



East Palo Alto

Gateway 101 Shopping Center, East Palo Alto

Bicycle Transportation Plan

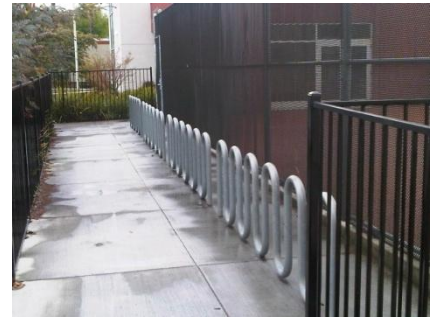


University Circle and East Bayshore Avenue

City of East Palo Alto
Community Development Department
March 2011

Ad Hoc Committee

Public Works and Transportation Commission Chairperson Bernardo Huerta
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**Adopted
March
2011**



**5-years
Plan**

**March
2016**

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Figure 1: Bikeway Classification Descriptions
Table C-4 of the 1999 General Plan Circulation Element

Table C-4
Bikeway Classification Descriptions

CLASS I BIKE PATH or BIKE TRAIL

Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians; crossflows with motorized vehicles minimized.

Sizing: Minimum width for Class I (two-way) is eight feet. Desirable width is 10-12 feet. Minimum shoulder width of two feet each side.

Minimum width for Class I (one-way) is five feet. Minimum shoulder width of two feet each side.

CLASS II BIKE LANE

Provides a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited; vehicle parking and crossflows by pedestrians and motorists permitted. Vehicle parking in a Class II bike lane is not desirable and should be discouraged. Additional lane width (12 feet minimum and 13 feet desirable) shall be required if on-street parking is permitted.

Sizing: Typical width of eight feet. A reduction in width to allow for restriping of an existing roadway or for added turning lanes may be permitted. In such cases, a five-foot width, or gutter width plus three feet, whichever is greater, is the minimum width.

CLASS III BIKEWAY

Provides for shared use of roadway facilities. These bikeways share the street with motor vehicles or share the sidewalk with pedestrians. In both of these conditions, bicycle use is a secondary function of the pavement.

References: 1. Caltrans "Planning and Design Criteria for Bikeways in California"

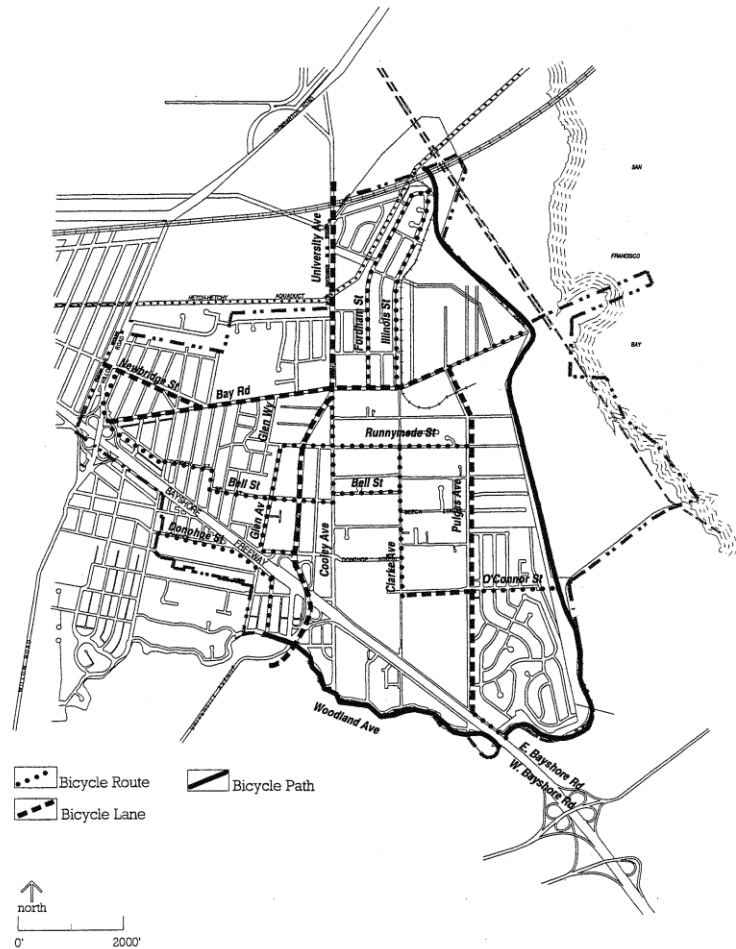
CHAPTER 1 -

Introduction

The Bicycle Transportation Plan (“Bike Plan”) documents the extent of bicycle ridership in the City of East Palo Alto (EPA). Actions in this plan increase the percentage of bicycle riders as a share of all commuters. How to measure success, however, is a local decision. The Streets and Highway Code which requires each Bike Plan to contain certain elements provides guidance. Existing conditions, from the numbers of bicycles in storage during a school day, to the number of commuters crossing the University or Dumbarton Bridge each business day create a baseline and method to judge the Bike Plan’s effectiveness. Other measures of effectiveness commonly used such as by the City of San Jose, are the number of new bike lane miles each year. Appendix A outlines the specific monitoring measures recommended.

The Bike Plan enables the City to apply for funds that are expressly set aside to encourage bicycle commuting. When these funds are used to implement the Bikeways Plan in the Circulation Element and the Bay Access Master Plan (BAMP) more commute choices will be available. The Bikeway Plan, pictured to the right identifies twenty-five segments of Class I, II, and III bike lanes. Thirty-five percent are implemented. The most significant missing link is the Pedestrian Overcrossing (POC), which is identified in the BAMP. The POC provides a path to reconnect parts of EPA separated by Hwy 101, to the Gateway 101 Shopping Center, and the Bike Plan will provide a safe and convenient way to stay active.

NOTE: Descriptions of Bicycle Route, Lane and Path are on opposite page.



East Palo Alto
General Plan

SOURCE: City of East Palo Alto

Figure C-5
Bikeway Plan

Why a Bicycle Transportation Plan?

To implement the Circulation Element.

One of the 1999 General Plan's seven elements is the Circulation Element. A connective system for transit, vehicles and bicycles are described in this element. The Bikeway Plan¹, Figure C-5 is included in this section; it provides a graphic depiction of the community vision of safe, widely distributed roadways serving multiple modes of transportation. In many ways, the Bikeway Plan is visionary. It embraces a reduction in greenhouse gas emissions, and it increases connectivity of schools with residential areas, shoppers with businesses, and commuters to employment centers. The Bike Plan also improves the health of the local community through improved air-quality and by helping people stay physically fit.

Until the 1999 General Plan is updated, the 2011 Bike Plan will be used to implement the Bay Access Master Plan and the General Plan.

In 2010, the City of East Palo Alto Planning Division launched a multi-year process to update the General Plan with the expectation that planning tools such as the Bike Plan would assist with its implementation. An update of the General Plan is not anticipated to take as long as five years, so this plan is therefore an interim plan to acknowledge that a new Circulation Element may incorporate and supersede what is included in the 2011 Bike Plan.

Why now?

For several reasons this plan is timely:

- The Planning Commission, Public Works and Transportation Advisory Commission, and the public testimony forged a consensus. Twelve options to address specific areas identified in the Streets and Highway Code were deliberated, with recommendations forward to the City Council. One of the anticipated outcomes of the Bike Plan is an increase **in bicycle commuting by .25% per year, or a total of 1.25% over the next five years.**
- A Pedestrian Safety Assessment ("PSA") completed in September 2010 identifies the need to "provide pedestrian and bicycle passages" and to "consider adopting a Bike Master Plan for the purpose of accessing funding² . **The new pedestrian overcrossing would meet the needs of multiple users of all ages and abilities; it would add a new Class I bikeway and disabled access.**
- Strategic planning on January 26, 2011 identified design and financing of the POC as one of the city's top priorities. It promotes safe and healthy communities,

¹ See Figure C-5, page 21 of the East Palo Alto General Plan's Circulation Element

² Fehr & Peers, and Dowling Associates, UC Berkeley, City of East Palo Alto, Pedestrian Safety Assessment, September 2010, page IX.

and the **Bicycle Transportation Account (“BTA’)** grant can help realize this vision.

- The 1999 General Plan identified twenty-five bikeways; in 2011, approximately 61% of the bikeways still need to be constructed. Class II requires 4’ minimum width and striping, and Class I, such as the Bay Trail, is segregated from automobiles. Class III is too narrow for striping, so pavement markings are used instead.

Required Elements of Bike Plan

An adopted Bike Plan consists of the maps³, and findings outlined in Article 3 of California Streets and Highways Code Section 891.2. If adopted and approved by the Transportation Planning Agency, East Palo Alto qualifies for funding through the BTA⁴. According to the Streets and Highways Code, eleven (11) elements must be included to meet the threshold necessary for funding through the BTA (optional elements can also be included). The required elements are summarized below, and correspond with sections in this report.

TABLE 1 –Required Elements		
Required	Description	Location
(a)	Existing and Future Bicycle Commuters	page 7, 29
(b)	Land Use	page 32
(c)	Existing and Proposed Bikeways	page 9, 23, 28
(d)	Existing and Proposed Bicycle Parking Facilities	page 10,-13
(e)	Existing and Proposed Multi-Modal Connections	page 14
(f)	Existing and Proposed Changing and Storing Facilities	page 17
(g)	Bicycle Safety and Education Programs	page 17
(h)	Community Involvement in Plan Development	page 18
(i)	Consistency with Related Plans	page 19-21
(j)	Proposed Projects and Implementation Priorities	page 22
(k)	Past Expenditures and Future Financial Needs	page 23

Source: Streets and Highway Code 891.2

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³ Five (5) of the eleven (11) deliverables are maps with descriptions, including: (1) a map of existing and proposed land use; (2) a map of existing and proposed bikeways; (3) map of existing proposed end-of-trip bicycle parking facilities; (4) a map of existing proposed bicycle transport and parking facilities; and (5) a map of existing and proposed facilities for changing and storing clothes and equipment.

⁴ Application for funding through the Bicycle Transportation Account are due on March 18, 2011

CHAPTER 2 -

IMPLEMENTATION AREAS –Table 1 identifies next steps in the 1999 General Plan and BAMP. As such, Table 2 below identifies steps to be undertaken in Year 1 of the Bike Plan. Chapter 4, Fiscal Projections, contains an expanded list of projects for years 2 through 5.

TABLE 2: Implementation Plan (Year 1)

ACTION Part A	DESCRIPTION	Goal/Standard
ITEM 1 ⁵	<u>PEDESTRIAN OVERCROSSING (POC)</u> Decide location, design and construct a POC, for all users, and especially those commuters and City residents who reside in the high density housing in the Willow and Woodland neighborhoods on the west side of Highway 101 so that they can easily access essential services.	CEQA and Planning '10/'11 Design/Build '11/'12 2013 open BTG, Chapter 9
ITEM 2	<u>BICYCLE EDUCATION:</u> <ul style="list-style-type: none"> ✓ conduct safety education programs ✓ use grants, and in-kind match ✓ partner with schools and recreational centers ✓ designate lead instructor ✓ promote classes, lead two tours per year ✓ provide safe and secure racks 	40 hours per year
ITEM 3(a)	<u>PAINT SHARROWS ON CLASS III BIKEWAYS:</u> VTA Best Practice In addition to the above, VTA recommends that the roadway: <ul style="list-style-type: none"> • Be a designated bike route • Have an ADT > 4,000 for a two-lane road or • ADT > 12,000 for a four-lane road [<i>Caltrans Standard</i> MUTCD 9C.103 (CA)] 	2 bikeways in year 1 BTG, p. 7.10
ITEM 3(b)	<u>SIGNAGE AND SHARROWS (THERMOPLASTIC) ON CLASS III BIKEWAYS THAT CONNECT SCHOOLS –</u> Require thermoplastic sharrows as identified in the Bicycle Technical Guidelines for Class III bike lanes	1 Route with Signage BTG p.7.10
ITEM 3(c)	<u>WIDEN & RESTRIP CLASS II BIKEWAY ON UNIVERSITY AVENUE -</u> Engage Caltrans in a discussion concerning restriping University Avenue with wider bicycle lanes	(Restripe University Ave) BTG p.7.1
ITEM 3 (d)	<u>BICYCLE ROUTE SIGNAGE</u> Provide signage on bicycle routes	BTG p. 3.8 and 8.2
Standards: Santa Clara Valley Transportation Authority Bicycle Technical Guidelines (“BTG”), December 2007 edition, adopted by East Palo Alto City Council, January 2011 Resources: Bicycle Transportation Account		

⁵ *Special note:* The City’s officially designated truck route is University Avenue; since trucks emit toxic air contaminants (TAC), particulate matter 2.5, a POC separated from University could have beneficial health impacts by reducing exposure. Furthermore, it may cater to those 50% of the community less inclined to bicycle ride, or walk on a high volume route (e.g., University Bridge to a high volume intersection with above average accidents).

2.1

Existing and Proposed
Bicycle Parking Facilities

Goal → New racks

FINDINGS: In March 2011, the City conducted an inventory of existing bicycle parking at EPA’s schools, public and private offices, and commercial shopping centers. The findings demonstrated that many of the schools have Class 3 bicycle racks, which should be upgraded to better secure bicycles, and provide users a greater sense of security. The Class 3 racks allow one wheel to be fastened by lock or cable to a rack, but do not allow the frame to be secured unless the bicycle is positioned sideways (see picture 8 below). Only two bicycles were in any of the racks of the public schools visited.

Year 1 - Police, Community Services, transit shelters, Ravenswood School District, and business clusters on University Avenue and/Bay Road

Year 2 to 5
Upgrade racks at school facilities in conjunction with continued Bicycle Safety Education Classes

End-of-trip bicycle parking refers to the bicycle parking available at destinations, which are the end of a journey such as school, work or shopping centers. When adequate parking is available, just as is the case for automobiles, people can be encouraged to use that mode of transportation. If one knows in advance that it will be easy to find parking for a particular mode, it encourages that mode of transit. Given this backdrop, the Planning Division sought to identify how easy parking would be for those accessing schools, businesses, and offices by bicycle in EPA.

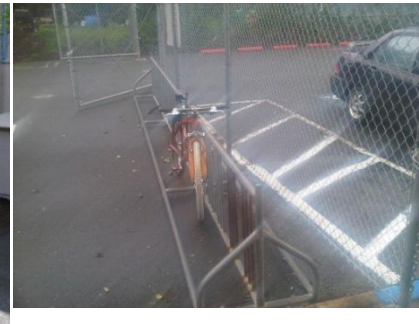
Existing Conditions at Schools



Picture 6
East Palo Alto Charter School



Picture 7
Cesar Chavez Academy



Picture 8
Ronald McNair Middle School

Recommendation 2.1.1: Replace Class 3 bicycle racks with Class 1 and 2 at public schools

Existing Conditions at Offices



A review of the offices and retail businesses in the City included government offices such as EPA’s Police and Community Services, the Ravenswood School District’s Administration Building, offices and retailers at Gateway 101, University Circle, the Ravenswood Health Clinic, and clusters of offices on Bay Road, and University Avenue.

FINDINGS: A majority of businesses have implemented the Bicycle Technical Guidelines (“BTG”) ‘best practices’ for end-of-trip bicycle parking. Improvement at EPA facilities is necessary, since only the Community Development Department and City Hall currently have facilities for bicycle parking. Businesses within the Redevelopment Agency project areas generally have adequate parking, while businesses along University Avenue do not. In fact, a review of several clusters of businesses on Bay Road (People’s Plaza), Four Corners, and McDonalds at University and Bay demonstrate that no end-of-trip bicycling parking exists at these locations.

Recommendation 2.1.2: Promote bicycling by providing Class 1 and 2 end-of-trip parking for the Police Department, Menlo Park Fire Protection District, and Community Services/Housing office.

Recommendation 2.1.3: Provide new end-of-trip bicycle parking for clusters of businesses in the City which lack them.

Existing Bicycle Parking Facilities

East Palo Alto has bicycle parking racks of different types, listed below, at various schools, community centers, and city agency offices. The grid-type parking racks located at the schools are oldest. The newest parking racks are those located at the Planning Division and the Sanitary District offices.

TABLE 2.1: Existing Parking Facilities			
Location	Address	Type	Quantity
Boys and Girls Club, Moldaw Zaffaroni Clubhouse	2031 Pulgas Ave	wave	2
Brentwood Academy	2086 Clarke Ave	grid	1
Cesar Chavez Academy	2450 Ralmar Ave.	grid	2
Costano Elementary School	2695 Fordham St.	grid	2
East Palo Alto Charter	1286 Runnymede St.	low-profile (Class 3)	3
East Palo Alto Planning Division	1960 Tate	wave	1
East Palo Alto Sanitary District	901 Weeks	wave	1
Ravenswood Shopping Center	1731 E. Bayshore Rd.	wave	6 & 1 class 3
Ronald McNair Academy	2033 Pulgas	grid	1
YMCA, Lewis and Joan Platt	550 Bell St.	grid	1
City Hall – Government Center	2415 University Avenue	wave	1
University Circle (all buildings)	1950, 2000, 2100 University Avenue	wave	4
East Palo Alto Sanitary District	Runnymede Avenue	Wave	1
Source: Andrew Boone, Stanford University, Civil Engineering Graduate Student; Field Verified and Amended by Planning Manager, March 24, 2011			

FUTURE PARKING

Additional parking is anticipated at several recently entitled projects, including University Palms, Four Corners, Cooley Landing, and the Richard May Soccer Field site at the St. Francis of Assisi church.

MAP OF EXISTING BICYCLE PARKING

MAP OF PROPOSED BICYCLE PARKING

2.2

Existing and Proposed Multi-Modal Connections

Goal → New Multi Modal Connections at bus shelters

Year 1 - New racks at 3 bus shelters: University and Bay and Woodland, and Newbridge and Bay

Year 2 – expand based on need

Multi-modal connections refer to locations where multiple modes (types) of transportation exist, such as a park-and-ride for automobiles, bus stops, ferry terminals, and train stations. Since the City of East Palo Alto does not have any train or park-and-rides, bus stops are selected for improved multi-modal connections.

The Circulation Element identifies the routes in Table 3, which formed the basis for selecting locations for new bus shelters. The 2004 Community-Based Transit Study ('CBT- Plan') also assisted the City in determining where to invest resources, and led to the establishment of the Free Community Shuttle.

Agency Contact

EPA contacted the San Mateo Transit Authority ('SamTrans') and obtained ridership information. To identify if there are any bus lines where bicyclists were likely to be turned away because the existing bicycle racks (two or three per bus) were filled the Planning Division also requested information about bicycle ridership.

FINDINGS: No information concerning bicycle riders using buses in EPA exists. The Planning Division, in consultation with the Community Services Department, proposes locations for new bicycle racks based on bus ridership figures for bus lines operating in EPA. (see Table 3 – Ridership Information.

TABLE 3: Ridership Information (SamTrans)

Bus Route	AVERAGE Weekday Ridership	New Racks (year 1 to 3)
280	384	
281	679	1
296	1,812	1
297	61	
397	196	
Standards: Fiscal Year 2010 Ridership Figures Resources: San Mateo County Transit/ March 7, 2011		

FINDINGS: Based on the placement of new bus shelters as identified in Table 4, and the ridership numbers in Table 3, a recommendation to improve multi-modal connections by placement of bicycle racks is proposed, so that people can seamlessly

change modes from bicycle to mass transit. Higher ridership figures may be misleading since several bus lines serve multiple cities and the higher counts may therefore not be attributable to EPA residents. For example, could the high ridership on 296 be largely a result of a higher than average ridership in Redwood City?



Picture 12
Gateway 101 – new shelter



Picture 13
University between Runnymede and Bay

TABLE 4: Bus Shelters 2011

Bus Routes	Shelter Location / Year Installed	Number of Bus Shelters
280, 296	Bay Road near Clarke Ave/ 2011	2
281, 296 (297, 397)	Bay Road/Newbridge Street. / 2011	1
281, 297, 397	University Ave/Sacramento St / 2011	1
281, 297, 397	University Ave/ Bell Park neat Donohoe St / 2011.	1
281, 297, 397	University Ave/ Woodland Ave/ 2011	1
280, 296	Clarke Ave/O'Connor St. near Ravenswood School / 2011	1
281, 296	Bay Road/University Avenue in front of McDonald's // 2011	1
no stop at Addison	Bay Road/Addison St. near Caesar Chaves School / 2011	1
296	East Bay Shore/Gateway 101 across the street from IKEA's main entrance / 2011	1
TOTAL NEW SHELTERS =		10
Sources: San Mateo County Transit/ March 7, 2011, Fiscal Year 2010 Ridership Figures; City Engineer, Bus Shelter Locations		

Recommendation 2.2.1: That each bus route have one designated location where bicycle riders can secure their bicycles in the event that all of the bicycle racks are full.

Recommendation 2.2.2: That prioritization for placement of rack be determined by EPA ridership information if available and that within the five-year term of this plan that a review of bicycle ridership be undertaken.

2.3 Existing and Proposed Changing and Storing Facilities

No existing and proposed changing facilities are identified until information from providers such as YMCA and the Boys and Girls Club are contacted. During the public process to select existing and proposed changing and storing facilities, the advisory bodies recommended first obtaining approval prior to listing in the Bike Plan.

2.4 Bicycle Safety and Education Programs

The Planning Division contacted the East Palo Alto Police Department to document their efforts in bicycle safety outreach (prevention), enforcement, and to collect data on injuries. This section was completed with the Assistance of the City's Community Service Officer, Elizabeth Lam.

Bicycle Safety Outreach (Prevention):

- A. The East Palo Alto Police Department worked in conjunction with the Lucille Packard Children's Hospital and handed out free bicycle helmets and bicycle safety brochures at a school event in February 2010.
- B. The East Palo Alto Police Department (EPAPD) worked in conjunction with the Lucille Packard Children's Hospital, Kids' Plates, Safe Kids to present a helmet safety course to parents and their children. The children were fitted for free skateboard helmets and handouts were available. An overview on the importance of having the right helmet for the right sport was given. Albeit this presentation focused on skateboarding, and that some helmets can be used for both activities, a lot of information on bicycle helmets and bicycle safety was included.

Enforcement:

The EPAPD is currently keeping track of the bicyclists they stop for infractions. Currently the data available is through November 3, 2010. In order to provide information for a complete year, data was used from November 3, 2009 – November 3, 2010. During this time period, the EPAPD stopped a total of 68 bicyclists mostly due to moving violations. The majority of the time the officer gave a warning. 25 citations were issued and 4 arrests were made.

It should be noted that the citations and arrests were not necessarily in direct relation to the Vehicle Code as it pertains to bicycle operation.

Accidents Involving Bicyclists:

In 2010 the EPAPD recorded a total of 214 vehicle accidents⁶. 3 of those accidents involved bicyclists.



It should be noted that the numbers provided by the EPAPD are subject to change as vehicle accidents are sometimes reported at a later date and are not always reported to the Police Department. For more complete statistics please reference the Statewide Integrated Telecommunications System.¹

⁶ Statewide Integrated Telecommunications System (SWITERS) is maintained by the California Highway Patrol and information can be accessed online at <http://www.chp.ca.gov/index.html>.

CHAPTER 3 -

3.1

Consistency with Related Plans and Land Use

1999 General Plan

As one of the General Plan's seven required elements, the Circulation Element describes the circulation of goods, people, water, sewage, storm drainage and communication. It therefore affects the city's physical, social, and economic environment. Associated documents that aid in translating the community vision into a roadmap to transform the physical environment are the Capital Improvement Plan ('CIP'), the Zoning Ordinance, the City budget and other implementing documents, such as the Bike Plan. In the Circulation Element the types and locations of the bicycle infrastructure are identified; it provides the blueprint for investments in the city's infrastructure. The Bike Plan provides a comprehensive method to implement the Circulation Element's 25 bicycle segments that define the community vision.

In the 1999 General Plan, residents planned for a connective system of complete streets in the Gardens, Weeks, University Village, Woodland, Willow and Palo Alto Park neighborhoods. Sidewalks have and are being built. Now, through this Plan, implementation of the eighteen Class III bicycle lanes will begin. Monitoring of the General Plan's effectiveness and implementation are essential city functions accomplished by this plan.

2004 Bay Access Master Plan (BAMP)

EPA's completion of the BAMP provided regulatory agencies such as the Bay Conservation and Development Commission, which is responsible for the maps and policies that govern activities along the shoreline, with a planning document outlining the local community's vision. With such a vision in place, the San Francisco Bay Plan which generally discourages building in shoreline areas that are vulnerable to current or future flooding could be responsive to the city's efforts to develop suitable low-lying areas and encourage resource enhancement in areas with high natural habitat value.

BAMP - Pedestrian Overcrossing (POC)

The BAMP expressly embraces a pedestrian/bicycle overpass by specifically foreseeing a connection to San Francisco Bay through a Class I Bicycle trail leading to work and school, and enabling residents to have a more pleasurable travel experience. The Bike Plan implements the BAMP's vision by implementing this connection across Hwy101. Two alternatives to the location proposed in the BAMP are now envisioned. The original location adjacent to the San Francisquito Creek, as proposed in the BAMP, is

no longer being considered to address engineering and planning concerns.⁷ The new locations are: 1) POC at Euclid and East /West Bayshore; and 2) POC between Newell Road and Clarke Avenue at East/ West Bayshore.

POC Benefits

The newly proposed POC provides access from the neighborhoods to the Ravenswood Business District, Gateway 101 Shopping Center. It enables commuters to conveniently go to work, school, or retailers. Users coming from the northeast, such as the Dumbarton Bridge, now have direct routes to Palo Alto, EPA's number one job center.

2004 East Palo Alto Community-Based Transportation Plan ('CBT-Plan')

In 2004, five years after the adoption of the General Plan, the East Palo Alto CBT- Plan was completed. It documents existing conditions so that future investments in the city's infrastructure are responsive to community needs. Outcomes of the CBT-Plan are the city's free Shuttle Program and documentation that East Palo Alto has the second highest ratio of bicycle commute trips to population in San Mateo County.

2011 Adopted Bicycle Technical Guidelines ('BTG')

In 2010, the City of East Palo Alto Community Development Department recommended consideration of the Santa Clara Valley Transportation Authority ('VTA') BTG after consultation with non-profit organizations such as the Silicon Valley Bicycle Coalition. In their view, the BTG remains the region's most comprehensive set of bicycle guidelines. Two of the City's advisory boards concurred with the Planning Division's recommendation to consider its adoption. Recognizing the need to improve the roadway by building road networks that are safer, more livable, and welcoming to everyone including bicyclists, public transportation vehicles and pedestrians of all ages, the Public Works and Transportation and Planning Commissions unanimously voted to recommended adoption of the BTG on April 21, 2010 and May 10, 2010 respectively.

After a careful review of the fiscal impact that the BTG may have on the General Fund, the City Council adopted it on January 18, 2011, thereby establishing performance standards for bicycles. For the first time, developers must plan to accommodate bicycles in new projects by including end-of trip-parking, and ensuring that it conforms with the BTG so that they are designed to ease access and utility. It also establishes voluntary guidelines so that new CIP projects such as Safe Routes to Schools and the

⁷ Engineering concerns are identified in a _____ letter from the San Francisquito Creek Joint Powers Authority (JPA). In it the JPA states that the POC may decrease flood conveyance by incorporating a subway along the bank of the creek. Planning considerations related to siting a connection within one mile of the highest density location of residents and in close proximity to the Newell Road Bridge, which connects to an existing Class II bikeway in the City of Palo Alto.

city's annual street resurfacing program are done in accordance with 'best practices' in design, planning, and construction.

Climate Action Plan (CAP)

In 2010, EPA retained the professional services of KEMA to produce the city's first Climate Action Plan (CAP). This plan compiled a host of information leading to the recommendation in the plan that activities undertaken to promote bicycle and walking should be encouraged. While the plan has not yet been adopted, as the Planning Division is completing an Initial Study, the Bike Plan is consistent with the CAP's Goal TL-3 – Encourage Walking and Bicycling. The CAP notes that: "bicyclist face many dangers from a lack of dedicated bike lanes and dangerously busy streets. The plan specifically recommends the following:

FINDINGS:

Recommendation 4.2.3.1 Measure TL-3.1: Develop a master pedestrian and bicycle plan to promote walkable streets, bike lanes, and increased bike parking. The CAP estimates the cost for a Bike and Pedestrian Plan to be \$80,000; the City partly completes this recommendation by the adoption of this Bike Plan (see Appendix D, pages 48 to 52 of the Climate Action Plan). The Pedestrian Safety Assessment, however, recommends that thirty percent of the time of a full time employee (0.3 FTE) is the necessary resource commitment to be in accordance with the investments made by other California cities.⁸

2011 City of East Palo Alto CLIMATE ACTION PLAN

Table 2. East Palo Alto Community Emissions Summary (2005)

Emissions Sources	CO₂e (metric tons)
Transportation – Highway	67,286
Buildings - Residential	24,838
Buildings - Commercial/Industrial	23,222
Transportation – Local roads	19,715
Waste	3,360
Transportation – Off-road equipment	2,044
TOTAL	140,465

⁸ UC Berkeley Tech Transfer Center, Pedestrian Safety Assessment, pages 9 and 26.

Consistency with Regional Plans

The Metropolitan Transportation Commission ('MTC') is the nine-county San Francisco Bay Area's Regional Transportation Planning Agency ('RTPA') and its Metropolitan Planning Organization ('MPO'). The MTC's most recent bicycle plan, *Regional Bicycle Plan for the San Francisco Bay Area, 2009 Update* focuses on the development of a Regional Bikeway Network. In East Palo Alto, this network contains two existing routes: the first follows University Avenue, Bay Road, Newbridge Street, and Willow Road; and the second follows the San Francisco Bay Trail. The only section of these routes without a bikeway is Newbridge Street between Willow Road and Bay Road. This section is proposed to be implemented as a Class II bikeway in East Palo Alto's Interim BTP. No new routes are proposed.

The Association of Bay Area Governments ('ABAG') is the nine-county San Francisco Bay Area's Council of Governments ('COG'). The goal of ABAG's San Francisco Bay Trail Project is to construct a continuous hiking and bicycling trail around San Francisco Bay. The locations of Bay Trail routes are described in ABAG's *The Bay Trail: Planning for a Recreational Ring around San Francisco Bay (1989)* and subsequent *San Francisco Bay Trail Gap Analysis (2005)*. In East Palo Alto, the project proposes to connect University Avenue at the Menlo Park city limit with the existing Bay Trail in the Ravenswood Open Space Preserve with a new section of trail along the Dumbarton Rail line. This route is proposed as a Class I bikeway in East Palo Alto's Interim BTP.

The City/County Association of Governments of San Mateo County ('C/CAG') is an association of local governments whose members are San Mateo County and the 20 cities within it. It's *San Mateo County Comprehensive Bicycle Route Plan (2000)* focuses on the development of a bikeway network throughout. In East Palo Alto, existing routes include University Avenue, Bay Road, Newbridge Street, and Willow Road, all of which contain Class II bikeways except for Newbridge Street. Proposed routes include Bay Road from University Avenue to the Bay Trail (to which a Class II bikeway has been constructed from University Avenue to Clarke Avenue), and a section of the Bay Trail from the northeast corner of East Palo Alto in the Ravenswood Open Space Preserve to Runnymede Street (which has been constructed as a Class I bikeway, although unpaved). The only proposed bikeway that has not been constructed, on Bay Road from Clarke Avenue to the Bay Trail, is proposed as a Class II bikeway from Clarke Avenue to Pulgas Avenue, and as a Class III bikeway from Pulgas Avenue to the Bay Trail in East Palo Alto's Interim BTP.

Prior to the adoption of the Bike Plan extensive community outreach was conducted leading to the adoption of the Bicycle Technical Guidelines on January 18, 2011. This initiative was followed by outreach in 2011 to adopt a Bike Plan, and included:

- 1) Two bicycle tours (January and February 2011)
- 2) Survey administered as part of the first bicycle tour
- 3) One shuttle bus tour of six POCs for which pricing was provided (March 2011)
- 4) Joint public hearing before the Planning Commission and Public Works and Transportation Commission (March 7, 2011)
- 5) Planning Commission Ad Hoc Bicycle Committee meeting (March 22, 2011)
- 6) Meeting with volunteers (numerous meetings through 2010 and 2011)

As part of the first bicycle tour on January 8, 2010, East Palo Alto conducted a survey to gather information about a pedestrian overcrossing project, and to obtain feedback to assist in the selection of the proposed location. While two locations for a pedestrian overcrossing have been reviewed, referred to as the Newell or Euclid option, a third possibility is also being considered for consideration if the Newell option is selected..

Location 1: Euclid and West Bayshore to Euclid and West Bayshore (Bayshore)

The proposed location for an overcrossing has focused on a new Class 1 pedestrian and bicycle roadway above Hwy 101 at Euclid Avenue, and East Bayshore and connecting to Euclid and West Bayshore.

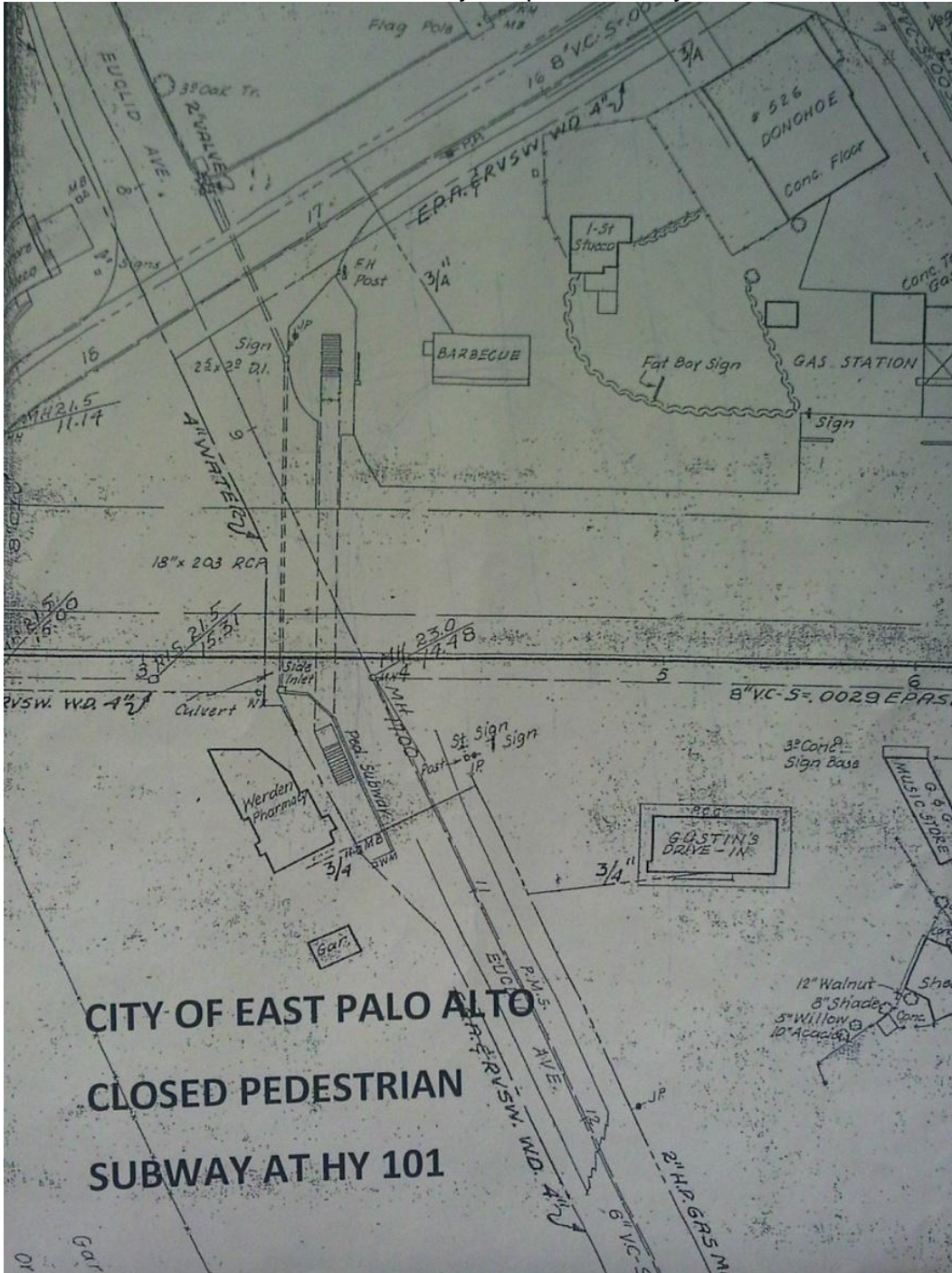
Location 2: Clarke Avenue/Newell Road and Bayshore

This new location is considered since it provides direction connection to those jobs in the Gateway 101 shopping district and schools along the Pulgas and Clarke Avenues corridors, and provides a direct alignment to the Newell Road Bridge, which Palo Alto is working with Caltrans to reconstruct.

Location 3: Subway at Euclid and Bayshore

The Euclid and Bayshore location is where a long closed subway connecting EPA's Woodland and Willows neighborhoods to EPA locations to the east, such as the EPA's schools, offices, and retail Given that roughly 40% of population lives on the west side of EPA and 60% to the east, this connection could improve mobility in the event of an emergency and also provide regular access to essential services. For this reason, a Class I bikeway, doubling as an alternative emergency evacuation route in the event of storm or tidal surges is envisioned.

New Class I Bikeway Proposed Study Area



Interviews

To ensure that a cross section of the public is participating, East Palo Alto has approached individuals who appear to be commuters. Interviews were also done at random to find out the concerns of commuters. The goal has been to ensure that all economic groups and populations are included in the planning to create East Palo Alto's first Bike Plan.

Recommendation 3.2.1: That the City model the potential for high volume use of the pedestrian overcrossing as recommended by the Institute of transportation Engineers.

Recommendation 3.2.2: That EPA investigate the reopening of the Euclid Subway in conjunction with emergency preparedness activities.

Bicycle Tours

A two-hour bicycle tour on January 8, 2011 started at City Hall and included about 14 riders. It included stops at numerous locations where the respective proposed pedestrian overcrossing would be located, reviewed existing but unimproved/unimplemented bikeways and ended with a brief description of the proposed changes to the Class I bikeway at the Friendship Bridge⁹, which will be demolished as part of the San Francisquito Creek Joint Powers Authority Flood Conveyance Improvement Project.

A second four-hour tour in March provided an alternative option to weekend sponsored tours. Through this tour, the Planning succeeded in developing a list of design and planning concerns, including:

Recommendation: 3.3.1: Based on the low turnout on the weekday coordinate bicycle tours on weekends or in conjunction with other events such as Earth Day.

Options for narrow streets

While Class II bike lanes cannot be accommodated on many East Palo Alto streets, the Pedestrian and Bicycle Information Center Website section on Facility Design states that “Adequate signing and marking are essential on shared use paths, just as they are on streets and highways”. Treatments such as ‘sharrows’, commonly referred to as shared use symbols, not only meet this need, recent study shows that “motorists were made more aware of bicyclists by the presence of Shared Lane Markings”¹⁰ This report goes on to state that “the collective observations in this study strongly suggest that Shared Lane Markings, when used as either a stand alone device or as a tool to connect facilities with bicycle lanes, improve safety on multi-lane roadways that are too narrow to accommodate bicycle lanes.”¹¹

⁹ Friendship Bridge connects Palo Alto to East Palo Alto where it crosses the San Francisquito Creek adjacent to the Palo Alto Golf Course.

¹⁰ City of Austin, Neighborhood Connectivity Division, Bicycle Division, Department of Public Works, July 15, 2010, page 3.

¹¹ Ibid.

Chapter 4

Fiscal Projections

Fiscal projects in this section are based on the goal of increasing the bicycle commute by 1.25% over a five-year period. The most significant investment to accomplish this task is the creation of a new Class 1 Bikeway, the Pedestrian Overcrossing (POC).



Pedestrian Overcrossing (Bikeway Class 1)

Based on conversations with Caltrans engineers, the cost of design and construction could be as low \$1,800, 000 (Burlingame POC) or nearly as high as \$5,000,000. (see Appendix - Engineers Estimate) depending on the type of design, and location selected. Most importantly, during the period from 2009 to 2011 construction prices have been depressed, and cost of materials and construction have also dropped significantly. Of the six POC's visited on the bike tours, the vast majority were priced around \$3,000,000. The favorite, however was the least expensive for it provided the shortest distance between points and included other advantageous design features, such as high visibility, lighting, and easy maintenance.

Study Areas (Gateway 101 and Euclid Subway)

Research in establishing better connections through two other Class 1 bikeways is also proposed in future years. For example, envisioned as part of this plan as options to provide better access to the Gateway 101 Shopping Center through the pedestrian overcrossing, as proposed in the Bay Access Master Plan, and investigating the possibility of reopening the Euclid Avenue subway to make a new connection at Bayshore underneath Hwy 101 to serve two purposes, as follows:

- ✓ Connect users of all ages and abilities to Menlo Park and Redwood City, and
- ✓ Provide an emergency access to the tall buildings in University Circle, which could be invaluable in regards to evading a catastrophic local event.

East Palo Alto has started improving roadways at a faster pace than in the past, and major progress has been achieved in building the infrastructure to accommodate automobiles and to ensure that transit is more convenient to users of all ages and abilities by placing bus shelters.

FINDINGS: A mode that remains underserved is bicycling. Investments in this area approximate a only seven hundreds of one percent (see Table 5). While private developers have been largely building new infrastructure to accommodate bicycle commuters, East Palo Alto's only investment in the last five years is one new bicycle rack at the Community Development Department facility, and restriping of Bay Road's bicycle lane as part of the Bay Road improvements. Type-D detectors, which are sensitive enough to detect bicycles, could be retrofitted at a negligible cost. These are already in place at many intersections, and for those that don't have any currently, the City of Menlo Park has identified that they can be installed and purchased for approximately \$625/ detector.

Recommendation 4.1.1: Use the Bike Plan to access funds that would not otherwise be available, such as the BTA.

TABLE 5: Past Expenditures

ITEM	DESCRIPTION/SOURCE	Expended to date	Bicycle Expenditures
1	Clarke Avenue Drop-off Public Improvement in-lieu fees	\$131,579	None
2	Pavement Resurfacing Project 2009 Stimulus funds and Measure A	\$461,479	None
3	Annual Street Resurfacing Program Prop 1B, Measure A, and ISTEAs funds	\$1,151,820	\$1,350 (5% of restriping)
4	Safe Routes to School SR2S cycle 7, Measure A, and in-lieu fees	\$324,045	None
5	Bicycle rack at Community Development Department General Fund	\$524	\$524
Source: Agenda Item No. 25, Tuesday, January 4, 2011, City Council/Redevelopment Agency			

TABLE 6: Future Financial Needs

ITEM	DESCRIPTION	Source
Action 4.1	Implement safety, and reduce accident, and injuries. 3-6 intersection improvements projects/yr i.e., install drainage, gutter pans, T-D loop detectors,	Intersection Improvements
Action 4.2	Use the Bicycle Safety education to build capacity. Team leaders could be: Community Services, Planning, Engineering, Police, and school district staffers, who could be encouraged to designate a lead. Consider allocation of at least 50% of the recommended 0.3 Full Time Employee (FTE) or 0.15 FTE. The PSA recommends 1 FTE for 100K people.	Capacity Building
Action 4.3	Safe and secure storage - Class I lockers/cage	End-of-Trip Parking
Action 4.4	<ul style="list-style-type: none"> ✓ Investigate a donor bicycle program for school children ✓ Start a pilot project with five bicycles 	Pilot Program for Schools
Action 4.5	Maintenance of striping of existing lanes in accordance with the placement of speed bumps and the safe Routes to School Program	Maintain roadways
Action 4.6	Consider supporting a collaborative effort to establish a Class II route that enters the Gateway 101 Shopping Center where O'Conner dead ends, at Clarke Avenue	New Bikeways
<p>Sources: These recommendations came from a meeting of the Planning Commission's Bicycle Ad Hoc Committee on March 22, 2011</p>		

Projects proposed are identified in Tables 2 and 6 and in response to the findings below. According to the adopted Circulation Element,

FINDINGS:

Class III - A review of the field data compiled illustrates that there has been no implementation of Class III bicycle lanes (shared roadways) in the City of East Palo Alto since adoption of the Bikeway Plan in 1999.

Class II and III - This review also documents that approximately 90% of Class II (4' wide striped roadway) and III bicycle lanes (separated from vehicular traffic). In other words, with the exception of those streets bisecting the city's two spines, Bay Road and University Avenue, the community vision of Complete Streets has not yet been implemented. As proposed in the Bikeway plan, however, bike lanes on University Avenue, Bay Road, and the Bay Trail that are nearly implemented with the exception of approximately 670 feet north of Weeks Avenue, and 3,200 feet southeast of the juncture of University Avenue, and the San Francisco Public Utilities Commission Access Road.¹² This finding documents that with the exception of the missing link on the Bay Trail, regional needs have largely been met since the inception of the plan.

Reports by the Association of State and Highway Transportation Officials ('ASHTO'), the Transportation Research Board ('TRB'), the cities of Austin, San Francisco, and New York, and the San Mateo County Comprehensive Bicycle Plan suggests that bicycle use in the City of East Palo Alto would increase dramatically if an alternative through route such as a pedestrian overcrossing existed other than University Avenue, and if Class III bicycle lanes were implemented through 'sharrows', also known as 'shared use markers', and bicycle signs. The recently adopted BTG documents 'best practices'. To reduce expense some local governments use paint instead of thermoplastic, and place signage on existing poles instead of installing new ones.

Table 7 Implementation of Bikeway Plan, Figure C-5, Circulation Element

	Miles of Bikeway Unimplemented	Miles of Bikeway Implemented	Percent of Bikeway Implemented
Class 1	3.3	3.3	90%
Class 2	4.5	4.5	90%
Class 3	6.8	0	0%

¹² Estimate is based on a March 2011 approximation provided by the Redevelopment Agency in response to the Planning Division's inquiry. The Redevelopment Agency is leading an initiative as part of the Specific Planning process for the Ravenswood Business District to combine a loop road with a Bay Trail

Bikeways are divided into two categories, i.e., implemented and unimplemented. Both are codified in the East Palo Alto Bikeway Plan in the City’s 1999 General Plan Circulation Element Figure C-5 (see Introduction). It shows a network of continuous Class I, II, and III bikeways throughout the city. The bikeways in Table 1 have already been adopted by the municipality but not implemented. “Proposed” bikeways refer to those which have not yet been adopted by ordinance or resolution, and would therefore not be implemented. Distances of the existing, unimplemented bikeways and the distances that have been built to date are shown in miles in the table below.

Existing Bikeways (Implemented)

Table 8: Existing Implemented Bikeways						
No	Roadway	From	To	Class	Length	Width
1	Bay Trail	Ravenswood Regional Open Space	E. Bayshore Rd	1	3.3 mi.	varies
2	Bay Rd.	Addison Ave.	Clarke Ave.	2	.7 mi.	5-12 ft.
3	University Ave.	Menlo Park City Limit	300 ft. north of Donohoe	2	1.5 mi.	5 ft.
4	Willow Rd.	Menlo Park City Limit	750 ft. south of Newbridge St.	2	.3 mi.	5 ft.
Source: Andrew Boone, Stanford University, Civil Engineering Graduate Student						

East Palo Alto has one Class I bikeway (bike path), three Class II bikeways (bike lanes), and no Class III bikeways (bike routes). The existing unimplemented bikeways are listed below.

The existing and unimplemented Bike lanes are a prime focus of this Bike Plan. Every year two bikeways that are currently unimplemented will be implemented in accordance with the BTG.

Table 9: Existing Unimplemented Bike Lanes						
No.	Roadway	From	To	Class	Proposed	Built
5	Pulgas Ave.	Bay Rd.	E. Bayshore Rd.	2	1.3	0.0
6	Newbridge St.	Willow Ave.	Bay Rd.	2	0.4	0.0
7	Fordham St.	Illinois St.	Bay Rd.	3	0.8	0.0
8	Illinois St.	Fordham St.	Bay Rd.	3	0.8	0.0
9	Clarke Ave.	Runnymede St.	O'Conner St.	3	0.5	0.0
10	O'Conner St.	Clarke Ave.	Pulgas Ave	2	.3	0.0
11	O'Conner St.	Pulgas Ave	Bay Trail	3	.3	0.0
12	Cooley Ave.	University Ave	Bell St.	3	.4	0.0
13	Runnymede St.	Glen Ave.	Pulgas Ave.	3	.8	0.0
14	Bell St.	Oakwood Dr.	Clarke Ave.	3	.8	0.0
15	Saratoga Ave.	Newbridge St.	Holland St.	3	.3	0.0
16	Holland St.	E. Bayshore Rd.	Menalto Ave.	3	.2	0.0
17	Garden St.	Menalto Ave.	Oakwood Dr.	3	.2	0.0
18	Oakwood Dr.	Garden St.	Bell St.	3	.1	0.0
19	Euclid Ave.	Runnymede St.	Donohoe St.	3	.4	0.0
20	Donohoe St.	Euclid Ave.	University Ave.	3	.1	0.0
21	Donohoe St.	Menlo Park city limit	W. Bayshore Rd	3	.3	0.0
22	Bayshore Rd.	Donohoe St.	Manhattan Ave	3	.2	0.0
23	Manhattan Ave.	W. Bayshore	Woodland Ave	3	.2	0.0
24	Bayshore Rd.	Donohoe St.	Manhattan Ave	3	.2	0.0
25	E. Bayshore Rd.	Pulgas Ave.	Bay Trail	3	.2	0.0

Source: Andrew Boone, Stanford University Civil Engineering Graduate Student

4.3

Pedestrian Overcrossing Discussion

City staff supported by Caltrans has primarily investigated eight pedestrian overcrossing (POC) , including two which are on the fringes of the City's southern and northern borders with Menlo Park and Palo Alto.

Two POCs near EPA

Most community members were concerned with the lack of visibility that the high walls and circular design of the Ringwood Avenue overcrossing design. While the City of Menlo Park has listed the cost of the Ringwood Overcrossing's rebuilding on their

webpage as \$5,000,000, a more recent evaluation of the cost provided by Caltrans illustrates that it is substantially less based on the following:

- 1) Caltrans's cost estimate of \$1.2 million is based on a detailed structural design of the POC.
- 2) Menlo Park's \$5.7 million figure was from a planning study using a generic structure, without a detailed design.
- 3) Other reasons cited for the reduced cost estimate are:
 - a. Earlier cost included \$1.3 million for demolition and removal of the existing POC. Cost to construct POC back then would be \$4.4 million.
 - b. Earlier cost assumed larger dimensions than what was ultimately approved by the City of Menlo Park due to public concern that the structure needed to be reduced in size.
 - c. Foundations were designed to be smaller after detailed geotechnical studies were performed and the structure was reduced in size and weight.
 - d. The \$1.2 million estimate represents overall deflation in unit prices due to more competitive bidding.
 - e. The \$5.7M was based on 2007 prices which were at its peak for the local construction industry.

Other Options

Caltrans provided a cost of six other pedestrian overcrossing ranging in price from \$1.8 to \$3 million. They were located in Burlingame, Hayward, Sunnyvale, and San Mateo.

According to the 2000 Census, 1.8% of East Palo Alto commuters used a bicycle to get to work. This is the highest bicycle-to-work mode share of any city in San Mateo County except for Menlo Park.

As envisioned, the Bike Plan would further increase non-motorized use and mode choices for the general population. For commuters, the Bike Plan would identify the primary and secondary routes for those employees commuting to and from the cities of Palo Alto, and Menlo Park, respectively the first and second largest job centers.¹³ The City has adopted a goal of implementing measures that will result in a 0.25% yearly increase in bicycle commuting, or 1.25% for the five year term of the plan.

TABLE 10 TARGET TO INCREASE COMMUTING		
Actions	Measure of Effectiveness	Counts
Action 10.1	Average number of bicycles in racks at schools, and offices	Twice during school year
Action 10.2	# of commuter on University Bridge	Once per year
Action 10.3	Average use of 5 donor bicycles (measure of use); odometer to measure yearly use	Once per quarter
Action 10.4	# of Dumbarton Bridge commuters	Once per year

TARGETS: For those households with children less than 18 years of age, the Bike Plan would establish a safe route to school and from school to home. For those who are shoppers, the Bike Plan would provide safe access to commercial businesses. For senior citizens, the Bike Plan would identify where design intervention would reduce conflicts between pedestrians and cars, and pedestrian and vehicles.

¹³ Redevelopment Agency, Ravenswood Business District 2010 Market Study

MAP 1: EXISTING SETTLEMENT PATTERNS

MAP 2: PROPOSED SETTLEMENT PATTERNS

