explore options on the bridge as well as access routes to the bridge on both sides of the estuary. In addition, to the degree possible, the City should seek to share the cost of this project with other stakeholder jurisdictions and agencies, such as the City of Oakland and Alameda County.

HIGH STREET BRIDGE IMPROVEMENTS
Project Number: N9
Function: Interjurisdictional Connectivity
General Plan Policies supported: 4.1.2.e, 4.3.3.c, 4.3.6.d

As with the Park Street Bridge, bicyclists are permitted to dismount and walk their bicycles on the pathways adjacent to the travel lanes. The Plan recommends that the City continue to work with the City of Oakland and Alameda County to explore opportunities to enhance bicycle access in the bridge corridor as well as on the bridge structure itself as part of any future construction projects. To facilitate the implementation of improvements in this corridor, the cities of Alameda and Oakland will need to closely collaborate to explore options on the bridge as well as access routes to the bridge on both sides of the estuary. In addition, to the degree possible, the City should seek to share the cost of this project with other stakeholder jurisdictions and agencies, such as the City of Oakland and Alameda County.

Development-Related Projects

There are a number of capital projects that will form critical links in Alameda's bikeway network that are anticipated to be constructed as part of new development or redevelopment projects. These projects are included in the Bicycle Plan but were not prioritized, since there is not currently sufficient demand for these facilities and/or the existing adjacent land uses do not allow for project implementation at this time.

TABLE 21
Facility Types and Estimated Length of Projects Associated with Development or Redevelopment

Project Number	Project	Project Limits	Facility Type	Est. Length
D1	Alameda Point Bay Trail	Perimeter of Alameda Point	Class I	6.25 mi.
D2	Cross Alameda Trail/ Bay Trail	Grand Street to Fruitvale Railroad Bridge	Class I	1.5 mi.
D3	Marina Village/Northern Waterfront Bay Trail	Mariner Square Drive to Grand Marina	Class I	1.5 mi.
D4	Alameda Landing/ Alameda Gateway Bay Trail	Main Street to Mariner Square Drive	Class I	1.1 mi.
D5	Ralph Appezzato Memorial Parkway	Main Street to Webster Street	Class II	4,250'
D6	Mitchell Avenue	Main Street to Mariner Square Loop	Class II	1.0 mi.
D7	5th Street	Wilver "Willie" Stargell Avenue to Mitchell Avenue	Class II	2,800'
D8	Wilver "Willie" Stargell Avenue	Main Street to Mariner Square Loop	Class II	3,850'
D9	Alameda Point Bike Lanes	Along major streets within Alameda Point development	Class II	To be determined
D10	Main Street	Ferry Terminal to Navy Way	Class II	2,400'
D11	Clement Avenue Extension	Sherman Street to Grand Street	Class II	3,150'
D12	Clement Avenue Extension	Broadway to Tilden Way	Class II	300'
D13	Mariner Square Drive Extension	Marina Village Parkway to Constitution Way	Class II	1,850'
D14	Oak Street to Alameda Towne Centre connection	Oak Street to Otis Drive and connection to Alameda Towne Centre	To be determined	150'-500'

Chapter IX
Funding and Implementation

Table 19 below lists the major sources of funding available for bicycle facilities. The program guidelines for each funding source provide additional detail regarding eligibility criteria and other program details that would determine if a particular funding source is appropriate for a particular project. In addition to seeking funding directly, the City of Alameda could potentially partner with other jurisdictions or agencies to secure funds for a particular project. This may be particularly useful for large capital projects that enhance access for travel to destinations outside Alameda.

TABLE 22
Potential Funding Sources for Bicycle Projects

Funding Source	Administering Agency	Description
Federal		
Community Development Block Grant (CDBG)	CA Department of Housing and Community Development	Available for low-income neighborhoods to improve land use and transportation infrastructure.
Congestion Mitigation Air Quality (CMAQ)	Caltrans	For projects that reduce criteria pollutant emissions from transportation-related sources.
Hazard Elimination Safety (HES)	Caltrans	HES provides funds to eliminate or reduce the number and severity of traffic collisions on public roads and highways.
Land and Water Conservation Fund (LWCF)	CA Department of Parks and Recreation	LWCF grants may be used for statewide outdoor recreational planning and for acquiring and developing recreational parks and facilities, especially in urban areas.
Recreational Trails Program (RTP)	Caltrans	RTP annually provides monies for recreational trails and trail-related projects totaling over $3 million for the state of California.
Safe Routes to School (SRTS – Federal)	Caltrans	The Federal Highway Administration apportions Federal-aid Highway monies annually to states for state Department of Transportations to administer. California received $11 million in fiscal year 2006 and $14.8 million in fiscal year 2007.

Funding Source	Administering Agency	Description
Transportation Enhancement Activities (TEA)	Caltrans	The TEA program funds transportation projects that help enhance the travel experience. The 12 eligible TEA categories include three that are bicycle-oriented: bicycle and pedestrian facilities, bicycle and pedestrian educational activities, and preservation of abandoned railway corridors for bicycle and pedestrian use.
State of California		
Bicycle Transportation Account (BTA)	Caltrans	BTA supports plans and projects that enhance bicycle commuting. Statewide funding is typically $5-7 million per year.
Community Based Transportation Planning (CBTP) Grants	Caltrans	CBTP monies are used mainly to fund planning activities for livable community projects such as affordable housing, sustainable developments, land use and transportation integration, transit-oriented developments, jobs/housing balance and expanded transportation choices.
Environmental Justice (EJ) Planning Grants	Caltrans	EJ planning monies are used to help engage low-income and minority communities in transportation projects early in the planning process to ensure equity and positive social, economic and environmental impacts occur. EJ monies total about $2 million annually.
Office of Traffic Safety (OTS)	Office of Traffic Safety	Pedestrian safety projects are eligible. No geographic or programmatic quotas exist and the grant awards are merit based.
Safe Routes to School (SR2S) State Program	Caltrans	SR2S funds engineering and education projects that improve safety to/from schools and that encourage school children to walk or bicycle to/from schools.
San Francisco Bay Area (Regional)		
Regional Surface Transportation Program (RSTP)		
Bay Trail Grant Program	Association of Bay Area Governments (ABAG)	Grants are available to complete the spine and spurs of the Bay Trail. Funding levels vary each year.
Bicycle Facility Program	Bay Area Air Quality Management District (BAAQMD)	Grants are available to fund the construction of Class I, Class II, or Class III bikeways, as well as bicycle parking. Funds are awarded on a first-com, first-served basis.

Funding Source	Administering Agency	Description
Climate Protection Grant Program	Bay Area Air Quality Management District (BAAQMD)	The goal of this program is to "achieve meaningful reductions in greenhouse gas emissions through implementation of long-term solutions throughout the region." The Youth Climate Grant category potentially could be used to fund activities under the City's Safe Routes to School program.
Environmental Enhancement and Mitigation Program (EEM)	CA Resources Agency	Projects must show how they mitigation the impacts of public transportation facilities. Funds are available for three types of projects: highway landscape and urban forestry, resource lands, and roadside recreational.
Regional Bicycle Program (RBPP)	Metropolitan Transportation Commission (MTC)	The funds originate from the federal Congestion Mitigation and Air Quality (CMAQ) program. Projects must be consistent with the Regional Bicycle Plan, and must result in a completed bikeway facility.
Safe Routes to Transit (SR2T)	TransForm/ East Bay Bicycle Coalition/ Metropolitan Transportation Commission	SR2T, which totals about $2 million annually, funds projects that improve bicycle and pedestrian access to regional transit and that reduce congestion on one or more Bay Area toll bridges. These funds originate from Regional Measure 2, which is the $1 increase in the bridge toll.
Traffic Engineering Technical Assistance Program (TETAP)	Metropolitan Transportation Commission (MTC)	Successful applicants receive technical assistance from consultants hired by the MTC. The maximum grant amount is $30,000. TETAP supports safety, mobility or system integration studies on arterials such as feasibility studies, before/after evaluations, conceptual designs and on-call services.
Transportation for Livable Communities (TLC)	Metropolitan Transportation Commission (MTC)	TLC funds focus on improving the vibrancy of core commercial areas, downtowns, transit corridors and neighborhoods, and is distributed as follows: – Regional capital program ($18 million annually) – County capital program ($9 million annually)
Alameda County		
Transportation Development Act (TDA) / Local Transportation Funds – Article 3	ACTC	TDA funds originate from one quarter cent of the statewide sales tax. Each year, two percent of the County's TDA funds can be designated for pedestrian and bicycle facilities. The City receives a formula-based allocation.

Funding Source	Administering Agency	Description
Transportation for Clean Air (TFCA) Program Manager Fund	ACTC	Funds are non-competitive, as the City is allocated funding each year based on a formula. Projects must meet emission reduction thresholds to be eligible. The Program Manager Fund makes up 40 percent of all TCFA funds.
Transportation Sales Tax – Measure B	ACTC	Measure B provides a one-half cent sales tax for transportation improvements through 2022. Five percent of these funds are dedicated for pedestrian and bicycle facilities and plans as follows: • Local pass through (75 percent) • Countywide discretionary (25 percent) The Streets and Roads portion of the City's Measure B allocation is flexible and can also be applied toward bicycle programs.
Local		
Business Assessment Districts	Business Assessment Districts	
Community Services District	Community Services District	Requires a neighborhood ballot to initiate this tax, which can be used to fund bike paths. Also known as a Maintenance Assessment District.
Exactions	Developers/ City of Alameda	The Planning Board and the City Council can require new land use developments or redevelopment projects to include bicycle facilities as well as dedication of open space for bike paths and path construction.
Donations	Depends on property ownership	Corporate or individual donations: sponsorships, merchandising and special events. An "adopt a trail" program is an example of a use of donated funds.
In-kind Services	Depends on property ownership	Donated labor and materials for facility construction or maintenance.
Parking In-lieu Fees	City of Alameda	Developers are required to provide a certain amount of parking depending on the development. In lieu of parking spaces, the City could require a developer to pay into other transportation services, which could include bicycle infrastructure.

Funding Source	Administering Agency	Description
Regional Transportation Mitigation Fees (TMF) / Local TMF	City of Alameda	The City charges builders a fee to offset the public costs required to accommodate new development with public transportation infrastructure. Regional TMF / Local TMF are generally used for roadway improvements; however, some projects include bicycle facilities.
Tax Increment Financing (TIF)	City of Alameda	TIFs apply to redevelopment areas. Bonds are issued based on expected tax increment monies that can be used for improved infrastructure, including bicycle facilities.
Transportation System Management (TSM) / Transportation Demand Management (TDM) Fees	City of Alameda or Designated Entity	The City could create a nexus with future development to fund the implementation of the Bicvcle Master Plan. The goal of TSM/TDM programs is to better manage the transportation system. Since new businesses create or modify circulation, they could be required to contribute to a TSM/TDM bank, which would help improve the City's overall transportation system.
Voluntary Easements	Depends on property ownership	Voluntary easements from adjacent property owners help make new bicycle facilities affordable for local governments.
Non-profit Organizations		
Health Foundations	Same as funding source	Focus on obesity prevention. Examples include California Wellness Foundation, Kaiser and California Endowment.
Rails to Trails Conservancy	Same as funding source	Provides technical assistance for trail projects, primarily those developed from current or former rail corridors.

Appendix A

Sections from the Alameda Municipal Code Related to Bicycling and Provision of Bicycle Facilities

CHAPTER XI - BICYCLES

11-1 DEFINITIONS.

As used in this chapter:

Bicycle shall mean any device upon which a person may ride, which is propelled by human power through a system of belts, chains, or gears having either two (2) or three (3) wheels (one (1) of which is at least twenty (20") inches in diameter, in tandem or tricycle arrangement) or having a frame size of at least fourteen (14") inches. The provisions of this chapter are applicable to motorized bicycles. (Ord. No. 535 N.S. § 7-311; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2 LICENSING AND REGISTRATION OF BICYCLES.

11-2.1 Required.

It shall be unlawful for any person to operate or use a bicycle in the City which has not been registered and licensed and equipped with a license as provided in this chapter, except as may be specifically herein exempted. (Ord. No. 535 N.S. § 7-312; Ord. No. 1665 N.S.)

11-2.2 Application.

Every person securing the required bicycle license in the City shall make application to the Fire Department upon authorized registration forms furnished by that department. No license shall be issued unless the bicycle to be licensed complies with the requirements of this chapter as to its safe mechanical condition. (Ord. No. 535 N.S. § 7-314; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.3 License Fee.

Every person securing the required bicycle license shall pay to the Fire Department a fee of two ($2.00) dollars payable at the time the bicycle is presented for licensing. (Ord. No. 535 N.S. § 7-315; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.4 Issuance.

Upon approval of the application, and payment of the license fee, the Fire Department shall issue a bicycle license. All licenses after January 1, 1979 shall not be valid without a renewal sticker. (Ord. No. 535 N.S. § 7-316; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.5 Bicycle License Renewal.

a. Bicycle licenses shall be renewed on January 1 of the third year following the year of registration or renewal.

b. Renewal of a license shall be indicated by a renewal sticker affixed parallel to and above or below the license. The renewal sticker is valid for three (3) years and shall expire on December 31 of the third year.

c. Every person applying for a bicycle license renewal shall pay to the Fire Department a fee of three ($3.00) dollars for three (3) years. (Ord. No. 535 N.S. § 7-318; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.6 Registration of Transfer.

a. Whenever any person sells or otherwise disposes of a bicycle, he/she shall endorse upon the registration certificate issued for such bicycle a written transfer of same, setting forth the name, address, telephone number of the transferee, date of transfer, and signature of the transferrer, and shall deliver the registration certificate, so endorsed, to the Fire Department within ten (10) days.

b. Any person who purchases or otherwise acquires possession of a bicycle shall, within ten (10) days of taking possession, apply for the transfer of license to his/her own name.

c. Every person applying for a transfer of license shall pay to the Fire Department a fee of one ($1.00) dollar. (Ord. No. 535 N.S. § 7-318; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.7 Notification of Change of Address; Duplicate License or Registration Form.

a. Whenever the owner of a bicycle changes his/her address, he/she shall within ten (10) days notify the Fire Department of the old and new address.

b. In the event that any bicycle license indicia or registration form issued pursuant to the provisions of this chapter is lost, stolen, or mutilated, the licensee of such bicycle shall immediately notify the Fire Department, and, within ten (10) days after such notification, shall apply to the Fire Department for a duplicate license indicia or registration form. The Fire Department shall issue to such licensee a replacement license indicia or registration form upon payment of the sum of one ($1.00) dollar. (Ord. No. 535 N.S. § 7-319; Ord. No. 1665 N.S.; Ord. No. 1945 N.S.)

11-2.8 Exception.

Any nonresident of the City may operate in the City any bicycle which is duly licensed and registered in another municipality, and equipped with such license, without obtaining an Alameda license, provided that such other municipality wherein the bicycle is licensed extends the same privilege to residents of the City. (Ord. No. 535 N.S. § 7-313; Ord. No. 1665 N.S.)

11-2.9 Impounding of Bicycle; Imposition of Fine.

The Fire Department shall have the right to impound and retain possession of any bicycle in violation of the provisions of this section, and may retain possession of such bicycle until the provision of this section are complied with. In addition, a fine may be imposed for any violation of this section pursuant to subsection 11-2.10. (Ord. No. 1945 N.S.)

11-2.10 Fines; Limitation.

No fine imposed for any violation of this section shall exceed five ($5.00) dollars. (Ord. No. 1945 N.S.)

11-3 MECHANICAL CONDITION AND EQUIPMENT OF BICYCLES.

11-3.1 Brakes.
Every bicycle operated in Alameda shall be equipped with a brake which will enable the operator to skid the front or rear tire(s) upon application of the brake on dry, level, clean pavement. (Ord. No. 535 N.S. § 7-321; Ord. No. 1665 N.S.)

11-3.2 Warning Devices.
Every bicycle shall be equipped with a buzzer, horn, or bell in good working order, capable of emitting sound audible for a distance of not less than one hundred (100') feet under normal conditions. (Ord. No. 535 N.S. § 7-322; Ord. No. 1665 N.S.)

11-3.3 Sirens and Whistles.
It shall be unlawful for any person riding a bicycle to emit any sound, vocally or mechanically, which resembles a siren or whistle. (Ord. No. 535 N.S. § 7-323; Ord. No. 1665 N.S.)

11-3.4 Handlebar Grips.
Every bicycle that is equipped with handlebar grips must have the grips securely attached to the handlebars so as to allow no slippage. (Ord. No. 535 N.S. § 7-323; Ord. No. 1665 N.S.)

11-3.5 Lights.
Every bicycle operated during any time from dusk until dawn, or at any other time when there is insufficient light to distinguish a person or vehicle on the streets or sidewalks, shall be equipped with a white light which shall be visible for a distance of at least three hundred (300') feet to the front of the bicycle. This bicycle shall also be equipped with a red reflector which shall be visible for a distance of at least three hundred (300') feet to the rear of the bicycle when directly in front of the lawful upper beams of headlamps on a motor vehicle. A red light visible for three hundred (300') feet to the rear of the bicycle may be used in addition to the red reflector. Arm or leg lights may be worn in lieu of other lights if such lights are of a type approved by the Chief of Police. (Ord. No. 535 N.S. § 7-325; Ord. No. 1665 N.S.)

11-4 OPERATION OF BICYCLES.

11-4.1 General.
Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a bicycle by this chapter, and with certain sections of the California Vehicle Code affecting the operations of a bicycle. Every driver shall be responsible for obeying each of these duties and it shall be unlawful for any such person to disobey them. (Ord. No. 535 N.S. § 7-331; Ord. No. 1665 N.S.)

11-4.2 Riding on Sidewalk.
Bicycles may be ridden on the sidewalk, except such sidewalks that pass directly in front of or adjacent to any stores, schools, or other buildings used for business purposes during the hours that such establishment is open for business.

a. Whenever any person is riding a bicycle upon a sidewalk, such person shall yield the right-of-way to any pedestrian and shall give audible signal before overtaking and passing such pedestrian.

b. It shall be unlawful for any person to ride a bicycle in any pedestrian crosswalk at a signal controlled intersection, adjacent to any school, or one which is under the control of the school crossing guard. At all other intersections the bicyclist shall exercise due caution before entering onto the roadway. (Ord. No. 535 N.S. § 7-332; Ord. No. 1665 N.S.; Ord. No. 1713 N.S.)

11-4.3 Riding on Bridges.
It shall be unlawful for any person to ride a bicycle in the traffic lanes of any bridge leading to or from the City. Bicycles must be walked across these bridges in the pedestrian walkways. Provided, however, if there is a barrier at least as high as the seat of the bicycle, between the walkway and the traffic lanes, the bicycle may be ridden across the walkway. (Ord. No. 535 N.S. § 7-333; Ord. No. 1665 N.S.)

11-4.4 Lane of Travel; Right Side of Roadway.
a. Any person operating a bicycle upon any street of Alameda at a speed less than the normal speed of traffic moving in the same direction at such time, shall ride as close as practicable to the right hand curb or edge of the roadway except under any of the following situations:

1. When overtaking and passing another bicycle or vehicle proceeding in the same direction.

2. When preparing for a left turn at an intersection or into a private road or driveway.

3. When reasonably necessary to avoid conditions (including but not limited to, fixed or moving object, vehicles, bicycles, pedestrians, animals, surface hazards, or substandard width lanes) that make it unsafe to continue along the right hand curb or edge.

b. Bicycle Path. Wherever a usable path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such path and shall not use the roadway.

c. Bicycle Lane. Wherever a bicycle lane has been established on a roadway, any person operating a bicycle upon the roadway at a speed less than the normal speed of traffic moving in the same direction shall ride within the bicycle lane, except that such person may move out of the lane under any of the following situations:

1. When overtaking and passing another bicycle, vehicle, or pedestrian within the lane or about to enter the lane if such overtaking and passing cannot be done safely within the lane.

2. When preparing for a left turn at an intersection or into a private road or driveway.

3. When reasonably necessary to leave the bicycle lane to avoid debris or other hazardous conditions. (Ord. No. 535 N.S. § 7-334; Ord. No. 1665 N.S.; Ord. No. 1859 N.S.)

11-4.5 Riding in a Group.
Persons riding or operating bicycles in Alameda shall not ride more than two (2) abreast, except on paths or parts of a roadway set aside for the exclusive use of bicycles;

provided, further, that persons riding bicycles on the sidewalk shall do so in single file. (Ord. No. 535 N.S. § 7-335; Ord. No. 1665 N.S.)

11-4.6 Clinging to Moving Vehicles.
No person riding a bicycle in the City shall cling or attach himself or his bicycle to any other moving vehicle, including trains, or person in any other vehicles. (Ord. No. 535 N.S. § 7-336; Ord. No. 1665 N.S.)

11-4.7 Passengers.
No person riding a bicycle in the City shall carry another person on the bicycle, unless such person or passenger is seated upon an individual seat, or, unless there is adequate room on the bicycle seat to safely afford space for both riders. (Ord. No. 535 N.S. § 7-337; Ord. No. 1665 N.S.)

11-4.8 Towing.
No person riding or operating a bicycle in the City shall tow any other vehicle or person, except that bicycle trailers used for the delivery of newspapers, magazines or merchandise may be towed when being used in such delivery service. (Ord. No. 535 N.S. § 7-338; Ord. No. 1665 N.S.)

11-4.9 Carrying Articles.
No person operating a bicycle shall carry any package, bundle or article which prevents the operator from keeping at least one (1) hand upon the handlebars. (Ord. No. 535 N.S. § 7-339; Ord. No. 1665 N.S.)

11-4.10 Racing.
No person riding or operating a bicycle upon a public highway or street shall participate in any race, speed or endurance contest. (Ord. No. 535 N.S. § 7-3310; Ord. No. 1665 N.S.)

11-4.11 Trick Riding.
No person riding or operating a bicycle shall perform or attempt to perform any acrobatic, unusual or stunt riding upon any public highway or street in the City. (Ord. No. 535 N.S. § 7-3311; Ord. No. 1665 N.S.)

11-4.12 Traffic Controls.
The Public Works Director shall cause to be installed and maintained such traffic control markings and devices that are necessary to the efficient and safe flow of bicyclists. Such controls may include bike detector loops, bike signage, lane markings, bike controls, and shall be in conformance with adopted City Policies such as the Bike Plan. (Ord. No. 535 N.S. § 7-3312; Ord. No. 1665 N.S.; Ord. No. 2881 N.S. § 16)

11-4.13 Parking.
a. No person shall park any bicycle against windows or on the main traveled portion of the sidewalk, nor in such manner as to constitute a hazard to pedestrians, traffic or property.

b. Bicycles must be parked in approved racks or such places as designated by the Public Works Director. If there is no bicycle rack or other facilities intended to be used for the parking of bicycles in the vicinity, bicycles may be parked on the sidewalks in an upright position parallel to and within twenty-four (24”) inches of the curb.

c. Any merchant or person desiring to construct and erect bicycle racks may do so after obtaining approval from the Public Works Director as to the type or rack and place where such merchant or person intends to erect such rack.

d. The Planning and Building Department Director shall cause to be installed and maintained bicycle racks at businesses and developments throughout the City of a type and quantity that conforms to adopted City policies such as the Bike Plan.

e. The Building Official shall cause to be installed and operated, bicycle parking at events, in a manner and quantity that conforms to adopted City policies such as the Bike Plan. (Ord. No. 535 N.S. § 7-3313; Ord. No. 1665 N.S.; Ord. No. 2881 N.S. § 16)

11-4.14 Unlocked Bicycles.
It shall be unlawful for any person to leave an unlocked bicycle unattended in any public place. For purposes of this section, a bicycle shall be deemed locked when it is secured or immobilized by chain and lock, lock or other device which restricts or prevents movement of the wheels, or when the bicycle is attached to a structure by chain and lock, lock or other device. (Ord. No. 1717 N.S.)

11-4.15 Speed.
No person shall ride or operate a bicycle faster than is reasonable and proper, and every bicycle shall be operated within reasonable regard to the safety of the operator and other persons upon the streets, sidewalks and public highways of the City. (Ord. No. 535 N.S. § 7-3314; Ord. No. 1665 N.S.)

11-4.16 Parks, Playgrounds and Schools.*
No person shall ride or operate a bicycle upon any playground, park or school ground, where children are playing, without permission of the person having supervision thereof; provided, further, that if bicycle paths are available in such an area the bicyclist may ride a bicycle upon the path. (Ord. No. 535 N.S. § 7-3315; Ord. No. 1665 N.S.)
* Editor's Note: For additional provisions regarding parks and playgrounds, see Chapter XV of this Code.

11-4.17 Right Turn.
Every person riding or operating a bicycle intending to turn to the right at an intersection or in an alley or driveway, shall approach the turning point in the line of traffic nearest the right hand curb of the street. (Ord. No. 535 N.S. § 7-3316; Ord. No. 1665 N.S.)

11-4.18 Left Turn.
Every person riding or operating a bicycle intending to turn left at an intersection or to enter an alley or driveway, shall approach the point of turning in the line of traffic nearest to the center of the roadway. The operator of a bicycle in turning left at an intersection shall pass to the right of the center of the intersection before turning, unless otherwise directed by markers, buttons or signs. However, if the intersection is controlled by signal lights the left turn shall be completed by remaining on the right side of the roadway and proceeding to ride the bicycle to the far right corner where the rider will wait for the signal light to change. At the time the light changes the person on the bicycle will proceed in their new direction remaining as close to the right curb as possible. (Ord. No. 535 N.S. § 7-3317; Ord. No. 1665 N.S.)

11-4.19 U-Turns.
No bicycle shall be turned in any business district so as to proceed in the opposite direction, except at intersections where the turn will be completed to the far right side of the roadway.
a. No bicycle operated in a residence district shall be turned so as to proceed in the opposite direction when any other vehicle is approaching from either direction if such movement would create a hazard to either the operator of the bicycle or the vehicle. (Ord. No. 535 N.S. § 7-3318; Ord. No. 1665 N.S.)

11-4.20 Crossings.
The operator of a bicycle on leaving any alley, driveway, bicycle path or bicycle lane, when his view of either the sidewalk or street area is obstructed, shall stop such bicycle immediately prior to riding upon such sidewalk or street area. (Ord. No. 535 N.S. § 7-3319; Ord. No. 1665 N.S.; Ord. No. 2292 N.S.)

11-4.21 Turn Against Red Light.
A right hand turn may be made at an intersection by the operator of any bicycle against a red traffic signal unless otherwise posted, provided that it is safe to begin and complete such a maneuver. (Ord. No. 535 N.S. § 7-3320; Ord. No. 1665 N.S.)

11-4.22 Passing.
Every person riding a bicycle may pass to the left when passing vehicles going in the same direction only when such passing maneuver can be completed safely. (Ord. No. 535 N.S. § 7-3321; Ord. No. 1665 N.S.)

11-4.23 Hand Signals.
No person shall turn a bicycle or stop a bicycle which he is riding or operating unless such movement can be made with safety, and then only after giving an appropriate signal during the last fifty (50') feet traveled by the bicycle before turning or stopping. (Ord. No. 535 N.S. § 7-3322; Ord. No. 1665 N.S.)

11-4.24 Methods of Giving Signals.
a. *Left Turn*. Every person signaling a left turn shall do so by extending his left hand and arm horizontally beyond the side of the bicycle.
b. *Right Turn*. Every person signaling a right turn shall do so by extending his left hand and arm upward beyond the side of the bicycle. (Ord. No. 535 N.S. § 7-3323; Ord. No. 1665 N.S.)

11-4.25 Accidents.
The operator of any bicycle involved in an accident shall take reasonable steps to ascertain whether or not anyone was injured, and shall give his name, address and the license number of his bicycle to the person with whom he was in collision; and he shall obtain the same information from the other person. It shall be the duty of the bicycle operator to make a written report of any accident resulting in death or injury, to the Police Department within twenty-four (24) hours of such accident. (Ord. No. 535 N.S. § 7-3324; Ord. No. 1665 N.S.)

11-4.26 No Motor Vehicles in Bicycle Lane.
Whenever a bicycle lane has been established on a roadway, any person operating a motor vehicle in such roadway shall not drive within this bicycle lane except to park

where parking is permitted, to enter or leave the roadway, or prepare for a turn. (Ord. No. 1859 N.S.)

11-4.27 Operation of Bicycle; Bicycle Lane.
No person operating a bicycle shall leave a bicycle lane until the movement can be made with reasonable safety and then only after giving an appropriate signal. (Ord. No. 1859 N.S.)

11-6 BICYCLE RENTAL AGENCIES.
11-6.1 License Required.
All persons engaged in operating a bicycle rental agency for the purpose of renting or lending bicycles to patrons shall first obtain a license for each bicycle so used by paying therefore the regular license fee. Licenses thus obtained by bicycle rental agencies shall not be transferred from one (1) bicycle to another. (Ord. No. 535 N.S. § 7-351; Ord. No. 1665 N.S.)

11-7 SERIAL NUMBERS.
a. No person shall willfully remove, destroy, mutilate, or otherwise alter the manufacturer's serial number or the Alameda serial number, if any, on any bicycle frame, nor shall any person remove, destroy, mutilate or otherwise alter any license if valid.
b. No person shall buy, sell, receive, dispose of or conceal any bicycle or bicycle equipment from which the manufacturer's name plate, serial number or any other distinguishing mark has been removed, defaced, covered, altered or destroyed.
c. If the serial number of any bicycle is obliterated or defaced, and the possessor has satisfactory proof of ownership, the Fire Department is hereby authorized to place an Alameda Police serial number thereon. (Ord. No. 535 N.S. §§ 7-352--7-354; Ord. No. 1665 N.S.)

11-8 ABANDONED AND UNCLAIMED BICYCLES.
11-8.1 Public Auction.
All abandoned bicycles and unidentified bicycles remaining in the hands of the Chief of Police may, at the end of three (3) months, be sold at public auction or retained for public use in the manner provided for in Section 2-63 of this Code for the disposition and sale of other lost and unclaimed property. (Ord. No. 535 N.S. § 7-355; Ord. No. 1665-N.S.; Ord. No. 2633 N.S. § 7)

11-8.2 Restricted Auction.
Notwithstanding the preceding subsection or any other provision of this Code, the City Manager may sell not more than fifty (50%) percent of all such abandoned and unclaimed bicycles to the Alameda Junior Chamber of Commerce for the sum of one ($1.00) dollar, providing the organization agrees (a) to resell the bicycles at auctions in which the bidding and sale is limited and restricted to persons between the ages of nine (9) and seventeen (17) years, and (b) to remit to the City one-half (1/2) of the total proceeds realized from each such auction without deduction for any costs or expense.
The City Manager may adopt such rules and regulations as he may deem appropriate to carry out the foregoing provisions. (Ord. No. 535 N.S. § 7-356; Ord. No. 1665 N.S.)

11-9 MISCELLANEOUS PROVISIONS.

11-9.1 Knowingly Permit Violation Prohibited.

The parent of any child and the guardian of any ward shall not authorize or knowingly permit any such child or ward to violate any of the provisions of this chapter. (Ord. No. 535 N.S. § 7-361; Ord. No. 1665 N.S.)

11-9.2 Bicycle Court.

The Chief of Police shall have the authority to organize a bicycle citation hearing, called Bicycle Court. Where this chapter has been violated by juveniles under the age of eighteen (18) years, and in lieu of other action taken by the City, such violators may be cited into Bicycle Court. They will be arraigned, allowed to plea, and will be judged in the Court. If found guilty of the violation they may be given such sentence as the Chief of Police may approve. (Ord. No. 535 N.S. § 7-362; Ord. No. 1665 N.S.)

12-13.11 Parking Meters and Parking Meter Standards Not to be Used for Certain Purposes.

It shall be unlawful for any person to attach anything to or allow a bicycle, newsrack or any other article or thing to lean against a parking meter or a parking meter standard. (Ord. No. 1202 N.S.)

23-1.3 Riding of Bicycles and Skateboards in Parks, Etc.

It shall be unlawful when and where posted for any person to operate or ride a bicycle, or skateboard, propelled wholly or in part by muscular power, in or upon any public park, playground or school property in the City.

The use and operation of skateboards, roller skates, and in-line skates shall be authorized at the Skate Park, at Alameda Point. All persons using, operating, or riding a skateboard, roller skates, or in-line skates at the Skate Park, at Alameda Point, shall wear a helmet, elbow pads, and knee pads at all times. (Ord. No. 743 N.S.; Ord. No. 2439 N.S. § 1; Ord. No. 2798 N.S. § 1)

30-4.13 PD, Planned Development Combining District.

h. *Streets and Other Transportation Facilities.*

2. The Planning Board may require the dedication of any walkway, bicycle path, or other transportation facility within a Planned Development if such dedication appears to be in the public interest.

30-10.7 Additional Use Conditions.

The Planning Board shall require, in addition to the matters reviewed under subsection 30-21.3 of this article, as conditions of approval, the following:

a. Adequate lounge areas, if appropriate, within the same premises conveniently located and providing informal seating, tables and chairs, or a counter, with or without food service;

b. Bicycle parking racks adjacent and convenient to the entrance. (Ord. No. 2150 N.S.)

CHAPTER XXX DEVELOPMENT REGULATIONS

30-7 OFF-STREET PARKING AND LOADING SPACE REGULATIONS.

30-7.13 Reductions in Parking Requirements.

c. Payment to the City of in lieu fees, equal to the current estimated per square foot value of the land, multiplied by the difference between the number of required and provided parking spaces, multiplied by two hundred fifty (250). In lieu fees shall only be allowed where the City can identify appropriate uses for the funds reasonably related to the project. Appropriate uses shall include but not be limited to acquisition of land for parking, construction of new parking facilities, improvements to existing off-street or on-street parking facilities including landscaping, installation of bicycle lanes and paths, and installation of bicycle racks and lockers. Funds raised by in lieu payments shall not be used for routine maintenance. (Ord. No. 535 N.S. § 11-14Cl2; Ord. No. 1277 N.S.; Ord. No. 2375 N.S.)

30-7.15 Bicycle, Motorcycle and Pedestrian Facilities.

a. Secure bicycle racks and/or storage lockers shall be provided wherever parking is required, at the rate of one (1) space for every ten (10) spaces.

b. Pedestrian walkways which cross nonresidential parking or driveway areas shall be clearly marked through the use of enhanced paving materials such as brick, baumanite, or interlocking pavers.

c. Parking lots shall have substantially separate pedestrian and automobile circulation systems, to the maximum extent feasible, as determined through design review. (Ord. No. 535 N.S. § 11-14C13; Ord. No. 1277 N.S.; Ord. No. 2375 N.S.)

30-85 IMPROVEMENTS

30-85.1 Installation.

a. The subdivider shall install at his own expense, or cause to be installed, and dedicate if applicable, the following improvements within the proposed division of land in accordance with the recommendation of the Planning Board or the Standard Subdivision Improvement Specifications of the City of Alameda:

12. Where the application contains two hundred (200) or more parcels or units, such bicycle paths as the Planning Board finds necessary.

Appendix B

CITY OF ALAMEDA
Monitored Bicycle Parking Requirements for Event Permit Application Conditions (Events Greater Than 100 Participants)

1-Organizers should reserve space for bike parking commensurate with at least 5% of the total expected crowd. Expect a greater need for bicycle parking (10%) at any event located on Recreation and Park property.

2-In parking bicycles, an average length of 6 feet and width of 1 3/4 feet should be reserved for a single bike.

3-Bicycle parking should be within sight of a regular entrance to the event (maximum of a one block radius). This can include car garages, schoolyards, parking lots, or on-street parking.

4-Valet parkers must handle the parking and return of bicycles. Bicycles should be returned upon receiving a claim check to ensure the same bicycles are returned that were left. Valet parkers should record the number of bicycles parked at the event and provide that number to the event sponsor in order to estimate the amount of space needed for the following year's event.

5-Bicycle parking should be monitored at all times by someone approved by the event sponsor.

6-Hours of operation of the secured attended bicycle parking must be at least the same hours as the event.

7-The sponsor shall be financially responsible for the secured attended bicycle parking in the event that bicycles are damaged or stolen.

8-Bicycle parking information must be provided whenever any kind of transportation or directional information is advertised for the event, in the same format and with equal amount of space. All events must indicate the location of the secured attended parking facilities and all event personnel must be aware of this location.

9-Should any unique circumstances arise in relation to the bicycle parking for a particular event, the applicant should contact the Public Works Department of the City of Alameda at (510) 749-5940.

Appendix C

Bicycle-Related Policies from the City of Alameda General Plan Transportation Element

Policy #	Goal, Objective, or Policy
4.1 Circulation Goal	
Objective 4.1.1: Provide for the safe and efficient movement of people, goods and services.	
4.1.1.a	Maintain a consistent multimodal classification system of streets throughout the City that will be the basis for identifying vehicle commuter routes, transit routes, bike lanes, as well as corridors for other modes of transportation.
4.1.1.d	Provide a network of facilities to allow for the safe conveyance of bicycle traffic on all streets and in all sections of the city.
4.1.1.m	Develop a set of design criteria for safe passage of transit users, bicyclists, pedestrians, and people with disabilities through or around construction sites.
4.1.1.n	Develop criteria for prioritizing specific transportation projects or types of projects to make the most effective use of resources.
Objective 4.1.2: Protect and enhance the service level of the transportation system.	
4.1.2.a	Develop multimodal level of service (LOS) standards that development will be required to maintain by encouraging the use of non-automotive modes.
4.1.2.b	Monitor the multimodal level of service at major intersections to identify priorities for improvement.
4.1.2.e	Work with regional, state, and federal agencies to develop plans for design, phasing, funding, and construction of facilities to enhance multimodal cross-estuary travel, such as increased access to Interstate 880 (bridge, tunnel or other vehicle connection) bike/pedestrian shuttles or high occupancy vehicle-only crossing (e.g. transit or carpool lane) to Oakland.
Objective 4.1.3: Preserve mobility for emergency response vehicles and maintain emergency access to people and property.	
4.1.3.c	Develop a network of emergency response routes, balancing emergency service needs with vehicular, pedestrian and bicycle safety consistent with the adopted street classification system.
Objective 4.1.6: Increase the efficiency of the existing transportation system by emphasizing Transportation System Management (TSM) strategies and Transportation Demand Management (TDM) techniques.	
4.1.6.d	Minimize the cross-island portion of regional vehicular trips by providing alternative connections to Oakland, such as Water Taxis, shuttles, and a Bicycle Pedestrian Bridge and by encouraging Transportation Systems Management (TSM) and Transportation Demand Management (TDM) techniques.

Policy #	Goal, Objective, or Policy

Objective 4.1.7: Identify facilities, corridors, mode transfer points, and rights-of-way needed to enhance the viability of non-automobile transportation. Meet long-term mobility needs in order to minimize the need for increased cross-island roadway capacity.

4.1.7.a	Identify and address impediments to systemwide mobility.
4.1.7.b	Identify major activity centers that can function as mode transfer points.
4.1.7.c	Work with retail development to set aside existing parking areas as well as develop and promote mode transfer points, such as park-and-ride lots, to enhance the use of alternative modes of transportation and to assist the development of an intermodal transportation system.
4.1.7.d	Develop strategies to preserve and identify required rights-of-way. 1. Pursue opportunities to utilize the corridor of the former Alameda Belt Line railroad for transit, bicycle, and pedestrian transportation.
4.1.8.d	Study options for an estuary crossing in Alameda's West End for bicyclists, pedestrians and transit.

4.2 Livability Goal

Objective 4.2.3: Plan, develop and implement a transportation system that protects and enhances air and water quality, protects and enhances views and access to the water, and minimizes noise impacts on residential areas.

4.2.3.d	Support and prioritize trip reduction strategies that maximize air quality benefits and reduce greenhouse gas emissions.
	2. Encourage shift of trips to alternative transportation modes. This includes short trips, as these will have a disproportionate impact on air quality.

Objective 4.2.4: Develop a Transportation plan based on existing and projected land uses and plans. Encourage land use decisions that facilitate implementation of this transportation system.

4.2.4.a	Encourage development patterns and land uses that promote the use of alternate modes and reduce the rate of growth in region wide vehicle miles traveled.
4.2.4.b	Integrate planning for Environmentally Friendly Modes, including transit, bicycling and walking, into the City's development review process.
4.2.4.c	Encourage mixed-use development that utilizes non-single occupancy vehicle transportation modes.

4.3 Transportation Choice Goal

Objective 4.3.1: Develop programs and infrastructure to encourage the use of high occupancy vehicles (HOVs), such as buses, ferries, vans and carpools.

4.3.1.d	Encourage and support efforts to provide information to use environmentally friendly transportation modes.

Policy #	Goal, Objective, or Policy
4.3.1.e	Provide amenities or support programs to make using alternative modes a more attractive option.
4.3.1.g	Establish targets for increasing mode share of non-SOV transportation modes 1. Increase daily non-SOV mode share (transit, walking, bicycling) by 10 percentage points by 2015. 2. Increase the share of children who walk or bicycle to school by 10 percentage points by 2015.

Objective 4.3.3: Promote and encourage bicycling as a mode of transportation.

4.3.3.a	Maintain and implement the Bicycle Master Plan with regard to physical system improvements (especially the identified priority projects), as well as programs and policies relating to encouragement, education and enforcement.
4.3.3.b	Include improvements to bike facilities as part of City transportation improvement projects (streets, bridges, etc.).
4.3.3.c	Identify gaps and deficiencies in the City's existing bike network and develop strategies to rectify them.

Objective 4.3.5: Assess the impacts on all transportation modes (including auto, transit, bike and pedestrian) when considering mobility and transportation improvements.

Objective 4.3.6: Coordinate and integrate the planning and development of transportation system facilities to meet the needs of users of all transportation modes.

4.3.6.a	Review and update multimodal design standards for lane widths, parking, planting area, sidewalks, and bicycle lanes to guide construction, maintenance, and redevelopment of transportation facilities consistent with the street classification system.
4.3.6.b	Identify areas of conflict and of compatibility between modes (e.g. walking, bicycling, transit, automobiles, and people with disabilities). Pursue strategies to reduce or eliminate conflicts, increase accessibility, and foster multimodal compatibility.
4.3.6.d	Coordinate efforts with regional funding agencies in order to address Alameda's regional transportation issues.

4.4 Implementation Goal

Objective 4.4.1: Require developers to reserve and construct (if nexus exists) rights of way, transportation corridors and dedicated transportation facilities through the development process and other means.

3. Develop shoreline access design guidelines.

Objective 4.4.2: Ensure that new development implement approved transportation plans, including the goals, objectives, and policies of the Transportation Element of the General Plan and provides the transportation improvements needed to accommodate that development and cumulative development.

Policy #	Goal, Objective, or Policy
4.4.2.a	All EIRs must include analysis of the effects of the project on the city's transit, pedestrian and bicycling environment, including adjacent neighborhoods and the overall City network.
4.4.2.b	EIRs will not propose mitigations that significantly degrade the bicycle and pedestrian environment which are bellwethers for quality of life issues and staff should identify "Levels of Service" or other such measurements to ensure that the pedestrian and bicycling environment will not be significantly degraded as development takes place.
4.4.2.c	Transportation related mitigations for future development should first implement TDM measures with appropriate regular monitoring; transit, bicycle and pedestrian capital projects; and more efficient use of existing infrastructure such as traffic signal re-timing in order to reduce the negative environmental effects of development, rather than attempting to accommodate them. Should appropriate regular monitoring indicate that these mitigations are unable to provide the predicted peak-hour vehicle trip reductions, additional TDM measures, development specific traffic caps, or mitigations through physical improvements of streets and intersections, consistent with policy 4.4.2.a and policy 4.4.2.b, may be implemented.
4.4.2.d	After the implementation of quantifiable/verifiable TDM measures (verified through appropriate regular monitoring), and mitigation measures consistent with 4.4.2.f and identification of how multimodal infrastructure relates to congestion concerns, some congestion may be identified in an EIR process as not possible to mitigate. This unmitigated congestion should be evaluated and disclosed (including intersection delay length of time) during the EIR process, and acknowledged as a by-product of the development and accepted with the on going funding of TDM measures.

Objective 4.4.5:Develop service level standards for the operation and maintenance of public works infrastructure, including streets, bridges, pedestrian ways, bicycle facilities and intersections.

Objective 4.4.8:Work with AUSD to include transportation choice awareness in education in the schools.

Appendix D

Public Input Questionnaire

The City of Alameda is developing a **Pedestrian Plan** and will be updating its **Bicycle Plan** to improve walking and bicycling access in the City of Alameda. This survey will help the City better understand walking and bicycling issues. Please return the survey no later than Friday, July 13, 2007.

Return to:

City of Alameda Public Works Dept.
950 West Mall Square, Room 110
Alameda, CA 94501-7552

Fax: 510-749-5867

Walking Issues

Identify the top two walking concerns: (Check all that apply)

1. Street name: _____ Cross streets: _____

__ Sidewalk __ Street crossing __ Curb ramp __ Street lighting __ Traffic congestion

Other: _____

Comments:

2. Street name: _____ Cross streets: _____

__ Sidewalk __ Street crossing __ Curb ramp __ Street lighting __ Traffic congestion

Other: _____

Comments:

Identify any off-street path issues on your walking routes: (Check all that apply)

Path name: _____ End points: _____

__ Width __ Surface __ Signage __ Curb ramp __ Path lighting __ Street crossing

Other: _____

Comments:

What is the purpose of your walking trips? (Check all that apply)

__ Personal/Family business __ Social/Recreational __ School/Church/Civic __ Work

How many minutes does the walking part of your trips take you? (Minutes – one way)

__ Personal/Family business __ Social/Recreational __ School/Church/Civic __ Work

What improvements would encourage you to walk more often? (Check all that apply)

__ Curb ramps / sidewalk repairs
__ Intersection safety
__ Midblock crossing enhancements
__ Multi-use path access
__ Walkway (between homes) improvements
__ Pedestrian districts / corridors
__ Safe routes to school
__ Safe routes to transit
__ Island access
__ Other _____

Bicycling Issues

Identify the top two major on-street bicycling concerns: (Check all that apply)

1. Street name: _____ Cross streets: _____

__ Congestion __ Street crossing __ No space to ride __ Street lighting __ Signal detection

Other: _____

Comments:

2. Street name: _____ Cross streets: _____

__ Congestion __ Street crossing __ No space to ride __ Street lighting __ Signal detection

Other: _____

Comments:

Identify any pavement surface issues on your bicycling routes: (Check all that apply)

Street name: _____ Cross streets: _____

__ Debris __ Potholes/cracks __ Railroad tracks __ Drainage __ Slippery

Other: _____

Comments:

Identify any off-street path issues on your bicycling routes: (Check all that apply)

Path name: _____ End points: _____

__ Width __ Surface __ Signage __ Curb ramp __ Path lighting __ Street crossing

Other: _____

Comments: _____

Identify any bicycle parking issues: (Check all that apply)

1. Street name: _____ Cross streets: _____

__ School site __ Bus stop __ Shopping __ Recreation __ Work site

Other: _____

Comments: _____

2. Street name: _____ Cross streets: _____

__ School site __ Bus stop __ Shopping __ Recreation __ Work site

Other: _____

Comments: _____

What is the purpose of your bicycling trips? (Check all that apply)

__ Personal/Family business __ Social/Recreational __ School/Church/Civic __ Work

How many minutes does the bicycling part of your trips take you? (Minutes – one way)

__ Personal/Family business __ Social/Recreational __ School/Church/Civic __ Work

What improvements would encourage you to bicycle more often? (Check all that apply)

__ Bicycle signal detection
__ Intersection safety
__ Bicycle parking
__ Multi-use path access
__ Walkway (between homes) improvements
__ On-street bicycle lane additions
__ Safe routes to school
__ Safe routes to transit
__ Island access
__ Other _____

General Information

Age: ___ Sex: ___ Female ___ Male Own car/truck: ___ Yes ___ No

Add your Name to the Mailing List (optional)

___ Pedestrian Plan (in progress!) ___ Bicycle Plan Update (coming soon!)

Name: _____ Email: _____

Address: _____ City/Zip: _____

Return Address:

_____

_____

_____

stamp

City of Alameda Public Works Department
950 West Mall Square, Room 110
Alameda, CA 94501-7552

Attn: City of Alameda Pedestrian and Bicyclist Public Input Survey

Appendix E

Summary of Staff Analysis Regarding Elimination or Modification of Proposed Projects

There were some projects that were proposed for consideration through the outreach component of the Bicycle Master Plan Update, including some of which were recommended in the 1999 Bicycle Master Plan. While some of the projects described below may have scored sufficiently high in the project prioritization to warrant inclusion in the Plan, they were either modified or eliminated based on other considerations, such as proximity to a parallel facility insufficient public right of way, or infeasibility of removing on-street parking. A description of the proposed projects and an explanation for the staff recommendations are provided below.

Otis Drive Bike Lanes from Westline Drive to Willow Street

Existing conditions: Otis Drive is 65 feet wide, with four travel lanes and on-street parking on both sides of the street.

Proposed project: Bicycle lanes and the elimination of a travel lane were proposed for both Otis Drive and the parallel Shoreline Drive

Staff analysis and recommendation: Staff found that while the elimination of a travel lane on one of these streets still provided sufficient vehicle capacity in this corridor, the elimination of a lane on both streets would result in unacceptable levels of traffic congestion in the area. Staff recommends improvements in the Shoreline Drive corridor (bike lanes in the short term and a bi-directional bike path in the long-term) over the Otis Drive bicycle lanes for the following reasons: 1) the Shoreline Drive project was ranked higher through the project prioritization process; 2) the existing path on the south side of Shoreline Drive is not wide enough to accommodate the heavy use it currently receives by both bicyclists and pedestrians; the addition of bike lanes, or a new or enhanced bike path, would divert some of the bicyclists from the existing path; and 3) removal of a travel lane on Shoreline Drive to accommodate a new or enhanced bikeway would facilitate pedestrian crossings of the street, a need which was identified in the City's Pedestrian Plan.

Oak Street Bike Lanes from Powell Street to Blanding Avenue

Existing conditions: Oak Street ranges from 30 to 36 feet wide, with two travel lanes. The narrower sections have on-street parking on one side of the streets, while the wider sections have on-street parking on both sides of the street.

Proposed project: The 1999 Alameda Bicycle Master Plan recommended evaluating the feasibility of installing bike lanes on portions of Oak Street.

Staff analysis and recommendation: When the Alameda Theater was constructed, it was determined that on-street parking along Oak Street was needed in the vicinity, so the portion of Oak Street from Encinal Avenue to Lincoln Avenue was implemented as a

Class III bike route. Given the heavy usage of the existing on-street parking and the Civic Center parking structure, staff recommends that the on-street parking and the Class III designation be maintained in this section; this segment should be reconsidered for bike lanes if it is determined that the on-street parking is no longer needed.

Staff also recommends a Class III bike route for the segment north of Lincoln Avenue, which is primarily residential and industrial. Between Lincoln Avenue and Clement Avenue the street is only 30 feet wide, so on-street parking would have to be removed on both sides of the street to accommodate bike lanes; north of Clement Avenue, the street is 36 feet wide, so bike lanes would require removal of on-street parking on one side of the street. If it is determined that on-street parking can be removed along this segment, the installation of bike lanes should be considered at that time. To enhance bikeway connectivity from the northern terminus of Oak Street, a bike path is recommended to connect the northern end of Oak Street to the Bay Trail.

Due to the residential land uses and low traffic volumes along Oak Street south of Encinal Avenue, staff recommends Class III bike routes to avoid impacts to the on-street parking supply.

Blanding Avenue Bike Lanes from Oak Street to Tilden Way

Existing conditions: Between Oak Street and Park Street, Blanding Avenue is 42 feet wide, with two travel lanes and on-street parking on both sides of the street. From Park Street to Tilden Way, there are also two travel lanes and on-street parking, but the street is 48 feet wide.

Proposed project: The 1999 Bicycle Master Plan recommended that bike lanes be implemented along the entire length of Blanding Avenue.

Staff analysis and recommendation: The installation of bike lanes on Blanding Avenue from Oak Street to Park Street would require the acquisition of additional right of way or elimination of on-street parking on one side of the street. Given that this segment is in the Park Street business district with well-established commercial uses, there is a high demand for on-street parking and replacement of the parking lane with a bicycle lane is not feasible. Similarly since the area is well developed, acquisition of additional right of way would not be possible for bike lanes.

East of Park Street, there is sufficient street width to accommodate bike lanes on Blanding Avenue but would not provide appropriate connectivity. However, Clement Avenue has the capability of providing an east-west bike lanes from Grand Street to Broadway, and ultimately from Webster Street to Tilden Way once the planned extensions of Clement are completed. Since Clement Avenue would provide a greater enhancement to the network one block to the south of Blanding Avenue, staff recommends Clement Avenue as the preferred street for inclusion in the bicycle network, and the proposed bike lanes on Blanding Avenue be eliminated from consideration.

Maitland Drive Bike Lanes from Island Drive to Harbor Bay Parkway

Existing conditions: Maitland Drive is 38 feet wide, with one travel lane in each direction and on-street parking on both sides of the street.

Proposed project: The 1999 Bicycle Master Plan recommended that bike lanes be implemented along the entire length of Maitland Avenue.

Staff analysis and recommendation: For bike lanes to be installed on Maitland Drive, on-street parking would have to be removed from one side of the street. Since this is a residential neighborhood, staff recommends implementation of a bike route from Mecartney Road to Harbor Bay Parkway.

Staff further recommends that Maitland Drive from Island Drive to Mecartney Road not be designated as a bikeway, since this would direct bicyclists to the intersection of Maitland Drive at Island Drive, where they would be required to navigate an uncontrolled crossing of Island Drive to access the Island Drive bike path. The proposed bike lanes on Mecartney Road would provide bikeway connectivity to the Island Drive corridor.

San Jose Avenue/Sherman Street Corridor Bike Lanes

Existing conditions: Each of these streets is 36 feet wide, with two travel lanes and on-street parking on both sides of the street.

Proposed project: The 1999 Bicycle Master Plan recommended the installation of bike lanes along this corridor. The Plan recommended bike routes as an alternative if bike lanes were determined to not be feasible.

Staff analysis and recommendations: The installation of bike lanes would require the acquisition of right of way or elimination of on-street parking on one side of the street throughout this corridor. Both of these options would not be feasible in this well-established residential community. Since these streets are all residential streets, with relatively low traffic volumes and slow travel speeds, staff recommends installing bike routes along these streets. Given the connectivity that this corridor provides for the bicycle network, staff recommends potentially including some bike boulevard treatments if appropriate, based on the results of site-specific analysis.

Third Street Bike Lanes from Central Avenue to Ralph Appezzato Memorial Parkway

Existing conditions: Third Street is 30 to 36 feet wide, with two travel lanes and on-street parking on both sides of the street.

Proposed project: The 1999 Bicycle Master Plan recommended that bike lanes be installed along this street segment.

Staff analysis and recommendations: Third Street is a residential street, with relatively low traffic volumes and slow travel speeds. Therefore, staff recommends installing a bike route along this segment.

Fifth Street Bike Lanes from Central Avenue to Ralph Appezzato Memorial Parkway

Existing conditions: Fifth Street is 36 feet wide, with two travel lanes and on-street parking on both sides of the street.

Proposed project: The 1999 Bicycle Master Plan recommended that bike lanes be installed along this street segment.

Staff analysis and recommendations: Fifth Street is a residential street, with relatively low traffic volumes and slow travel speeds. There is an existing housing complex north of the intersection of Fifth Street at Buena Vista Avenue, and there are currently no plans to extend Fifth Street from Buena Vista Avenue to Ralph Appezzato Memorial Parkway. Due to limited bicycle facilities in this neighborhood, staff recommends installing a bicycle route along Fifth Street from Central Avenue to Pacific Avenue. This would provide connectivity with the proposed bike route on Pacific.

Main Street Greenway Extension (Singleton Avenue to Main Street Ferry Terminal)

Existing conditions: The Main Street Greenway is located on the east side of Main Street, extending from Ralph Appezzato Memorial Parkway to Singleton Avenue. There is an existing 10-foot wide asphalt path on the west side of Main Street/Central Avenue from Encinal High School to the traffic signal at the Main Street Ferry Terminal entrance.

Proposed project: The 1999 Bicycle Master Plan recommended the construction of a Class I bike path along the east side of Main Street from Singleton Avenue to the Main Street Ferry Terminal.

Staff analysis and recommendations: Due to the presence of wetlands on the east side of Main Street, construction of the path extension would either be infeasible or extremely expensive. Given the existence of the path on the west side of Main Street, staff recommends against the inclusion of this project in the Plan.

Tilden Way Bike Lanes from West of Broadway to Miller-Sweeney Bridge

Existing conditions: Tilden Way consists of four travel lanes – one 10' lane and one 11' lane in each direction – plus a median, and turn pockets at the intersections. On-street parking is not permitted. As the street approaches the Miller-Sweeney Bridge, there is no median, and the total street width is 52.'

Proposed project: Addition of bike lanes and the elimination of two travel lanes were proposed for Tilden Way.

Staff analysis and recommendation: Since there is only 21' in each direction for travel along Tilden Way, the addition of bike lanes would require the elimination of a travel lane in each direction. The traffic modeling for the Transportation Element Environmental Impact Report (EIR) found that with the existing lane configuration, that the intersection would have a vehicle level of service (LOS) of F in both the AM and PM peak hour by 2030. Therefore the removal of a lane in each direction is not

recommended as it would lead to significant traffic delays and would severely impact emergency response and transit services.

There are also concerns in the short term. On May 13, 2010, as part of Bike to Work Day, the proposed configuration was installed on a temporary basis during the AM and PM peak travel periods. The Alameda Police Department reported backups at the intersection of Tilden Way with Blanding Avenue extending across the Miller-Sweeney Bridge. In addition to the severe traffic congestion, staff is concerned about the impact that the congestion would have on emergency response times and transit services. As a result, staff recommends against the inclusion of this project in the Plan.

Tideway Drive Bike Route

Existing conditions: Tideway Drive is a privately-owned street, 28 feet wide, with two travel lanes. There is limited on-street parking due to the presence of driveways.

Proposed project: The 1999 Bicycle Master Plan recommended that a bike route be implemented along entire length of Tideway Drive.

Staff analysis and recommendations: Tideway Drive is a low-volume street. Since it is owned by a homeowners association, it would require approval by the association to install signs to designate a bike route. Since the street currently provides no benefit to the bicycle facilities network in terms of connectivity, staff recommends that this street not include a bikeway designation.

Encinal High School Bay Trail

Existing conditions: Property is owned by the Alameda Unified School District.

Proposed project: The 1999 Bicycle Master Plan recommended that a bike path be constructed along the shoreline adjacent to Encinal High School.

Staff analysis and recommendations: There is minimal space available to construct a path at this location due to the proximity of the school athletic facilities to the shoreline. Given the resources required to make this improvement and the benefit it would provide to the bicycle facilities network, staff recommends that this project be eliminated from the Plan at this time.

Harbor Bay Parkway Bike Lanes

Existing conditions: Harbor Bay Parkway is 64 feet wide, with two travel lanes in each direction. Parking is prohibited on both sides of the street, with the exception of a section adjacent to the shoreline park, east of the Harbor Bay Ferry Terminal.

Proposed project: It was proposed that bike lanes be striped along the entire length of Harbor Bay Parkway.

Staff analysis and recommendations: There is sufficient space to stripe bike lanes along Harbor Bay Parkway, with the exception of the area where parking is permitted. However, there is an existing bike path along adjacent to the entire length of the street.

Given relatively low usage levels of the existing bike path by bicyclists, the relatively low density of development in the area, and the cost of striping and maintaining bike lanes along the approximately three-mile street, staff recommends against inclusion of this project in the Bicycle Master Plan.

Eighth Street/Westline Drive Bike Path

Existing conditions: The property west of Eighth Street and Westline Drive is located in Washington Park (property of the City of Alameda), and Robert Crown Memorial State Beach (owned by the East Bay Regional Parks District).

Proposed project: Construct a bike path parallel to Eighth Street and Westline Drive, from Washington Park to the Shoreline Drive bike path.

Staff analysis and recommendations: The existence of a bike path along the shoreline through the beach, as well as several internal paths in Washington Park, limit the potential number of users that the proposed path would attract. Given the cost of constructing a new path and the anticipated benefit to the bicycle network, staff recommends that the proposed path not be included in the Plan.

Santa Clara Avenue Bike Lanes from Oak Street to High Street

Existing conditions: Most of this segment of Santa Clara Avenue is 42 feet wide, with two travel lanes and on-street parking. The segment of Santa Clara Avenue from Oak Street to Broadway is within the Park Street Business District; the remainder of the segment is primarily residential.

Proposed project: Install bike lanes along this segment.

Staff analysis and recommendations: The installation of bike lanes would require the removal of on-street parking along much of this segment. On-street parking is highly valued within the boundaries of the Park Street Business District. Since there is an existing bike lane on Central Avenue, parallel to Santa Clara Avenue and one block to the south, the proposed bike lanes would not greatly enhance bicycle access in this corridor. Therefore, staff recommends against the implementation of a bicycle facility at this location.

North Loop Road Bike Lanes

Existing conditions: North Loop Road is 40 feet wide, with two travel lanes. On-street parking is prohibited.

Proposed project: The 1999 Bicycle Master Plan recommended the implementation of bike lanes along the entire length of North Loop Road.

Staff analysis and recommendations:

Traffic volumes are so low that the bike lanes would provide minimal benefit to bicyclists in terms of separation from motor vehicle traffic. As a result, staff recommends that bike lanes not be installed along this street.

Appendix F
Application of Project Prioritization Methodology

For the project prioritization conducted for the Bicycle Master Plan Update, points were awarded for each project as follows:

- Connectivity (10 points total) – 5 points for each existing bikeway the proposed facility connects to
- Geographic equity (5 points total) – more subjective, based on whether the corridor or immediate vicinity is served by existing bike facilities
- Latent Demand (25 points total) – Based on methodology from project consultant, this measure uses City Geographic Information System (GIS) and Census data to account for proximity to different land use types.
- Reduce conflicts (10 points total) – Based on whether the proposed facility would separate bicyclists from vehicle traffic, provide facility in a heavily traveled corridor, or reduce potential conflicts between bicyclists and pedestrians
- Safe Routes to School (5 points total) – 5 points if on a designated route (per City's SR2S maps); points reduced if a portion of the street is a school route
- Regional access route (10 points total) – Highest points if provides a connection to major routes outside Alameda; additional points were awarded if it connects to a route that feeds into a major connector
- Multimodal connectivity (5 points total) – Most points if it improves access to major bus route, ferry, or BART.
- Included in City or Regional Plans (10 points total) – 5 points for each City, countywide, or regional plan.
- Complexity (10 points total) – Highest points for simple projects, such as restriping to provide bike lanes
- Operations and maintenance costs (10 points total) – Highest points for projects requiring the least operations and maintenance, such as bicycle routes

Appendix G
Unit Costs Used to Provide Order-of-Magnitude Cost Estimates

Project Type	Unit Cost (2009 dollars)
Restriping	$75,000/mile
Bike Lanes (including stencils and signs)	$36,000/mile
Bike Route	$12,000/mile
Bike lanes and lane removal	$135,000/mile
Bike Path	$880,000/mile

The above unit costs were based on the methodology used by the Alameda County Congestion Management Agency (ACCMA) for the *Alameda Countywide Bicycle Plan* in 2006. The ACCMA numbers were increased by 30 percent to account for design costs and a contingency, and the figures were adjusted for inflation. When applied to a specific project, the actual costs can vary significantly, depending on site-specific conditions, so these numbers should only be used to provide planning-level, order of magnitude costs estimates.

Appendix H

Summary of City of Alameda Bikeway Projects, Existing Conditions, and Relevant Issues

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
High Priority Projects								
H1	West End Estuary Crossing – Project Study Report	West Alameda to Jack London Square	To be determined by analysis	N/A	N/A	N/A	N/A	See *Estuary Crossing Feasibility Study*, City of Alameda, 2009.
H2	Cross Alameda Trail	Main St. to Constitution Way	Class I	N/A	• Curb-to-curb width from Main Street to Webster Street is 68'; former railroad right-of-way is approx. 70' • Former rail yard is off-street	Atlantic Ave./ Webster St. (LOS D, AM and PM) Atlantic Ave./ Constitution Way (LOS D, AM and PM)	N/A	• Street may be reconfigured to also accommodate high-capacity transit service. • Corridor may potentially be used for high-capacity transit service, which could impact design. • From Webster to Constitution, trail would utilize existing 8' wide sidewalk. • Signage and other improvements could facilitate intersection crossings at Webster St. and Constitution Way. • Corridor may potentially be used for high-capacity transit service, which could impact design. • Rail yard portion to be completed as part of overall master plan for this parcel. • May require additional resources to address environmental impacts of railroad yard operations.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
H3	Clement Ave.	Grand St. to Tilden Way (portion of Cross Alameda Trail) On-Street (Clement Ave.)	Class II	2	48’	Park and Clement (LOS F, AM and PM)	Yes	• Requires extension of Clement Ave. from Broadway to Tilden Way. • Corridor may potentially be used for high-capacity transit service, which could impact design.
H4	Shoreline Dr./ Westline Dr.	Otis Dr. to Broadway	Class I long-term, Class II interim	3 or 4 (on-street parking on south side only at night)	48’	N/A	Part-time (see Issues)	• Parking permitted at all times on the north side of Shoreline Dr. and east side of Westline Dr. • Parking permitted only overnight on south side of Shoreline Dr. and west side of Westline Dr. • Removal of travel lane required for Class I and Class II options, traffic analysis required to determine impacts.
H5	Encinal Ave.	Broadway to Versailles Ave.	Class II	2	56’	Encinal Ave./ Broadway (LOS D, AM)	Yes	• There are 2 eastbound lanes between Broadway and Pearl St., 1 westbound lane. The removal of 1 eastbound lane would be needed, traffic analysis is required to determine impacts. • Encinal Ave. west of Broadway is under Caltrans jurisdiction, restriping at the Broadway intersection would need to be coordinated with Caltrans.
H6	Central Ave.	Pacific Ave. to 3rd St.	Class III	2	45’	None	Yes	No physical constraints.
		3rd St. to Webster St.	Class II	4	56’	None	Yes	• Removal of travel lane required, traffic analysis required to assess impacts.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
		Webster St. to 8th St.	Class II	4	56' (Webster to Page) 65' (Page to 8th)	Central Ave./8th St. (LOS E in AM, LOS F in PM)	Yes	• Caltrans jurisdiction • Removal of travel lane required, traffic analysis required to assess impacts.
		8th St. to Encinal Ave.	Class II	4	56'	Central Ave./8th St. (LOS E in AM, LOS F in PM)	Yes	• Caltrans jurisdiction • Removal of travel lane required, traffic analysis required to assess impacts.
		Encinal Ave. to Grand St.	Class II	2	48'	None	Yes	Same cross-section as Central east of Grand, sufficient width available to add bicycle lanes.
H7	Oak St.	Blanding Ave. to Lincoln Ave.; Encinal Ave. to Powell St.	Class II and Class III	2	30'-36'	None	Part	• Encinal Ave. to Lincoln Ave. is currently designated Class III. • From Lincoln Ave. to Blanding Ave., parking permitted on 1 side. • Future designation as Class II is possible north of Encinal Ave. if determined that no on-street parking is needed.
H8	Lincoln Ave.	Oak St. to Park St.	Class II	4 through lanes	56'	None	Yes	• Angled parking currently present on south side of street. • Class II could be considered if it is determined that the angled parking is not needed.
H9	San Jose Ave./ San Antonio Ave./ Morton St.	Sherman St. to Fernside Blvd.	Class III	2	36' (for all streets)	None	Yes	Site analysis required to determine if traffic calming measures are appropriate for potential bicycle boulevard
H10	Pacific Ave.	Marshall Way to Park St.	Class III	2	38'	None	Yes	• 8th St. to Grand St. is currently designated Class III. • Site analysis required to determine if traffic calming measures are appropriate for potential bicycle boulevard.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
H11	San Antonio Ave. / Ninth St.	Sherman Street to Pacific Ave.	Class III	2	36’	None	Yes	No traffic controls for cross traffic at intersection of Ninth Ave. at Central Ave.
H12	Sherman St.	Eagle Ave. to San Antonio Ave.	Class III	2	36’	None	Yes	No physical constraints.
H13	3rd St.	Central Ave. to Ralph Appezzato Memorial Pkwy.	Class III	2	36’	None	Yes	No physical constraints.
H14	Maitland Dr.	Island Dr. to Harbor Bay Pkwy.	Class IIII	2	36’	None	Yes	No physical constraints.
H15	5th St.	Central Ave. to Ralph Appezzato Memorial Pkwy.	Class III	2	36’	None	Yes	• Completion of this project requires extension of 5th St. from Buena Vista Ave. to Ralph Appezzato Memorial Pkwy. • No physical constraints regarding segment between Central Ave. to Buena Vista Ave.
H16	Bayview Shoreline Bicycle Path	Intersection of Shoreline Drive and Broadway tp Towata Park	Feasibility Study (for Class I facility)	N/A	N/A	None	N/A	• Potential environmental issues associated with shoreline impacts. • Abuts residential area, requires significant community input. • See Project M2 (construction phase)
H17	Blanding Avenue bikeway	Oak Street to Broadway		2	42’-48’	None	No	• Bikeway should not be designated on Blanding Avenue until the railroad tracks are removed from the street. • Oak St. to Park St. to be implemented as Class III due to need for on-street parking. • Park St. to Broadway to be implemented as Class II.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
Medium Priority Projects								
M1	Neptune Park Bike Path	Webster St. to Constitution Way	Class I	N/A	N/A (off-street)	Constitution and Marina Village Parkway (LOS D, AM)	N/A	Crossing at Consitution Way will need to transition to bike lanes on Marina Village Parkway
M2	Bayview Shoreline Trail	Broadway to Towata Park	Class I	N/A	N/A (off-street)	N/A	N/A	• Potential environmental issues associated with shoreline impacts. • Abuts residential area, requires significant community input.
M3	Shoreline Park Trail Widening and Resurfacing	Bay Farm Island	Class I	N/A	N/A (off-street)	N/A	N/A	Requires BCDC approval.
M4	Mecartney Rd.	Island Dr. to Maitland Dr.	Class II	2		N/A	Yes	Variable cross-section
M5	Santa Clara Ave.	Grand St. to Oak St.	Class II	2	50’	Santa Clara Ave. and Oak St. (LOS D, PM)	Yes	Same cross-section as existing segment of Santa Clara Ave. west of Grand St., bicycle lanes could be accommodated
M6	Ballena Bike Path/Bike Route	Central Ave. to end of Ballena Blvd.	Class I and Class III	2-4	42’-64’	N/A	Yes	Class III would be implemented in residential area.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
Projects Not Under City Jurisdiction								
N1	Shoreline Drive Bike Path Enhancements	Westline Dr. to Broadway	Existing Class I	N/A	N/A	N/A	N/A	• Path cannot be widened toward the shoreline due to environmental impacts. • East Bay Regional Parks District responsible for path maintenance.
N2	Wooden Bridge – South Side Bike Bridge Approach	Veterans Ct. to Bay Farm Island Bike Bridge (crosses under Bay Farm Island Bridge)	Existing Class I	N/A	N/A	N/A	N/A	East Bay Regional Parks District responsible for maintenance.
N3	West End Estuary Crossing	West Alameda to Oakland (specific site to be determined)	To be determined	N/A	N/A	N/A	N/A	See *Estuary Crossing Feasibility Study*, City of Alameda, 2009.
N4	West End Water Shuttle	West Alameda to Oakland (specific site to be determined)	Water shuttle and docking facilities	N/A	N/A	N/A	N/A	See *Estuary Crossing Feasibility Study*, City of Alameda, 2009.
N5	Miller-Sweeney Bridge/ Fruitvale Railroad Bridge	City of Alameda to City of Oakland	To be determined	To be determined	To be determined	None	No	• If railroad bridge used for bicycle/ pedestrian travel, would require transition to bike lanes at intersection of Fruitvale Ave./Alameda Ave. in Oakland • City and County currently seeking funding to reconstruct both bridges, which would accommodate all modes. • Miller-Sweeney Bridge is owned and operated by Alameda County; the Fruitvale Railroad Bridge is owned by the Army Corps of Engineers and operated by Alameda County.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
N6	Paden School Bike Path	Central Ave. to shoreline	Class I	N/A	N/A	N/A	N/A	• Feasibility study completed in 2003 • Property owned by Alameda Unified School District • Public access permitted via easement
N7	Park Street Bridge	City of Alameda to City of Oakland	To be determined	4	44’	Park St./Blanding Ave. (LOS F, AM and PM)	No	Improvements to be considered in conjunction with seismic or other improvements.
N8	High Street Bridge	City of Alameda to City of Oakland	To be determined	2	24’	None	No	Improvements to be considered in conjunction with seismic or other improvements.
Projects Associated with Potential Development or Redevelopment Projects								
D1	Cross Alameda Trail/Bay Trail	Grand St. to Fruitvale Railroad Bridge	Class I	N/A	N/A	N/A	N/A	Current land uses preclude development of trail at this time.
D2	Clement Ave. (segment of Cross Alameda Trail)	Sherman St. to Grand St.	Class II	2 (future)	Future street	None	No	• Clement Ave. to be extended as part of Northern Waterfront redevelopment. • Dependent on extension of Clement through current PennZoil facility. • Corridor may potentially be used for high-capacity transit service, which could impact design.
D3	Clement Ave. (segment of Cross Alameda Trail)	Broadway to Tilden Way	Class II	2 (future)	Future street	None	To be determined	• Clement Ave. to be extended in conjunction with future development. • Corridor may potentially be used for high-capacity transit service, which could impact design.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
D4	Ralph Appezzato Memorial Parkway (segment of Cross Alameda Trail)	Main St. to Webster St.	Class II	4	68', including 4' median	Atlantic Ave./ Webster St. (LOS D, AM & PM)	No	• Traffic analysis needed to determine impacts of striping bike lanes through intersections.we • Parallel Class I facility included in project H2
D5	Marina Village/Northern Waterfront Bay Trail	Mariner Square Drive to Grand Marina	Class I	N/A	N/A	N/A	N/A	• Mostly completed; remainder includes Shipway project, connection from Wind River through parking lot, Encinal Terminals, and enhancement of path at Fortman Marina. • Would require BCDC approval.
D6	Alameda Landing/ Alameda Gateway Bay Trail	Alameda Landing to Main Street Ferry Terminal	Class I	N/A	N/A	N/A	N/A	Would require BCDC approval.
D7	Mitchell Ave. Bike Lanes	Main St. to Mariner Square Loop	Class II	2	50'	None	No	• Bike lanes included in approved Alameda Landing project. • Designed to be truck route.
D8	5th St. Bike Lanes	Wilver "Willie" Stargell Ave. to northern end of 5th St.	Class II	2	50'	None	No	Bike lanes included in approved Alameda Landing project.
D9	Wilver "Willie" Stargell Ave. Bike Lanes	Main St. to 5th St.	Class II	4	69'	None	No	• Currently 2 travel lanes. Bike lanes to be added when widened to 4 lanes. • City has secured right-of-way for future widening.
D10	Alameda Point Bay Trail	Shoreline path along perimeter of Alameda Point	Class I	N/A	N/A	N/A	N/A	Would require BCDC approval.

Project No.	Project	Limits	Proposed Facility Type	Travel Lanes	Street Width	Intersections at LOS D or lower (2030*)	On-Street Parking	Issues and Challenges
D11	Alameda Point Bike Lanes	To be determined	Class II	To be determined	To be determined	To be determined	To be determined	Specific locations to be determined based on approved redevelopment plan.
D12	Main St. Bay Trail	Main St. Ferry Terminal to Navy Way	Class I	N/A	N/A	N/A	N/A	Would require BCDC approval.
D13	Mariner Square Drive Extension Bike Lanes	Marina Village Pkwy. To Constitution Way/Marina Village Pkwy. intersection	Class II	4 (preliminary)	To be determined	None	No	Preliminary design includes 4 travel lanes, with no on-street parking, and bike lanes.

* Level of Service (LOS) data for 2030 represent motor vehicle congestion during the peak travel hour. This was calculated as part of the Environmental Impact Report (EIR) for the update of the City of Alameda General Plan Transportation Element in 2008. This accounts for the impacts of anticipated growth and development.