

## 3. Policy Context and Design Standards

This chapter summarizes the existing policies and regulations that cover the Pathway Study Area.

Planning and policy documents relevant to a pathway along the EBMUD Aqueduct ROW include plans and policies from the City of Lafayette, Contra Costa County, as well as from regional entities like the Association of Bay Area Governments (ABAG), BART and the East Bay utility and park districts that have lands adjacent to the EBMUD Aqueduct ROW. These are summarized briefly below. **Appendix A** provides a more detailed review of each plan.

### 3.1 Policy Summary

The City's General Plan, the Lafayette Downtown Specific Plan, the Downtown Specific Plan Draft and Final Environmental Impact Reports, and the Bikeways Master Plan all directly address the Pathway Study Area, and either directly or indirectly support the development of a pathway along the EBMUD Aqueduct and Caltrans ROWs.

#### **General Plan (2002)**

The City of Lafayette's General Plan provides a set of directives and guidelines regarding future development in Lafayette. One of the themes of the General Plan is to maintain a network of bicycle and pedestrian paths between schools, commercial centers, parks and cultural centers in and around the City.

The General Plan supports creation of a network of safe bicycle and pedestrian facilities, and includes specific policies and programs that would directly affect a Pedestrian and Bicycle Pathway along the EBMUD Aqueduct ROW:

The Circulation Element states that in general, traffic signals will be designed to "favor pedestrians and bicyclists." The exception is the highly-congested Lafayette "Y" formed by Moraga Road, Mt. Diablo Boulevard, Oak Hill Road and First Street. Traffic signals that control traffic through the Lafayette "Y" and along Mt. Diablo Boulevard will be designed to "balance the needs of vehicular traffic and pedestrians" (p.II-1, Circulation Chapter, Lafayette General Plan).

Goals 2, 3, and 6 of the Circulation Element specifically address walking and bicycling in the area surrounding the EBMUD Aqueduct ROW:

- **Goal 2:** Ensure a continuous and accessible pedestrian network.
- **Goal 3:** Develop a network and facilities to serve bicycle trips to, from, and within the downtown.
- **Goal 6:** Manage downtown circulation to maximize personal mobility, recognizing that maximizing opportunities for walking, biking, taking transit, and parking in the right location when driving will mitigate traffic congestion and preserve the downtown's small town character.

Other relevant programs from the General Plan are:

- **Natural Resources:** Program NR-1.2.2. Develop off-street pedestrian walkways in the creek corridors to provide pedestrian linkages with Mt. Diablo Boulevard and other downtown streets.

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- **Downtown Districts:** Program DD-1.6.3. Improve the appearance and pedestrian orientation of Oak Hill Road and First Street as direct entrances into the downtown from SR 24.
- **Downtown Districts:** Program DD-1.6.4. Improve pedestrian access to the BART station through better signing and improvements to Happy Valley Road walkways.

### **Downtown Lafayette Specific Plan (DSP) (Revised Draft 2009)**

*The following description is based on the current draft version of the DSP. The DSP may change based on work undertaken by the Planning Commission and ultimately the City Council prior to adoption.*

The DSP was prepared by the City in September of 2009 to guide all future development in the downtown area of Lafayette and has not been adopted as of November 2011. If the DSP is adopted, the General Plan will be amended concurrently to ensure consistency with the DSP. Approximately one-third of the pathway alignment under study is located within the downtown area planning area. The other two-thirds about the DSP area on the south. The plan encourages sustainability and envisions a more compact development pattern that shortens travel distances and allows more people to travel by foot, by bike, or by public transit.

### **Downtown Specific Plan Draft and Final Environmental Impact Reports (2010)**

Draft and Final Environmental Impact Reports (Draft and Final EIRs) were prepared to evaluate potential environmental impacts of the DSP. The Draft and Final EIRs identify significant impacts related to air quality, population and housing, and traffic and transportation. The Draft EIR states that new development allowed under the DSP has the potential to cause more vehicle trips in the downtown and surrounding areas, which could result in higher levels of traffic congestion at intersections and roadways bordering the Pathway Study Area.

Goals and programs in the DSP relating to a pathway along the EBMUD ROW could partly mitigate the extent of these impacts if they are implemented (and vehicle trips are reduced). Additional examples of programs in the DSP that could help mitigate certain impacts include:

- **Program C-1.2.1.** Work with school administrators and parents to develop options for school commuting, including carpooling, walk and bike-pooling, employee parking, and satellite drop-off and pick-up locations.
- **Program C-2.3.2.** Develop off-street pedestrian walkways to provide pedestrian linkages with Mt. Diablo Boulevard and other downtown streets, including walkways along the creek corridors.
- **Program C-3.1.3.** Develop connections between properties and streets and to shorten pedestrian and bicycle travel by considering internal pathways through new development sites and connections to adjacent developments.

### **Bikeways Master Plan (2006)**

The Lafayette Bikeways Master Plan (adopted in 2006) was prepared by the City to facilitate safe and efficient bicycle travel within Lafayette and between Lafayette and other regional bicycling destinations. The plan is a guide for planning future bike lanes, routes, paths, parking and other bicycle facilities throughout the City. The plan includes a master list of priority projects, including the EBMUD Aqueduct/Caltrans ROW pathway. This pathway is categorized as an extremely important component of the comprehensive bicycle network, but it is listed as a longer-term, lower-priority project within the context of the overall Bikeways Master Plan. The

Bikeways Master Plan identifies preparation of a feasibility study for a pathway along the EBMUD Aqueduct ROW as a high priority.

### **Other Plans**

Several other City plans, listed below, address planning and development within the Pathway Study Area. These are described in **Appendix A**.

- BART Block Specific Plan (1986)
- Redevelopment Plan (1994)
- Master Walkways Plan (updated 2008)
- Trails Master Plan (2006)
- Park Master Plan Background Report (2009)
- Downtown Street Improvement Master Plan (1988)
- Traffic Calming Guidebook (2003)
- Zoning Ordinance and Municipal Code: Title 8 Public Welfare, Morals and Society, in Chapter 8-2 Bicycles.

## **3.1.1 County of Contra Costa Plans and Policies**

### **Contra Costa Countywide Bicycle and Pedestrian Master Plan (updated 2009)**

The Contra Costa Transportation Authority (CCTA) Countywide Bicycle and Pedestrian Master Plan was adopted in 2003 and updated in 2009. The Countywide plan encourages improved links to transit, development of safety and education programs, completion of regional connections, and collaboration between local agencies and citizens to build a countywide network of bicycle and pedestrian facilities.

The CCTA Comprehensive Transportation Project List contains 32 bicycle and pedestrian projects within Lafayette. This list is part of Appendix E of the Countywide Plan's 2009 update, and includes a pathway project along the EMBUD Aqueduct ROW. The CCTA Countywide Bicycle and Pedestrian Master Plan also identifies the Central County–Alameda County connection, on-road bicycle access from Central County and Lamorinda to Alameda County, as part of the Countywide Bikeway Network (p.56). A pathway along the EBMUD Aqueduct ROW could facilitate bicycle and pedestrian travel along this corridor.

## **3.1.2 Regional Plans and Policies**

### **EBMUD Trails**

EBMUD owns and manages the 915-acre Lafayette Reservoir Recreation Area, including the multi-use trail that surrounds the Reservoir. The entire recreation area is within Lafayette's city limits. Bicyclists and pedestrians using the Lafayette Reservoir Recreation Area trails could connect with a pathway along the EBMUD Aqueduct ROW using bike lanes or the wide sidewalk along Mt. Diablo Boulevard. EBMUD permits bicycles on the Lakeside Trail and other roads within the park on limited days at limited times. Bicycles are not permitted on any other EBMUD trails.

### **BART Station Profile Study (2008)**

As stated in the 2008 BART Station Profile Study, parking at the Lafayette BART Station consists of 1,526 spaces, including 380 monthly permit spaces and the 1,146 daily fee spaces. In addition, 122 bicycle spaces are provided at the station. Approximately 3,270 BART riders enter the station on an average weekday, 2,658 of which come from home. According to the study, 84 percent of Lafayette station BART riders drove from their home to the station, 12 percent walked, two percent bicycled and one percent each took transit or rode a motorcycle/moped.

### **Other Regional Plans**

Other relevant regional plans are listed below and described in **Appendix A**.

- BART Bicycle Access and Parking Plan (August 2002)
- East Bay Regional Park District (EBRPD) Master Plan (1997)
- ABAG Priority Development Area (PDA) (January 2010)

## **3.2 Design Standards**

Any pathway along the EBMUD Aqueduct ROW should conform to California pathway design standards. Pathway design in California is governed by many design documents, the most important of which include the Caltrans Highway Design Manual (HDM), the California Manual of Uniform Traffic Control Devices (MUTCD), the California State Parks Accessibility Guidelines, and the Access Board Draft Final Accessibility Guidelines for Outdoor Developed Areas. Together these design manuals describe three types of pathways, each of which must meet different design criteria: Class I bikeways (transportation pathways), multi-use pathways, and ADA-accessible pathways. The design requirements for each of these are summarized below.

- **Class I Bikeways (also referred to as transportation pathways).** At a minimum, Class I bikeways require a minimum eight-foot-wide paved surface and a minimum of two-foot-wide clear, graded shoulders on both sides. For moderate to high-use segments, a wider paved surface of 10 feet to 12 feet (minimum) should be considered. All standards set forth in Caltrans Highway Design Manual Chapter 1000 (1003.1) shall be met in order for a Class I bikeway to serve as a transportation facility.
- **Multi-Use Pathways.** These paths vary from four to eight feet in width and are constructed with native surface materials. The prevailing grade is five percent, with limited steeper segments. Clearances and turning radius are designed to accommodate all uses. These pathways often serve as recreational and not transportation facilities.
- **ADA-Accessible Pathways.** The surface of ADA-accessible pathways must be firm and stable, have a minimum clear tread width of 36 inches and include passing spaces at least 60 inches wide. The maximum allowed obstacle height is one-half to two inches depending on surface type. Additional provisions address openings, slopes, resting intervals, protruding objects, gates and barriers.

Design standards for ADA-accessible pathways—namely those that specify minimum tread width, frequency and width of passing spaces, surface type, maximum allowed obstacle height, and maximum grades—enable this pathway type to serve the greatest range of users. Class I bikeways are inherently also ADA-accessible pathways, as the design requirements for Class I bikeways meet or exceed design requirements of ADA-accessible pathways. Multi-use pathways can be designed to meet ADA-accessible pathway design standards, but are not always ADA-accessible.

Site conditions, such as steep topography, can limit the types of pathway facilities appropriate at a given site. For example, Class I bikeways have a maximum grade of five percent (except for short segments). In order to negotiate grades greater than five percent, a pathway meeting Class I bikeway design standards must incorporate one or multiple switchbacks, depending on the grade and length of the slope. Class I bikeways along long, steep slopes that must incorporate multiple switchbacks create undesirable, circuitous routes. Pathways that meet multi-use pathway design standards, which allow for steeper running grades and design features such as stairs, are more appropriate for lengthy, steep slopes.


In general, more grant funding is available for construction of pedestrian and bicycle facilities that serve as transportation facilities than those that serve primarily recreational purposes. Transportation pathways typically serve a wide range of users and connect residential land uses with transit, commercial, institutional, office, and recreational uses. Due to these characteristics, transportation pathways are more likely than recreational pathways to offset vehicular trips, potentially easing roadway congestion and reducing greenhouse gas emissions and urban runoff. Pathways meeting Class I bikeway/ADA-accessible pathway design standards provide greater transportation benefits than multi-use pathways and are eligible for a larger pot of grant funding for construction.

The tables on the next pages illustrate the three types of pathways and describe in detail the design standards for each type.

**Table 3-1: Class I Bikeway Design Standards**

Description
<p>Class I bikeways are facilities with exclusive right-of-way for bicycles and pedestrians, with cross flows by motorists minimized. Experience has shown that if significant pedestrian use is anticipated, a completely separate facility for pedestrians is necessary to minimize conflicts. The anticipated range of users and forecast level of use by different user groups should dictate the design of each specific facility. At a minimum, Class I bikeways require a minimum eight-foot-wide paved surface and a minimum of two-foot-wide clear, graded shoulders on both sides. For moderate to high-use segments, a wider paved surface of 10 feet to 12 feet (minimum) should be considered. In areas where a variety of users are expected, expanded unpaved shoulders should be included where possible. Class I bikeways immediately parallel and adjacent to highways must be separated from automobile traffic by a five-foot horizontal separation or a two-foot separation with barrier, per the Caltrans Highway Design Manual. Under certain circumstances, Caltrans may approve exceptions to the Class I bikeway design standards.</p>
Graphic
<p style="text-align: center;">* Pathway surfacing material to be determined during design development and may include pervious pavement.</p> <p style="text-align: center;"><b>This graphic is presented to illustrate classification standards and not meant as design guidelines.</b></p>
Standards
<ul style="list-style-type: none"> <li>• 10'-12' paved width (8' min.)</li> <li>• 12' width where path doubles as an access route for maintenance or emergency vehicles</li> <li>• 2' minimum required clear graded shoulder width on each side, 3' preferred</li> <li>• 8' minimum vertical clearance, 10' preferred</li> <li>• 2% cross slope to facilitate drainage</li> <li>• A grade of 2% or less accommodates the widest range of cyclists and is recommended. A 5% (maximum) grade allowed. Steeper grades can be tolerated for short segments (up to about 500 feet), although design speeds should be increased and path width should allow for additional maneuverability.</li> <li>• The Manual of Uniform Traffic Control Devices (MUTCD) provides guidance on appropriate signage and controls at trail roadway intersections.</li> </ul>

**Table 3-2: Multi-Use Pathway Design Standards**

Description
<p>Unless designated otherwise, all recreation trails are considered multi-use pathways. Multi-use pathways are designed and managed for <u>all</u> types of users. Anticipated levels of use, local public opinion, resource sensitivity and site evaluations should be used to determine whether or not a multi-purpose trail is an appropriate solution. These paths, while constructed with native surface materials, provide wide treads and clearances potentially accommodating significant volumes of hikers and bicyclists.</p> <p>The Caltrans Highway Design Manual Chapter 1000, (Section 1003.5) acknowledges that:</p> <p><i>“Many of these trails will not be paved and will not meet the standards for Class I bikeways. As such, these facilities should not be signed as bikeways. Rather, they should be designated as [multi-use pathways] (or similar designation), along with regulatory signing to restrict motor vehicles, as appropriate.”</i></p> <p><i>“If [multi-use pathways] are primarily to serve bicycle travel, they should be developed in accordance with standards for Class I bikeways. In general, [multi-use pathways] are not recommended as high speed transportation facilities for bicyclists because of conflicts between bicyclists and pedestrians. Wherever possible, separate bicycle and pedestrian paths should be provided. If this is not feasible, additional width, signing and pavement markings should be used to minimize conflicts.”</i></p>
Graphic
 <p style="text-align: center;">4' - 8' Path Width Natural Surface</p> <p style="text-align: center;"><b>This graphic is presented to illustrate classification standards and not meant as design guidelines.</b></p>
Standards
<ul style="list-style-type: none"> <li>• Path width varies from four to eight feet</li> <li>• Allowance for passing</li> <li>• Native materials</li> <li>• Obstacles occasionally present</li> <li>• Blockages cleared to define route and protect resources</li> <li>• Prevailing grade five percent, with limited steeper segments</li> <li>• Clearances and turning radius to accommodate all uses</li> </ul>

**Table 3-3: ADA-Accessible Pathway Design Standards**

<b>Description</b>	
<p>The Americans with Disabilities Act (ADA) requires that public facilities be designed so that people of all abilities can access and use them. Often, local site characteristics present constraints that make meeting ADA guidelines difficult and sometimes prohibitive. The 2009 U.S. Access Board Draft Final Accessibility Guidelines for Outdoor Developed Areas establish accessibility guidelines pursuant to the Architectural Barriers Act (ABA) for camping facilities, picnic facilities, viewing areas, outdoor recreation access routes, trails, and beach access routes that are constructed or altered by or on behalf of the Federal government. These guidelines also apply to local agencies that are using Federal funds to design or construct a facility.</p>	<p style="text-align: center;"><b>Trail gradients as recommended by the California State Parks Accessibility Guidelines</b></p>
<p>The technical provisions for ADA-accessible pathways require the surface to be firm and stable, a minimum clear tread width of 36 inches, passing spaces at least 60 inches wide and maximum obstacle heights of ½ to 2 inches depending on surface type. Additional provisions address openings, slopes, resting intervals, protruding objects, gates and barriers.</p>	
<p>California State Parks' Accessibility Guidelines (2009) present principles for providing accessibility within the State Parks. The Guidelines include standards and recommendations for numerous facilities common to parks, including pathways. As stated in the Guidelines, every effort should be made to install and maintain accessible pathways. To this end, the Guidelines contain standards for accessible pathways such as maximum running slopes, minimum width and frequency of resting spaces, maximum acceptable gaps in the pathway surface, optimal clearances and signage requirements. The Guidelines further state that accessible pathways should represent the most significant features and environmental experiences unique to the area.</p>	
<p>The following table represents the best practices as outlined by the California State Parks Accessibility guidelines and the U.S. Access Board's Draft Final Accessibility Guidelines for Outdoor Developed Areas.</p>	



**Table 3-3: ADA-Accessible Pathway Design Standards (continued)**

<b>Standards</b>		
<b>Item</b>	<b>Recommended Treatment</b>	<b>Purpose</b>
Pathway Surface	Hard surface such as asphalt, concrete, wood, compacted gravel	Provide smooth surface that accommodates wheelchairs
Pathway Gradient (running slope)	5% maximum without landings 8.33% maximum with landings 10% maximum for a distance of 30 feet 12% maximum for a distance of 10 feet	Greater than 5% is too strenuous for wheelchair users
Pathway Cross Slope	2% maximum	Provide positive pathway drainage, avoid excessive gravitational pull to side of trail
Pathway Width	36" minimum, 60" passing areas	Accommodate a wide variety of users and allows for the passage of two wheelchairs
Pathway amenities, phones, drinking fountains and pedestrian- actuated buttons	Place no higher than 4' off ground	Provide access within reach of wheelchair users
Detectable pavement changes at curb ramp approaches	Place at top of ramp before entering roadways	Provide visual and/or tactile queues for visually impaired users
Trailhead Signage	Accessibility information such as pathway gradient/profile, distances, tread conditions, location of drinking fountains and rest stops	User convenience and safety
Parking	Provide at least one accessible parking area per every 25 vehicles spaces at each trailhead	User convenience and safety
Rest Areas	On pathways specifically designated as accessible, provide rest areas or widened areas on the pathway optimally at every 300 feet	User convenience and safety

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