

VII. PROPOSED SYSTEM

This section describes the proposed bicycle and pedestrian system for the region. This system was developed based on previous planning efforts and direct input from the public and interested agencies and groups. The proposed system does include all TRPA Environmental Improvement Program (EIP) bicycle and pedestrian projects. However, not all of the proposed projects are EIP projects. Key criteria used in developing and prioritizing the proposed system is listed below.

- **Public Input** - Consider and respond to public information in the bicycle and pedestrian planning process.
- **Use** - Bicycle and pedestrian facilities contained in the proposed system should reflect use levels that are commensurate with the level of investment required for construction and maintenance.
- **Coverage** - The system should provide balanced access from all portions of the region's population centers for both commuting and recreation routes.
- **Safety** - The system should provide the highest level of safety possible while eliminating major safety concerns such as narrow roadways.
- **Connectivity** - The system should provide connections to major activity centers, multi-modal transfer locations, and to routes that provide access to neighboring counties. Activity centers include residential neighborhoods, schools, regional parks, shopping centers, employment centers, government centers, transit centers, and other recreational opportunities. Major gaps and barriers, including narrow bridges and roadways, should be targeted as high priority items.

- **On-Street Bikeways** - Class II/Bike lanes should be provided as the preferred on-street bicycle facility. Class III/ bike Routes should be used when Class II/ Bike Lanes are not feasible due to existing physical or environmental constraints. As with bike lanes, the designation of bike routes should indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. This means that responsible agencies have taken actions to assure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needs of bicyclists.
- **Off-Street Bikeways** - Where feasible, Class I/Shared Use Paths should be implemented. Class I/Shared Use Paths have a recommended width of 10 feet but if there is not adequate space, 8 feet is the recommended minimum. In addition to the path, a graded shoulder width of 2 feet should be provided on each side of the path. The shoulder width should be increased to 3 feet if there is signage along the shoulder. These bikeways provide a higher degree of safety and recreational benefit than bikeways located on streets. They can also become linear parks, adding to the range of amenities for local communities. In many areas of region, the cost of constructing off-street bikeways may be competitive with that for on-street facilities due to the physical characteristics of the existing roadway system.

Figure 8 displays the proposed bicycle and pedestrian system that resulted from the development and refinement process.

The proposed system includes a total of about miles (140 km) of new bicycle and pedestrian facilities. Table 7 shows the number of proposed miles and kilometers for each bikeway classification.

Table 7: Length of Proposed System by Class

Jurisdiction	Class I Bike Path ¹	Class II Bike Lane ¹	Class III Bike Route ¹	Total ¹
El Dorado County, CA	40.89 (65.80)	18.99 (30.56)	6.59 (10.60)	48.35 (77.81)
City of South Lake Tahoe	12.91 (20.77)	8.64 (13.90)	0.00 (0.00)	18.78 (30.22)
Placer County, CA	25.33 (40.76)	13.15 (21.80)	0.00 (0.00)	46.65 (75.12)
Douglas County, NV	12.28 (19.65)	11.38(18.21)	0.00 (0.00)	23.66 (38.10)
Washoe County, NV	2.85 (4.59)	9.48 (15.26)	5.32 (8.58)	17.65 (28.42)
Carson City, NV	3.45 (5.55)	0.00 (0.00)	0.37 (0.59)	3.90 (6.28)
Total	97.71 (157.24)	61.64(99.19)	12.28 (19.76)	171.63 (276.21)
Notes:				
1. Miles (Kilometers)				

Pedestrians will have full access to the Class I/Shared Use Paths and in many locations benefit from the presence of roadway shoulders where none exist today. The system connects each community in the region, and it provides regional connections to other counties and population centers. Each route is classified according to standards displayed in Figure 2. However, the reader should note that the Class III/Bike Route standards do not specify a minimum shoulder width or roadway lane width. For the purposes of this plan, a minimum shoulder width of three feet is desirable but physical conditions in the region may dictate a narrower lane width for individual projects depending on the findings of the responsible agency. Further, the minimum width for a Class I/Shared Use Path is eight feet, but a minimum width of 10 feet is desirable due to the potential for multiple users (i.e., in-line skaters, pedestrians, etc) on these paths.

REGIONAL AND MULTI-MODAL BICYCLE CONNECTIONS

Regional connections include those bicycle facilities that connect communities within the region to those located outside the region such as the Carson Valley in Nevada and the Town of Truckee in California. Multi-modal connections allow bicyclists and pedestrians to transfer to other modes such as buses and waterborne transit. Including these components in the discussion of the proposed system is important for the development of a bicycle system that provides a high degree of accessibility and mobility.

REGIONAL CONNECTIONS

In the development of the proposed bicycle and pedestrian system, an effort was made to assess the potential connectivity of individual facilities with existing or planned facilities in surrounding counties. As discussed in the existing conditions section, limited facilities exist that offer continuous bicycle or pedestrian connections to surrounding communities. The proposed system identifies whether planned facilities will connect to existing or planned facilities in the surrounding communities (refer to Figure 8).

MULTI-MODAL CONNECTIONS

Combining bicycles with transit enhances both modes for many trip purposes. Provisions for carrying bicycles on all transit vehicles when feasible. Combining the flexibility and door-to-door convenience of the bicycle with bicycle conveyance on transit vehicles provides a practical means of traveling longer distances than most people will cycle. The proposed bicycle system includes routes that connect with the existing transit centers and overlap with existing transit routes.

In the Tahoe Region, bicycle racks are provided on most of the transit vehicles. Providing bicycle racks on transit vehicles should encourage people to utilize not only the bicycle facilities, but the transit system as well. In addition to bicycle racks on the transit vehicles, racks should also be provided at most stops and stations. Since racks can only provide for a certain amount of bikes at a time, it may be necessary to leave the bicycle at the station. Safe and secure facilities should be provided for users in this situation

SUPPORT FACILITIES AND PROGRAMS

Support facilities and educational programs are an important part of the proposed bicycle system. Specific recommendations on how to provide a high degree of support are discussed below.

BICYCLE PARKING, SHOWER, AND LOCKER FACILITIES

As an alternative to automobile use, bicycling can significantly improve air quality, traffic flow, energy conservation, and efficiency of parking facilities. Unfortunately, the lack of adequate safe parking and other support facilities for bicycles discourages people from utilizing their bicycles as a means of transportation. Many potential bicyclists will be discouraged from using riding if adequate, safe parking is not available at their destination. In addition, a person whose bicycle has been stolen may be reluctant to replace it if additional security is not provided. Support facilities such as bicycle parking, shower and locker facilities can encourage bicycling by reducing the threat of theft and making riding more convenient. Properly designed bike racks should be available at major bicycle destinations. For the most part, these facilities should be required for new developments that are likely to experience a demand for bicycle parking such as commercial areas, parks, libraries, schools, and major employers. In some cases, though, existing activity centers should add bicycle parking facilities. The type of parking facility (bike rack or bicycle locker) should be selected based on (a) cost, (b) ease of use, and (c) ability to prevent theft.

Access to shower and locker facilities may help encourage people to commute by bicycle, particularly in the summer months. Many jobs require employees to wear specific uniforms or formal attire. By having shower and locker facilities, employees have the option to shower and dress at work. This is an important consideration for bicycle commuters since they cannot control their travel environment and are much more dependent on support facilities located at the workplace.

The following action is recommended for increasing the number of locations with bicycle parking, shower, and locker facilities:

- Encourage the installation of bicycle parking, shower, and locker facilities as conditions of approval for major new developments through implementation of transportation control measures (TCMs) under Chapter 97 of the *TRPA Code of Ordinances*.

CROSSING PROTECTION

These improvements should be targeted for major intersections on the proposed bicycle and pedestrian system, major mid-block crossings, and at locations where school children cross a busy street to gain access to their school.

- Use signing, striping, crossing guards, flashing beacons, and bicycle/pedestrian actuated signals at street crossings with high levels of pedestrian and bicycle demand when warranted by the standards in the Pedestrian section.
- Install detectors at signalized intersections along the bicycle system as intersections are upgraded. Detectors should be located within the striped bike lane either along the curb or between the right-turn lane and through lane and should be marked with a symbol showing cyclists where to position themselves to trigger the loop.
- Evaluate and consider for installation crossing enhancements such as lighted crosswalks and high-visibility crossings utilizing the criteria developed in the Pedestrian section.
- Due to snow removal and maintenance, recessed thermo-plastic should be primary application in the Tahoe Basin to ensure the crosswalk is maintained over a reasonable period of time.

EDUCATIONAL PROGRAMS

Programs to teach existing and potential bicyclists about the fundamentals of bicycle riding are important to establishing good riding habits. Elementary school children in the region receive some bicycle-riding safety education by law enforcement officials. The following steps are recommended to build upon this effort.

- Continue and expand the current bicycle education program for school children. Some existing programs are currently offered on an as needed basis by a number of law enforcement agencies without interagency cooperation. A coordinated proactive effort between the California Highway Patrol, Nevada Highway Patrol, the State DOT's and local law enforcement agencies would be more efficient and productive.

- Establish a local adult bicycle education program through the parks and recreation departments or other local agency departments that teaches adults how to ride defensively and encourages people to ride to work. This program may include the use of volunteers and possibly sponsorship of bicycle tours and races.
- Include bicycle and pedestrian safety information as part of visitor packages offered through the visitor centers, hotels, resorts, etc.

VIII. COST AND FUNDING ANALYSIS

Implementation of the proposed bicycle and pedestrian system will require funding from local, state, and federal sources and coordination with multiple agencies. To facilitate funding efforts, this section presents conceptual construction cost estimates for the proposed system along with a brief description of past expenditures for bicycle and pedestrian facilities.

COST ESTIMATES

Table 8 contains a unit cost summary for the construction of bicycle and pedestrian facilities in the region. These cost estimates are based on actual costs experienced in the region and similar communities in California and Nevada. However, they should be used only to develop conceptual construction cost estimates. More detailed estimates should be developed after preliminary engineering as individual projects advance to implementation.