Acknowledgments

Delta Protection Commission

Erik Vink, Executive Director
Natasha Nelson, Assistant Executive Director
Virginia Gardiner, Program Manager
Blake Roberts, Program Manager
Stacy Hayden, Information Officer

Former Staff Planners
Jeremy Terhune
Adele Lagomarsino
Raymond Costantino
Alex Westhoff

Project Team

TrailPeople, Landscape Architects and Planners
Randy Anderson, Owner and Principal Landscape Architect
Sofia Zander, Principal Landscape Architect
Liz Westbrook, Planner and Designer
Whitney Ericson, Planning Assistant
Quan Sun, Planner
Heather Deutsch, Planner

National Park Service, Rivers, Trails and Conservation Assistance Program
Barbara Rice, Program Manager
Patrick Johnston, Landscape Architect
Kristin Van Fleet, Landscape Architect
Stakeholder and Technical Advisory Committee & Levee Manager Meeting Participants

Bay Area Ridge Trail
Bay Area Sea Kayakers
Bay Trail Project/Metropolitan Transportation Commission
Bike Concord
Bike East Bay
California Department of Water Resources
California State Parks
Center for Land Based Learning
City of Benicia
City of Oakley
City of Pittsburg
City of West Sacramento
Contra Costa County
Delta Conservancy
Delta Kayak Adventures
Delta Pedalers Bicycle Club
East Bay Regional Park District
Folsom Auburn Trailriders Action
Friends of the Eldorado Trail
Friends of the Sacramento River Parkway
GEI Consultants
McCormack Ranch
Mello Farms
Metropolitan Water District
MGE Engineering, Inc.
Mother Load Trail Stewards
Reclamation District 1002
Reclamation District 2085
Reclamation District 2095
Reclamation District 563
Reclamation District 765
Sacramento Area Council of Governments
Sacramento County Regional Parks
Sacramento County Sheriff
Sacramento Tree Foundation
Sacramento Valley Conservancy Board
San Joaquin Council of Governments
San Joaquin County
Solano County
Solano Transportation Authority
Solano Transportation Authority
Stockton Metropolitan Airport
Suisun Resource Conservation District
Trailscape, Inc.
US Fish and Wildlife Service
Watermark Farms

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Chapter 1: Introduction and Overview
This section provides an overview of the objectives, process, organization, and content of the Trails Master Plan.

1A. What is the Great California Delta Trail?

The Great California Delta Trail (Delta Trail) is envisioned as a continuous recreational corridor through the five California Delta counties (Contra Costa, Solano, Yolo, Sacramento, and San Joaquin). The vision for the Delta Trail includes routes accessible to all with connections to other trails, recreational facilities, and public transportation. The trail will link the San Francisco Bay Trail system in Contra Costa and Solano Counties to the planned Sacramento River trails in Yolo and Sacramento Counties. The vision also includes water trails.

California’s Sacramento-San Joaquin River Delta is a culturally, economically, and environmentally distinct location. Very few deltas in the world have formed so far inland and it is one of the only “inverted” deltas – so called because the flow is constrained at the Carquinez Strait.

When complete, the Delta Trail will be a regional trail that connects communities on a long distance and low stress primary trail corridor with boat launch locations and access trails leading to and from key destinations. The land trail network, water access sites, and adventure hubs will enhance existing destinations and entice visitors and residents to explore the Delta’s rich agricultural and cultural heritage, dynamic wildlife habitat, and its critical role in the State’s freshwater supply.

Designation as part of a regional trail system provides multiple benefits for users, businesses, agencies, and organizations:

- Encourages understanding of connection to greater Delta region
- Increases trail visibility
- Encourages trail use
- Benefits nearby businesses
- Ensures ongoing connectivity to the larger trail system
- Potential for additional funding opportunities

In all cases, the Delta Trail will be planned and implemented by the local communities, reflecting their desires and character, and sensitive to the needs, opportunities, and constraints of each setting. The Commission’s role is as a facilitator agency, supporting local agencies and organizations.

Trail Definition:

In this document “trail” is the term used to denote a continuous recreational corridor for use by one or more modes of transportation, including boaters, pedestrians, bicyclists, and equestrians.
Photo of original design of the Delta Trail Logo on the Sacramento River Parkway.
Legislative and Development History

Public Resource Code (PRC) 5852-5855, “The Great California Delta Trail System,” mandates the Delta Protection Commission (Commission) to adopt a plan and implementation program for the trail network. The Commission serves as the facilitator for this effort, working in partnership with local entities to coordinate planning and implementation across jurisdictional boundaries. Existing and future trail segments are and will be built and managed by local entities.

A significant amount of work has already gone into the development of the trail since the legislation was passed in 2006. Two Blueprint documents were completed: the Western Blueprint for Solano and Contra Costa Counties in 2010 and the Eastern Blueprint for Sacramento, San Joaquin, and Yolo Counties in 2019. Several segments of trail have been officially designated by local agencies and adopted by Commission Resolutions, and a many other segments are being planned. In 2018 a new Delta Trail logo was developed and installed on designated trail signposts along some of these segments.

A total of 47.3 miles of Delta Trail segments are designated and open to trail users. These segments are shown on the Regional Maps in Chapter 3 and include (operating agency and length in parentheses):

- River Walk Trail (City of West Sacramento, 1.2 miles)
- Clarksburg Branch Line Trail (City of West Sacramento, 6.9 miles)
- Sycamore Trail (City of West Sacramento, 1 mile)
- Sacramento River Parkway (City of Sacramento, 11 miles)
- Big Break Regional Shoreline (East Bay Regional Park District [EBRPD], 2.9 miles)
- Marsh Creek Regional Trail (EBRPD, 4.2 miles)
- Carquinez Strait Scenic Loop Trail (multiple agencies, 20.1 miles), including:
  - Glen Cove Waterfront Park (City of Vallejo)
  - Benicia State Recreation Area (California State Parks)
  - Bay Trail through Benicia (City of Benicia)
  - Benicia-Martinez Bridge Bike Path (Caltrans)
  - Carquinez Bridge Bike Path (Caltrans)
  - Bay Trail through Martinez (City of Martinez)
  - Carquinez Strait Regional Shoreline (EBRPD)
  - Bay Trail through Crocket (Contra Costa County)

In addition, the EBRPD is planning another 30 miles of Delta Trail in Contra Costa County, adopted by the Commission in 2017 as part of Resolution No. 17-01. This alignment is shown as a dashed line on the Western Region map in Chapter 3.

Trail development to-date has reinforced how critical partner agencies are in the completion of the Delta Trail. EBRPD’s forward-thinking plans for the Delta Trail in Contra Costa County, for example, will help ensure a cohesive and connected trail experience that benefits residents, businesses, and visitors alike. By working with local jurisdictions, EBRPD will ensure that the completed trail supports local needs as well as the regional vision.
Public Benefit

The Delta Trail will provide access to and thus raise awareness about the region’s culturally and naturally significant landscape. This trail network will become a unique amenity for the Delta and provide the following public benefits:

- **Education and Engagement**: Exploration of the Delta Trail’s natural, historic, and commercial areas will expose trail users to all the unique resources in the region.
- **Connection to Regional and Local Destinations**: The Delta Trail will provide access to commercial and residential neighborhoods; points of historic, natural, and cultural interest; and recreation areas like marshes, marinas, and fishing piers.
- **Equitable Access**: Developing a connected trail network in the Delta improves recreational access for all residents and visitors to the region.
- **Tourism**: The Delta Trail is another way to draw people to the region to spend money and time.
- **Recreation, Exercise, and Well-being**: The development of the Delta Trail would encourage physical activity for people of all ages and abilities and access to natural areas. Outdoor exercise and recreation benefit the mind and body.
- **Transportation**: Transit to trail connections will allow people to use the Delta Trail for active transportation.
- **Economic Benefits**: Trail development has been shown to have very real positive benefits to nearby local businesses.

Photo of visitors enjoying a trail at Big Break Regional Shoreline in Oakley.
1B. What is the Master Plan?

The Great Delta Trail Master Plan (Master Plan) documents the Commission’s work to gather community and stakeholder input and provide a framework for local and state trail planning and development decisions and implementation. The Master Plan is intended to help Delta residents, recreationists, community organizations, and public agencies understand the goals and strategies for the trail, the range of possible benefits from the trail, as well as the opportunities and constraints for development of the trail. It is meant to support agency planning efforts and is not a mandate for local agency land use changes.

The intended audience for the Master Plan is

- Public agencies or organizations planning trails within their jurisdiction
- Members of the public interested in influencing the planned trail alignment and advocating for trail designation in their area
- Commission staff continuing to shepherd the Delta Trail planning and development process

Master Plan Study Area

The Study Area for the Master Plan is within the Sacramento-San Joaquin Delta region and covers portions of five counties: Contra Costa, Sacramento, San Joaquin, Solano, and Yolo. Figure 1-1 shows the Master Plan Study Area, which reflects a combination of the following boundaries:

1. Delta’s primary zone (Public Resources Code section 29728) and secondary zone (Public Resources Code section 29731)
2. the Suisun Marsh (in Solano County, Public Resources Code section 29101)
3. much of the Sacramento-San Joaquin Delta National Heritage Area (S.47 [John D. Dingell, Jr. Conservation, Management, and Recreation Act]).

The western end of the Study Area overlaps with the Carquinez Strait Scenic Loop Trail, which encircles the Strait and brings together the Delta Trail, San Francisco Bay Trail and San Francisco Bay Area Water Trail, the Bay Area Ridge Trail, and the Juan Bautista de Anza National Historic Trail. The northern part of the Study Area extends into Sacramento and West Sacramento and includes the Sacramento River trail network and Clarksburg Branch Line Trail, which will eventually connect to the vast trail network including the American River Parkway and Sacramento Northern Bike Trail.
Figure 1-1: Map of Master Plan Study Area.
Master Plan Development Process

The Master Plan builds upon the efforts of the Delta Trail Blueprint Reports for the western counties of Contra Costa and Solano Counties in the Western Blueprint\(^1\) and the Eastern Blueprint\(^2\) for Yolo, Sacramento and San Joaquin counties. The data, process, and products of these two documents served as the foundation for the Master Plan.

The Master Plan has been developed through four phases of work:

- **Phase I:** Development of and working with the Technical (agency staff) and Stakeholder (representatives of interested organizations and groups) Advisory Committees (TAC and SAC), which provided guidance on issues, opportunities, and the public outreach process.
- **Phase II:** Outreach and engagement with Delta communities, levee managers, and visitors through online and mail-in surveys, focus groups, and interviews.
- **Phase III:** Development of a suite of possible trail types, corridor maps, and connections.
- **Phase IV:** Additional input from the Technical and Stakeholder Advisory Committees as well as from the public culminate with a Final Delta Trail Master Plan.

Master Plan Organization

The Delta Trail Master Plan includes the following sections:

- **Chapter 1: Introduction and Overview** describes the Master Plan background, objectives, process, organization, and content.
- **Chapter 2: Existing Conditions: Opportunities & Constraints** covers the planning context for the Master Plan; the relevant background plans, maps and reference documents; the context, challenges, and concerns for establishing trails.
- **Chapter 3: Master Plan Recommendations** contains the “heart” of the Master Plan, the recommendations for the trail designation and the regional maps for locally proposed development.
- **Chapter 4: Trail Design Guidelines** describes trail types and classifications; specific trail design standards for the Delta; principles for designing trails in different settings and accommodating specific user types; trail road crossings and connections; guidelines for a successful signage and wayfinding system; and guidance for trail amenities.
- **Chapter 5: Implementation** provides guidance and steps for building out the planned trail network, including planning-level estimated costs for trail types; funding opportunities and sources; and approaches to operating and maintaining the trail system.

Key information is also included within the appendices, including: survey results (Appendix A, D and I), background document summaries (Appendix B), rail trail information (Appendix C), operations and maintenance (Appendix E), funding (Appendix F), liability and risk reduction (Appendix G), a sample trail designation process (Appendix H), and the public and stakeholder comment summary (Appendix J).

\(^1\) The Great California Delta Trail Blueprint Report for Contra Costa and Solano Counties, Delta Protection Commission, 2010
\(^2\) Delta Trail Eastern Blueprint Report, Delta Protection Commission, 2019
Photo of the marshland and piers near Collinsville.
1C. Public, Stakeholder, and Technical Advisory Participation

As a community-based plan, the Master Plan reflects local activities, needs, and preferences, which were solicited through stakeholder outreach with the advisory committees, public survey, and levee manager survey, as well as through individual and small group interviews.

Public Survey

The public survey resulted in 201 responses from residents, visitors, and workers throughout the Delta and adjacent regions. The main purpose of the survey was to inform the development of the trail vision of the route either as a single spine, a network of trails, or combination.

Although efforts were made to ensure the broad distribution of the survey, due to the ongoing pandemic the sample size was somewhat limited. The responses did, however, help paint a picture of who is currently using trails in the Delta and who is interested in using trails.

Most respondents indicated that they live in (54%) and/or visit (55%) the Delta, showing that respondents were familiar with the Delta. Note that respondents could select as many categories as applied.

The full survey results are summarized in Appendix A.

Figure 1-2: 4”x6” Postcards in Spanish and English were distributed throughout the Delta to promote the survey.
Figure 1-3: Pie chart of survey respondents’ trail vision for the route. Respondents could select only one option.

The main question for the survey asked respondents about their vision for the trail route. There was a clear desire for a connected trail network from the survey responses, 86% of respondents said they wanted the Delta Trail connected via: (1) a main trail with connections to local trails (56%) or (2) a network of connected trails (30%). Respondents could select only one option. This input helped shape the recommendation to designate a main trail as well as connector trails.

Another key question asked respondents to select up to three trail connection options. The top response was creating trails that connect to existing trail networks (59%). Additionally, being able to explore the diversity and breadth of the Delta region via the Delta Trail emerged as a central theme in the responses to the above question. About 43% of survey takers desired connections to nature areas, and 37% said they would like to access these existing recreational features via the Delta Trail. This question helped inform the development of the local access trail type as well as the adventure hub concepts.

A third key question asked respondents to select their top three trail uses. By far the highest percentage would like to use the trail for recreation (89%) with 62% with the desire to explore and exercise on the trail. Only 12% of survey respondents would like to use the trail for transportation; however, in Portland, Oregon, the city with the greatest percentage of regular bicycle commuters in the United States, 6.3% of their population commutes by bike. Therefore, the 25 individuals or 12% of the Delta Trail survey takers who expressed interest in active transportation via the Delta Trail are significant. This question provided further support for the main trail and local access trail types.
Technical and Stakeholder Advisory Committees

The Delta Trail Legislation calls for the creation of a Technical Advisory Committee (TAC) and Stakeholder Advisory Committee (SAC) to inform, support, review, and make recommendations on the Delta Trail planning and implementation. For the Master Plan process, the TAC and SAC met three times:

- **December 2019**: email outreach and two separate TAC and SAC in-person meetings were held to kick off the Master Plan process (27 attendees total).
- **May 2021**: email outreach combined with a virtual TAC/SAC meeting was held to provide an update on Master Plan work, re-engage the members after the 2020 pandemic hiatus, and review public survey design, designation criteria, and implementation process information (12 attendees, 15 written comments).
- **September 2021**: email outreach combined with a virtual TAC/SAC meeting was held to review the Preliminary Draft Master Plan (24 attendees, 22 written comments).

Additional one-on-one meetings were held with agencies and organizations who were not able to attend the TAC and SAC meetings or provide written comments. A complete list of advisory committee participants is included in the acknowledgements.

TAC and SAC participants shared their expert opinions and unique perspectives based on the organizations/agencies they were representing or their personal experience. The committees provided valuable feedback and contributed materials throughout the Master Plan development. This feedback helped improve the accuracy of the existing conditions materials and provided guidance on the implementation and designation criteria.

Levee Manager Survey

Because levees are such a unique and central component of the Delta, the project team reached out directly to managers or Reclamation Districts for their input on the Master Plan. Through a print and online survey and two listening sessions, the team sought clarity to issues unique to Delta levee managers and what trail planners must understand when a trail is proposed on or near a levee.

Levees in the Delta are highly regulated and are managed by Reclamation Districts (RDs) comprised of the property owners within them. The survey was mailed or emailed to all but three of the 110 RDs within the Master Plan Study Area. We received 14 survey responses, representing over 50 RDs (many RDs are represented by the same engineering or law firm). In addition, two listening sessions were held to allow a deeper discussion around questions and concerns.

In general, the top concerns included trespass, vandalism, levee damage, liability, and theft. Although some RDs do allow limited public access along their levees, most RDs expressed significant concern about trying to balance levee maintenance requirements with public access.

These conversations helped shape the recommendations in Chapter 3 and the trail design guidance in Chapter 4, with an emphasis on context sensitive design and the use of existing and public property.

A full summary of the Levee Manager Survey and outreach is included in Appendix D.

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1 California Public Resources Code, Division 5, Chapter 12, Section 5855.
1D. Summary & Next Steps

In summary, the concept of the Delta Trail as a continuous recreation corridor is strongly supported by the participants in the public outreach survey. Additionally, the levee manager survey and outreach provided important input for consideration in future trail planning. Further site specific and regional outreach by local municipalities and agencies will be needed to move forward the Delta Trail recommendations in Chapter 3 and build momentum to implement the trail network described in Chapter 5.
Deltas are defined as wetlands that form when rivers empty their water and sediment into another body of water. The Sacramento-San Joaquin Delta (Delta) refers to the 1,150 square mile floodplain fed by the Sacramento and San Joaquin rivers, which empties into the San Francisco Bay through the Carquinez Strait before reaching the Pacific Ocean. The Delta includes hundreds of island tracts protected by over 1,100 miles of levees and hundreds of miles of sloughs and winding waterway channels.

The Sacramento-San Joaquin Delta is technically not a delta but the largest freshwater tidal estuary on the west coast of the Americas. It has statewide and federal significance as the hub of California’s water management system. Water that flows through the Delta supplies agricultural, commercial, utility, and residential uses across the state.

The Delta’s sediments provide nutrient-rich soils for agriculture and a system of inland waterways for fishing, commercial transport, and water sports. Its Central Valley location contrasts the valley’s hot, dry summers with cold river water from Sierra snow melt, a perfect combination for both water sports and agriculture. The Delta is a unique region that includes vast natural resources, highly productive agriculture, vibrant and historic communities, and many forms of recreation.

This chapter covers the planning context for the Master Plan and an overview of the existing destinations and pathways within the Delta. It also provides preliminary challenges and concerns that may arise in the process of developing the Delta Trail.

The following areas are highlighted in this Chapter (related map figures are noted):

2A. Jurisdictional Setting (Figure 2-1)
   - Legal Delta Jurisdictional Boundaries (Primary & Secondary Zones)
   - Sacramento-San Joaquin Delta National Heritage Area Designation
   - Delta Communities

2B. Levee Systems (Figure 2-2)

2C. Cultural Resources (Figure 2-3)
   - Delta Legacy Communities

2D. Agriculture & Agritourism (Figure 2-4 & Figure 2-5)

2E. Rivers & Waterways (Figure 2-6)

2F. Roads, Bridges, & Ferries (Figure 2-7)
   - Caltrans Districts & Highways
   - County Roads
   - Water Crossings (Bridges & Ferries)
   - Bicycle & Pedestrian Infrastructure

2G. Recreational Facilities & Wildlife Areas (Figure 2-8)
   - Water Recreation Facilities
   - Wildlife Areas

2H. Transit to Trails
   - Regional Rail Service (Figure 2-9)
   - Local Bus Service

2I. Regional Trails Systems (Figure 2-10)

2J. Previous & Related Delta Trail Planning Efforts
2A. Jurisdictional Setting

The Delta region includes portions of five counties, 12 incorporated cities, and 18 unincorporated communities. Dozens of agencies have jurisdiction over trail development-related activities, including, but not limited to, planning, design, construction, operations, and maintenance.

The following section provides an overview of the legal Delta Jurisdictional Boundaries, the Sacramento-San Joaquin Delta National Heritage Area, and the Legacy Communities located within the Delta, which provide some of the key framework for the Master Plan development. For the Delta Trail to be both successful and sustainable, local communities (with the support of the Commission and other entities) must plan and implement the trail to best reflect the needs, desires, and the character of each setting. This could include bicycle and pedestrian improvements that address the residents’ need for safe access to schools, businesses, and/or recreation uses. The Master Plan provides the broader regional trail vision for these types of local planning and projects. Local projects that are also a part of the Delta Trail network may have access to additional funding, advocacy and technical support.

Note that in addition to the settings described below and the typical local and regional jurisdictions, parts of the study area fall within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC) and/or the Delta Stewardship Council (Council). All projects that fall within their jurisdiction would require review by both local agencies and these state agencies. Both agencies support recreational development while protecting habitat, wildlife, and water quality. The Council includes specific recommendations in Chapter 5 of the Delta Plan.
Legal Delta Jurisdictional Boundaries (Primary & Secondary Zones)

The Delta Protection Act (as amended by the 2009 the Delta Reform Act), separated the legal Delta into two zones defining the geographical boundaries of state and local responsibilities in the Delta region. Both zones include land and water areas. The Primary Zone (approximately 500,000 acres) includes the area located within the Delta, but not within either the urban limit line or sphere of influence line of any local government’s general plan or studies. The Secondary Zone (approximately 238,000 acres) consists of the area within the legal Delta not included within the Primary Zone. As noted in Figure 2-1, the Master Plan study area includes the entirety of both zones, referred to as the Delta Jurisdictional Boundary.

Sacramento-San Joaquin Delta National Heritage Area Designation

The Sacramento-San Joaquin Delta National Heritage Area (NHA) and the Great California Delta Trail are joined by the overlapping visions of raising awareness about and access to the Delta Region. The Delta Trail Master Plan kickstarts possibilities about how to activate adventures and increase the visibility of both the Delta Trail and the NHA. Chapter 3 provides recommendations about adventure hub concepts and designation.

A National Heritage Area (NHA) is a federal designation intended to encourage the protection and appreciation of natural, cultural, and historic resources of a specific area in a systematic and cohesive manner. NHAs have no effect on water rights, property rights, or hunting and fishing rights within the designated area. After years of ground work, the Delta was designated as a National Heritage Area in 2019 by the United States Congress and President—one of 55 nation-wide and the first in California.

As part of the process to establish the National Heritage Area designation, the Commission embarked on the Delta Heritage Area Initiative, which included several specific programs. Many of these programs, listed below, are continuing as part of the National Heritage Area.

- Delta as Place Interagency Working Group
- Legacy Community Action Planning
- Delta Heritage Projects
- Delta Heritage Forum
- Delta Narratives
- Delta Awareness Campaign
- Delta Anthology
Delta Communities

Engaging agency staff, residents, and elected officials from the five counties, 12 incorporated cities, and 18 unincorporated communities, each with their own unique identity and history, is essential for the success of the Delta Trail. Designated Delta Legacy Communities are discussed separately in Section 2C.

Each county and incorporated community is represented by a local public agency with jurisdiction over a portion of the Delta and an interest and obligation to support the needs of its community. The unincorporated communities are overseen at the county level. While these unincorporated communities may lack an established local agency with governmental powers and obligations, many have established community groups and several have developed community plans, such as a Community Action Plan, documenting their community vision. Clarksburg, Courtland, Hood, and Walnut Grove all have developed Community Action Plans. A review of these local plans has shown existing local interest in recreational access and cultural interpretation. This interest is reflected in this master plan.

OPPORTUNITY:
• Public agencies, such as cities and counties, can codify support for the Delta Trail in their agency plans, require new developments to construct portions of the Delta Trail if alignments have been identified, and directly seek funding to develop portions of the trail within their jurisdiction.

CONSTRAINT:
• Each public agency represents an entity with its own needs and requirements, and thus the Delta Trail requires ongoing coordination and advocacy with neighboring jurisdictions to accomplish the broader Delta Trail vision.
Figure 2-1: Map of Delta Jurisdictional Boundaries.
2B. Levee Systems

There are over 1,100 miles of levees within the Delta, the first of which were built in the mid-1800s. The rich array of communities, agricultural land, recreational areas, highways, waterways, and rail and utility corridors in the Delta depend on the continued functionality of the Delta’s levee system. Many roads and highways are built on levees and provide the spine of the Delta transportation system for cars, agricultural equipment, as well as bicycles and pedestrians. Other features, such as railway embankments, also act as levees. Their elevated profile restricts and redirects water flow, in some cases providing flood protection. However, they are not regulated in the same way as levees.

The Delta’s aging levees are affected by sea level rise, continued subsidence, increased winter runoff, and earthquakes. Levees require frequent maintenance and often expensive improvements to ensure their integrity since levee failure could destroy buildings, crops, roadways, statewide drinking water infrastructure, and sensitive ecosystems.

Additional challenges exist around levee ownership. Levees are owned, maintained, and improved by a complex network of private landowners, reclamation districts (RDs), and/or a variety of public agencies. Levee maintenance and improvement activities impact areas beyond the local parcel. Since levee failure could be catastrophic, state and federal agencies define and regulate maintenance and improvements for project levees.

Finally, in our outreach process, levee managers identified trespassing on levees as one of the top issues impacting the integrity of the levee system. It was also their top concerns for future public access. Something as simple as a bicycle or dirt bike riding down the face of a levee can create long-term and costly erosion impact if they go undetected. In some cases, the additional presence of people recreating can reduce illegal activities. However, additional users can also bring additional impacts and any new public access projects will need to carefully balance the benefits and potential harm of additional public access.

**OPPORTUNITIES:**
- Trails could follow existing levee-top roadways.
- Trail development may be possible on levees that do not already have public-access roads.
- Adding public access to levees increases funding opportunities for levee maintenance and improvements.
- Trail construction may be included in levee improvements, which can be approved under a longer planning process overseen by state and federal operators.

**CONSTRAINTS:**
- Levee owners, whether public agencies or private landowners, may not be interested in additional restrictions and/or impacts on their levees.
- Frequent surface maintenance or rebuilding may be beyond the willingness or ability of some levee owners.
- Levee maintenance and improvements can be expensive and may require additional funding beyond the local sources for reclamation districts.
Figure 2-2: Map of Levees (project and non-project).
2C. Cultural Resources

The Delta has a rich cultural history. For millennia indigenous people have thrived in and around the Delta, taking advantage of plentiful fish, game, and the fertile soil. Today indigenous tribes and communities continue to celebrate the Delta’s sacred landscape, and still rely on the landscape for subsistence and ceremonies.

In the mid-1800s, pioneers and former Gold Rush seekers occupied the Delta, attracted by its deep fertile soil. They built levees and drained marshes to plant crops. Today, the Delta is home to more than half a million people in growing suburban cities, small historic towns, on family farms, and in other dispersed rural populations.

**OPPORTUNITY:**
- Interpreting the rich cultural history provides opportunities for destinations within the Delta.

**CONSTRAINT:**
- Sensitive cultural resources may need protection from impacts of additional public access.
Delta Legacy Communities

The 2009 Sacramento-San Joaquin Delta Conservancy Act specifically listed eleven Delta Legacy Communities as having a rich and distinct natural, agricultural, and cultural heritage: Bethel Island, Clarksburg, Courtland, Freeport, Hood, Isleton, Knightsen, Locke, Rio Vista, Ryde, and Walnut Grove. The Act calls on the Delta Conservancy and the Commission to support and promote these communities. **Figure 2-3** highlights the locations and historic ethnic communities of these and other Delta Legacy Communities. The Commission and Conservancy supported five legacy communities – Clarksburg, Courtland, Hood, Isleton, and Walnut Grove – in developing Community Action Plans. These plans highlight the communities’ needs and desires, many of which include bicycle and pedestrian improvements that could be designated as future Delta Trail alignment in some locations.

**OPPORTUNITY:**
- Legacy communities may be of particular interest to Delta visitors.
- The former Walnut Grove Branch Line rail corridor could connect several legacy communities.
- Bicycle and pedestrian improvements described in the four Community Action Plans could support the Delta Trail vision.

**CONSTRAINT:**
- Several of the legacy communities lack facilities, infrastructure, and resources to support Delta visitors.
Figure 2-3: Map of Legacy Communities and Historic Ethnic Communities.
2D. Agriculture & Agritourism

The Delta’s agricultural production has been central to its identity and economy for over 150 years. In 2020, agricultural trends showed that there were over 70 types of crops harvested on over 415,000 acres of land in the Delta (or 56% of ~738,000 total acres). According to the Commission’s Socio-Economic Indicators Report (2019), the top five Delta crops, in 2015, in terms of acreage are: alfalfa, corn, wheat, processing tomatoes, and wine grapes. The leading crop by revenue is wine grapes. Agricultural production in the Delta has an estimated average annual value just over $1 billion. Figure 2-4 identifies the agricultural and grazing lands within the project area.

Trespassing and vandalism currently have significant impacts on agricultural operations in the Delta. The Commission is committed to ensuring the trail will reflect the needs of all stakeholders and it is imperative that the trail is planned and designed to minimize negative impacts to agriculture and its facilities. Wherever Delta Trail segments are proposed near agricultural operations, the trail design and implementation must accommodate and address those operations. Mitigating trail design solutions may include fencing, gates, limited hours of operations, trail patrol/security, periodic trail closure for spraying, and others as described in Chapter 4.

The Delta also presents opportunities for connecting visitors to the rich agricultural resources through agritourism, which includes u-pick operations, farm stands, wine tasting, and more. Agritourism can be mutually beneficial with trail network development. The 2020 update of the Economic Sustainability Plan Recreation and Tourism chapter found that the number of farms with direct sales operations have increased throughout the Delta since 2002, including farm stands and u-pick sites (shown in Figure 2-5). Existing agritourism groups in the Delta include Harvest Time (Brentwood), which currently produces a farm trail map, and Sacramento River Delta Grown, which produced a Delta Farm and Winery Trail Guide.

**OPPORTUNITIES:**
- Promote and support Delta agricultural producers and educate trail users about the value and process of food production.
- Interpreting the rich agricultural history provides opportunities for destinations within the Delta.
- Planted buffers provide barriers between uses, creates aesthetic value, and provides habitat for beneficial pollinators.
- Strategic fencing design along the trail network may reduce impacts on neighboring and nearby working lands.

**CONSTRAINTS:**
- Trail users’ impact on agriculture operations may include theft, vandalism, liability, trespassing, spread of pathogens, and complaints about dust, noise, and spraying.
- The impact of agricultural operations on trail users may include exposure to pesticides, noise, dust, and machinery.

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2 Source: *Economic Sustainability Plan for the Sacramento-San Joaquin Delta: Recreation and Tourism Chapter (2020 Update)*
Photo of fruit stand near Rio Vista.
Figure 2-4: Map of Farmland and Grazing Land in the Delta and Surrounding Counties.
Figure 2-5: Map of U-Pick or Pumpkin Patches, Farm Stands/Markets, and Vineyards/Wineries.
2E. Rivers & Waterways

Five rivers flow into the Delta, capturing nearly half of the snowmelt and rainfall for the entire state. The two largest rivers are the Sacramento and San Joaquin. The other three rivers are the Mokelumne, Cosumnes, and Calaveras. The Delta is the largest estuary habitat on the West Coast and also supplies drinking water for 27 million Californians and supports a 50-billion-dollar agriculture industry throughout the state.3

Delta waterways are also major transportation corridors for agricultural products; the ports of Sacramento and Stockton are the most important inland ports in California. Most of the San Joaquin River through the Delta and the lower Sacramento River below its connection to the Sacramento Deep Water Ship Channel are routinely dredged to allow for the passage of large cargo ships to these inland ports.

Additionally, the Delta waterways are a scenic and recreational resource for residents and visitors alike. The Delta is a destination for fisherpersons, a variety of boaters (sailing to speed), human-powered crafts (including kayak, canoes, and standup paddleboards, and wind water sport enthusiasts (including wind surfers and kite boarders). It also hosts over 500 species of wildlife, including 20 endangered and/or sensitive species, that depend on clean rivers and waterway for survival. Recreation and wildlife are described in more detail in Section 2G.

OPPORTUNITIES:

- Scenic and recreational resources can be celebrated through the promotion of the Delta Trail network including the development of water launch sites and adventure hubs.
- Development of non-motorized trails would increase non-vehicular options for travel in the Delta and reduce vehicular impacts to the waterways.
- Well-designed trails that follow state, federal, and local regulations would prevent construction-related erosion and siltation impacts on water quality.
- The Sacramento River links the historic waterfront-focused communities along Highway 160.
- Increased presence of trail users can discourage illegal activities that impact water quality.

CONSTRAINT:

- Additional visitors to the Delta could impact water quality from trash and other pollution.
- Trail construction may marginally increase erosion or siltation.
- Trail use may increase fecal matter contamination from dogs or horses.
- Pesticides used in trail maintenance can impact water quality.
- Illegal dumping and unsanctioned encampments can impact water quality.

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Figure 2-6: Map of Delta Waterways.
2F. Roads, Bridges, & Ferries

Travel by car is the most common way for people to get around the Delta region. Bicycling, walking, and boating are also popular and are found in limited locations for mostly for recreational purposes. A handful of public transportation systems (mostly buses) operate in or near the Delta, but their reach is limited in hours and destinations. Established commuter rail lines travel along the perimeter of the Delta and to the larger cities. This is described in more detail in the Transit to Trails Section 2H.

The roads in the Delta can generally be categorized as regional (i.e. highways) or local roads. Regional roads connect more distant locations and are generally built and maintained by the State (Caltrans) or by county agencies. Local roads are generally smaller, connect closer destinations and are built and maintained by a county or city.
Caltrans Districts & Highways

Caltrans, the California state agency responsible for the state-wide transportation network, manages the following seven roadways that pass through or along the perimeter of the Delta: Interstate 5 (I-5), and State Routes (SR) 4, 12, 84, 113, 160, and 220. Operationally, the Delta region is overseen by three Caltrans management districts: District 3 (Yolo and Sacramento counties); District 4 (Solano and Contra Costa counties); and District 10 (San Joaquin County). Caltrans planning processes begin with locally adopted Regional Transportation Improvement Plans (RTIPs) and other efforts through the Council of Governments for each county. These are transmitted to the appropriate Caltrans District. Because the region is divided across three Caltrans districts, multi-modal and active transportation planning opportunities may be complicated within Caltrans’ planning processes.

I-5 is an entirely limited-access freeway: it has no stoplights, and all access is via on- and off-ramps. Bicycles and pedestrians are prohibited from accessing I-5.

SR 4, 12, 84, 113, 160, and 220 were mostly designed and are currently maintained as rural highways. Some of the state routes, such as SR 4, are generally limited access roads, with on- and off-ramps to permit free flowing vehicular traffic. Others, such as SR 160, intersect local roads with stoplights or with stop signs for cross traffic. These roads sometimes have wider shoulders, which function as bike lanes and/or informal parking areas for recreation. In some communities and commercial areas these roads also include sidewalks. Unless specifically posted, bicyclists and pedestrians are permitted to use these roadways, regardless of whether there are specific lanes or sidewalks for their use.

In 2012 the Commission adopted Resolution 02-12 supporting the development of bicycle facilities (bike lanes or separated trails/bikeways) on SR 4, 12, and 160. The resolution notes the potential benefits of developing facilities on these roads but is also clear that the benefits should be weighed against local concerns.

In late 2021, Caltrans issued a new Complete Streets policy that will require all new transportation projects funded or overseen by Caltrans to provide bike and pedestrian facilities if there is current or future bike and/or pedestrian need. This policy could potentially be used to further support development of Delta Trail facilities along or across state routes within the Delta. This also underscores the importance of continued coordination with Caltrans.
State & County Scenic Highways

Almost the entire length of SR 160 through the Master Plan Study Area is designated as a State Scenic Highway (Official Designation #10 on October 3, 1969). In addition, River Road from Isleton Bridge to Courtland Bridge is an officially designated Sacramento County Scenic Highway. The purpose of the scenic highway designation is to, “play an important role in encouraging the growth of the recreation and tourism industries upon which the economy of many areas of this State depend.” Development of bicycle and pedestrian facilities on scenic corridors is compatible with and encouraged by these designations.

OPPORTUNITIES:

- Wide, paved roadway shoulders are already used as bikeways and could be improved for safer and more comfortable bicycle and pedestrian use.
- Roadway shoulders already function as informal parking areas, which could be improved to provide safe and attractive pull outs for scenic views, fishing, water access, or historic markers.

CONSTRAINTS:

- Where roads have not been widened, the high volume of traffic on the State Routes makes bicycling and walking on these roads unsafe and unattractive. A lack of highway turnoffs prevents vehicles from safely stopping for views or to access resources.
- Bicyclists and pedestrians are prohibited from accessing any part of I-5 and access across the interstate is limited to the existing over- or under-crossings.
- SR 4, 12, 84, 113, 160, and 220 have long stretches with few stop signs or lights, making crossing dangerous for bicycles and pedestrians.
- The trail would potentially pass through three Caltrans Districts and multiple highways, making coordination more challenging.
- As populations expand throughout the Delta and the surrounding metropolitan areas, commuter traffic through and within the Delta will increase traffic congestion, which would negatively impact Delta Trail users.

River Road near Walnut Grove is a designated Scenic Highway.

County Roads

All remaining public roads in the Delta that are not within an incorporated community are part of each county’s roadway network. Some of these county roads, such as Isleton Road, function as thoroughfares and may have similar widths and speed limits to state routes. Other county roads, such as the roads within the Mountain House community, have widths, speed limits, and sidewalks similar to city roads. Some county roads are named (such as Bacon Island Road, near Holt), numbered (such as County Road 144, near Clarksburg), or both (such as E13/Twin Cities Road near Walnut Grove). In agricultural areas, county roads may see frequent use by farming equipment and large trucks. As with the state routes, bicyclists and pedestrians are permitted on county roads unless specifically posted otherwise.

OPPORTUNITIES:
- All County roads represent an opportunity to use existing public rights-of-way, pavement, and transportation routes for bicycle or pedestrian trails with infrastructure that scales according to traffic speed and volume.

CONSTRAINTS:
- County roads typically have long stretches with few stop signs or lights, making crossing dangerous for bicycles and pedestrians.
- Heavy use by agricultural equipment during the harvest season will require additional coordination and safety measures.
- Where no formal roadside pullouts exist, vehicles may not be able to safely stop to access views or other resources.
Water Crossings (Bridges & Ferries)

With so much water in the Delta, crossing rivers, canals, and sloughs is a major component of moving about the region. See Figure 2-7 for the general location of the existing bridges and ferries in the Delta. Most crossings are made using fixed bridges or drawbridges, some of which provide separate and/or protected space for bicycle and pedestrian access. Drawbridges provide extra clearance for taller watercraft while keeping the roadway relatively level when the drawbridge is in the “closed” position. Newer bridges are typically more steeply ramped to allow watercraft passage without requiring drawbridge functionality.

Most bridges are located along state routes, but there are many bridges on county and city roads as well. Improving bicycle and pedestrian access on bridges is discussed further in Chapter 4. Where bridge widening or replacement is required, impacts on levees will require careful additional attention and consideration and, in some cases, may not be feasible.

Two state-run ferries operate within the Delta. The Ryer Island Ferry, served by the Real McCoy II, crosses Cache Slough as part of SR 84. The Howard Landing Ferry, served by J-Mack, crosses Steamboat Slough as part of SR 220. Both ferries are free, operate at all hours year-round. The Real McCoy II can carry up to eight vehicles and the J-Mack ferry can carry up to six vehicles. Both ferries permit bicycles and pedestrians. Several islands operate private ferries that are not shown on the map. Access on these ferries typically requires advance purchase of a ticket.

**OPPORTUNITIES:**
- Bridges and ferries provide iconic imagery of the Delta and in some cases are destinations in themselves.
- Existing bridges can be modified with parallel or cantilevered access for bicycles and pedestrians.
- Replacement bridges can be built with safe and attractive bicycle and pedestrian facilities and may even provide scenic overlooks mid-span.

**CONSTRAINT:**
- Bridges and ferries require frequent maintenance, which disrupts vehicular traffic and may limit access to some communities.
- Replacement or widening of existing bridges, or construction of new bridges is expensive and may negatively impact levees.
- Most of the Delta bridges are historic, making repair and replacement complicated, costly, and time-consuming.
Bicycle & Pedestrian Infrastructure

Some Delta roadways have existing bike facilities, such as protected and unprotected bike lanes, and pedestrian facilities, such as sidewalks. Some bridges provide some pedestrian space, but few provide dedicated bike facilities. Both bike lanes and sidewalks are primarily located within the more densely developed and populated areas of the Delta. Chapter 3 and 4 describe how existing bicycle and pedestrian infrastructure could support the Delta Trail.

**OPPORTUNITY:**
- Roadway and bridge improvement projects offer opportunities to add or improve bicycle and pedestrian facilities at the same time. This is true for Caltrans facilities (state routes) as well as county or city operated roads and bridges.
- Existing bike lanes and sidewalks may be used to provide interim and/or immediate bicycle and pedestrian access to Delta resources.
- There are many low-cost design solutions, such as painted bike lanes and quick-build buffers, that could create near-term bicycle and pedestrian safety and access improvements.

**CONSTRAINTS:**
- Most bike lanes and sidewalks are located in the more densely developed areas and do not connect to scenic, cultural, or natural resources.
Figure 2-7: Map of Highways, Roads, Bridges, and Ferries.
2G. Recreational Facilities & Wildlife Areas

There are over 100,000 acres of protected lands within the Master Plan Study Area. Of that acreage, over 55,000 acres are accessible to the public, and another 24,000 acres have some type of limited public access. These public parks, open spaces, preserves, and refuges in the Delta are managed by local, regional, state, and federal agencies and are highlighted in Figure 2-8. Local parks are typically built and managed by municipalities, while parks serving a larger population are typically built and managed by regional agencies, such as the East Bay Regional Park District (EBRPD); county agencies, such as the Sacramento County Parks Department; state agencies, such as the California State Parks and the California Department of Fish and Wildlife; and federal agencies, such as the US Fish & Wildlife Service. Local land trusts also play a role in acquiring and protecting land in the Delta. Some parks and open space facilities are primarily habitat protection areas with limited recreational access, while others are primarily recreational facilities, which may also provide habitat protection or enhancement.

**OPPORTUNITY:**
- Parks and open spaces represent opportunities for a wide range of activities and facilities including trails, boat launches, camping, fishing, picnicking, wildlife viewing, and more.

**CONSTRAINT:**
- Areas of sensitive habitat may need to be avoided or have limited access.
- Areas of seasonal waterfowl hunting may need to be avoided or have restricted access.

Photo of people fishing at Brannan Island State Recreation Area.

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5 California Protected Areas Database, accessed November 3, 2021
Water Recreation Facilities

Recreational boaters may access the Delta waterways from over 100 existing marinas and water launch sites (note that many of these marinas are privately owned and the level of public access varies - some may require membership, launch, and/or parking fees). Seven of those sites in Contra Costa and Solano Counties are designated San Francisco Bay Area Water Trail sites. The Delta’s waterways support many types of recreational vessels, including kayaks, canoes, motorboats, sailboats, stand-up paddle boards, water wind sports and more. Fishing is very popular in the Delta, with hundreds of formal and informal access points for fishing from land or by boat. Swimming is limited by the steep banks of most of the levees, however, a handful of locations have developed attractive beaches for easy water access.

**OPPORTUNITIES:**
- Boat launches provide attractive destinations for trail users, potential Water Trail launch sites, and opportunities to connect land and water trail networks.
- Beaches provide attractive destinations for trail users.
- The rich flora and fauna of the Delta represent amazing opportunities for interpretation and wildlife viewing from the water.

**CONSTRAINT:**
- Areas of sensitive habitat may need to be avoided or have limited access.

Photo of wind surfers on the Sacramento River near Sherman Island. (photo courtesy of Daniela Peña Corvillon)
Wildlife Areas

The Delta provides habitat for more than 500 species of wildlife, including 20 endangered and/or sensitive species, such as the riparian brush rabbit, the greater sandhill crane, and the chinook salmon. Delta wetlands harbor as much as 15 percent of the waterfowl on the Pacific Flyway, one of four major North American migration routes for birds, especially waterfowl, extending from Alaska and Canada, through California, to Mexico and South America.6

The Stone Lakes National Wildlife Refuge is one of several refuges in the Delta. Managed by the US Fish and Wildlife Service, and located near Hood, the refuge’s boundary covers almost 18,000 acres (of which over 6,000 acres are protected) along the Pacific Flyway. The lakes and waterways of the Stone Lakes Basin are entirely within the 100-year floodplain and the diverse habitats of the refuge are home to over 200 species of birds and many other fish and wildlife species.

Suisun Marsh, an 84,000-acre marsh outside of Fairfield, is another major resting and feeding ground for thousands of waterfowl migrating on the Pacific Flyway. Suisun Marsh is the largest contiguous estuarine marsh in the western United States, providing essential habitat for more than 220 bird species, 45 mammal species, 16 different reptilian and amphibian species, and more than 40 fish species.

Public agencies, such as the California Department of Fish and Wildlife, and non-profits, such as the Solano Land Trust, are working to protect and improve the ecological integrity of the Delta.

The entirety of Suisun Marsh, as well as the shoreline along the Carquinez Strait in both Solano and Contra Costa Counties, falls within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC). Any projects within this area would require both local government permits and BCDC permits.

The following agencies or organizations own or manage parks and open space areas within the Delta (shown on map):

- US Fish & Wildlife Service
- California State Parks
- California Department of Fish and Wildlife North Central Region & Bay Delta Region
- California Department of Water Resources
- East Bay Regional Park District
- Solano County Parks
- The Cities of Antioch, Benicia, Brentwood, Isleton, Lathrop, Martinez, Oakley, Pittsburg, Rio Vista, Sacramento, Stockton, Tracy, Vallejo, and West Sacramento
- Mountain House Community Service District
- Cosumnes River Preserve Partners
- Solano Land Trust

**OPPORTUNITY:**

- The rich flora and fauna of the Delta represent amazing opportunities for wildlife viewing, education, and interpretation.

**CONSTRAINT:**

- Areas of sensitive habitat may need to be avoided or have limited access.

6 https://www.watereducation.org/aquapedia/pacific-flyway (accessed on 10/1/2021)
Figure 2-8: Map of Recreation Destinations.
2H. Transit to Trails

Regional Rail Service

The Altamont Corridor Express (ACE), Bay Area Rapid Transit (BART), and Amtrak all provide commuter and/or long-distance passenger rail service with stops in the Delta. ACE trains serve Stockton, Lathrop, and Tracy. BART serves east Contra Costa County to Antioch. Amtrak’s Capital Corridor serves Martinez, Suisun-Fairfield, and Sacramento and Amtrak’s San Joaquins train serves Martinez, Antioch, Stockton, Lodi, Sacramento. BNSF and Union Pacific both operate freight rail lines through the Delta, some of which share tracks with Amtrak.

**OPPORTUNITIES:**
- Existing rail service can provide scenic access through the Delta.
- Existing rail service can provide non-motorized access to the Delta.
- Rail corridors can serve the dual purpose of continuing rail service and providing recreational non-motorized trail access (rail with trail).

**CONSTRAINTS:**
- Active rail lines may limit access to certain areas due to limited crossings.
- Coordination with the rail line owners/operators for trail crossings or rail with trail can be challenging.

Local Bus Service

Currently, at least a dozen agencies operate some form of bus service within the Delta. However, many operate on very limited schedules, creating a patchwork of availability. The following agencies provide service to the Delta:

- Western Contra Costa Transit Authority (WestCAT) [www.westcat.org](http://www.westcat.org)
- Eastern Contra Costa Transit Authority (Tri Delta Transit) [www.triddelta.com](http://www.triddelta.com)
- County Connection [www.countyconnection.com](http://www.countyconnection.com)
- Solano County Transit (Soltrans) [www.soltrans.org](http://www.soltrans.org)
- Fairfield and Suisun Transit (FAST) [www.fasttransit.org](http://www.fasttransit.org)
- Rio Vista Delta Breeze [www.riovistacity.com/delta-breeze-transit-system](http://www.riovistacity.com/delta-breeze-transit-system)
- Yolo County Transportation District (Yolo Bus) [www.yolobus.com](http://www.yolobus.com)
- Sacramento Regional Transit (SacRT) [www.sacrt.com](http://www.sacrt.com)
- South County Transit (SCT/Link) [www.sctlink.com](http://www.sctlink.com)
- San Joaquin Regional Transit District (RTD) [www.sanjoaquinrtd.com](http://www.sanjoaquinrtd.com)
- Napa Valley Transportation Authority (NVTA) [www.vinetransit.com](http://www.vinetransit.com)
- Greyhound [www.greyhound.com](http://www.greyhound.com)

**OPPORTUNITY:**
- Existing bus service can provide non-motorized access to the Delta.

**CONSTRAINT:**
- Much of the existing service is focused on commute hours and many services do not run on the weekends.
Figure 2-9: Map of Rail Lines.
21. Regional Trail Systems

There are many existing and planned regional trail systems in and around the Delta. Some trail systems are planned, built, and managed by a single agency; however, most are planned, built, and managed by multiple agencies, often with differing or conflicting design and use standards. For example, differing standards could include allowing or prohibiting bicycles, equestrians, and/or dogs.

Most of the regional trails are designated as multiple overlapping regional trails, such as the five regional trails that converge along the Carquinez Strait to become the Carquinez Strait Scenic Loop Trail: Bay Area Ridge Trail, Great California Delta Trail, Juan Bautista de Anza Trail, San Francisco Bay Trail, and SF Bay Water Trail.

The following thirteen regional trails (listed alphabetically) are envisioned and/or exist within or connect to the Delta region. The energy and momentum to develop these trails can be built upon for greater trail connectivity through the Delta. Numerous other smaller hiking, biking, and/or horseback riding trails exist throughout the Delta, mostly within existing public parks and open spaces.

### American Discovery Trail

**Trail Users:** Walkers/hikers  
**Lead Agency/Organization:** American Discovery Trail Society (non-profit, [www.discoverytrail.org](http://www.discoverytrail.org))  
**Trail Owner/Manager:** Multiple (designation is added to existing trails)  
**Existing Trail(s) within Study Area:** Delta de Anza Trail  
**Co-alignment:** American River Trail, Bay Area Ridge Trail, Delta de Anza Regional Trail, Juan Bautista de Anza National Historic Trail, Mokelumne Coast to Crest Trail, San Francisco Bay Trail  

The American Discovery Trail is a designation added to existing trails and roads to form a network of non-motorized recreational routes from Point Reyes National Seashore, California to Cape Henlopen State Park, Delaware. The American Discovery Trail Society, a non-profit based in Virginia, promotes the trail, sells maps and route information, and advocates for funding and construction. In the Delta region, the American Discovery Trail follows the existing road network from Antioch to Freeport (passing through Clarksburg, Locke, Walnut Grove, and Isleton) and then follows the Sacramento River Trails to the American River Trail.
American River Trail/Parkway – Jedediah Smith Memorial Trail

Trail Users: Hiking, biking, equestrians (partial)
Lead Agency/Organization: Sacramento County Regional Parks and California State Parks
Trail Owner/Manager: Sacramento County Regional Parks and California State Parks
Existing Trail(s) within Study Area: None
Co-alignment: American Discovery Trail

The American River Parkway – Jedediah Smith Memorial Trail is a 32-mile multi-use, paved trail with gravel shoulders for equestrians and runners that begins at Discovery Park in Sacramento where the American River meets the Sacramento River creating a continuation of the Sacramento River Trail along the American River. The trail ends at Beals Point in the Folsom Lakes State Recreation Area. At this point a narrow and natural-surface trail network continues up the North Fork of the American River. Jedediah Smith Memorial Trail was recognized as a National Recreation Trail in 1974. The trail is not within the Master Plan study area, but directly connects to Sacramento River Trail within the study area.

Bay Area Ridge Trail

Trail Users: Hiking, biking (partial), equestrian (partial)
Lead Agency/Organization: Bay Area Ridge Trail (non-profit, www.ridgetrail.org)
Trail Owner/Manager: Multiple (designation is added to new and existing trails)
Existing Trail(s) within Study Area: Carquinez Strait Scenic Loop Trail
Co-alignment: American Discovery Trail, Carquinez Strait Scenic Loop Trail, Juan Bautista de Anza National Historic Trail, Mokelumne Coast to Crest Trail, Pony Express National Historic Trail, San Francisco Bay Trail

The Bay Area Ridge Trail (Ridge Trail) is a designation added to trails that would comprise a 550-mile continuous loop around the San Francisco Bay Area, primarily on the ridge lines. Ridge Trail segments may be single-track unpaved trails, or wide multi-use trails. Bay Area Ridge Trail Council, a non-profit based in San Francisco, promotes the trail, provides maps and route information, works with dozens of local agencies to plan, fund, and construct segments of the trail, and runs volunteer trail events and maintenance projects. In the Delta region, the Ridge Trail overlaps with portions of the Carquinez Strait Scenic Loop Trail including the Carquinez Bridge and Benicia-Martinez Bridge.
California Aqueduct Bike Trail
Trail Users: Hiking, biking
Lead Agency/Organization: California Department of Water Resources
Trail Owner/Manager: California Department of Water Resources
Existing Trail(s) within Study Area: none
Co-alignment: none

The California Aqueduct Bike Trail is a partially accessible gravel bicycle trail that uses the California Aqueduct maintenance roads that run 293-miles from the Delta to the Grapevine near the Tehachapi Mountains. Currently, there are 60 accessible miles beginning at the Bethany Reservoir outside of Tracy and ending at O’Neil Forebay at the base of the San Luis Reservoir State Recreation Area outside of Santa Nella. This trail is minimally maintained for public access.

Carquinez Strait Scenic Loop Trail
Trail Users: Hiking, biking, equestrians (partial)
Lead Agency/Organization: Multi-organization collaboration
Trail Owner/Manager: Multiple (designation is added to new and existing trails)
Existing Trail(s) within Study Area: Entirety of inner loop (closest to the water’s edge)
Co-alignment: Bay Area Ridge Trail, Juan Bautista de Anza National Historic Trail, Pony Express National Historic Trail, San Francisco Bay Trail

The Carquinez Strait Scenic Loop Trail is a designation added to multi-use trails circling the Carquinez Strait. The project is a collaboration between several organizations, which recently completed a Vision Plan for the trail. The entire trail is within the Master Plan study area, crosses both the Carquinez Bridge and the Benicia-Martinez Bridge and runs along the Carquinez Shoreline in both Contra Costa County and Solano County.
Delta de Anza Regional Trail
Trail Users: Hiking, biking, equestrian (partial)
Lead Agency/Organization: East Bay Regional Park District
Trail Owner/Manager: East Bay Regional Park District
Existing Trail(s) within Study Area: Most of the trail
Co-alignment: American Discovery Trail, Juan Bautista de Anza National Historic Trail, Mokelumne Coast to Crest Trail

The Delta de Anza Regional Trail is a regional trail planned, built, and maintained by the East Bay Regional Park District. Most of the trail is within the Master Plan study area, with exception of a small section on the western end, and is designated as the Juan Bautista de Anza National Historic Trail. The paved, multi-use hiking, bicycling, and equestrian trail currently spans over 15 miles of the planned 25-mile length. The planned and built alignment generally follows the East Bay Municipal Utility District's pipeline corridor and the Contra Costa Water District's canal, bookended by Iron Horse Trail on the western end and the Marsh Creek Trail and the eastern end.

Photo of Juan Bautista de Anza National Historic Trail interpretive panel overlooking the Carquinez Strait in the Carquinez Strait Regional Shoreline.

Juan Bautista de Anza National Historic Trail
Trail Users: Driving (partial), hiking (partial), biking (partial), equestrian (partial)
Lead Agency/Organization: National Park Service
Trail Owner/Manager: Multiple (designation is added to existing trails)
Existing Trail(s) within Study Area: San Francisco Bay Trail/Carquinez Strait Scenic Loop Trail (Contra Costa County), Delta de Anza Regional Trail, Marsh Creek Trail
Co-alignment: American Discovery Trail, Bay Area Ridge Trail, Carquinez Strait Scenic Loop Trail, Delta de Anza Trail, Mokelumne Coast to Crest Trail, Pony Express National Historic Trail, San Francisco Bay Trail

The Juan Bautista de Anza National Historic Trail (Anza Trail) is a designation added to existing trails and roads to form a route that generally follows the path that Spanish commander Juan Bautista de Anza took in the late 1700s from modern-day Mexico, near Nogales, Arizona, to the San Francisco Bay Area region. The trail is designated by the National Park Service as a National Historic Trail. The Park Service promotes the trail, provides maps, route, and historic information, and works with local agencies to fund and construct segments of the trail. The Anza Trail maps also provide suggested driving routes.
Iron Horse Trail
Trail Users: Hiking, biking
Lead Agency/Organization: East Bay Regional Park District (EBRPD)
Trail Owner/Manager: EBRPD in partnership with counties and cities that it passes through
Existing Trail(s) within Study Area: Iron Horse Trail
Co-alignment: none

The Iron Horse Trail is a partially constructed 55-mile multi-use paved trail that runs along the abandoned Southern Pacific Railroad right-of-way. There are 32 miles completed between Pleasanton and Concord. The broader vision for the Iron Horse Regional Trail is to connect 12 cities from Livermore to Suisun Bay. The segment from SR 4 to the Benicia-Martinez Bridge/SF Bay Trail is currently in the planning phase. The Delta de Anza Regional Trail connects to the Iron Horse Trail just south of SR 4 in Concord.

Mokelumne Coast to Crest Trail
Trail Users: Hiking, biking (partial), equestrian (partial)
Lead Agency/Organization: Mokelumne Coast to Crest Trail Council (non-profit, mc2ct.org)
Trail Owner/Manager: Multiple local agencies (designation is added to existing trails)
Existing Trail(s) within Study Area: Delta de Anza Trail, Marsh Creek Trail
Co-alignment: American Discovery Trail, Bay Area Ridge Trail, Delta de Anza Trail, Juan Bautista de Anza National Historic Trail

The Mokelumne Coast to Crest Trail is a designation added to multi-use trails generally following the Mokelumne River corridor from the San Francisco Bay Area to the Sierra Nevada near Ebbetts Pass. The Mokelumne Coast to Crest Trail Council, a non-profit based in Arnold, promotes the trail, provides maps and route information, and works with local agencies to plan, fund, and construct segments of the trail.

Napa Vine Trail
Trail Users: Hiking, biking, equestrian (partial)
Lead Agency/Organization: Napa Valley Vine Trail Coalition (non-profit, vinetrail.org)
Trail Owner/Manager: Local agencies and Napa Valley Vine Trail Coalition
Existing Trail(s) within Study Area: None
Co-alignment: Bay Area Ridge Trail, San Francisco Bay Trail

The Napa Vine Trail is a multi-use trail with planned and existing segments that together will connect from Vallejo to Calistoga. The trail is not within the Master Plan study area, but directly connects to several regional trails within the study area. The Napa Valley Vine Trail Coalition, a non-profit based in Napa, plans, funds, builds, maintains, and promotes the trail.
Pony Express National Historic Trail
Trail Users: Driving (partial), hiking (partial), biking (partial), equestrian (partial)
Lead Agency/Organization: National Park Service
Trail Owner/Manager: Multiple (designation is added to existing trails, roads, and sites)
Existing Trail(s) within Study Area: Benicia & Sacramento streets
Co-alignment: Bay Area Ridge Trail, Carquinez Strait Scenic Loop Trail, Juan Bautista de Anza National Historic Trail, San Francisco Bay Trail

The **Pony Express National Historic Trail** is a designation added to existing trails and roads to form a route that generally follows the path of the Pony Express Route followed in 1860 and 1861. The route goes through eight states including California. Many portions of the route can be hiked, biked, or travelled by horseback, although much of the route is an auto-tour. The official Historic Trail Route crosses the Master Plan Study Area in Benicia and Sacramento where the alternate Pony Express route traveled. The primary historical Pony Express route through the Delta was via steamer on the Sacramento River.

![Photo of the Pony Express Statue on the Sacramento River Parkway.](image)

San Francisco Bay Area Water Trail
Trail Users: non-motorized boats
Lead Agency/Organization: Metropolitan Transportation Commission
Trail Owner/Manager: Multiple (designation is added to existing sites)
Existing Trail(s) within Study Area: Seven locations in Antioch, Benicia, Fairfield/Suisun City (2), Oakley, and Pittsburg (2)
Co-alignment: None

The **San Francisco Bay Area Water Trail** (SF Bay Area Water Trail), is a designation for existing small watercraft launch and landing sites that together form a network of single- and multi-day trips. Multiple state and regional agencies provide funding for a small staff within the Metropolitan Transportation Commission (MTC). This staff promotes the trail, provides maps and route information, works with local agencies to fund new sites, and develops trail site standards.
San Francisco Bay Trail

**Trail Users:** Hiking/walking, biking  
**Lead Agency/Organization:** Metropolitan Transportation Commission  
**Trail Owner/Manager:** Multiple (designation is added to trails built by local agencies)  
**Existing Trail(s) within Study Area:** Carquinez Strait Scenic Loop Trail  
**Co-alignment:** American Discovery Trail, Bay Area Ridge Trail, Carquinez Strait Scenic Loop Trail, Napa Vine Trail, Pony Express National Historic Trail

The San Francisco Bay Trail (Bay Trail) is a multi-use trail with planned and existing segments that will form a 500+ mile continuous loop around and along the Bay. Multiple public agencies fund a small Bay Trail staff within the Metropolitan Transportation Commission, who promote the trail, provide maps and route information, work with local agencies to fund new segments, and develop trail standards. All segments of the Bay Trail are built and maintained by local public agencies.

**OPPORTUNITIES:**
- Each regional trail represents an opportunity to connect the Delta Trail to a larger recreational and transportation system.  
- Each smaller local trail represents an opportunity to use an existing facility as part of the Delta Trail network.
Figure 2-10: Map of Major Planned and Existing Regional Trails in and Around the Delta.
2J. Previous & Related Delta Trail Planning Efforts

This Master Plan relies on numerous previous planning efforts related to the Delta Trail development. The project team reviewed over 65 studies, reports, and plans that could support or contradict future Delta Trail efforts. We found that the plans overwhelmingly support the need for increased recreational access and raising awareness about the significance of the resources in the Delta. It is also clear that the trail development must prioritize the natural, cultural, and agricultural resources and uses. Notably this Master Plan relied heavily on the efforts of the 2019 Delta Trail Eastern Blueprint Report and the 2010 Western Blueprint and builds on the following goals that will guide the Delta Trail planning process towards achieving the Trail Vision:

1. Community Benefits
2. Outreach and Engagement
3. Connections to Regional and Local Destinations
4. Compatibility with Existing Land Uses
5. Equitable Access
6. Education and Encouragement
7. Partnerships and Momentum
8. Environmental Stewardship
9. Quality Design and Implementation
10. Adequate Funding
11. Quality Maintenance and Operations

Due to the broad geographic scope of the Delta Trail, not all documents are summarized in Appendix B, Background Document Review; however, all documents listed in the appendix have been accessed and reviewed by the project team. Summaries of key documents (denoted with an *) are included. Selection of key documents focused on: county-wide or regional bicycle, pedestrian, and recreational access documents; and documents directly relating to existing or future portions of the Delta Trail.

Photo of trail marker with old logos for the San Francisco Bay Trail, Delta Trail, and the Bay Area Ridge Trail.
The Delta Trail Master Plan recommendations are the heart of this plan. This chapter breaks down the Delta into four regions and uses maps to explore how the trail could connect and celebrate the Delta.

The results of the public outreach survey (n=201) showed that 86% of respondents preferred some kind of connected trail network, 56% of respondents preferred a main trail with connections to local trails, while 30% preferred a network of connected trails across the Delta Region.

Guided in part by these results, the Master Plan proposes creating a main continuous corridor from the San Francisco Bay Trail at the Carquinez Bridge to the Sacramento River Parkway Trail at the Jibboom Street Bridge with local access trails connecting to the main corridor. A primary trail route through the Delta creates a clear and unifying corridor. The local access trails and water trailheads/launch sites will provide both community access to the main trail corridor and opportunities to explore a variety of Delta destinations.
3A. Delta Trail Types

As discussed in Chapter 1, the Delta Trail is legislated to provide a connection between the San Francisco Bay Trail and Sacramento River trails. There is also a strong interest in connectivity throughout the Delta from the survey respondents.

This Master Plan proposes for the Delta Trail to be implemented as a main corridor with connecting access trails and water launch sites. This would translate into four designation types:

- Trail Designation Type 1: Main Trail Corridor
- Trail Designation Type 2: Local Access Trails
- Trail Designation Type 3: Water Launch Sites
- Trail Designation Type 4: Adventure Hub

Recommendation: Adopt four trail types for designation. Use modified logos for Types 2, 3, and 4.

Figure 3-1: Graphic showing the four Delta Trail designation types: main trail (solid line), local access trails (dashed lines), water launch sites (triangles), and adventure hubs (large stars). Note that this is a conceptual graphic and not intended to represent actual alignments or specific locations.
Trail Designation Type 1: Main Trail

The main Delta Trail corridor will act as the spine of the Delta Trail. Long-distance connectivity and low stress are key for the on-trail experience. Main Trail segments would need to meet the following criteria:

- **VISION:** The vision for the Delta Trail is to create one continuous primary/main trail corridor with numerous local access trails and trailheads located along the corridor. The main Delta Trail Corridor will be signed as the primary Delta Trail with the logo medallion.

- **MULTI-USE:** The main Delta Trail corridor will accommodate pedestrians, bicyclists, and equestrians, wherever feasible. Connectivity to boat access sites will be prioritized.

- **LOCATION:** The main trail route will prioritize connections to Delta Legacy Communities, public transportation, and other important destinations between the northeast end of the San Francisco Bay Trail at the Carquinez Bridge and the Sacramento River Parkway Trail at the Jibboom Street Bridge in Sacramento.

- **EXPERIENCE:** The Delta Trail will be a combination of natural surface and paved trails that are designed to highlight the unique qualities, activities, and destinations in the Delta Region, including farm stands, historic downtowns, river trails, rail-to-trails, bridges, water access, wetlands, and more.

![Photo of the Delta Trail Logo on the Clarksburg Branch Line Trail in West Sacramento.](image)

Trail Designation Type 2: Local Access Trails

Local Access Trails would connect to a variety of destinations, including boat access points. Connectivity to the main Delta Trail will be critical. Local Access Trails may meet many of the same criteria as the Main Trail segments but will prioritize connections to the Main Trail segments over connecting *through* the Delta. Local Access Trails would also not be expected to meet all the vision, use, location, and experience criteria required for the Main Trail. On maps and websites these trails will be designated as “Local Access Trails.”
Trail Designation Type 3: Water Launch Sites

Water Launch Sites will provide opportunities for access to the Delta waterways for non-motorized watercraft. When possible, water access and watercraft launch sites should be developed and signed as the Delta Trail along the main corridor and local access trails. Delta Trail Water Launch Sites can also be located away from the land trails, since many great boating locations in the Delta may not have a feasible connection to land trails. Delta Trail Water Launch Sites may be within a day's travel to other Launch Sites, or they may be a stand-alone site from which users can launch and return (e.g. a day trip). Delta Trail Water Launch Sites should meet similar vision, use, location, and experience criteria as the main trail, but should relate to water use.

Trail Designation Type 4: Adventure Hub

Adventure Hubs are a fourth type of Delta Trail experience. Adventure Hubs are a launching point — a collection of adventures originating from a single area — and can serve as destinations within the Delta that can anchor a visitor’s experience and encourage further exploration.

Adventure Hubs can give direction and purpose for visiting the Delta, making it easy for visitors to decide where to go and what to do.

The Adventure Hub concept was born out of the State Parks’ 2011 Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh as “Gateway-Basecamp-Adventure strategies” and emphasizes the dependence on buy-in and collaboration between agencies, businesses, and non-profits for success.

For Delta Trail planning purposes, Adventure Hubs represent a localized route or itinerary, unified by a theme, that may or may not advance the connectivity of the main or local access trails, and serves primarily to spur activity within the Delta. Many Delta Trail Adventure Hub ideas have been proposed and will be further developed through the National Heritage Area planning process.

The adventure concepts shown on the regional maps have been selected to represent a variety of opportunities including historical walking tours, kayak/boat launch sites/rentals, bike loops, equestrian loops, birdwatching walks, and more. These adventures are simply suggestions to spark ideas for opportunities and should not be considered as prescriptions from this Plan.
3B. Delta Trail Designation

As with many regional trails, the vision and value of the trail comes from knitting together local routes to create a cohesive, coherent, and continuous long-distance route. The individual segments will be a patchwork of trails under different ownership and management, but designation as part of a regional trail means that the trail will meet a minimum set of criteria and/or provide a certain type of experience. Designated trail segments would be included on Delta Trail maps and websites and official Delta Trail signs would be posted along the trail.

Benefits to designation:

- Promotes connections to the greater Delta region
- Increases trail visibility
- Encourages trail use
- Benefits nearby businesses
- Creates the potential for additional funding opportunities

As a locally-implemented regional trail, it is critical to have a clear, accountable, and transparent process for trail designation to encourage local organizations to develop new segments or designate existing trails as part of the Delta Trail.

The process for designating new segments or existing segments would be similar except that a new segment would go through the typical local planning, design, and construction process outlined in Chapter 5, working with the oversight agency to ensure that the segment is eligible for designation. The local agency would then follow the established designation process to formalize designation. An existing segment would only go through the designation process.

The designation process would be led by the Commission as the oversight and facilitator agency. A checklist of designation criteria, similar to the one provided in Appendix H, would provide consistency and transparency to the process, allowing the Commission’s Delta Trail Coordinator to easily determine consistency with the criteria. The Delta Trail Coordinator would then recommend adoption by the Commission. If adopted, the Commission would ensure all existing maps, databases, and appropriate signage is updated to include the new segment.

Future Consideration: Although recommendations for Delta Trail Water Launch Sites have been included in this plan, a separate Delta Water Trail Master Plan should be considered in the future in order to address the needs of non-motorized water craft that cannot fully be addressed in this Master Plan. Among other things, the future study would be needed to determine which existing sites might be considered as suitable launch sites.

Recommendation: Adopt a designation checklist similar to the sample provided in Appendix H.

Figure 3-2: Trail type logos for main trail, access trail, water launch site, and adventure hub.
Proposed Designation Criteria

The criteria below form the basis of determining whether a proposed segment would be an appropriate addition to the Delta Trail. Segments do not need to meet all criteria to be designated. A sample of how these criteria can be applied to the designation process is included in Appendix H.

Connectivity

Does the proposed segment connect to:
- the Delta Trail?
- the San Francisco Bay Trail?
- a Sacramento River Trail?
- an SF Bay Area Water trail site?
- another trail?
- a recreational facility (park, marina, beach, campground, etc.)?
- public transportation?
- a natural area (wildlife viewing, hunting, fishing, etc.)?

Location

Is the proposed segment:
- in the Master Plan Study Area?
- in Contra Costa, Sacramento, San Joaquin, Solano, or Yolo Counties?
- in or near an underserved community?
- along or near a shoreline?

Does the proposed segment:
- have significant scenic value?
- provide access or connections to historic resources?

Users

Is the proposed segment:
- fully accessible to users of all abilities?
- accessible to boaters/kayakers?
- open and safe for biking and hiking?
- open and safe for equestrians?

Impacts

Will the proposed segment:
- have a negative impact on sensitive wildlife or habitat?
- have a negative impact on adjacent private uses, including agricultural uses?
- have a negative impact on existing hunting or fishing areas?
- allow motor vehicles?
- cross existing or proposed mitigation properties? (site-specific modifications/restrictions may be required)

Local Support

- Does the trail (or associated amenities) already exist?
- Is there local support?
- Is the proposed segment on publicly owned land?
- Do the agency and/or supporting partners have the financial and staff capacity to support the operations and maintenance of the trail on a long-term basis?
3C. Delta Trail Planning Regions

The project area has been divided into four regions to better visualize the opportunities and constraints along the trail corridor. The four regional maps and accompanying descriptions include many existing opportunities for recreation.

The following sections provide an overview of the four regions and highlight the existing Delta Trail segments, recommendations to accelerate trail progress in each area, and water launch site and adventure hub opportunities. The regions are overlapping, and many trail features cross regional boundaries, presenting opportunities for collaboration and partnership. The highlighted areas in Figure 3-3 shows the approximate extent described for each region. The goal is to show where the Delta Trail might connect along existing infrastructure or prioritize connections between key destinations.

The regional maps also show selected existing and proposed trails and bike facilities in and around the Master Plan Study Area. For clarity, not all trails and bike facilities are shown — primarily trails and bike facilities were included that provide regional connectivity or access to the Delta.

Western Region – this region includes the entirety of the Carquinez Strait, Suisun Marsh, and Contra Costa County’s eastern edge south to Highway 4.

Northern Region – this region includes the Sacramento area to the southern edge of Yolo County.

Central Region – the southwestern edge of this region follows the Sacramento County boundary, while the southeastern edge aligns with Stockton’s city limits.

Southern Region – this region encompasses San Joaquin County including the City of Stockton and Contra Costa County south of Highway 4.
Figure 3-3: Map of Delta Trail Planning Regions: Western, Northern, Central, and Southern.
3D. Western Region

The Western Region is the gateway between the Delta and the Bay Area, where the San Francisco Bay Trail, Bay Area Ridge Trail, Juan Bautista de Anza National Historic Trail, and SF Bay Area Water Trail overlap with the Delta Trail along the Carquinez Strait Scenic Loop Trail. This Western Region includes the Carquinez Strait\(^1\) and Suisun Marsh, both of which are included in the National Heritage Area (NHA) but are outside of the legal Delta (shown on Figure 2-1, in Chapter 2). At the boundary with the Southern Region, the Western Region includes Contra Costa County north of Highway 4.

### Counties:
Contra Costa and Solano

### Legacy Communities:
Bethel Island and Knightsen

### Western Region Communities:
Antioch, Bay Point, Benicia, Bethel Island, Brentwood, Crockett, Discovery Bay, Knightsen Martinez, Pittsburg, Port Costa, Oakley, Suisan City, Vallejo

### Existing Delta Trail Segments (miles/operating agency):
- Carquinez Strait Scenic Loop Trail (24.3/EBRPD, Caltrans, City of Vallejo, City of Benicia, California State Parks)
- Big Break Regional Shoreline (3.1/EBRPD)
- Marsh Creek Regional Trail (4.2/EBRPD)

**Total Existing Trail: 31.6 miles**

### Planned/Proposed Delta Trail Segments (miles/planning agency):
- Carquinez Strait Scenic Loop Trail (1.2/City of Vallejo)
- Delta Access Trail (7.4/EBRPD)
- Great California Delta Trail/Contra Costa Shoreline Route (23.1/EBRPD)

**Total Planned or Proposed Trail: 31.7 miles**

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\(^1\) The Carquinez Strait is an eight-mile-long narrow tidal strait that connects Suisun Bay and the tidal estuary of the Sacramento and San Joaquin rivers on the east with the San Pablo Bay, the northern extension of the San Francisco Bay, on the west.
Western Region Trail Recommendations

1. **Support trail planning efforts along the Carquinez Strait Scenic Loop Trail.**
   In 2017, the Commission designated the Carquinez Strait Scenic Loop Trail (CSSLT) as a Delta Trail segment (Resolution 17-01). The CSSLT is currently a popular bike loop (approximately 24 miles, including gaps and incomplete segments) across both the Carquinez and Benicia-Martinez Bridges and through four historic downtowns (Benicia, Martinez, Port Costa, and Crockett). The trail is accessible by Amtrak in Martinez and passes by numerous restaurants, parks, and open spaces. It provides excellent birdwatching opportunities of migrating waterfowl. The long-term vision is for a continuous hiking, biking, and equestrian trail that hugs the shoreline (the inner loop) and an outer loop along the ridgelines in Contra Costa County that provide opportunities to explore the shoreline and ridgelines overlooking the Strait in Contra Costa and Solano Counties. This loop is the eastern limits of the San Francisco Bay Trail and Bay Area Ridge Trail and is a starting point for the Delta Trail.

   **Recommendation:** Continue to support CSSLT planning efforts. As new segments are completed and gaps are closed, those segments should be signed with the Delta Trail logo and added to Delta Trail maps.

2. **Support EBRPD Delta Trail Alignments in Contra Costa County.**
   The East Bay Regional Park District (EBRPD) has established a planned Delta Trail alignment along the shoreline of Contra Costa County connecting Martinez to Big Break in Oakley. This alignment is shown in their 2013 Master Plan and is included in the Commission’s Resolution 17-01. EBRPD is actively working with Contra Costa County and the Cities of Pittsburg, Antioch, and Oakley to design and build segments of this alignment. Additionally, EBRPD has numerous Delta access trails planned throughout eastern Contra Costa County. These include a loop trail around Jersey Island, a planned route to Discovery Bay, among others shown on the map.

   **Recommendation:** The Commission should continue to support EBRPD’s work on this alignment. As new segments are completed and gaps are closed, those segments should be added to Delta Trail maps and Delta Trail logos should be added to trail signs.

Photo of a hiker on the Carquinez Strait Scenic Loop Trail in the Carquinez Regional Shoreline

January 20, 2022
Dedicate Delta de Anza Trail as the interim alignment of the Delta Trail through Contra Costa County.

The EBRPD Delta Trail alignment through Contra Costa County is the preferred long-term alignment: when complete it will provide the best connectivity, keep trail users closest to the shore, connect several Delta communities, and provide a wonderful Delta experience. However, completion of this trail is far in the future and will face a number of obstacles along the way.

In the near-term as an interim alignment, the Delta Trail can follow the existing Delta de Anza Trail alignment through Contra Costa County. This would provide an immediate connection from Concord to the existing dedicated Marsh Creek Trail in Oakley, with just two gaps: one from the Carquinez Loop Scenic Trail in Martinez to the Delta de Anza Trail in Concord, and the other along the Delta de Anza Trail through Concord.

The Delta de Anza Regional Trail is a 15-mile paved multi-use trail that is fully connected from Concord to Oakley. Operated by EBRPD, is a major opportunity to dedicate as primary Delta Trail in the Western Region. The trail will be over 25 miles when complete. On the eastern end, the trail intersects with the Marsh Creek Regional Trail (an existing Delta Trail segment) in Oakley. On the western end, the trail connects to the Iron Horse Trail just south of Highway 4. Planning is underway to extend the Iron Horse Trail north of Highway 4 to the San Francisco Bay Trail in Martinez, another existing Delta Trail segment. When the Iron Horse Trail connection to Martinez is complete, it should be dedicated as the interim Delta Trail alignment. The Delta de Anza Trail also provides access to Contra Loma Regional Park and Black Diamond Mines Regional Preserve through Antioch Community Park.²

Recommendation: As an interim measure, work with EBRPD to adopt the existing alignment of the Delta de Anza Regional Trail as the interim Delta Trail alignment through Contra Costa County.

Recommendation: Support EBRPD efforts to close the gap in the Iron Horse Trail from Concord to Martinez and adopt this segment of trail as an interim Delta Trail alignment.

Recommendation: Support EBRPD efforts to close the gap in the Delta de Anza Trail through Concord.

² Source: https://www.ebparks.org/parks/trails/delta_deanza/ - retrieved 7/25/2021
4. **Promote the existing, dedicated segments of Delta Trail on Marsh Creek and Big Break Regional Trails.**

The Big Break Regional Trail and Marsh Creek Trail are dedicated as Delta Trail segments. These paved trails are open to hikers, bicyclists, and equestrians. Both trails are operated by EBRPD.

The Big Break Regional Trail runs along the southern edge of Big Break Regional Shoreline and connects to an existing SF Bay Area Water Trail site. The Big Break Regional Trail also connects to the Delta Discovery Experience, an “interpretive landscape” depicting the Delta watershed. Highlighted by a 1,200 square foot interactive scale map of the Delta, the “DDX” allows visitors to see how water flows into and through the region. ³

The Marsh Creek Regional Trail runs from the existing Big Break Regional Trail in Oakley to Concord Avenue in Brentwood, with a planned continuation west to Clayton. The Marsh Creek Regional Trail connects to the Delta de Anza Regional Trail via West Cypress Road, providing access to Oakley, Brentwood, Antioch, Pittsburg, and Bay Point.

**Recommendation:** Promote the existing dedicated segments. See Chapter 5 for more recommendations on trail promotion and visibility.

³ Source: [https://www.ebparks.org/parks/big_break/](https://www.ebparks.org/parks/big_break/) - retrieved on 7/23/2021
Western Region Water Launch Site Recommendations

**Co-locate Delta Trail Water Launch Sites all existing SF Bay Area Water Trail locations.**

There are seven existing SF Bay Water Trail sites within the Master Plan Study Area:

- West Ninth Street (Benicia)
- Downtown Suisun City
- Suisun City Marina
- Beldens Landing
- Bay Point Regional Shoreline
- Riverview Park (Pittsburg)
- Pittsburg Marina
- Big Break Regional Shoreline (Oakley)
- Antioch Marina

These sites represent existing opportunities for non-motorized watercraft launch sites and connect to the full SF Bay Water Trail network. Additionally, there are many planned SF Bay Water Trail sites within the Master Plan study area. The Commission can partner with the SF Bay Water Trail staff and site operators to designate and promote as co-located Delta Trail Water Launch Sites.

Co-locating Delta Trail Water Launch sites would kick-start the water trail portion of the Delta Trail and increase access and visibility for both networks as well as leverage the planning resources for both networks.

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**Recommendation:** Work with all existing SF Bay Water Trail sites within the Master Plan Study Area to co-designate as Delta Trail Water Launch Sites.

**Recommendation:** Support the SF Bay Water Trail in adoption of additional co-located SF Bay Water Trail and Delta Trail Water Launch Sites.

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Photos of SF Bay Water Trail Launch Site and water view at Bay Point Regional Park. (photos courtesy of Kathy Bunton, Delta Kayak Adventures)
Western Region Adventure Hub Recommendations

 Recommendation: Work with and support local groups and agencies to develop maps and itineraries for adventures starting in and around Martinez, Benicia, Suisun City, Oakley, and Brentwood as described below.

Benicia Adventure Hub

Carquinez Strait Adventure Hub Historic Walking Tour of Downtown Benicia

Enjoy this self-guided, 25-site historic walking tour of California’s first incorporated city. Stops include Jack London’s haunts, the old State Capital, the location of old tanneries, and numerous art galleries.

Transit to Trail Carquinez Strait Scenic Loop Trail Bicycle Adventure

Take Amtrak to Martinez and bicycle along the 23-mile Carquinez Strait Scenic Loop Trail. This bicycle loop has many places to stop and eat in the historic downtowns of Crockett, Port Costa, Martinez, and Benicia.

Suisun City Adventure Hub

Suisun Marsh Kayaking Adventure

Rent a kayak at Grizzly Waters Kayaking and paddle through Suisun Marsh from the existing SF Bay Area Water Trail site. You can rent a kayak for a guided or self-guided adventure. Suisun Marsh is the largest contiguous brackish water marsh remaining on the west coast of North America. It serves as the resting and feeding ground for thousands of waterfowl migrating on the Pacific Flyway and provides essential habitat for more than 221 bird species, 45 mammal species, 16 different reptilian and amphibian species, and more than 40 fish species. The Marsh supports sensitive plant species such as the Suisun thistle, which is endemic and found nowhere else in the world. For an added bonus, take Amtrak to Suisun/Fairfield to start the adventure.

Oakley-Brentwood Adventure Hub

Bike to U-Pick Cherries (Seasonal)

There are a handful of u-pick cherry farms on or near the Marsh Creek Trail/Delta Trail through Brentwood. Pick a spot along the trail – or you could even bike from an Amtrak or BART station and then you can snack on cherries all the way home.

Big Break Kayak and Environmental Education

Bring a kayak and join a docent-led tour from Big Break Regional Shoreline. Enjoy amazing wildlife viewing, shaded picnic areas, fishing, and views of Mount Diablo. Stop by the Delta Discovery Experience before or after your water adventure to learn more about the complex natural and human history of the Delta.

5 Bike Map: https://ridgetrail.org/carquinez-straight-bridge-to-bridge-bike-route/
Figure 3-4: Western Delta Region Map

LEGEND
- SF Bay Area Water Trail Sites
- Highways/Major Roads
- BART Stations
- Railway/BART Line
- Amtrak Stations
- County Boundary
- Planning Area
- Protected Lands with Public Access
- Cities and Places
- Protected Lands with Restricted Access
- Water

Trials and Bike Facilities
Note: Planned/Unbuilt routes shown are conceptual and not open to the public. The source of all routes shown here are from locally adopted planning documents included in Appendix B. These routes are subject to change and should be confirmed with the appropriate local agency.
- Delta Trail Segments (Existing)
- Delta Trail (Proposed/Unbuilt)
- Regional/Class I Trail (Existing)
- Regional/Class I Trail (Proposed/Unbuilt)
- Regional Bikeways (Existing)
- Regional Bikeways (Proposed/Unbuilt)

DELTA TRAIL RECOMMENDATIONS
1. Carquinez Strait Scenic Loop Trail
2. EBRPD Delta Trail Alignment
3. Delta de Anza Regional Trail
4. Marsh Creek and Big Break Trails

Potential Water Launch Sites
Potential Adventure Hub

This map has been prepared for general information purposes only. The map is based upon best available information. The background map was created using ESRI information.

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3E. Northern Region

The Northern Region is the gateway to the Delta from Sacramento and West Sacramento along the Sacramento River Parkway. The agencies in the northern part of this Region have been actively planning and developing trail networks and there is a strong interest in including Delta Trail designation. This Region also includes many historic resources and cultural destinations, particularly in the Clarksburg community.

**Counties:** Sacramento, Solano, Yolo

**Legacy Communities:** Clarksburg, Courtland, Freeport, Hood

**Northern Region Communities:** Clarksburg, Courtland, Freeport, Hood, Sacramento, West Sacramento

**Existing Delta Trail Segments (miles/operating agency):**
- River Walk Trail (1 mile/City of West Sacramento)
- Sacramento River Parkway Trail (9.2 miles/City of Sacramento)
- Clarksburg Branch Line Trail (3.2 miles/City of West Sacramento)
- Sycamore Trail (0.6 miles/City of West Sacramento)

**Total Existing Trail:** 14.1 miles

**Northern Region Trail Recommendations**

1. **Promote existing dedicated Delta Trail segments and support closing trail gaps along the Sacramento River Parkway, Clarksburg Branch Line Trail, Sycamore Trail, River Walk Trail, and Broadway Bridge**

   The **Sacramento River Parkway Trail** is the northern connection point for the main corridor of the Delta Trail. Predominantly located within the City of Sacramento’s boundaries, the parkway is a multi-phase project that ultimately will complete a levee-top trail through the Pocket neighborhood. Approximately 9.2 miles have been completed to-date and planning is underway for several of the remaining segments.\(^7\)

   The **Clarksburg Branch Line Trail** is a partially paved multi-use trail open to horses, bicycles, and pedestrians. It occupies the former right-of-way of the Sierra Northern Railroad within the City of West Sacramento from Locks Road on the north end to the city limit on the south end. The northern half of the trail is paved, while the southern segment is gravel and dirt. The city’s Bicycle, Pedestrian, and Trails Master Plan includes plans for connecting the Clarksburg Branch Line Trail to the River Walk Trail. The city also owns almost ten miles of the former rail corridor south of the city limits, although there are currently no plans to develop a trail on this corridor.

   The **Sycamore Trail** a paved multi-use trail that runs along a utility right-of-way from Rice Avenue to West Capitol Avenue. There are plans to extend the trail south to the intersection of Park and Stone Boulevards and eventually across the Sacramento River Deep Water Ship Channel where the existing Barge Canal Access Trail would connect to the Clarksburg Branch Line Trail.

   The **River Walk Trail** is a paved multi-use trail located on the west side of the Sacramento River in a developed urban park. The city’s Bicycle, Pedestrian, and Trails Master Plan includes plans for

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\(^7\) Source: https://www.cityofsacramento.org/Public-Works/Engineering-Services/Projects/Current-Projects/Sacramento-River-Parkway - retrieved 7/23/2021
connecting this trail south along the river to South River Road where it would connect to the Clarksburg Branch Line Trail.

The cities of West Sacramento and Sacramento are working to build the Broadway Bridge, a new “neighborhood-friendly” bridge across the Sacramento River that will serve all users including bicycles and pedestrians. When completed, this bridge will create great trail access and connections opportunities for the dedicated Delta Trail sections along the Sacramento River Trail, West Sacramento River Walk, and the Clarksburg Branch Line Trail.

**Recommendation:** Promote the existing Delta Trail segments in Sacramento and West Sacramento.

**Recommendation:** Support closing the gaps in the Sacramento River Parkway, Clarksburg Branch Line, Sycamore, and River Walk Trails.

**Recommendation:** Support the completion of the Broadway Bridge with low stress bicycle and pedestrian access.

Designated Delta Trail segment on Clarksburg Branch Line Trail in West Sacramento (Photo courtesy of the City of West Sacramento).
Support local planning efforts in studying the feasibility of the Isleton-Stone Lake Trail.

The Isleton-Stone Lake Trail is a potential trail on the former Walnut Grove Branch Line rail corridor. The former branch line ran from Sacramento to Isleton until 1977. The corridor connects Freeport, Hood, Locke, and Walnut Grove, passes through Delta Meadows State Park, and is adjacent to the Stone Lakes National Wildlife Refuge. Much of the corridor north of Locke is publicly owned. At Freeport the corridor connects to the existing Sacramento River Parkway. The entire alignment is included in the 2011 Sacramento County Bicycle Plan and a portion of the alignment is in the 2016 Hood Community Action Plan. This plan identified the need to establish pedestrian and bicycle routes through Hood and to adjacent attractions such as Stone Lakes National Wildlife Refuge. Based on public data available from the activity tracking service Strava, portions of this undeveloped corridor are already used by runners, walkers, and/or bicycle riders near Freeport.

A trail on this corridor would need to address three major issues:

- sensitive wildlife habitat,
- adjacent active agricultural uses and infrastructure, and
- potentially dangerous road crossings.

Careful local planning in partnership with the adjacent properties will be important to determine whether the Isleton-Stone Lake Trail segment is feasible. Particular attention must be paid to the agricultural uses (particularly near Lost Slough and Snodgrass Slough) and sensitive wildlife areas (particularly near the Stone Lakes Wildlife Refuge).

The corridor also crosses several busy roadways with heavy truck traffic. A close investigation by traffic engineers will be required to determine if safe trail crossings on these roadways are feasible.

**Recommendation:** Support local planning efforts studying the feasibility of the Isleton-Stone Lake Trail.

Support the development of bike facilities in the Delta

The 2011 Sacramento County Bicycle Plan and the 2013 County of Yolo Bicycle Transportation Plan propose a network of separated bikeways/trails and bike lanes through this portion of the Delta. Many of these routes would work well as part of the Delta Trail. In 2012 the Commission adopted two resolutions (Resolutions 01-12, 02-12) supporting bike facilities, including along SR 160.

In all cases, bike facilities should be planned to both limit impact on and support the needs of residents and businesses.

**Recommendation:** Support local and regional transportation and recreation plans that include bike facilities in the Delta.

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8 Source: [https://www.abandonedrails.com/walnut-grove-branch](https://www.abandonedrails.com/walnut-grove-branch) - retrieved 7/25/2021
Northern Region Water Launch Site Recommendations

⚠️ Possible Delta Trail Water Launch Site Locations
- Miller Regional Park/Sacramento Marina
- Freeport Landing/Freeport Marina
- Clarksburg Marina/Clarksburg Fishing Access

These sites may offer opportunities for non-motorized water access and may be eligible for designation as a Delta Trail Water Launch Site.

**Recommendation:** Support launch site operators in pursuing designation as a Delta Trail Water Launch Site.

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Photo of geese at Miller Regional Park in Sacramento. (photo courtesy of Tony Webster, CC BY-SA)
Northern Region Adventure Hub Recommendations

Recommendation: Work with and support local groups and agencies to develop maps and itineraries for adventures starting in and around Sacramento and Clarksburg as described below.

Sacramento/West Sacramento Adventure Hub

Transit to Trail Bicycle Adventure
Take Amtrak to the Sacramento Valley Station and bicycle along the Sacramento River Parkway/Delta Trail south into the northern Delta region. Bike 13 miles one-way to the Freeport Bar & Grill for food and beverages before biking back to catch a return train to your home or car. Other stops along the way include the historic Old Sacramento Waterfront and the popular California State Railroad Museum.

Waterway Adventure
Sacramento Boat Rentals at the Sacramento Marina (near the Sacramento River Parkway and Miller Regional Park) has ½ day and full day pontoon rentals to take out on the Delta waterways. You can paddle upriver to Old Sacramento for some takeout or pack a picnic and paddle down river to a more secluded and natural setting to dock and eat.

Clarksburg Adventure Hub

Wine Tasting Adventure
Clarksburg is a hub for wine tasting with over six wineries within walking distance in and near the historic Old Sugar Mill on the north side of town. The Old Sugar Mill has even more wineries represented for tastings. Bring your bike to explore the Delta backroads, or head down to the water to enjoy a river cruise.

Directional signs on South River Road between Clarksburg and West Sacramento.
3F. Central Region

The Central Region is the heart of the Delta and includes five Legacy Communities, and numerous historic resources and cultural destinations, particularly in the Locke and Walnut Grove area. Rio Vista, to the west, is the largest community in this region. There are numerous water recreation sites and a few local trails, but no regional trails.

| Counties: | Sacramento, San Joaquin, Solano |
| Legacy Communities: | Isleton, Locke, Rio Vista, Ryde, Walnut Grove |
| Central Region Communities: | Isleton, Locke, Rio Vista, Ryde, Terminous, Thornton, Walnut Grove |
| Existing Delta Trail Segments: | None |

Central Region Trail Recommendations

1. San Joaquin River Crossing near Antioch and Oakley.

   The Antioch Bridge, built in 1978, is the only bicycle, pedestrian, and vehicular access across the San Joaquin River near Antioch and Oakley. The 1.8 mile-long bridge is part of SR 160 and is relatively narrow — just over 38 feet wide with one lane of traffic in each direction. Bicycles and pedestrians are permitted on the shoulders, which are around five feet wide on both sides. However, crossing the bridge can feel unsafe due to the high speed and volume of traffic, frequent high winds, general exposure, and the narrow shoulder for bicycles and pedestrians, making the experience high stress and unpleasant.

   An improved bicycle and pedestrian crossing in the vicinity would require extensive coordination and support from multiple agencies, including, but not limited to: Caltrans, Contra Costa County, Sacramento County, East Bay Regional Park District, the City of Oakley, the City of Antioch, and California State Parks. An improved crossing would provide access from Contra Costa County to several picnicking, camping, nature, and watersport sites including Sherman Island County Park and Brannan Island State Recreation Area.

   An improved, low-stress river crossing at the Antioch Bridge could include some type of on-demand ferry or the addition of a platform trail. This trail could be cantilevered off of or suspended below the existing bridge deck. Access across the San Joaquin River could also be explored further upstream, such as a bridge or ferry between Jersey and Sherman Islands. In all cases, access must take into consideration the Stockton Deep Water Channel, existing agricultural uses, wildlife habitat, and levee impacts.

   **Recommendation:** Support planning and feasibility studies for improved bicycle and pedestrian connection across San Joaquin River near Antioch and Oakley.
Delta Meadows Trail Designation.

Delta Meadows State Park (sometimes referred to as Delta Meadows River Park or the Delta Meadows Park Property) is a state-owned parcel northeast of Locke. The Walnut Grove Branch Line railroad corridor runs through the property and has a gravel road/trail built and maintained along a portion of the former rail line.

The State Parks currently provide no public services at this location, although the maze of sloughs is a popular destination with boaters and publicly available Strava data shows that the former rail corridor is actively used as a trail.

Adopting the segment of trail along the Walnut Grove Branch Line railroad corridor through the park property would provide an attractive destination for visitors to nearby Locke. The trail could provide opportunities for visitors to learn more about the history of the Delta.

Recommendation: Support the State Parks in reopening the Delta Meadows property for public use and support potential designation of the Delta Meadows Trail as a segment of the Delta Trail.

Rio Vista Waterfront Promenade, US Army Reuse Site, and Sandy Beach

The Waterfront Promenade is a park and trail adjacent to the Rio Vista Bridge in the City of Rio Vista. The park and trail include picnic, fishing, and wildlife viewing opportunities. The Promenade could serve as a local access trail for the Delta Trail system, supporting existing public access and future connections in and around Rio Vista.

The US Army Reuse Site is a property owned by the City of Rio Vista and located just south of the city limits on the river front. The City has a long-term plan to develop a research center with public access on this property. Depending on community priorities, this site could include interpretive facilities and trail access to Sandy Beach County Park, to the south.

Sandy Beach County Park is located along the riverfront, just south of the US Army Reuse Site. The Park, operated by Solano County, includes one of the few sand beaches within the Delta (although swimming is not allowed due to dangerous currents). The popular park also features a campground with 42 RV or tent sites, picnic sites, and a boat launch.


Recommendation: Support Rio Vista’s planning efforts for the US Army Reuse Site as a destination and interpretive opportunity for the Delta Trail.

Recommendation: Support safe bicycle and pedestrian access from Rio Vista to the US Army Reuse Site and Sandy Beach County Park. Consider for designation of Delta Trail Local Access Trail.
Central Region Water Launch Site Recommendations

Possible Delta Trail Water Launch Site Locations:
- Public Boat Launch on Brannan Island
- Sherman Island County Park
- Sandy Beach County Park

These sites may offer opportunities for non-motorized water access and may be eligible for designation as a Delta Trail Water Launch Site.

Recommendation: Support launch site operators in pursuing designation as a Delta Trail Water Launch Site.
Central Region Adventure Hub Recommendations

**Recommendation:** Work with and support local groups and agencies to develop maps and itineraries for adventures starting in and around Locke, Walnut Grove, Isleton, Rio Vista, Brannan Island, and Sherman Island as described below.

**Locke/Walnut Grove/Isleton Adventure Hub**

The communities of Locke, Walnut Grove, and Isleton are located in the central part of the Delta and have historic Japanese- and Chinese-American districts. The town of Locke was founded in 1915, after a fire destroyed the Chinese community in Walnut Grove. Walnut Grove served as the center of social and economic life for many Japanese seasonal agricultural workers in the rural Delta area from 1896 until the forced evacuation and relocation of Japanese Americans and people of Japanese descent during World War II. Isleton’s Asian American District is the only Asian community that was constructed in the Delta during the 1920s, and the architectural style of the buildings, particularly the use of pressed tin siding, is unique to Delta Asian communities and to the town of Isleton.

The Locke Foundation and the California State Parks operate interpretive facilities in Locke, including a museum and self-guided tours. All three towns offer visitor services including gift shops, art galleries, and restaurants. Nearby marinas may provide opportunities for boating adventures. The public dock in Walnut Grove does not have motorized boat launch facilities but allows boats launched elsewhere to dock overnight for a fee, or day use with no fee.

**Historic Walking Tour of Locke and Walnut Grove**

There are guided and self-guided walking tours of the three historic districts (Chinese in Locke, Chinese and Japanese in Walnut Grove). The towns are about half a mile apart. The Locke Boarding House Museum (operated by California State Parks) can provide an overview of the tour. The annual Asian Pacific Spring Festival is celebrated in May.

**Rio Vista Adventure Hub**

As noted above, Rio Vista has an existing waterfront trail and nearby Sandy Beach County Park that offers camping, picnicking, and boat launch facilities. Rio Vista is also the starting point of a popular bike route around Ryer Island, which includes crossing to the island on the ferry. In addition to the campground at Sandy Beach, there are several hotels in Rio Vista and bus service is provided by the Delta Breeze with access to Isleton, Fairfield, Suisun City, Pittsburg/Bay Point BART and Antioch.

**Delta Loop**

The Delta Loop, located off Highway 12, is a ten-mile driving loop connecting recreation-focused businesses and locations. The featured sites include launch ramps, camping, lodging, restaurants, and berthing. Small billboard-style signs with maps and information are located along the route and a website provides additional information.

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9 Source: https://www.nps.gov/places/locke-historic-district.htm
10 Source: https://www.nps.gov/places/walnut-grove-japanese-american-historic-district.htm
Brannan Island Adventure Hub

Brannan Island State Recreation Area is considered the gateway to the Delta. Brannan Island offers opportunities for picnicking, camping, wildlife viewing, fishing, and boat launching.

Franks Tract, located off the northern portion of Bethel Island, is only accessible by water. It is a sunken island that flooded in 1936 and 1938 with very few landforms remaining above water. The tract is popular for flyfishing and waterfowl hunters.

Sherman Island Adventure Hub

Kite Boarding from Sherman Island County Park
Sherman Island is one of the most popular kite boarding destinations in the Delta. This site may be challenging for beginners, but offers relatively warm, flat waters and consistent winds. The small beach at the park is a popular picnic destination. Overnight camping is permitted for a small fee in the park. A nearby RV Park offers another option for overnight stays.

Photo of people fishing at Brannan Island State Recreation Area.

12 Source: https://www.parks.ca.gov/pages/490/files/BrannanIsl_FranksTractFinalWebLayout060518.pdf
Figure 3-6: Central Delta Region Map

LEGEND
- SF Bay Area Water Trail Sites
- Highway/Hwy Major Roads
- BART Stations
- Rail/Railway/BART Line
- Amtrak Stations
- County Boundary
- Planning Area
- Protected Lands with Public Access
- Cities and Towns
- Protected Lands with Restricted Access
- Water

Trails and Bike Facilities
Note: Proposed/Unbuilt routes shown are conceptual and not open to the public. The sources of all routes shown here are from locally adopted planning documents included in Appendix B. These routes are subject to change and should be confirmed with the appropriate local agency.

Delta Trail Segments (Existing)
- Delta Trail (Proposed/Unbuilt)
- Regional/Cross-Trail (Existing)
- Regional/Cross-Trail (Proposed/Unbuilt)
- Regional Bikeways (Existing)
- Regional Bikeways (Proposed/Unbuilt)

DELTA TRAIL RECOMMENDATIONS
1. San Joaquin River Crossing
2. Delta Meadows Trail
3. Rio Vista Trails

Potential Water Launch Sites
Potential Adventure Hub

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3G. Southern Region

The Southern Region straddles the largely agricultural southern portion of the Delta, which is bounded by more highly developed portions of eastern Contra Costa County and south-central San Joaquin County. Parts of this region have experienced high levels of development in the past decade, bringing significant demand for recreation and transportation opportunities. There are few opportunities to cross the Delta from east to west in the Southern region. SR 4 is the only uninterrupted travel corridor, but it has very narrow shoulders in most places and is notoriously located on difficult to maintain sections over peat soils. This route would need a significant amount of complex infrastructural improvements to create a long distance and low stress facility for bicycles and pedestrians.

**Counties:** Contra Costa, San Joaquin  
**Legacy Communities:** none  
**Southern Region Communities:** Byron, Lathrop, Mountain House, Tracy, Stockton  
**Existing Delta Trail Segments:** none

### Southern Region Trail Recommendations

1. **Calaveras River Bike Path and Bear Creek Trail**  
   The Calaveras River Bike Path and the Bear Creek Trail are paved multi-use trails in Stockton that run east west and connect into the Delta. The Calaveras River Bike path generally follows the Calaveras River to the San Joaquin River on the west side of Stockton. The Bear Creek Trail follows White Slough and Bear Creek. It will potentially connect to a network of planned trails on the west edge of Stockton.

   Both trails provide an excellent opportunity for access from Stockton into the Delta.

   **Recommendation:** Support the potential designation of the Calaveras River Bike Path and the Bear Creek Trail as local access trail segments of the Delta Trail.

2. **River Islands Development**  
   River Islands is a master planned community on nearly 5,000 acres of land on the western side of Lathrop. The current plans include over 10,000 homes, shops, parks, and more. River Islands development has an 18-mile trail system master planned along the San Joaquin River and other waterways. This development represents an opportunity to provide much needed bicycle and pedestrian access in the southern Delta region.

   **Recommendation:** Support potential designation of local access trails in the River Islands Development.
Clifton Court Forebay to Bethany Reservoir State Recreation Area

The EBRPD includes plans for a multi-use regional trail from Clifton Forebay to Bethany Reservoir in the 2013 Master Plan. The plan shows this trail as the southern end of the Delta Trail Extension, which follows Old River from the Knightsen area. A trail in between these reservoirs could provide additional connectivity from the Delta to the California Aqueduct Trail, which runs south of Bethany reservoir along the California Aqueduct and is envisioned to connect all the way to the Grapevine in southern California.

 Recommendation: Support EBRPD-led efforts to develop the Delta Trail Extension, particularly the southern portion from Clifton Court Forebay to Bethany Reservoir State Recreation Area. Adopt developed segments as local access trails.
Southern Region Water Launch Site Recommendations

Portions of the Southern Region have few feasible trail corridor route options especially for pedestrians because there are few roads and levees that connect across the vast number of islands and complex water utility systems that exist in this area. This area does have many existing legal water access locations, and the suggested Delta Trail Water Launch Sites locations below are based on the sites identified from the 2019 Delta Leadership Program Group Water Trail project.

Possible Delta Trail Water Launch Site Locations:
- Paradise Point Marina (Stockton)
- Morelli Park (Stockton)
- Buckley Cove (Stockton)
- Windmill Cove (Stockton)
- Bullfrog Marina
- Whiskey Slough Marina
- Turner Cut Resort
- Dos Reis Park (Lathrop)
- Hogan’s Haven Acres Marina (Lathrop)
- Union Point Marina

**Recommendation:** Support launch site operators in pursuing designation as a Delta Trail Water Launch Site.

Southern Region Adventure Hub Recommendations

**Recommendation:** Work with and support local groups and agencies to develop maps and itineraries for adventures starting in and around Stockton and Lathrop as described below.

Stockton Adventure Hub

**San Joaquin River Kayak Adventure – Morelli Park to Buckley Cove**
A self-guided kayak adventure starts at the conveniently located Morelli Park, right off I-5 in Stockton, and goes to Buckley Cove about 4.5 mile to the northwest down the San Joaquin River. Buckley Cove has a snack bar, fishing tackle shop, picnic tables and a playground. The Calaveras River Bike Path also connects to Buckley Cove.

Lathrop Adventure Hub

**Lathrop Bicycle or Walking Adventures**
There are many existing and proposed waterfront bicycle and pedestrian trail loops throughout the River Islands development. The trail system that includes a miles-long path along the San Joaquin River as well as trail access to the Boathouse restaurant.
Figure 3-7: Southern Delta Region Map

LEGEND

- SF Bay Area Water Trail Sites
- Highways/Major Roads
- BART Stations
- Railways/BART Line
- Amtrak Stations
- County Boundary
- Planning Area
- Protected Lands with Public Access
- Cities and Places
- Protected Lands with Restricted Access
- Water

Trails and Bike Facilities

Note: Planned/draft routes shown are conceptual and not open to the public. The sources of all routes shown here are from locally adopted planning documents outlined in Appendix B. These routes are subject to change and should be confirmed with the appropriate local agency.

Delta Trail Segments (Existing)
- Delta Trail (Proposed/Unbuilt)
- Regional/Class I Trails (Existing)
- Regional/Class I Trails (Proposed/Unbuilt)
- Regional Bikeways (Existing)
- Regional Bikeways (Proposed/Unbuilt)

DELTA TRAIL RECOMMENDATIONS
1. Calaveras River Bike Path and Bear Creek Trail
2. River Islands Development
3. Clifton Forebay to Bethany Reservoir

Potential Water Launch Sites
Potential Adventure Hub

This map has been prepared for general information purposes only. The map is based upon best available information. The background map was created using USGI information.

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Chapter 4: Trail Design Elements
This chapter focuses on the trail design elements by discussing the following: context-sensitive trail design elements; trail road and rail crossings; trail access on bridges; trail surface and geometry elements; and recommendations for effective trailheads, access points, amenities, and trail wayfinding, signs, and digital engagement.

4A. Context Sensitive Trail Designs

The development of a continuous, multi-use trail route through the Delta will require the design and construction of trails in a variety of settings. Trail location opportunities may include publicly-owned land, bridges, and linear features such as levees, roads, highways, and out-of-service rail lines. The Delta presents a particularly wide range of settings – from urban to very remote, and from highly impacted habitats to very sensitive habitats – and hosts complex water supply and agricultural infrastructure that most of the state relies on in some way. In all cases, any trail development must balance many if not all of these sometimes-competing needs.

As noted throughout this plan, all trail development must not impact sensitive habitat or species. This is a requirement of the Delta Trail legislation, as well as a requirement of jurisdictions with permitting authority. Furthermore, any projects near Priority Habitat Restoration Areas (PHRAs) as identified in the Delta Stewardship Council’s Delta Plan, should pay special attention to limiting habitat impacts.

Levee Trails

As described in Chapter 2, there are over 1,100 miles of levees in the Delta. Although levees may appear to be the perfect landform for a trail system, their primary purpose is to prevent water from flooding islands. This primary purpose can often be at odds with public access because levees need to be repaired, modified, or accessed frequently for agricultural or other industrial uses.

Additionally, there are different types of levees that are regulated and maintained in different ways. Below are some feasibility screening questions that must be understood prior to considering a trail on or adjacent to a levee.

1. Is it a project1 (funded by the Federal Government with a 100-year flood design standard) or non-project (maintained by private owners or reclamation district and with no specific design standards2) levee?
2. Who is the levee landowner/manager/reclamation district?
3. What is the adjacent land use and ownership and are there conflicts with public access?
4. What is the condition of the levee?
5. What entity is primarily responsible for annual maintenance on the levee?

In 2012 the Commission adopted a resolution (01-12) supporting the development of bicycle facilities (bike lanes or separated, low stress trails and bikeway) on levees as improvements to the levees are made. This resolution reflects the existing California Water Code (CWC) section 11910, which requires the Department of Water Resources to incorporate recreational features in flood control projects, including levees, when feasible. Nothing in Resolution 01-12 or CWC 11910 requires bicycle facilities, but both encourage and support the development of bicycle facilities when feasible.

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1 Project levees are regulated by the Central Valley Flood Protection Board and Title 23 of the California Code of Regulations.
2 Project and non-project levee definitions from Delta Primer: a field guide to the California Delta by Jane Wolff (2003)
The most common settings for potential trails on levees include:

**Levee-with trail**
In some cases, a trail may be routed along the top of a levee by enhancing or replacing an existing maintenance road. Figure 4-1 is a simple diagram showing the relationship between the trail and the levee. Fencing or other barriers can be installed in any of these settings to prevent trail users from cutting through a field or entering private property.

**Setback levee with trail**
A setback levee is a levee that is built further back from the waterway to allow room for flood mitigation. In many cases, when a setback levee is built, there is room for habitat restoration and a trail either on the side slope of the levee or within the habitat area. A setback levee trail is a design solution when the levee/maintenance road is not suitable or available for public access. Figure 4-2 shows the relationship between a setback levee, trail, levee, and maintenance road.

**Levee with road and bikeway**
Most roads (particularly public roads) in the Delta are built on levees and may be suitable locations for a separated bikeway or bike lane. Figure 4-3 shows two options for a typical configuration of a road with wide shoulders on a levee top. Bikeways along existing road shoulders are discussed further below.

![Figure 4-1: Rendering of Levee with Trail and fencing cross section.](image)

![Figure 4-2: Rendering of Setback Levee with Trail and fencing cross section.](image)

![Figure 4-3: Rendering of Levee with Road and Bikeway cross section.](image)
Roadside and Highway Trails

Where there is enough space along existing roads or highways, there is an opportunity to consider installing bikeways and/or bikeways with barriers within the shoulder/right-of-way. Fully separated and protected facilities are always preferable to wide shoulders/bike lanes – these are safer and more comfortable for all users. Separation and/or protection can be provided by concrete barriers or vegetated buffers where there is more space available.

In 2012 the Commission adopted a resolution (02-12) supporting the development of bicycle facilities (bike lanes or separated trails/bikeways) on SR 4, 12, and 160. The resolution notes the potential benefits of developing facilities on these roads, but also is clear that the benefits should be weighed against local concerns.

Rail Trails

Most of the rail lines that cross through the Delta are located on levees or on embankments that also function as levees. Where a former rail line is converted to a trail use, it would look similar to the levee trail cross section. Because these rail lines have a historic transportation use, there may be funding and support for conversion to a trail. Portions of some former rail corridors are on publicly-owned property, potentially making trail development in those areas easier. Trails along active rail lines may also be possible, although there would not likely be sufficient space on the levee top for both rail and trail use. In those cases, the trail would need to be routed on a setback levee or inland from the levee.

Additional information about rail-trail development is included in Appendix C, Rail Trail Development.
Bicycle and Pedestrian Access on Bridges

All trail routes through the Delta require crossing multiple waterways. Any crossing will require either a bridge or ferry – both of which are expensive to build and maintain and have the potential for significant impacts to levees. Where possible, the trail should use existing infrastructure.

There are dozens of bridges throughout the Delta with varying levels of bicycle and pedestrian access, as described in Chapter 2. This includes bridges on State Routes, Interstates, and local roads. Many of the Delta bridges and ferries are historic and enhance the Delta Trail experience. The ferries in the Delta are already bicycle and pedestrian-friendly and are not discussed below. Creating new or using existing bicycle/pedestrian access across the vehicular bridges will be critical for developing a continuous Delta Trail corridor.

There are many possible design solutions to improve bridge crossings and the infrastructure costs of each design solution varies significantly. When specific routes are analyzed for the trail, the following four bridge classifications of bicycle/pedestrian access and potential improvements on existing bridges should be considered.

Photo of the Walnut Grove Bridge, which has a walkway on one side.
Bridges with Protected Bicycle and/or Pedestrian Access
The width of the protected access varies on these bridges. A bridge with protected access for bicycles and pedestrians is the ideal bridge design for the trail. This type of access can be found on the Carquinez, Benicia-Martinez, Tower, and McGowan Memorial bridges as well as narrower separate access on the Helen Madere Memorial Rio Vista, Walnut Grove, Orwood Road, and Stockton Swing bridges. Figure 4-6 shows a simple diagram of a bridge with protected access on one side.

In most cases, these bridges would be appropriate locations for the Delta Trail, although in some cases the bicycle/pedestrian access may need to be widened.

![Figure 4-6: Diagram of bridge showing protected pedestrian access on one side. This is typical of a smaller, local bridge in the Delta.](image)

Bridges with Sidewalks
Bridges with existing sidewalks also represent “low hanging” Delta Trail route opportunities. However, when a narrow sidewalk exists on a higher speed road, users may not feel comfortable or safe crossing. There are only a few of these including: Jefferson Blvd, Bethel Island Road, Industrial Blvd (West Sacramento), and River Road (Walnut Grove) bridges. Figure 4-7 shows a simple diagram of a bridge with sidewalks.

These bridges can be used for Delta Trail segments, but improved bike and pedestrian access should be included when any bridge upgrades are made. Improvements could include adding cantilevered or parallel bicycle and pedestrian access or reconfiguring traffic to provide a single, consolidated and protected bike and pedestrian area on one side (See Figure 4-9 for an example).

![Figure 4-7: Diagram of bridge with sidewalks and narrow bike lanes.](image)
**Bridges with Wide Shoulders**

These bridges are often part of highways and or higher speed roads (e.g. Antioch Bridge). When there are higher speeds a barrier is preferred for any Delta Trail route.

These bridges can be used for Delta Trail segments, but improved bike and pedestrian access should be included when any bridge upgrades are made. Improvements might include adding cantilevered or parallel bicycle and pedestrian access, adding protective barriers (see Figure 4-8), or reconfiguring traffic to provide a single, consolidated and protected bike and pedestrian area on one side (see Figure 4-9).

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**Figure 4-8:** Diagram of bridge with wide shoulders showing potential placement of protective barriers.

**Figure 4-9:** Diagram of bridge showing reconfigured lanes and consolidated bike and pedestrian access on one side.
Bridges with No Shoulders or Narrow Shoulders

This is the most common type of bridge in the Delta. There are at least 19 of these bridges in the Delta. Although many of these bridges have low traffic volumes traveling at low speeds, some level of improvements or signage will need to be implemented to designate a bridge crossing as the primary or local access Delta Trail. Potential improvements could include adding cantilevered or parallel bicycle and pedestrian access. Examples of these bridge improvement projects have been implemented in the Delta on the Tower Bridge in Sacramento and the Orwood Road bridge in Brentwood. Figure 4-10 shows a simple diagram of a bridge with no or narrow shoulders with a cantilevered bike/pedestrian pathway.

![Figure 4-10: Diagram of bridge with no or narrow shoulders.](image)

Trails Adjacent to Agriculture

As noted in Chapter 2, over half of the land in the Delta is used for agriculture. While efforts will be made to locate the trail away from agricultural operations, the Delta Trail will still likely be adjacent to agriculture along many miles of the route. Concerns about trespassing and vandalism have been noted throughout the outreach process by levee and agricultural managers. Agricultural operations can also have a negative impact on trail users – such as when agricultural operations create dust.

There are many potential mitigating trail design solutions including but not limited to: fencing, gates, limited hours of operations, dog restrictions, planted buffer zones, trail patrol/security, and periodic trail closures to accommodate needed operations such as spraying. Depending on the context, any combination of these measures may be implemented.

These mitigation strategies have been used successfully in numerous locations throughout the state where there are trails through active agricultural areas. Some examples include: the American River Trail, Napa Valley Vine Trail, and many sections of the California Coastal Trail (e.g., Cowell Purisima Trail and Wilder Ranch State Park). In most cases, the trail manager and the adjacent agricultural operator enter a Memorandum of Understanding (MOU) that clearly outlines what mitigation measures will be implemented and who is responsible for those mitigation measures. The Recreational Use Statute, described in detail in Chapter 5, is a way to mitigate liability concerns by private landowner.
4B. Road and Rail Crossings Design Recommendations

Any route that the Delta Trail takes will require dozens of highway, road, and railway crossings. Ensuring smooth and safe crossings for all trail users is critical. The guidance below outlines current best practices and should be considered a minimum level of treatment for crossings. Trail road crossings should be designed by a traffic engineer with trail experience and adhere to local guidance where such guidance is available and provides additional safety measures. This is typically found in local or regional bike, pedestrian, and trail plans.

Road Crossings

Where the trail and a road intersect, it is important to provide a safe and direct crossing for trail users. In some cases, such as at freeways, the only safe crossing may be an over or underpass. On local roads, the trail may be able to use an existing or improved crosswalk or intersection to provide a safe road crossing. However, if indirect crossings (such as where the trail detours to an existing intersection) are too long or complicated, trail users may attempt more direct and hazardous informal crossings. If a safe and convenient crossing is not possible in the vicinity of the trail, then an entirely different trail alignment will be required.

A carefully designed crossing increases safety and comfort for trail users and vehicle drivers. Almost every type of crossing can be made safer through context-appropriate design.

Key elements to consider in determining crossing design include:

- Number and width of lanes
- Vehicle speeds, volumes, and types (heavy truck, light passenger car, etc.)
- Sight lines

The approach for both trail users and drivers should give clear visual cues that a crossing is near, including:

- Surface material or height changes (pavement change or raised crossings)
- Signage
- Traffic signals or warning beacons
- Curved and/or widened trail
- Median refuge islands on wider roads

On the following pages are possible design solutions for road crossings in the Delta. All recommendations include "crossbike" markings – markings that clarify bicycle and pedestrian use. Dimensions of the crossings are not provided and should be determined by a qualified traffic engineer with trail experience.
Basic signed and Striped Crossing
This is the default style crossing and is most commonly installed at lower volume, narrower, and/or lower speed streets.

![Diagram of a basic trail-roadway crossing.](image)

Raised Crossings
These crossings are located on a raised surface, which increases visibility and acts as a speed bump for motor vehicles. They are also called "speed tables." They are normally installed on low volume streets where speeds are posted at 30 MPH or less, but that have higher volume of road and trail traffic.

![Diagram of a raised trail-roadway crossing.](image)

Median Refuge Island
A refuge island in the center of the crossing allows safer and more comfortable crossings since trail users can focus on one direction of traffic at a time. This is particularly helpful for wide, multi-lane roads, but also helpful for a busy, higher speed road. Sometimes there is a level crossing/curb cut in the median that is angled toward the traffic direction to slow bicyclists and allow them a better view of oncoming traffic. The median should be wide enough to allow a bicycle to be entirely protected while on the median – typically at least 6-feet wide.

![Diagram of a crossing with a median refuge.](image)
**Signalized Crossings**

Signalized crossings are normally reserved for arterial crossings and often serve the dual purpose of assigning vehicle and trail user access. Some signalized locations may serve just the trail.

![Diagram of a trail crossing at a signalized intersection.](image1)

**Pedestrian Hybrid Beacon (PHB) Crossings**

These are commonly installed at mid-block crossings on roadways with higher average daily traffic (ADT) and/or multiple lanes. PHBs enhance the safety of the trail crossing by stopping traffic, while maintaining vehicular traffic flow when there are no trail users. PHBs are typical either activated by a button or a user detection system.

![Diagram of a trail crossing with a pedestrian hybrid beacon (PHB) signal.](image2)
Trail Intersection Connection

Trail crossings located close to a major intersection can consolidate crossing controls with the existing crosswalk and/or bike lane crossings. A path or sidewalk at least 10 feet wide would be appropriate to connect the trail to the intersection. Ideally the trail intersection connection should be configured similar to the connecting trail, with separate facilities for bicycles and pedestrians if possible.

All other crossings would be considered “mid-block” crossings and would require their own crossing controls and markings.

Traffic Controls and Warning Beacons

Traffic controls and warning beacons include:

- Yield signs
- Stop signs
- Rectangular Rapid Flashing Beacons (RRFBs)
- Pedestrian hybrid beacons (PHBs)
- Traffic lights

These controls are not necessary at every intersection but should be implemented based on engineering judgment, user volumes, approach speeds, sight distances, and crash history. These controls can be directed to trail users (on-trail), drivers (on-road), or both. As with road intersections controls, the general guidance is that the higher-volume travelled way should receive priority. For very popular trail segments, this may mean stopping drivers rather than trail users. For very busy roadways, this may mean that no crossing is possible and a different alignment must be used.

In addition, in many low-traffic areas, paint markings or warning signs may be sufficient for both road and trail users.¹

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¹ The California Manual of Uniform Traffic Devices (CA MUTCD) provides guidance stating: “Speed should not be the sole factor used to determine priority, as it is sometimes appropriate to give priority to a high-volume shared-use path crossing a low-volume street, or to a regional shared-use path crossing a minor collector street.” (CA MUTCD Sec. 9B.03)

² The CA MUTCD (Sec. 2B.06) recommends that the least restrictive control that is effective be used (Sec. 9B.03).
Railroad Crossings

Railroad crossings by any transportation facility (road or trail) are overseen by the California Public Utilities Commission (CPUC). To reduce rail-related fatalities, the CPUC has strict guidelines on new rail crossings. A bridge or tunnel is preferred. However, where at-grade crossings are allowed, significant safety measures must be included. These may consist of signals (flashing red lights, a crossbuck, and bell attached to a mast) and an automated gate that lowers when a train is passing. For a new public crossing of an active rail line, the requisite studies, permits, coordination, and construction/installation of these safety measures are costly and can create significant time delays for projects (typically on the order of $1 million per railroad crossing location).

Even rail lines that are not actively in use may present a hazard for trail users: a bicycle, scooter, skate, or wheelchair wheel can be caught in the recessed rails. To reduce this possibility, trails should cross all rail lines, whether in-use or not, at a perpendicular angle. This can be accomplished by gradually turning the trail away from the tracks before the crossing, as shown in Figure 4-17.

![Figure 4-17: Diagram showing trail crossing rail lines at 90-degrees.](image)

Photo of rail crossing along the Sacramento River Parkway in Sacramento.
4C. Trail Surface and Geometry

The Delta Trail is a locally-implemented regional trail. All planning and design will be led by local agencies and must meet local agency requirements; however, all Delta Trail segments should meet certain design standards, ensuring that users have a reasonably consistent experience.

**Recommendation:** Develop Delta Trail Design Guidelines and Toolkit.

A clear set of guidelines can help local agencies translate the goals and vision of a Delta Trail experience. Clear guidelines can also support local agencies as they seek funding for design and construction. The recommendations below can be used as a starting point, with additional guidance provided. In all cases, the trail must reflect the context.

![Diagram showing trail design elements for a paved trail, including the trail, natural surface shoulders, horizontal setback, vertical clearance, cross slope, and running slope. Widths, surfaces, etc., will all vary depending on location.](image-url)
Trail Surface

Whether the trail is paved, natural surface (dirt or gravel), or a boardwalk impacts who is able to use the trail, the cost of trail construction and maintenance, as well as the surrounding environment.

**Paved trails** may be asphalt or concrete, depending on budget, soil conditions, aesthetic preferences, and use requirements. Paved trails sometimes have the highest installation cost, but typically provide the most useability and the lowest maintenance costs. They are also the most accessible, especially for people with limited mobility and people with wheeled devices such as bicycles, wheelchairs, strollers, and scooters. Equestrians, however, typically avoid paved surfaces because horses have difficulty using them. Runners and walkers also sometimes prefer natural surfaces. All users can usually be accommodated with a wide, natural surface shoulder on one or both sides of a paved trail.

**Natural surface trails** may include any unpaved trail, whether its surface is compacted dirt, gravel, or other crushed or stabilized rock. These trails may be narrow, such as hiking trails that are found in many parks, or wide, such as repurposed gravel access or maintenance roads.

Natural surface trails may provide environmental and/or cost saving benefits, allowing construction of a trail in places that might not otherwise be possible. This surface may be preferred by equestrians as well as some runners, bicyclists, and walkers; however, most soft surface trails are not accessible for limited-mobility users (depending on the surface and terrain, the accessibility level may vary).

**Boardwalks** can be used to span sensitive habitat or cultural resources, places that are frequently inundated with water, and/or used to bridge landscapes with unstable soils or topographic variation. Boardwalks are often more costly than other design solutions and may be proposed when no other trail type is feasible. However, elevated trails also provide wildlife viewing opportunities that may not otherwise be possible.

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**Main Trail Surface Recommendation:** Wherever feasible, the Main Trail should be a paved trail with natural surface shoulders. Natural surface trails or boardwalks are acceptable where environmental or other concerns make a paved trail infeasible.

**Local Access Trail Surface Recommendation:** Local Access Trails may be paved, natural surface, or boardwalk, as appropriate for the context.
Trail Width & Clearance

The width of the trail should be determined by the expected level of use when completed. Users should be able to safely navigate the trail while enjoying the experience. In most cases, a ten-foot-wide paved surface with two- to four-foot-wide natural surface shoulders is adequate for low to medium levels of use. Where high levels of use are expected, the paved surface may need to be 12 to 18-feet wide and separate pathways may be considered for faster moving users (such as bicycles).

In all cases, at least two feet of horizontal clearance should be given at either side of the trail, including the shoulder. Elements such as bollards, railings, signposts, and trees all present hazards to trail users, who typically move away from such obstructions, which limits the useable space on the trail.

Overhead elements, such as tree branches, signs, and bridges, should be at least ten feet above the trail surface to reduce any potential hazard. In areas that might expect high use by horseback riders, this clearance may need to be increased.

**Trail Width and Clearance Recommendation:**
- **Main Trail:** Ten-foot-wide trail with two- to four-foot-wide shoulders, where feasible
- **Two-foot horizontal clearance**
- **Ten-foot vertical clearance**

Trail Slope

The cross slope (slope from side to side of the trail) and the running slope (the slope as you travel along the trail) both impact who can use the trail, the cost of construction, and where it can be built. Flatter trails are generally more accessible to users with limited mobility, while steeper trails may be easier to fit into varied topography.

In highly developed areas, trail slope is regulated by accessibility guidelines for shared use paths and pedestrian access routes, as included in the Americans with Disabilities Act (ADA) and local building codes. These typically limit cross slopes to 2% maximum and running slopes to 5% maximum unless a ramp with landings is used.

Outside of highly developed areas, trail slopes may be steeper, depending on the trail context. See the Architectural Barriers Act, Sections 1017 through 1019.

**Trail Slope Recommendation:**
- **Main Trail:** 2% maximum cross-slope; 5% maximum running slope, where feasible
- **Local Access Trail:** slopes meeting context-based accessibility guidelines.
4D. Trailheads and Trail Access

Every trail segment must have a safe way for users to access the trail, whether this is from a dedicated parking area, sidewalks and bike routes from nearby transit or neighborhoods, or boat landings.

Trail access will generally fall into three categories:

- **Trailheads** – larger access points with dedicated parking and additional facilities.
- **Trail Access Points** – access points that may or may not have dedicated parking and are typically used by locals.
- **Water Launch Sites** – water trail sites that might also provide access to land trails.

In addition, each access point may have some or all of the following amenities, depending on the context:

- Information kiosk, interpretive signs, wayfinding sign, trail signposts, restrooms, drinking water stations, waste receptacles, fencing, dog waste facilities, benches, picnic facilities, bicycle parking, vehicular parking, shuttle/bus stop, lighting, and others.

Photo of parking area at Bay Point Regional Shoreline showing vehicle parking, interpretive signs and picnic tables. (Photo courtesy of the Metropolitan Transportation Commission).
Trailheads

Trailheads are usually main trail access points and almost always include dedicated parking for trail users. Trailheads might be part of a larger park, part of a Delta Trail Water Launch Site, or might be used only for trail access.

Depending on the context, trailheads may also include any or all of the following features:

- Oversized vehicle parking (horse trailers, boat trailers, RVs, etc.)
- Restrooms
- Picnic facilities
- Information kiosk
- Other amenities listed above

In all cases, trailhead development will need to consider the local context and comply with all local, regional, and federal development requirements. Where development is near or adjacent to levees, any ramps on the levees must protect the integrity of the levee and will require encroachment permits from either the Central Valley Flood Protection Board (CVFPB) or the levee maintaining agency.

Trailheads require both sufficient area and sufficient funding for maintenance. Therefore, trailheads are most frequently found in existing public spaces such as parks, transit hubs, or park-and-rides.

Trailheads can also be designed to provide a rest area for trail users: a spot with facilities for refilling water bottles, picnicking, or taking a rest.

**Recommendation:** Every trail segment that does not have a safe way to access the trail (i.e. sidewalks and/or bike lanes) should have at least one trailhead. Additional trailheads should be located every seven to ten miles along longer stretches.

![Figure 4-19: Diagram of a small trailhead showing vehicle parking, a picnic table, and a short accessible pathway to the trail.](image)
Trail Access Points

Trail access points are typically less developed than trailheads, but located where there is still a need for trail access. This may be in areas where there is not sufficient space or infrastructure for a full trailhead. Or it may be at a location that provides supplemental trail access. In all cases, trail access points should connect to safe pedestrian and bicycle facilities that allow users to access the trail from transit, other parking areas, businesses, or residences.

Trail access points typically do not have dedicated parking or other facilities but should always have a sign or trail marker.

As with trailheads, trail access development will need to consider the local context and comply with all local, regional, and federal development requirements. Where development is near or adjacent to levees, any ramps on the levees must protect the integrity of the levee and will require encroachment permits from either the CVFPB or the levee maintaining agency.

Recommendation: Every trail access point should have a sign or trail marker.

Recommendation: Trail access points should be located as-needed, wherever the trail can connect to safe pedestrian or bicycle facilities.

Figure 4-20: Diagram of a trail access point showing connection from the trail to sidewalks.
**Delta Trail Water Launch Site**

Water launch sites are locations that are suitable for launching and landing small, non-motorized watercraft. Water launch sites may or may not provide a connection to the Delta Trail. Some sites may be as simple as a small beach or may be part of a larger marina. As with the land trail, in all cases, water launch sites designation and/or development will be locally implemented and operated and must comply with all local, regional, and federal development requirements.

Adaptation and designation of existing water launch locations is highly recommended since construction of a new water launch site may be expensive with a high potential for environmental impacts that outweigh the benefits.

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**Recommendation:** Adapt the SF Bay Area Water Trail design guidelines and eligibility criteria for Delta Trail Water Launch sites.

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**Figure 4-21:** Diagram of a water launch site showing a boat ramp, low-freeboard docks, a picnic area, parking, and land trail access.
4E. Trail and Water Launch Site Wayfinding, Signs, and Digital Engagement

Because the Delta Trail is a locally-implemented regional trail, the base signs may vary from jurisdiction to jurisdiction; however, a consistent visual language for the Delta Trail is critical to the success of the trail. Equally critical is consistent placement of wayfinding/destination signs both on and off the trail. If users cannot find the trail, they will not be able to use the trail. And if on-trail navigation is confusing or difficult, then users will be reluctant to return or explore new areas. Additionally, interpretive signs can support deeper connections to an area and spark curiosity about new places.

A full suite of sign types includes:

**MAP SIGNS** are typically placed at trailheads and include nearby destinations. These should be big enough to include interpretive information about nearby points of interest and any time-sensitive notices.

**DESTINATION SIGNS** are wayfinding signs placed along the route and call out mileage/distances and destinations including access trails and trail use. These help users navigate the system and feel secure in knowing their location and ability to reach specific destinations.

**TRAIL POSTS** are placed at regular intervals along the trail and at intersections along the main corridor. The Delta Trail medallion and mile markers can be displayed on the trail post.

**INTERPRETIVE SIGNS** are placed as needed to highlight points of interest throughout the Delta Trail network. A common graphic style can be developed.

**DIGITAL ENGAGEMENT** supports the user experience before, during, and after a visit. Coordinating with map apps to have the Delta Trail shown, creating or expanding an online map, creating videos, and providing website information can all assist with trip planning. Digital media links (both websites and QR codes) on signs can enrich the visitor experience in real time.

![Figure 4-22: Rendering of Trail Sign Example from Stanly Ranch (Napa).](image-url)
An interpretive panel along the West Sacramento River Walk provides context and information for visitors.

Recommendation: Include recommended sign standards in the design guidelines and toolkit. Standards should include guidelines for:

- Distinct plaque style for Main Trail, Local Access Trails, and Water Launch Sites.
- Interpretive sign style and locations.

Recommendation: Develop a digital and print version of a system-wide map, showing connections to other trail systems and local areas of interest.

Photo of visitors looking at SF Bay Water Trail Sign at Big Break Regional Park in Oakley.
The implementation of this bold regional trail vision will require the active participation, coordination, and partnership between many public agencies at every level of government, from local to federal. It will also require support from community leaders, businesses, residents, and visitors to the Delta, as well as natural and agricultural resource organizations.

The purpose of this chapter is to go into more detail about the work needed to create the Delta Trail. This includes, but is not limited to:

A. Designation criteria for new and existing trails
B. Process for new trail development
C. Trail Promotion, including:
   - Clear Delta Trail identity and vision
   - Print and online maps
   - Delta Trail Mascot
   - Interpretive and wayfinding sign programs
   - Adventure Hub Concepts
   - Events and educational opportunities
D. Trail Funding, including:
   - Trail Cost Estimate Information
   - Grant funding opportunities
   - Private funding opportunities

5A. Delta Trail Designation

One of the most important steps to implementing the Delta Trail is creating clear designation criteria and a clear process for officially designating a new or existing trail as a Delta Trail segment. This process and the associated criteria are discussed in Chapter 3, which describe the importance of the following five categories: (1) connectivity, (2) location, (3) users, (4) impact, and (5) local support. A sample designation process and checklist are included in Appendix H.
5B. New Trail Development

While there are many miles of existing trails that may be eligible for Delta Trail designation, most Delta Trail segments will need to be new trail construction that is locally planned and implemented by municipalities, counties, and regional planning agencies. The Commission is in the role of facilitator for the Delta Trail vision and planning process and will not own, build or maintain the trails.

How New Trails are Implemented

The implementation of a trail system is a cyclical and ongoing process: a trail segment is first envisioned, then it must be planned and designed, and then finally it can be built, upgraded, and/or modified. As more trail segments are completed, the ongoing championing and envisioning of the entire trail network continues with the hope for growing support and momentum. All stages of the process must be coordinated to ensure that individual parts of the larger network will connect and work together.

These steps are illustrated in Figure 5-1 and Figure 5-2, and described in further detail in the next section.

![Diagram of a typical trail implementation cycle. Local planning is shown at the top, then design, construction, and operations and maintenance. In the center of the cycle is fundraising, coordination, and promotion.](image-url)
One typical process for developing a Delta Trail segment might include the following steps:

1. **Trail Vision** — create a clear unifying vision to inspire and motivate local planning and support
2. **Fundraising (Round 1)** — assemble the funds to plan and design the trail
3. **Local Planning** — determine where the trail will go and how it will function (note that utility easements, land easements, licenses, leases, or land purchases must be in place prior to any site-specific planning)
4. **Design & Environmental Analysis** — determine the detailed trail location, layout, and associated features
5. **Fundraising (Round 2)** — assemble the funds to build the trail
6. **Construction & Permitting** — build the trail and the associated features, including obtaining necessary permits
7. **Operations & Maintenance** — regulate the use of the trail, oversee day to day functions, repair and replace trail pavement, signs, and other associated features
8. **Local Planning (post-construction)** — every few years determine the need for trail route changes, expansion, use changes, improvements, etc.
9. **Fundraising (Round 3)** — assemble the funds to maintain and operate the trail
10. **Oversight & Coordination** — ensure the continuity & connectivity of the system
11. **Promotion** — promote trail use, visibility, and expansion (as needed)
12. **Operations** — review trail regulations and make any improvements to day-to-day functions

In addition to the above steps, acquiring the land and/or rights through ownership, easement, licenses, or lease must be completed, or the terms agreed upon, before this process can begin.

The matrix below summarizes the potential and recommended roles for each type of organization or individual and each step. The information in the matrix is described in detail in the following section.

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**Figure 5-2: Matrix of different trail implementation roles.**

† Trail funding is complex and will come from many sources. Funding sources may differ from the agency implementing the project at any stage of trail development.
Implementation Steps & Recommended Agency Roles

Recommendations for implementing the Delta Trail are included for each type of agency and organization. Depending on each unique situation, the constellation of agencies involved will be different.

Oversight & Coordination

Planning and coordination of the trail at a regional level is distinct from local planning efforts described later. The organization overseeing and coordinating a regional trail would:

- Develop and update the overall vision
- Provide general guidelines and technical information
- Provide inter-agency coordination
- Coordinate funding
- Designate sections
- Track local planning efforts
- Track overall Delta Trail progress

In some cases, this organization might be a source of funding for trail construction, or it might track funding opportunities.

The **Commission** is tasked with most of the oversight and coordination roles described in the Great California Delta Trail enabling legislation (Senate Bill 1556). However, as a government agency, the Commission is limited in its capacity of what it can accomplish for the Delta Trail while balancing its commitment to the “protection and health of the Delta” through a vision of an “ideal synthesis of cultural, ecological, and agricultural values in a sustainable, healthy, and celebrated way of life.”

The San Francisco Bay Trail, Bay Area Ridge Trail, California Coastal Trail, Pacific Crest Trail, and many other regional trails benefit from the support and leadership of a partner non-profit that can assist with advocacy, fundraising, planning, agency and volunteer coordination. The Delta Trail would greatly benefit from a supporting **partner non-profit or “friends of” group.**

Many regional trails have one or more standing **advisory committees** that provide ongoing input and guidance on trail development. In most cases, these committees are comprised of at least one representative from each county and/or city in the trail’s planning area. Senate Bill 1556 includes
provisions for Technical and Stakeholder Advisory Committees (TAC and SAC). See Chapter 1 for more information.

The 2019 designation of the Delta as a National Heritage Area (NHA) can also provide a valuable reciprocal partnership. The Delta Trail will provide access to the NHA by giving visitors literal pathways for exploring the Delta. The NHA can provide direction and support for the Delta Trail by promoting the trail in NHA materials and encouraging connections to the rich Delta heritage.

Recommended Responsible Organization(s)

- Delta Protection Commission
- Regional agency and non-profit partnership
- Technical and Stakeholder Advisory Committees
- NHA Partnership

Photo of informational sign at public docks in Walnut Grove.

Trail Vision and Promotion

Ongoing advocacy is required to close gaps, refine routes, fundraise to complete sections of the trail, advance the vision of the regional trail system, and encourage use of the trail. Like oversight and coordination, the organization responsible for championing the trail could be an agency, a supporting non-profit organization, or both. This organization’s role might include, but not be limited to the following:

- Coordinate public information and messaging
- Publish and maintain up-to-date printed and online maps
- Maintain a website with the regional trail vision, maps, access info, trail updates, benefits, etc.
- Advocate and fundraise for trail implementation and/or improvement
- Hold or coordinate trail events, such as docent-led hikes, clean-ups, trail building and/or environmental or historic interpretation
- Encourage user compliance with regulations and policies

Recommended Responsible Organization(s)

- Combination of regional agencies, local agencies, and non-profit partner(s)
Local Planning

Local planning also involves including potential trail alignments in local city and county recreation and transportation planning documents. The Delta Trail Planning Area is within the regional planning area of three major metropolitan areas (San Francisco Bay Area, Sacramento, Stockton), five counties (Contra Costa, Sacramento, San Joaquin, Solano, and Yolo), and over a dozen other incorporated cities. Each of these agencies maintains transportation plans, and many also maintain their own recreation plans. The East Bay Regional Park District (EBRPD), California State Parks, and the Department of Fish and Wildlife also maintain their own trails and recreation planning documents.

Inclusion of Delta Trail alignments within these plans ensures that the vision continues to be carried forward through incremental development. It also provides a means for local agencies to require new developments to include the trail in their projects, such as a business center or housing development. In many cases, recreational access can be included as condition of development approval.

While the Commission and/or a non-profit may lead the high-level regional planning, local agencies should typically lead the next phase of more detailed planning, which includes envisioning the specific trail connection, including its potential uses, layout, and general route. The agency or agencies responsible for local trail planning would oversee, fund, and/or adopt the following planning products: system and network analysis and route studies and/or feasibility studies.

Funding for these studies might be provided through federal or state grants, regional or local measures, or private foundations or donors. When route studies or planning is incorporated into part of a local plan, such as a general plan or active transportation plan, funding could be provided through the same source as used for the local plan.

Trail planning is both the first stage of trail implementation and an ongoing process. Even after a trail section is constructed, trail planning may include refining and improving the trail network based on new demands, opportunities, or settings. Planning efforts in both the early and the post-construction phases should include coordination with nearby and adjacent agricultural uses, including how to address and prevent issues like trespassing, vandalism, intermittent closure for spraying or harvesting, and any other concerns that arise. During the design and construction stages, fencing concepts and other barriers can be developed and installed.

Recommended Responsible Organization(s)

- Regional planning efforts – Delta Protection Commission or partner non-profit
- Detailed planning and route studies – Local agency
Land/Easement Acquisition

The Delta Trail is envisioned as a public trail on public land. To create a connected regional trail network, negotiations for public access rights from private landowners may be necessary to implement the trail. There are many types of land acquisition tools available for trails including a local agency or non-profit acquiring the fee title, trail easement, license, or lease for trail access. Other tools, such as lot line adjustments and land swaps, can be used as a creative negotiation solution. Additionally, a trail can be built and managed by one agency on land owned by another agency through instruments such as memoranda of understandings (MOUs) or management agreements.

The organization or agency that will ultimately hold the easement or ownership of the land will typically negotiate the terms of access. In some cases, a private non-profit organization, such as a land trust, might support or lead the access/acquisition process and transfer it to the long-term land managing agency.

Land acquisition negotiation is a key time to address liability concerns with private landowners. Most liability access is addressed through the Recreational Use Statute (Civil Code Section 846) that states a landowner does not “owe a duty of care to keep the premises safe for entry or use by others for any recreational purpose or to give any warning of hazardous conditions” on the property to individuals entering the property for a recreational purpose.” Additional liability information is provided in Appendix G.

Recommended Responsible Organization(s)

→ Local, regional, or state agency
→ Non-profit land trust

Design and Environmental Analysis

Once a route has been identified with the general trail configuration and preferred uses, the detailed trail design can begin. This is when specific features, materials, widths, signage, and other details are determined. This is also when designs for amenities or support features, such as parking, rest areas and trailheads, are completed.

The agency or agencies responsible for the trail design would oversee, fund, and/or approve construction documents and environmental clearance and land use permits (e.g., CEQA, NEPA, environmental mitigations and permits, etc.)

As with planning, the design stage should be led by local agencies. Funding for design might be provided through federal or state grants or regional or local measures.

Recommended Responsible Organization(s)

→ Local, regional, or state agency
Construction & Permitting

The agency responsible for planning, designing, and implementing the trail and associated features would oversee construction, including obtaining necessary permits. The local agency would typically assemble and manage the funds for construction including requirements for grant funding. Funding for construction might be provided through federal or state grants, regional or local measures, or private donations.

Ideally, the agency that constructs the trail will also be responsible for operations and maintenance of the project. Active monitoring should occur during the construction to ensure that the project is built to applicable local, state, and in some cases federal standards.

In cases where the trail is built as a condition of approval for another development, such as a new business center, housing, or recreation facility, establishing an MOU that states what entity will be taking over the maintenance of the project after it is built should be established before construction begins to ensure the long-term success of the project.

Recommended Responsible Organization(s)

- Local, regional, or state agency
Operations & Maintenance

Each segment of the trail might have one or more agencies or private organizations that take responsibility for the day-to-day operations and maintenance of the trail. The agency with legal jurisdiction might:

- Determine operating regulations (user types, hours, leash laws, etc.)
- Administer event or access permits
- Enforce regulations
- Accept responsibility and liability for trail use
- Coordinate with adjacent land uses regarding trail use and issues

While there can be issues with conflicting regulations and use guidelines as regional trail users pass through different jurisdictions, these issues are manageable and reflect the diversity of needs and uses throughout the Delta. The trail has consistently been envisioned as a locally implemented network, which will be reflected in the variety of trail conditions.

Fire risk reduction should be considered both during the annual/seasonal maintenance (e.g. pruning and clearing hazardous vegetation) as well as during the more regular monthly and weekly maintenance (e.g., monitoring the conditions of BBQ and fire pits, trashcans, and other high fire risk conditions).

Trash removal is already a major concern for land managers in the Delta, particularly in remote areas where monitoring is less frequent. While additional activity and presence of trail users may reduce major illegal dumping, trash removal must be included in all ongoing operations and maintenance.

Vandalism and trespass were noted as the top two concerns for levee managers and agricultural landowners. The importance of developing a trail patrol program (volunteer or paid) and well-constructed fencing is critical early in the design process of each new segment.

Volunteers can be leveraged to support patrolling, interpretation, and maintenance activities on some or all sections of trail by partnering with non-profits and/or community groups (e.g., schools, Rotary Clubs, Adopt-a-Trail, etc.).

More information on trail maintenance is included in Appendix E.

Recommended Responsible Organization(s)

- Local, regional, or state agency
- Partner non-profit

Funding and Grants

Funding trail projects is important to consider early in the trail development process and is likely required at all phases of the project. Funding for trails is expanded on in Section 5D.

The entity planning and designing the trail would likely apply for grants from public funding sources. Non-profit partners can more easily assemble funding from private sources and/or foundations. It is beneficial to have a diversified source of funding since different sources may have different spending limitations or funding requirements like whether sources will cover planning vs. construction.

Recommended Responsible Organization(s)

- Local, regional, or state agency
- Partner non-profit
5C. Delta Trail Promotion and Visibility

Expanded Online and Printed Delta Trail/Delta Regional Maps

When asked during the public outreach survey what would make it easier for someone to visit the Delta Trail, trail maps (i.e. digital, printed, and trailhead signs) was the number one response, selected by 75% of respondents.

Expanding and continuing to update the existing online story map¹ is one step in trail promotion and visibility. Working to add the Delta Trail alignment on existing print maps, such as the California Delta Map by Franko², or creating a new map should also be supported. Print and online maps raise awareness about the trail while supporting trip planning in the Delta Region. The print and online maps can be expanded to show recreation destinations, historic sites, parking, kayak rental locations, as well as commercial areas, shops, and restaurants. The site can also showcase adventure hub itineraries.

As the popularity of web and app-based trail programs, such as AllTrails, Outer Spatial, Gaia Outdoors, and others, increases, these sites should be leveraged to further increase awareness of the Delta Trail.

**Recommendation:** Expand and update the existing online Delta Trail map.

**Recommendation:** Publish and “official” Delta Trail map, both printed and online.

![Figure 5-3: Screenshot of Delta Trail Story Map on visitcadelta.com.](https://visitcadelta.com/stories/great-delta-trail/)

¹ https://visitcadelta.com/stories/great-delta-trail/
² https://www.californiadeltamaps.com/frankos-california-delta-map
Creating a Delta Trail Mascot

People often connect with visuals that are memorable and humorous. The Delta Trail could conduct a competition to come up with a Delta Trail mascot. The mascot might be created in the similar style to other Delta icons like the Delta Loop logo\(^3\) to reflect the island-vacation feeling often associated with visiting the Delta.

**Recommendation:** Develop a Delta Trail Mascot to support the logo on print and web materials.

![Figure 5-4: Delta Loop Logo.](image)

Interpretive and Wayfinding Sign Programs

Developing a consistent wayfinding and interpretive sign design and program can support raising awareness and promoting the Delta Trail system. This type of program is expanded on in Chapter 4.

**Recommendation:** Add specific Delta Trail sign recommendations to the Delta Sign Plan.

Adventure Hub Concepts

Identifying Adventure Hubs throughout the Delta is a great way to celebrate existing opportunities for tourism and recreation while the full Delta Trail vision is being built out. These adventures can fall into multiple categories including (1) historical, (2) nature adventures, (3) commercial, (4) boating and water, (5) walking/hiking, and (6) bicycling. This concept is further developed with region-specific adventure hub suggestions in Chapter 3.

**Recommendation:** Develop Adventure Hubs with the National Heritage Area process.

\(^3\) Delta Loop Logo provided by KJ Design Pro: [https://www.kjdesignpro.com/logo-design](https://www.kjdesignpro.com/logo-design) (retrieved 7/26/2021)
Trail Events and Educational Opportunities

Events and educational opportunities are a great way to get locals and tourist involved in the celebrating and promoting the richness of the cultural, agricultural, natural, and recreational activities while promoting and raising awareness about the Delta Trail. Events could include (1) tabling at/participating in existing annual events, (2) partnering with community groups to host a run/paddle/bike through the Delta, etc.

**Recommendation:** Develop and support Delta Trail events.

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Photo of volunteers planting trees along Marsh Creek Trail in Contra Costa County.
5D. Trail Costs and Funding

Estimated Costs

While trails are considerably less complicated and costly than larger vehicular infrastructure projects, such as highways and bridges, trail projects can still be costly and take considerable time to complete. In most cases, however, the benefits of the trail will outweigh the costs. A well-planned, designed, and constructed trail can provide economic, social, health, and environmental benefits for the local and regional communities.

The overall cost for constructing a new trail may include design, permitting, environmental assessment, mitigation, and construction (including construction administration and coordination). Many factors impact costs and timing for each of these activities, but the main factor will be location. Construction in sensitive habitats, complex infrastructure needs, such as bridges, or where land and easements must be purchased will increase planning, design, and construction costs. The economic climate at the time of construction will also impact costs.

A review of recent trail planning, design, and construction projects in California reveals a wide range in project costs, reflecting all the factors listed above. The list below provides a very high-level cost for a typical one to five-mile trail. Although the costs shown present a wide range, the numbers may be useful for agencies in the early stages of trail planning or considering pursuing trail planning grants.

- **Trail Planning Studies** — $100,000 - $400,000
  - **May include:** preliminary route studies, community outreach, schematic design, preliminary environmental and cultural resource studies. Cost varies based on size and complexity.

- **Trail Engineering and Design** — $100,000 - $400,000
  - **May include:** detailed design and bid documents, environmental studies and clearance, and permitting.

- **Right of Way Acquisition** — varies
  - **Includes costs to secure land for the trail, whether through purchase, easement, or license.**
  - **Where necessary, includes costs for negotiations with utility companies, utility managers, etc.**

- **Trail Construction** — $100,000 - $2,000,000 per mile
  - **Includes surfacing, signs, administration, and contingency.**
  - **The lower cost would be for a relatively simple project, such as converting an existing maintenance road to a trail.**
  - **The higher cost would be applicable for a new paved trail with many road crossings, through sensitive habitat, or with other high-cost infrastructure items.**
  - **Other items that may be included, depending on context: grading, landscaping, lighting, benches, picnic tables, drinking fountains, road crossings, parking areas, and more.**
  - **Not included are very high-cost items such as bridges.**

Note that costs for levee improvements are not included above. The Central Valley Flood Protection Plan (CVFPP), California’s strategic blueprint to improve flood risk management in the Central Valley, includes information on the current costs of maintenance, improvements, and plans for larger levee upgrades.¹

¹ [https://water.ca.gov/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan](https://water.ca.gov/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan)
Funding Opportunities

There are many categories of projects for which the Delta Trail could receive funding. Those projects could address active transportation and recreation, parks and trails, climate change and climate adaptation, sustainability, livable communities, green infrastructure, and more. The Delta Trail should seek funding from the many different sources available at the federal, state, regional, and local level as well as funding from private sources. Below is a summary of potential funding sources for Delta Trail implementation. An expanded version with eligible projects and links is in Appendix F.

Trail developers should also seek every opportunity available to include trails in multi-benefit projects such as wetland restoration, housing, commercial, or industrial developments. Note that the Delta Trail can be included in habitat mitigation projects, but trails cannot count toward habitat mitigation.

United States Department of Transportation
- Infrastructure for Rebuilding America
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)

National Park Service
- Rivers, Trails and Conservation Assistance Program

California Grants
- California Grants Portal Overview, various sources

California Department of Parks and Recreation Office of Grants and Local Services (OGALS) Programs
- Regional Parks Program, Proposition 68 (2018)
- Rural Recreation and Tourism Program, Proposition 68 (2018)
- Outdoor Recreation Legacy Partnership Program (ORLP), National Park Service under the authority of the Land and Water Conservation Fund
- Land and Water Conservation Fund (LWCF) Local Agency Competitive, LWCF
- Recreational Trails Program, Federal Highway Administration (FHWA)
- Division of Boating and Waterways

California Transportation Commission (CTC) and California Department of Transportation (Caltrans)
- Active Transportation Program, Federal and State Funding Sources, Senate Bill 1 (2017)
- Sustainable Transportation Planning Grants, Caltrans
- Solutions for Congested Corridors Program (Congested Corridors Program), SB 1 (2017)
- Local Partnership Program – Competitive, SB 1 (2017)

California Natural Resources Agency
- Green Infrastructure Program, Proposition 68 (2018)
- Urban Greening Program, California Climate Investments
- Environmental Enhancement and Mitigation Program (EEM)

The State Coastal Conservancy
- Proposition 1 Grants
- Coastal Resource and Public Access Program, Propositions 12, 40, 68, 84, Habitat Conservation Fund, and General Fund
- San Francisco Bay Area Conservancy Program Climate Adaptation Funds, Proposition 68 (2018)

Other State Grants
- Ecosystem Restoration and Water Quality Grant Program, Proposition 1 (2014)
• Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA)
• Small Communities Flood Risk Reduction Program
• Floodplain Management, Protection, and Risk Awareness Grant Program, Proposition 68 (2018)
• San Francisco Bay Restoration Authority

Private Sources

• PeopleForBikes
• Trail Accelerator Grants

Community Action Plan Funding Sources


• Arbor Day Foundation
• California Capital Access Program ADA Financing Program
• California Department of Education
• California Department of Forestry and Fire Protection (Cal Fire)
• California Department of Housing and Community Development
• California Department of Parks and Recreation
• California Department of Transportation (Caltrans)
• Caltrans - Active Transportation Program
• Caltrans - Division of Local Assistance
• Caltrans - State Highway Operation and Protection Program (SHOPP) and Minor Program
• Caltrans - Sustainable Transportation Planning Program
• Caltrans - State Transportation Improvement Program (STIP)
• California Department of Water Resources
• California Department of Water Resources Small Communities Flood Risk Reduction Program
• California Division of Boating and Waterways
• California Energy Commission
• California State Parks
• California State Parks Foundation
• California Wildlife Conservation Board
• California Wildlife Conservation Board Public Access Program
• Delta Protection Commission
• Delta Stewardship Council
• Dignity Health
• Federal Emergency Management Agency Hazard Mitigation Assistance Grant Program
• Health Resources and Services Administration
• Kaboom!
• Kaiser Permanente
• National Center for Safe Routes to School
• National Trust for Historic Preservation
• Pacific Gas and Electric
• Sacramento Area Council of Governments
• Sacramento Housing and Redevelopment Agency
• Sacramento San Joaquin Delta Conservancy
• Sacramento Tree Foundation
• Sutter Health
• Target Brands
• Teichert Foundation
• UC Davis Health System
• US Department of Agriculture
• US Department of Housing and Urban Development
• US Department of Transportation