

The Inyo County Collaborative Bikeways Plan was adopted in 2008 and revised in 2011. The plan includes a thorough overview of bicycle needs and an extensive list of proposed bikeways projects. The intent of this chapter is to conduct a minor update of the Bikeways Plan and to meet the guidelines for bicycle projects in the Active Transportation Plan Guidelines. As such only sections which require updating are referenced in this chapter for inclusion into the Collaborative Bikeways Plan.

Existing Bicycle Facilities

ATP grant funding can be used for both infrastructure and non-infrastructure projects. Infrastructure projects include all components of a capital (facilities) projects while non-infrastructure projects include education, encouragement and enforcement activities that further the goals of the grant program.

Improvements to bicycle facilities are generally separated into three categories:

- ◆ Class I (Bike Path) – Provides a completely separated right-of way for bicyclists and pedestrians with cross flow by vehicles minimized
- ◆ Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway
- ◆ Class III (Bike Route) – A signed route along a street or highway which provides a shared-use with other vehicles

The Inyo County Collaborative Bikeways Plan provides a detailed description of existing bicycle facilities, obstacles to bicycle travel, and bicycling needs. Therefore, only a brief overview of existing facilities is provided in this chapter. Figures 2 – 8 graphically display close up views both existing and proposed bicycle facilities along with land use settlement patterns for Inyo County communities. As part of the Inyo County Collaborative Bikeways Plan a series of detailed maps were produced which show how existing and proposed bicycle facilities will connect these communities along the US 395 corridor. These maps are attached as Appendix C. Existing bicycle facilities in the City of Bishop and Inyo County consist of the following:

Bishop Area

Class I

- Sierra St. Path - 0.4 mile from the end of Sierra Street northward to US 395
- South Barlow Lane - 0.5 miles south of SR 168 along Barlow Lane.

Class II or III

- North Barlow Lane and Saniger Lane runs 0.9 miles from US 395 north to Juniper Street.
- SR 168 - 2.8 miles between Home Street and Red Hill Road.
- US 395 – 2.7 miles between Elm Street (southbound), City Park (northbound) and Brockman Lane.
- Class III along Sunland Drive between SR 168 and US 395

All these facilities provide access for children to reach the schools. However, there is a gap in the network where the Sierra St. bike path ends as well as between the Bishop Paiute Reservation and the schools.

Wilkerson

- Class II or III facility follows Gerkin Road between Sunland Drive and Sierra Bonita Street

Death Valley

- Class I facility - 1.3 miles along SR 190 from the Furnace Creek Visitor Center to Harmony Borax Works

Tecopa

- Class II or III – Tecopa Hot Springs Road (2.7 miles) from Old Spanish Trail Highway to Tecopa Hot Springs Resort

Inyo County also includes hundreds of miles of roadway that are legal for bicycle use but not designated bicycle routes or lanes as well as over 100 miles of dirt roads which have been identified in public outreach as valuable routes to area residents.

Existing Bicycle Support Facilities

As identified in the Collaborative Bikeways Plan, bicycle support facilities are an important part of a regional bikeway system. Support facilities include bicycle parking/storage, lighting, destination signs, trailhead facilities, and maps. Inyo County existing bicycle support facilities are limited. Table 6 and 7 identify bicycle parking locations in the City of Bishop and Inyo County, respectively. Bicycle parking locations are also identified in the corresponding location map.

TABLE 6: Bicycle Parking Facilities in Bishop Area				
Map ID	Site	Description	# Bikes	Type
City of Bishop				
1	Caltrans District 9	2 comb racks in gated yard	20	Comb (X)
2	K-Mart (Big K)	Comb rack	10	Comb (X)
3	Inyo County Admin Office	4 hooks, front entrance	4	Cables only (X)
4	Amigos Restaurant, Main Street	Side of building	3	Wave Rack (X)
5	Main Street, east side	Front of parking lot near bank	6	Wave Rack (X)
6	Cottonwood Plaza, Main Street	In parking stall near stairs	10	Park-Ride (x)
7	Bishop City Hall	Back parking lot entrance	6	Comb (X)
8	Burger King, Main Street	Side of building	10	Comb (X)
9	Inyo County Free Library	In front of library	4	Hoop
Bishop Paiute Reservation				
10	Paiute Palace Casino	Front of building	4	Comb (X)
11	Tribal Administration Building 50 Tu Su Lane	Courtyard	10	Comb (X)
Source: Inyo County 2008 Collaborative Bikeways Plan				
Note: X indicates the rack type does not enable locking the bicycle's frame, except at the end of the rack, without awkward movements.				

TABLE 7: Bicycle Parking Facilities in Inyo County

Map ID	Site	Description	# Bikes	Type
<u>Lone Pine</u>				
1	Lone Pine High School	Comb rack	18	Comb (X)
2	Lo-Inyo Elementary	Comb rack	30	Comb (X)
3	Alabama Hills Community Day School E. Locus St	--	--	--
4	Best Western Motel US 395/Teya Rd	Comb Rack	5	Comb (X)
<u>Big Pine</u>				
5	School	--	--	--
<u>Independence</u>				
6	Schools	--	--	--
7	Courthouse Annex	--	--	--
<p>Note: X indicates the rack type does not enable locking the bicycle's frame, except at the end of the rack, without awkward movements.</p> <p>Source: Inyo County 2008 Collaborative Bikeways Plan</p>				

ESTA provides no bicycle storage lockers, secure bicycle storage enclosures, or bicycle racks at its stops. However, several stops are at businesses that provide bike racks. Examples in Bishop include the K-Mart / Vons stop, and city bike racks along Main Street downtown. The larger ESTA vehicles are equipped with bicycle racks.

Bicycle Support Facility Policies

The Inyo County Collaborative Bikeways Plan includes several policies and implementation measures regarding bicycle support facilities. These specific policies and implementation measures are listed below. For a full list of bicycle related goals, objectives and policies, the reader should refer to the 2008 Inyo County Collaborative Bikeways Plan.

Policy A1: Facilitate safe, efficient and convenient access of bicyclists to workplaces and businesses.

Implementation Measure A1.a: Ensure that the bikeway network supports trips to the customer (or visitor) and employee entrances of all businesses

Implementation Measure A1.b: Encourage business owners to provide bicycle commuter amenities (secure bicycle storage, clothing storage, changing facilities, and [at large employers] at least one shower).

Policy A2: Facilitate safe, efficient and convenient access of student bicyclists to schools

Implementation Measure A2.c: Work with school and school district staff throughout the County to position student bicycle parking conveniently relative to bike-to-school arrival points, in visible locations inside school perimeters where bicycles are less likely to be stolen.

Policy C1: Facilitate bicycling through the transportation planning process.

Implementation Measure C2.c: Provide guidance to owners and developers of commercial and multifamily residential uses regarding acceptable and unacceptable bicycle rack types, and proper siting of bicycle racks.

Implementation Measure C2.d: Consider Zoning Code changes to require bicycle parking and storage facilities where appropriate.

Implementation Measure C2.e: Include bikeway facilities in all appropriate State, County, Bishop Paiute Tribe, and City of Bishop development projects to facilitate on-site circulation for bicycle and pedestrian travel, on-site bicycle parking, and connections to the proposed system.

Existing Education and Encouragement Programs

The California Highway Patrol (CHP) offers bicycle safety rodeos and instruction upon request through a grant with the California Office of Traffic Safety. Typically, CHP organizes a bicycle rodeo for the Big Pine Tribe annually and for the Lone Pine tribe every other year. The department is willing to work with other areas and entities to conduct bicycle rodeos as long as requested in advance. The CHP also receives a small number of bicycle helmets (less than 10 each year) to donate to children in need. No specific data has been collected to analyze the impact of these programs on collisions in the county.

Bicycle Crashes

Figure 10 displays bicycle and pedestrian crashes automobiles in Inyo County (not including the Bishop area) between 2010 and 2013. More detailed statistics regarding accident location are displayed in Appendix D. Two bicycle/auto accidents with severe injuries occurred at Death Valley Junction (SR 127/SR 190). Other accidents in Death Valley National Park occurred along Badwater Road and Dantes View Road. In the western portion of the county, a bicycle/auto accident and bicycle solo crash occurred along Whitney Portal Road in Lone Pine, both with severe injuries. Lastly, a bicycle collided with a parked car at Manzanar.

Figure 11 displays bicycle/pedestrian conflicts with automobiles in the Bishop area for the same time period. These crashes are generally focused on the US 395 and SR 168 corridor. Although a greater number of bicycle accidents occurred where there is no Class I, II, or III facility, multiple accidents occurred even where there is a Class II/III bike lane/route. Figure 11 clearly demonstrates a need for increased safety for cyclists along Main Street (US 395) in Bishop. Only one of the bicycle/auto crashes resulted in severe injuries (US 395 and Barlow) while another alcohol involved solo bicycle crash with severe injuries occurred on SR 168 and Shepard Lane (off map).

The same bicycle accident data from the California Highway Patrol SWITRS database is also summarized in tabular format (Table 8). As shown, there were a total of 30 bicycle crashes, six of which were solo crashes involving a parked car, fixed object or no object. Therefore, there were a total of 24 crashes which were considered bicycle collisions with an automobile or motorcycle. Over 83 percent of these collisions resulted in an injury and 12.5 percent resulted in a severe injury. Around 16.7 percent of the bicycle collisions involved property damage only. No bicycle fatalities were reported.

These figures indicate an average of 6.0 bicycle collisions per year and a 0 percent fatality rate. Goal 2 of the Inyo County 2008 Collaborative Bikeways Plan states:

2010-2013 Inyo County Bike/Pedestrian Accidents

Figure 10

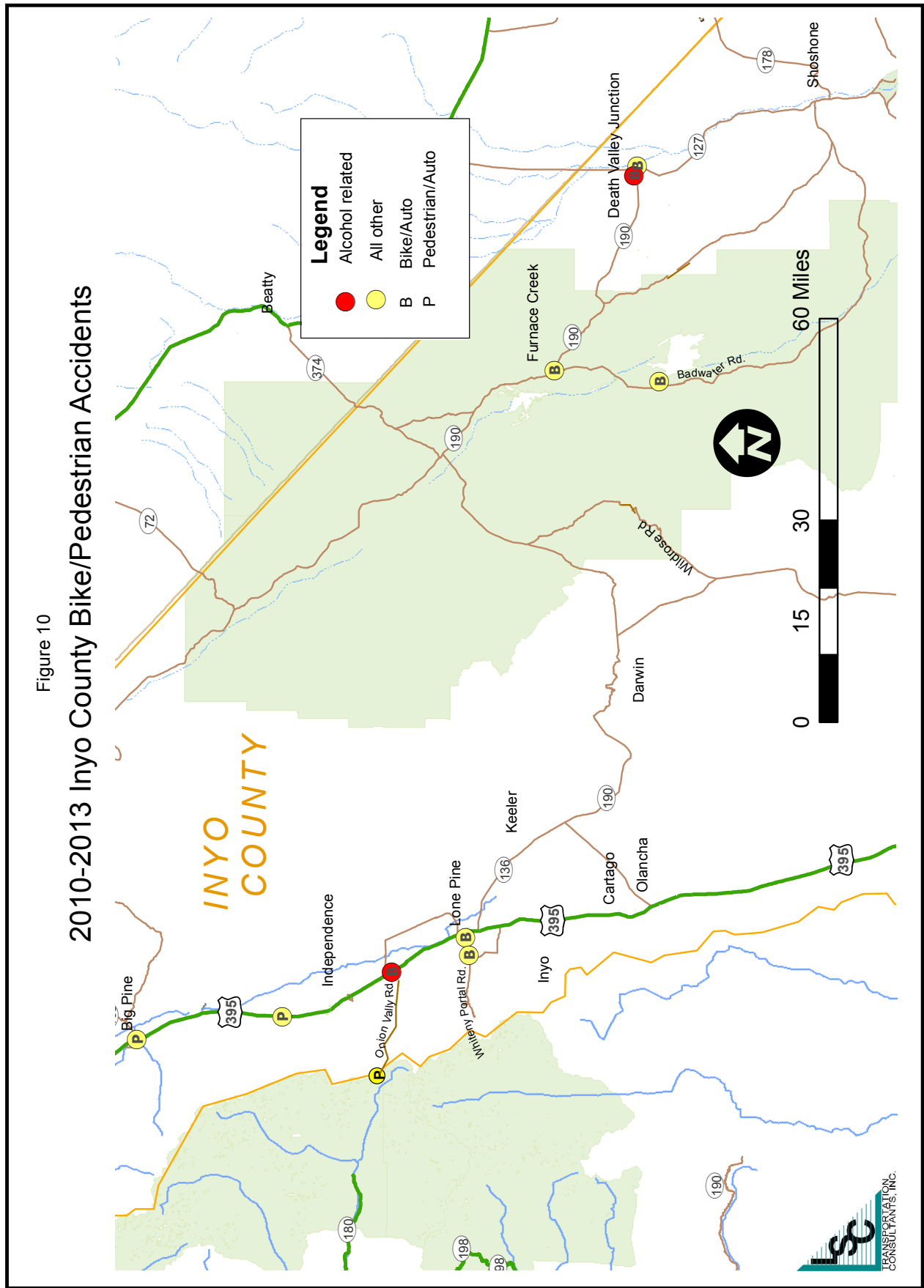


Figure 11
 2010-2013 Bishop Area Bike/Pedestrian Accidents

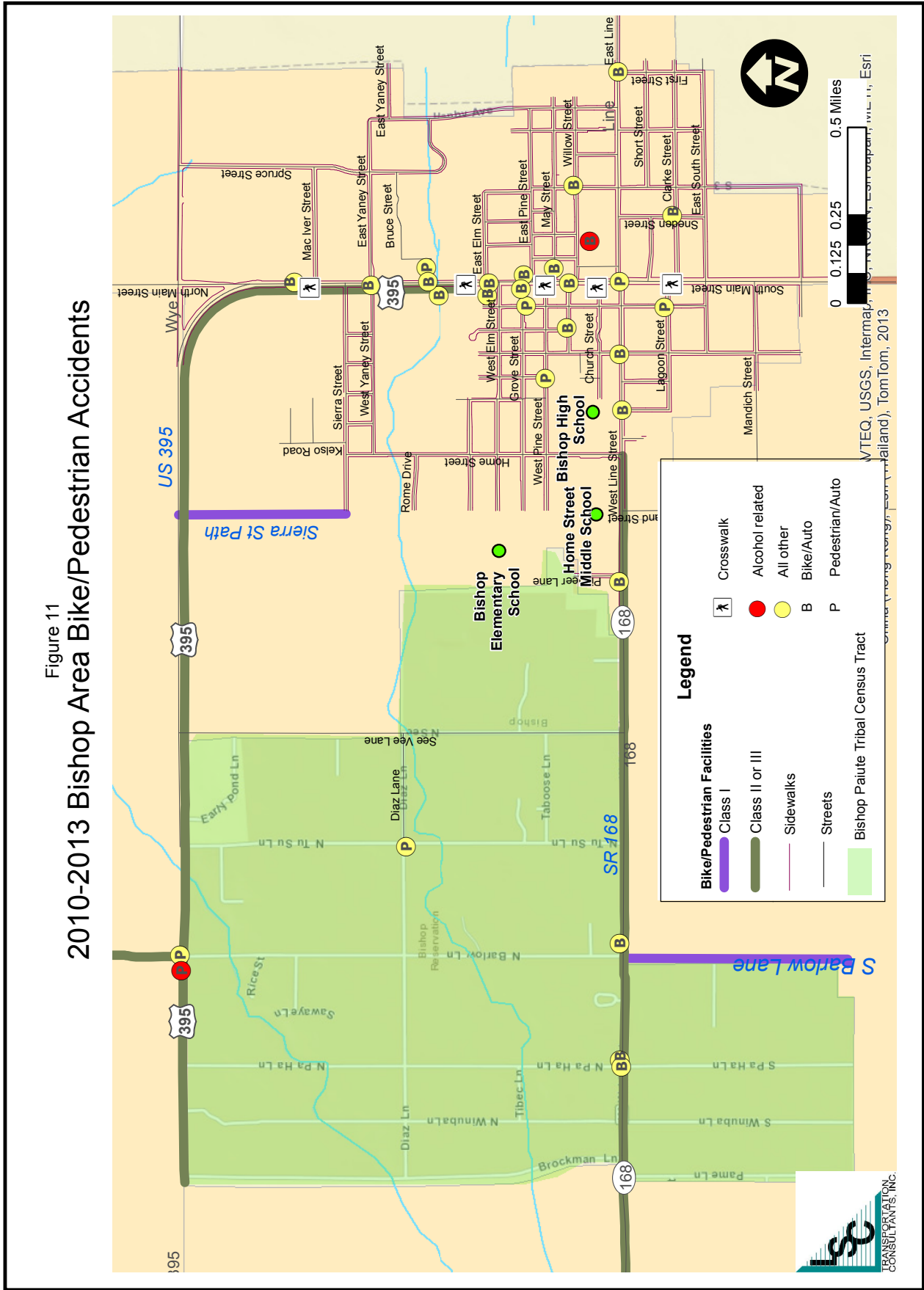


TABLE 8: Four-Year Bicycle and Pedestrian Accident Summary (2010 - 2013)

	All Crashes			All Collisions ⁽¹⁾			
	Total Crashes	Solo Crashes	Fatalities	Total Collisions	Property Damage Only Collisions	Total Injury Collisions	Severe Injury Collisions
<u>Bicycle</u>							
2010	6	2	0	4	0	4	1
2011	9	1	0	8	3	5	0
2012	7	1	0	6	0	6	1
2013	8	2	0	6	1	5	1
Total	30	6	0	24	4	20	3
% of Total	100.0%	20.0%	0.0%	100.0%	16.7%	83.3%	12.5%
<u>Pedestrian</u>							
2010	6	--	0	6	--	6	2
2011	1	--	0	1	--	1	0
2012	4	--	0	4	--	4	1
2013	2	--	0	2	--	2	1
Total	13	--	0	13	--	13	4
% of Total	100%	--	0%	--	--	--	31%
<p>Note 1: Collision = bicycle/pedestrian accident with automobile or motorcycle. Solo crashes include bicyclists hitting a parked car, fixed object, or no object. Source: SWITRS</p>							

Promote safe, convenient, and enjoyable cycling establishing a comprehensive system of bikeways that link Inyo County to other communities and to the county's many tourist opportunities.

This plan sets forth the following additional goals with respect to bicycle safety which will be achieved through the implementation of the ATP capital improvement projects.

Bicycle Collision Goal: No more than 3 total bicycle collisions per year

Fatality Goal: 0 percent fatality rate

Bicycle Severe Injury Goal: No more than 10 percent of total bicycle collisions

Estimated Bicycle Trips

Existing

Throughout the US, the number of bicycle trips made for any purpose is significantly lower than the number of trips made by auto. As such, there is significantly less data available or surveys conducted pertaining to biking or walking trips. The US Census provides information regarding mode split for work trips but it does not provide information on children's travel mode to school or every day trips. The Caltrans California Household Travel Survey provides information on the number of total daily trips and travel mode share; however, this is likely weighted heavier for urban areas. As reiterated throughout this

document, bicycle and pedestrian travel is more difficult in rural areas due to long distance trips and the lack of safe facilities.

Several data sources were considered in this document to estimate existing bicycle trips in Inyo County. Table 9 presents estimated existing bicycle/pedestrian trips (active transportation trips) in Inyo County. The table presents active transportation trips for Inyo County as a whole as well as for Inyo County Census Designated Places and Native American Reservations. At first, commute mode split and the number of employees or commuters were obtained from the American Community Survey. In total, it is estimated that roughly 170,400 bicycle trips are made annually in Inyo County for commute purposes.

TABLE 9: Estimated Existing Bicycle and Pedestrian Trips in Inyo County

	Commute Mode Split		# of Commuters	# of Commute Trips		School Mode Split	Enrolled Students	School Trips	Total Active Work/School Trips
	Walk	Bike		Walk	Bike	Bike/Walk		Bike/Walk	
Inyo County	7.0%	4.0%	8,520	298,200	170,400	18.5%	2,723	181,350	649,950
Independence, CDP	23.6%	0.8%	263	31,030	1,050	25.0%	40	3,600	
Fort Independence	0.0%	0.0%	45	0	0				
Big Pine, CDP	0.0%	0.8%	780	0	3,120	15.0%	185	9,990	
Big Pine Reservation	0.0%	1.4%	138	0	970				
Lone Pine, CDP	20.0%	0.0%	789	78,900	0	50.0%	380	68,400	
Lone Pine Reservation	9.9%	0.0%	71	3,510	0				
City of Bishop	7.6%	11.1%	1,959	74,440	108,720	21.0%	1,900	143,640	
West Bishop, CDP	0.0%	1.4%	1,460	0	10,220	--			
Dixon-Lane Meadow Creek, CDP	0.0%	4.6%	1,030	0	23,690	--			
Bishop Reservation	6.3%	2.6%	655	20,630	8,520	--			
Furnace Creek, CDP	80.0%	5.9%	170	68,000	5,020	0.0%	80	0	
Shoshone, CDP	0.0%	0.0%	19	0	0				
Round Valley, CDP	2.4%	0.0%	165	1,980	0	0.0%	138	0	

Source: American Community Survey 5 Year Estimates 2009 - 2013, Inyo County School Districts

Anecdotal evidence from Inyo County school districts suggest that anywhere from 0 to 50 percent or an average of 18.5 percent of students walk or bike to school in at least one direction. Applying the average bicycle/walk mode share to the number of students enrolled in Inyo County schools equates to roughly 181,350 non-auto trips to school (Table 9).

The California Household Travel Survey (June 2013) provides an estimate for the number of daily trips for **all** trip purposes. Survey data indicates that roughly 8.3 trips per household or 3.6 trips per person are made on an average day. In Inyo County this equates to around 24 million trips annually. After applying the bicycle mode split from Census data (4.0 percent), it is estimated that roughly 964,300 trips are made by bicycle in Inyo County annually.

Bicycle Trips Resulting from Plan Implementation

Multiple studies have shown that an increase in bicycle facilities leads to an increase in the number of bicycle trips. The City of Denver is one documented example. According to the City’s Bicycle Advisory Committee, bicycle commute mode share increased from 1.6 percent in 2007 to 2.9 percent in 2012 (an 81 percent increase). During the same period the number of bicycle lane miles in Denver increased by 100 percent from 60 to 120 miles. The Minnesota Department of Transportation conducted a study in 2008 regarding the *Impact of Bicycling Facilities on Commute Mode Share*. Bicycle commute rates and construction of new facilities between 1990 and 2000 were reviewed in the cities of Chicago, Colorado Springs, Madison, Orlando, Austin, and Salt Lake City. The study found that the level of increase in

bicycle commute rates depended highly on the level of connectivity between facilities, the proximity to downtown employment hubs, and the level of promotion of the new facilities. For example, bicycle commute mode share rates in Austin, Texas increased from 0.87 to 1.19 percent (118 percent) in areas close to the new facilities and decreased from 0.31 to 0.14 percent in areas farther from the new facilities (the control group). Whereas, in Orlando bicycle commute mode share actually decreased from 0.66 to 0.46 percent (30 percent decrease). Austin's bicycling facilities area concentrated around the central business district whereas there is little connectivity in Orlando. In Orlando, facilities were built in middle to high income neighborhoods while the need for facilities is in low income neighborhoods. In summary, bicycle mode share rates in many of the areas studied in this report increased by more than 100 percent between 1990 and 2000.

Although Inyo County is not urban, some of the Inyo County communities are relatively centralized but lack connectivity. Inyo County as a whole has a relatively high bike commute mode split of 4.0 percent. This is much higher than the bike commute mode split for the State of California of 1.1 percent. Currently, the Inyo County region has roughly 2.4 miles of Class I bicycle facilities and 11.2 miles of Class II/III facilities. All the bicycle facility projects listed in this plan and the Collaborative Bikeways plan will increase the mileage of Class I facilities by 196 percent to 7.1 miles and Class II/III facilities by 2,988 percent to 345.8 miles. With proper connectivity and promotion as proposed in this plan and the Collaborative Bikeways Plan, it can be assumed that bicycle commute mode share will increase significantly as a result of ATP bicycle improvement projects. A conservative estimate would be that the bicycle mode share in Inyo County will increase by 50 percent as a result of plan implementation. This mode share increase estimate is less than what was seen in Denver and Austin but greater than Orlando. In order to see this level of increase in bicycle travel mode share, the region must actively promote and market the new facilities. Applying the bicycle mode share increase to the existing 4 percent bicycle mode split results in a new bicycle mode split of 6 percent. This would equate to an increase of 85,200 bicycle trips for annually.

Many of the ATP projects are focused on providing safe facilities for school children. If these projects are implemented it is likely that the bike/walk mode to school will increase as well. As the school districts were only able to provide an estimate of the number of "active" trips (bike or walking), forecasts for the increase in bicycle trips to school are combined with pedestrian trips in the next section.

Proposed Bicycle Facilities

Proposed bicycle infrastructure projects to address safety and mobility issues for cyclists were clearly identified in the Inyo County Collaborative Bikeways Plan. These projects are graphically displayed in Figures 2 – 8. As many of the capital improvements proposed in this plan identify improvements for multiple modes of transportation, all active transportation projects (not including Recreational Trails Projects) are combined in Tables 10 - 14. The majority of projects identified in the tables have been identified in previous planning efforts, notably the Bikeways Plan. Some new potential projects were added based on input received from the public and stakeholders as part of the ATP process. Given the limited funding available for active transportation projects, all projects are prioritized as financially unconstrained with an unknown implementation date.

Proposed Bicycle Support Facilities

Currently there are no specific plans for more bicycle parking facilities, however a general need for increased bicycle parking was identified through public input. No new policies for bicycle support facilities have been proposed at this time.

Education/Encouragement Programs

In addition to education and encouragement efforts recommended in the *2008 Collaborative Bikeways Plan* such as bicycle route maps and bicycle education classes, public input indicated a need for greater awareness of existing facilities as well as active encouragement through local groups. Eastside Velo is a cycling club which has expressed interest in promoting cycling. Other agencies such as the Toiyabe Indian Health Project and Inyo County Health and Human services have indicated a willingness to promote new bicycle projects to their clients. As such all these entities should be contacted by the implementing agency for each project to obtain early input as well as education and awareness after construction. These agencies could also assist with encouragement type programs such as a countywide bike to work/school day.

Wayfinding signage is also an important part of bicycle education in Inyo County. This is particularly important in the City of Bishop. With the relatively high number of bicycle accidents along US 395, directing cyclists to side streets such as Fowler and Elm would increase safety.

One safety issue identified by the CHP which could be improved through education is the problem of riding two to three cyclists abreast on roadways. Bicycling is common in the Bishop area for both utilitarian and commuter purposes. Common roadways used by cyclists as identified by CHP and bicycle advocacy groups include: Red Hill Road, Ed Powers Road, Line/Poleta, Warm Springs and in the Round Valley area. Bicycle lanes and continued maintenance are particularly important on these roadways.

A bicycle safety education program should cover the following points:

- ◆ How to prepare for the ride
- ◆ Determine the bicycle is in good condition
- ◆ Choose the safest route with the fewest streets.
- ◆ Proper signaling
- ◆ Follow traffic laws
- ◆ Protocol for crossing an intersection

Bicycle Facility Maintenance

As identified at public workshops, an important part of developing an active transportation network is maintaining the facilities in a safe condition. For bicycle facilities this includes clearing vegetation, particularly puncture vines, removal of rocks and dirt from the shoulder, striping, replacing signage and repairing cracks. The Inyo County General Plan Circulation Element identifies the following implementation measures with respect to non-motorized facility maintenance:

- ◆ *Monitor bicycle usage of existing bicycle facilities and road system, and make improvements when necessary and feasible.*
- ◆ *Require that bicycle facilities be maintained at regular intervals to prevent deterioration of the facilities.*

- ◆ *Seek opportunities for joint participation of the state and City of Bishop (when appropriate) in the construction and maintenance of non-motorized facilities. The County shall also pursue other funding sources to assist in the planning, design, construction, and maintenance of bicycle facilities and trails.*

The Bishop General Plan Mobility Element includes the following Action:

- ◆ *Pursue funding for the continued replacement and repair of sidewalks that have deteriorated due to age and tree-root invasion.*

These implementation measures are applicable to both bicycle and pedestrian facilities. After the construction of a new non-motorized facility, the implementing agency should periodically review the condition of the new facility and identify required maintenance.

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