

## CHAPTER 3 – EXISTING BICYCLE FACILITIES AND PROGRAMS

This chapter highlights bicycling opportunities on public lands and demonstrates how bicycling programs are a smart choice in many settings. In 2007, more than 80 percent of the U.S. population lived in urban or suburban areas. Nearby Federal lands offer opportunities to connect millions of people to nature, wildlife, open space, and environmental/history education. The most successful bicycling networks have connectivity between multiple jurisdictions and are a cooperative effort between a variety of public and private partners.

**Connectivity**—The importance of connectivity was documented in an extensive four-year study conducted by researchers at the University of Southern California (Weaver and March, 2008). This study concluded that trails are heavily used mostly where there is connectivity between recreational areas, neighborhoods, shops, restaurants and other places people want to go. For bicycle facility planners, a couple of important lessons can be drawn from this:

- Make sure trails lead to places where people want and need to go.
- Make sure there are frequent and convenient connections between the trail, streets, transit stops, recreation areas, etc.

This study found that easy access promotes trail use as a transportation alternative because it alleviates the need to deal with traffic and find parking. In particular, how well a trail serves transportation function is related to its location and integration with other transportation facilities.

**Partnerships**—The value of partnerships are many and include leveraging resources, gaining community support and finding volunteer or inexpensive labor for maintenance/enforcement. Projects with multi-agency support and strong local backing fare well in the competition for Federal funding.

**The Five Es**— The League of American Bicyclists evaluates communities for "bicycle friendliness" based on the following five categories (LAB, 2008):

1. **Engineering** refers to what has been built to promote cycling in the community. A few examples are: the existence and content of a bicycle master plan, the accommodation of cyclists on public roads, and the existence of both well-designed bike lanes and multi-use paths in the community. The availability of secure bike parking and the condition and connectivity of both the off-road and on-road network are included in this category as well.
2. **Education** refers to the amount of education there is available for both cyclists and motorists. Education includes teaching cyclists of all ages how to ride safely in any area for multi-use paths to congested city streets as well as teaching motorists how to share the road safely with cyclists. This category includes availability of cycling education for adults and children, the number of League Cycling Instructors in the community, and other ways that safety information is distributed to both cyclists and motorists in the community including bike maps, tip sheets, and as a part of driver's education manuals and courses.
3. **Encouragement** refers to how the community promotes and encourages bicycling. This can be done through Bike Month and Bike to Work Week events as well as producing

community bike maps, route finding signage, community bike rides, commuter incentive programs, and having a Safe Routes to School program. This category also includes projects that have been built to promote cycling or a cycling culture such as off-road facilities, BMX parks, velodromes, and the existence of both road and mountain bicycling clubs.

4. **Enforcement** refers to measuring the connections between the cycling and law enforcement communities. A few examples include whether or not the law enforcement community has a liaison with the cycling community, if there are bicycle divisions of the law enforcement or public safety communities, if the community uses targeted enforcement to encourage cyclists and motorists to share the road safely, and the existence of bicycling related laws such as those requiring helmet or the use of sidepaths.
5. **Evaluation & planning** refer to systems to evaluate current programs and plan for the future. Evaluation focuses on measuring the amount of cycling taking place in the community, the crash and fatality rates, and ways that the community works to improve these numbers. Communities are asked about whether or not they have a bike plan, how much of it has been implemented and what the next steps for improvement are.

This chapter presents descriptions of bicycling facilities, projects and programs that collectively exhibit various attributes of connectivity, partnerships and "The Five Es" across a variety of settings. The specific bicycling opportunities discussed are:

1. Mackinac Island, MI—motor-vehicle-free city and state park.
2. Cuyahoga Valley National Park, OH—transit-bike integration.
3. Glacier National Park, MT—employee bicycle sharing program.
4. Grand Canyon National Park, AZ—greenway system.
5. Colorado National Monument, CO—road cycling, high demand on narrow road.
6. National Mall & Memorial Parks, Washington, DC—bicycle patrol, interpretive tours.
7. Harris Neck Wildlife Refuge, GA—bicycling on former WWII runway pavement.
8. Trempealeau Wildlife Refuge, WI—connections to Great River Trail system.
9. Lake Tahoe Basin, USFS, NV and CA—integrated non-motorized network.
10. Route of the Hiawatha, MT and ID—USFS “Rails to Trails.”
11. North Moab Recreation Area, UT—multi-agency alternative transportation plan.
12. Fruita, CO—BLM mountain biking destination.

These 12 examples of bicycling programs on public lands are followed by descriptions of a few bicycling initiatives from around the country. The next section describes parks with seasonal road closures and limited automobile access that provide unique traffic-free bicycling experiences. Then, the popularity of shared bicycle programs is highlighted by a few examples from around the country. Chapter 3 concludes with descriptions of bicycle-friendly organizations and programs that could be of benefit to managers of Federal lands.

## MACKINAC ISLAND STATE PARK, MI

Mackinac Island, located in Lake Huron between Upper and Lower Michigan, two miles wide, three miles long and eight miles around. Annual visitation is over 390,000 to the state park and 800,000 to the City of Mackinac Island. This island is car free, every day, all day—there are no motor vehicles permitted except emergency and some service vehicles. The 2500 acre state park occupies over 80 percent of the island and allows visitors to experience the unique features of a northern boreal forest and witness the effects of receding glaciers from the last Ice Age. After the Civil War, Mackinac Island quickly became a popular resort destination. In 1875 Congress created Mackinac Island National Park, just three years after designating the inaugural Yellowstone National Park. Mackinac Island became Michigan’s first state park in 1895 when jurisdiction was transferred from the Federal Government to the State of Michigan. By the end of the 19<sup>th</sup> Century, tourism had replaced furs and fishing as the island’s only viable industry. In the 1880s and 1890s, business investment by large railroad companies and wealthy individuals led to the construction of opulent Victorian summer homes.



Bikers enjoy Mackinac Island State Park. A variety of paved and gravel roads crisscross the park, which makes up over 80 percent of the island

Cyclists enjoy views along State Highway M-185, which encircles Mackinac Island. It is the only state highway in Michigan where autos are banned.

Bikers pause at Dwightwood Spring. The island includes dozens of natural and historic sites including Fort Mackinac, Grand Hotel, Arch Rock, a War of 1812 battlefield, and Victorian cottages.

**Figure 6: Car-Free on Mackinac Island, MI.** (Photo courtesy Mackinac State Historic Parks.)

**Issues:** Local carriage drivers were hired to take visitors on sightseeing excursions. By 1880, twelve carriage licenses were issued, and in 1896 a representative of the local carriage drivers petitioned to ban the “horseless carriages,” or automobiles, because they startled the horses.

**Solution:** Mackinac village banned motorized vehicles from the streets in 1897 and the park commission banned motorized vehicles from park roads three years later. Growing concerns for public health and safety in the 1920s led to regulatory systems that remain in effect today to restrict motor vehicles, excluding emergency vehicles, in both the state park and the City of Mackinac Island.

**Results:** Horses and bicycles are the primary mode of transportation on Mackinac Island. There are eight bicycle rental shops, and bikes are available from \$4 per hour. You can rent heavy-duty, three-speed, mountain or tandem bikes. In addition, there are children's bikes, burley carts for the little ones and tagalongs. If you prefer to bring your own bike, all ferry lines offer a round trip ticket for your bike to make the excursion to the Island (<http://www.mackinacisland.org/> accessed April 2008, and Brisson, 2008).

## CUYAHOGA VALLEY NATIONAL PARK, OH



**Figure 7: Ohio & Erie Canal Towpath Trail—Cuyahoga Valley National Park.** (Photo courtesy Tom Jones.)

This 33,000 acre park has an annual visitation of about 2.5 million and is located near the urban centers of Cleveland and Akron. Twenty miles of the historic Ohio & Erie Canal Towpath Trail route bicyclists and pedestrians through the park. This fully accessible trail offers a unique experience for people of all ages and abilities providing picnic areas, restrooms, and train access points along the way.

The Ohio & Erie Canal was an inland waterway with a series of sandstone locks allowing boats to travel along the eastern Continental Divide. In the steepest section of the canal, near

Akron, 15 locks, or "steps," were necessary in a single mile. Canal boats, which were pulled by mules on the towpath, made it possible to ship goods from Lake Erie to the Gulf of Mexico (via the Ohio and Mississippi rivers). By 1878, the canal's significance was in decline due to the introduction of railroads. After the flood of 1913, the canal was abandoned. Many people recognized the value of using the historic towpath trail for non-motorized use and the first section of the multi-use Towpath Trail opened in 1993. Almost overnight, visitation doubled to Cuyahoga Valley National Park. Restoration of the towpath quickly spread to sections passing through municipalities and neighboring park districts (Metro Parks, 2008).

**Issues:** A unique aspect of the Towpath Trail within Cuyahoga Valley NP is its close proximity to an existing railroad. The Cuyahoga Valley Scenic Railroad (CVSR) runs through the park and is operated independently of the park. While integrating bicycle and train travel provides convenient alternative transportation with much flexibility, many visitors were unaware the option existed.

**Solution:** Advertise the unique opportunity to ride the train and bring bicycles on the train, one recommendation from Adina Ringler, a 2007 National Park transportation scholar.



**Figure 8: Cuyahoga Valley Scenic Railroad.** (Photo courtesy Adina Ringler.)



**Figure 9: Cuyahoga National Park Bike Aboard Logo.** (Photo courtesy NPS.)

with the idea to reduce the cost of the train ride for bikers to \$2.00. The option to put bikes on the train had been available for about five years but its use had been limited, possibly due to the higher cost (\$9.00), lack of promotion, and confusion as to how and where to actually use the service.

The NPS and the railroad coordinated efforts to integrate the existing train service to better accommodate park and trail users. Train service had depended on two trains that ran half the length of the park. This raised scheduling and other issues that were resolved by using one train whose run extends the entire length of the park. The new system offers greater convenience to park visitors. Work continues on developing a more efficient method to load and unload bikes from the train.

**Results:** Use of the train by cyclists had previously coincided with special events at the park, and was largely unused at other times. Increasing visitor awareness of options to bike the trail and ride the rail encouraged more people to take advantage of these alternative transportation modes throughout the tourist season. Bike Aboard anticipated 2,000–3,000 riders in the first season, but gave more than 6,000 rides in 2007. Increased use of the train has reduced the use of private automobiles in the park and given visitors an active and unique way to experience this national park.

"Bike the Trail, Ride the Rail" brochures were distributed in area bike shops to raise awareness of bicycling opportunities in close proximity to this large urban area. The Cuyahoga Valley Scenic Railroad in conjunction with the park piloted a "Bike Aboard!" program in June of 2007 to encourage park visitors to ride their bikes one way on the popular historic Towpath Trail and then ride the train back to their point of origin. The train makes eight "flag stops" for bicyclists. This bicycle/transit combination allows visitors to see the valley at their own speed and catch the train coming or going at their convenience along the 26-mile track. It operates from June through October and offers discounted rates to bicyclists (CVSR, 2008). In order to promote this service and encourage usage, park superintendent John Debo came up



**Figure 10: Unloading Bikes from Train.** (Photo courtesy Adina Ringler.)

## GLACIER NATIONAL PARK, MT

Approximately two million people visit this million acre rural northern park each year to view its pristine forests, alpine meadows and lakes, rugged mountains and glaciers. The park's Red Bike Program provides a fleet of bikes for park employees to use for work or recreation trips.

**Issues:** Vehicles are often used by employees for short trips because distances are perceived as being too far to walk conveniently. For example, distances between buildings in Glacier's headquarters area are short, but many employees drive from building to building for meetings or to the housing area for lunch. This use of cars for short trips results in unnecessary air pollution and use of nonrenewable resources. It also results in lost opportunities for healthy exercise, and in diminishing the park's environmental stewardship goals overall.

**Solution:** The Red Bike shared bicycle program gives employees an alternative to driving for short trips. In 2003, the Glacier Fund, a non-profit arm of the National Park Foundation, awarded \$9,000 for the program to further its mission of supporting "priority projects within the park with the goal of ensuring that the park remains open and accessible to our grandchildren's grandchildren" (Glacier Fund, 2008). The grant was used to supply 20 red bikes for employee use in the park. The grant also supplied a tricycle, helmets, baskets, locks, and bike racks. The Red Bike program was initiated through Susan Law, who at that time was a National Park transportation scholar.



**Figure 11: Glacier National Park's Red Bikes.** (Photos courtesy NPS.)

**Results:** The bikes are popular with campground staff, fire crews and employees in the headquarters campus area. A tricycle with a trailer is used to deliver mail. A majority of the fleet is comprised of older-style cruiser bikes that complement the historic red buses. These heavy, single-speed bikes are not prone to theft. They are built for the kind of rough use they receive, meaning that they are much more sturdy and long-lasting than the bikes that you typically find in retail stores.

Quick release adjustments were added to the seats to accommodate riders of various sizes. Local bike shops and volunteers help maintain the bikes, which are stationed at office buildings, visitor centers, campgrounds, and ranger stations. Keys to access the bikes are checked out to employees for the entire season. The Park may expand the program in the future to include park visitors.

## GRAND CANYON NATIONAL PARK, AZ

More than 4.5 million people from every corner of the globe visit the North and South Rims of the Grand Canyon each year to gaze over the sheer cliffs and wonder at the grandeur of this 1.2 million acre national park.

**Issues:** The popularity of this natural wonder has overwhelmed the infrastructure of roads, parking and view shed areas at the South Rim.

**Solution:** The NPS and others created a plan to diversify the transportation system and offer access to a wider range of experiences on each rim. In 1996, a team of volunteers that became known as The Greenway Collaborative approached the park with a proposal to develop the Grand Canyon Greenway through a private/public partnership. Part of the solution included a greenway system designed to accommodate pedestrian, bicycle and wheelchair use. Photos shown here are from the park’s South Rim, showing the new Grand Canyon Greenway trail between the El Tovar Hotel and the Mather Point Visitor Center (Olson, 2007).



**Figure 12: Grand Canyon South Rim Greenway.** (Photos courtesy Jeff Olson.)

**Results:** Four-and-a-half miles of the proposed 70-mile greenway system have been completed. The trails have shown the potential for the greenway concept to attract funding and have received the following awards:

- 2002—National Park Service Accessibility Leadership Award.
- 2002—American Society of Landscape Architects Merit Award.
- 2001—Harvey Bell Memorial Award, Western Trail Builders Association.

The 2002 Accessibility Leadership award is particularly meaningful because it was given to the Grand Canyon Greenway as the longest trail in the National Park System that meets the Americans with Disabilities Act (ADA) accessibility standards (Olson, 2007). The park plans to complete a few other shorter sections of the proposed greenway in 2008, including:

- A 6.5-mile stretch of trail from the North Kaibab Trailhead to the North Rim should be completed by end of summer 2008.
- Three miles of accessible greenway from Hermit's Rest interchange to Hermit's Rest.



**Figure 13: A Quiet Moment on the Grand Canyon's South Rim Greenway.**

- A one-mile-long section from Pipe Creek Vista to the South Kaibab Trailhead. The park anticipates work to begin on this section in early fall 2008.

Table 1 shows there has been significant financial support for the Grand Canyon Greenway. It is important to note that the majority of greenway funding comes from outside the NPS budget (Olson, 2007).

**Table 1: Grand Canyon Greenway Funding.**

Dollars	Grand Canyon Greenway Funding Sources
\$40,000	American Airlines, through the National Park Foundation —1998
\$250,000	Estimated volunteer consulting services from the Greenway Collaborative
\$479,600	FHWA Transportation Enhancements Program, Arizona DOT —1998
\$499,900	FHWA Transportation Enhancements Program, Arizona DOT —1999
\$896,800	FHWA Public Lands Highways Discretionary (Millennium Trails Initiative)—1998
\$766,361	FHWA Public Lands Highways Discretionary (Millennium Trails Initiative)—2002
\$1,000,000	Nina Mason Pulliam Charitable Trust through Grand Canyon Foundation—2001
\$25,000	Dr. Scholl Foundation
\$29,400	Richard Haiman National Park Foundation
\$10,000	Bikes Belong Coalition
\$2,560,000	SAFETEA-LU legislation—2005
\$1,000,000	Ethel and Kemper Marley Foundation
<b>\$7,435,000</b>	<b>Total Grand Canyon Greenway funding to date</b>

Future plans also include a bike rental facility at the Canyon View Information Plaza, the South Rim's main visitor center. Since a vast majority of visitors do not bring bikes, this facility will give more visitors opportunities to enjoy the greenway.

*Challenges*—While progress has been made on a few short sections of greenway, the park does not have a specific time frame set for the majority of longer sections, including a 6.5-mile section between Canyon View Information Plaza and the town of Tusayan and additional sections on the North and South Rims.

A number of challenges prevent the park from pursuing these longer sections of greenway. Aside from funding, there are many National Environmental Policy Act (NEPA) compliance issues associated with the long lengths of trails that include items such as possible impacts to wildlife habitat and vegetation. The park has had difficulty finding available personnel to complete the lengthy NEPA compliance process and to perform trail work. The Grand Canyon typically has around 100 projects at any one time in the NEPA compliance process. The park has to set priorities for their many projects and work through them as time, budget and staffing allow.



## COLORADO NATIONAL MONUMENT, CO

This 25,000 acre National Monument receives over 714,000 visits annually, approximately half of which are commuter traffic. The 23-mile scenic Rim Rock Drive leads along the rim of a colorful panorama of deep, sheer-sided canyons, and high rock towers. Interpretive exhibits inform visitors of the monument’s natural and human history (NPS, 2008). This narrow, steep road is on the National Register of Historic Places. Due to the unique topography, challenging climbs, and scenic views, Rim Rock Drive is a popular destination for avid amateur and professional cyclists and is commonly featured in cycling magazines. Biking off-road is prohibited.



Bicyclists on Rim Rock Drive  
(Photo courtesy NPS.)



Tunnel at Colorado National Monument  
(Photo courtesy Phil Akers.)

**Figure 14: Road Biking in Colorado National Monument.**

**Issues:** There is significant growth of bicycle, vehicle and commercial traffic on Rim Rock Drive. Many residents of Glade Park, a small community west of the monument, commute to work in Grand Junction, driving through a four-mile section of the road inside the monument. Conflicts between motor vehicles and bicycles are of great concern on this narrow road. Three tunnels on Rim Rock Drive are long and unlit. The historic road designation and extreme topography limit options to widen the road surface or construct a separated pathway. Vehicles commonly exceed the 25 mph speed limit. There have been several near misses between cyclists and vehicles in the past year and even reports of a fist fight.

**Solution:** Managers are actively campaigning to educate motorists and bicyclists about their respective responsibilities. “Share the Road” signs, educational brochures, website information and local outreach efforts are in place. Online materials contain a highly visible link listing regulations for bicyclists and motorists. Bicyclists are required to ride single file and use bicycles with reflectors or lights for safe passage through tunnels (NPS, 2008).

**Results:** While enforcing vehicle speed limits and citing motorists driving under the influence has improved safety for both motorists and cyclists, managers are still concerned about bicycle-vehicle conflicts. Other ideas for improving safety include studying the feasibility of improving a county road to divert vehicle traffic, closing the road to vehicles for a short time and inviting Glade Park residents to bicycle to promote understanding and acceptance of cyclists, and evaluating the potential for widened sections of road to create passing zones.

## NATIONAL MALL & MEMORIAL PARKS, WASHINGTON, DC

This 1,000 acre historic urban park receives 25 million visitors annually. Located in the core of the nation's capital, National Mall & Memorial Parks (NAMA) is recognized the world over for its grand monuments including the Washington Monument, the Lincoln Memorial, the Thomas Jefferson Memorial, Franklin Delano Roosevelt Memorial, the Korean War Veterans Memorial, the Vietnam Veterans Memorial, the National Mall, and numerous other historic sites, memorials, and parklands. NAMA is an ideal park to enjoy by bike. Many locals bike through the park for work commutes on weekdays and for pleasure on the weekends.

**Issues:** It is difficult for park staff to patrol the many dispersed monuments and memorials. Driving between sites is impractical due to heavy traffic and restricted parking, while walking can be time consuming.



**Figure 16: NPS Ranger Jason Martz Leading Bicycle Tour in Washington, D.C.** (Photo courtesy NPS.)

staff led interpretive bicycle tours. The LAB Road II course is the base training used for park rangers who conduct bike tours. These free, three-hour ranger-led tours, give the public a new way to experience the vast history of the nation's Capital. Monuments, memorials, and places within the park represent the entire history of the United States. No two tours are ever the same as one pedals through downtown



**Figure 15: National Mall and Memorial Parks Bicycle Tour.** (Photo courtesy NPS.)

**Solution:** Park staff use bicycles to patrol the entire park in order to better engage the public, monitor permitted activities, and care for the cultural and natural resources throughout the park. Two of the Five Es contributed greatly to this project's success.

*Education*—To ensure staff and visitor safety, interested NAMA staff began in 2004 to attend bicycle safety training through the League of American Bicyclists (LAB) BikeEd program—Road I course (LAB, 2008). Bike program coordinator, Ranger Jason Martz, became a League Certified Instructor (LCI) in 2004, qualifying him to teach proper riding rules and regulations from the perspective of the League and the NPS.

In addition to patrolling the park by bike, park

Washington with a NPS ranger. Due to the continued success of the bike tour program, kid-friendly family tours were introduced in 2007. These tours grew out of a partnership with the non-profit organization Trips for Kids and were an instant success (Trips for Kids, 2008).

*Encouragement*—In addition to full advertising on park web sites (NPS NAMA, 2008), bulletin boards throughout the park, and park literature located at all ranger contact stations, there was still a need to spread the word about all the park’s new bicycling opportunities. This need led to a partnership with the non-profit coalition Cultural Tourism DC (Cultural Tourism, 2008). The park became a member in 2007 and has attracted many new bicycle tour participants through weekly emails and a full listing on its web site.

*Partnerships*—Over the years, the park has strengthened its partnership with the Washington Area Bicyclist Association (WABA). The mission of WABA is to create a healthy, more livable region by promoting bicycling for fun, fitness, and affordable transportation; advocating for better bicycling conditions and transportation choices for a healthier environment; and educating children, adults, and motorists about safe bicycling (WABA, 2008). This partnership continues to grow through free WABA-sponsored bike valets during major events in the park including the National Cherry Blossom Festival and the Independence Day Celebration.

**Results:** The popularity of the bike program (patrol and tours) at NAMA serves as a model and has prompted several other NPS sites to institute bicycle programs. These include Central High School National Historic Site, AR; Cumberland Gap National Historical Park, KY; Dayton Aviation Heritage National Historical Park, OH; Mississippi National River & Recreation Area, MN; and George Washington Memorial Parkway, VA. These urban/suburban parks have had immediate success largely due to the NAMA model of education—consistent staff training by League-certified bicycle instructors, forming partnerships, and encouraging visitors to bicycle through widespread advertising. In the spring of 2008, the NPS took its first steps to become uniform and streamline the process of creating a bicycle program for any urban/suburban park when a comprehensive bike program guide was begun. When completed, this guide will give these parks the basic knowledge and skills necessary to begin a bike program that has immediate impact and success. Ranger Jason Martz will become a LAB Coach in 2008. This will allow him to train other NPS bicycle program coordinators to be LCIs and allow each park to be self-sufficient.



**Figure 17: NPS Ranger-led Bicycle Tour.**  
(Photo courtesy NPS.)

## HARRIS NECK NATIONAL WILDLIFE REFUGE, MCINTOSH COUNTY, GA

Harris Neck NWR receives approximately 45,000 visitors annually and is one of seven refuges that make up the Savannah Coastal Refuges Complex. Established in 1962, this 2,824 acre refuge consists of man-made freshwater ponds, open fields, pine and oak forests, forested wetlands, and salt marshes. In the summer, thousands of egrets, herons and endangered wood storks nest in the swamps, while in the winter large concentrations of ducks (especially mallards, gadwall and teal) gather in the marshland and freshwater pools.

**Issues:** Some types of bicycling are not deemed compatible with the refuge mission. For example, due to possible disturbance to wildlife, refuge managers turned down a request by a cycling group to hold a bike race whose course would pass through the refuge. Broader issues within the Savannah Coastal Complex include a lack of connectivity for non-motorized use to nearby communities.

**Solution:** Managers decided that the large numbers of fast-moving cyclists had the potential to disturb wildlife and is not a compatible use with the refuge mission. While bicycle racing may not be permitted at Harris Neck, individuals or small groups bicycling to view wildlife is a compatible use. Pavement remaining from a World War II era U.S. Army airfield provides cyclists with a flat, even surface for riding. A four-mile paved auto-tour road provides motor vehicle access, but much of the refuge is accessible only by paved trails.



**Results:** Biking the paved trails at Harris Neck Refuge complements the refuge mission as a quiet way to observe and photograph migratory birds and other wildlife. Bicycling is popular and well accepted here as a transportation mode, allowing visitors to travel to more distant areas of the refuge than they may reach by walking. The Wood Stork Colony is a popular refuge attraction accessed by the paved trail (FWS, May 2008).

**Figure 18: Wood Stork Colony, Harris Neck NWR.** (Photo courtesy John Carrington.)

Bicycling at the Harris Neck NWR was recently featured by Georgia Public Television's Georgia Outdoors program and can be viewed online at <http://www.gpb.org/georgiaoutdoors/biking>.

## TREMPEALEAU NATIONAL WILDLIFE REFUGE, WI

This 6,226 acre refuge receives approximately 113,800 visitors annually. It is located along the Mississippi River and was established in 1936 as a refuge and breeding ground for migratory birds and other wildlife. The refuge has incredible wildlife viewing and photography opportunities due to the abundance of eagles, swans, ducks, warblers, pelicans, herons, and other birds. The Great River State Trail passes through the refuge. This trail traverses 18 different waterways, crosses over the Black River on a former railroad trestle, and follows Lake Onalaska and the Burlington Northern Santa Fe railway corridor (Friends of the Four Trails, 2008). It is one of the most scenic trails in the Midwest, is popular with all types of bicyclists and connects to several other trails comprising a total system of over 101 miles (Onalaska, 2008). Adults, children and seniors commonly bicycle here and managers report there are more bikes than vehicles on some days. Local schools rent bicycles for students to take educational tours through the refuge. Bicycling routes are well promoted with online and onsite maps. Approximately 12 miles of roads are open to hiking and biking year round.

**Issues:** Managers lack planning and maintenance funds and have difficulty navigating through the process to acquire federal transportation funding for bicycle facilities.



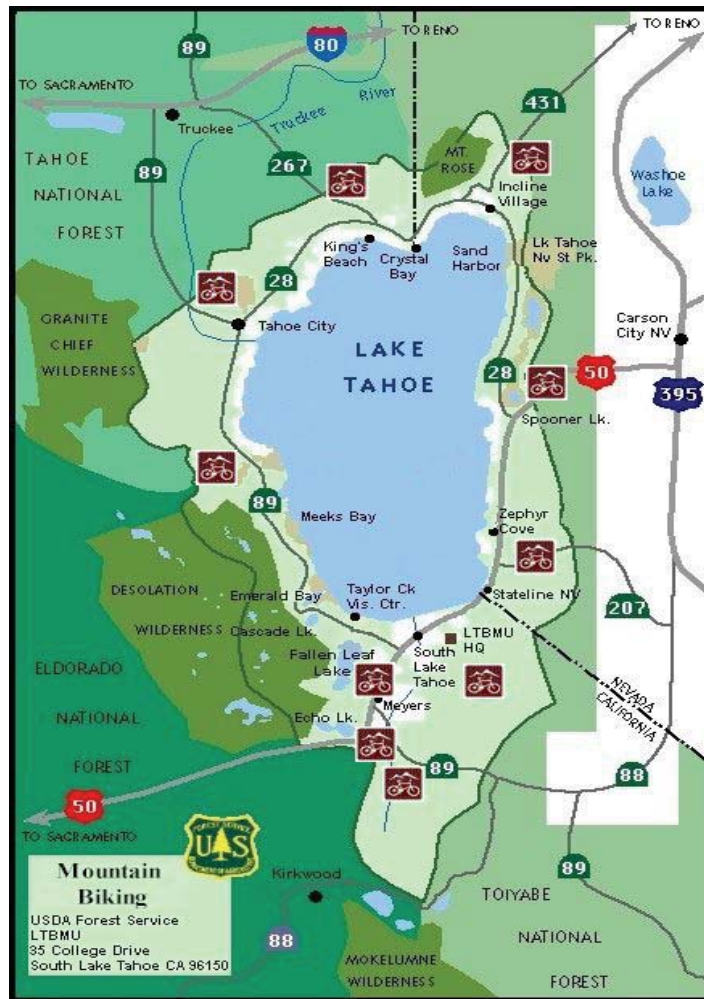
**Figure 19: Great River State Trail, Trempealeau NWR, WI.**

**Bicycling on the Great River State Trail Accounts for More Than One-fourth of All Public Visits to the Refuge.** (Photo courtesy FWS.)

**Solutions:** Managers incorporated bicycle-friendly goals into their recent Comprehensive Conservation Plan, including: improve directional signs for bicyclists, install “Watch for Bikes” signs along auto tour route, install bike rack, construct a year-round restroom, provide potable water, develop interpretive materials for bicyclists, and investigate a “Blue Goose Bike Program” to encourage visitors to park autos and ride refuge bikes. Managers work with partners including the Wisconsin Department of Natural Resources, Scenic Byway Commission, Great River Road Commission, and the Great River State Trail Committee.

**Results:** Managers are making progress, yet continue to struggle with funding and coordination. The refuge received a grant in 2008 to install infrared counters to track vehicles, bicycles and pedestrians. Managers are working with the Wisconsin Department of Natural Resources and an advisory committee to extend the bike trail to Winona, MN. Managers believe bicycling is a low-impact way to experience nature and are committed to improving facilities and encouraging more visitors to consider traveling by bike.

## US FOREST SERVICE LAKE TAHOE BASIN MANAGEMENT UNIT, NV AND CA



**Figure 20: Lake Tahoe Basin Forest Service Lands.** (Map courtesy USFS, 2008.)

Lake Tahoe Basin is 320,640 acres (501 square miles), with the lake occupying almost 200 square miles. Approximately 400 square miles is managed by the USFS. Up to 200,000 people visit Lake Tahoe during summer weekends. Annual visitation is estimated at 23 million visitor days (USFS, 2008). The USFS manages 80 percent of the land in the Lake Tahoe Basin as the Lake Tahoe Basin Management Unit (LTBMU).

Over the years, urbanization and development clashed with rapid development within the basin. In 1973, in order to manage the values and resources of the Tahoe Basin effectively, portions of each of the three National Forests (Tahoe, Toiyabe, and Eldorado) located in the basin were consolidated into the new LTBMU. This area is a unique mix of forest and urban communities. It is home to a number of ski resorts, summer outdoor recreation areas and tourist attractions. Several small communities border the lake and adjacent USFS land. About 56,000 people resided year-round in the Lake Tahoe region in 2000 (USFS, 2008). Figure 20 shows Lake Tahoe and surrounding USFS lands.

**Issues:** Many groups are concerned with the long term preservation of the natural environment in the Lake Tahoe basin in light of the significant development it has seen.

**Solution:** USFS managers and many partners work together to make bicycle-friendly connections to help create a viable alternative to the automobile, thus helping to preserve Lake Tahoe. Partners in this effort include USFS, Tahoe Regional Planning Agency (TRPA) and Tahoe Metropolitan Planning Organization (MPO), Great Basin Institute, Lake Tahoe Bicycle Coalition, Tahoe Rim Trail Association, California Tahoe Conservancy, and the California Department of Transportation. The Lake Tahoe Bicycle and Pedestrian Master Plan provides guidance to ensure connectivity across city, county, State and Federal lands boundaries. The plan is available online at [http://www.trpa.org/documents/docdwnlds/BIKE\\_PLAN.pdf](http://www.trpa.org/documents/docdwnlds/BIKE_PLAN.pdf).



**Figure 21: Lake Tahoe Bicycle Map.** (Map courtesy Lake Tahoe Bicycle Coalition, 2008.)

Guided by the master plan, Lake Tahoe bicycle facilities link residential and shopping areas, restaurants, beaches, campgrounds, backcountry trails and recreation areas. The BlueGo Coordinated Transit System and the Tahoe Area Regional Transit (TART) system fixed-route buses are equipped for carrying bikes. The Lake Tahoe Bike Trail Map produced by the Lake Tahoe Bicycle Coalition promotes and encourages bicycling. Bike trails along the southeast side of Lake Tahoe are shown in Figure 21. This map is found online at <http://www.tahoebike.org/> (click on the bike trail map tab). Many bike trail projects are planned to complete links in the Lake Tahoe system as part of the master plan (TRPA, 2008).

**Results:** The Lake Tahoe network includes 74.2 miles of multi-use trails and 8.2 miles of sidewalk (Tahoe MPO, 2006). In September 2006, the City of South Lake Tahoe, CA, was awarded the national designation of Bicycle Friendly Community by the League of American

Bicyclists. The Lake Tahoe Bicycle and Pedestrian Master Plan defined a benchmark of doubling the percentage of commuters who bicycle or walk to work from 3.8 percent of employed residents to 7.6 percent, per U.S. Census data, by 2023. This will allow progress to be measured over time.

The plan organizes goals into six topic areas, each having a specific objective and policies. Topics are shown below followed by a more detailed look at the objectives and policies related to funding goals.

1. *Overall System Goal:* Provide safer and more efficient bicycle facilities in the Lake Tahoe Basin that create a positive experience for residents and visitors.



**Figure 22: Lake Tahoe view from the Rim Trail.** (Photo courtesy Rebecca Gleason.)

2. *Land Use Development Goal:* Include bicycle facilities in all appropriate future development or redevelopment projects to facilitate bicycling with a high degree of connectivity to the existing and proposed system.
3. *Commuting Goal:* Develop a bicycle and pedestrian system that enhances safety and convenience of bicycling and walking to employment, recreational, and educational centers in the Lake Tahoe Basin.
4. *Safety Education Goal:* Educate and inform Lake Tahoe Basin residents and visitors about how to use bicycle and pedestrian facilities safely.
5. *Environmental Considerations Goal:* Avoid and/or mitigate adverse environmental impacts associated with the implementation of the proposed system.
6. *Funding Goal:* Acquire sufficient funding to construct and maintain the proposed system within the next 20 years.

**OBJECTIVE**—Maximize the amount of local, State, and Federal funding for bicycle and pedestrian facilities that can be received by agencies in the Lake Tahoe Basin.

## POLICIES

- 6.1 Maintain current information regarding local, regional, State, and Federal funding programs for bicycle and pedestrian facilities, along with specific funding requirements and deadlines.
- 6.2 Prepare joint grant applications with local agencies for State and Federal funds, as appropriate.
- 6.3 Work with local and state agencies, recreational business interests, and community groups to identify and pursue potential funding sources for maintaining existing and future bicycle and pedestrian facilities.
- 6.4 Update Lake Tahoe Regional Bicycle and Pedestrian Master Plan at a minimum of every three years to ensure complete project inclusion and to qualify for funding opportunities.

See Appendix B for information on types of partners that have been instrumental in creating Lake Tahoe’s bicycling network.



## ROUTE OF THE HIAWATHA—MT AND ID (IDAHO PANHANDLE AND LOLO NATIONAL FORESTS)



**Figure 23: Route of the Hiawatha Railroad Trestle.** (Photo courtesy Kate Ciari.)

The Route of the Hiawatha is a 15-mile trail on the abandoned Milwaukee Road railroad grade, between St. Regis, MT, and the North Fork of the St. Joe River, near Avery, ID. The Route of the Hiawatha trail is operated in the Idaho Panhandle National Forest by a concessionaire under a USFS Special-Use Permit. It has been called one of the most scenic rail-trail routes in the country. The route passes over seven trestles, some over 200 feet high, and through nine tunnels in the rugged Bitterroot Mountains. Constructed by the Chicago, Milwaukee & St. Paul Railway Company between 1907 and 1909, this segment of railroad completed

the line's transcontinental extension from the Midwest to the Pacific Ocean. The route's numerous tunnels, trestles and earth fills remain a feat of railroad engineering even by today's standards.

After the infamous 1910 fires that consumed nearly three million acres in the region, electric locomotives were introduced along a 440-mile stretch through Montana to Avery, Idaho. This innovation by the railroad was the first use of electrification over an extended distance. Generations of railroaders kept the Milwaukee Road running until it finally went bankrupt in 1977. The last train west passed through in 1980, after which the line was abandoned.

**Issue:** Transforming an abandoned railroad grade into a safe trail for bicycle and pedestrian travel presented many challenges.

**Solution:** The Taft Tunnel Preservation Society brought many partners together to expedite and support restoration and preservation of this masterpiece rail-trail project. This project has captured the imagination of hundreds of volunteers and organizations who have donated funding, labor, materials and equipment to transform an old railroad grade into one of the most spectacular bicycle rides in the country.

**Results:** Collaborative efforts of many partners resulted in a world-class recreational trail that spans two national forests, two counties and two states. With government funding and private donations, trail construction started in 1997. The Idaho portion of the trail opened for public use on May 29, 1998. Safety upgrades of the 1.7-mile-long St. Paul Pass, or Taft Tunnel, were completed in May of 2001.

Bicyclists can ride the 30-mile round trip with almost 2,000 feet of elevation change, or choose to ride 15 miles downhill and shuttle back to the top. The shuttle charges \$9 for adults and \$6 for ages 3–13. Helmets and lights are required for all trail users, and a \$9 usage fee (\$5 ages 3–13) applies to everyone. The concessionaire runs the shuttle, collects fees and provides

information, emergency help, first aid and water if needed (<http://friendsofcdatrails.org/Hiawatha/index.htm>).

*Partnerships*—The Taft Tunnel Preservation Society was formed for the purpose of promoting the conversion of the abandoned Milwaukee Railroad grade into a recreational trail, working in collaboration with the USFS. This non-profit group provided momentum, expertise and support throughout project planning and analysis, fundraising, and construction phases. Many partners contributed their time and expertise:

- Idaho State Parks contributed funding for the environmental analysis, access to the State’s “snooper truck” for structural inspections and cable tensioning on the route’s many high steel trestles, and State grant funds for trestle improvements and repair;
- Montana State Parks provided State grant funds for installation of a trailhead interpretive kiosk;
- North Idaho College students in a welding class used their skills to design and fabricate massive open mesh gates to close access to a tunnel that presented safety risks;
- Milwest—this organization of railroad buffs and historians donated its entire archive of Milwaukee Railroad advertising materials for reference and use in development of Route of the Hiawatha interpretive materials and themes; and
- Local mining engineers provided technical review and recommendations regarding inspection, repair and reconstruction options for tunnels and snow sheds.

Additionally, a variety of funding, resources, materials and labor were donated by agencies, businesses, organizations and individuals including historic railroad journals and photos, traffic barriers, signs and posts, work parties, site preparation, and funding for toilets.

*Project Success*—A key component to success was a steering committee that was co-chaired by the Idaho Panhandle National Forest Supervisor and the Taft Tunnel Preservation Society Director. This interagency, multi-partner steering committee included representatives of the Idaho Congressional delegation, local mayors, county commissioners, local state and county government representatives, trail advocate groups, and chamber of commerce and visitor bureau representatives. In this highly effective partnership, the Taft Tunnel Preservation Society and USFS worked together in the sharing of ideas,



**Figure 24: Route of the Hiawatha Interpretive Kiosk.** (Photo courtesy USFS.)

identification of options and opportunities, resolution of issues, and implementation of solutions. In its role as a non-governmental partner, the Taft Tunnel Preservation Society was very effective in generating widespread project support, uniting trail users and advocates, identifying creative solutions and needed resources, fundraising, and helping maintain implementation momentum.

In 1935, the railroad initiated streamliner passenger service with its speedy new trains—all named “Hiawatha.” The name of the rail-trail comes from a slogan the Milwaukee Road displayed on the side of its passenger cars. “Hiawatha” was inspired by Henry Wadsworth Longfellow’s famed “Song of the Hiawatha,” written in the mid-1800s. The connection with speed comes from the passage: Swift on foot was Hiawatha, He could shoot an arrow from him, And run forward with such fleetness, That the arrow fell away behind him.

**Table 2: Route of the Hiawatha Funding.**

Dollars	Route of the Hiawatha Funding Sources
\$390,000	Congressional earmark for USFS survey and trail development design—1995
\$450,000	Congressional earmark for Phase I construction on Idaho segment—1997
\$50,000	Private donations in materials and funds—1997
\$750,000	Congressional earmark for Phase II reconstruction of St. Paul Pass Tunnel—1998
\$74,000	ID Dept. of Parks and Recreation grant (National Recreation Trail Program) for trestle and bridge improvements—1999
\$20,000	Taft Tunnel Preservation Society and North Idaho College match for above RTP
\$40,000	USFS challenge cost share funds for interpretive kiosks and toilet—1999
\$5,000	MT Fish Wildlife and Parks grant (National Recreation Trail Program)—1999
\$750,000	Congressional earmark for Phase II St. Paul Pass Tunnel, trailheads and interpretive signs—2000
<b>\$2,529,00</b>	<b>Total Route of the Hiawatha funding as of 2000</b>

*Stimulate Economy*—Local communities have experienced an economic boost as a result of increased tourism in connection with the new rail–trail. Trail use was estimated at 2,000 people in 1993, 8,600 people in 1998 and 24,000 people in 2007 (USFS, 2008).

Another 31 miles of trail including a tunnel and two trestles are planned to connect to St. Regis, MT. This portion of the trail will be for use by bikers, hikers, all-terrain vehicles, horses, and automobiles (Route of the Hiawatha, 2000 and 2008).

**NORTH MOAB RECREATION AREA’S ALTERNATIVE TRANSPORTATION PROJECT—MOAB, UT**

Moab is often called the mountain biking capital of the world. Two and a half million people come to this area each year to enjoy the beautiful landscapes in the 1.8 million acres of BLM, NPS, USFS and Utah State lands.



**Figure 25: Moab's Famed Slick Rock Trail.**  
(Photo courtesy Rebecca Gleason.)

**Issues:** Most visitors come to Moab to bicycle, walk or hike. However, due to the lack of a safe alternative transportation system, most people drive to trailheads on BLM lands and to the nearby state and national parks. State Route 128 is a busy, shoulder less, two-lane highway with poor sight lines, making shared use between bicyclists and motor vehicles dangerous. The Colorado River Bridge along State Highway 191 lacks shoulders and is a major point of conflict for bikes and vehicles. There are a high percentage of trucks operating along State Highway 191, increasing chances for vehicle/bicycle conflict.

**Solution:** Create a system of continuous bike lanes and/or non-motorized multi-use paths connecting Moab with State Route 128, State Highway 191, Arches National Park, and the North Moab Recreation Area.

**Results:** An \$11.8 million alternative transportation system is partially complete that will include two transit hubs, 15 miles of bike paths, 26.5 miles of bike lanes and a bicycle/pedestrian bridge across the Colorado River. Monthly meetings among stakeholders since 2000 have made an immense contribution to this project's success. Two noteworthy accomplishments of this project are the Porcupine Rim trail highway bypass and the Colorado River bridge.

The popular Porcupine Rim mountain bike trail now routes bicyclists safely under SR 128, rather than directly onto the roadway. Bicyclists and pedestrians will eventually be able to access about four miles of the Colorado River by multi-use paths, allowing a safe route back to Moab.

An expansive bicycle/pedestrian bridge spanning the Colorado River was completed in spring 2008. See Appendix B for project details including a funding breakdown.



**Figure 26: Colorado River Bicycle/Pedestrian Bridge.** (Photo courtesy Rebecca Gleason.)

## FRUITA AND GRAND JUNCTION, CO

Trail systems on 1.2 million acres of BLM lands near Fruita (pop. 7,055) and Grand Junction, CO, (pop. 45,299) have become famous mountain biking destinations. Fruita has evolved from an economically depressed agricultural community into a thriving mountain biking destination.



**Figure 27: Fruita's Kokopelli Trails Overlooking the Colorado River.** (Photo courtesy Rebecca Gleason.)

The current mountain biking trails system started taking shape in the late 1980s on BLM lands around Grand Junction and Fruita. In 1989 BLM employees and local riders led the creation of the 142-mile-long Kokopelli Trail, beginning near Fruita and ending in Moab, UT. The Colorado Plateau Mountain Bike Trail Association (COPMOBA) was formed out of the Kokopelli effort, and a boom in trail building began across the Grand Valley. The Tabeguache Trail between Grand Junction and Montrose, CO, was completed a year after the Kokopelli Trail. Next, a series of loops was made stemming from the Kokopelli Trail, including Mary's Loop and

Lion's Loop in 1990 and 1991. In addition to the Kokopelli trail system, the Bookcliffs trails north of Fruita and the Lunch Loop trails system southwest of Grand Junction have become popular biking destinations with aptly named trails such as Zippity Do Da (Grand Junction Free Press, 2008).

**Issues:** A quiet agricultural community in a scenic locale on the western slope of the Rocky Mountains in Colorado is in need of an economic boost.

**Solution:** Create a series of trails to attract mountain bikers. The Kokopelli's Loop Trails in the BLM-managed McInnis Canyon National Conservation Area demonstrate a well designed and managed trail network that draws mountain bikers from around the world. This area is part of the Uncompahgre Plateau, which rises above the Grand Valley of Colorado—a high desert landscape with spectacular canyons.

**Results:** Kokopelli's Loop Trails are a mountain biking destination consisting of the famous Mary's Loop, Rustlers Loop, Horsethief Bench, Steve's Loop, and Troy Built Loop, to name a few. Each spring, thousands of mountain bikers converge on Fruita for a four-day mountain biking festival. Increased tourism due to biking helps diversify the economy, benefiting many local businesses including bike shops, restaurants, and retail and lodging proprietors. BLM lands around Fruita do not have paved roads, visitor centers or manicured trailheads. These public lands are sought out by those seeking more primitive recreation and solitude. In addition to the spectacular scenery, these trails incorporate many components of "The Five Es"—engineering, education, encouragement, enforcement and evaluation.

*Engineering*—Trails are well designed, single-track routes with sustainable grades and good water management to minimize erosion. See IMBA’s *Trail Solutions* and *Managing Mountain Biking* books for details on sustainable trail design. Loops are of varying lengths and difficulty to accommodate and challenge riders at all ability levels. The Kokopelli’s Trail system has three different access points allowing bicyclists easy access to a gravel frontage road. Thus bicyclists can quickly ride back to support vehicles at trailheads in case of inclement weather, an injury, required bicycle maintenance, or just to refuel with more food or water. Multiple access points give people options and flexibility.

*Education*—Online materials, trailhead signage, local bicycling guidebooks and maps are commonplace in Fruita and Grand Junction. These materials promote traveling “lightly on the land” and “leave no trace” principles. Interpretive signs located along the 3.6-mile Rustler’s Loop trail demonstrate how managers can educate visitors on important issues, such as the fragile desert ecosystem (Figure 28).



**Figure 28: Cryptobiotic Soils Education, Horsethief Bench Trail, Fruita, CO.**

(Photos courtesy IMBA.)

The BLM has increased its capacity to build quality sustainable trails, and better use volunteer trail builders by sending volunteers to trails and crew leadership trainings such as the IMBA Trail Care Crew (see <http://www.imba.com/tcc/trailschool.html>), Volunteers for Outdoor Colorado (VOC) (see agency resource link on <http://www.voc.org/page.php>), the Outdoor Stewardship Institute (OSI) (see <http://www.osionline.org/>), and other BLM trainings.

*Encouragement*— The first annual Fruita Fat Tire Festival, launched in April 1996, brought 350 people into Fruita to showcase new trails, helping the struggling economy. By 2006, the festival drew riders from 42 states and 14 countries. The Rustler’s Loop trail was designed specifically for beginning mountain bikers with signs offering riding tips. BLM’s McInnis Canyons National Conservation Area brochure encourages half-day, full-day and multi-day biking opportunities, and illustrates trails categorized by beginner, intermediate or advanced skill levels. A Grand Junction/Fruita Cycling publication is available at the Chamber of Commerce, visitor centers and various locations around town, offering ride descriptions and maps of major biking areas in the region.



**Figure 29: Riding Tips on Rustler's Loop, Fruita, CO.** (Photos courtesy IMBA.)

*Enforcement*— Rules are posted at trailheads to advise riders on proper use of the trails. The more people there are present on trails, the more people are encouraged to follow the rules. BLM seasonal rangers patrol on mountain bikes during busy spring and fall seasons. Volunteers with the Grand Valley Mountain Bike Patrol are out on the trails throughout the year (See <http://www.gvmbp.org/>). Bike patrol volunteers assist in medical and mechanical emergencies, educate trail users on proper etiquette, and inform land managers, owners and trail users of trail issues.



**Figure 30: Rustler's Loop Interpretive Pullout and Adopt-A-Trail Sign, Fruita, CO.** (Photos courtesy IMBA.)

The success of mountain biking on BLM lands here can be attributed to the work of many partners, including the Grand Junction BLM field office, COPMOBA, Hilltop Experiential Learning Project, IMBA, Bicycle Colorado, REI (a sporting goods retailer), local bike shops, Colorado State Parks, VOC, OSI, Community Hospital and Grand Valley Bike Patrol.

## ADDITIONAL BICYCLE PROJECTS

A few other noteworthy projects further demonstrate how non-motorized systems can connect people with nature and encourage an active way to experience Federal lands.



**Figure 31: Acadia National Park Carriage Road.** (Photo courtesy Greg Hartford, Acadiamagic.com.)

**Acadia National Park Carriage Roads, ME**— This park provides the public with 43 miles of unique carriage roads that have never allowed motor vehicles. Signs and free NPS maps guide visitors through the park. The Island Explorer shuttle bus provides free rides to visitors between the town of Bar Harbor and key parking lots in the park (Ross, 2007). As part of the NPS Centennial Initiative, “Car-Free Acadia” offers visitors the opportunity to explore Acadia by foot, bicycle, shuttle bus, commercial tour bus, or private and commercial vessels.

**National Elk Refuge and Grand Teton National Park, WY**—In 2008, the first section of a 41 mile system of pathways for bicyclists and pedestrians is under construction in Grand Teton National Park (NPS, 2007). In October 2007, the Alternative Transportation in Parks and Public Lands (ATPPL) program awarded \$1 million to construct a 4.2-mile trail system through the adjacent National Elk Refuge.

**Minute Man National Historical Park Bicycle Trail, MA**— Battle Road Trail is a multi-use 5.5-mile pedestrian and bicycle trail connecting historic sites in Lexington and Concord, MA. Bicycle tours are offered by a private company under a Commercial Use Authorization issued by the Park (<http://www.nps.gov/mima/planyourvisit/battle-road-bike-tours.htm>).

## SEASONAL ROAD CLOSURES AND LIMITED AUTO ACCESS

In light of the nature of their use and the manner in which they are administered, unique opportunities exist to promote bicycling on roads within Federal lands. One such opportunity is the ability to restrict automobile access to these roads, which, as the examples below show, often is done periodically (e.g., a few days per week or per year) or seasonally depending on the situation. Reserving more time for non-motorized roadway use can provide a memorable visitor experience while reducing impacts of motor vehicles.



**Glacier, Yellowstone, and Grand Teton National Parks, WY and MT**—Roadways in these parks are typically snow covered through the winter. During the shoulder seasons, between summer tourists and winter snow, most roadways are closed to motor vehicles. During these times, visitors may bicycle on park roadways without worry of conflicts with vehicles.



**Figure 32: Pre-season Road Ride in Yellowstone National Park.** (Photo courtesy Jim Nallick.)

**Denali National Park, AK**—To reduce vehicle traffic in environmentally sensitive areas, the park restricted automobile on portions of Denali Park road, allowing only pedestrians, bicyclists, and buses. Some buses can accommodate up to two bikes.

**Zion National Park, UT**—To reduce traffic congestion, noise and air pollution, starting in 2000, the park restricted vehicle access to the canyon and implemented a shuttle service. Private vehicles are not allowed on the Zion Canyon Scenic Drive from early April through the end of October. While there is no designated bike lane, the road has become popular with bicyclists who no longer have to contend with constant private vehicle traffic (WTI, 2006).

Other parks that limit automobile use at times include:

- Great Smoky Mountains National Park's Cades Cove Loop Road (Cades Cove, 2008)
- Rock Creek Park, Washington, D.C
- Gateway National Recreation Area, Jamaica Bay Unit, NY (WTI, 2006)
- White Sands National Monument, NM

### SHARED BICYCLE PROGRAMS

Bike sharing programs like the one in Glacier National Park encourage employees to ride bikes for short trips. Bike share for visitors can enhance visitor experience and help solve congestion, parking and air quality problems. Look for shared bikes in the Bay Area Golden Gate National Recreation Area in the near future.

**National Park De Hoge Veluwe, White Bikes Program, Netherlands**—This 13,600-acre national park is famous for its 1,700 White Bicycles, available to visitors at no cost. (<http://www.hogeveluwe.nl/page.asp?id=3>).

**Duke University Bicycle Program**—Duke Bikes is an initiative to promote health and encourage students to ride to class instead of drive. The pilot program is part of a broader plan to provide "no-cost options for exercise, adventure and campus commuting" (<http://siren.auxserv.duke.edu/parking/bikes/>).

**Bike Sharing Program for Humana Employees Louisville, KY**—Humana, a healthcare company that employs 8,500 people in downtown Louisville has started a bike-sharing program called "Freewheelin" for its workers, and already over 2,000 employees have signed up (<http://bicycling.about.com/b/2007/10/04/humana-starts-bike-sharing-program-for-employees.htm>).

**Cyclocity Bicycles, Paris, France**—By the end of 2007, it is anticipated Paris will have 20,600 bikes at 1,450 stations in a program to cut traffic, reduce pollution, improve parking and enhance the city's image as a greener, quieter, more relaxed place (Washington Post, 2007). Similar programs are active in Lyon, France, Germany, and Barcelona, Spain.

More bike share information can be found at <http://bike-sharing.blogspot.com/2007/10/november-2007-world-map-of-bike-sharing.html>.

### **BICYCLE-FRIENDLY ORGANIZATIONS AND PROGRAMS**

There is incredible momentum from many sources supporting bicycling for transportation, recreation and health. A few bicycle friendly programs that could benefit Federal lands are described below, including some that are specifically involved with Federal land agencies.

**Bicycle Friendly Communities Program**—This national program sponsored by the League of American Bicyclists (LAB) organizes communities to improve on- and off-road bicycling. As of May 2008, LAB had designated 84 bicycle-friendly communities across 31 states. LAB awards this four-year designation to communities that have made impressive, measurable efforts to integrate bicyclists into the community. Saguaro National Park, located within the Tucson Metropolitan Area, Arizona and South Lake Tahoe, California located near USFS lands, have been recognized as Bicycle Friendly Communities. Much can be learned from the 84 bicycle-friendly community examples, some of which are on or connect to Federal lands (<http://www.bikeleague.org/>).

**Complete Streets**—Central to the Complete Streets philosophy is the idea that the public right-of-way is for public use (pedestrians, bicyclists, motorists and transit riders of all ages and abilities), not only for those who own motor vehicles. According to a report in the American Association of Retired People (AARP) Bulletin, 52 municipalities, six counties, 10 regional governments and 14 states have adopted Complete Streets policies (Langdon, 2008). On March 3, 2008, Senate Bill 2686, the "Complete Streets Act of 2008" was introduced. This bill would amend the surface transportation program to require state and metropolitan planning organizations (MPOs) to: (1) adopt a policy statement that ensures that all users of the transportation system, including pedestrians, bicyclists, and transit users as well as children, older individuals, and individuals with disabilities, are able to travel safely and conveniently on streets and highways within the public right-of-way; and (2) apply such policy to Transportation Improvement Program projects as well as to all aspects of the transportation project development process. (<http://www.completestreets.org/>).

**International Mountain Bicycling Association**—Formed in 1988, IMBA is a non-profit educational association whose mission is to create, enhance and preserve great trail experiences for mountain bikers worldwide. IMBA's trail care crews and 750 bike clubs have been monumental in helping Federal land managers create bike patrols, construct trails and educate riders. IMBA contributions have been estimated at almost 1 million hours of volunteer work on public and private land. A mountain biking toolkit for land managers is available at <http://www.imba.com/resources/managers/index.html> (accessed June 2008). IMBA has an agreement with the NPS and a Memorandum of Understanding (MOU) with the USFS, which are described below.

- *General Agreement between NPS, DOI and IMBA–2005*—IMBA is working with some National Parks to encourage bicycle friendly policies and practices where appropriate.

This agreement encourages responsible riding and environmental conservation, supports participation in volunteer trail projects and fosters cooperation among trail user groups and land managers. Details of this agreement can be found at

[http://www.imba.com/resources/agencies/nps\\_agreement\\_05.html](http://www.imba.com/resources/agencies/nps_agreement_05.html).

- *Memorandum of Understanding between the USFS and IMBA*—This MOU develops and expands a framework for the USFS and IMBA to plan and implement mutually beneficial programs, projects, and bicycling opportunities. This MOU encourages responsible use of Federal lands by visitors participating in mountain bicycling and recreational activities. This MOU can be accessed at [http://www.imba.com/resources/agencies/usfs\\_imba\\_mou\\_2007.html](http://www.imba.com/resources/agencies/usfs_imba_mou_2007.html).

**Rails to Trails Conservancy**—The mission of RTC is to create a nationwide network of trails from former rail lines and connecting corridors to build healthier places for healthier people. <http://www.railtrails.org>.

**National Parks Transportation Scholars Program**—In 2001, the National Park Foundation (NPF), Ford Motor Company Fund, and Eno Transportation Foundation established this program. This program pairs transportation professionals and graduate students with National Parks seeking expert assistance on projects involving transportation planning and analysis, public outreach, intergovernmental coordination, environmental impact assessment, and other transportation-related tasks (Eno, 2007). The free bike program in Glacier National Park, and the Cuyahoga National Park bike/train integration and promotion program resulted from the work of transportation scholars.

**The National Park Foundation Transportation Interpreters Program**—This program places summer interns in National Parks to encourage visitors to use park-provided "alternative transportation systems" rather than relying on private automobiles. The goal of the Program is to help limit traffic congestion, noise and air pollution. Interpreters develop and deliver presentations to visitors that convey the benefits of the alternative systems available at those locations. Participants may also produce such as brochures, videos and podcasts to inform the public (Eno, 2008).

Other Bicycle Friendly Programs are listed below: See Appendix E for numerous other bicycle friendly programs and organizations.

- National Bicycle Route: <http://www.adventurecycling.org/routes/nbrn/usbikewaysystem.cfm>.
- One World, Two Wheels: <http://oneworldtwoheels.org/>,
- FHWA University Course on Bicycle and Pedestrian Transportation: <http://www.tfhrc.gov/safety/pedbike/pubs/05085/index.htm>.
- East Coast Greenway: <http://www.greenway.org/>
- Bicycle Technologies: [www.ibike.org/library/tech.htm](http://www.ibike.org/library/tech.htm).
- Frequent Biker Program (Freiker): <http://www.freiker.org/>.
- Pedal Pioneers: A Guide to Bicycle Travel with Kids: <http://www.adventurecycling.org/>

