CHAPTER 5
IMPLEMENTATION

This chapter includes a constraints analysis, trail development strategies and trail funding sources to facilitate active transportation system implementation in Humboldt County. Also included are decision-making support tools for prioritizing trail projects for the region and identifying projects funding eligibility.

CONSTRAINTS ANALYSIS

Semi-structured interviews were conducted with the seven incorporated cities and the County of Humboldt to discern trail development constraints. The eight Native American Tribes in Humboldt County were contacted as part of this effort, but chose to participate in other aspects of the Regional Trail Master Plan development.

The interviews were partially structured by a questionnaire (see appendix B). The questionnaire contained a minimum number of questions to allow for a focused, but adjustable format, and to enable the interviewer to become familiar with the subject area (e.g., trail development, maintenance, and obstacles). The questionnaire allowed for interviews to stay focused on trail planning, but also invited two-way communication and conversation in which interviewees introduced and discussed relevant issues. Not all questions were constructed prior to the interviews; questions were created during the interview, allowing both the interviewer and the person(s) being interviewed the flexibility to probe for details and discuss issues.

Interviews with the eight local governments were initiated via emails. Those emails, which stated interview purpose and schedule, were followed up with calls to set an interview date, time and location. Below is a summary of the constraints information obtained from the eight municipalities.

Trail Development

When asked "how is your agency facilitating trail development," three of the municipalities replied that they are not actively pursuing trail development, and two replied that they are in the process of updating their General Plans to include trail policies and alignments. One of the cities interviewed has a history of successful grant acquisition for trail development, but has been idle as of late, due to staff changes. This city's Open Space, Parks and Recreation Commission (committee) would like to see a program aimed at protecting trails, but the city currently lacks capacity to initiate protection efforts. This city's staff responded that they are seeking grant funds for trailhead development and looking to "ramp up trail efforts and get trails built, but that the efforts might end up as trail by committee" as opposed to staff directed, due to limited staff availability.

Two jurisdictions interviewed are actively developing trails and have multiple plans that include trail development policies and proposed alignments. One of the jurisdictions is propelled by a city council that has a goal to support regional trail development. As a result, Planning and Public Work's staff identify trails for construction that facilitate connections to existing and proposed trails to establish an overall trail network with minimal connectivity gaps. One of the staffers commented, .we not only look at each development project to establish overall trail connectivity we also continually scan the horizon for trail projects." Both of the jurisdictions actively involved in trail development are assisting with the Humboldt People Powered Pathways effort.

These two active jurisdictions use the following funding sources to construct trails: Coastal Conservancy, Caltrans Bicycle Transportation Account, Caltrans Environmental Enhancement and Mitigation Program, Quimby Act Fees, State Parks local assistance, grants, donations, redevelopment funds, donations, volunteer labor, Safe Routes to School funds, restoration project grants, stormwater drainage funds, parkland-in-lieu dedication funds, and the general fund. Although two of the municipalities are actively pursuing funds for trail development, they face obstacles to making great strides with non-motorized facility development common to all eight entities.

Obstacles

Limited funds and staff time are the primary obstacles that prevent the cities and county from pursuing local and regional trail development. Funding constraints limit the jurisdiction's ability to perform the necessary analyses (e.g., engineering, environmental) to get a trail project "shovel ready" and constructed, and to provide long-term trail operations and maintenance. It is interesting to note that a lack of long-term funds prompted one of the municipalities to adopt a policy that supports taking on management and maintenance of additional parks and/or trails *only if* funding is secured for development and continued maintenance and operations. Without the identification of a new, long-term revenue stream trail development in that jurisdiction is severely limited regardless of the public and staff support for the expansion of the active transportation system. One interviewee summed up the obstacles stating, "trails give a happy, healthy look to a community, but money is the issue." In addition, two of the eight municipalities interviewed noted a lack of expressed community support, the adoption of identified trail projects into local plans, and private land owner support for trail development were identified as trail development obstacles.

Two of the smaller cities stated that a lack of expressed community support for trail development has prevented policy makers from making trail planning and development a city staff task or priority. Staff perceives that there is disparate, but not collective trail interest and that collective interest is required to get the necessary inertia at the policy level. The need for collective interest is loosely tied to the need for private landowner consensus on the advantage of trails. Without collective interest, private landowners are less likely to understand the benefits of trails and are more likely to be resistant to government efforts to secure easements or title for trail development.

Jurisdictions are often hampered when developing trails on major corridors that abut private property. As one municipality stated, "unfortunately, if it takes the agreement of five willing

property owners to build a trail and the jurisdiction(s) only has the agreement of four property owners, trail development plans will not succeed." In addition, a second interviewee noted, "some of the more obvious, natural trail corridors are predominately in private ownership."

Another obstacle to trail development is inconsistency between regional and local planning documents. One agency staff member discussed how trail alignments in certain regional plans were developed by engineering or public works departments at the staff level, but never presented to the Planning Commission, City Council, senior staff or other city departments for approval. As a result, the projects are not incorporated into local adopted plans and are not recognized by staff as city projects. This inconsistency then gets imbedded in the planning process and skews prioritization of projects. A second agency staff member also discussed the need for planners who develop regional plans to ensure that each jurisdiction is made aware of the recommended trail alignments outlined in regional planning documents. This jurisdiction has a history of permitting and planning trails, but is often not informed when a regional document identifies a trail alignment not identified in the jurisdiction's planning documents. The lack of communication hinders the jurisdiction from the planning and permitting necessary for trail development.

Other trail development obstacles identified by interviewees are as follows: regional connectivity is limited by the plans of adjoining jurisdictions; a lack of staff continuity; environmental and cultural constraints; encroachment in the Caltrans corridor; potential conflicts between agricultural operations and trail users; and regulatory hurdles adding years to trail implementation.

Local trail development efforts have a myriad of obstacles that prevent them from moving forward. When asked what prevents jurisdictions from moving forward with trail development at a regional level, all eight municipalities had a perception that there isn't a regionally coordinated effort to engage in. Interviewees noted that there isn't a formal mechanism for regional trail development and as a result, if regional trails are implemented they will be implemented on a project-by-project basis. Implementation on a project-by-project basis will require staff from adjoining jurisdictions to communicate with one another when planning trail projects to ensure trail standard consistency.

It is important to note that in areas where regional coordination has been established (e.g., Redding), regional trail identity and funding priorities have been developed that assist local jurisdictions to leverage grant funds, thereby facilitating implementation. These opportunities will be missed in Humboldt County if the perception of a lack of regional coordination is not dispelled.

Trail Planning, Construction and Maintenance

When asked what department is primarily responsible for planning trails, all eight jurisdictions responded differently; responses to the question included: the Planning Department; Department of Public Works and Environmental Services; primarily Public Works, but with assistance from other departments; Planning, Engineering, and Public Works; the Community Development Department by default, with assistance from Parks and Recreation, Engineering and Public

Works; and Public Works and Community Development Services. One jurisdiction answered that a specific department has not been assigned the task of planning trails, but if efforts were to be initiated, the Police, Public Works, City Manager, and Finance Department would be involved. One of the jurisdictions described how the small number of city staff limits their involvement in planning to an overview level and that detailed planning would require outside assistance and money. Public Works staff does, or would, bear the responsibility for trail construction and maintenance in all eight jurisdictions; however, in two of the cities other departments would assist with construction and they include: Engineering, Environmental Services, and the Parks and Recreation Department. Similar to construction, trail maintenance is primarily the domain of Public Works.

Four of the jurisdictions have a trail maintenance program. Two of the jurisdictions fund the program with general fund revenues; one uses a portion of the Humboldt County Transportation Development Act (TDA) allocation, which is derived from ¼ cent of the seven-cent retail, state wide sales tax on gasoline; and a fourth jurisdiction funds maintenance by activity type, and utilizes forest management revenue, wastewater funds, stormwater funds, the general fund and transportation funds for their trail maintenance program. Trail maintenance in one jurisdiction is complaint-driven due to a lack of staff and revenue to support routine maintenance. Three of the jurisdictions interviewed do not have trail maintenance programs. One jurisdiction indicated that trail maintenance will be a critical aspect of staff recommendations to garner the political will to proceed with trail development.

All eight jurisdictions were asked if they have a *volunteer* trail maintenance program to assist staff with trail maintenance. Seven of the eight municipalities interviewed do not have a volunteer trail maintenance program. However, four of the jurisdictions have engaged volunteers to do routine maintenance, minor repairs or construct trail infrastructure. Volunteers are typically organized for one-time events or on a project basis, as opposed to a program basis. Typical volunteers groups include active community residents, Friend of the Hammond Trail, the Boy Scouts, Eagle Scouts, Church Groups, Trails Trust, Green Wheels, Humboldt Bay Bicycle Commuters Association, and Fortuna High School students. One of the public works staff iterated that volunteers are leveraged "as much as we can, they have an energy and a willingness … but, that a lot of maintenance requires expertise and money."

The one municipality with an active volunteer trail maintenance program organizes a series of volunteer clean up and trail maintenance days about once a month. This city partners with an organization or business to ensure a good core group of volunteers and also opens events up to the public. The city serves volunteers breakfast and lunch. The city also has a volunteer trail patrol program that has been developed, but is in need of a full-time ranger position to initiate the program. The city needs volunteer trail patrol training curriculum in the following areas: how to patrol; how best to be the eyes and ears of the trail system; how to handle and diffuse confrontation; interpretive handouts for each regional trail section that will be patrolled by volunteers, a web portal for volunteers to post patrol reports, hear about other activities, sign up for shifts with other volunteers, get training updated, news, etc.; basic orientation and map review for all regional trails; basic self defense and awareness, and criteria for patrolling with dogs or horses. Russ Park trails in Ferndale are maintained by a dedicated group of volunteers and serve as an example of what can be accomplished with an organized volunteer program.

Corridor Acquisition and Preservation

All eight jurisdictions interviewed acquire trail corridors through dedication at time of development. Two jurisdictions have successfully procured trail corridors through property acquisition. One jurisdiction described acquisition efforts as being opportunity-driven and typically grant funded, whereas the second jurisdiction discussed how both city and grant funds were used for property acquisition. This jurisdiction was recently awarded State funds to acquire road right-of-way for a road project that incorporated an adjacent shared-use path.

One of the eight jurisdictions outlined future methods the city will use to seek trail acquisition; the methods included voluntary dedication of land in exchange for density bonuses or other inducements, development of a trail master plan in order to condition subdivisions of land with dedications, and adopting Quimby Act funding for the purchase of park lands that incorporate trails. It is interesting to note that as a result of the interview, one jurisdiction identified a trail and the land owners they would need to contact to initiate property acquisition discussions.

Five of the jurisdictions interviewed do not have trail corridor preservation strategies. Two of the jurisdictions identified land use (e.g., General Plan) and trail planning documents (e.g., Open Space Acquisition and Management Plan, Park and Recreation Master Plan, Pedestrian and Bicycle Master Plan) as their trail preservation strategies. Another strategy being employed is the development of a trail plan map and corresponding ordinance to establish a Gulch and Greenway combining zone to assist with accurately identifying gulches and greenways and compatible standards for new development with public safety and environmental values.

Conclusion

Of the eight municipalities in Humboldt County, two are actively pursuing trail development, three are in the process of updating their General Plan Circulation Elements to include active transportation modes, two are interested in ramping up trail development activities, and one is not actively pursuing trail development, nor do they address trails in their jurisdictional plans.

In order to establish a regional trail system, it will be necessary for all jurisdictions to outline trail development policies and guidelines in local plans, to provide the necessary framework at the local level for development efforts. It will also be important for the municipalities to have consistent trail guidelines to ensure regional non-motorized facility connectivity. The need for local plans to address trails is strong given the perception that a regional framework for trail development does not exist.

This plan is the first step in the establishment of a regional trail framework. HCAOG member agencies should continue to flesh out the Humboldt County regional trail model in order to:

- Provide an informational forum for experienced municipalities to assist those less experienced with tools of success;
- Establish long-term funding solutions for trail operations and maintenance;

- Develop a regional trail identity that will provide leverage when jurisdictions are applying for trail development funds; and
- Ensure consistency between regional and local trail planning documents.

It is important to note that a dearth in funds and staff time was identified as the primary obstacles that prevent all eight from moving forward with trail development at the local level. It is likely that a regional dialogue can assist with finding solution(s).

TRAIL DEVELOPMENT STRATEGIES

This section discusses potential strategies municipalities can employ to facilitate trail development and management efforts in Humboldt County. The strategies are based on obstacles and constraints cited by local jurisdiction staff. Constraints include limited long-term funding to support trail operations and maintenance; the perception that there is an uncoordinated approach to regional trail system planning, development and management; and a lack of trail development mechanisms (e.g., adopted trail design guidelines, policies or plans) in place at the local level. It is hoped these strategies will stimulate discussions, both locally and regionally, on ways to overcome trail development obstacles.

Financing Operations and Maintenance

The linear nature of trail systems traversing through multiple jurisdictions will require regional participation and long-term cost-share commitments for operations and maintenance. The HCAOG Board has initiated an amendment to their joint powers agreement to include trail planning activities. The amendment, to include regional trials planning, management and development, is scheduled to be heard for adoption by the end of the 2010 calendar year.

The biggest obstacle to trail development is the lack of a long-term funding stream for trail operations and maintenance. Potential revenue sources for trail operations and maintenance may include: Parkland in-lieu fees (Quimby Act), Transient Occupancy Tax (TOT), benefit assessments, or special taxes (see funding sources for a full description). HCAOG member agencies will need to decide how to structurally address regional long-term trail operations and maintenance and associated costs. Described below is a potential strategy that municipalities can employ to alleviate a small proportion of trail operation and maintenance fees.

Volunteer Trail Maintenance Programs

Trail operation and maintenance is a significant long-term expense for local jurisdictions. The lack of funds to support dedicated staff and resources for trail maintenance often discourages trail development. Trail maintenance challenges include limited staff expertise, aging infrastructure, demanding climatic conditions (i.e., salt air and a heavy rainy season), and vegetation management. Volunteer trail maintenance programs are a strategy that can be utilized to reduce trail maintenance costs and to partially mitigate trail funding deficits.

Volunteers can be recruited for routine trail maintenance activities such as vegetation management, sweeping, trash removal, minor repairs, routine trail patrols and docent activities. Volunteer trail patrols would assist with making trail users feel safe. Innovative volunteer trail maintenance programs include: "Adopt-a-Trail" programs, which provide opportunities for local businesses and organizations to participate by "adopting" a trail or trail segment and providing funds and/or volunteers to help maintain it (similar to the "adopted" highway segments); and "Trail Maintenance Days" where large numbers of citizens could be called into assistance for trail system maintenance.

In addition, a volunteer program coordinator could be used to implement a trail maintenance program. A program coordinator would manage trail maintenance activities, promote maintenance programs, recruit volunteers, organize volunteer groups and duties, and provide volunteer training assistance (e.g., education on safety, inadvertent impacts to wetlands, physical limitations, etc.). It should be noted that a small amount of city or county staff time would be necessary to oversee these duties.

There was strong support from Regional Trail Master Plan community workshop attendees when asked if they would participate in trail maintenance efforts. Although not representative of all county residents, the identified support demonstrates that residents are interested in assisting local jurisdictions with trail maintenance efforts. The success of developing and maintaining a regional trail system will depend on building strong public-private partnerships.

Several local groups and independent advocates have previously donated time for trail maintenance activities. Groups/organizations include: the Eagle Scouts, Boy Scouts, California Conservation Corps, Greenwheels, Trails Trust of Humboldt Bay and Humboldt Bay Bicycle Commuter's Association, as well as equestrian, business, civic and church groups. Typically, these groups contact local jurisdictions for project-specific tasks.

Trail maintenance programs would provide consistent and more comprehensive trail maintenance efforts. Russ Park located in the City of Ferndale is an example of a volunteer trail maintenance program being implemented and utilized successfully. Trail construction and maintenance activities at Russ Park are coordinated and executed by a group of local residents, while the Ferndale City Council, as the formal Advisory Group, provides trail planning and maintenance standards.

Local jurisdictions should leverage volunteer assistance to mitigate long-term trail maintenance costs and funding deficits. Volunteer efforts should be leveraged in an identified program, rather than a piecemeal project-level approach, to provide dedicated assistance. The success of regional trail system development and management will require public and private support.

Coordinated Approach to Regional Trail Systems

It cannot be overemphasized that regional planning and coordination is essential to developing a successful regional trail system. The following discussions serve to facilitate a coordinated approach to regional trail system planning, development and management.

Regional Collaboration

Regional collaborative efforts that facilitate multiple jurisdictions to discuss and provide assistance on transportation system activities exist informally. Trail planning, development and management efforts could be strengthened through a formal, regional government process that seeks to improve information sharing and build new collaborative partnerships.

Successful implementation of a regional trail system will require coordination between numerous agencies. Multi-agency support and collaboration will increase the region's capacity to leverage funds for local, tribal, county and state non-motorized transportation facilities. Common concerns, such as the operations and maintenance of the trail system, can more effectively be resolved when partnerships are built and when decision-making can be coordinated by an entity that has the interests of all involved.

As a joint powers agency, HCAOG provides the appropriate membership representation for enhanced regional active transportation system collaboration, since member entities include local jurisdictions, tribal governments, and Caltrans. HCAOG has been working to clarify the role of the Regional Transportation Planning Agency (RTPA) in regional trail system planning, financing, development, operations and maintenance. Since the HCAOG joint power agreement does not address implementing, operating or maintaining trail systems, recent Technical Advisory Committee and Board discussions have focused on how to coordinate and share responsibilities/resources for multijurisdictional trail segments and how to reduce the number of jurisdiction involved with day-to-day operations. If in the future it is determined that HCAOG should play a regional trail system management role, resources for these tasks, as well as staff and institutional capacity to carry them out, should be planned for and addressed.

Efforts could also include regional trail system capacity-building, such as discussion/training at HCAOG Technical Advisory Committee (TAC) meetings, field tours/ project development training, and/or one-on-one input to trail project development efforts.

Develop Active Transportation System Plans

Regional active transportation system implementation depends heavily on local municipalities adopting consistent non-motorized transportation plans, policies, and projects. Several local jurisdictions do not have adopted plans that include trail policies, projects, and classifications. Adopted plan and policy guide and assist decision-makers when making strategic plans and decisions to implement and/or improve community livability through active transportation system development. Without adequate policy and projects contained in adopted plans, municipalities lack the necessary foundation for trail development. Not only do these measures provide a road map and implementation tool for active transportation system implementation, they also provide leverage when applying for federal or state grants.

Local jurisdictions can develop or incorporate non-motorized policy, projects, design guidelines, and other implementation strategies in several local plans. General Plan Transportation and Circulation Elements should establish goals and policies to guide trail and bicycle facility development. Master Plans can be prepared to identify specific active transportation needs and develop an implementation strategy for facility improvements. Additionally, non-motorized transportation projects should also be programmed into Capital Improvement Plans. The adoption of local plans, policies, and projects will support local and regional active transportation system development.

Build Political Will Using the "Three-Legged Stool" model

Local elected officials indicated a need for the community to support trail development in order to make that a funding priority. The "three-legged stool" model could be utilized to foster community buy-in and support for the development of an active transportation system.
The "three-legged stool" model is a metaphor for a partnership between elected officials, local government staff and independent advocates working together to change the transportation culture of a community. Each partner represents the leg of a "three-legged stool" with a natural area of strength that is effectively leveraged by coordinating activities. For example, elected officials provide political support for programs that encourage active transportation options and facilities via public appearances or legislation. Local government staff provides support for the "three-legged stool" through media advocacy, the provision of government services, and public funding. Independent advocates bring a strong history of community outreach, media advocacy and volunteerism as the third leg of the stool.

Columbia Missouri provides an interesting case study for the use of the "three-legged stool" model. The approach is led by mayor Darwin-Hindman, the Columbia/Boone County Department of Public Health and Human Services, and the PedNet Coalition. The three partners work tirelessly in Columbia Missouri to change the transportation culture of the area; shifting from a car centric culture, through the development of an interconnected non-motorized system that encourages and facilitates bicycle and pedestrian oriented transportation. Independent advocates PedNet provide community engagement and advocacy, volunteers, training, and participation in events to attract local media attention in support of non-motorized transportation activities and programs. Mayor Darwin Hindman promotes education initiatives that promote walking and bicycling such as establishing the Mayor's Council on Physical Fitness and Health, Mayor's Challenge: Bike, Walk and Wheel Week, Safe Routes to School Walking School Bus Program, and participation in the "Why do YOU do it?" Social Marketing Campaign. The Columbia/Boone County Department of Public Health and Human Services provides support through the development of social marketing campaigns based on information collected from random surveys conducted by the department. The Public Health Department also has institutional credibility which allows them to recruit children and families for non-motorized transportation programs (e.g., Walking School Bus Program) and provide an advisory role in policy decisions. The partnership or use of the "three-legged stool" model in Columbia Missouri has resulted in the passing of local complete streets legislation, a national mode Safe Routes to School program, the successful acquisition of a $22 million federal Nonmotorized Transportation Pilot Program grant, and a silver level Bicycle Friendly Communities award.

Humboldt County has a plethora of independent advocates working in the community and with local governments (e.g., Redwood Community Action Agency, Greenwheels, Big Foot Bicycle Club, Trails Trust of Humboldt Bay), and an active Public Health Department. Local jurisdictions that would like to build political support for the development of non-motorized facilities should develop a partnership with Public Health and independent advocates. The partnership should utilize each partners natural area of strength in coordinated activities that promote the development and use of non-motorized facilities.

Local Coordination

City and county trail planning, construction, and maintenance activities primarily involve planning and public works department oversight. The planning department is generally responsible for planning and facilitating trail development activities consistent with the General Plan (i.e., define trail routes, establish active transportation system policy, and review for plan consistency and compatibility during the development review process and consideration of how land use and transportation are linked. The public works department deals with project-level trail implementation activities (i.e., reviews permits, prepares engineering specifications, inspects construction activities, and looks for opportunities to expand transportation systems and enhance the trail network). While these departments are both responsible for trail outcomes, they generally operate separately and have unique perspectives on trail development opportunities and constraints.

It was apparent after conducting Regional Trails Master Plan interviews with planning and public works staff that improved coordination between the two departments is needed in all jurisdictions and agencies. Many times tasks are not coordinated between the two departments or there are multiple points of contact that do not share information. Staff from both departments should meet to discuss potential project issues, timelines, and tasks. Enhanced coordination will strengthen understanding and effectiveness at the local-level.

Develop a Regional Trail Identity

The regional trail system will pass through multiple jurisdictions and a number of unique environments. Without a regional identity or vision and coordination, trail system development will be piecemeal, incongruous and difficult for local and especially visitor users to easily comprehend.

The development of a regional identity is an effective approach to creating a cohesive regional trail system. The regional trail system should convey the unique community and environmental characteristics of the area. This includes providing recognizable themes and unique designs for trails and support facilities. Examples of potential regional sub-systems that could engage in the establishment of cohesive trail designs include a Humboldt Bay Trail system, Avenue of the Giants Trail system, and Klamath River Trail system.

There are several benefits to creating a unified regional trail identity. Unique regional trail amenity design templates, such as those for trailheads, signage, sign structures, and directional signage, can be constructed and utilized by local jurisdictions to reduce costs. In 2003, the State

Coastal Conservancy and Humboldt Bay Harbor, Recreation and Conservation District funded the development of a Humboldt Bay Interpretive Signing Program. With guidance and input from local, state, federal and tribal governments, artistic templates and design guidance documents were provided to all local governments. These templates have been used by the BLM in all of their interpretive signage around and beyond the bay region. A graphically-related system has been developed and is currently being installed on the Hammond Trail.

A regional trail identity could help to facilitate and garner regional support, and also aid in leveraging state and federal financing, for trail development. A functional and attractive system will also attract users, locally and from outside the area.

Pacific Coast Bike Route Guide Signs

The Pacific Coast Bike Route (PCBR) is a legislatively-designated interstate bike route that extends along the Pacific Coast from the California/Oregon state line to Mexico. The PCBR follows US Highway 101 corridor through Humboldt County except at three locations: 1) Newton B. Drury Scenic Parkway through Redwood State and National Parks; 2) Hammond Trail in McKinleyville to the City of Arcata; and 3) low-traffic city streets in Eureka.

Several communities have shown interest in relocating the PCBR through their community. The development of alternate or "scenic" routes may increase safety, and increase the PCBR experience for cyclists. Routing the PCBR through downtown areas would benefit cyclists and local businesses by providing cyclists places to rest, eat, and buy needed supplies before continuing along the most direct highway route. Also, touring cyclists that ride the PCBR generally enjoy passing through places of natural, scenic and cultural interest.

Caltrans manages the PCBR and is interested in maintaining safe, signed and accessible conditions for touring cyclists. To improve riding conditions for cyclists on the Humboldt County PCBR segment, Caltrans should coordinate with local jurisdictions to identify scenic routes where food, services and camping are provided. PCBR bicycle guide signs, similar to the guide signs installed along Route 1 in Mendocino County, should be provided along Highway 101 in Humboldt County.

TRAIL PRIORITIZATION

Multiple jurisdictions and entities will participate in the continued planning and development of an active transportation system in Humboldt County. This section utilizes trail prioritization criteria to evaluate and prioritize trail candidate projects identified by local jurisdictions. The prioritization criteria address a wide range of considerations and have been organized into five categories:

- Lead Agency Capacity;
- Funding Availability;
- Universal User;
- Land Use Connectivity; and
- Public Support.

Each prioritization criterion has been ranked (i.e., scored) to measure a project's level of attainment. The criteria can be used by local municipalities to select the most feasible trail projects for development within their jurisdictions. Table three describes the prioritization criteria and scoring. Table four and five are prioritized lists of trail candidate projects; table four contains regional trail projects and table five contains jurisdictional trail projects. Please note, because of the recession and the uncertainty of state funding sources, there is not a guarantee that the projects will be implemented, nor should the tables be construed as the order in which projects will be implemented.

Table 3: Prioritization Criteria

Criterion	Definition	Score	Score Definition
Lead Agency Capacity	Score based on the lead agency's capacity to design/implement the project.	3	Local and/or regional agency has in place the necessary policy (clear adopted support), staff (person hours in work plan) and funding (programmed) to implement this project.
		2	Local and/or regional agency has in place (or can reasonably establish within 5 years) the necessary policy, staff (person hours) and funding to implement this project.
		1	Local and/or regional agency does not have in place (nor can reasonably establish within 5 years) the necessary policy, staff (person hours) and funding to implement this project.
Funding Availability	Score based on project eligibility for funding sources as identified in this Plan and in other recreational trail, non-motorized transportation grant and nontraditional funding guidance.	3	Project is eligible for 10 or more funding sources.
		2	Project is eligible for 6 to 9 funding sources.
		1	Project is eligible for 1 to 5 funding sources.

Criterion	Definition	Score	Score Definition
Universal User	Score based on the project's capacity to serve the widest range of user types: - Experienced Bicyclists - Novice/Youth Bicyclists - Pedestrians	3	Project serves all user types, which are typically Class I facilities.
		2	Project serves primarily pedestrians and allows bicycle use, typically a soft surface trail at least eight feet wide.
		1	Project serves one user type. Project may be a narrow soft surface trail primarily for hiking or an on-street bikeway.
Land Use Connectivity	Score based on the project's connectivity to origin/destination points and level of transportation benefit in a regional context.	3	Project connects to <u>two</u> regional origin/destination points including population or employment centers, school facilities and high use recreational facilities, and provides an active transportation benefit.
		2	Project connects to a regional origin/destination point including population or employment centers, school facilities and high use recreational facilities, and provides an active transportation benefit.
		1	Project does not connect to regional origin/destination points including population or employment centers, school facilities and high use recreational facilities, but may provide limited active transportation benefits.
Public Support	Public support is measured using the following three subcriteria (one point for each): 1. Identified through project-specific advocacy efforts 2. Identified by the general public through regional trail planning outreach 3. Identified in an adopted agency plan	3	Meets all criteria
		2	Meets criterion #3 and one other criterion
		1	Meets one criterion

Table 4: Regional Prioritization of Trail Candidate Projects

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
7	County of Humboldt	Letz Avenue (new Class I from MCSD pump house to Vista Point) and Vista Point to Clam Beach (pave existing trail segment) - Class I	3	3	3	3	3	15
8	County of Humboldt	Humboldt Bay Trail - West Bay (Arcata City Limits to Samoa - potential extension to Fairhaven) - Class I Implementation Strategy	3	3	3	3	3	15
4	City of Arcata	Arcata Rail with Trail (West End Road to Samoa Boulevard) - Class I and II	2	3	2	3	3	13
5	City of Arcata	Annie and Mary Rail-Trail (within city limits) - Class I	1	3	3	3	3	13
6	County of Humboldt	Annie and Mary Trail (construct Glendale to Blue Lake portion of trail) - Class I	1	3	3	3	3	13
14	City of Arcata	Humboldt Bay Trail (South G Street to southern City limit/Bracut) - Class I	1	3	3	3	3	13
25	City of Eureka	Construct trail from Truesdale Vista Point to Hilfiker Lane Trailhead - Compacted, crushed shale multipurpose trail	3	2	2	3	3	13
1	County of Humboldt	Humboldt Bay Trail - East Bay (Arcata Marsh & Wildlife Sanctuary to Eureka Waterfront Trail / Drive) Class I Implementation Strategy	3	3	3	0	3	12
2	County of Humboldt	Garberville-Redway (Garberville to Redway) - Class I Feasibility Study	3	3	3	0	3	12
3	County of Humboldt	Hammond Trail (Mad River Bridge to Arcata City Limits) - Class I Implementation Strategy	3	3	3	0	3	12
16	City of Blue Lake	Annie & Mary Trail within city limits (along S. Railroad Ave. from Chartin Rd. to Hatchery Rd. - Class I	1	2	3	3	3	12
32	City of Eureka	Rehabilitation of Existing Elk River Wildlife Area Trail - Compacted, crushed shale developed/improved trail	2	2	2	3	3	12
18	County of Humboldt	Hammond Trail - Bridge replacement	1	1	3	3	3	11
64	City of Eureka	Waterfront Drive Pathway Project - complete missing trail segment between the Adorni Center and Boardwalk	1	1	3	3	3	11
31	City of Arcata	Hammond Trail (Hammond Bridge, through Arcata Bottoms, and into Arcata city limits) - Class II and natural surface trail	1	1	2	3	3	10
33	City of Eureka	Elk River Access Project day-use facilities and trail support amenities - picnic tables, fencing and access controls, interpretive kiosks, bicycle racks, benches, landscaping, public art, etc.	3	1	2	0	3	9

Table 5: Jurisdictional Prioritization of Trail Candidate Projects

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
4	City of Arcata	Arcata Rail with Trail (West End Road to Samoa Boulevard) - Class I and II	2	3	2	3	3	13
5	City of Arcata	Annie and Mary Rail-Trail (within city limits) - Class I	1	3	3	3	3	13
9	City of Arcata	Route 255 Connection - Class I	1	3	3	3	3	13
14	City of Arcata	Humboldt Bay Trail (South G Street to southern City limit/Bracut) - Class I	1	3	3	3	3	13
10	City of Arcata	Sunset Avenue (East) (L.K. Wood Boulevard to Jay Street) - Class I	1	3	3	3	2	12
15	City of Arcata	Aldergrove Open Space Trail - Class I	2	3	3	1	2	11
21	City of Arcata	Baylands Trail (within Baylands Park) - Class I	1	3	3	2	1	10
22	City of Arcata	11th Street Corridor (Janes Road to Bayview Street) - Class II or III	3	1	1	3	2	10
23	City of Arcata	Bike Routes (Citywide) - Class III	3	1	1	3	2	10
31	City of Arcata	Hammond Trail (Hammond Bridge, through Arcata Bottoms, and into Arcata city limits) - Class II and natural surface trail	1	1	2	3	3	10
63	City of Arcata	Foster Avenue Extension (Sunset Avenue to Alliance Avenue) - Class I and II	2	1	3	2	2	10
30	City of Arcata	Samoa Boulevard (Union Street to Crescent Way) - Class II	3	1	1	2	2	9
29	City of Arcata	F Street (7th Street to 14th Street) - Class II or III	3	1	1	2	1	8
104	City of Arcata	Ridge Trail - Natural surface trail	2	1	1	2	1	7
105	City of Arcata	Bicycle Boulevards (F and L Streets) - Class III	2	1	1	1	2	7
16	City of Blue Lake	Annie & Mary Trail within city limits (along S. Railroad Ave. from Chartin Rd. to Hatchery Rd. - Class I	1	2	3	3	3	14
24	City of Blue Lake	Bike Routes throughout city (including Blue Lake Blvd. from Chartin Rd. to S. Railroad Ave., Greenwood Ave. from Blue Lake Blvd to S. Railroad Ave., and S. Railroad Ave from Greenwood Ave. to Blue Lake Blvd.) - Class III	2	2	1	3	2	10
25	City of Eureka	Construct trail from Truesdale Vista Point to Hilfiker Lane Trailhead - Compacted, crushed shale multipurpose trail	3	2	2	3	3	13

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
32	City of Eureka	Rehabilitation of Existing Elk River Wildlife Area Trail - Compacted, crushed shale developed/improved trail	2	2	2	3	3	12
64	City of Eureka	Waterfront Drive Pathway Project - complete missing trail segment between the Adorni Center and Boardwalk	1	1	3	3	3	11
33	City of Eureka	Elk River Access Project day-use facilities and trail support amenities - picnic tables, fencing and access controls, interpretive kiosks, bicycle racks, benches, landscaping, public art, ect.	3	1	2	0	3	9
48	City of Eureka	Construct Shoreline RV Park trail - - Compacted, crushed shale developed/improved trail	1	2	2	1	2	8
121	City of Eureka	Trail Master Plan - a detailed strategy and specifications for clarity	2	1	1	1	0	5
34	City of Ferndale	Ferndale Circuit Trail (Loop through town North to Port Kenyon Road and South to Ocean Ave. and Bluff Road) - Multipurpose and Class III facilities	1	2	2	3	1	9
49	City of Ferndale	Bluff Creek Trail Improvements - Paved, ADA accessible footpath	1	2	2	2	1	8
65	City of Ferndale	Ferndale to Rio Dell (Grizzly Bluff Road to Blueslide Road) - Class III	1	1	1	2	2	7
106	City of Ferndale	Centerville Road Trail (Centerville Road to Centerville Beach, then south to Guthrie Creek Land) - Class III	1	1	1	1	2	6
122	City of Ferndale	Update General Plan Circulation Element (include trial design standards and policies that encourage trail development)	2	1	1	1	0	5
123	City of Ferndale	Ferndale to Rio Dell (Wildcat Road to Bear River Road to Monument Road) - Class III	1	1	1	1	1	5
17	City of Fortuna	River to the Headwaters Trail (begin at River Lodge on the Eel River and trace the southern bank of Strongs Creek to the eastern city limit) - Multipurpose Trail	1	3	3	3	1	11
124	City of Rio Dell	Update General Plan Circulation Element (include trial design standards and policies that encourage trail development)	2	1	1	1	0	5
66	City of Trinidad	McConnahas Mill Creek Trail - Developed/improved Trail	2	2	1	1	1	7
67	City of Trinidad	Trinity to Underwood Connector Trail - Developed/improved Trail	2	2	1	1	1	7
68	City of Trinidad	Launcher Beach to Old Home Beach Connector - Developed/improved Trail	2	2	1	1	1	7
69	City of Trinidad	Mid-town Connector - Developed/improved Trail	2	2	1	1	1	7
107	City of	Axel Lindgren Memorial Trail Improvements - Developed/improved	2	2	1	0	1	6

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
	Trinidad	Trail						
108	City of Trinidad	Sharrows - Class III	3	1	1	1	0	6
125	City of Trinidad	Trails / Sign / Interpretive Plan	2	1	1	1	0	5
7	County of Humboldt	Letz Avenue (new Class I from MCSD pump house to Vista Point) and Vista Point to Clam Beach (pave existing trail segment) - Class I	3	3	3	3	3	15
8	County of Humboldt	Humboldt Bay Trail - West Bay (Arcata City Limits to Samoa - potential extension to Fairhaven) - Class I Implementation Strategy	3	3	3	3	3	15
6	County of Humboldt	Annie and Mary Trail (construct Glendale to Blue Lake portion of trail) - Class I	1	3	3	3	3	13
1	County of Humboldt	Humboldt Bay Trail - East Bay (Arcata Marsh & Wildlife Sanctuary to Eureka Waterfront Trail / Drive) Class I Implementation Strategy	3	3	3	0	3	12
2	County of Humboldt	Garberville-Redway (Garberville to Redway) - Class I Feasibility Study	3	3	3	0	3	12
3	County of Humboldt	Hammond Trail (Mad River Bridge to Arcata City Limits) - Class I Implementation Strategy	3	3	3	0	3	12
11	County of Humboldt	Mid Town Trail (Railroad Avenue to Washington Street) - Class I	1	3	3	3	2	12
12	County of Humboldt	South Fork High Trail (Miranda to Meyer's Flat) - Class I	1	3	3	2	3	12
18	County of Humboldt	Hammond Trail - Bridge replacement	1	1	3	3	3	11
19	County of Humboldt	Redwood Drive (Garberville to Redway to US 101) - Class II	2	2	1	3	3	11
20	County of Humboldt	Riverwalk Trail (Fortuna City Limits to Sandy Prairie Road) - Class I	1	3	3	2	2	11
26	County of Humboldt	Blue Lake Boulevard – Class II	2	2	1	3	2	10
35	County of Humboldt	Central Avenue (US 101 to Railroad Drive) - Class II	2	2	1	2	2	9
36	County of Humboldt	Harris Street (Harrison Street to Hall Avenue) - Class II	1	2	1	3	2	9
37	County of Humboldt	Park Street (Myrtle Ave. to Quaker St.) - Class II	1	2	1	3	2	9
38	County of Humboldt	Mad River Rd/Upper Bay/Miller Ln/Heindon Rd (Mad River Beach to Arcata City Limits) - Enhanced Class III	2	1	1	3	2	9

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
39	County of Humboldt	Pacific Coast Bike Route (US 101 Henderson Street, Eureka Mendocino County) - Class III	2	1	1	3	2	9
40	County of Humboldt	School Road (Fischer Ave to Central Avenue) - Class II	2	2	1	2	2	9
41	County of Humboldt	Briceland Road (Redwood Drive to Eel River Road) - Enhanced Class III	2	1	1	3	2	9
42	County of Humboldt	Redwood Drive (Manzanita to Maple Lane) - Class III	2	1	1	3	2	9
43	County of Humboldt	Loleta Drive (Main Street to Franklin Ave) - Class II (sidewalks)	2	2	1	3	1	9
44	County of Humboldt	Hiller Road (Central Avenue to Cliff Avenue) - Class II (sidewalks)	2	2	1	3	1	9
45	County of Humboldt	Footpath connecting Lime Avenue and Gwin Road - Developed / Improved trail	2	2	3	1	1	9
46	County of Humboldt	Newton Road (Sewell Road to School Road) - Class II	2	2	1	3	1	9
50	County of Humboldt	King Salmon Drive (Buhne Drive to Loma Avenue / South Bay Union School) - Shoulder widening	2	1	1	3	1	8
51	County of Humboldt	Sprowel Creek Road - Shoulder widening	2	1	1	3	1	8
52	County of Humboldt	Railroad Drive - Shoulder widening (north side) with Class III	2	1	1	3	1	8
53	County of Humboldt	Centerville Road (Ferndale City Limit to beach) - Shoulder widening	2	1	1	3	1	8
54	County of Humboldt	Campton Road (Eureka City Limit to Walnut Drive) - Class II	1	2	1	2	2	8
55	County of Humboldt	Hall Avenue (Harris Street to Myrtle Avenue) - Enhanced Class III	2	1	1	2	2	8
56	County of Humboldt	Scenic Drive (Trinidad City Limit to US 101) - Class III	2	1	1	2	2	8
57	County of Humboldt	Central Avenue (School Road to SR 200) - Class III	2	1	1	2	2	8
58	County of Humboldt	Washington Avenue (McKinleyville Avenue to School Road) - Class II	1	2	1	2	2	8
59	County of Humboldt	Sprowel Creek Road (Redwood Drive to Community Park) - Class III	2	1	1	2	2	8
60	County of Humboldt	Manila - Peninsula Drive (Dean Ave to Sandy Road) - Class II (NWP railway - Class I)	2	2	1	2	1	8
61	County of Humboldt	Railroad Avenue (Central Avenue to Thiel Avenue) - Class II (sidewalks)	2	2	1	2	1	8

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
62	County of Humboldt	McKinleyville Avenue (Murray Road to Gassaway Road) - Class II (Class III)	2	2	1	2	1	8
70	County of Humboldt	Humboldt Hill Road (US 101 to Donna Drive) - Enhanced Class III	2	1	1	1	2	7
71	County of Humboldt	Central Avenue / Bella Vista - Shoulder widening	2	1	1	2	1	7
72	County of Humboldt	Union Street - Shoulder widening	2	1	1	2	1	7
73	County of Humboldt	Hookton Road - Shoulder widening	2	1	1	2	1	7
74	County of Humboldt	Tompkins Hill Road - Shoulder widening	2	1	1	2	1	7
75	County of Humboldt	Eel River Drive - Shoulder widening	2	1	1	2	1	7
76	County of Humboldt	Ridgewood Drive (Elk River Road to Walnut Drive) - Class II	1	2	1	1	2	7
77	County of Humboldt	F Street (Fairway Drive to Oak Street) - Class II	1	2	1	1	2	7
78	County of Humboldt	Elk River Road (Ridgewood to Headwaters Trailhead) - Class III	2	1	1	1	2	7
79	County of Humboldt	Quaker St. (Park Street to Trinity Street_ - Enhanced Class III	2	1	1	1	2	7
80	County of Humboldt	Trinity St. (Quaker St. to Myrtle Ave.) - Enhanced Class III	2	1	1	1	2	7
81	County of Humboldt	Glendale Drive (SR 299 to Blue Lake Boulevard) - Enhanced Class III	2	1	1	1	2	7
82	County of Humboldt	Blue Lake Boulevard (Glendale Drive to Blue Lake City Limit) - Class III	2	1	1	1	2	7
83	County of Humboldt	Blue Lake Boulevard (Southeast Blue Lake city limit to Maple Creek Road) - Class III	2	1	1	1	2	7
84	County of Humboldt	West End Road (Giuntoli Lane to Hatchery Road) - Class III	2	1	1	1	2	7
85	County of Humboldt	Hatchery Road (Mad River Bridge to Fish Hatchery) - Enhanced Class III	2	1	1	1	2	7
86	County of Humboldt	Grizzly Bluff/Blue Slide Roads (Ferndale City Limit to Rio Dell City Limit) - Class III	2	1	1	1	2	7
87	County of Humboldt	Sandy Prairie Road (Fortuna City Limit to US 101) - Enhanced Class III	2	1	1	1	2	7
88	County of Humboldt	Maple Creek Road (Blue Lake Boulevard to Korbel Road) - Class III	2	1	1	1	2	7

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
89	County of Humboldt	Main Street (Rio Dell City Limit to US 101) - Enhanced Class III	2	1	1	1	2	7
90	County of Humboldt	Patrick's Point Drive (Trinidad City Limit to Patrick's Point - US 101) - Enhanced Class III	2	1	1	1	2	7
91	County of Humboldt	Westhaven Drive (Trinidad City Limit to US 101) - Class III	2	1	1	1	2	7
92	County of Humboldt	Airport Road (Letz Avenue to Central Avenue) - Class II	1	2	1	1	2	7
93	County of Humboldt	Azalea Avenue (SR 200 to Sutter Road) - Class III	2	1	1	1	2	7
94	County of Humboldt	Dows Prairie (Grange Road to Norton Road) - Enhanced Class III	2	1	1	1	2	7
95	County of Humboldt	Grange Road (Central Avenue to Dows Prairie Road) - Class III	2	1	1	1	2	7
96	County of Humboldt	Halfway Ave (Gassoway Rd Airport Road to Murray Road) - Class II	2	1	1	1	2	7
97	County of Humboldt	Norton Road (Dow's Prairie Road to Central Avenue) - Class III	2	1	1	1	2	7
98	County of Humboldt	Franklin Ave (Park Street to Loleta Drive) - Class II (sidewalks)	2	2	1	1	1	7
99	County of Humboldt	Park Street (Loleta Drive to Franklin Ave) - Class II (sidewalks)	2	2	1	1	1	7
100	County of Humboldt	School Road (Bugenig Ave to Highway 101) - Class II (sidewalks)	2	2	1	1	1	7
101	County of Humboldt	School Road (Highway 101 to Fisher Road) - Class II (sidewalks)	2	2	1	1	1	7
102	County of Humboldt	Washington Street (McKinleyville Avenue to School Road) - Class II (sidewalks)	2	2	1	1	1	7
103	County of Humboldt	Gassaway Road (McKinleyville Avenue to Halfway Avenue) - Class II (Class III)	2	2	1	1	1	7
109	County of Humboldt	Peninsula Drive - Shoulder widening	2	1	1	1	1	6
110	County of Humboldt	Westhaven Road - Shoulder widening	2	1	1	1	1	6
111	County of Humboldt	Glendale - Shoulder widening	2	1	1	1	1	6
112	County of Humboldt	West End Road - Shoulder widening	2	1	1	1	1	6
113	County of Humboldt	Bald Hills Road - Shoulder widening	2	1	1	1	1	6

Project Number	Jurisdiction	Description	Lead Agency Capacity	Funding Availability	Universal User	Land Use Connectivity	Public Support	Total
114	County of Humboldt	Maple Creek Road - Shoulder widening	2	1	1	1	1	6
115	County of Humboldt	Briceland / Thorne Road - Shoulder widening	2	1	1	1	1	6
116	County of Humboldt	Shelter Cove Road - Shoulder widening	2	1	1	1	1	6
117	County of Humboldt	Cannibal Island Road - Shoulder widening	2	1	1	1	1	6
118	County of Humboldt	Red Cap Road - Shoulder widening	2	1	1	1	1	6
119	County of Humboldt	Blue Lake Boulevard - Shoulder widening (four foot)	2	1	1	1	1	6
120	County of Humboldt	V Street (Arcata City Limits to SR 255) - Class III	2	1	1	1	1	6
13	Hoopa Tribe	SR 96 Community Service road to Clinic - Tish Tang Road - Multipurpose Trail	1	2	3	3	3	12
27	Hoopa Tribe	SR 96 (Downtown to S. Trinity Bridge to Jury Lane) - Class II and pedestrian facilities	1	2	1	3	3	10
28	Hoopa Tribe	Connect sidewalks and bike lanes from Loop Road (south end) to Trinity River Bridge - Class II	1	2	1	3	3	10
47	Hoopa Tribe	Cantilevered Walkway on Trinity River Bridge	1	1	1	3	3	9

FUNDING SOURCES

Funding for trail development projects, programs, and planning comes from a variety of sources. This section describes local, state, and federal funding sources, as well as few non-traditional sources. Also included in this section is a matrix of recommended trail projects and possible funding sources.

In most cases, funding received for trail construction cannot be applied to ongoing operations and maintenance. Although there are grants available for trail maintenance, the funding is received on a one time basis as opposed to being a reoccurring source. Local jurisdictions continually cite the lack of adequate, stable, and permanent funding to properly operate and maintain trails as a primary constraint to trail development.

Table six lists trail funding sources alphabetically with their respective acronyms and sources.

Table 6: Funding Source Acronyms

Fund Name	Acronym	Source
American Greenways Program	AGP	Private
Arcata Measure G	AMG	Local
Bicycle Transportation Account	BTA	State
Benefit Assessments	BA	Local
Bikes Belong	BB	Private
California State Coastal Conservancy	SCC	State
Community-Based Transportation Planning	CBTP	State
Community Development Block Grant	CDBG	Federal
California Conservation Corps	CCC	State
Development Impact Fees	DIF	Local
Environmental Enhancement Mitigation Program	EEMP	State
Environmental Justice Program	EJ	State
Federal Lands Highway Program	FLHP	Federal
Habitat Conservation Funds	HCF	State
Highway Safety Improvement Program	HSIP	Federal
Land and Water Conservation Fund	LWC	Federal
Nonmotorized Transportation Pilot Program	NTPP	Federal
Quimby Act Fees	QA	Local
Recreational Trails Program	RTP	State/Federal
Rivers, Trails and Conservation Assistance	RTCA	Federal
Safe Routes to Schools	SRTS	Federal
Special Taxes	ST	Local

Fund Name	Acronym	Source
Statewide Park and Community Revitalization	SPCR	State
Transient Occupancy Tax	TOT	Local
Transportation Development Act	TDA	Local
Transportation Enhancements	TE	Federal
Transportation, Community and System Preservation	TCSP	Federal
Trinidad Measure I	TMI	Local
Wildlife Conservation Board Public Access Program	WCB	State

Local Funding Sources

Benefit Assessments

Benefit assessments are typically used by special districts, or park and recreational districts as a revenue source. Benefit assessments are based on a unique 'benefit' received by the property being assessed. The assessment must be proportional to the special benefit conferred on the property. This 'unit of benefit' or equitable measure of apportionment has recently been challenged for regional (i.e., county-level) assessments imposed for open space and recreation improvements. Polling is needed to determine whether an assessment district would be publically supported and to determine the geographical distribution of support, relative to possible district boundaries.

Special Taxes

A special tax can be levied by a municipality for specific purposes, such as park and recreation or transportation and infrastructure improvements. Special taxes require a 2/3 voter approval and can be imposed upon individuals who enjoy no 'unique and direct benefits'.

In 2008, the City of Arcata voters approved Measure G, a 0.75 percent increase in sales tax. Funds from this sales tax increment are available for projects that increase bicycle and pedestrian safety and for safe paths to schools. For more information visit: http://www.smartvoter.org/2008/11/04/ca/hm/meas/G/

In 2008, the City of Trinidad voters approved Measure I, a 0.75 cent increase in sales tax for the city's general fund. Funds from this sales tax increment are available for trail and park maintenance and protection. For more information visit: http://www.smartvoter.org/2008/11/04/ca/hm/meas/I/

Further studies are needed to determine whether a county-wide tax could be levied, or whether individual jurisdictions would have to pass their own.

Quimby Act Funds

The Quimby Act (Government Code Section 66477) allows California municipalities to reqire developers of new residential subdivisions to dedicate parkland or pay fees in-lieu of parkland dedication. The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision. Funds can be used to develop or rehabilitate park or recreational facilities.

Transient Occupancy Tax

Transient Occupancy Tax (TOT), commonly referred to as a hotel tax, is charged on top of the lodging facilities' nightly rental rate. TOT is a general tax that can be levied by a city and used for municipal governmental purposes, including transportation facility maintenance and parks and recreation facilities.

Transportation Development Act

Transportation Development Act Article 3 funds a wide variety of transportation programs in California including transit, bicycle, and pedestrian projects. Funds originate from Local Transportation Funds (LTF), which are derived from a quarter cent of the general state sales tax. LTF are returned to each county based on sales tax revenues. Article 3 of the Transportation Development Act sets aside two percent of LTF for bicycle and pedestrian projects (unless the transportation planning agency finds that the money would be better used for streets and roads in the development of a balanced transportation system). Eligible trail projects include construction and engineering for capital projects, maintenance of bikeways, and development of comprehensive bicycle or pedestrian facilities plans. These funds may be used to meet local match requirements for federal funding sources.

Application Deadline:	Determined by HCAOG
Type of Projects Funded:	Planning, Construction, Maintenance, Safety and Education
Type of Trail Eligible:	Paved
Link to Program:	http://www.dot.ca.gov/hq/MassTrans/State-TDA.html

Development Impact Fees

Development impact fees are commonly used to fund park and recreation improvements to serve new development. Fees placed on new development can be used as local matching funds to attract funding from other grant sources. Development impact fees or other project specific exactions are more readily achieved when bikeway and trail projects are identified in countywide or local planning documents and are described as serving a specific geographic area where future development is planned or may occur.

Application Deadline:	No deadline; apply when application is complete
Type of Projects Funded:	Planning, Acquisition and Construction
Type of Trail Eligible:	Paved and Unpaved
Link to Program:	Not applicable; would become a city and/or county collection

Local Foundations & Programs

While not traditionally a significant source of funding, local foundations and other programs are an important potential source for initial efforts, cost-shares, partnerships and support. Local foundations and programs include, but are not limited to, Headwaters Fund, Humboldt Area Foundation, and the Mel and Grace McLean Foundation.

Application Deadline:	Not applicable
Type of Projects Funded:	Planning efforts, cost-shares, education
Type of Trail Eligible:	Paved and Unpaved
Link to Program:	Not applicable

State Funding Sources

State funding for trail projects comes from a variety of sources including federal allocations to state governments and voter approved bonds. State of California agencies typically charged with administering these funds include Caltrans and the Department of Parks and Recreation. Many funding sources are influenced by the health of the California State budget cycle.

Statewide Park and Community Revitalization Program

This program provides a competitive grant for new parks and recreational facilities for the most underserved communities in California. Neighborhood and regional trails are eligible for the grant program. Grants from $100,000 to $5,000,000 are awarded and no local matching funds are required.

Application Deadline:	April 1, 2010
Type of Projects Funded:	Development and Acquisition with development component
Type of Trail Eligible:	Neighborhood and regional trails in underserved communities
Link to Program:	http://www.parks.ca.gov/?Page_id=26025

Bicycle Transportation Account

Caltrans administers the Bicycle Transportation Account (BTA). The funds can be used for local planning and construction projects that improve the safety and convenience of bicycling for transportation. Applicants must have an approved Bicycle Transportation Plan and their project must meet Caltrans Highway Design Manual Chapter 1000 and Manual of Uniform Transportation Devices standards. The maximum individual grant amount is $1.2 million.

Application Deadline:	December
Type of Projects Funded:	Planning, Design, Construction, and Major Repair and Maintenance
Type of Trail Eligible:	Paved
Link to Program:	http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm

California State Coastal Conservancy

The California State Coastal Conservancy (SCC) funds trails to and along the coast and as part of natural restoration projects within the coastal zone. Grant applicants must be public agencies or non-profit organizations with purposes consistent with California Code Division 21 Water Conservation. Projects developed through a coordinated effort between the SCC and applicants are the most competitive. It should be noted, as of January 2010, the State has frozen SCC funding for new projects pending approval of a new state budget and bond sales.

Application Deadline:	Not Applicable
Type of Projects Funded:	Planning, Design, Construction, and Monitoring (limited cases)
Type of Trail Eligible:	Paved; Unpaved; Conservation and Restoration projects; and Trail of Statewide Significance (i.e., California Coastal Trail)
Link to Program:	http://www.scc.ca.gov/index.php?cat=20

Habitat Conservation Funds

Authorized by the California Wildlife Protection Act in 1990, Habitat Conservation Funds can be used for the construction of trails for the purpose of protecting wildlife corridors. The program allocates $2 million per year to the California Department of Parks and Recreation to administer to public agencies. There is not a minimum or maximum grant amount and awardees must match 50 percent of the project cost. This program ends in FY 2019/20.

Application Deadline:	October
Type of Projects Funded:	Planning, and Design, and Construction
Type of Trail Eligible:	Paved, Unpaved, and Habitat Restoration (i.e., near trails or part of trail project)
Link to Program:	http://www.parks.ca.gov/?Page_id=21361

Environmental Enhancement Mitigation Program

The Environmental Enhancement Mitigation Program (EEMP) provides grant opportunities for projects that indirectly mitigate environmental impacts of new transportation facilities. Projects should fall into one of the following three categories: highway landscaping and urban forestry, resource lands, or roadside recreation facilities. The local Caltrans District must support the project.

Application Deadline:	November
Type of Projects Funded:	Land Acquisition and Construction
Type of Trail Eligible:	Paved and Unpaved
Link to Program:	http://resources.ca.gov/eem/

Wildlife Conservation Board Public Access Program

The Wildlife Conservation Board Public Access Program funds land acquisitions that preserve wildlife habitat or provide recreational access for hunting, fishing or other wildlife-oriented activities. Up to $250,000 is available per project with applications accepted quarterly. Eligible projects include interpretive trails, river access and trailhead parking areas. The State must have a proprietary interest in the project. Local agencies are generally responsible for the planning and engineering phases of each project.

Application Deadline:	Quarterly
Type of Projects Funded:	Construction
Type of Trail Eligible:	Paved, Unpaved, River Access and Trailheads
Link to Program:	http://www.wcb.ca.gov/Pages/public_access_program.htm

California Conservation Corps

California Conservation Corps (CCC) is a public service program, which occasionally provides assistance on construction projects. The CCC may be written into grant applications as a project partner. In order to utilize CCC labor, project sites must be on public land or be publicly accessible. CCC labor cannot be used to perform regular maintenance; however, it can perform annual maintenance, such as the opening of trails in the spring.

Application Deadline:	Not Applicable
Type of Projects Funded:	Maintenance
Type of Trail Eligible:	Trails on public land or publicly accessible
Link to Program:	http://www.cccfoundation.net/projects.html

Community-Based Transportation Planning Program

The Community Based Transportation Planning (CBTP) program, administered by Caltrans, provides funding for planning projects that engage the community and exemplify livable community concepts including bicycle and pedestrian improvement projects. Eligible applicants include local governments, metropolitan planning organizations, and regional transportation planning agencies. A 20 percent local match is required and projects must demonstrate a transportation component or objective. There is $3 million available annually statewide.

Application Deadline:	October
Type of Projects Funded:	Planning
Type of Trail Eligible:	CBTP efforts may plan for all trail types provided they are serving the transportation needs of the subject community.
Link to Program:	http://www.dot.ca.gov/hq/tpp/offices/ocp/cbtpg.htm

Federal Funding Sources

The primary federal source of bicycle and pedestrian facilities funding is the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Funds are distributed through surface transportation programs authorized through SAFETEA-LU. As of December 2009, Congress was in the process reauthorizing surface transportation programs for the distribution of funds, although an extension into 2010 of existing SAFETEA-LU programs is possible.

Several SAFETEA-LU programs provide funds for trail and bicycle projects. SAFETEA-LU non-motorized transportation- and recreation-related program categories include:

- *Transportation Enhancements (TE)*: The TE program funds 12 categories of transportation-related community projects, but trails and pedestrian/bicycle facilities have historically accounted for about half of TE funding ($300 million/year) since its establishment in 1991. The TE is a federal reimbursement program that can only be used for project construction, not for routine maintenance.
- *Safe Routes to Schools (SRTS)*: The SRTS program works to improve the pedestrian and bicycling infrastructure and law enforcement around elementary and middle schools to encourage children to walk and bicycle to school. The SRTS is promoted as a nexus for health, safety, and transportation; however, it also may provide benefits to neighborhood-based recreation by creating new sidewalks and trails and by promoting a safer environment for children to play outdoors. California's apportionment between FY 2005-2009 was approximately $68 million.
- *Nonmotorized Transportation Pilot Program (NTPP)*: The NTPP was a four-year demonstration program designed to encourage active transportation in urban settings and to provide an understanding of what types of infrastructure investments encourage the use of different modes of transportation. The pilot program allocated $25 million to four communities (i.e., Columbia, Missouri; Marin County, California; Minneapolis-St. Paul, Minnesota; and Sheboygan County, Wisconsin) to develop trails and other pedestrian/bicycle facilities. The Active Community Transportation Act marker bill was introduced in March, 2010 to establish a more broad-reaching and well-funded expansion of this program. This is the program for which the Humboldt People Powered Pathways, or HP3, Case Statement (see Chapter 1) was delivered.
- *Recreational Trails Program (RTP)*: The RTP provides funds annually for recreational trails and trail-related projects. The RTP is administered at the federal level by the Federal Highway Administration (FHWA) and at the state level by the California Department of Parks and Recreation. The RTP is a reimbursement program, and funds can be applied to a diverse range of trail-related projects, including maintenance and restoration of existing trails; rehabilitation of trailside facilities; property or easement acquisition for trails; and construction of new trails.

Federal funds are administered through the state (Caltrans and the State Resources Agency) and regional planning agencies. Many federal programs require a local match ranging from 10 to 20 percent. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

The level of non-motorized transportation funds that will be included in the next federal transportation bill is unclear. It is possible that non-motorized transportation funding will increase as a result of lobbying efforts (e.g., Humboldt People Powered Pathways). Bicycle and trail advocacy groups have developed a common platform for the transportation bill reauthorization debate and have proposed focused investments in urban networks of active transportation (Maher, 2009).

Other federal-level programs that fund non-motorized transportation are discussed below.

Rivers, Trails and Conservation Assistance

The Rivers, Trails and Conservation Assistance (RTCA) is a National Parks Service program that provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides funds for planning assistance only. Projects are prioritized for assistance based upon criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. Federal agencies may be the lead partner only in collaboration with a non-federal partner.

Application Deadline:	August 1
Type of Projects Funded:	Technical Assistance
Type of Trail Eligible:	Projects demonstrating tangible conservation and recreational results in the near future.
Link to Program:	http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWC) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. LWC is administered by the National Parks Service and the California Department of Parks and Recreation and has been reauthorized until 2015. Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project and will be reimbursed for 50 percent of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use. The grant process for local agencies is competitive, and 40 percent of grants are reserved for Northern California.

Application Deadline:	May
Type of Projects Funded:	Planning, Design, and Construction
Type of Trail Eligible:	Paved and Unpaved
Link to Program:	http://www.parks.ca.gov/?page_id=21360

Highway Safety Improvement Program

Administered by Caltrans, Highway Safety Improvement Program (HSIP) funds are intended to help achieve a significant reduction in traffic fatalities and serious injuries on all public roads. As part of HSIP, Caltrans has developed and implemented a Strategic Highway Safety Plan (SHSP), which identifies the state's key safety needs and guides investment decisions. A portion of funds are set aside for construction and operational improvements on high-risk rural roads. Caltrans may use the remainder of funds for bicycle and pedestrian pathways or trails and education and enforcement. Previous application deadlines have been in October.

Application Deadline:	October
Type of Projects Funded:	Construction, Safety, and Educational Programs
Type of Trail Eligible:	Highway safety improvement projects benefiting publicly owned bicycle and pedestrian trails and pathways.
Link to Program:	http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm

Federal Lands Highway Program

Federal Lands Highway Program (FLHP) funds may be used to build bicycle and pedestrian facilities in conjunction with transit, roads, and parkways in federal or tribal lands. There are four FLHP funding categories, which include the Indian Reservation Roads (IRR); Park Roads and Parkways; Public Lands Highway; and Refuge Roads programs.

Funds are distributed to each BIA region and allocated based on the relative needs of tribes in each region; therefore, available funds provide only a minimum allocation to tribes. To be eligible for IRR program funds, tribal governments must complete an IRR Inventory or comprehensive database of all transportation facilities. Local municipalities with roads or jurisdictional lands adjacent to Rancherias or Reservations are encouraged to consult and partner with tribes on common transportation matters to leverage resources. The FLHP program funds should not be considered as a replacement for SAFTEA-LU funds, but an additional source of revenue that can be leveraged for the necessary funds to construct projects. Similar to SAFETEA-LU, FLHP funds are limited and do not provide the necessary capital to complete large capital projects. Program funds may be used for local matching activities.

Application Deadline:	Varies
Type of Projects Funded:	Planning, Design, and Construction
Type of Trail Eligible:	Paved and Unpaved
Link to Program:	http://www.fhwa.dot.gov/flh/flhfs051028.htm

Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation Program provides federal funding for transit oriented development, traffic calming, and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. The program is intended to provide communities with the

resources to explore the integration of their transportation system with community preservation and environmental activities. A 20 percent funding match is required.

Application Deadline:	Varies
Type of Projects Funded:	Planning, Design, and Construction
Type of Trail Eligible:	Paved
Link to Program:	http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm

Community Development Block Grants

The Community Development Block Grant (CDBG) program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal CDBG grantees may use funds for building public facilities and improvements, such as streets, sidewalks, and community recreational facilities and paying planning and administrative expenses.

Application Deadline:	Not Applicable
Type of Projects Funded:	Planning, Construction, Property Acquisition, Safety and Education
Type of Trail Eligible:	Sidewalks, Paved, and Unpaved
Link to Program:	http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

Non-Traditional Funding Sources

American Greenways Program

Administered by The Conservation Fund, the American Greenways Program (AGP) provides funding for the planning and design of greenways. AGP awards may be used to fund unpaved trail development. Eligible applicants include local, regional or statewide non-profit organizations and public agencies. The maximum award is $2,500, but awards typically range from $500 to $1,500.

Application Deadline:	June 1
Type of Projects Funded:	Planning and Construction
Type of Trail Eligible:	Unpaved
Link to Program:	http://www.conservationfund.org/?article=2471

Bikes Belong Grant

Bikes Belong is an organization sponsored by bicycle manufacturers with the intent to increase bicycle riding in the United States. Bikes Belong provides grant opportunities up to $10,000 with no required match to organizations and agencies seeking to support bicycle facility and advocacy efforts. Eligible projects include paved bicycle paths, rails-to-trails, and mountain bike trails.

Application Deadline:	Multiple Dates throughout the Year
Type of Projects Funded:	Construction and Advocacy
Type of Trail Eligible:	Paved, Unpaved, Recreation, and Transportation
Link to Program:	http://www.bikesbelong.org/grants

PROJECT FUNDING SOURCE ELIGIBILITY

Table seven presents recommended projects and the funding sources that they are eligible for based on the project information obtained through this planning process. Where the trail facility type and intent is clearly established, this table matches projects to eligible grant funding sources based on the program criteria provided by the sponsoring agency. Some projects require additional documentation and/or analysis to determine their funding eligibility. For example, Statewide Park and Community Revitalization (SPCR) grants require projects to be located in underserved communities thus, requiring the project applicant to demonstrate this qualification. For some projects sufficient information is available to guide a provisional grant match, indicated by an "O" or explanatory note. Local project sponsors should review these specific projects and grant sources to assess a potential match.

Table 7: Project Funding Source Eligibility Matrix

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
4	City of Arcata	Arcata Rail with Trail (West End Road to Samoa Boulevard) - Class I and II	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
5	City of Arcata	Annie and Mary Rail-Trail (within city limits) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
31	City of Arcata	Hammond Trail (Hammond Bridge, through Arcata Bottoms, and into Arcata city limits) - Class II and natural surface trail																						0
14	City of Arcata	Humboldt Bay Trail (South G Street to southern City limit/Bracut) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
15	City of Arcata	Aldergrove Open Space Trail - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x					x	x	10
9	City of Arcata	Route 255 Connection - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
21	City of Arcata	Baylands Trail (within Baylands Park) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x					x	x	10
104	City of Arcata	Ridge Trail - Natural surface trail																						0
22	City of Arcata	11th Street Corridor (Janes Road to Bayview Street) - Class II/III						x												x				2
63	City of Arcata	Foster Avenue Extension (Sunset Avenue to Alliance Avenue) - Class II or III						x												x				2
29	City of Arcata	F Street (7th Street to 14th Street) - Class II or III						x												x				2
23	City of Arcata	Bike Routes (Citywide) - Class III						x												x				2
105	City of Arcata	Bicycle Boulevards (F and L Streets) - Class III						x												x				2
10	City of Arcata	Sunset Avenue (East) (L.K. Wood Boulevard to Jay Street) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
30	City of Arcata	Samoa Boulevard (Union Street to Crescent Way) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
16	City of Blue Lake	Annie & Mary Trail within city limits (along S. Railroad Ave. from Chartin Rd. to Hatchery Rd. - Class I			x	x	Dependant on socio-economic demography	x			x				x	x	x			x		x	x	7

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
24	City of Blue Lake	Bike Routes throughout city (including Blue Lake Blvd. from Chartin Rd. to S. Railroad Ave., Greenwood Ave. from Blue Lake Blvd to S. Railroad Ave., and S. Railroad Ave from Greenwood Ave. to Blue Lake Blvd.) - Class III			x	x		x							Dependant on current cyclist safety risk					x			x	6
121	City of Eureka	Trail Master Plan - a detailed strategy and specifications for clarity							O							x	x							3
32	City of Eureka	Rehabilitation of Existing Elk River Wildlife Area Trail - Compacted, crushed shale developed/improved trail							x	x		x	x			x	x	x						7
25	City of Eureka	Construct trail from Truesdale Vista Point to Hilfiker Lane Trailhead - Compacted, crushed shale multipurpose trail							x				x			x	x	x				x	x	7
33	City of Eureka	Elk River Access Project day-use facilities and trail support amenities - picnic tables, fencing and access controls, interpretive kiosks, bicycle racks, benches, landscaping, public art, ect.					Dependant on socio-economic demography											x						2
64	City of Eureka	Waterfront Drive Pathway Project - complete missing trail segment between the Adorni Center and Boardwalk							x				x			x	x					x		5
48	City of Eureka	Construct Shoreline RV Park trail - Compacted, crushed shale developed/improved trail					Dependant on socio-economic demography						x			x	x	x				x	x	7
122	City of Ferndale	Update General Plan Circulation Element (include trial design standards and policies that encourage trail development)			x																			1
34	City of Ferndale	Ferndale Circuit Trail (Loop through town North to Port Kenyon Road and South to Ocean Ave. and Bluff Road) - Multipurpose and Class III facilities			x			x			If paired with road construction									x	x		x	6
49	City of Ferndale	Bluff Creek Trail Improvements - Paved, ADA accessible footpath					Dependant on socio-economic demography			O			x			x	x	x				x		7
65	City of Ferndale	Ferndale to Rio Dell (Grizzly Bluff Road to Blueslide Road) - Class III			x			x															x	3

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
123	City of Ferndale	Ferndale to Rio Dell (Wildcat Road to Bear River Road to Monument Road) - Class III			x			x															x	3
106	City of Ferndale	Centerville Road Trail (Centerville Road to Centerville Beach, then south to Guthrie Creek Land) - Class III			x			x															x	3
17	City of Fortuna	River to the Headwaters Trail (begin at River Lodge on the Eel River and trace the southern bank of Strongs Creek to the eastern city limit) - Multipurpose Trail			x			x	x	O	x		x		x	x	x	x		x		x	x	13
124	City of Rio Dell	Update General Plan Circulation Element (include trial design standards and policies that encourage trail development)			x																			1
66	City of Trinidad	McConnahas Mill Creek Trail - Developed/improved Trail		x					x	O		O	x			x	x	x				x		9
67	City of Trinidad	Trinity to Underwood Connector Trail - Developed/improved Trail		x					x	O		O	x			x	x	x				x		9
68	City of Trinidad	Launcher Beach to Old Home Beach Connector - Developed/improved Trail		x					x	O		O	x			x	x	x				x		9
69	City of Trinidad	Mid-town Connector - Developed/improved Trail		x					x	O		O	x			x	x	x				x		9
107	City of Trinidad	Axel Lindgren Memorial Trail Improvements - Developed/improved Trail		x					x	O		O	x			x	x	x				x		9
125	City of Trinidad	Trails / Sign / Interpretive Plan																						0
108	City of Trinidad	Sharrows - Class III		x	x			x															x	4
109	County of Humboldt	Peninsula Drive - Shoulder widening			x						x				x					x				4
6	County of Humboldt	Annie and Mary Trail (construct Glendale to Blue Lake portion of trail) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
70	County of Humboldt	Humboldt Hill Road (US 101 to Donna Drive) - Enhanced Class III			x			x												x			x	4
71	County of Humboldt	Central Avenue / Bella Vista - Shoulder widening			x						x				x					x				4
7	County of Humboldt	Letz Avenue (new Class I from MCSD pump house to Vista Point) and Vista Point to Clam Beach (pave existing trail segment) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
50	County of Humboldt	King Salmon Drive (Buhne Drive to Loma Avenue / South Bay Union School) - Shoulder widening			x						x				x					x				4
72	County of Humboldt	Union Street - Shoulder widening			x						x				x					x				4
18	County of Humboldt	Hammond Trail - Bridge replacement																						0
51	County of Humboldt	Sprowel Creek Road - Shoulder widening			x						x				x					x				4
110	County of Humboldt	Westhaven Road - Shoulder widening			x						x				x					x				4
111	County of Humboldt	Glendale - Shoulder widening			x						x				x					x				4
112	County of Humboldt	West End Road - Shoulder widening			x						x				x					x				4
113	County of Humboldt	Bald Hills Road - Shoulder widening			x						x				x					x				4
114	County of Humboldt	Maple Creek Road - Shoulder widening			x						x				x					x				4
115	County of Humboldt	Briceland / Thorne Road - Shoulder widening			x						x				x					x				4
116	County of Humboldt	Shelter Cove Road - Shoulder widening			x						x				x					x				4
52	County of Humboldt	Railroad Drive - Shoulder widening (north side) with Class III			x						x				x					x				4
53	County of Humboldt	Centerville Road (Ferndale City Limit to beach) - Shoulder widening			x						x				x					x				4
117	County of Humboldt	Cannibal Island Road - Shoulder widening			x						x				x					x				4
73	County of Humboldt	Hookton Road - Shoulder widening			x						x				x					x				4
74	County of Humboldt	Tompkins Hill Road - Shoulder widening			x						x				x					x				4
75	County of Humboldt	Eel River Drive - Shoulder widening			x						x				x					x				4
118	County of Humboldt	Red Cap Road - Shoulder widening			x						x				x					x				4
119	County of Humboldt	Blue Lake Boulevard - Shoulder widening (four foot)			x						x				x					x				4

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
3	County of Humboldt	Hammond Trail (Mad River Bridge to Arcata City Limits) - Class I Implementation Strategy	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
1	County of Humboldt	Humboldt Bay Trail - East Bay (Arcata Marsh & Wildlife Sanctuary to Eureka Waterfront Trail / Drive) Class I Implementation Strategy	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
8	County of Humboldt	Humboldt Bay Trail - West Bay (Arcata City Limits to Samoa - potential extension to Fairhaven) - Class I Implementation Strategy	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
19	County of Humboldt	Redwood Drive (Garberville to Redway to US 101) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
26	County of Humboldt	Blue Lake Boulevard – Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
120	County of Humboldt	V Street (Arcata City Limits to SR 255) - Class III			x			x												x			x	4
20	County of Humboldt	Riverwalk Trail (Fortuna City Limits to Sandy Prairie Road) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
54	County of Humboldt	Campton Road (Eureka City Limit to Walnut Drive) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
76	County of Humboldt	Ridgewood Drive (Elk River Road to Walnut Drive) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
77	County of Humboldt	F Street (Fairway Drive to Oak Street) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
36	County of Humboldt	Harris Street (Harrison Street to Hall Avenue) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
78	County of Humboldt	Elk River Road (Ridgewood to Headwaters Trailhead) - Class III			x			x												x			x	4
55	County of Humboldt	Hall Avenue (Harris Street to Myrtle Avenue) - Enhanced Class III			x			x												x			x	4
37	County of Humboldt	Park Street (Myrtle Ave. to Quaker St.) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
79	County of Humboldt	Quaker St. (Park Street to Trinity Street_ - Enhanced Class III			x			x												x			x	4
80	County of Humboldt	Trinity St. (Quaker St. to Myrtle Ave.) - Enhanced Class III			x			x												x			x	4
38	County of Humboldt	Mad River Rd/Upper Bay/Miller Ln/Heindon Rd (Mad River Beach to Arcata City Limits) - Enhanced Class III			x			x															x	3
81	County of Humboldt	Glendale Drive (SR 299 to Blue Lake Boulevard) - Enhanced Class III			x			x												x			x	4
82	County of Humboldt	Blue Lake Boulevard (Glendale Drive to Blue Lake City Limit) - Class III			x			x												x			x	4
83	County of Humboldt	Blue Lake Boulevard (Southeast Blue Lake city limit to Maple Creek Road) - Class III			x			x												x			x	4
84	County of Humboldt	West End Road (Giuntoli Lane to Hatchery Road) - Class III			x			x												x			x	4
85	County of Humboldt	Hatchery Road (Mad River Bridge to Fish Hatchery) - Enhanced Class III			x			x												x			x	4
86	County of Humboldt	Grizzly Bluff/Blue Slide Roads (Ferndale City Limit to Rio Dell City Limit) - Class III			x			x												x			x	4
87	County of Humboldt	Sandy Prairie Road (Fortuna City Limit to US 101) - Enhanced Class III			x			x												x			x	4
88	County of Humboldt	Maple Creek Road (Blue Lake Boulevard to Korbel Road) - Class III			x			x												x			x	4
89	County of Humboldt	Main Street (Rio Dell City Limit to US 101) - Enhanced Class III			x			x												x			x	4
90	County of Humboldt	Patrick’s Point Drive (Trinidad City Limit to Patrick's Point - US 101) - Enhanced Class III			x			x												x			x	4
91	County of Humboldt	Westhaven Drive (Trinidad City Limit to US 101) - Class III			x			x												x			x	4
56	County of Humboldt	Scenic Drive (Trinidad City Limit to US 101) - Class III			x			x												x			x	4
39	County of Humboldt	Pacific Coast Bike Route (US 101 Henderson Street, Eureka Mendocino County) - Class III			x			x												x			x	4
11	County of Humboldt	Mid Town Trail (Railroad Avenue to Washington Street) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
92	County of Humboldt	Airport Road (Letz Avenue to Central Avenue) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
35	County of Humboldt	Central Avenue (US 101 to Railroad Drive) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
57	County of Humboldt	Central Avenue (School Road to SR 200) - Class III			x			x												x			x	4
40	County of Humboldt	School Road (Fischer Ave to Central Avenue) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
58	County of Humboldt	Washington Avenue (McKinleyville Avenue to School Road) - Class II			x	x		x							Dependant on current cyclist safety risk					x			x	6
93	County of Humboldt	Azalea Avenue (SR 200 to Sutter Road) - Class III			x			x												x			x	4
94	County of Humboldt	Dows Prairie (Grange Road to Norton Road) - Enhanced Class III			x			x												x			x	4
95	County of Humboldt	Grange Road (Central Avenue to Dows Prairie Road) - Class III			x			x												x			x	4
96	County of Humboldt	Halfway Ave (Gassoway Rd Airport Road to Murray Road) - Class II			x			x												x			x	4
97	County of Humboldt	Norton Road (Dow's Prairie Road to Central Avenue) - Class III			x			x												x			x	4
2	County of Humboldt	Garberville to Redway - Class I Feasibility Study	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
12	County of Humboldt	South Fork High Trail (Miranda to Meyer's Flat) - Class I	x		x		Dependant on socio-economic demography	x			x				x	x	x			x		x	x	11
41	County of Humboldt	Briceland Road (Redwood Drive to Eel River Road) - Enhanced Class III			x			x												x			x	4
42	County of Humboldt	Redwood Drive (Manzanita to Maple Lane) - Class III			x			x												x			x	4
59	County of Humboldt	Sprowel Creek Road (Redwood Drive to Community Park) - Class III			x			x												x			x	4
43	County of Humboldt	Loleta Drive (Main Street to Franklin Ave) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
98	County of Humboldt	Franklin Ave (Park Street to Loleta Drive) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
99	County of Humboldt	Park Street (Loleta Drive to Franklin Ave) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
60	County of Humboldt	Manila - Peninsula Drive (Dean Ave to Sandy Road) - Class II (NWP railway - Class I)			x		Dependant on socio-economic demography	x							Dependant on current cyclist safety risk	x	x			x		x	x	9
44	County of Humboldt	Hiller Road (Central Avenue to Cliff Avenue) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
61	County of Humboldt	Railroad Avenue (Central Avenue to Thiel Avenue) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
100	County of Humboldt	School Road (Bugenig Ave to Highway 101) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
101	County of Humboldt	School Road (Highway 101 to Fisher Road) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
102	County of Humboldt	Washington Street (McKinleyville Avenue to School Road) - Class II (sidewalks)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
103	County of Humboldt	Gassaway Road (McKinleyville Avenue to Halfway Avenue) - Class II (Class III)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
62	County of Humboldt	McKinleyville Avenue (Murray Road to Gassaway Road) - Class II (Class III)			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
45	County of Humboldt	Footpath connecting Lime Avenue and Gwin Road - Developed / Improved trail			x		Dependant on socio-economic demography									x	x			x		x	x	7
46	County of Humboldt	Newton Road (Sewell Road to School Road) - Class II			x	x		x						x	Dependant on current cyclist safety risk					x			x	7
27	Hoopa Tribe	SR 96 (Downtown to S. Trinity Bridge to Jury Lane) - Class II and pedestrian facilities			x	x		x						x	Dependant on current cyclist safety risk								x	6
13	Hoopa Tribe	SR 96 Community Service road to Clinic - Tish Tang Road - Multipurpose Trail			x		Dependant on socio-economic demography	x			x				x	x	x					x	x	9

Project Number	Jurisdiction	Description	Local				State								Federal							Non-Traditional		Total Sources Eligibility
			AMG	TMI	TDA	DIF	SPCR	BTA	SCC	HCF	EEMP	WCB	CCC	CBTP	HSIP	RTP	RTCA	LWC	FLHP	TCSP	CDBG	AGP	BB	
28	Hoopa Tribe	Connect sidewalks and bike lanes from Loop Road (south end) to Trinity River Bridge - Class II			x	x		x						x	Dependant on current cyclist safety risk								x	6
47	Hoopa Tribe	Cantilevered Walkway on Trinity River Bridge						x																1

CHAPTER 6
TRAIL DESIGN GUIDELINES

The successful design, construction, and management of trails is critical to building a trail network or active transportation system that accommodates the widest range of both recreational and transportation users. This chapter presents the design guidelines for a range of trail types, as well as trail crossings, trailhead access points, and a variety of trail amenities. These guidelines are intended to allow flexibility in trail design, appropriate to the location, site-specific environmental conditions, and expected users. In addition, the guidelines establish standard terms and definitions that can aid communication with planning partners about trail needs, design standards, and environmental issues.

The design guidelines are not engineering specifications and are not intended to replace existing applicable mandatory or advisory state and federal standards, nor the exercise of engineering judgment by licensed professionals. In certain cases some material and recommendations contained herein fall outside current standards, but are of sound principle and have been employed successfully in many communities throughout the United States and abroad.

The design guidelines are organized into the following sections:

- *Natural Surface Trails*. Includes multipurpose, mountain bike, equestrian and developed/improved trails;
- *Paved Surface Trails*. Includes Class I bike paths, Class II bike lanes, and Class III bike routes;
- *Rail Trails*. Discusses trail design in railroad rights-of-way;
- *Accessible Trail Design*. Introduces the basic concepts of accessible trail design to provide for the needs of people with varied mobility requirements;
- *Drainage and Erosion Control*. Introduces basic drainage and erosion control concepts for paved and natural surface trails;
- *Crossings*. Introduces the key variables that influence trail crossings of streets, roads, highways, driveways, railroads, streams and rivers;
- *User Conflict Reduction Strategies.* Discusses ways to separate trail users to reduce conflicts; and
- *Trail Support Facilities*. Provides a basic layout for a typical trailhead and identifies typical trail support facilities including signage, fencing, and trail amenities.

NATURAL SURFACE TRAILS

Natural surface trails are primarily unpaved trails that serve a variety of recreational user groups and may occasionally serve transportation (e.g., commuter use) and local connectivity (e.g., school and local errand access) needs. Natural surface trails are distinct from paved trails (discussed in the following section) in that they do not comply with the California Department of Transportation (Caltrans) Highway Design Manual, American Association of State Highway Transportation Officials (AASTHO) or other applicable standards for non-motorized transportation funding grant programs. Natural surface trails are classified into multipurpose, mountain bike, equestrian, and developed/improved trails. Table eight provides a summary of natural surface trail classification standard dimensions.

Table 8: Natural Surface Trail Classifications Summary

Trail Type	Tread Width	Trail Corridor	Surface	Average Grade*	Max Grade*	Outslope (soil)	Turn Radius
Multipurpose Trails	4’ – 8’	8’ -12’ (w) 8’ - 12’ (h)	Native soil or compacted granulated stone	≤ 5%	10%	2-4%	5-10’
Mountain Bike Trails	12”- 36”	2’ - 6’ (w) 6’ - 8’ (h)	Native soil and rock; compacted	2-10%	≥15%	5-10%	≥2’
Equestrian Trails	1.5’- 12’	3.5’ - 12’ (w) 10’ - 12’ (h)	Native soil and rock; compacted	2-10%	5-20%	2-10%	5-10’
Developed/Improved Trails	18”- 48”	3’ - 6’ (w) 7’ - 8’ (h)	Native soil and rock; compacted	≤ 5%	15-25%	2-5%	3’

* Max grade depends largely on soil type and running distance of slope

Multipurpose Trails

Multipurpose trails serve a variety of user groups and are substantially wider than other narrow natural-surface trails described below. The Caltrans Highway Design Manual Chapter 1000, (Section 1003.5) acknowledges that many of these trails will not be paved and will not meet the standards for Class I bike paths. As such, these facilities should not be signed as bike paths. Rather, they should be designated as multipurpose trails (or similar designation), along with regulatory signing to restrict motor vehicles, as appropriate.

If multipurpose trails are primarily to serve bicycle travel, they should be developed in accordance with standards for Class I bike paths. In general, multipurpose trails are not recommended as high speed transportation facilities for bicyclists because of conflicts between bicyclists and pedestrians. Wherever possible, separate bicycle and pedestrian paths should be provided. If this is not feasible, additional width, signing and pavement markings should be used to minimize conflicts.

Multipurpose trails accommodate the widest range of users among the natural surface trail types presented. These paths, while constructed with native surface materials or compacted, crushed or granulated stone, provide wide treads and clearances potentially accommodating significant volumes of hikers, equestrians and bicyclists. Where hikers, cyclists and equestrians are allowed on the same trail, "Yield to" signage should be installed to notify user right-of-ways.

Multipurpose trail standards include:

- Tread width varies from four to eight feet;
- Allowance for passing;
- Native materials;
- Obstacles occasionally present;
- Blockages cleared to define route and protect resources;
- Prevailing grade five percent, with limited steeper segments; and
- Clearances and turning radius to accommodate all uses.

Mountain Bike Trails

Mountain bicyclists have a broad range of riding abilities. This guideline single track mountain bike-only trail focuses on recreation and a range of technical skill on topographically varied terrain.

The International Mountain Bike Association (IMBA) has developed a classification system similar to ski runs, which indicates skill level by the use of colored symbols (see table nine). These symbols may accompany wayfinding and warning signage to alert cyclists of upcoming trail conditions. In addition, mountain bicyclists are typically permitted on multipurpose trails (described above) and should be aware that they must yield to all other users.

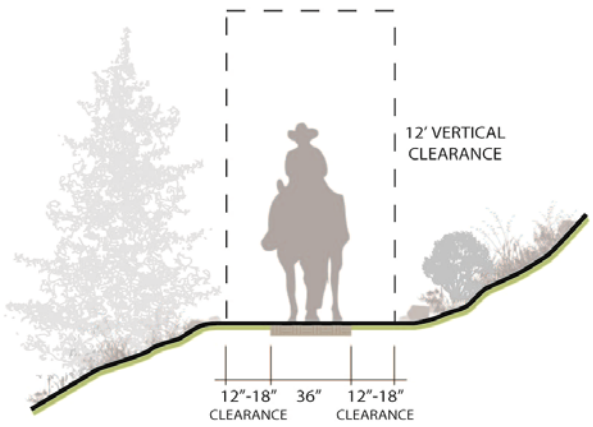
Table 9: Mountain Bike Standards Based on Skill Level

Skill Level	Tread Width	Surface	Average Grade	Max Grade	Unavoidable Obstacles
Easiest ○	≥ 72”	Hardened or Surfaced	<5%	≤10%	None
Easy ●	≥ 30”	Firm and Stable	≤ 5%	15%	≤ 2”
Moderate ■	≥ 18”	Mostly stable; some variability	≤ 10%	≥15%	≤ 8”
Difficult ◆	≥ 12”	Variable	≤15%	≥15%	≤15”
Extremely Difficult ◆◆	≥ 6”	Widely variable & unpredictable	≥ 20%	20%	≥15”

Equestrian Trails

Equestrian trails constructed as a part of the regional trails network should be designed to accommodate a horse and rider comfortably, while minimizing the required zone of trail construction and maintenance impact. Regional equestrian trails should provide for local and long-distance trail rides. These trails may also serve multiple user types.

Basic dimensional requirements include an 18 to 36 inch wide trail tread and appropriate horizontal clearances. In high use and developed areas, a minimum tread of seven to eight feet should be provided to allow for riding side by side as well as opportunities for passing when bidirectional movements are expected. Compacted natural soil is typically the preferred trail tread, but surfacing trails with crushed fines is preferred in Humboldt County due to climate conditions. A narrow 18 inch trail tread should include a minimal 12 inch vegetation clearance on both sides of the trail, providing clear passage, while preserving a backcountry trail ride experience. It should be noted that trails developed for equestrians are also comfortable for pedestrians.



Equestrian trail standards include:

- Vegetation cleared outside of trailway;
- Limited conflicts with protected natural resource areas;
- Trail bridges should be designed with five foot railings and to accommodate loaded horses;
- Compacted native materials used;
- Trail tread width may vary from 1.5 to 12 feet depending on context and level of use (see table ten); and
- Trail clearance should be maintained on both sides of trail tread.

Table 10: Equestrian Trail Standards Based on Development Level[1]

Level of Development	Tread Width	Clearance Width	Average Grade[2]	Maximum Grade	Outslope	Turn Radius
Low	1.5'- 2'	5.5'-8' (w) 10' (h)	≤ 12%	20% No more than 200'	5-10%	5'- 6'
Moderate	3'- 6'	9'-12' (w) 10-12' (h)	≤ 10%	15% No more than 200'	5%	6'- 8'
High	8'- 12'	14'-18' (w) 12' (h)	≤ 5%	5-8% (800'-1500') 8-10% (500-800') 10% (≤500')	2-5%	8'- 10'

Source: USDA/FHWA, Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds

[1] Development level or trail character in response to area setting (i.e., urban, rural, wilderness)

[2] Target range (over at least 90 percent of trail)

Developed/Improved Trail

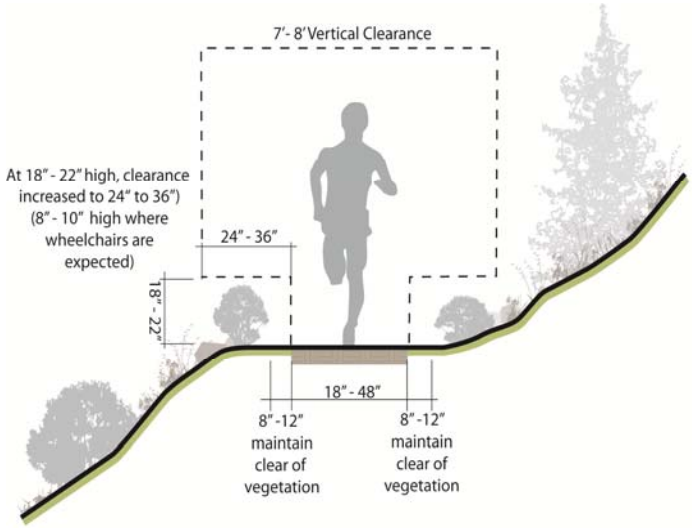
Developed/improved trails accommodate walking and hiking in a variety of contexts and are the minimum trail standard typically incorporated into a regional trails network or active transportation system. These facilities are generally defined by compacted natural soil surface, the presence of functional drainage, trail structures (i.e., retaining walls, water bars) and bridges, where required. In Humboldt County, trails may be surfaced with crushed fines to improve trail conditions due to climate. Typical width varies from 18 to 48 inches and vegetation should be maintained clear on both sides of the trail tread for a minimum of 12 to 36 inches.

To encourage the natural appearance of the trail vegetation less than 18 to 22 inches in height and eight to 12 inches from the trail edge can remain. Vegetation 18 to 22 inches and above should be cleared to meet a 24 to 36 inch horizontal clearance minimum (see graphic below). Where wheelchairs are expected, the height at which the additional clearance should begin is eight to 10 inches above the trail surface.

This facility type is typically located at local and county parks, open space areas, undeveloped public rights-of-way such as utility corridors, and in parkland and resource land units with frequent public access connecting to other regional trail network segments. Signage includes regulation, resource protection, and user reassurance such as directional and destination signs.

Developed/improved trail standards include:

- Vegetation cleared outside of trailway;
- Trail bridges as needed for resource protection and appropriate access;
- Generally native materials used;
- Trail tread width may vary from 18 to 48 inches depending on context and use;
- Trail clearance should be maintained on both sides of trail tread at 24-36 inches or greater; and
- User specific criteria are applicable if bicycling or equestrian use is allowed in addition to walking and hiking use.



PAVED SURFACE TRAILS

Paved surface trails, for purposes of this plan, include trails that meet or are proposed to meet the dimensional, geometric and functional standards set forth by Caltrans and AASHTO. Paved surface trails include bike paths, bike lanes, and bike routes that serve a variety of commuter trips, utilitarian trips, and recreational trips.

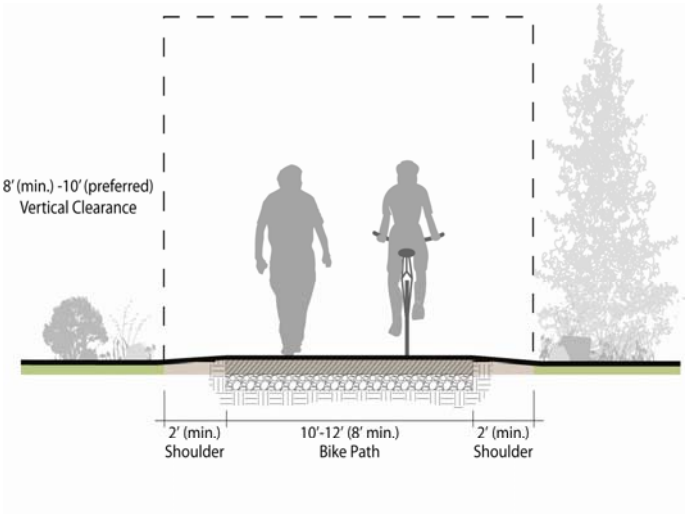
Class I (Bike Path)

Class I bike paths are facilities with exclusive right of way, with cross flows by motorists minimized. Section 890.4 of the Streets and Highways Code describes a Class I as serving "the exclusive use of bicycles and pedestrians". However, experience has shown that if significant pedestrian use is anticipated, separate facilities for pedestrians are necessary to minimize conflicts. According to the Caltrans Highway Design Manual, shared use by pedestrians and bicycles is undesirable, and the two should be separated wherever possible. In practice however, Class I bike paths are typically shared by bicyclists, pedestrian, skaters, wheelchair users, joggers and other non-motorized users.

The anticipated range of users and forecast level of use by different user groups should dictate the design of the facility. Higher use, greater variety of use, and higher speed differentials all require greater width, increased separation of uses, and greater attention to regulation and education of bikeway users. At minimum, Class I bike paths require an eight foot wide paved surface and two foot wide clear, graded shoulders on both sides. A 10 to 12 foot standard should be used for segments accommodating large volumes of high speed bicycle commuters. In areas where a variety of users are expected, expanded unpaved shoulders should be included when possible. Where a path also doubles as an access route for maintenance or emergency vehicles, a minimum 12 foot wide path is recommended, as narrower paths tend to break-up along the edges due to vehicle loads.

Class I bike paths immediately parallel and adjacent to roadways must be appropriately separated from automobile traffic by a five foot separation or barrier, per the Caltrans Highway Design Manual. Paths adjacent to roadways can provide critical links in regional trail systems where a local, county or Caltrans public right-of-way is the only viable alignment alternative.

All standards set forth in Caltrans Highway Design Manual Chapter 1000 (1003.1) shall be met in order for a Class I bike paths to serve as a transportation facility. In addition, the Manual of Uniform Traffic Control Devices provides guidance on appropriate signage and controls at trail roadway intersections.



Potential Class I applications include:

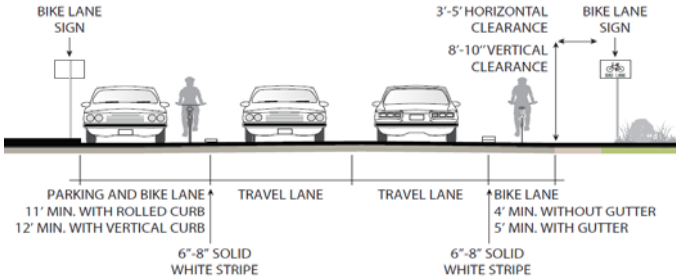
- High use commuter and recreational corridors where accommodation of bicyclists and pedestrians separate from local streets and highways is desirable;
- Publicly-owned easements and right-of-ways that connect major community destinations or communities and may provide a non-motorized commute facility;
- Caltrans rights-of-way where separated path is feasible and complimentary to the existing transportation function; and
- Railroad corridors (additional standards apply, see Rail Trails section).

Class II (Bike Lanes)

Class II bike lanes are portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes can be installed on arterial, collector and neighborhood roadways where space allows and subject to locally established minimum travel lane widths. The minimum recommended width for a bike lane is five feet.

Class II bike lane standards include:

- Five foot width is recommended for bike lanes without on-street parking (existing Caltrans minimum is four feet, but is not recommended). This width will allow for added separation between bicyclists and vehicles;
- Four foot minimum if no gutter exists, measured from edge of pavement;

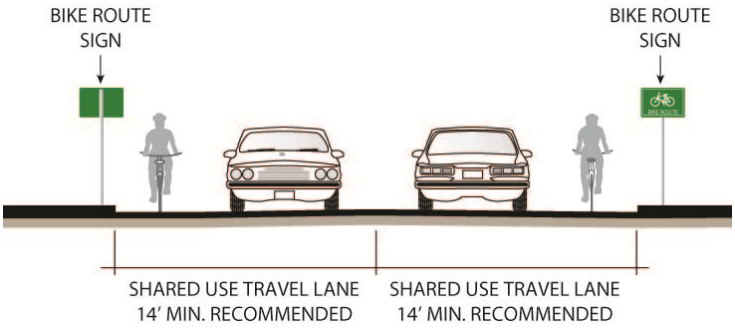


- Five foot minimum with normal gutter, measured from curb face; or three feet (0.9 m) measured from the gutter pan seam; and
- Five foot width when on-street parking stalls are marked.

Class III (Bike Routes)

Class III bike routes share the roadway with motor vehicles, typically on streets without adequate width for bicycle lanes. This type of facility is usually established on roads with low speeds and traffic volumes, however can be used on higher volume roads with wide outside lanes or shoulders.

Caltrans does not define a standard travel lane width. However, AASHTO recommends 14 foot wide travel lanes. Bicycle route signage should be installed at regular intervals and at decision points (i.e., route direction changes) along designated bicycle routes. Intervals should consider the location of the bike route (i.e., longer intervals for regional routes and shorter intervals for local routes).



Bicycle routes are identified through route signage using the standard "Bike Route" sign. The Manual of Uniform Traffic Control Devices allows for an alternative bike route sign to reflect a numerical route and name designation. Supplemental plaques can be used to direct bicyclists to high demand destinations (e.g., "Pacific Coast Bike Route", "California Coastal Trail", "To Downtown"). Bicycle routes can also have shared lane pavement markings, also called "sharrows" as exemplified in the photo below. Shared pavement markings alert vehicle drivers to the presence of cyclists on arterials as well as direct bicyclists of the safest portion of the travel lane to ride in.

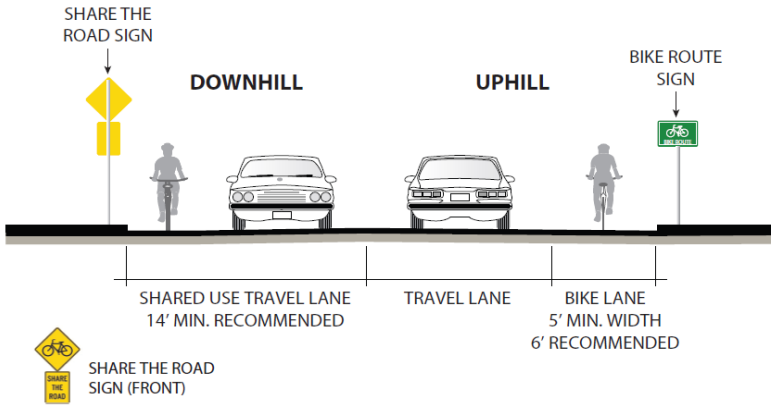
Standard bicycle guide sign on left, alternative on right

Shared lane pavement marking

Class III - Downhill Bike Routes / Class II - Uphill Bike Lanes

Sections of bicycle lane may be applied to steep grades on otherwise shared roadway (Class III) situations. These uphill climbing lanes get slow moving cyclists out of the travel lane and should be six feet wide to provide extra room for maneuvering. At downhill grades where cyclists will move at speeds approaching those of automobile traffic, bike lanes in the downhill direction are not needed or advised.

Uphill bike lanes should be five or six feet wide (six feet is preferable since extra maneuvering room on steep grades can benefit bicyclists). Shared lane markings, such as 'share the road signs' can be installed for downhill cyclists who can match prevailing traffic speeds.



RAIL TRAILS

Railroad rights-of-way can present opportunities for trails connecting community and/or recreational destinations. Typically, railroads follow favorable topography for bicycling and hiking and are located in scenic areas. Below, the process of railbanking a railroad corridor for interim trail use is described, as well as guidelines for Rails-To-trails and Rails-With-Trails.

Railbanking

In 1983, concerned for the rapid contraction of America's rail network, the U.S. Congress amended the National Trails System Act to create the railbanking program. Railbanking is a method by which lines proposed for abandonment may be preserved for future rail use through interim conversion to trail use. Either a public agency or a qualified organization may request to railbank a railroad right-of-way for trail use by sending the request to the Surface Transportation Board (STB).

RAILBANKING NATIONWIDE

Total Number of Railbanked Corridors	256
Total Number of Miles	4,628
Number Open as Trails	102
Miles Open as Trails	2,451
Number of Trails Under Development	112
Miles Under Development	1,683

Source: Rails-to-Trails Conservancy, "Railbanking and Rail-Trails: AA Legacy for the Future," July 2006.

The Rails-to-Trails Conservancy identifies the following important points regarding railbanking:

1. A railbanking request is not a contract and does not commit the interested party to acquire any property or to accept any liability. It invites negotiation with the railroad company under the umbrella of railbanking.
2. A party filing a Statement of Willingness to Assume Financial Responsibility is not accepting any financial responsibility. It is merely expressing an interest in possibly doing so.
3. The tracks and ties on a railbanked line can be removed. However, bridges and trestles must remain in place, and no permanent structures can be built on the right-of-way.
4. Railbanking can only be requested for a rail line that is still under the authority of the STB. The STB has authority over the corridor until the railroad files a notice of consummation, which must be filed within one year of the abandonment decision (unless the railroad requests an extension). If no notice of consummation is filed by the railroad within one year, abandonment authorization lapses. Railbanking requests are due within the period specified in the applicable notice of abandonment. However, late-filed requests will be accepted for good cause so long as the STB retains authority to do so.
5. Some railroad rights-of-way contain easements that revert back to adjacent landowners when abandonment is consummated. However, if a line is railbanked, the corridor is treated as if it had not been abandoned. As a result, the integrity of the corridor is maintained, and any reversions that could break it up into small pieces are prevented.
6. Railbanking can be affected through a sale, a donation or a lease of the corridor. The details of which are subject to negotiation with the railroad.
7. A railbanked line is subject to possible future restoration of rail service. The abandoning railroad maintains the right to apply to the STB to resume rail service on a railbanked corridor which will then vacate the trail use ordinance. The terms and conditions of a transfer back to rail service must be negotiated with the trail manager.

Rails-To-Trails

Rails-to-trails are former rail corridors which have been converted to trails for public use. Prior to trail conversion, the rail corridor can be railbanked to preserve the integrity of the transportation route should rail service be resumed. Due to the gentle grades and curves required of trains, rail corridors typically have subtle grade changes and geometries appealing to a wide variety of trail users. Rail corridors are typically long in length and if preserved for trail use, present opportunities for significant regional trail systems through some of the country's most beautiful landscapes. Rails-to-trails do not have specific requirements beyond the trail design standards mentioned above.

A former rail corridor provides recreation and transportation options for a multitude of users

Rails-With-Trails

Rails-with-trails are trail paths that follow existing and often active rail lines. Despite the many benefits of trails constructed in rail rights-of-way, rails-with-trails also present a range of security and safety issues for trail users that should be addressed through planning and design processes.

A popular Rail-With-Trail

National design standards have not been developed for rails with trails, although the Federal Railroad Administration (FRA) publishes minimum setback standards for fixed objects next to active railroad tracks, the distance between two active tracks, and adjacent walkways (for railroad switchmen). These published setbacks represent the legal minimum setbacks based on the physical size of the railroad cars, and are commonly employed along all railroads and at all public grade crossings. Most Public Utilities Commissions (PUCs), which regulate railroad activities within states, also have specific minimum setbacks for any structures or improvements adjacent to railroads, including any sidewalk or trail that parallels active railroad tracks.

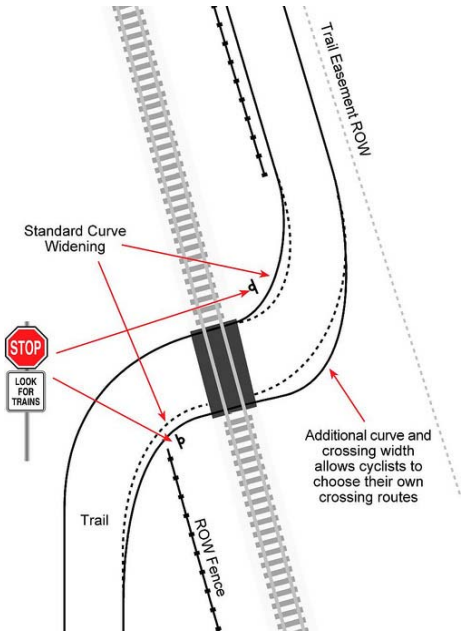
The North Coast Railroad Authority (NCRA) was created in 1989 by the California legislative body through the North Coast Railroad Authority Act. Trails within the NCRA right-of-way must be approved by the NCRA Board of Directors and trail applications are reviewed on a case-by-case basis. The NCRA Board has developed a Policy & Procedures Manual for Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines, which was adopted in May of 2009.

The standards presented below are the result of studies completed by the Federal Highway Administration and Rails-To-Trails Conservancy, along with the PUC and NCRA guidelines. Other useful sources include AASHTO, CAMUTCD and American Disabilities Act Accessibility Guidelines (ADAAG).

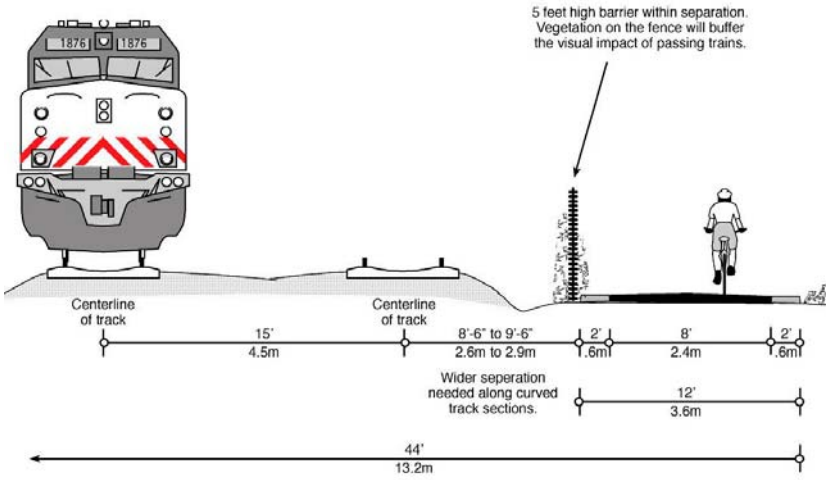
Rails with Trails design recommendations include:

- NCRA design standards specify that where trails provide the only access for maintenance and emergency vehicles, they should be built to accommodate heavy vehicle loads. A 12 foot width is strongly recommended for these dual-purpose paths, as narrower paths can crack along the edges due to vehicle loads;
- Where maintenance and emergency access is available from an existing street, pre-selected access routes and curb ramps should accommodate heavy vehicle loads;

- Setbacks should be maximized and correlate with train type, speed, frequency, and separation technique, varying from 8.5 feet (9.5 feet on curves) to 100 feet;
- 2 feet minimum distance between paved edge of trail and fencing, 3 feet preferred;
- Fencing and barriers should meet the requirements of the railroad company, i.e. NCRA. The NCRA suggests a three rail split-rail fence with landscaping in rural or environmentally sensitive areas;
- 5 to 6 foot high fencing is adequate for separation in most instances;
- Vegetation may grow on fencing to buffer noise;
- Storm and irrigation water may not flow or collect in the railroad right-of-way; and
- At-grade trail crossings should be minimized.



Crossing angle at tracks should be as close to a 90 degree angle as possible



The above graphic shows minimum setbacks as defined by most Public Utility Commissions. Best practices seek to maximize setbacks from rail centerline as much as practicable. NCRA guidelines ask that trails be placed at the outer edges of rail ROW to the greatest extent possible.

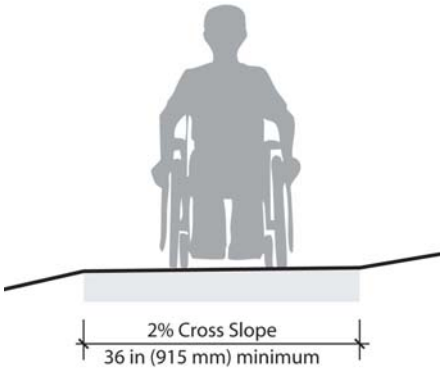
ACCESSIBLE TRAIL DESIGN

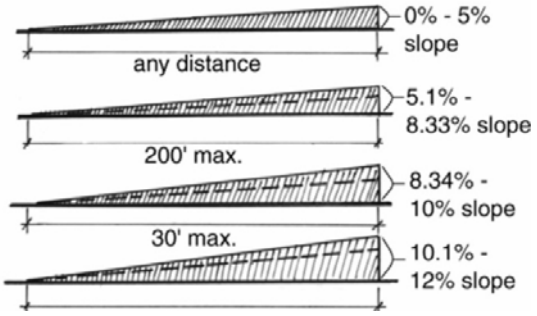
Americans with Disabilities Act (ADA) accessible trail design is important for both recreation and transportation trails. Accessibility standards are generally established by the United States Access Board and the U.S. Department of Transportation, Federal Highway Administration, Recreational Trails Program Guidance. Constructing trails may have limitations that make meeting ADA guidelines difficult and sometimes prohibitive. Prohibitive impacts include: harm to significant cultural or natural resources; a significant change in the intended purpose of the trail; requirements of construction methods that are against federal, state or local regulations; or terrain characteristics that prevent compliance.

Table eleven represents the best practices for Outdoor Developed Areas as outlined by the California State Parks Accessibility guidelines and the U.S. Access Board's Draft Final Accessibility Guidelines.

Table 11: ADA Accessible Trail Standards

Item	Recommended Treatment	Purpose
Trail Surface	Hard surface such as, asphalt, concrete, wood, compacted gravel	Provide smooth surface that accommodates wheelchairs
Trail Gradient	Five percent maximum without landings 8.33 percent maximum with landings	Greater than five percent is too strenuous for wheelchair users
Trail Cross Slope	Two percent maximum	Provide positive trail drainage, avoid excessive gravitational pull to side of trail
Trail Width	Five foot minimum	Accommodate a wide variety of users
Trail Amenities, phones, drinking fountains and pedestrian- actuated buttons	Place no higher than four feet off ground	Provide access within reach of wheelchair users
Detectable pavement changes at curb ramp approaches	Place at top of ramp before entering roadways	Provide cues for visually impaired users
Trailhead Signage	Accessibility information such as trail gradient/profile, distances, tread conditions, location of rest stops	User convenience and safety
Parking	Provide at least one accessible parking area at each trailhead	User convenience and safety
Rest Areas	On trails specifically designated as accessible, provide rest areas or widened areas on the trail optimally at every 300 feet	User convenience and safety





Trail gradients as recommended by the California State Parks Accessibility Guidelines

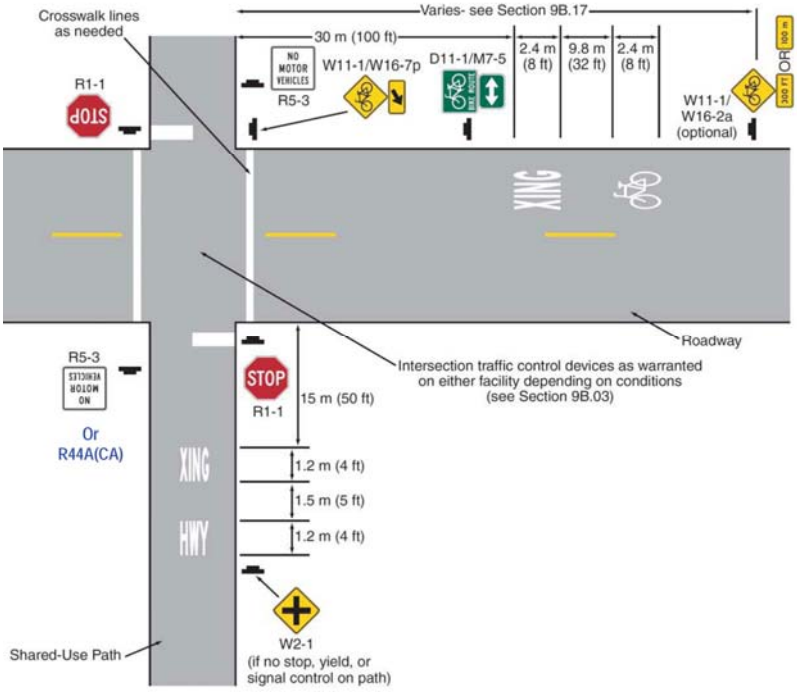
CROSSINGS

The design of trail crossings of streets, roads, highways, railroads driveways, creeks and streams must account for a variety of factors and always requires site specific engineering and safety analysis. Crossing types described below include: roadway intersections, Type one: unprotected crossings, Type two: route to existing intersections, Type three: signalized crossings, Type four: grade-separated crossings, railroad crossings, and stream or river crossings.

Roadway Intersections

Where a proposed off-street trail will cross a roadway at-grade, it is important to remember two items: 1) trail users will be enjoying an auto-free experience and may enter into an intersection unexpectedly; and 2) motorists may not anticipate bicyclists riding out from a perpendicular trail into the roadway. However, in most cases, it is possible to design an at-grade trail crossing to a reasonable degree of safety, while meeting existing traffic engineering standards.

Evaluation of trail crossings should involve an analysis of vehicular traffic patterns, as well as consideration of the behavior of trail users. This includes traffic speeds (85th percentile), street width, traffic volumes (average daily traffic and peak hour traffic), line of sight, and trail user profile (age distribution, range of mobility, destinations). A traffic safety study should be conducted as part of the actual civil engineering design of the proposed crossings to determine the most appropriate design features. This study would identify the most appropriate crossing options given available information, which must be verified and/or refined through the actual engineering and construction document stage.

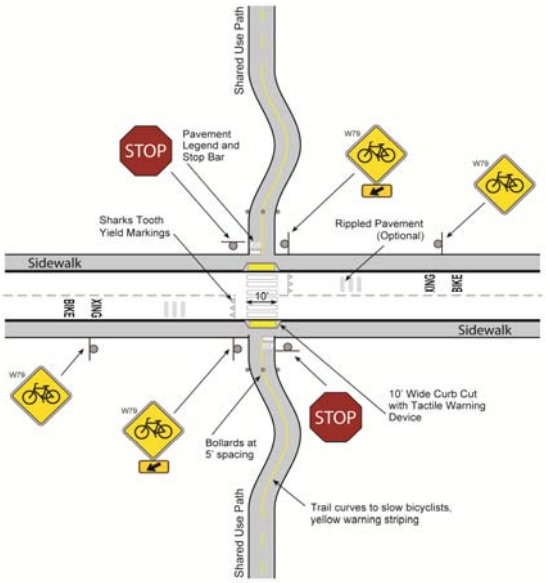


Standards from the California Manual on Uniform Traffic Control Devices (CaMUTCD) include:

- Intersection Warning (W2-1) signs should not be used where the shared-use path approaches a controlled intersection;
- Engineering judgment may determine that limited visibility of a controlled intersection may require Intersection Warning signs; and
- Bicycle Warning signs (W11-1) alert the road user to unexpected entries onto the roadway by bicyclists

Type 1: Unprotected Crossings

Uncontrolled or Type 1 crossings (i.e., unsignalized, but with other traffic control devices) are recommended for streets with 85th percentile travel speeds below 45 mph and Average Daily Trips (ADTs) below 10,000 vehicles. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, trail traffic, use patterns, road type and width, and other safety issues.

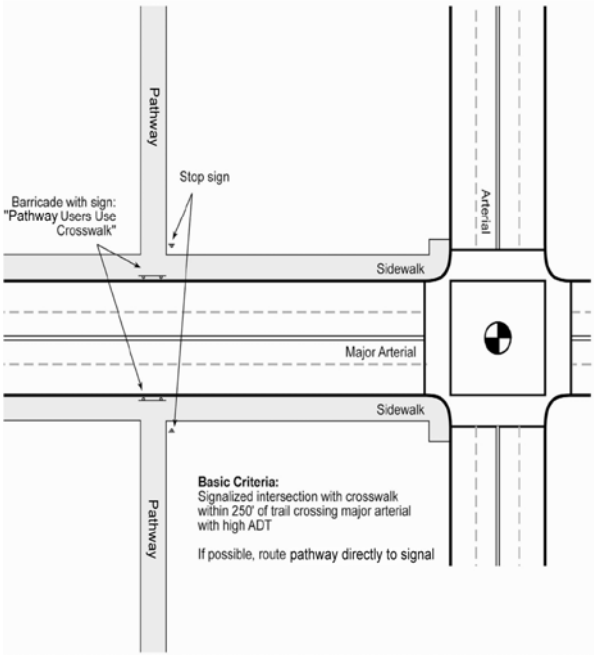


Type 2: Route to Existing Intersections

In most cases trail users should be routed to a protected crossing for trails that either parallel a roadway or emerge closer than 200 feet from a protected intersection. Crossing at a protected intersection provides safety for the user as motorists are not expecting to see pedestrians and bicyclists crossing less than 200 feet from an intersection; in addition, traffic congestion may extend the 200 feet or less distance. Furthermore, users crossing less than 200 feet from a protected intersection may unnecessarily impact traffic capacity on a corridor.

One of the key challenges with using existing intersections is that it requires bicyclists to transition from a separated two-way facility to pedestrian facilities such as sidewalks and crosswalks, normally reserved for pedestrians. Widening and striping the sidewalk (if possible) between the trail and intersection may help to alleviate some of these concerns.

Where the trail does not emerge at an existing intersection, carefully thought out physical design and directional signing will be required to keep bicyclists and others from crossing at the unmarked location. Signs warning motorists of the presence of bicycles may be needed, as well as right turn on red prohibitions.



Maximum Distance from Trail to Intersection:

- Street width 40 feet or less – 200 feet; and
- Street width over 40 feet – 350 feet.

Length of barrier to prevent informal crossing:

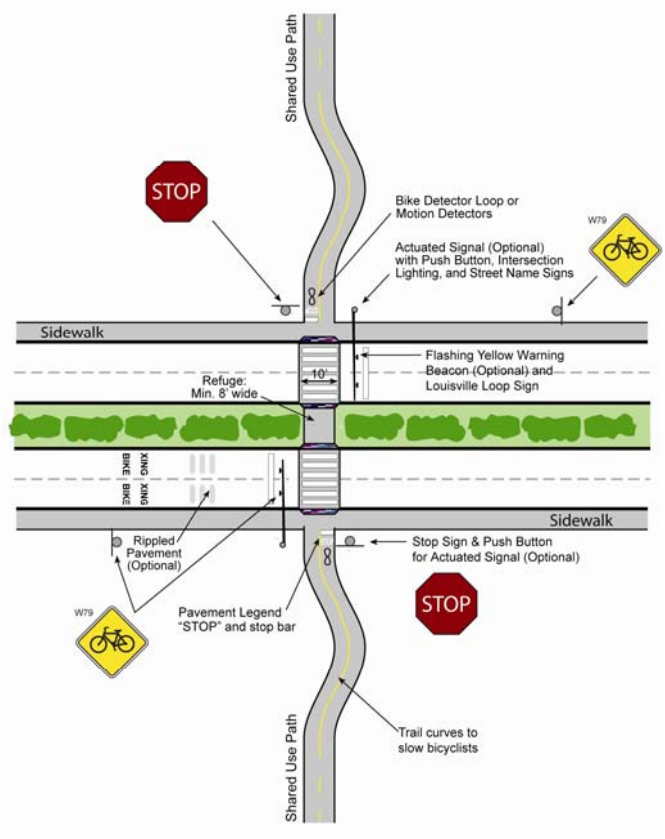
- Street width over 40 feet – 350 feet;
- Street width 40 feet or less – 50 feet; and
- Street width over 40 feet – 100 feet.

Intersection Improvements:

- Warning signs for motorists;
- Right turn on red prohibitions;
- Elimination of high speed and free right turns;
- Adequate crossing time; and
- Pedestrian activated signals.

Type 3: Signalized Crossings

New or exclusive signalized crossings (i.e., Type 3) are identified for user crossings more than 200 feet from an existing signalized intersection and where the 85th percentile travel speeds are 45 miles per hour (mph) and above and/or average daily traffic (ADT) exceeds 10,000 vehicles. Signals require the input of local traffic engineers, who review potential impacts on traffic progression, capacity, and safety. On corridors with timed signals, a new trail crossing may need to be coordinated with adjacent signals to maximize efficiency.



Trail signals are normally activated by push buttons, but also may be triggered by motion detectors. The maximum delay for activation of the signal should be 60 seconds, with minimum crossing times determined by the width of the street and trail volumes. The signals may rest on flashing yellow or green for motorists when not activated, and should be supplemented by standard advance warning signs. Typical costs for a signalized crossing range from $75,000 to $150,000.

Type 4: Grade-Separated Crossings

Grade-separated crossings are needed where ADT exceeds 25,000 vehicles, and 85th percentile speeds exceed 45 mph. Safety is a major concern with both overcrossings and under-crossings. When designed properly, grade-separated crossings practically eliminate any safety concerns related to crossing a roadway.

Grade-separated crossing approaches should minimize the out-of-direction travel required by the trail user, so that users don't alternatively attempt to dart across the roadway. Under-crossings, like parking garages, have the reputation of being places where crimes occur, but these safety concerns can be addressed through design. An undercrossing can be designed to be spacious, well-lit, equipped with emergency cell phones at each end, and completely visible for its entire length prior to entering. For cyclists and pedestrians, vertical clearance should be a minimum of eight feet, with 10 feet preferred and 12 feet minimum for equestrians.

Over-crossings, or bridges, avoid darkness and safety concerns that occur with an at- or below-grade option. Any bicycle and pedestrian bridge needs to be approached via ADA compliant ramps (running slopes less than five percent). Bridges present unique opportunities for creating landmark architectural and artistic statements.

Maximum Distance from Trail to Intersection:

- Street width 40 feet or less – 200 feet; and
- Street width over 40 feet – 350 feet.

Length of barrier to prevent informal crossing:

- Street width over 40 feet – 350 feet;
- Street width 40 feet or less – 50 feet; and
- Street width over 40 feet – 100 feet.

Intersection Improvements:

- Warning signs for motorists;
- Right turn on red prohibitions;
- Elimination of high speed and free right turns;
- Adequate crossing time; and
- Pedestrian activated signals.

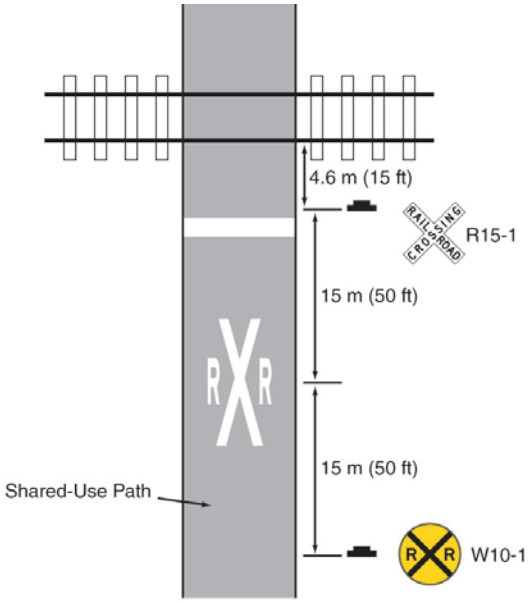
Railroad Crossings

The preferred CCT alignment may include at-grade crossings of railroad tracks. New pedestrian railroad crossing flashers are typically not required for sidewalk crossings at legal crossings as they are redundant with adjacent vehicle crossing warning equipment.

Efforts should be made to have bicyclists cross railroad tracks at as close to a 90 degree angle as possible. As crossing angles deviate from perpendicular angles, possibilities increase for a bicycle wheel to become trapped in the flangeway, or for cyclists to lose traction on wet rails.

AASHTO guidelines do not specify a minimum crossing angle; however, any crossing that is less than a 45 degree angle should be accompanied by a widening in the trail or shoulder area in order to permit a cyclist to cross the track at a safer angle, preferably perpendicular.

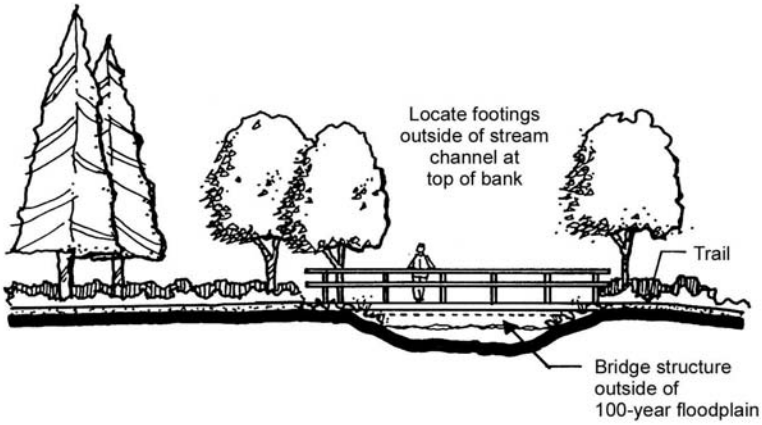
Standard concrete railroad crossings with compressible flangeway fillers permit rail operations while creating a smooth or subtle bump for cyclists. Crossing materials should be skid resistant. Colored surfaces also help alert cyclists to potential conflict points. Rubber and concrete materials require less maintenance and have a longer lifespan than wood or asphalt.



Stream or River Crossings

The preferred alignment may require a stream or river crossing with a bridge. While bridges can be some of the most interesting features of a trail system, they can also be the most challenging. Bridges should be at least as wide as the trail. ADA guidelines require handrails no shorter than 36 inches and decking material that is firm and stable. Bridges should accommodate maintenance vehicles if anticipated. Bridge structures should be located out of the 100-year floodplain. Footings should be located on the outside of the stream channel at the top of the stream bank. The bridge should not impede fish passage or constrict the floodway. In the Coastal Zone, bridges should be designed to reduce corrosion and need for maintenance, such as by using composite or other rust-free materials.

All bridges and footings will need to be designed by a registered structural engineer. Cost, design, and environmental compatibility will dictate which structure is best for the trail corridor.



DRAINAGE AND EROSION CONTROL

Erosion control is necessary to maintain a stable walkway and trail surface. Following land contours helps reduce erosion problems, minimizes maintenance and increases comfort levels on all trail types. Below is a summary of drainage and erosion control standards for paved and natural surface trails.

Paved Surface Trails: A two percent cross slope will resolve most drainage issues on a paved path and should be used for both the trail and its shoulders. A maximum 1:6 slope may be used for the shoulders although two percent is preferred. For sections of cut where uphill water is collected in a ditch and directed to a catch basin, water should be directed under the trail in a drainage pipe of suitable dimensions. Per NCRA guidelines, water should be directed away from rail tracks. It is preferable where possible (especially where precipitation rates can be high on the north coast), to reduce concentrating water into drainage systems and to design trails that dissipate runoff with crowning or cross-slope. During trail construction, local erosion control best practices should be followed.

Natural Surface Trails: Erosion will occur on natural surface trails. Natural surface trails should be designed to accommodate erosion by shaping the tread to limit how much erosion occurs and to maintain a stable walkway and trail surface. The goal is to outslope the trail so that water sheets across, instead of down, its tread. Even the most well built trails will break down over time from forces such as compaction and displacement. It is preferable to use crushed fines for surfacing of natural trails where possible, especially on slopes, to reduce trenching and rilling over time.

Designing trails with rolling grades is the preferred way to build sustainable natural surface trails. "Rolling grade" describes the series of dips, crests, climbs and drainage crossings linked in response to the existing landforms on the site to form a sustainable trail. The tread of the trail must be able to drain to a point lower than the trail at all times. When a natural rolling grade cannot be developed, grade reversals (sometimes known as grade dips, grade breaks, drain dips or rolling dips) are constructed to create trail undulations. Frequent grade reversals (grade dips, grade brakes, drain dips or rolling dips) are a critical element for controlling erosion on sustainable trails. A general rule-of-thumb is to incorporate a grade reversal every 20 to 50 linear feet along the trail to divide the trail into smaller watersheds so the drainage characteristics from one section won't affect another section. Water which is allowed to flow parallel to the direction of travel of the trail will cause incised erosion channels.

Grade reversals have the added benefit of adding interest to any trail. All trail users appreciate the short downhill break during a long climb, or the opportunity to 'let off their brakes' for a bit during a long downhill trek. Rolling grade and grade reversals are preferred to other mechanical methods of routing water off of trails such as water bars, check dams and culverts because they do not present a barrier to users.

In 2002, the Humboldt County Board of Supervisors adopted grading ordinance revisions. The purpose of these revisions is to set forth provisions related to grading, some of which relate to trail implementation. Trail construction as part of a County Public Works project is exempt from permitting, unless it is located within a Streamside Management Area, geologically unstable area or flood plain.

USER CONFLICT REDUCTION STRATEGIES

There are many means of separating trail users including: time, distance, screening, and barriers. Time separation applies when different user groups are expected to use a corridor at different times of the day or week (e.g., cyclists during weekday commute hours and equestrians during evenings or weekends only). In corridors where adequate right-of-way is available, trail users may be separated by physical space.

Vegetated buffers or barriers have successfully been used in many trail scenarios to reduce user conflict. Elevation changes are another means of effectively physically and visually separating different use corridors. Differing surfaces suitable to each user group also help foster visual separation and clarity of where each user group should be. When trail corridors are constrained, the approach is often to locate the two different trail surfaces side by side with no separation. Oftentimes, an expanded trail shoulder serves the role of the equestrian facility.

When barriers are necessary to separate user types, options include: vegetation, walls, fences (see "Trail Support Facilities" section for more on fencing and barriers), railings and bollards. The accepted height for most equestrian barriers is 54 inches. Solid barriers significantly limit an animal's peripheral vision and sense of security and thus are not recommended. When solid walls are necessary, vegetation should be used to soften the structure's appearance.

Fencing helps define the trail corridor. Pedestrians and bicyclists on the left, equestrians on the right

TRAIL SUPPORT FACILITIES

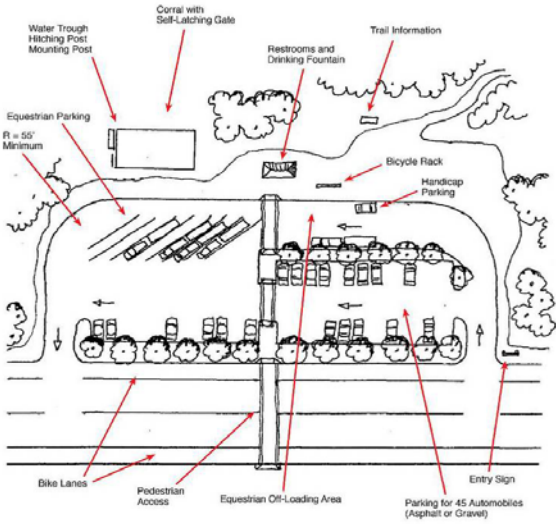
Trail support facilities should provide trail users wit
need in order to safely and comfortably enjoy the tra
educate trail users in, and assist them in complying
discusses general guidelines for trailheads, signage, fencing, and trail amenities.

Trailheads

Clearly defined trail access points are crucial to making trails inviting. Trailheads should provide the appropriate facilities to accommodate the permitted user types and expected user volumes. The graphic below is an example of a major trailhead access point to a trail that allows hiking, equestrian and bicycle use. This trail also provides ADA access as indicated by the accessible parking stall nearest the entrance.

Trail access standards include:

- Provide signage displaying permitted uses, regulations and emergency contact information;
- Provide wayfinding and informational signage;
- Provide the appropriate number of automobile, bike, and horse parking stalls based on the expected user volume; and
- For major trail heads, provide restrooms and drinking fountains.



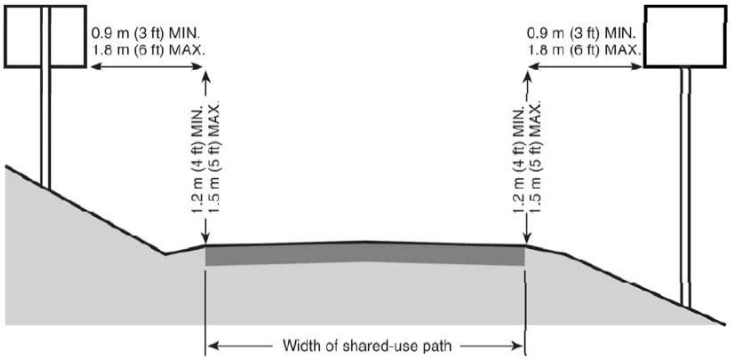
Signs

Signs and markings are an important component of safely directing and regulating bicycle, pedestrian and equestrian usage on regional trail facilities. The California Manual on Uniform Traffic Control Devices (CaMUTCD), Part 9 Traffic Controls for Bicycle Facilities, 2003, should be consulted for typical design standards, including sign selection, sizing, clearances and locations.

Sign Design and Placement

The CaMUTCD states that all signs shall be retro-reflectorized. Standard sizes for signs oriented towards bike facility and motor vehicle drivers are available in Part 9 of the CaMUTCD. Vertical sign clearances from shared-use paths shall be between four and five in height. Horizontal clearances shall be between three and six feet from path edge.

The final striping, marking, and signing for a trail should be reviewed and approved by a licensed traffic engineer or civil engineer. This will be most important at locations where there are poor sight lines from the trail to cross-traffic (either pedestrian or motor vehicle).



Regulatory Signs

Regulatory signs should state the rules and regulations associated with trail usage, as well as the managing agency, organization or group. The purpose of trail regulations is to promote user safety and enhance the enjoyment of all users. It is imperative that before the trail is opened, trail use regulations are developed and posted at trailheads and key access points. Trail maps and informational materials might include these regulations as well.

Establishing that the trail facility is a regulated traffic environment just like other public rights-of-way is critical for compliance, and often results in a facility requiring minimal enforcement. Be sure to have an attorney review the trail regulations for consistency with existing ordinances and enforceability. In some locations, it may be necessary to pass additional ordinances to implement trail regulations.

Typical trail regulations include:

- Hours of use;
- Motorized vehicles, other than power-assisted wheelchairs, are prohibited;
- Keep to the right except when passing;
- Yield to on-coming traffic when passing;
- Bicyclists yield to pedestrians;
- Give an audible warning when passing;
- Pets must always be on short leashes;
- Travel no more than two abreast;
- Alcoholic beverages are not permitted on the trail; and
- Do not wander off of trail onto adjacent properties.

Warning Signs

Warning signage alerts trail users of upcoming conditions, which may include steep grades, turns and roadway crossings. Warning signs should be installed in a location that provides the trail user with ample time to react. Care must be taken not to place too many signs at crossings; they may overwhelm the user and lose their impact. Sign selection, sizing, clearances and locations are specified in the CaMUTCD, Part 9.

Warning signs should also be installed to alert vehicle drivers of the potential presence of trail users at intersections.

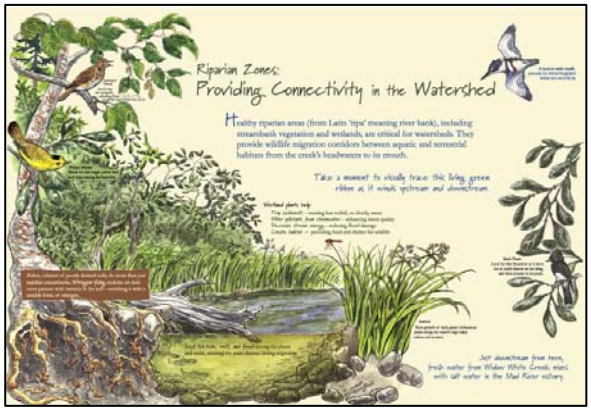
Wayfinding Signs

A comprehensive sign system makes a trail system memorable. Trail navigability and identity is enhanced by having a consistent, unique logo or design that will help guide people to and on the trail. Gateways or entry markers at major access points with trail identity information further augments the trail experience. They should be visually clear and distinctive while maintaining consistency with other sign features found on the trail.

Clear, pedestrian-scaled, signs and markers will aid in way-finding and separation of user groups. Signs should be consolidated to avoid clutter and sign fatigue. In addition to a trail logo being posted on bollards, gates and at the trailheads, way-finding markers and signs should be placed at key decision points. Distances may also be marked periodically so that trail users who wish to pace themselves have a means of doing so.

Interpretive Signs and Installations

Interpretive signs and installations can enhance the trail experience by providing information about the history, culture and ecology of the area. Installations may discuss local flora and fauna, environmental issues, and other educational information. While interpretive features are often assumed to be sign elements, a variety of means may be used to convey interpretive information including art pieces and interactive exhibits.

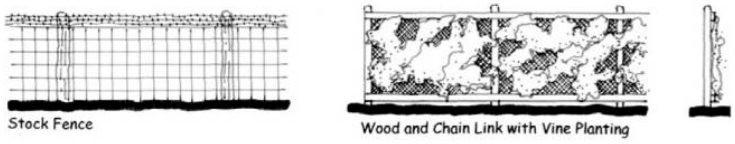


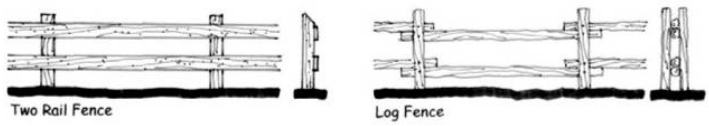
Fencing and Barriers

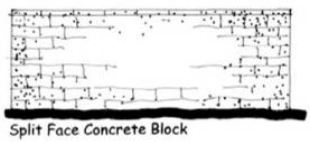
Fencing and barriers serve to protect trail users from adjacent roadways, railroads, and debris. Fence types should be selected based on location and purpose. Fencing three to four feet high constructed from natural or even native materials may be appropriate in scenic areas where trespassing is not an issue. Whereas fencing six feet and higher made from metal and serving to prevent trespassing may be installed along railroads or highways. Sight lines should also be considered when selecting a fence type.

Fencing and barriers standards include:

- Four foot height for rural areas without a history of trespassing, set back at least 25 feet from railroads or highways;
- Six foot height made from metal in areas with a history of trespassing;
- Five foot height for protecting users from wind and debris; and
- Two Foot minimum from edge of trail to fence.







Trail Amenities

Trails with high user volumes, particularly those that access a destination point and drive-in access, should provide amenities to support users. Amenities include trash and recycling receptacles, benches, drinking fountains, restrooms, and an informational kiosk. Trails that allow bicycle or equestrian use should provide parking for bikes and horses at their entrances.

The following trail amenities are described below: seating and tables; bicycle parking; lighting; and equestrian support facilities.

Seating and Tables

Providing benches at key rest areas and other appropriate locations encourages people of all ages to use the trail by ensuring that they have a place to rest along the way. Benches can be simple wood slates or more ornate with stone, wrought iron, and concrete. Tables provide picnicking opportunities and should be installed in easily accessible areas near trailheads and parks. Trash receptacles should be installed accordingly.

Bicycle Parking

Bicycle parking allows trail users to safely park their bicycles if they wish to stop along the way or leave their bicycle at trailheads while they hike. Bicycle parking may be installed at trailheads, bicycle trail intersections with trails that prohibit bicycle use, and at popular destinations along a trail.

Lighting

Lighting improves the safety of the trail or path user by increasing visibility during non-daylight hours. Lighting should consider the surrounding land use to minimize light pollution in unwanted areas such as residential areas. Lighting fixtures should be pedestrian scale and installed near benches, drinking fountains, bicycle racks, trailheads, and roadway crossings. Lighting is typically most appropriate along Class I multi-use paths used for transportation purposes.

Equestrian Support Facilities

Equestrians benefit from a number of elements that increase user comfort and encourage trail use. Elements recommended include: water facilities, mounting blocks, hitch rails and pull-through parking stalls.

Water

- Horses consume approximately 10 gallons of water per day. Due to concerns about disease transmission, some riders prefer to provide their own water and do not permit shared use of water with other horses. Other riders prefer to fill their own bucket from a hydrant, while other riders prefer a water trough. To meet the needs of all riders, a hydrant and shallow water troughs are recommended. Self-draining water troughs can reduce standing water problems and algae growth. Raised shallow basins allow horses to see in all directions.

- Water facilities should be located at the perimeter of parking areas and along paths and be free from vegetation and obstructions. Water troughs should be installed on a wearing surface. The wearing surface should be on an aggregate base, sloped for drainage, and allow for adequate clearance from the trough and hydrant on all sides.

Mounting Blocks

- Mounting blocks typically resemble a short staircase that ends in midair to assist riders in mounting their horses. Mounting blocks can be made from fiberglass, wood, metal, concrete or plastic. Mounting blocks can also be rocks, hay bales, stumps, etc. It is important to note that riders usually mount horses from the left, thus adequate clearance of any obstructions should be allowed around the horse and mounting block. A clearance between eight feet to 10 feet is recommended. Many riders provide their own mounting blocks, but some permanent fixtures are recommended.

Hitch Rails

- Hitch or Tie Rails should be available throughout the trailhead to anchor horses. Hitch rails can be made of wood, metal (i.e. rebar) or other sturdy material and should have "stops" along the rail to prevent reins from sliding.

Parking Stalls

- Pull-through stalls (15 feet by 45 feet) on a compacted natural surface for trucks and horse trailers is recommended. The pull-through stalls should allow enough room for the loading and unloading of stock and some "tacking up."