Good Practices to Encourage Bicycling & Pedestrians on Federal Lands

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COVER PHOTO CREDIT

From top left to bottom right: Western Transportation Institute, Valley Forge National Historical Park; Western Transportation Institute, Mammoth Cave National Park; NPS, Mississippi National River and Recreation Area; Davis Farrar, Red Hill Recreation Area; Charles Hill, NPS, Lake Clark National Park and Preserve; City of Boise, ID

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LIST OF ACRONYMS

ATS	Alternative Transportation System
ATPPL	Alternative Transportation in Parks and Public Lands
ATV	All-Terrain Vehicle
BLM	Bureau of Land Management
Caltrans	California Department of Transportation
CFLHD	Central Federal Lands Highway Division
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FWS	United States Fish and Wildlife Service
GWMP	George Washington Memorial Parkway
MUTCD	Manual on Uniform Traffic Control Devices
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NPP	National Park and Preserve
NPS	National Park Service
NRRA	National River and Recreation Area
RHC	Red Hill Council
TRIPTAC	Paul S. Sarbanes Transit in Parks Technical Assistance Center
TRPA	Tahoe Regional Planning Agency
TSSD	Transportation Special Services District
USFS	United States Forest Service

EXECUTIVE SUMMARY

Integrating bicycle and pedestrian systems into existing transportation networks can help Federal land managers promote resource protection, reduce greenhouse gas emissions, further ecological balance, achieve financial sustainability, and improve visitor enjoyment and health. In recent years, a number of public land managers have initiated or partnered with other agencies to implement facilities and programs that promote bicycle and pedestrian travel in and around Federal lands. Other managers are interested in creating or expanding bicycle and pedestrian options in their units but need information about successful models and practices.

The purpose of this document is to share effective bicycle and pedestrian planning and implementation practices that may be applicable to Federal land settings. This report is not an exhaustive study of bicycle and pedestrian plans and programs on Federal lands. Rather, it is a sampling of instructive examples or models from a wide variety of Federal land units. In addition, selected cities and counties with successful bicycle or pedestrian programs that may be adaptable to a Federal land setting are used as examples.

This report highlights examples of plans and programs from a series of geographically diverse locations (Figure 1). However, the overarching goal was to select examples that illustrate components of an effective bicycle and pedestrian plan.

Figure 1: Locations of Highlighted Projects

Eleven components of an effective bicycle and pedestrian plan were identified:

1. Needs Assessment,
2. Partnerships,
3. Goals, Objectives, and Performance Measures,
4. Bicycle and Pedestrian Network Plan,
5. Design Guidelines,
6. Maintenance Policy and Procedures,
7. Pedestrian and Bicycle Support Elements,
8. Cost and Funding Analysis,
9. Encouragement, Education, and Enforcement Programs,
10. Evaluation and Monitoring, and
11. Updates.

Needs Assessment: An accurate needs assessment will help guide the development of a plan. Public participation, which can be solicited through workshops or surveys, is critical to identifying site specific needs.

Partners who developed the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan classified their needs through three overarching categories:

1. Environmental Benefits – improve air and water quality and reduce negative impacts on wildlife and native species,
2. Economic Benefits – increase business revenues, job creation, property values and energy savings, and
3. Health Impacts – combat obesity and reduce negative health impacts of pollution.

Surveys can help document bicycle and pedestrian needs. The North Moab Recreation Area Partnership Case Study highlighted a survey that documented the support for implementing bicycle facilities. Almost 40% of the surveyed visitors indicated that they would bicycle to Arches National Park if facilities were available.

Partnerships: Partnerships are invaluable – and often essential to developing a strong bicycle and pedestrian plan. Federal land management agencies can realize many benefits by partnering with agencies with similar goals, including accomplishing more with less, generating fresh ideas, opportunities and solutions, and obtaining guidance or assistance with grant applications. Having a well-defined working relationship with partners through formalized agreements like memorandums of understand can ensure successful collaborations.

A major benefit of partnerships is to draw from a wider pool of resources. In Moab, Utah, the Moab Trails Alliance assists in implementing the Grand County Non-Motorized Trails Master Plan by writing proposals and raising money to match grants for the North Moab Recreation Area's trail system.

Partnerships evolve over time, thus, Federal land managers must remain engaged within the partnerships to achieve success. Clearly defining the initial and ongoing responsibilities of each partner can help to aid in the success of the collaboration. A common document used to formalize partner responsibilities is the memorandum of understanding. As an example, the Red Hill Council "created a Memorandum of Understanding with the Bureau of Land Management to plan, manage, care for and maintain the Red Hill Special Recreation Management Area in Carbondale, Colorado."

Goals, Objectives, and Performance Measures: Goals, objectives, and performance measures help to conceptualize, define and measure the success of bicycle and pedestrian actions implemented as a result of the plan. They also provide direction, establish benchmarks, and measure progress.

- Goals are characterized by generality and brevity.
- Objectives should be quantifiable, time-specific, and measurable.
- Performance measures should be specific and designed to quantify objectives.

As an example, the City of Davis, California included the following goal, objective, and performance measure:

Goal: "Improve and maintain the safety, convenience, attractiveness, and inclusiveness of bicycle transportation in Davis."

Objective: "Increase the amount of bicycle trips as a percentage of all trips to 25% by 2012."

Performance Measure: Percent of trips made by bicycle.

Bicycle and Pedestrian Network Plan: A bicycle and pedestrian network plan addresses connections between popular sites within Federal land units, to gateway communities, and to the regional transportation network.

The bicycle and pedestrian network plans highlighted in this report have many common elements. From them, four steps that a Federal land manager can use to prioritize projects were identified. Even though not all of the steps will be applicable to every Federal land unit, they represent an effective starting point for discussion and planning purposes.

Step One: Identify Projects

The first step is to identify bicycle and pedestrian projects. Projects under consideration should either expand the bicycle and pedestrian network or fill in missing links of the existing network. This information is often generated during the Needs Assessment planning phase.

Step Two: Identify Rating Criteria and Assign Criteria Weights

Once projects are identified, the criteria with which the projects will be ranked need to be identified. The number of criterion and their focus reflects the goals and objectives for the

plan and the values of the plan's authors and stakeholders. In Acadia National Park's Hiking Trails Management Plan, the following were the criteria used to evaluate the projects:

- Cultural Resource Values,
- Effects on Natural Resources,
- Effects on Communities and Neighbors, and
- Visitor Experience Values.

Assigning weights to the identified criteria will provide a tool to guide the prioritization process. The assigned weights reflect the importance of the criterion, based on input from the planners and stakeholders and the public.

Step Three: Choose a Rating Scale and Assign a Score to Each Project

The next step is to choose the rating scale and subsequently score and rank the projects. Ranking projects incorporates all of the decisions made in the previous steps, including the projects identified, chosen criteria, weights assigned to each criterion, and rating scale used to rate each criterion.

Step Four: Summarize Results and Develop Network Map(s)

A table that summarizes and displays the results can be an effective tool for comparing project scores and discussing priorities. The table can show the project name, the resulting score broken down by criterion, the total project score, and the rank. Table 8 presents a portion of a table from Acadia National Park's Hiking Trails Management Plan.

Table 1: Excerpt from Table 3 of Acadia National Park's Hiking Trails Management Plan

Trail Name	Cultural Resource Score	Natural Resource Score	Communities and Neighbors Score	Visitor Experience Score	Total Score
Beech Mountain South Ridge Trail	35	35	12	32	114
Champlain East Face Trail	50	20	10	32	112
Beech Cliff Ladder Trail	40	30	10	32	112
Jordan Cliffs Trail	45	15	10	40	110
Jordan Pond Loop Trail	45	5	10	36	96
Jesup Path	35	10	18	32	95
Tarn Trail/Kane Path	45	20	10	20	95

Maps are another effective tool for summarizing network plans. These maps can be useful for numerous planning, communication, public outreach, funding development, and educational purposes.

Design Guidelines: Federal land managers will need to identify design guidelines that apply to the proposed bicycle and pedestrian facility projects. Table 2 presents common design elements associated with bicycle and pedestrian facilities.

Table 2: Typical Bicycle and Pedestrian Design Elements

Bicycle and Pedestrian	Bicycle-Specific	Pedestrian-Specific

• Multi-use trail widths
• Multi-use trail pavement markings
• Curb ramps
• Pathway crossing treatments
• Lighting
• Bollards
• Yield policies
• Construction detours
• Push buttons
• Regulatory, wayfinding, and interpretive signage
• Traffic control signals
• Water fountains
• Restrooms
• Foliage offsets
	• Bicycle parking
	  ○ Design and quantity of bicycle lockers
	  ○ Design and quantity of bicycle racks
	• Manhole and drainage grate placement/design
	• Bicycle loop detectors (to allow signal change when bikes are present)
	• Bicycle lane pavement markings
		• Grades (slope)
		• Benches

Managers can utilize or adapt design guidelines available from a variety of existing federal and state sources. Three examples include:

- 2009 Federal Highway Administration's Manual on Uniform Traffic Control Devices,
- State specific *Highway Design Manuals*, and
- The Institute of Transportation Engineer's (ITE) *Design and Safety of Pedestrian Facilities*.

Maintenance Policy and Procedures: Establishing a maintenance plan is imperative for the long-term success of a pedestrian and bicycle network. In fact, the 2008 Grand County Non-Motorized Trails Master Plan asserts, "A non-maintained trail system is worse than no trail system at all." A comprehensive maintenance plan should address short-term and long-term maintenance activities, funding, equipment needs, and the agencies responsible for each task.

Some examples of short-term maintenance activities include tree and shrub trimming and mowing/snow removal. Some examples of long-term maintenance activities include striping, bike rack repairs, and rehabilitation of benches. These are typically performed every 5 to 10 years.

Funding

Maintenance funding is often challenging because bicycle and pedestrian facilities are frequently implemented through grants. Grants are typically awarded for planning and construction costs but do not cover ongoing maintenance costs. However, many public agencies and Federal land units have developed creative solutions to fund or conduct maintenance activities, like maintenance of trails by volunteers, maintenance partnerships with non-profit agencies, and targeted bond or tax funding. The Red Hill Council, a partner of the Bureau of Land Management, hosts volunteer trail maintenance work parties on a weekday evening followed by a social gathering with pizza and beverages (Figure 2).

Figure 2: Volunteer Trail Maintenance Work Parties (Photo courtesy of Davis Farrar, Red Hill Council)

Equipment

Some equipment for maintaining pedestrian and bicycle facilities differs from that required to maintain roadways. Equipment for snow removal, trail rehabilitation and trail maintenance are a few examples of trail-specific equipment. Careful identification of specialized equipment needs will facilitate planning and accurate budgeting of ongoing maintenance activities.

In some cases, purchasing specialized maintenance equipment is a worthwhile investment. Acadia National Park made use of a trail-specific wheel barrow that runs on tracks instead of wheels and uses a hydraulic dump instead of requiring manual operation.

Who is Responsible for Maintenance?

Pedestrian and bicycle networks can cross boundaries of multiple cities, counties, and states, which can create challenges for determining who is responsible for maintenance. Before any facility is built, stakeholders should identify and formally agree on who will be responsible for maintenance. Multi-jurisdictional maintenance also represents an opportunity to share resources and coordinate tasks. Agencies should consider collaborating through maintenance agreements to reduce expenses. For example, Teton County and the Town of Jackson, Wyoming developed a memorandum of understanding for the maintenance of the pathway network. Through it, the two agencies agreed to split the cost of maintenance on a 50/50 basis.

Pedestrian and Bicycle Support Elements: Roadway network plans include provisions for support facilities and infrastructure, such as signage and parking lots. Similarly, bicycle and pedestrian plans should identify support facilities and services that promote and facilitate use. Some elements supporting pedestrians and bicyclists include:

- Wayfinding signs,
- Bicycle parking,
- Transit accommodations, and
- Bike rental, bike sharing, and employee bike fleets.

Federal land managers should also consider facilities such as:

- Benches
- Mile markers,
- Drinking fountains and restrooms,
- Dedicated spaces for bicyclists to congregate without blocking trails, and
- Bicycle repair stations, including bike pumps and simple tools.

Wayfinding Signs

Bicycle and pedestrian paths that are clearly marked with wayfinding signs promote use and a positive visitor experience.

Bicycle Parking

Providing sufficient and easily accessible bicycle parking promotes bicycle use. It also helps to prevent visitors from parking their bicycles in unsafe locations or in a manner that is detrimental to natural or historically sensitive surroundings (i.e. chained to a tree).

Transit Accommodations

Integration between pedestrians, bicycles, and transit expands transportation choices for a significant number of people who cannot or choose not to drive, including children and the elderly. Facilities or services that make it easier for visitors to move seamlessly from one mode to another can expand the use of alternative transportation. Bicycle racks on transit vehicles, bicycle lockers at transit stations or provisions to allow bicycles inside vehicles are all good practices; partnerships with transit agencies can expand development of these options.

As an example, Cuyahoga Valley National Park partnered with the Cuyahoga Valley Scenic Railroad to offer "Bike Aboard." Through the Bike Aboard program, bicyclists can ride the Towpath Trail and pick up the railroad to return to their starting location. This program offers visitors the flexibility to pedal as far as they want with an option to return by train. It also provides a wonderful opportunity to view the park from two different perspectives.

Figure 3: Cuyahoga Valley National Park: Bicycle Racks on Trains (Photo courtesy of Arrye Rosser, NPS)

Bike Rentals, Bike Sharing and Employee Bike Fleets

Visitors to public lands may not have a bicycle with them when they arrive. In places where good bicycling facilities exist, Federal land managers can encourage visitors to use the facilities by making bicycles available on site.

Bike Rentals

Offering bicycle rentals in or near Federal lands is a good practice. In recent years, a growing number of Federal land units have partnered with concessionaires to offer bicycle rentals within public lands. A Federal land unit should partner with concessionaires that can offer bicycles that can accommodate a variety of users.

Public Bike Sharing Programs

Bike sharing is a mode of public transportation in which a fleet of bicycles is made available for short-term use, typically in urban settings. Riders generally check out and return bicycles to a network of stations. Bike sharing programs, such as Capital Bikeshare (Washington D.C.) (Figure 4) and Nice Ride (Minneapolis, MN), are becoming a key component of multi-modal transportation networks in cities around the world.

Figure 4: Bike Sharing: Capital Bikeshare

Employee Bike Fleets

Employee bicycle fleets typically consist of standard, commercially available bikes that employees ride for various purposes. At Glacier National Park, a remote rural park in Montana, bikes are available to employees for short work trips within campgrounds or work campus areas. Providing bicycles for employee use is relatively inexpensive and simple to start.

Cost and Funding Analysis: Estimating costs and identifying funding sources for bicycle and pedestrian facilities are an important part of the planning process. While securing funds can be challenging, there is increasing interest and support for investing in sustainable and cost-effective transportation options like bicycle and pedestrian transportation. Therefore, an effective bicycle and pedestrian plan should contain thorough project cost estimates in order to make use of the funding opportunities available from federal, state, local, private, and non-profit sources.

A Federal land manager can review other plans to obtain estimates of cost for the different types of bicycle and pedestrian facilities. However, a Federal land manager should use them as estimates because location and the state of the economy may cause differences between the estimates and actual cost. Typically, bicycle routes are a low cost option that requires signs and pavement markings. Widening a roadway to create bicycle lanes requires a larger investment, particularly if curb-and-gutter is already present. Constructing multi-use paths may require an even greater level of investment. However, a significant benefit of investing in multi-use paths is their appeal to a wide range of people including families and first-time users. The need to purchase right-of-way, the existence of curb-and-gutter and other factors can make one facility type more or less expensive than the next.

Since there are many competing programs for funding, being prepared with an estimate for proposed projects can enable quick action when funding becomes available.

Encouragement, Education, and Enforcement Programs: Encouragement activities remind people about the benefits of travel without a motorized vehicle. Examples of

activities that encourage bicycling and walking include tours to points of interests, developing and distributing bicycle and pedestrian network maps, and organizing special events, like car-free days. Education programs for motorists, pedestrians, and bicyclists alike promote safety for all modes; these programs can be offered in traditional, in-person forums, or through new media tools. Enforcement of rules also promotes safety; Federal land units are developing innovative enforcement programs led by law enforcement officials and park rangers and supported through volunteer trail ambassadors.

Encouragement – Tours, Maps, and Events

With the growing interest in sustainable transportation and health promotion, the number of programs in public land settings to encourage people to walk or bicycle is growing. Visitors often see and experience a federal land unit in a completely different way by using an alternative form of transportation. Examples of ranger led tours, bicycle and pedestrian maps, and special events are provided.

Tours

Bicycle and pedestrian tours can introduce visitors to the non-motorized facilities available in the unit and showcase the benefits of biking and walking. Tours are particularly effective if they offer a unique experience not available to visitors in cars, such as close-up views of wildlife or access to trails that do not accommodate motor-vehicles. At Mississippi National River and Recreation Area, for example, tours are offered from July through September. Park rangers use the bicycle tours to educate visitors about the presence of the park and the resources it works to protect.

Bicycle and Pedestrian Network Maps

Maps of bicycle and pedestrian networks are effective tools to encourage more people to walk and bike. Maps can illustrate various features to attract and orient users, such as:

- On-street routes, separated multi-use paths, or trail networks,
- Links to public transportation such as transit stops, and
- Popular visitor destinations (hiking areas, landmarks) and services (shopping areas).

In order to make full use of maps, developing a dissemination plan can help to engage a broader audience. For example, the Lake Tahoe Bike Trail Map is distributed annually by the Lake Tahoe Bicycle Coalition.

Events

Special events are an effective way to encourage people to walk or bicycle. Events are often held to bring attention to pedestrian and bicycle issues, using fun activities or special incentives. Other events offer special limited-time access to roads, trails or attractions for visitors using non-motorized transportation.

The City of Portland holds an event called "Sunday Parkways," which began as a single event in 2008 and has since expanded. Roads that connect select parks within the city are closed to motor-vehicles for this event. It gives participants the "opportunity to experience the unique benefits of walking, rolling or bicycling through neighborhoods where miles of streets are temporarily car-free and carefree."

Education

Education programs teach pedestrians, bicyclists and motorists how to safety interact, and in some cases they can teach people how to properly ride a bicycle. Educational components are particularly important for bicycle and pedestrian initiatives that target children with limited bicycling experience. For example, the Ridge to River Partnership in Boise, Idaho, created a short video on trail etiquette about how different types of trail system users should interact.

Enforcement

Enforcing laws pertaining to speed limits, appropriate behavior at stop signs, crosswalks, traffic signals, and driving under the influence can improve safety for all roadway users. Enforcement activities are particularly important on or near new paths, in areas that attract users that are unfamiliar with the transportation network (i.e. tourists), and on trails that attract many young or inexperienced bicyclists who may be unfamiliar with laws and regulations.

Volunteer pathway or trail ambassadors assist some Federal land units by helping visitors with directions or informing bicyclists, pedestrians and motorists about rules and their basis. Grand Teton National Park is just one park that has created a trail ambassador program (Figure 5).

Figure 5: Grand Teton National Park: Pathway Ambassadors

Evaluation and Monitoring: Evaluation and monitoring activities help to assess the effectiveness of plans, projects and programs. Evaluation is the "on-going monitoring of facility use, condition and problems." Examples of evaluation activities include collecting data on bicycle and pedestrian use, performing safety evaluations, and conducting surveys for evaluation purposes. Collected data should help assess progress towards the objectives of the projects and programs. The findings from evaluation and monitoring activities benefit plan updates and future projects.

Facility and Program Use

One measure for evaluating the effectiveness of a bicycle and pedestrian plan is to document the number of people using the facilities and programs. Facility use can be documented in several ways, such as counting individuals at a specific location, recording the use of bicycle racks, and tallying requests for bicycle racks, benches, and wayfinding signs. Participation in programs can be documented through several methods as well, such as counting individuals or reviewing registration records. All of this information can support the evaluation of performance measures.

For example, the George Washington Memorial Parkway installed nine active infrared trail counters along the Mount Vernon Trail to track pedestrian and bicycle use. The counts indicate that the trail is likely used by bicycle commuter traffic because peaking, similar to vehicular traffic, is observed in both the morning and evening.

Safety

The safety of pedestrians and bicyclists, both between the users groups and in relationship to motor-vehicles, should be monitored and evaluated. Tracking crash locations and injury severity will help identify locations in the network that need improvements. Both engineering and educational initiatives should be used to improve any location of concern.

A safety evaluation of the occurrence of accidents along Mount Vernon Trail was conducted by George Washington Memorial Parkway. From the evaluation, managers determined that approximately one ambulatory transport occurs each week. Bicyclists were overrepresented in the crash reports. The majority of crashes occurred between bicyclists and pedestrians, bicyclists and bicyclists, or were due to a single bicyclist that crashed. Surprisingly, few if any crashes were between motor-vehicles and bicyclists or pedestrians. In order to address these findings, George Washington Memorial Parkway managers began distributing educational materials.

Surveys

Surveys help to obtain information about how bicycle and pedestrian facilities are used, user attitudes, user needs, and impacts of these facilities on surrounding communities. This information can improve programs and support future initiatives. Surveys provide information on why and how people use the bicycle and pedestrian network and their potential economic impact.

The Red Hill Project Final Report presented a survey that showed more than 71% of users traveled between 0-5 miles to access the Red Hill Area. Additionally, survey results indicated that more than 94% of respondents wanted to restrict motorized use in the Red Hill Area.

Updates: An effective bicycle and pedestrian plan is one that is continually refined. There are three primary reasons why plan updates are necessary. First, the needs of pedestrians

and bicyclists will evolve as portions of any plan are implemented. Second, design standards for bicycle and pedestrian facilities are rapidly progressing as more information is gathered. Finally, plan updates document successes and areas where improvements can be made. It is for these reasons that a bicycle and pedestrian plan should be updated every three to five years.

The 2003 Lake Tahoe Region Bicycle and Pedestrian Plan set forth "ambitious benchmarks," including completing 60 miles of additional bicycle and pedestrian facilities by 2008. By 2010 (there was also a 2006 edition), only 13 miles were added. In the process of developing the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan, the Tahoe Region Planning Agency found that projects listed in the plan were often overlooked by developers and plan reviewers. In response the Tahoe Region Planning Agency took four actions:

1. They incorporated a bicycle and pedestrian checklist into the planning process,
2. They created an interactive, online map of existing and proposed bicycle and pedestrian projects,
3. They conducted numerous meetings with Caltrans and Nevada Department of Transportation planners, designers, and engineers to identify the need for bicycle and pedestrian accommodation, and
4. They developed policy language to be included in their Code of Ordinances.

CHAPTER 1: INTRODUCTION

On public lands, the transportation network must provide mobility and access to current visitors, while preserving the natural and cultural resources for future visitors. As federal land managers conduct long-term transportation planning, they are expressing a growing interest in bicyling and pedestrian systems, which can expand travel options, facilities, and capacity in an environmentally sensitive manner. Bicycle and pedestrian travel has other ecological, fiscal, and health benefits, and often improves the experience of visitors by bringing them closer to the unique features of the location.

In recent years, a number of public land managers have initiated or partnered with other agencies to implement facilities and programs that promote bicycle and pedestrian travel in and around federal lands. Other managers may be interested in creating or expanding bicycle and pedestrian options in their units but need information about successful models and practices. The purpose of this document is to share good bicycle/pedestrian planning and implementation practices that may be applicable to Federal lands settings.

This report presents a sample of bicycle and pedestrian plans and programs on Federal lands, including examples from National Park Service (NPS), United States Forest Service (USFS), Bureau of Land Management (BLM) and US Fish and Wildlife Service (FWS) units in both rural and urban settings. In some cases, the examples also come from cities or other public agencies with successful bicycle or pedestrian programs that may be adaptable to a federal land setting.

WHAT IS THE PAUL S. SARBANES "TRANSIT IN PARKS" PROGRAM?

The Paul S. Sarbanes Transit in Parks Program is a federal financial assistance program administered by the Federal Transit Administration (Title 49, Chapter 5320) that annually awards grants to carry out projects that provide alternative transportation planning, facilities, and services in national parks and public lands. The program was established by Congress in 2005 to address the challenge of increasing motor-vehicle congestion in and around national parks and other federal lands.

The program seeks to support alternative transportation systems that conserve natural, historical, and cultural resources; reduce congestion and pollution; improve visitor mobility and accessibility; enhance visitor experience; and ensure access to all, including persons with disabilities. The program is administered by the United States Department of Transportation, together with the Department of the Interior and the United States Forest Service.

Program funds may support capital and planning expenses for new or existing alternative transportation systems in the vicinity of an eligible area. Alternative transportation includes transportation by bus, rail, or any other publicly available means of transportation and

includes sightseeing service. It also includes non-motorized transportation systems such as pedestrian and bicycle trails. Operating costs, such as fuel and drivers' salaries, are not eligible expenses.

WHAT IS THE PAUL S. SARBANES "TRANSIT IN PARKS" TECHNICAL ASSISTANCE CENTER (TRIPTAC)?

This document has been created by the Paul S. Sarbanes Transit in Parks Technical Assistance Center (TRIPTAC), in order to expand knowledge about bicycle and pedestrian transportation planning among Federal land managers. The TRIPTAC disseminates this information to Federal land managers to help them conduct effective planning and meet their alternative transportation goals.

Under the auspices of the Transit in Parks program, the Federal Transit Administration created the Paul S. Sarbanes Transit in Parks Technical Assistance Center. It provides Federal land managers with an expanded set of readily-available tools to meet the goals of the Paul S. Sarbanes Transit in Parks Program, which are to conserve natural, historical, and cultural resources, reduce congestion and pollution, and improve visitor access and experience on Federal recreation lands.

The TRIPTAC provides no-cost information, training, and technical support on alternative transportation systems (ATS) for Federal land managers and partner communities, offering a single point of contact/one-stop shop for desired services. Specific services include person-to-person technical liaisons, a Help Desk (helpdesk@triptac.org or 877-704-5292) and website (www.triptac.org), training workshops, a peer mentoring program, and an online system to help public land managers find documents, technical manuals, and other resources. This compilation of good practices represents one of the resources developed for TRIPTAC clients.

REPORT CONTENTS AND ORGANIZATION

This document presents information that Federal land managers can use to incorporate bicycle and pedestrian programs and facilities into their land unit and surrounding area. A list of "Additional Bicycle and Pedestrian Resources" can be found before the references. These sources provide additional information that may be of interest to the reader.

Chapter 2 begins by summarizing which plans, partners and Federal land units have multi-use recreational trails, a long-range bicycle and pedestrian plan, bike-share programs, and transit integration with the bicycle and pedestrian network. Next, a table summarizes the locations, associated bicycle plans, and partnering agencies that are highlighted throughout this document. In fact, the table lists every chapter, and an 'X' appears if the plan, partner or Federal land unit was used as a source for the chapter.

The subsequent chapters correspond to the key components of effective promotion of bicycle and pedestrian activities in or near Federal land units. Lessons and examples are

contained in each chapter to better illustrate them. The plans, programs, and initiatives highlighted in this report were selected because they can provide important information on one or more of the following key components of effective bicycle and pedestrian plans and programs:

Chapter 3: Needs Assessment– Describes methods for documenting and justifying the demand for bicycle and pedestrian programs and planning.

Chapter 4: Partnerships – Identifies benefits and provides examples of how partnerships enhance and facilitate bicycle and pedestrian planning.

Chapter 5: Goals, Objectives, and Performance Measures – Explains how these items interrelate and gives examples from bicycle and pedestrian plans.

Chapter 6: Bicycle and Pedestrian Network Plan – Illustrates a four-step process for developing a network plan.

Chapter 7: Design Guidelines – Recommends pedestrian and bicycle design elements for inclusion in a plan and identifies sources for potential designs.

Chapter 8: Maintenance Policy and Procedures – Identifies short and long-term maintenance needs and related funding challenges.

Chapter 9: Pedestrian and Bicycle Support Elements – Provides examples and an in-depth discussion of support elements that help implement, maintain, or enhance effective programs.

Chapter 10: Cost and Funding Analysis – Provides tools for developing cost estimates for bicycle and pedestrian facilities and identifies examples of funding sources.

Chapter 11: Encouragement, Education and Enforcement Programs – Provides a discussion and examples of bicycle and pedestrian programs.

Chapter 12: Evaluation and Monitoring – Presents benefits and examples for assessing the effectiveness of bicycle and pedestrian plans and programs, with an emphasis on use, safety, and surveys.

Chapter 13: Updates – Identifies timelines used by other agencies to update bicycle and pedestrian plans.

Chapter 14: Summary – Provides a summary of the document.

Appendices:

The report includes an extensive set of appendices that present samples of partnership agreements, cost estimates and other resources that Federal land managers can use as examples when developing their own bicycle and pedestrian plan or program.

Appendix A – Contains public outreach materials for the Cape Cod National Seashore Integrated Bicycle Study.

Appendix B – Contains two Memorandums of Understanding (MOU). The first MOU is between the BLM and the Red Hill Council to help manage recreation in BLM lands near Carbondale, Colorado. The second MOU is between the FWS's National Elk Refuge and Teton County, Wyoming to guide construction and operation of a shared-use non-motorized pathway near Jackson, Wyoming.

Appendix C – Provides network plan examples from other bicycle and pedestrian plans.

Appendix D – Contains an MOU between the NPS and the Friends of Acadia, a non-profit organization in Maine, to establish a private endowment to maintain the Acadia National Park trail system and related activities.

Appendix E – Provides additional cost estimation tables from Portland, Oregon and the Cape Cod, Massachusetts area.

Appendix F – Contains encouragement and education materials from George Washington Memorial Parkway, the Mississippi National River and Recreation Area, and Grand Teton National Park.

Appendix G – Contains a recreational use survey designed by the Red Hill Council for the Red Hill Special Recreation Management Area near Carbondale, Colorado.

CHAPTER 2: BICYCLE AND PEDESTRIAN PLANS & PROGRAMS, HIGHLIGHTED EXAMPLES

The authors highlighted federal land units and public agencies from geographically diverse locations as Figure 1 demonstrated. In addition, they selected examples that illustrate a range of bicycle and pedestrian facilities and programs from multi-use recreational trails, to long-range bicycle and pedestrian plans, to bike share systems, to plans that looked at the integration of transit with bicycles and pedestrians.

Multi-use recreational trails separate motor-vehicles from bicycles and pedestrians. As a result of the separation, multi-use recreational trails are popular with families with children and individuals that do not feel comfortable bicycling or walking adjacent to motor-vehicles. The Grand County Non-Motorized Trail Master Plan, Lake Tahoe Bicycle and Pedestrian Plan, Jackson Hole Community Pathways Master Plan, and Ridge to Rivers Pathway Plan are examples of bicycle and pedestrian plans that include multi-use recreational trails. The Mississippi National River and Recreation Area, Cuyahoga Valley National Park, and George Washington Memorial Parkway are examples of Federal land units that have multi-use recreational trails.

This document contains examples of several long-range bicycle and pedestrian plans that help to establish and achieve goals for expanding the capacity of bicycle and pedestrian facilities. Some examples of these include the Portland Bicycle Plan for 2030, Ada County Highway District Roadways to Bikeways Plan, and the Bureau of Land Management's National Mountain Bicycling Strategic Action Plan.

Another program discussed herein is bike sharing, which provides access to bicycles for short trips. The Nice Ride system in Minneapolis, Minnesota, the Capital Bikeshare program in Washington, D.C., and San Antonio Bike Share in San Antonio, Texas are three provided examples.

This report also looks at some specific examples of integrating bicycle and pedestrian facilities with public transit, thereby enhancing connections with the surrounding communities. Two examples of plans that specifically address the integration include the Integrated Bicycle Plan for Cape Cod Bicycle Feasibility Study and ATP Transportation Implementation Plan in Minneapolis.

Table 3 lists the plan, partner or Federal land unit and an associated location (city, state). The locations were previously identified on a map in Figure 1. It also highlights whether each example is in an urban or rural location. Finally, the table identifies the component(s) of an effective bicycle and pedestrian plan illustrated by the example, which allows the reader to identify where the example is discussed in the text.

Table 3: Summary of Bicycle and Pedestrian Plans, Partners and Federal Land Units within this Document

Location	Plan, Partner or Federal Land Unit	Rural/Urban	Needs	Partnerships	Goals, Objectives, and Performance Measures	Bicycle and Pedestrian Network Plan	Design Guidelines	Maintenance Policy and Procedures	Pedestrian and Bicycle Support Elements	Cost and Funding Analysis	Encouragement, Education, and Enforcement	Evaluation and Monitoring	Updates
Alamogordo, NM	White Sands National Monument	Rural									X		
Alsworth, AK	Lake Clark National Park and Preserve	Rural									X		
Arlington, VA	George Washington Memorial Parkway	Urban									X	X	
Bar Harbor, ME	Acadia National Park	Rural						X					
	Friends of Acadia							X					
	Hiking Trails Management Plan					X							
Boise, ID	Ridge to Rivers Pathway Plan/ Partnership	Rural	X	X	X						X		X
	Ada County Highway District Roadways to Bicycle Plan					X							
Bushkill, PA	Delaware Water Gap National Recreation Area	Rural							X				
Carbondale, CO	Red Hill Council/ Red Hill Project Final Report	Rural		X	X			X				X	
Cleveland, OH	Cuyahoga Valley National Park	Urban						X	X				
Davis, CA	City of Davis Bicycle Plan	Rural			X								
Estes Park, CO	Rocky Mountain National Park	Rural							X				
Gatlinburg, TN	Great Smoky Mountains National Park	Rural						X					
Harwich, MA	Cape Cod National Seashore	Urban	X		X						X		
	Integrated Bicycle Plan for Cape Cod Bicycle Feasibility Study		X		X					X			
Jackson, WY	National Elk Refuge/ Teton County	Rural		X									
	Jackson Hole Community Pathways Master Plan		X			X		X	X				X
	Grand Teton National Park			X					X		X		
	Master Plan User Survey Summary of Results		X										
King of Prussia, PA	Valley Forge National Historical Park	Urban							X		X		
Lake Tahoe, CA	Lake Tahoe Bicycle and Pedestrian Plan	Rural	X	X	X	X	X			X	X	X	X
Minneapolis, MN	Mississippi National River and Recreation Area	Urban			X	X					X		
	ATP Transportation Implementation Plan				X	X							
	Nice Ride								X				
Moab, UT	Grand County Non-Motorized Trails Master Plan	Rural		X	X			X					X
	North Moab Recreation Area Partnership Case Study		X	X				X					
Omaha, NE	National Park Service's Midwest Regional Office	Urban							X				
Phildelphia, PA	Independence National Historical Park	Urban									X		
Portland, OR	Portland Bicycle Plan for 2030	Urban								X	X		
Redding, CA	City of Redding's Bikeway Action Plan 2010-2015	Rural			X					X			
San Antonio, TX	San Antonio Missions National Park	Urban							X				
San Francisco, CA	Golden Gate National Recreation Area	Urban						X					
Trempealeau, WI	Trempealeau National Wildlife Refuge	Rural										X	
Tuscayan, AZ	Grand Canyon National Park	Rural							X				
West Glacier, MT	Glacier National Park	Rural							X				
Washington D.C.	Capital Bikeshare	Urban							X				
	Rock Creek Park										X		
n/a	National Mountain Bicycling Strategic Action Plan	n/a			X								

CHAPTER 3: NEEDS ASSESSMENT

One of the first steps to improving bicycle and pedestrian facilities and programs is identifying transportation-related needs and goals specific to the Federal land unit. An accurate needs assessment will help guide the development of the remaining plan chapters, from engaging partners to evaluating the effectiveness of the bicycle and pedestrian network. Needs may range from the specific, such as improving pedestrian access at a busy intersection, to more general statements such as improving health and quality of life in the community. These needs will play into the identified goals. Public participation, which can be solicited through workshops or surveys, is critical to identifying site specific needs.

In the Town of Jackson, Wyoming's Jackson Hole Community Pathways Master Plan (1), partners classified their needs into six categories:

1. Balanced transportation system – acknowledgment that every transportation mode will require a user to be a pedestrian at some point
2. Safety – people need safe places to walk and bike
3. Health benefits – physical inactivity is a nationwide epidemic contributing to many life-threatening conditions
4. Environmental sustainability
5. Economic benefits (tourism, real estate values and affordable transportation)
6. Overall quality of life

PRO-ACTIVE NEEDS ASSESSMENT: Public Involvement at Cape Cod National Seashore

The 2010 Bicycle Feasibility Study (10) for the Cape Cod National Seashore identified needs during four workshops to create an "integrated bicycle network throughout Cape Cod." Organizers actively engaged public participation through a website, direct mail and public meetings. Appendix A contains some materials that were used by the Cape Cod National Seashore to obtain public input.

Similarly, partners who developed the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan (2) classified their needs through three overarching categories:

1. Environmental Benefits – improve air and water quality and reduce negative impacts on wildlife and native species,
2. Economic Benefits – increase business revenues, job creation, property values and energy savings, and
3. Health Impacts – combat obesity and reduce negative health impacts of pollution.

Potential needs and goals for a bicycle and pedestrian plan can be determined through surveys. The Ridge to Rivers Pathway Plan (3) incorporated data from two surveys: the Ada Planning Association Regional Transportation Plan Survey and the Ada County Citizen Input Survey. These sources documented support for funding the development of bicycle lanes and provided an estimate of the number of people who use a bicycle for transportation.

The North Moab Recreation Area Partnership Case Study (4) also discusses a survey that documented support for implementing bicycle facilities. Almost 40% of the surveyed visitors indicated that they would bicycle to Arches National Park if facilities were available.

Friends of Pathways and Jackson Hole Community Pathways sponsored the Jackson Hole Pathways Master Plan User Survey (5) in 2005. One finding of this survey was that the vast majority of respondents suggested adding a pathway connection between Grand Teton National Park and Jackson and Teton Village.

CHAPTER 4: PARTNERSHIPS

Partnerships are invaluable – and often essential to developing a robust bicycle and pedestrian plan. Federal policy defines partnerships as "arrangements that are voluntary, mutually beneficial, and entered into for the purpose of mutually agreed upon objectives" (6).

The benefits of developing partnerships to plan and implement pedestrian and bicycle networks are to (6):

- Enable federal agencies to accomplish a lot with a little,
- Generate fresh ideas, opportunities, and solutions,
- Provide a larger pool of expertise and resources from which to draw,
- Identify a diversity of funding options, and
- Provide guidance or assistance with grant applications.

Pooling staffing resources and expertise is a major benefit of partnerships. In Lake Tahoe, California, for example, the Great Basin Institute helps Federal land managers in the development of National Environmental Policy Act documents to support the implementation of the Lake Tahoe Region Bicycle and Pedestrian Plan (2).

PARTNERSHIP BENEFIT – FUNDRAISING

In Moab, Utah, the Moab Trails Alliance assists in implementing the Grand County Non-Motorized Trails Master Plan (7) by writing proposals for and raising money to match grants for the North Moab Recreation Area's trail system (4).

With the increasing interest in sustainable transportation, energy conservation, livable communities, and wellness issues, there are numerous potential partners with an interest in promoting bicycle and pedestrian options including (6):

- Other Federal land management agencies,
- Local, county, and state elected officials and government,
- Area businesses,
- "Friends" organizations, land trusts, and other non-profit groups,
- Planning agencies,
- Chambers of commerce and tourism agencies, and
- Park visitors and local citizens.

Three locations identified in this study provide excellent examples of the value of partnerships:

- Lake Tahoe Region Bicycle and Pedestrian Plan (2), for which the United States Forest Service and numerous small towns in Nevada and California worked together to create a comprehensive plan,
- Grand County Non-Motorized Trails Master Plan (7), for which citizens and private businesses in rural Moab, Utah worked with city, county, state, and numerous federal agencies, and

- Ridge to Rivers Pathway Plan (3), for which federal, state, regional, and local agencies joined together to link the Boise, Idaho area to surrounding public lands.

Table 4 illustrates the diverse set of partners from these three examples.

Table 4: Partnerships Formed to Create a Bicycle and Pedestrian Plan

	Lake Tahoe Region Bicycle and Pedestrian Plan (2)	**Grand County Utah Non-Motorized Trails Master Plan** (7)	**Ridge to Rivers Pathway Plan** (3)
Federal Agencies	• USFS	• USFS • BLM • FTA • NPS	• USFS • BLM
City, State and County Government Agencies, Sovereign Nations, & Special Districts	• Carson City and City of South Lake Tahoe • Douglas, El Dorado, Placer and Washoe County • Caltrans • CA State Parks • Nevada DOT • Washoe Tribe of Nevada & California • Incline Village General Improvement District • North Tahoe and Tahoe City Public Utility Districts • Tahoe Transportation District	• Moab City • Grand County • Utah DOT	• Boise and Garden City, City of Kuna, Meridian and Eagle • Boise Parks and Recreation • Ada County Parks and Waterways • Ada County Highway District • Idaho DOT
Regional Planning Agencies	• Tahoe Regional Planning Agency • Tahoe Metropolitan Planning Org. • Tahoe Transportation Commission		• Ada Planning Association
Bicycle and Pedestrian Groups	• Lake Tahoe Bicycle Coalition • Tahoe Rim Trail Association	• Bikes Belong • Moab Trails Alliance • Trail Mix	
Other Groups	• Great Basin Institute • California Tahoe Conservancy	• Lions Club	

While partnerships have many potential benefits, there are always challenges to leading and coordinating a multi-agency partnership. The following six steps are recommended to develop successful partnerships (6):

1. Initiate cooperative working relationships – Cooperative working relationships can be at the federal, state or local level. The 1997 Memorandum of Understanding between the United States Department of Transportation and the Department of Interior paved the way for collaborations between these two entities. State and local relationships can be developed by participating in community meetings.

2. Ensure local involvement – Involve the local community. Examples of mechanisms that can be used to involve the local community are public meetings, workshops, newsletters, and surveys.
3. Identify strong leadership – Identify an individual that has a strong belief in the vision and who holds the trust of stakeholders. More often than not, this individual is the project champion.
4. Develop a conservative planning approach – A plan is best implemented in phases by starting out with smaller more manageable pieces and subsequently building on successes and correcting any shortcomings.
5. Seek diverse financial support – Using a variety of financial sources reduces financial vulnerability. Examples of types of financial support include appropriated funds, partnership contributions, federal grants, and special use permits.
6. Use formal partnership devices to secure relationships – The idea behind establishing formal agreements is that they result in something good for the public. Formal partnership devices include memorandums of understanding or contractual agreements.

These six steps are discussed in great detail within the webinar entitled, "Alternative Transportation Systems and the Role of Partnerships, Stakeholder Participation, and Public Involvement," starting at 41:26 (http://www.triptac.org/Training/TAC_Trainings/Default.html) (6).

Partnerships are an evolving relationship. In order for partnerships to be successful, land managers must stay engaged in the process (8). Clearly defining the initial and ongoing responsibilities of each partner can help to aid in the success of the collaboration. Agreements that can formalize partnerships and facilitate long-term working relationships include (6):

- Cooperative Agreements and Memorandums of Agreement,
- Procurements and Contracts,
- Memorandums of Understanding (MOU),
- Interagency Agreements, and
- Mutual Interests and Mutual Benefit Agreements.

FORMALIZING PARTNERSHIPS THROUGH A MEMORANDUM OF UNDERSTANDING:

Red Hill Council and Bureau of Land Management: The Red Hill Council "created a Memorandum of Understanding (see Appendix B) with the BLM to plan, manage, care for and maintain the Red Hill Special Recreation Management Area in Carbondale, Colorado" (38).

Three example MOUs are provided in Appendix B: two from the BLM and one from the NPS. The two from the BLM are with the Colorado Mountain Club and International Mountain Bicycling Association and Bicycle Colorado, respectively. Both of these MOUs included in their purpose training, educating, and management of trails. The MOU from NPS is between Teton County, Wyoming and the National Elk Refuge. They entered into an MOU for the construction and operation of a 6.2 mile pathway on Refuge land connecting the town of Jackson, Wyoming to Grand Teton National Park (1).

CHAPTER 5: GOALS, OBJECTIVES AND PERFORMANCE MEASURES

Goals, objectives, and performance measures are an integral part of an effective bicycle and pedestrian plan. They help to conceptualize, define and measure the success of bicycle and pedestrian actions implemented as a result of the plan. They also provide direction, establish benchmarks, and measure progress.

Goals, objectives, and performance measures are intertwined and interdependent. A goal without an objective remains an ideal, and objectives without performance measures are unquantifiable. The following sections define goals, objectives and performance measures, and provide examples from bicycle and pedestrian plans.

GOALS

Goals, also sometimes described as a vision, are "broad statements of desired state (9)." Two important characteristics of goals are **generality** and **brevity**.

The following are examples of goals identified in bicycle and pedestrian plans highlighted in this report:

- "Provide a safe and enjoyable Cape [Cod National Seashore] experience for residents and visitors alike with a system of connected bicycle facilities (10)."
- "Protect the environment and minimize conflicts while continuing to provide for recreational use of public lands in the Red Hill Area (11)."
- "Integrate [the] Mississippi River Trail with area transit and trails to increase visitation to [the] Mississippi National River and Recreation Area without increasing congestion (12)."
- "Develop a fully integrated network of environmentally sustainable trails for non-motorized use that will link the Moab Valley to other areas in Grand County (7)."
- "Develop a comprehensive multiple-use trail system in the foothills and outlying areas that will connect neighborhoods, parks and other open spaces (3)."
- "Increase use of interpretive messages and information about mountain bicycle management and emphasize the value of BLM-managed public lands to current and future generations (13)."
- "Make the trail system sustainable (14)."

OBJECTIVES

Objectives, also called benchmarks, are "specific statements that describe the desired outcome (9)." Objectives should be **quantifiable**, **time-specific**, and **measurable**. It is good practice to use the words "shall," "will," and "must" when writing objectives. Multiple objectives may be used to support one goal.

The City of Redding, California bicycle plan (15) provides a good example of developing specific goals and objectives. The plan includes a timeline for achieving the objectives, as shown in Table 5.

Table 5: Goals and Objectives in a Timeline

GOAL: Develop Bicycle-Related Education, Promotion and Enforcement Initiatives						
Objectives/Year	2010	2011	2012	2013	2014	2015
Establish a Bicycle Advisory Committee	X					
Seek recognition from the League of American Bicyclists as a bicycle friendly community		X (Apply)				X (Reapply)
Work with Partners to Promote increased bicycle usage	X					
Regularly update & disseminate the Redding Bikeway Map	X			X		

PERFORMANCE MEASURES

Performance measures are an essential evaluation tool, which help to monitor progress toward reaching goals and objectives. In other words, "performance measures are used to quantify objectives (9)." Defining specific and quantifiable performance measures also helps to determine data needs including the frequency with which the data is collected. Table 6 shows examples of goals with corresponding objectives and performance measures.

Table 6: Example of Goals, Objectives and Performance Measures

GOAL: "A complete bicycle and pedestrian network that provides convenient access to basin destinations and destinations outside the basin (2)**"**	
Objective	"Implement 20 percent (approximately 45 miles) of all recommended facility improvements within five years (by 2015)"
Performance Measure	Number of recommended miles completed by 2015
GOAL: "Increase the number of trips by bicycle and walking (2)**"**	
Objective	"Double the percentage of commuters who bicycle or walk to work from 3.8 percent of all employed residents to 7.6 percent of all employed residents"
Performance Measure	Percent of employed residents who bicycle or walk to work in 2020
GOAL: "Improve and maintain the safety, convenience, attractiveness, and inclusiveness of bicycle transportation in Davis (California) (14)**"**	
Objective	"Increase the amount of bicycle trips as a percentage of all trips to 25% by 2012"
Performance Measure	Percent of trips made by bicycle
GOAL: "Improve and add bikeways, connections and facilities (15)**"**	
Objective 1	"expand by 38.70 on-street miles to a total…bikeway network of 162.81 miles by 2015"
Performance Measure 1	Total completed mileage for on-street bicycling in 2015
Objective 2	"the portion of the bikeway system graded as Class 2 – Bike Lanes will almost double from the current 24.61 miles to a total of 46.18 miles at this level of service by 2015"
Performance Measure 2	Total completed mileage for Class 2 – Bike Lanes in 2015

CHAPTER 6: BICYCLE AND PEDESTRIAN NETWORK PLAN

A bicycle and pedestrian network plan addresses connections between popular sites within Federal land units, to gateway communities, and to the regional transportation network. A bicycle and pedestrian network plan should work to connect sites such as campgrounds, visitor centers, and popular attractions. Connections to gateway communities may be made through bicycle lanes or multi-use paths. A multi-modal connection could be created by linking a sidewalk or trail to a transit stop that connects to a gateway community. Federal land managers should also investigate potential connections to the regional transportation network. For example, units neighboring a rail line should investigate how they may connect their visitor center to a rail stop.

The bicycle and pedestrian network plans highlighted in this report have many common elements. From these, the authors have identified four steps that a Federal land manager can use to prioritize projects. While not all steps will be applicable to every Federal land unit, they represent an effective starting point for discussion and planning purposes.

The four steps are summarized in the following list, succeeded by descriptions and an example for each section taken from Acadia National Park's Hiking Trails Management Plan (HTMP):

1. Identify projects
2. Identify rating criteria and assign criteria weights
3. Choose ranking scale and rank projects
4. Summarize results and develop network map(s)

Additional examples for some steps taken from the Jackson Hole Community Pathways Master Plan (1), the Ada County Highway District Roadways to Bikeways Plan (16), and the Lake Tahoe Region Bicycle and Pedestrian Plan (2) are provided in Appendix C.

SIMPLIFYING PROJECT IDENTIFICATION: Mississippi National River and Recreation Area

The Mississippi National River and Recreation Area is using electronic tools to facilitate project identification. Previously, they conducted an extensive review of planning documents, capital improvement plans and online resources to identify projects (12) but found it challenging to compare projects because the information provided was inconsistent (39). Therefore, they developed a web-based tool that standardizes the required information about a project, which expedites both the review and ranking process.

Step One: Identify Projects

The first step in developing a bicycle and pedestrian network plan is to identify bicycle and pedestrian projects. Projects under consideration should either expand the bicycle and pedestrian network or fill in missing links of the existing network. This information is often generated during the Needs Assessment (Chapter 4) planning phase, in which stakeholders identify bicycle and pedestrian facilities, programs,

links, and other factors that would enhance the network or increase usage. Engaging the public to identify projects is a critical component of this step, as it provides the public with a sense of ownership and encourages them to use the final product.

Step Two: Identify Rating Criteria and Assign Criteria Weights

Once potential projects are identified, the criteria with which the projects will be ranked need to be identified. The number of criteria and their focus reflect the values of the plan's authors and stakeholders and should be in line with the objectives and performances measures that have been chosen for the area. As in the previous step, involving the public in the development of a ranking system will ensure that there is continued support for the bicycle and pedestrian plan. For Acadia National Park's HTMP (17), the following criteria were used to evaluate the projects:

- Cultural Resource Values,
- Effects on Natural Resources,
- Effects on Communities and Neighbors, and
- Visitor Experience Values.

Assigning weights to the criteria guides the prioritization process. The weights reflect the importance of each criterion, based on stakeholder input. For Acadia National Park's HTMP (17), the weights for Cultural Resource Values, Effects on Natural Resources, Effects on Communities and Neighbors, and Visitor Experience Values were 5, 5, 2, and 4, respectively. Examples of criteria and weights identified in other plans can be found in Appendix C.

Step Three: Choose Rating Scale and Assign a Score to Each Project

The next step in prioritizing projects within a bicycle and pedestrian plan is to choose the rating scale and subsequently score and rank the projects. For example, one may choose a rating scale from 0-5 or 0-10.

Ranking projects incorporates all of the decisions made in the previous steps, including the projects identified, the chosen criteria, the weights assigned to each criterion, and the rating scale used to rate each criterion. Some public agencies and Federal land units find it helpful to hold an open house or workshop to obtain public input on project ratings.

To better illustrate this step, consider a specific project from Acadia National Park's HTMP (17), the Beech Mountain South Ridge Trail project. Acadia National Park had chosen a rating scale from 0-10. For the Beech Mountain South Ridge Trail project, the following ratings were given to each criterion:

- Cultural Resource Values, rating = 7
- Effects on Natural Resources, rating = 7
- Effects on Communities and Neighbors, rating = 6, and
- Visitor Experience Values, rating = 8.

Then, the rating was multiplied by the weight for each criterion and summed up to obtain a total score, as shown in Table 7.

Table 7: Calculating a Project Score

Criterion	Rating	Weight	Weighted Rating
Cultural Resource Values	7	5	35
Effects on Natural Resources	7	5	35
Effects on Communities and Neighbors	6	2	12
Visitor Experience Values	8	4	32
SCORE (TOTAL)	n/a	n/a	**114**

Step Four: Summarize Results and Develop Network Map(s)

A table that summarizes and displays the results can be an effective tool for comparing project scores and discussing priorities.

The table can show the project name or identifier, the resulting score broken down by criterion, the total project score, and the rank. Ordering the projects by rank is helpful to those reviewing the findings. Table 8 presents a portion of a table from Acadia National Park's HTMP (17). An additional example can be found in Appendix C.

Table 8: Excerpt from Table 3 of Acadia National Park's Hiking Trails Management Plan (17)

Trail Name	Cultural Resource Score	Natural Resource Score	Communities and Neighbors Score	Visitor Experience Score	Total Score
Beech Mountain South Ridge Trail	35	35	12	32	114
Champlain East Face Trail	50	20	10	32	112
Beech Cliff Ladder Trail	40	30	10	32	112
Jordan Cliffs Trail	45	15	10	40	110
Jordan Pond Loop Trail	45	5	10	36	96
Jesup Path	35	10	18	32	95
Tarn Trail/Kane Path	45	20	10	20	95

Maps are another effective tool for summarizing network plans. Maps can display existing and proposed links, and the locations of planned projects. These maps can be useful for numerous planning, communication, public outreach, funding development, and educational purposes. Appendix C contains an example of a map developed for another plan.

CHAPTER 7: DESIGN GUIDELINES

Federal land managers will need to identify design guidelines that apply to the proposed pedestrian and bicycle facility projects. Table 9 presents common design elements associated with bicycles and pedestrian facilities.

Table 9: Typical Bicycle and Pedestrian Design Elements

Bicycle and Pedestrian	Bicycle-Specific	Pedestrian-Specific

• Multi-use trail widths
• Multi-use trail pavement markings
• Curb ramps
• Pathway crossing treatments
• Lighting
• Bollards
• Yield policies
• Construction detours
• Push buttons
• Regulatory, wayfinding, and interpretive signage
• Traffic control signals
• Water fountains
• Restrooms
• Foliage offsets
	• Bicycle parking
	  ○ Design and quantity of bicycle lockers
	  ○ Design and quantity of bicycle racks
	• Manhole and drainage grate placement/design
	• Bicycle loop detectors (to allow signal change when bikes are present)
	• Bicycle lane pavement markings
		• Grades (slope)
		• Benches

In addition to the above design elements, Federal land managers may need to add design elements based on the unique facilities, recreational opportunities, or conditions present at their site.

It is beyond the scope of this report to provide a comprehensive listing of typical design standards. Sources which Federal land managers may consult for design guidance pertaining to their location include:

- The 2009 Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD) (http://mutcd.fhwa.dot.gov/)
- State specific *Highway Design Manuals*

Lake Tahoe Region Bicycle and Pedestrian Plan Design Guidelines

Lake Tahoe lies on the border of California and Nevada; therefore, trails and facilities are located in two states. States have the option of adopting the guidelines from sources like the Manual on Uniform Traffic Control Devices (MUTCD), as Nevada has done, or modifying them, as California has done. Typically, states modify the guidelines if they feel that more stringent standards should be adhered to. Appendix A of the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan (2) discusses their design guidelines as adapted from California sources, Nevada sources, federal manuals, and the Tahoe Regional Planning Agency Code of ordinances.

(http://www.fhwa.dot.gov/programadmin/statemanuals.cfm)

- The American Association of State Highway and Transportation Official's (AASHTO) *A Policy on Geometric Design of Highways and Streets* (https://bookstore.transportation.org/)
- The American Association of State Highway and Transportation Official's *Guidelines for the Development of Bicycle Facilities* (https://bookstore.transportation.org/)
- The American Association of State Highway and Transportation Official's *Guidelines for the Planning, Design, and Operations of Pedestrian Facilities* (https://bookstore.transportation.org/)
- The Institute of Transportation Engineer's (ITE) *Design and Safety of Pedestrian Facilities* (http://www.ite.org/emodules/scriptcontent/Orders/OrderSearch.cfm)
- The United State Access Board's Pedestrian Network Public Rights-of-Way (http://www.access-board.gov/prowac/index.htm)
- Colorado State Park's Planning Trails with Wildlife in Mind: A Handbook for Trail Planners (http://parks.state.co.us/Trails/Publications/Pages/Trails%20Publications.aspx)
- Complete Streets (http://www.completestreets.org/)
- The National Park Service's UniGuide Sign Program (http://www.nps.gov/hfc/products/uniguide.htm)

CHAPTER 8: MAINTENANCE POLICY AND PROCEDURES

Frequently, bicycle and pedestrian plans do not address the maintenance needs of the facilities. However, maintenance is imperative for the long-term success of a pedestrian and bicycle network. In fact, the 2008 Grand County Non-Motorized Trails Master Plan (7) asserts: "A non-maintained trail system is worse than no trail system at all."

Maintenance activities can be divided into short-term and long-term activities. Examples of short-term maintenance activities are:

- Trash and debris removal,
- Weed and dust control,
- Trail sweeping,
- Tree and shrub trimming,
- Removing debris from infiltration devices,
- Fixing cracks and potholes, and
- Mowing/snow removal.

Examples of long-term maintenance activities, which may be performed every 5 to 10 years, are:

- Seal coating,
- Crack seal and repair,
- Striping (this may be required annually depending on climate),
- Sign replacement,
- Bike rack repairs, and
- Rehabilitation of benches.

A thorough maintenance plan should be as specific as possible, covering issues such as funding, equipment needs, and agencies responsible for each task. These issues are discussed in greater detail below.

Planning for the maintenance of bicycle and pedestrian facilities before implementation can help prevent deferred or delayed maintenance in the future. It is particularly important to clarify maintenance responsibilities in plans administered by multi-jurisdictional partnerships.

FUNDING

Federal land managers must identify a funding source to pay for the ongoing maintenance of pedestrian and bicycle facilities. The costs will vary dependent upon a number of factors, including:

- Regional conditions (topography, climate)
- Level of facility use
- Type of maintenance activities required
- Frequency of maintenance activities.

How Much Does Maintenance Cost?

In the 2007 Jackson Hole Community Pathways Master Plan (1), the Town of Jackson and Teton County, Wyoming estimated the annual maintenance costs of their 27.1 mile pathway system for seal coating, re-striping, and administration as ranging from $7,000 to $9,000 per mile.

Funding the maintenance of facilities often becomes a challenge, because bicycle and pedestrian facilities are frequently implemented through grants. Grants are typically awarded for planning and construction costs but do not cover ongoing maintenance costs.

However, many public agencies and Federal land units have developed creative solutions to fund or conduct maintenance activities, like maintenance of trails by volunteers, maintenance partnerships with non-profit agencies, and targeted bond or tax funding.

For example, Grand County created a transportation special services district (TSSD) in November of 2009 to fund the maintenance of paved trails within their jurisdiction (4). The following year, the TSSD entered into an agreement with three other agencies to fund trail maintenance in Grand County. Similarly, the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan (2) secured several funding sources for maintenance, including:

- Voter-supported bond measures,
- Business improvement districts,
- Assessment districts, and
- Community facility maintenance districts.

Volunteer Maintenance Work Parties

The Red Hill Council (RHC), a partner of the Bureau of Land Management, hosts volunteer trail maintenance work parties on a weekday evening followed by a social gathering with pizza and beverages (40). (Photo courtesy of Davis Farrar, RHC)

Some agencies enhance or supplement maintenance activities with volunteer workforces. The 2007 Jackson Hole Community Pathways Master Plan (1) identifies an "Adopt-a-Trail" partnership to help mitigate litter removal maintenance costs. The program is organized by Jackson Hole Community Pathways and Friends of the Pathways.

A few Federal land units are notable for their comprehensive, long-term approach to maintenance funding. Acadia National Park worked with a partner organization, Friends of Acadia, to establish the Acadia Trails Forever endowment to fund the park's historic trail system. In 1999, a planning process identified a need for a one-time investment of $12.2 million and an annual investment of

$520,000 (2002 dollars) for trail maintenance of the approximately 130 miles of trails within the park (17). The money was needed to build a limited number of new trails, rehabilitate existing trails, and reopen abandoned historic trails.

Acadia National Park and Friends of Acadia signed a formal Memorandum of Understanding (see Appendix D) establishing the terms of the Acadia Trails Forever Program (18). Friends of Acadia raised $9 million, matching (at a rate of more than 2:1) $4 million in federal funds from fees. The federal fee money was entirely spent on rehabilitation of the trails, along with $2.5 million of the private contributions from Friends of Acadia. The remaining $6.5 million in private funding was allocated to an endowment managed by Friends of Acadia for trail maintenance. Friends of Acadia annually grants approximately four percent of the average value of the endowment measured over the most recent 12 trailing quarters. Federal land managers considering funding maintenance through endowments should be made aware that the available funding may fluctuate as a result of the investment strategy employed by the private partner with whom they are working. Other parks, including Cuyahoga Valley National Park, Golden Gate National Recreation Area, and Great Smoky Mountains National Park have followed Acadia National Park's maintenance endowment model (19).

EQUIPMENT

Some equipment for maintaining pedestrian and bicycle facilities differs from that required to maintain roadways. Equipment for snow removal, trail rehabilitation and trail maintenance are a few examples of trail-specific equipment. Careful identification of specialized equipment needs will facilitate planning and budgeting of ongoing maintenance.

In some cases, purchasing specialized maintenance equipment is a worthwhile investment. Acadia National Park used monies from the Acadia Trails Forever endowment managed by Friends of Acadia to purchase a specialized tractor for trail maintenance (17; 18). This tractor enables maintenance crews to rehabilitate and maintain trails as a result of its narrow wheel base, four-wheel drive, and ability to dislodge itself when stuck using the backhoe attachment. They also make use of a trail-specific wheel barrow with a hydraulic dump that runs on tracks instead of wheels.

WHO IS RESPONSIBIE FOR MAINTENANCE?

Pedestrian and bicycle networks can cross boundaries of multiple cities, counties, and states, which can create challenges for determining who is responsible for maintenance activities. Before any facility is built, stakeholders should identify and formally agree to the entity responsible for maintenance. However, multi-jurisdictional maintenance also represents an opportunity to share resources and coordinate tasks. Agencies should consider collaborating through maintenance agreements to reduce expenses.

In Wyoming, Teton County and the Town of Jackson developed a Memorandum of Understanding (MOU) for maintenance of the pathway network. Through the MOU, the two agencies agreed to split the cost of maintenance on a 50/50 basis.

CHAPTER 9: PEDESTRIAN AND BICYCLE SUPPORT ELEMENTS

Roadway network plans include provisions for support facilities and infrastructure, such as signage and parking lots. Similarly, bicycle and pedestrian plans should include support facilities and services that promote use. Some elements supporting pedestrians and bicyclists, which are addressed in the subsections that follow, include:

- Wayfinding signs,
- Bicycle parking,
- Transit accommodations, and
- Bicycle rental, bike sharing and employee bike fleets.

Federal land managers should also consider facilities such as:

- Benches,
- Mile markers,
- Emergency phones,
- Drinking fountains and restrooms,
- Dedicated spaces for bicyclists to congregate without blocking trails,
- Bicycle repair stations, including bike pumps and simple tools, and
- End of trip facilities including showers, lockers, and changing rooms for employees.

WAYFINDING SIGNS

Bicycle and pedestrian paths that are clearly marked with wayfinding signs promote use and a positive visitor experience. Wayfinding signs are especially critical at junction points.

In a public land or historical monument setting, signage should consider aesthetic issues. Wayfinding signs can be customized to represent the character of the area.

Figure 6: Context-Conscious Wayfinding Sign at Rocky Mountain National Park (photo courtesy of WTI)

BICYCLE PARKING

Providing sufficient and easily accessible bicycle parking promotes bicycle use. It also helps to prevent visitors from parking their bicycles in unsafe locations or in a manner that is detrimental to natural or historically sensitive surroundings (i.e. chained to a tree).

There are many styles and levels of security for bicycling parking. To determine an adequate design for bicycle parking, a Federal land manager may consult other plans or the Association of Bicycle and Pedestrian Professional's "Bicycle Parking Guidelines: 2nd Edition (2010)" (http://www.apbp.org/?page=Publications). Common characteristics of well-designed bike parking areas are:

- Permanently installed or secure bike racks,
- Convenient access from transit, and
- Providing signage and maps.

Figure 7 shows a well-designed bike parking area in Grand Teton National Park. The bike parking is located near trailheads and other attractions at South Jenny Lake, and it is separated from the motor-vehicle parking lot. Furthermore, the bikes are supported by two points on each rack (inverted U-bicycle rack), which can prevent bikes from tipping over and allow for the bike frame and front and rear tire to be secured.

Figure 7: Bicycle parking in Grand Teton National Park (photo courtesy of WTI)

TRANSIT ACCOMMODATIONS

Integration between pedestrian, bicycle, and transit modes expands transportation choices for a significant number of Americans who cannot or choose not to drive, including children and the elderly. Facilities or services that make it easier for visitors to use a combination of transportation modes, or move seamlessly from one mode to another, can expand the use of alternative transportation. Bicycle racks on transit vehicles (Figure 8), bicycle lockers at transit stations or provisions to allow bicycles inside

Figure 8: Pocono Pony shuttle with bicycle/kayak trailer to Delaware Water Gap National Recreation Area (photo courtesy of NPS)

transit vehicles are all good ways to encourage bicycle use; partnerships with transit agencies can expand the development of these options.

As an example, the pathways system in Jackson Hole, Wyoming encompasses sidewalks, on-street bikeways, separated shared-use paths, transit connections, improved roadways, trails, equestrian paths, and groomed Nordic trails (1). Furthermore, the Jackson Hole Community Pathways Master Plan cites the importance of connecting the pathways with transit. The Southern Teton Area Rapid Transit supports this connection by equipping their transit vehicles with bike carriers.

Valley Forge National Historical Park implemented its pilot shuttle system with bicycle racks installed on every shuttle in 2009. The provision of bicycle racks on the shuttles is a priority at this Park because 72% of park visitors are drawn to the park for recreational purposes (20).

Cuyahoga Valley National Park: Bicycle Racks on Trains

Cuyahoga Valley National Park partnered with the Cuyahoga Valley Scenic Railroad to offer "Bike Aboard" (41). Through the Bike Aboard program, bicyclists can ride the Towpath Trail and pick up the railroad to return to their starting location. This program offers visitors the flexibility to pedal as far as they want with an option to return by train. It also provides a wonderful opportunity to view the park from two different perspectives. (Photo courtesy of Arrye Rosser, NPS)

BIKE RENTALS, BIKE SHARING, AND EMPLOYEE BIKE FLEETS

Visitors to public lands who are interested in using a trail system may not have a bicycle with them when they arrive. In places where good bicycling facilities exist, Federal land managers can encourage use by making bicycles available on site.

BIKE RENTALS

In recent years, a growing number of Federal land units have partnered with concessionaires to offer bicycle rentals within public lands. The Federal land unit should partner with concessionaries that can offer bicycles that accommodate a variety of users including people with disabilities (adult tricycles or handcycles) and children (kid bikes, bicycle tag-alongs and/or trailers).

At Valley Forge National Historical Park, bicycle rentals are available seasonally in the lower welcome center parking lot through a concessionaire who operates from a mobile trailer. Visitors can enjoy a bike ride on the Park's Joseph Plumb Martin Trail or connect to the regional Schuylkill River Trail on the north side of the park.

Similarly, Grand Canyon National Park has partnered with a concessionaire to offer bicycle rentals (http://www.bikegrandcanyon.com/). The concessionaire offers bicycle sizes to accommodate an entire family. They also offer bicycle trailers.

Grand Teton National Park has a bicycle rental service located along its multi-use pathway (http://dornans.com/adventures/bikerental/). It is a win-win situation for the visitor, park, and rental company because visitors have access to bicycles, the park receives a valuable service without the associated liability, and the rental company has a steady supply of customers who come to visit the park (21).

PUBLIC BIKE SHARING PROGRAMS

Bike sharing is a mode of public transportation in which a fleet of bicycles is made available for short-term use, largely in urban settings. Riders generally check out and return bicycles to a network of stations. The idea of bike-sharing has evolved since its inception in 1965 (22). Modern bike-sharing systems use automated parking stations, and the bikes incorporate technology that allows fleet managers to confirm the identity of users.

Public bicycle sharing is successful in urban settings in part due to high population densities, bicycle friendly facilities, and concentrated amenities.

Bike sharing programs, such as Capital Bikeshare (Washington, D.C.) and Nice Ride (Minneapolis, MN), are becoming a key component of multi-modal transportation networks in cities around the world. Although there were no public bicycle sharing programs for visitors of Federal lands as of fall 2011, interest has been shown in connecting existing urban bicycle sharing programs to nearby Federal lands, such as between the City of San Antonio and San Antonio Missions National Historical Park.

Bike Sharing:
Capital Bikeshare

Capital Bikeshare (http://www.capitalbikeshare.com/) is one of the first large scale public bicycle share programs in the United States. It was launched in September of 2010 with 1,100 bicycles distributed across 114 stations in Washington, D.C. and Arlington, VA. Capital Bikeshare had over 5000 annual members by the end of 2010 (42). Individuals can join on a daily, monthly, or annual basis. Members are allowed to pick up and drop off a bike at any of the stations in Washington, D.C. and Arlington, VA. The first 30 minutes of any trip is free thereby encouraging shorter trips. The Capital Bikeshare program and the National Park Service have agreed to integrate bicycle stations into NPS lands in the Washington, D.C. area. To learn more about the bike-share program, access the "Capital Bikeshare" video at www.youtube.com. (Photo courtesy of WTI)

The City and San Antonio Missions National Historical Park recently partnered to apply for a Paul S. Sarbanes Transit in Parks grant to fund expansion of the municipal bike share system (23). This expansion would entail installing five additional stations in and around the urban park, servicing these key destinations and a linear trail that interfaces with the San Antonio River. Federal Highway Administration's Central Federal Lands Highway Division has developed a guidebook entitled, "Exploring Bicycle Options for Federal Lands: Bike Sharing, Rentals, and Employee Fleets" that offers recommendations for increasing bicycle availability on Federal lands through public bike sharing programs, bicycle rentals, and/or employee bicycle fleets.

EMPLOYEE BIKE FLEETS

Employee bicycle fleets typically consist of standard, commercially available bikes that employees ride for various purposes. At the National Park Service's Midwest Regional Office in Omaha, Nebraska, employee bicycles are available to office staff for recreational use. At Glacier National Park, a remote rural park in Montana, bikes are available to employees for short work trips within the campgrounds or headquarter areas. Bicycle programs for employee use could benefit virtually any Federal land unit, are relatively low cost, and are simple to start.

CHAPTER 10: COST AND FUNDING ANALYSIS

Estimating costs and identifying funding sources for bicycle and pedestrian facilities is an important part of the planning process. While securing funding for bicycle and pedestrian facilities can be challenging, there is increasing interest and support for investing in sustainable and cost-effective transportation options. The City of Portland, Oregon created a city-wide bicycle network for less than the cost of constructing one mile of urban freeway (24). The network serves thousands of people who choose bicycling for everyday transportation (24).

What does a Bicycle and Pedestrian Network Cost?

The City of Redding, California (15) reported that they spent $4.96 million to develop 101.6 miles of bike lanes and bike routes; this equates to an investment of about $48,819 per mile. Another $6 million was spent to create their 20.56 mile multi-use path system; this equates to an investment of about $291,829 per mile. The additional cost per mile of developing the multi-use path system includes the creation of trailhead facilities which may include parking lots, interpretive signage, and restroom facilities.

Federal land managers will have to identify the level of investment available for their plan from their own agency and partner organizations. The level of bicycle and pedestrian development can then be gauged accordingly. Table 10 provides estimated costs from the Lake Tahoe Region Bicycle and Pedestrian Plan (2). The listed costs are only an example; the state of the economy, the region and other factors will affect the actual costs. Additional cost estimates from the Cape Cod, Massachusetts area and Portland, Oregon are included in Appendix E.

Table 10: Estimated Costs from the Lake Tahoe Region Bicycle and Pedestrian Plan (2)

Facility Type	Estimated Cost Per Mile
Bike Route	
Signing only	$5,000
Signing plus minor road improvements	$40,000
Signing plus moderate roadway improvements	$150,000
Signing plus major roadway improvements	$300,000
Bike Lane	
Signing and striping only	$5,000
Signing and striping plus minor roadway improvements	$50,000
Signing and striping plus moderate roadway improvements	$300,000
Signing and striping plus major roadway improvements	$500,000
Shared Use Path	
Construct asphalt path on graded right of way with drainage and	$1,000,000
Construct asphalt path on un-graded right of way with drainage	$2,000,000
Construct asphalt path with some boardwalking and/or bridges	$4,000,000
Sidewalk	
Five-foot wide sidewalk	$1,000,000

Table 10 demonstrates a wide range of costs. Bicycle routes are typically less expensive and require an investment in signs and pavement markings depending upon the roadway width.

Widening a roadway to create bicycle lanes requires a larger investment, particularly if curb and gutter is already present. Constructing sidewalks and multi-use paths (a.k.a. shared use paths) typically requires an even greater level of investment. However, a significant benefit of investing in multi-use paths is their appeal to a wide range of people including families and first-time users.

In order to be competitive with other programs for grant funding, being prepared with a cost estimate for proposed projects can enable quick action when funding becomes available. Therefore, a plan should contain an estimated cost to build all proposed projects. In addition, while one project may have a higher priority than a second project, if a roadway improvement is being made where the second project is located, there may be an opportunity to implement the second project first. Keep in mind that costs vary tremendously based on project complexity and conditions at the unit location.

A Federal land manager can use the unit costs listed in Table 10, Appendix E, or other bicycle and pedestrian plans to develop a rough estimate for the cost of various levels of bicycle and pedestrian projects. However, these costs are only estimates. The economy and location-specific characteristics could cause the actual cost to be less or greater than the estimates.

Once cost estimates are developed, the next step is to inventory possible funding sources. Developing a list of possible funding sources can help to direct grant writing initiatives. Funding can come from federal, state, local, and private sources. Many funding sources originate in the federal transportation bill.

Funding sources at the state level vary by state, and therefore may be best identified by working with representatives from one's state department of transportation.

At the local level there are a variety of potential funding sources that may be used to develop bicycle and pedestrian connections between local communities and federal lands, including:

- Tax districts,
- Alternative taxing mechanisms,
- New construction,
- General funds,
- Bond measures,
- Impact fees,
- Improvement districts,
- Correctional labor, and
- Community service.

Potential private options include:

- Business associations,
- Health and physical activity entities,

Federally Administered Funds

The Lake Tahoe Bicycle and Pedestrian Plan (2) identified many funding sources including the following Federally Administered Funds:

- Federal Lands Highway Funds
- Transportation, Community and System Preservation Program
- National Scenic Byways Program
- The Paul S. Sarbanes Transit in Parks Program
- Highway Bridge Program

- Advertising revenues,
- Volunteerism,
- Trail concessions,
- User fees,
- Philanthropic donations,
- Community Action for a Renewed Environment (CARE) grants (http://www.epa.gov/care/), and
- Bikes Belong Grants (http://www.bikesbelong.org/grants/).

Federal land managers should review other bicycle and pedestrian plans to obtain an idea of funding sources that may be considered. Reviewing an in-state plan can help managers understand state specific funding sources.

CHAPTER 11: ENCOURAGEMENT, EDUCATION AND ENFORCEMENT PROGRAMS

A comprehensive bicycle and pedestrian plan must go beyond the development and installation of paths and facilities. In a culture dominated by automobiles, a bicycle and pedestrian plan must include complementary and follow-up activities to promote network use. **ENCOURAGEMENT** activities remind people about the benefits of travel without a motor-vehicle. **EDUCATION** programs for motorists, pedestrians, and bicyclists promote safety for all users. Finally, because of the multiple uses and concerns for safety, there may be a need for **ENFORCEMENT** of the rules.

Encouragement, education, and enforcement, are three of the Five E's defined by the League of American Bicyclists (http://www.bikeleague.org/programs/bicyclefriendlyamerica/communities/bfc_five-Es.php). [The two other E's, engineering and evaluation, are discussed in a prior section (Design Guidelines) and subsequent section (Evaluation and Monitoring).] The following sections discuss support programs that fall under these three categories.

ENCOURAGEMENT – TOURS, MAPS AND EVENTS

With the growing interest in sustainable transportation and health promotion, the number of programs in public land settings to encourage people to walk or bicycle is growing. Such programs can serve as models to Federal land managers who want to encourage the use of bicycle and pedestrian networks and enhance visitors' experiences. Visitors often see and experience a national park or other public land unit in a completely different way by using an alternative form of transportation. Examples of ranger-led tours, bicycle and pedestrian maps, and special events are provided below that show how Federal land managers and cities are encouraging more people to walk and bicycle.

TOURS

Bicycle and pedestrian tours can introduce visitors to the non-motorized facilities available in the unit and showcase the benefits of bicycle and pedestrian touring. Tours are particularly effective if they offer a unique experience not available to visitors in cars such as close-up views of wildlife or access to trails that do not accommodate motor-vehicles.

For example, the 18.5 mile long Mount Vernon Trail parallels the George Washington Memorial Parkway (GWMP) in the Washington, D.C. area. This trail offers views of the National Mall and the Potomac River, and connects to George Washington's home at the south end, Theodore Roosevelt Island at the north end and many attractions in between. GWMP initiated its "Bike with a Ranger" program in 2010 (25). Park rangers guide bicycle tours along the trail during summer and fall weekends (http://www.nps.gov/gwmp/mtvernontrail.htm) and provide personalized, interpretive perspectives of the area. Tours typically have 10 participants and are promoted through posted signs, word-of-mouth and online. A flyer advertising the program can be found in Appendix F.

Another urban NPS managed area offers a unique experience in the Minneapolis-St. Paul area. The Mississippi National River and Recreation Area (NRRA) contains a network of pedestrian and bike trails along the Mississippi River. To educate visitors about the presence of the park and the resources it works to protect, the Mississippi NRRA began offering bicycle tours in 2005 (26). The Mississippi NRRA offers three hour bicycle tours on Saturdays from July through September at 10am and some shorter tours on Thursdays in June and July (http://www.nps.gov/miss/planyourvisit/bike.htm). An example of the program and safety information mailed to interested groups is provided in Appendix F. Participants must make reservations. There are five tours, ranging from eight to fourteen miles, which showcase different themes or sections of the river:

- A Confluence of Rivers and People,
- On the Waterfront,
- River at the Dam!,
- Minneapolis Riverfront, and
- Coon Rapids Dam.

Participants tend to be locals. Advertising is typically by word-of-mouth, although Anoka County periodically publishes information in a newsletter to residents that results in tours reaching their capacity early. The Mississippi NRRA is able to loan a few single-speed bicycles upon request as a result of a

White Sands National Monument: Full Moon Hike

Typically, White Sands National Monument, near Alamogordo, New Mexico, closes at about sunset (43; 30). Since 2010, however, a Full Moon Hike has been offered. It allows visitors to experience a unique feature of the park while utilizing a non-motorized form of transportation. Each tour is limited to 30 participants. Glow sticks are provided to participants in case they become disorientated. After a safety briefing, park rangers lead a one to one and half mile nature hike along Dune Life Nature Trail where participants learn about nocturnal animal behavior and experience the white sands during the full moon. Six tours are scheduled for 2011 (http://www.nps.gov/whsa/planyourvisit/full-moon-hikes.htm); reservations are required. (Photo courtesy of NPS, White Sands National Monument).

donation in 2008 from a national political convention. An overall benefit of the program is that it is a "great orientation to the spectacular network of bicycle trails along the river" (26).

BICYCLE AND PEDESTRIAN NETWORK MAPS

Maps of bicycle and pedestrian networks are effective tools to encourage more people to walk and bike. Maps can illustrate various features to attract and orient users, such as:

- On-street routes, separated multi-use paths, or trail networks (see the Valley Forge Trail Map in Figure 9),
- Links to public transportation such as transit stops, and
- Popular visitor destinations (hiking areas, landmarks) and services (shopping areas).

In order to make full use of maps, developing a dissemination plan can help to engage a broader audience. Some venues of distribution include visitor centers, lodging, local bicycle and outdoor shops, and online. In addition, partner and stakeholder organizations can assist with distribution. For example, the Lake Tahoe Bicycle Coalition helps to support the Lake Tahoe Region Bicycle and Pedestrian Plan (2) by annually distributing a Lake Tahoe Bike Trail Map.

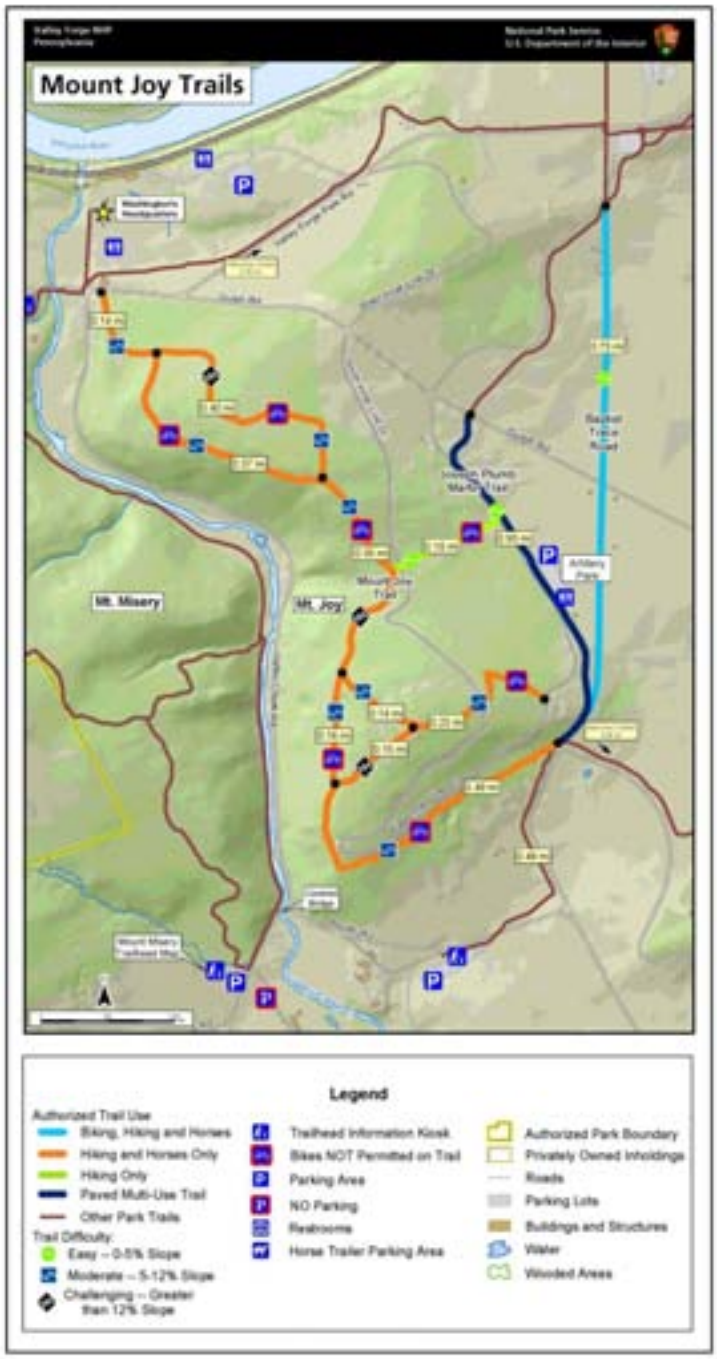


Figure 9: Valley Forge National Historical Park Trail Map (27)

EVENTS

Special events are an effective way to encourage people to walk or bicycle. Events are often held to bring attention to bicycle and pedestrian issues, using fun activities or special incentives. Other events offer special limited-time access to roads, trails or attractions for visitors using non-motorized transportation.

One category of special event includes bicycle or walk to work events and car-free events. Rock Creek Park, in the District of Columbia, and the City of Portland, Oregon have held car-free events.

Rock Creek Park has long offered car-free experiences. From 7am to 7pm on Saturdays, Sundays and holidays, several segments of Beach Drive are closed to vehicular traffic. This allows users to safely travel from Maryland to the National Mall by biking, jogging, walking or rollerblading without having to contend with traffic. (http://www.nps.gov/rocr/planyourvisit/things2do.htm) (28).

Lake Tahoe Bicycle and Pedestrian Plan: Bike to Work, School and Play Challenge

The Lake Tahoe Region Bicycle and Pedestrian Plan (2) encourages the pedestrian and bicycle modes of travel through an event called, "The Tahoe Bike Challenge," which drew more than 700 participants in 2009 (http://www.tahoebike.org/). This event started out as an initiative within the Tahoe Regional Planning Agency (TRPA). They challenged employees at TRPA and other agencies to see which group accumulated the most bicycle miles when traveling to work over a one-week period. The event is now region-wide, and participants compete based on trips instead of miles. An online database is maintained where participants can track the number of times they traveled to work via a bicycle for a two week period. (Photo courtesy of Karen Fink, TRPA)

The City of Portland holds an event called "Sunday Parkways," which began as a single event in 2008, expanded to three in 2009, and expanded even further to five proposed events in 2010 (29). Roads that connect select parks within the city are closed to motor-vehicles for this event. It gives participants the "opportunity to experience the unique benefits of walking, rolling or bicycling through neighborhoods where miles of streets are temporarily car-free and carefree" (29).

At White Sands National Monument, registration for the Full Moon Bike Ride typically fills up within three days (30). The Full Moon Bike Ride was initiated in 2000 by a former Chief Interpretation Ranger who wanted visitors to experience the park with a full moon illuminating the sands. During the event, participants are allowed to ride along the park roads at their own pace, between 9pm to 12am in the spring or 8pm to 11pm in the fall, without the presence of motor-vehicles. The event is only offered twice a year due to the

timing of the full moon and scheduling of other events. For agencies considering an exclusive event for bicyclists, the following are some planning components to consider:

- Have a parking plan in effect (a ranger mapped out each parking area),
- Engage volunteers (El Paso Bike Club provides volunteers to support this event),
- Provide signage to direct visitors to parking and sign-in,
- Glow sticks on bikes provide safety and wayfinding in the dark, and
- Convey safety messages to visitors.

EDUCATION

Education programs can teach pedestrians, bicyclists and motorists how to safely interact. In addition, education programs can teach people how to properly maintain and ride a bicycle. Educational components are particularly important for bicycle and pedestrian initiatives that target children and people with limited bicycling experience.

Educational programs and materials can be created and disseminated in a wide variety of formats. New media has expanded these options. For example, the Ridge to River Partnership in Boise, Idaho, created a short video on trail etiquette about how multiple trail system users should interact. The video and other useful information is available on their website (http://ridgetorivers.cityofboise.org/). Click on "Etiquette" to find the video.

The Lake Tahoe Region Bicycle and Pedestrian Plan (2) has several educational initiatives including the Pedestrian Safety Education Program "When in Doubt, Don't Step Out," the "Bicycle Rodeo," and the "From A to Z by Bike" children's book. The slogan, "When in Doubt, Don't Step Out" was coined by high school participants in the one-year grant-funded program (31). The objective was to educate local residents and visitors about pedestrian safety. To advertise the initiative, various media, including pens and erasers with the slogan and a bilingual compact disc were distributed. The Bicycle Rodeo is coordinated by the South Lake Tahoe Police, California Highway Patrol, and the El Dorado County Sheriff's departments. During a bicycle rodeo, skills are demonstrated, and children are able to practice on a course that includes halting at stop signs.

Enforcing laws pertaining to speed limits, appropriate behavior at stop signs, crosswalks, traffic signals, and driving under the influence can improve safety for all roadway users. Enforcement activities are particularly important on or near new paths, in areas that attract users that are unfamiliar with the transportation network (i.e. tourists), and on trails that attract many young or inexperienced cyclists who may be unfamiliar with laws and regulations. Furthermore, the laws and regulations involving bicycles and pedestrians will vary by state.

To facilitate enforcement, building positive connections between law enforcement officials and bicycling and pedestrian communities is a good practice. Several national parks including Cape Cod National Seashore in Massachusetts, Independence National Historical Park and Valley Forge National Historical Park in Pennsylvania use law enforcement officers who patrol on bicycles (32).

Law enforcement officials on bikes are more likely to interact and connect with the public than if they are inside motor-vehicles. Law enforcement patrols on bicycle offer additional benefits, such as a reduction in fuel consumption and emissions. Furthermore, law enforcement patrols on bicycles allow the officers to access areas that would otherwise be inaccessible via automobile patrols.

Valley Forge National Historical Park: Training for Law Enforcement Rangers on Bicycle

Valley Forge National Historical Park (VAFO) has had rangers patrolling by bicycle since 1995 (32). In 2011 Valley Forge had eight rangers certified who may use any of the four outfitted bicycles. Chief Ranger Gregg Tinkham uses his certification as an instructor through the International Police Mountain Bike Association to train additional park rangers in the four day Police Cyclist Course (http://www.ipmba.org/instructors.htm). The course provides officers with a comprehensive knowledge of the bicycle and bicycle safety information such as proper riding techniques, hydration, and bike maintenance. Ranger Tinkham (32) recommends that law enforcement rangers on bicycle patrols become certified for performance, safety, and liability reasons. (Photo courtesy of NPS, VAFO)

Figure 10: Bike Transport Via Boat at Lake Clark National Park and Preserve (photo courtesy of NPS)

Since 2008, law enforcement rangers at Lake Clark National Park and Preserve (NPP), a remote Alaskan Park, have been patrolling via bicycles (33). Bicycles equipped with extra wide tires allow the rangers to easily ride on the beaches of the Pacific coastline or on the frozen rivers and lakes in the winter. These bikes are low impact and do not create intrusive noise. There are several additional benefits to the bicycle patrols at Lake Clark NPP. First, the bicycles have increased the amount of ground that each ranger (who formerly operated on foot) can patrol. Second, using bicycles instead of all-terrain vehicles (ATVs) also allows Lake Clark NPP to make better use of volunteers and seasonal employees, who no longer have to be trained on ATVs. Third, bicycles are easy to transport (via small boats (Figure 10) and planes) and have been used to assist with search and rescue operations.

When considering if law enforcement patrols by bicycle are an option for a Federal land unit, Federal land managers should be aware of potential drawbacks. For example, bicycle patrols are better suited for areas where bicycle and pedestrian traffic are expected, because they may not have the equipment necessary to respond to calls involving motor-vehicles (32). However, the same can be said for calls involving bicyclists and pedestrians; the area may be more easily accessible by bicycle as was the case for Lake Clark NPP.

Volunteer pathway or trail ambassadors assist some Federal land units by helping visitors with directions or informing bicyclists, pedestrians, and motorists about rules and their basis. While volunteers do not have the authority to enforce rules, they can encourage visitor compliance and contact law enforcement rangers if

Grand Teton National Park: Pathway Ambassadors

In 2008, Grand Teton National Park (GTNP) completed a 7.7 mile segment of paved pathway along Teton Park Road between Moose Junction and South Jenny Lake (http://www.nps.gov/grte/planyourvisit/bike.htm). Although open to various user types including walkers and rollerbladers, bicyclists are the predominate user-type (21; 44). Soon after the completion of the pathway, the Grand Teton National Park Pathway Ambassador Program was initiated concurrently for resource protection and visitor safety and information. Pathway Ambassadors patrol the pathways from May through October, providing information about "rules of the road" to users, administering medical and mechanical assistance as needed, and collecting visitor use data. Pathway Ambassadors have been particularly helpful educating visitors on pet restrictions. Sample materials on the Ambassador Program are available in Appendix F.

necessary. Thus Federal land units can utilize volunteers to supplement the efforts of law enforcement rangers.

CHAPTER 12: EVALUATING AND MONITORING

Evaluation and monitoring activities help to assess the effectiveness of plans, projects and programs. Evaluation is the "on-going monitoring of facility use, condition and problems" (9). Examples of evaluation activities include collecting data on bicycle and pedestrian use, performing safety evaluations, and conducting surveys for evaluation purposes. Collected data should help assess progress towards the objectives of the projects and programs. The findings from evaluation and monitoring activities benefit plan updates and future projects.

The data described in this section feed into performance measures that eventually determine if an objective has been achieved. As a result, the information gathered through surveys and other data collection techniques for evaluation purposes can improve programs and provide direction to future initiatives to better achieve objectives.

FACILITY AND PROGRAM USE

One measure for evaluating the effectiveness of a bicycle and pedestrian plan is to document the number of people using the facilities and programs. Facility use can be documented in several ways, such as counting individuals at a specific location, recording the use and number of bicycle racks, and tallying requests for bicycle racks, benches, and wayfinding signs. Program use can be documented through several methods as well, such as counting individuals or reviewing registration records. All of this information can be used to determine if performance measures have been achieved.

Counting pedestrians and bicyclists who use facilities and programs provides important data that can be used to manage use, justify program investments, aid in planning for future facilities, and serve as input for safety analyses. There are several counting methods. Federal land managers should choose one that is most appropriate to the type of facility, data needs, and budget.

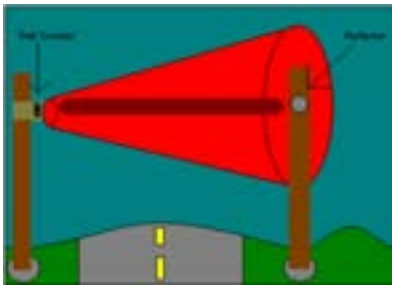
Counts can be conducted manually or with automatic counters. Manual counts can provide detailed information such as direction of travel, group size, and gender. Automatic count equipment typically requires fewer personnel. Dependent upon the automatic count equipment chosen, group size and gender of the trail user may not be known. Automatic count equipment is useful for longer-term counts and detecting daily, weekly, or monthly variations. Examples of automatic count equipment include (34):

- Passive infrared (detects a change in thermal contrast),
- Active infrared (detects an obstruction in the beam),
- Ultrasonic (emits ultrasonic wave and detects an echo),
- Doppler radar (emits radio wave and detects a change in frequency),
- Video imaging (analyzes pixel changes or video is analyzed by a person),
- Piezometric (senses pressure on either a tube or underground sensor), and
- In-pavement magnetic loop (senses change in magnetic field as metal passes over it).

Trempealeau National Wildlife Refuge in Trempealeau, Wisconsin installed seven active infrared trail counters (35). Based on counter data, Refuge managers estimate between 18,000 and 20,000 annual bicyclists use the portion of the Great River State Trail that enters the Refuge (36).

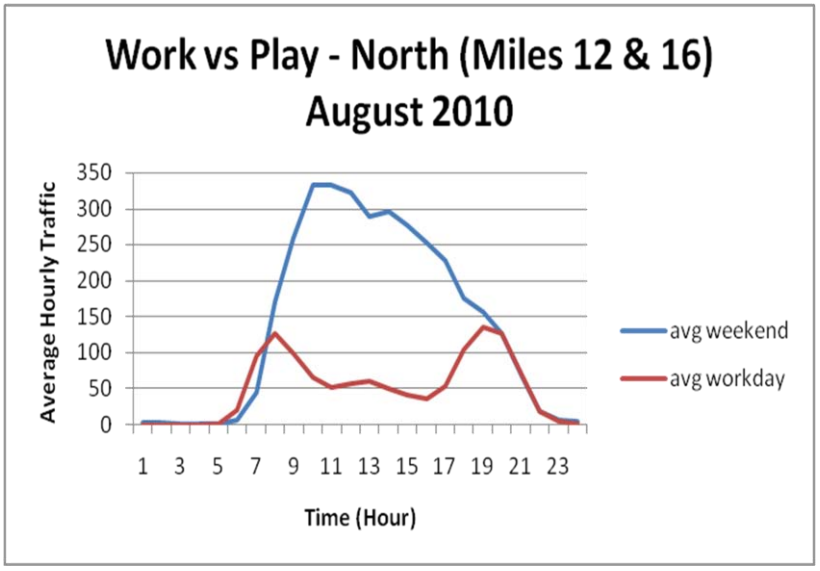
Most automatic counters work well for counting users that pass a specific point, although most cannot distinguish between bicyclists and pedestrians (34). They can, however, provide directional information. The National Bicycle and Pedestrian Documentation Project (http://bikepeddocumentation.org) hosts a document entitled, "Bike-Pedestrian Counting Equipment 101." This document discusses types of available bicycling and pedestrian counting equipment and cost.

The Lake Tahoe Bicycle and Pedestrian Plan (http://www.tahoebike.org/) (2) identified the Tahoe Bike Trail User Model which can be used to predict daily bicycle and pedestrian use in the Tahoe area. The model is developed so that it initially predicts the maximum number of users. Then modification factors are applied to take into account factors like number of road crossings, quality of maintenance of the facility, and the expected level of congestion, which may reduce the estimates. The model also allows the user to predict peak hour volumes and consider the effects of parking restrictions on use. The development of this model could be used to provide an estimate of the level of use of proposed projects in the plan.



George Washington Memorial Parkway: Trail Counters

George Washington Memorial Parkway (GWMP) installed nine active infrared trail counters (shown above, left) along the Mount Vernon Trail to track pedestrian and bicycle use (37). Pedestrians and bicycles are recorded when an obstruction in the beam is detected as they pass (shown above, right). National Park Service personnel validated the accuracy of the counters by calibrating them on-site. The graph below shows an example of how the data can be used. As is shown in the graph, average workdays observe similar peaking to that observed by vehicular traffic during the AM and PM, which may imply that the Mount Vernon Trail is used by bicycle commuter traffic. (Photos and graph courtesy of NPS, GWMP.)



SAFETY

The safety of pedestrians and bicyclists, both between the user groups and in relationship to motor-vehicles, should be monitored and evaluated. Tracking crash locations and injury severity will help identify locations in a network that need improvements. Both engineering and educational initiatives should be used to improve any locations of concern.

The 2010 Lake Tahoe Region Bicycle and Pedestrian Plan (2) discussed an accident analysis that was performed using data from 2003 to 2007. The study investigated crashes between motor-vehicles and pedestrians or motor-vehicles and bicyclists. Findings indicate that most of the crashes were located along the state highway system. Furthermore, the majority of crashes occurred at unsignalized intersections or mid-block crossings. The recommendations given as a result of the analysis identified the need to enhance pedestrian/bicycle crossings at these locations.

Figure 11: George Washington Memorial Parkway Educational Handouts

George Washington Memorial Parkway (GWMP) conducted a safety evaluation to study the occurrence of accidents along Mount Vernon Trail. After reviewing the data from 2006-2010, managers found that approximately one ambulatory transport occurs per week during the summer (37). The compiled crash reports indicated that bicyclists were overrepresented in the reported crashes; the majority of the crashes was between bicyclists and pedestrians or bicyclists and bicyclists, or was the result of an individual bicyclist that crashed. These results were surprising because few if any crashes were between motor-vehicles and bicycles or pedestrians as is commonly expected. GWMP managers have taken several proactive approaches to address their findings. First, they distributed educational materials (Figure 11). Additional examples can be found in Appendix F. They also applied to and were successful in obtaining a Transportation Scholar for 2011 (http://www.enotrans.com/, under Education Programs) in part to further investigate the frequency and severity of crashes along Mount Vernon Trail.

SURVEY

Surveys can be performed for two reasons: Needs Assessment (Chapter 3) and Evaluation and Monitoring. The surveys considered in this section serve to provide data that feed into performance measures that eventually determine if a goal has been achieved. As a result, the information gathered through surveys for evaluation purposes can improve programs and provide direction to future initiatives.

The development of the Lake Tahoe Bicycle and Pedestrian Plan (2) drew heavily on numerous surveys that provided a wealth of information including:

- An estimate of the amount of income generated by visitors that use the bicycle and pedestrian network,
- The proportion of employers that provided bicycle parking and showers, and
- The proportion of the visitors that came to the area to bicycle.

The Red Hill Project Final Report (11) presented a survey that showed more than 71% of users traveled between 0-5 miles to access Red Hill. Survey results indicated that more than 94% of respondents wanted to restrict motorized use in the Red Hill Area. The survey instrument is provided in Appendix G.

CHAPTER 13: PLAN UPDATES

An effective bicycle and pedestrian plan is one that is continually refined. There are three primary reasons why plan updates are necessary. First, the needs of pedestrians and bicyclists will evolve as portions of any plan are implemented. Second, design standards for bicycle and pedestrian facilities are rapidly progressing as more information is gathered. Finally, plan updates document successes and areas where improvements can be made. It is for these reasons that a bicycle and pedestrian plan should be updated every three to five years.

To help facilitate the updating process, the bicycle and pedestrian plan should clearly identify the agency responsible for performing the update and a proposed year for its completion.

SUCCESS & IMPROVEMENTS:
Lake Tahoe Region Bicycle and Pedestrian Plan

The 2003 Lake Tahoe Region Bicycle and Pedestrian Plan (2) set forth "ambitious benchmarks," with one objective of completing 60 miles of proposed bicycle and pedestrian facilities by 2008. By 2010, only 13 miles were completed. In the process of developing the 2010 Lake Tahoe Bicycle and Pedestrian Plan (2), the Tahoe Region Planning Agency (TRPA) found that a barrier to achieving the 60 mile benchmark was that projects listed in the plan were often overlooked by developers and plan reviewers. In response, the TRPA took four actions:

1. They incorporated a bicycle and pedestrian checklist into the planning process,
2. They created an interactive, online map of existing and proposed bicycle and pedestrian projects,
3. They conducted numerous meetings with Caltrans and Nevada Department of Transportation planners, designers, and engineers to identify the need for bicycle and pedestrian accommodation, and
4. They developed policy language to be included in their Code of Ordinances.

The following are some examples of the span of time between consecutive plans:

- The 2008 *Grand County Non-Motorized Trails Master Plan* (7) is an update of a 2005 plan
- The 1996 *Ridge to Rivers Pathway Plan* (3) is an update of the 1993 plan
- The 2007 Town of Jackson and Teton County, Wyoming's *Pathways Master Plan* (1) is an update of the 2001 Pathway Conceptual Plan

CHAPTER 14: SUMMARY

The technical assistance team has identified and described components of an effective bicycle and pedestrian plan, and within each component there are lessons learned or recommendations that are common to many of the successful programs highlighted in this report.

This document has presented information that Federal land managers can use to incorporate bicycle and pedestrian programs and facilities into their land unit and the surrounding area. A thorough summary of this information was included in the Executive Summary at the beginning of this document, therefore it will not be repeated here.

ADDITIONAL BICYCLE AND PEDESTRIAN RESOURCES

1. Federal Highway Administration's Office of Human Environment's Bicycle & Pedestrian Program: http://www.fhwa.dot.gov/Environment/bikeped/
2. Pedestrian and Bicycle Information Center: http://www.pedbikeinfo.org/
3. National Complete Streets Coalition: http://www.completestreets.org/
4. League of American Bicyclists: http://www.bikeleague.org/
5. Rails-to-Trails Conservancy: http://www.railstotrails.org/index.html
6. Adventure Cycling Association: http://www.adventurecycling.org/
7. Institute of Transportation Engineer's Context Sensitive Solutions: http://www.ite.org/css/
8. National Association of City Transportation Officials: http://nacto.org/
9. Manual on Uniform Traffic Control Devices: http://mutcd.fhwa.dot.gov/
10. International Mountain Bicycling Association: http://www.imba.com/

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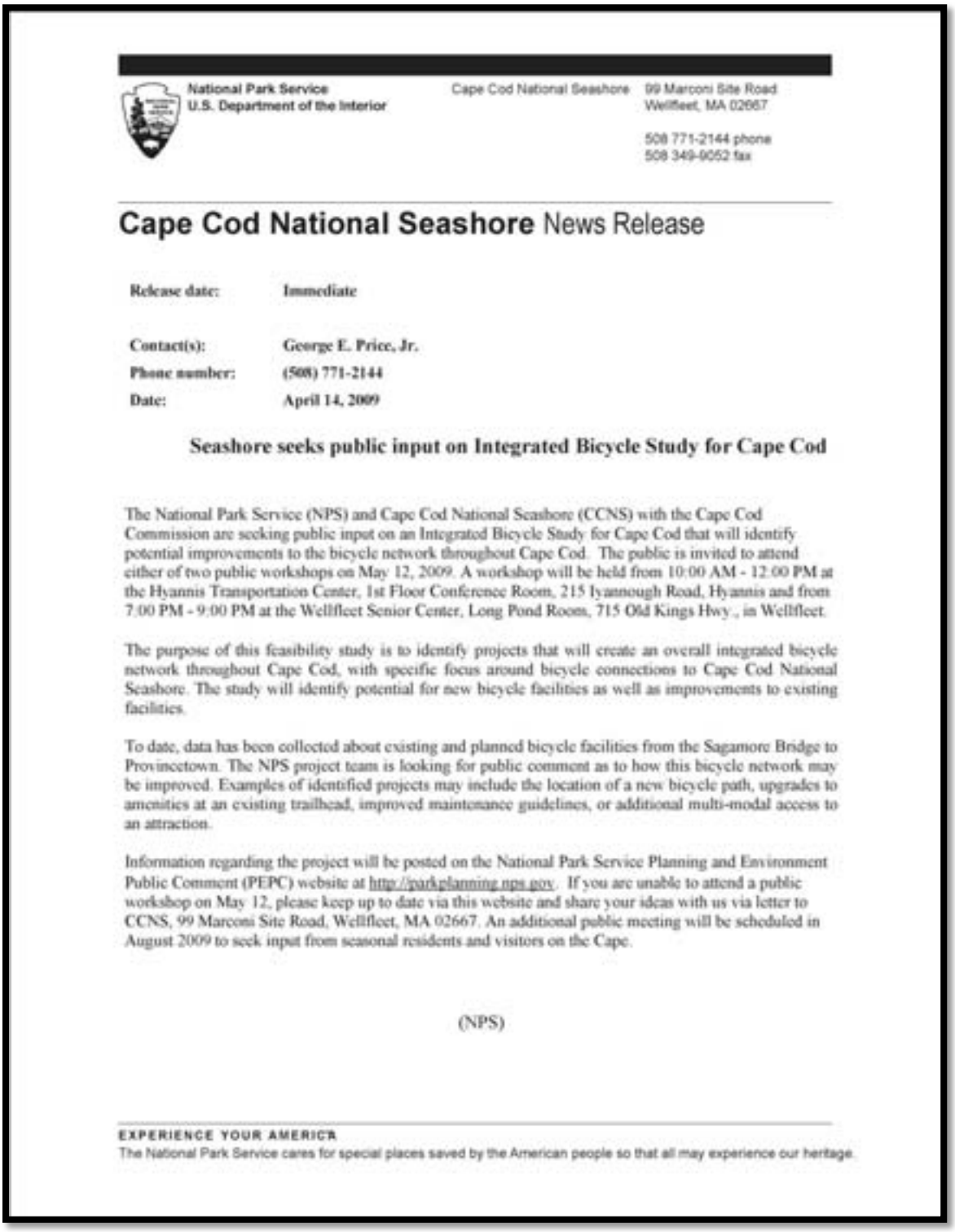
APPENDIX A: CAPE COD OUTREACH EXAMPLES

CAPE COD NATIONAL SEASHORE NEWS RELEASE



National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

99 Marconi Site Road
Wellfleet, MA 02667

508 771-2144 phone
508 349-9052 fax

Cape Cod National Seashore News Release

Release date: Immediate

Contact(s): George E. Price, Jr.
Phone number: (508) 771-2144
Date: April 14, 2009

Seashore seeks public input on Integrated Bicycle Study for Cape Cod

The National Park Service (NPS) and Cape Cod National Seashore (CCNS) with the Cape Cod Commission are seeking public input on an Integrated Bicycle Study for Cape Cod that will identify potential improvements to the bicycle network throughout Cape Cod. The public is invited to attend either of two public workshops on May 12, 2009. A workshop will be held from 10:00 AM - 12:00 PM at the Hyannis Transportation Center, 1st Floor Conference Room, 215 Iyannough Road, Hyannis and from 7:00 PM - 9:00 PM at the Wellfleet Senior Center, Long Pond Room, 715 Old Kings Hwy., in Wellfleet.

The purpose of this feasibility study is to identify projects that will create an overall integrated bicycle network throughout Cape Cod, with specific focus around bicycle connections to Cape Cod National Seashore. The study will identify potential for new bicycle facilities as well as improvements to existing facilities.

To date, data has been collected about existing and planned bicycle facilities from the Sagamore Bridge to Provincetown. The NPS project team is looking for public comment as to how this bicycle network may be improved. Examples of identified projects may include the location of a new bicycle path, upgrades to amenities at an existing trailhead, improved maintenance guidelines, or additional multi-modal access to an attraction.

Information regarding the project will be posted on the National Park Service Planning and Environment Public Comment (PEPC) website at http://parkplanning.nps.gov. If you are unable to attend a public workshop on May 12, please keep up to date via this website and share your ideas with us via letter to CCNS, 99 Marconi Site Road, Wellfleet, MA 02667. An additional public meeting will be scheduled in August 2009 to seek input from seasonal residents and visitors on the Cape.

(NPS)

EXPERIENCE YOUR AMERICA
The National Park Service cares for special places saved by the American people so that all may experience our heritage.

CAPE COD NATIONAL SEASHORE COMMENT CARD

National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

Public Comment Form
Cape Cod Bicycle Feasibility Study

The National Park Service (NPS), in partnership with the Cape Cod Commission, has initiated a feasibility study to review an integrated bicycle network throughout Cape Cod, with specific focus around bicycle connections to the Cape Cod National Seashore.

The study will identify potential for new bicycle facilities as well as needed improvements to existing facilities. Recommended improvements may include the creation maintenance plans; construction of amenities to support a facility; widening of an existing park; or necessary safety improvements, for example.

As part of this study, all interested individuals, organizations, and agencies are invited to provide written ideas, comments, or suggestions during the public comment period, which extends through June 12, 2009. The NPS invites the public to provide written comments on this form, via the handout's Planning, Environment, and Public Comment website or by dropping this form off at meetings (Attn: Superintendent, Cape Cod National Seashore, 99 Marconi Site Road, Wellfleet, MA 02667).

Comments are typically treated as a public record and available for public review. Individuals may request that the National Park Service withhold their name and address from disclosure. Such requests will be honored to the extent allowable by law.

Please print so we can accurately record your comment. Thank you.

Name: _____ Date of Comment: _____

Address: _____ E-mail: _____

_____ Update to existing contact info? ☐ Yes

How would you prefer to be sent project information? ☐ email ☐ postal mail to the above address ☐ not at all

Would you like to be added or removed from the project mailing list? ☐ added ☐ removed

Would you prefer your name and address be withheld from public record to the extent allowable by law? ☐ Yes

Please provide your comments or corrections regarding the maps presented at today's workshop:

_____

_____

_____

_____

_____

_____

Please fold and use address on the reverse side of this form to return by mail.

Mr. Pat Sachs
U.S. Department of the Interior
National Park Service - Denver Service Center
12795 W. Alameda Parkway
P.O. Box 25287
Denver, CO 80225-0287

National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

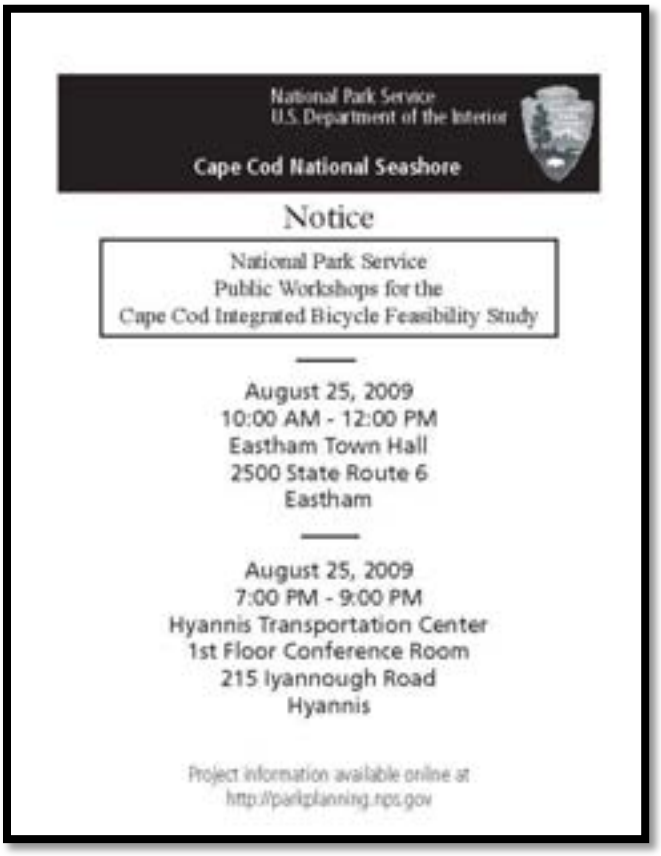
The primary goal of this study is to indentify necessary improvements to create an integrated bicycle network throughout Cape Cod. What suggestions do you have toward this effort? (for example: new bike trail locations? improvements to existing facilities? any other suggestions?

National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

Please provide any additional thoughts or comments you have on the project.

CAPE COD NATIONAL SEASHORE WORKSHOP NOTIFICATION FLYER (QUARTER SHEET)



National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

Notice

National Park Service
Public Workshops for the
Cape Cod Integrated Bicycle Feasibility Study

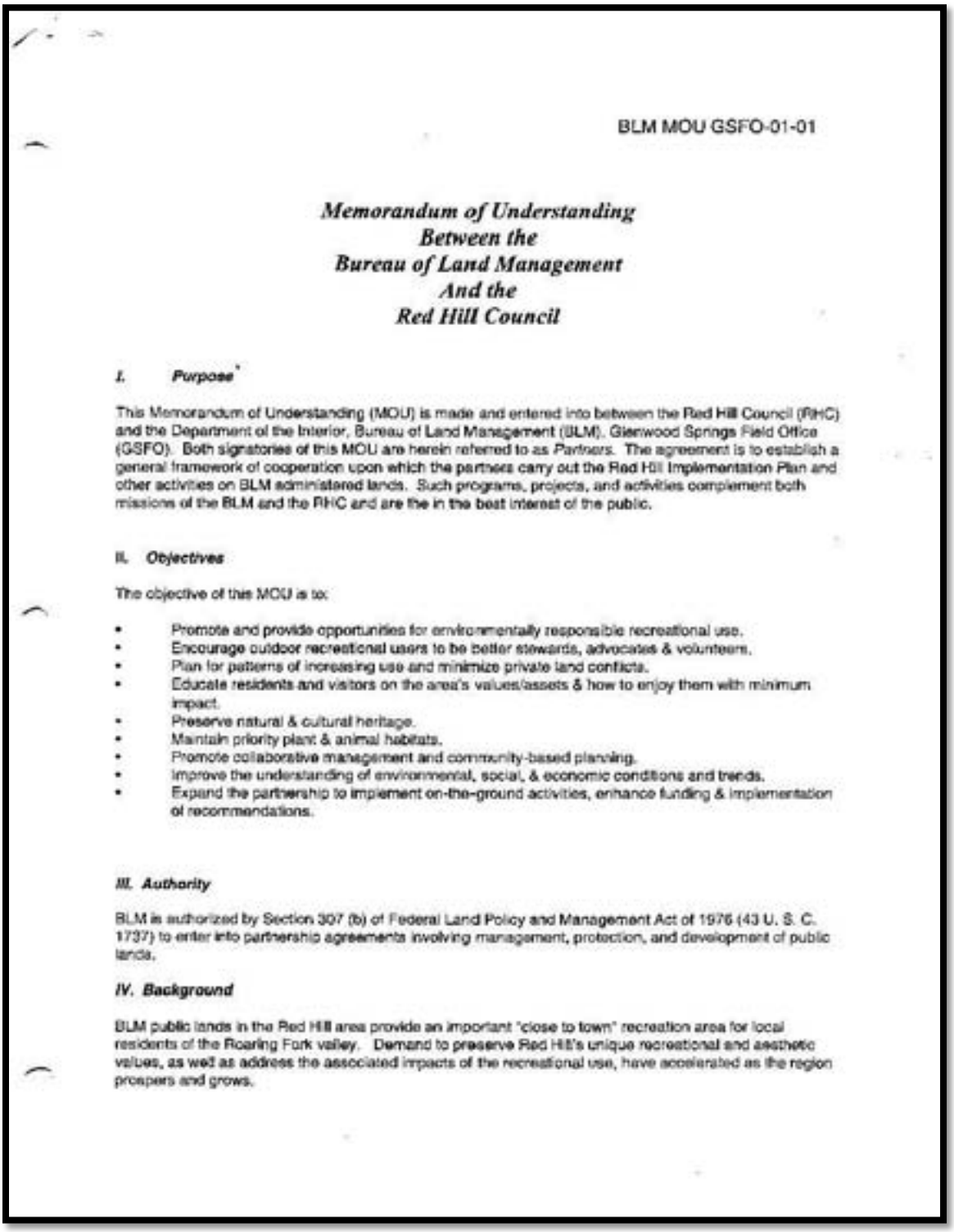
August 25, 2009
10:00 AM - 12:00 PM
Eastham Town Hall
2500 State Route 6
Eastham

August 25, 2009
7:00 PM - 9:00 PM
Hyannis Transportation Center
1st Floor Conference Room
215 Iyannough Road
Hyannis

Project information available online at
http://parkplanning.nps.gov

APPENDIX B: MEMORANDUM OF UNDERSTANDING EXAMPLES

MOU BETWEEN RED HILL COUNCIL AND BUREAU OF LAND MANAGEMENT



BLM MOU GSFO-01-01

Memorandum of Understanding
Between the
Bureau of Land Management
And the
Red Hill Council

I. Purpose

This Memorandum of Understanding (MOU) is made and entered into between the Red Hill Council (RHC) and the Department of the Interior, Bureau of Land Management (BLM), Glenwood Springs Field Office (GSFO). Both signatories of this MOU are herein referred to as *Partners*. The agreement is to establish a general framework of cooperation upon which the partners carry out the Red Hill Implementation Plan and other activities on BLM administered lands. Such programs, projects, and activities complement both missions of the BLM and the RHC and are the in the best interest of the public.

II. Objectives

The objective of this MOU is to:

- Promote and provide opportunities for environmentally responsible recreational use.
- Encourage outdoor recreational users to be better stewards, advocates & volunteers.
- Plan for patterns of increasing use and minimize private land conflicts.
- Educate residents and visitors on the area's values/assets & how to enjoy them with minimum impact.
- Preserve natural & cultural heritage.
- Maintain priority plant & animal habitats.
- Promote collaborative management and community-based planning.
- Improve the understanding of environmental, social, & economic conditions and trends.
- Expand the partnership to implement on-the-ground activities, enhance funding & implementation of recommendations.

III. Authority

BLM is authorized by Section 307 (b) of Federal Land Policy and Management Act of 1976 (43 U. S. C. 1737) to enter into partnership agreements involving management, protection, and development of public lands.

IV. Background

BLM public lands in the Red Hill area provide an important "close to town" recreation area for local residents of the Roaring Fork valley. Demand to preserve Red Hill's unique recreational and aesthetic values, as well as address the associated impacts of the recreational use, have accelerated as the region prospers and grows.

With this in mind, a group of concerned users and neighbors formed the Red Hill Council. The Red Hill Council then engaged the Town of Carbondale, the Colorado Division of Wildlife, Aspen Glen development, Western Slope Consulting and the BLM. The partnership set out to develop recommendations that would protect public lands managed by the BLM and minimize conflicts while continuing to provide for recreational use. The intent of the Council is best described in the mission statement.

> *"The mission of the Red Hill Project is to develop a plan that provides for protection of the natural resource through long-term management and careful analysis. Planning should recognize increasing public demands on the resource and consider the need to minimize human impacts on the natural environment. The mission is also to support education of the public about the resource, its biological and geographical features and suitable methods of use."*

The BLM is responsible for managing approximately 265 million acres of public lands located mostly in 11 Western States, including Alaska, and in small parcels scattered across the Eastern United States. It is the mission of the BLM to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations. The BLM is committed to providing multiple use recreational opportunities that meet the needs of our diverse customers while improving the health of the land. The work of the Red Hill Council supports the BLM's mission and fosters community based partnerships that help conserve and protect public land resources.

V. Mutual Benefits

It is mutually beneficial for both the RHC and the BLM to work cooperatively to further carry out the Red Hill Implementation Plan (see attached)

VI. Terms of Mutual Agreement

The RHC will:

- Provide materials, equipment, technical assistance, information, data, etc. as appropriate and available to help the partners meet the goals and objectives of the Red Hill Implementation Plan
- Provide volunteers to maintain trails, trail heads, signing, and other developed facilities and patrol the area.
- Maintain a community-led group to achieve the Red Hill goals and objectives and implement the identified actions in a coordinated way.
- Provide cultural and biological clearances, as appropriate, for environmental analysis. And, as necessary, financially and technically support environmental analysis of planned actions.
- Meet semi-annually or more often with parties to this agreement for the purpose of coordinating activities and progress.

The BLM will:

- Provide materials, equipment, technical assistance, information, data, personnel, etc. as appropriate and available to help the partners meet the objectives of the Red Hill Implementation Plan consistent with applicable Federal laws, regulations, BLM plans, and other management direction.
- Provide oversight for actions taken on BLM public lands.
- As feasible, provide environmental analysis and engineering analysis for actions on public lands.
- Meet semi-annually or more often with parties to this agreement for the purpose of coordinating activities and progress.

- Actively coordinate with parties to this agreement on issues that may affect the achievement of the goals and objectives of the Red Hill Implementation Plan.

It is mutually agreed and understood by the partners that:

- This MOU is neither a fiscal nor a funds obligations document. This agreement shall not obligate either of the Partners to this agreement to expend appropriations or to enter into any contract or other obligation with the other partner in this agreement.
- In carrying out this MOU, there shall be no discrimination against any person because of race, color, national origin, sex, age, religion, or disability.
- This MOU shall not be interpreted to imply that the United States, the Department of the Interior, or the BLM endorses any product, service, or policy of RHC. The RHC shall not take any action or make statements that suggests or implies such endorsement.
- Each signatory party shall obtain prior approval from the other of all press releases, advertisements, or other statements regarding projects or work products intended for the public that refer to this MOU or to the BLM or name or title of any BLM employee involved in connection with this agreement.
- The Partners will consult, at least annually, to discuss actions to implement the purpose of this MOU.

VII. Term of Agreement

This agreement shall have a term of 5 years from the date signed, at which time, it will expire unless extended by issuance of a written amendment, signed and dated by both parties. This agreement may be terminated by either party upon 90 days written advance notice. This agreement shall be reviewed, by both Partners, annually to determine whether it should be continued, modified, or terminated.

VIII. Agency Contacts

The Principal contacts for this MOU are:

Bureau Of Land Management
Glenwood Springs Field Office
Brian Hopkins
P.O. Box 1009
Glenwood Springs, CO 81602

Telephone (970) 947-2840
FAX (970) 947-2840

Red Hill Council Chairperson
P.O. Box 1065
Carbondale, CO 81623

Telephone (970) 963-1670
FAX (970) 963-7172

This MOU is approved and executed by:

David Johnson
Chairperson
Red Hill Council
Date: _____

Anne Huebner
Field Manager
Glenwood Springs Field Office
Date:

MEMORANDUM OF UNDERSTANDING
Between
The Colorado Mountain Club
and
the USDI, Bureau of Land Management, Colorado State Office

This **MEMORANDUM OF UNDERSTANDING** (MOU) is hereby entered into by and between The Colorado Mountain Club, hereinafter referred to as CMC, and the United States Department of the Interior, Bureau of Land Management, Colorado State Office, hereinafter referred to as BLM. Collectively both signatories of this MOU will be known as the Cooperators.

A. PURPOSE:

The purpose of this MOU is to formalize a cooperative relationship between the CMC and the BLM for the purpose of providing training and educational information, and to facilitate developing and managing trails, trail corridors, and other natural resources, and managing wilderness and wilderness study areas.

B. AUTHORITY:

The Bureau of Land Management enters into this agreement pursuant to legal authority under Federal Land Policy and Management Act of 1976, as amended, 43 U.S.C. § 1701, *et. seq.*

B. OBJECTIVE:

The objective of this MOU is to develop educational materials, training programs and resources, and tangible benefits to trails, trail corridors, wilderness and wilderness study areas, and other natural resources. Educational materials could include such topics as land ethics, trail etiquette and safety, in various media including brochures, handouts and electronic formats. Training programs for BLM staff, CMC members, volunteers and the general public could be cooperatively conducted through schools, workshops, training courses, presentations, instruction, and other written, oral or electronic media. On-the-ground projects could include: identifying, constructing, reconstructing, maintaining, restoring, operating, and improving trails; restoring landscape health on BLM-administered public lands by removing invasive species, and improving riparian habitats and rangeland productivity; and monitoring in wilderness areas and wilderness study areas. These activities would comply with local resource management plans (or equivalents), other planning, and public land laws.

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C. BENEFITS:

The partnership will help instill a conservation ethic in backcountry recreationists and develop a sense of stewardship in those users, while cooperating on developing, maintaining and operating trails, and managing wilderness areas, wilderness study areas, and other natural resources. The Cooperators are dedicated to responsibly managing the Nation's natural resources by involving concerned citizen groups.

The activities to be undertaken through this agreement further the BLM's and The CMC's missions by providing the following benefits:

1. Enhanced educational opportunities and materials for the public
2. Enhanced training opportunities
3. Enhanced management of trails, wilderness areas, wilderness study areas, and other natural resources

D. CMC agrees to:

1. Organize training workshops on trail maintenance and construction, invasive plant management, and restoration ecology, as needed and agreed to annually. Workshops may be coordinated with CMC partners such as the Colorado Outdoor Training Initiative, Volunteers for Outdoor Colorado, Tread Lightly, and the Colorado Youth Corps Association.

2. Implement programs such as Leave No Trace, Tread Lightly, National Public Lands Day, and National Trails Day on BLM-administered public lands.

3. Identify, develop and distribute educational materials.

4. Identify and facilitate opportunities to improve or manage trails, and manage wilderness areas, wilderness study areas, and other natural resources on BLM-administered public lands, using adopt-a-trail events, stewardship days, or other programs.

5. Encourage local CMC groups to enter into stewardship partnerships to assist in managing BLM-administered priority areas, which will be determined in annual operating plans.

6. Educate CMC members and clubs about BLM partnerships and encourage them to collaborate with BLM staff to identify opportunities for cooperating on mutually beneficial projects or activities.

7. Provide ongoing education and encouragement for CMC members to be involved in the planning processes at the state and field office levels.

8. Develop and carry out research projects on impacts and user preferences, to aid in planning for and managing BLM-administered public lands.

E. The BLM agrees to:

1. Help facilitate and support the delivery of CMC workshops, as needed and agreed to annually.

2. Support and facilitate implementing programs such as Leave No Trace and Tread Lightly on BLM-administered public lands or at approved events.

3. Communicate resource management plan objectives, guidelines and policies to CMC groups and individuals.

4. Help identify the need for educational materials and support developing those materials.

5. Identify, facilitate and support opportunities to develop, improve or manage trails, and manage wilderness, wilderness study areas, and other natural resources on BLM-administered public lands, within the constraints of management plans, budgets, and laws, using challenge cost share and other authorities.

6. Establish stewardship partnerships with local CMC groups to assist in managing BLM State Office priority landscapes on BLM-administered public lands, which will be determined in annual operating plans.

7. Educate BLM staff about CMC partnerships and encourage staff to collaborate with CMC state and local representatives and affiliated organizations to identify opportunities for cooperating on mutually beneficial projects or activities.

8. Encourage CMC members to work closely with BLM staff during planning processes. Use CMC's resources to publicize active planning projects related to recreation and opportunities for public scoping of those projects.

9. Provide locations or support, or both, for research projects conducted by the CMC.

F. IT IS MUTUALLY AGREED AND UNDERSTOOD BY ALL PARTIES THAT:

1. The Cooperators will develop an operating plan as part of this MOU that will be reviewed and updated annually.

2. The Cooperators will coordinate and involve volunteers in managing, planning, and operating backcountry recreation, including signing, condition surveys, water developments, adopt-a-trail programs, and construction, and maintenance activities.

3. The Cooperators will seek grants for developing and managing backcountry trails and other opportunities, as appropriate.

4. PRINCIPAL CONTACTS. The principal contacts for this MOU are:

BLM Project Contact	***Cooperator Project Contact***
Jack Placchi	Bryan Martin
Trails Coordinator	Asst Director of Conservation
2850 Youngfield	710 10th Street, Suite 200
Lakewood, CO 80215	Golden, CO 80401
Phone: 303-239-	Phone: 303-996-2768
FAX: 303-238-3808	FAX: 303-279-9690
E-Mail: Jack_Placchie@blm.gov	E-Mail: bryanmartin@cmc.org
BLM Management Team Contact	***Cooperator Board of Directors Contact***
Dave Stout	Janice Heidel
Field Manager, Kremmling, F.O.	President
2103 E. Park Ave. (P.O. Box 68)	710 10th Street, Suite 200
Kremmling, CO 80459	Golden, CO 80401
Phone: 970-724-3001	Phone: 800-633-4417
FAX:_ 970-724-9590	FAX: 303-279-9690
E-Mail: Dave_Stout@co.blm.gov	E-Mail: President@cmc.org

5. This MOU shall be subject to the laws of the United States and the State of Colorado, and to the rules and regulations promulgated thereunder, whether now in force or hereafter enacted or promulgated; and nothing herein shall be construed as in any way affecting or waiving the jurisdiction, responsibility, or existing rights of any signatory party to this MOU.

6. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the BLM under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

7. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts all the Cooperator(s) from participating in similar activities with other public or private agencies, organizations, and individuals.

8. NON-FUND OBLIGATING DOCUMENT. Nothing in this MOU shall obligate the Cooperators to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the Cooperators will require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such

agreement must comply with all applicable statutes and regulations.

9. COMMENCEMENT/EXPIRATION/TERMINATION. This MOU takes effect upon the signature of the Cooperators and shall remain in effect for five years from the date of execution. This MOU may be extended or amended upon written request of any of the Cooperators and subsequent written concurrence of the others. Any of the Cooperators may terminate this MOU with a 30 day written notice to the others.

10. RESPONSIBILITIES OF PARTIES. The Cooperators will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner pursuant to this MOU.

11. ESTABLISHMENT OF RESPONSIBILITY. This MOU is not intended to and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

12. In accordance with 18 U.S.C. §§ 431 and 433, no member of Congress or Resident Commissioner shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom, unless it is made with a corporation for its general benefit.

13. Endorsements. Nothing in this agreement may be interpreted to imply that the United States, The Department of the Interior, or the Bureau of Land Management endorses any product service, or policy of the CMC. The CMC will not take any action or make any statement that suggests or implies such an endorsement.

14. The CMC will obtain prior approval of all press releases, published advertisements, or other statements intended for the public that refer, mention and/or relate to this agreement only including references to the BLM, the Department, or the name or title of any employee of the Department in connection with this agreement.

In witness whereof, the parties sign and cause this MOU to be executed.

USDI Bureau of Land Management – Colorado

Sally Wisely
State Director

3/07/08
Date

The Colorado Mountain Club

Janice Heidel
President

03/08/08
Date

MEMORANDUM OF UNDERSTANDING
Between the
International Mountain Bicycling Association
And
Bicycle Colorado
And
USDI Bureau of Land Management, Colorado State Office

This **MEMORANDUM OF UNDERSTANDING** (MOU) is hereby entered into by and between the International Mountain Bicycling Association, hereinafter referred to as IMBA, Bicycle Colorado, hereinafter referred to as BC and the USDI Bureau of Land Management, Colorado State Office hereinafter referred to as BLM. Collectively all signatories of this MOU will be known as the cooperators.

A. PURPOSE:

The purpose of this MOU is to formalize a cooperative relationship between the aforementioned agencies and organizations for the purpose of cooperating in providing training and educational information and to facilitate the management of trails, and trail systems.

B. OBJECTIVE:

The objective of this MOU is to develop educational materials, training programs and resources, and manage tangible benefits such as trails and trail systems. Educational materials could include such topics as land ethics, rider etiquette and safety, in various media including brochures, handouts and electronic format. Training programs for BLM staff, IMBA and BC members, volunteers and the general public could be cooperatively conducted through schools, workshops, courses, presentations, instruction and other written, oral or electronic media. On- the- ground projects could include identification, construction, reconstruction, maintenance, restoration, operation and improvement of trails and trail systems for mountain bicycling and other trail uses, in compliance with local resource management plans (or equivalent), other planning and public land laws, following the Bureau process.

C. BENEFITS:

The partnership will help instill a conservation ethic in mountain bicycling recreationists and develop a sense of stewardship in those users while cooperating on the construction, maintenance, and operation of trails and trail systems. The cooperators are dedicated to responsible management of the Nation's natural resources through the involvement of concerned citizen groups.

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The activities to be undertaken thru this agreement are in furtherance of the BLM the IMBA and BC missions by the providing the following benefits:

1. Enhanced educational opportunities and materials for the public
2. Enhanced education and training opportunities
3. Enhanced mountain bicycling trails and trail systems

D. IMBA and BC agree to:

1. Organize IMBA Trail Building Schools as needed and agreed to annually.
2. Schedule and arrange IMBA Trail Care Crew visits as needed and agreed to annually.
3. Implement programs such as the National Mountain Bike Patrol, "Take A Kid Mountain Biking Day", Colorado Statewide Trail Pros Crew and other such programs for BLM public land areas.
4. Identify, develop and distribute educational materials.
5. Identify and facilitate opportunities to improve or develop trails and trail systems on BLM public lands.
6. Educate IMBA and BC members and clubs about BLM partnerships and encourage them to collaborate with BLM staff to identify opportunities for cooperation on mutually beneficial projects or activities.
7. Provide ongoing education and encouragement for mountain bicycling enthusiasts to be involved in the planning process at the state and field office levels.
8. Develop and carry out research projects on impacts and user preferences to aid in planning and management of BLM public land areas.

E. The BLM agrees to:

1. Help facilitate and support the delivery of IMBA trail building schools as needed and agreed to annually.
2. Help identify, facilitate and support IMBA trail care crew visits to BLM Colorado trails or sites as agreed to annually.
3. Support and facilitate the implementation of programs such as National Mountain Bike Patrol, "Take A Kid Mountain Biking Day", Colorado Statewide Trail Pros Crew and other such programs in BLM public land areas or at approved events.
4. Help identify the need for, review, and support the development of educational materials.
5. Identify, facilitate and support opportunities to improve or develop trails and trail systems on BLM public lands as plans, budget, laws and management allow, using challenge cost share and other authorities.
6. Educate BLM staff about IMBA and BC partnerships and encourage staff to collaborate with IMBA and BC state and local representatives and affiliate organizations to identify opportunities for cooperation on mutually beneficial projects or activities.

7. Encourage mountain bicycling enthusiasts to work closely with BLM staff during planning processes and make reasonable attempts to publicize active planning projects related to mountain bicycling through IMBA and BC for public scoping.
8. Provide areas and or support for research projects carried out by IMBA and BC.

F. IT IS MUTUALLY AGREED AND UNDERSTOOD BY ALL PARTIES THAT:

1. The cooperators will develop an operating plan as part of this MOU that will be reviewed and updated annually.

2. The cooperators will coordinate and involve volunteers in the management, planning, and operation of the mountain bicycling opportunities, including signing, condition surveys, water development, Adopt-A-Trail program, construction, and maintenance activities.

3. The cooperators will seek grants for the further development and management of mountain bicycling trails and opportunities, as appropriate.

4. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

	BLM	***IMBA***	***BC***
	Project Contact	***Project Contact***	***Project Contact***
	Jack Placchi	Ryan Schutz	Dan Grunig
	2850 Youngfield	PO Box 7578	1525 Market St. Suite 100
	Lakewood, CO 80215	Boulder, CO, 80306	Denver, CO 80202
Phone:	303-239-3832	303-545-9011 x 117	303 417-1544
FAX:	303-238-3808	303-545-9026	
E-Mail:	jack_placchi@co.blm.gov	ryan@imba.com	dan@bicyclecolo.org

	BLM	***IMBA***	***BC***
	Team Contact	***Director Contact***	***Director Contact***
	Catherine Robertson	Mike Van Able	Dan Grunig
	2815 H Road	PO Box 7578	1701 Wynkoop St., Suite 236
	Grand Junction, CO 81506	Boulder, CO, 80306	Denver, CO 80202
Phone:	970-244-3010	303-545-9011	303-417-1544
FAX:	970-244-3083	303-545-9026	
E-Mail:	catherine_robertson@blm.gov	mike@imba.com	dan@bicyclecolo.org

5. This MOU shall be subject to the laws of the United States and the State of Colorado, and to the rules and regulations promulgated thereunder, whether now in force or hereafter enacted or promulgated; and nothing herein shall be construed as in any way affecting or waiving the jurisdiction, responsibility, or existing rights of any signatory party to this MOU.

6. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the BLM and Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

7. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts all the Cooperator(s) from participating in similar activities with other public or private agencies, organizations, and individuals.

8. NON-FUND OBLIGATING DOCUMENT. Nothing in this MOU shall obligate the Cooperators to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the Cooperators will require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

9. COMMENCEMENT/EXPIRATION/TERMINATION. This MOU takes effect upon the signature of the Cooperators and shall remain in effect for five years from the date of execution. This MOU may be extended or amended upon written request of any of the Cooperators and subsequent written concurrence of the others. Any of the Cooperators may terminate this MOU with a 30 day written notice to the others.

10. RESPONSIBILITIES OF PARTIES. The Cooperators will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner pursuant to this MOU.

11. ESTABLISHMENT OF RESPONSIBILITY. This MOU is not intended to and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

12. In accordance with 18 U.S.C. §§ 431 and 433, no member of Congress or Resident Commissioner shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom, unless it is made with a corporation for its general benefit.

13. Endorsements. Nothing in this agreement may be interpreted to imply that the United States, The Department of the Interior, or the Bureau of Land Management endorses any product service, or policy of the IMBA and BC. The IMBA and BC will not take any action or make any statement that suggests or implies such an endorsement.

14. The IMBA and BC will obtain prior approval of all press releases, published advertisements, or other statements intended for the public that refer, mention and/or relate to this agreement only including references to the BLM, the Department, or the name or title of any employee of the Department in connection with this agreement.

In witness whereof, the parties sign and cause this MOU to be executed.

USDI Bureau of Land Management – Colorado

Helen Hankins — Mar 25, 2011

Helen Hankins
State Director

Date

International Mountain Bicycling Association

Mike Van Abel — 2/22/2011

Mike Van Abel
Executive Director

Date

Bicycle Colorado

Dan Grunig — 12/21/10

Dan Grunig
Executive Director

Date

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MEMORANDUM OF UNDERSTANING
BETWEEN
THE UNITED STATES DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE,
NATIONAL WILDLIFE REFUGE SYSTEM,
National Elk Refuge
AND
TETON COUNTY, WYOMING

This MEMORANDUM OF UNDERSTANDING (MOU) is hereby made and entered into by and between the U.S. Department of the Interior (USDI), Fish and Wildlife Service (USFWS), National Elk Refuge (NER), hereinafter referred to as the NER and Teton County (County), Wyoming, hereinafter referred to as the County.

A. PURPOSE:

This MOU prescribes the procedures and guidelines for the construction and operation of a shared-use, non-motorized pathway to be located along the west boundary of the NER between Highway 89 and the west NER fence.

This MOU was developed pursuant to the following documents:

- Environmental Assessment, North Highway 89 Pathway Project, February 6, 2009;

- Finding Of No Significant Impact, North Highway 89 Pathway Project Environmental Assessment, Teton County, Wyoming, March 30, 2009 by the Federal Transit Administration.

- Compatibility Determination for a Shared-Use Pathway completed by the National Elk Refuge and approved on May 6, 2009.

B. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

The USFWS has determined that the establishment of a shared-use, non-motorized pathway on the NER will increase the public's enjoyment, awareness and understanding of the natural habitats, wildlife species and management activities that occur on the NER.

Currently, there are limited opportunities for safe, non-motorized travel along Highway 89. The posted vehicle speed is 55 mph. Non-motorized users and recreationists are forced to use sub-standard shoulders (two to four feet wide) directly adjacent to the highway, making safety questionable This pathway will benefit Teton County by providing a vital connection between the Town of Jackson and the Grand Teton National Park while simultaneously providing users with a safe, scenic, educational, enjoyable, and alternative form of travel and recreation.

C. PROCEDURES:

The NER and County mutually agree to:

1. Meet annually, or as often as requested by either party, to discuss matters of pathway operations, regulation enforcement, and maintenance. Parties will mutually identify areas of

concern and changes necessary to ensure the operation and use of the pathway remains compatible with the purposes of the NER.

The County agrees to:

1. Provide all funding and complete the initial construction of the Pathway. Also, provide all funding and complete regular maintenance necessary to ensure operational compatibility and public safety.

2. Provide funding for educational and interpretive signage and site development associated with the initial pathway construction.

3. Teton County will provide law enforcement assistance as outlined in the General (Mutual Aid) agreement between the Sheriff of Teton County and the National Elk Refuge. County law enforcement officers will contact pathway users in violation of Section E, inform user of pathway use restrictions, collect necessary identification information and provide that information to the NER for possible federal prosecution. The County may enforce County regulations or State statutes pertaining to Pathway use on any portion of the Pathway.

4. Provide an Annual Use Report that identifies user conflicts with wildlife and habitat.

5. Maintain pathway in safe condition according to standards identified in the Pathways Master Plan adopted by Teton County in June 2007.

6. Noxious weed control in the project area is currently managed through a contract between the Wyoming Department of Transportation and Teton County Weed and Pest. The County shall arrange for any necessary additional control of exotic plants identified as noxious by either the County or the NER through Teton County Weed and Pest or a private contractor.

The NER agrees to:

-Review annual pathway use report, evaluate conflicts and identify corrective measures in a timely manner or as necessary, to mitigate adverse effects to wildlife and their habitats.

D. IT IS MUTUALLY UNDERSTOOD AND AGREED TO BY AND BETWEEN THE PARTIES THAT:

1. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the NER or the County under this instrument is subject to the FOIA (5 U.S.C. 552)

2. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the NER or County from participating in similar activities with other public or private agencies, organizations and individuals.

3. COMMENCEMENT/EXPIRATION/TERMINATION. This MOU takes effect upon the signature of the NER and County and shall remain in effect for 5 years from the date of execution. This MOU may be extended or amended upon written request of either party and the subsequent written concurrence of the other entity. Either the NER or the County may terminate this MOU with a 60-day written notice to the other entity.

This MOU may be terminated by the NER if unforeseen developments prevent the use of this pathway from remaining a compatible use. The term 'compatible use' means a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge (National Wildlife Refuge Improvement Act – 1997).

Situations that arise due to operation or use of the pathway that threaten the purpose of the NER or mission of the Wildlife Refuge System as determined by the Refuge Manager may result in an immediate, temporary emergency closure of the pathway. The emergency closure will remain in effect until the situation that caused the closure has been resolved, or until a permanent mitigation strategy has been developed and implemented.

Mitigation strategies shall be developed cooperatively by the NER and County, and shall be implemented by the County as quickly as possible, allowing for reasonable time to plan, fund, and implement the agreed upon solution. All mitigation strategies shall require written approval of the NER Refuge Manager prior to implementation, and written acknowledgement upon successful implementation of the strategy.

If the County elects not to renew this MOU or utilize the pathway as specified in this agreement and a mitigation strategy cannot be agreed upon, the County will, at the discretion of the Refuge Manager, remove the pathway and restore refuge habitat to its pre-pathway condition at the County's expense.

4. RESPONSIBILITIES OF THE PARTIES. The NER and County will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing project objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.

E. SPECIFIC REQUIREMENTS FOR PATHWAY USE AND CONSTRUCTION:

1. A seasonal closure from October 1 through April 30 is required to prevent conflicts with migrating elk and other ungulates. The April 30th date may be adjusted at the discretion of the Elk Refuge Manager.

2. No dogs or other pets are allowed on the pathway.

3. Pathway construction and major maintenance will be restricted to the time period of May 1 through September 30 to minimize disturbance to ungulates and other wildlife, unless authorized in writing by the Refuge Manager prior to the activity. A dormant seeding to re-vegetate disturbed soils may occur after September 30.

4. Use of any type of motorized vehicle is prohibited on the pathway except for operation of vehicles by authorized personnel of Teton County or the NER for periodic pathway maintenance, or use of personal assistive mobility devices by individuals who, by reasons of physical disability, are unable to move about as pedestrians. Persons using personal assistive mobility devices shall have a certificate of disability issued by their State of residence.

F. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

NER Project Contact	**Teton County Contact**
Steve Kallin	Brian Schilling
Refuge Manager	Pathways Coordinator
P.O. Box 510, 675 E. Broadway	P.O. Box 1687
Jackson, WY 83001	Jackson, WY 83001
Phone: 307-733-9212 x-223	Phone: 307-732-8573
FAX: 307-733-9729	Fax: 307-734-3864
E-Mail: steve_kallin@fws.gov	E-mail: bschilling@ci.jackson.wy.us

G. ESTABLISHMENT OF RESPONSIBITLIY:

This MOU is not intended to, and does not, create any right, benefit or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers or any person.

H. AUTHORIZED REPRESENTATIVES:

By signature below, the cooperator certifies that the individuals listed in this document as representatives of the cooperator are authorized to act in their respective areas for matters related to this agreement.

NATIONAL ELK REFUGE

_____ Dated: _____

Steven W. Kallin
Refuge Manager
National Elk Refuge

TETON COUNTY

_____ Dated: _____

Hank Phibbs, Chairman
Teton County Board of County Commissioners

Attest:

_____

Sherry Daigle, Teton County Clerk

APPENDIX C: ADDITIONAL NETWORK STEP EXAMPLES

STEP 2:

Criteria used in the Jackson Hole Community Pathways Master Plan (1) include:

- Completing Missing Links,
- Enhances Safety,
- Multi-modal Connections,
- Access to Public Lands,
- Allows Multiple Uses,
- Completes Loops, and
- Toursim/Economic Development.

Criteria used in the Ada County Highway District Roadways to Bicycle Plan (16) include:

- Connectivity,
- User Generator,
- Land Uses,
- Overcome Barriers,
- Regional Benefits, and
- Ease of Implementation.

Weights for Criteria from the Lake Tahoe Region Bicycle and Pedestrian Plan (2)

Criterion	Weight
Estimated use based on the user model – ***the Bicycle Trail User model is used estimate the level of use of a link***	40
Cost Benefit – ***divides the estimated project cost over the expect number of users***	20
Environmental Impact – ***considers the relationship of the project to habitat buffers***	-20
Fixes a gap in the existing network – ***answers the question about whether the proposed project closes a gap in the network***	15
Improves network – ***considers whether the proposed project is located near existing pedestrian and bicycle facilities***	10
Safety – ***considers if the proposed project would improve safety based on the results of an accident analysis***	10
Multi-modal connectivity – ***considers the project's connectivity to transit***	5

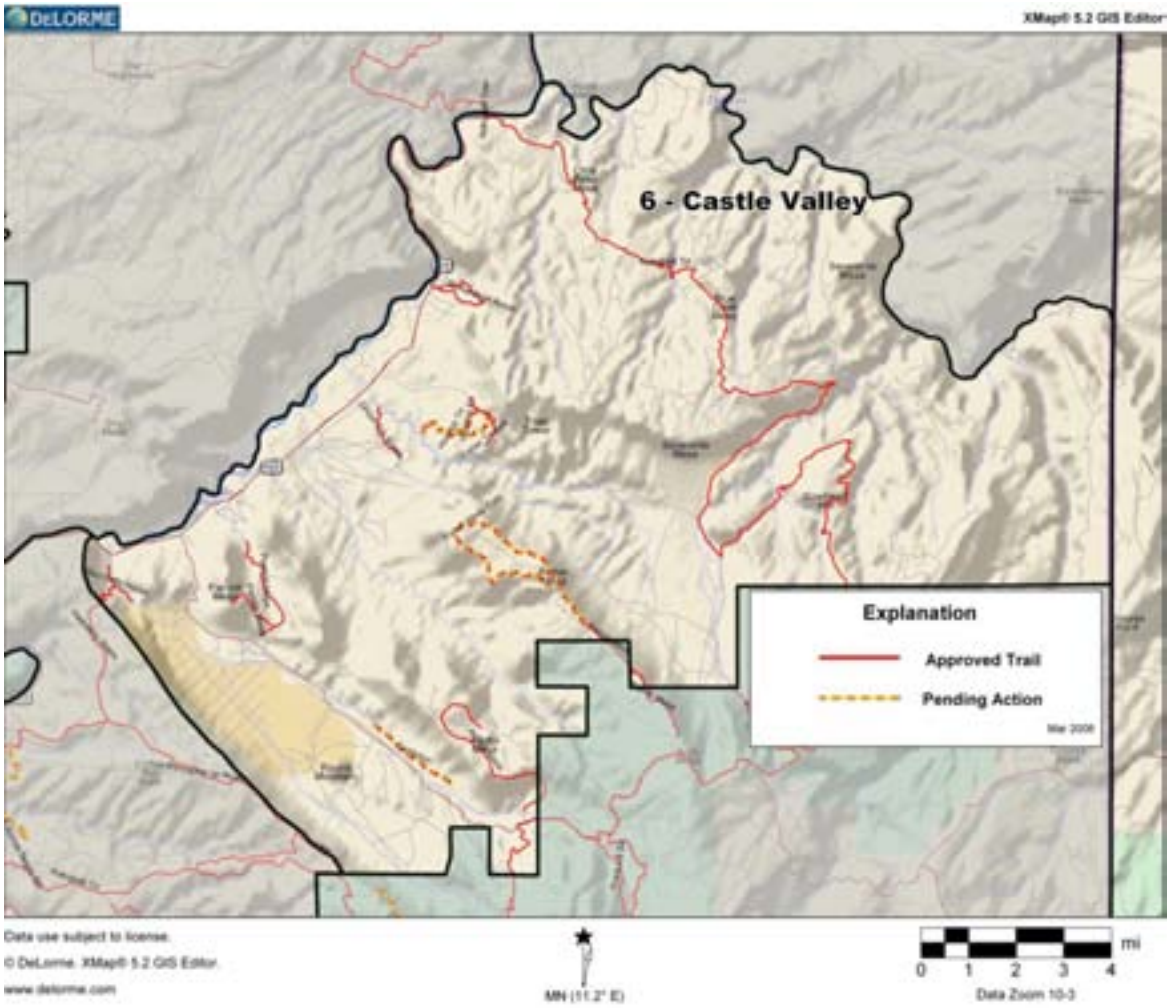
STEP 4:

Project Scores and Rankings from the Jackson Hole Community Pathways Master Plan (1):

PROJECT	COMPLETING MISSING LINKS	ENHANCES SAFETY	MULTI-MODAL CONNECTIONS	ACCESS TO PUBLIC LANDS	ALLOWS MULTIPLE USES	COMPLETES LOOPS	TOURISM/ECONOMIC DEVELOPMENT	TOTAL	RANK
Complete Streets	14	17.4	10.8	4.6	11.7	12.1	14.6	85.2	1
WY 22 Pathway	14.7	18.2	8.3	6.1	11.8	12.1	13	84.2	2
Teton Village to Moose	12.4	17.6	7.1	10	11.7	9.8	9.6	78.2	3
Fish Creek Rd	11.6	15.7	6.3	8	11.9	13.6	9.5	76.6	4
Flat Creek Greenway	12.1	17.6	7	6.7	11.1	9.7	11.3	75.5	5
Town to Moose	12	17.6	6.7	9.3	11.5	7.4	10.2	74.7	6
Hoback Trail	10.6	18.9	4.1	6.8	12	9	10.5	71.8	7
South Park	12.7	15.1	6.1	2.6	11.5	13.9	9.4	71.3	8
Fall Creek Rd	9.6	14.6	6.2	8.4	12.6	9.8	9.7	70.9	9
Karns Meadow	10.1	15.6	7.1	5.7	11.7	10.5	9.1	69.8	10
Rafter J Trails	12.5	15.1	6.1	1.8	11.7	12.4	8.7	68.3	11
Trailheads	9.5	10.6	6.5	10.5	12.5	9.7	8.7	68	12
Safe Routes System	10.9	16.9	7.7	3	9.9	10.5	8.2	67.1	13
Millennium Trail	12.8	18.1	3.1	9.7	11.6	5.4	6	66.7	14
Health Trail	8.7	10.5	4.8	8	10.5	11	7.2	60.7	15
Melody Ranch	10.1	11.3	3.2	2.4	11.3	10.4	7	55.7	16
Cache Creek	6.3	7.4	5.3	8.1	9.2	7.2	8.3	51.8	17
Spring Gulch Rd	7.1	10.1	2.7	6.2	11.1	6.1	4.7	48	18
Water Trail System	4.7	4.7	4.3	9.8	5.9	2.5	8.5	40.4	19

A map from a larger network of maps for the public lands surrounding Moab, Utah as part of the Grand County Non-Motorized Trails Master Plan (7) is shown below. "Approved" trial links are displayed in red and "Pending Action" trail links are displayed with dashed yellow lines. Approved trails are those that already exist for which non-motorized travel is approved. Pending Action trail links are those which:

- Still need to be approved by the land manager,
- Need funding, or
- Need to be built or signed.



One of Several Maps for the Bicycle and Pedestrian Network in Moab, UT

APPENDIX D: ACADIA NP TRAILS ENDOWMENT, EXAMPLE MOU

ACADIA NATIONAL PARK AND FRIENDS OF ACADIA MOU

Memorandum of Agreement
MA No. 1443GA1700-00-002

rec'd 8/11/00

GENERAL AGREEMENT
BETWEEN
THE UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE
AND FRIENDS OF ACADIA

This General Agreement is entered into as of the sixteenth day of March, 2000, by and among the National Park Service, United States Department of the Interior, **NPS**, by the Superintendent, Acadia National Park, together with his successor or successors in office and his and their duly authorized representatives, referred to as the "Superintendent,"; and Friends of Acadia, a non-profit corporation organized under the laws of the State of Maine, hereinafter referred to as **"FOA"**.

ARTICLE I. BACKGROUND AND OBJECTIVES

WHEREAS, the National Park Service (NPS) has the basic mission to preserve the natural and cultural features of this nation and to allow for the visitor use and enjoyment of the same in such a manner as will leave those resources unimpaired for future generations (16 USC 1); and

WHEREAS, Acadia National Park is a unit of the NPS, having been established in 1916 by Presidential proclamation as Sieur de Monts National Monument with subsequent Congressional name changes to Lafayette National Park in 1919 (16 USC 341) and to Acadia National Park in 1929 (16 USC 342b); and

WHEREAS, Acadia National Park contains a wealth of natural, cultural and scenic resources including a 130-mile system of trails, many of which have historic significance; and

WHEREAS, FOA was established in 1986 to provide philanthropic and volunteer support to Acadia National Park; and

Whereas, FOA and Acadia National Park wish to collaborate on a 10-year plan to rehabilitate the 130-mile trail system, restore 11 miles of lost or unmarked trails, and create 5 village connector trails; and

Whereas, NPS is willing to commit $4 million from park entry fees and other federal sources over ten years to rehabilitate the park's 130-mile trail system; and

WHEREAS, annual maintenance of the rehabilitated trail system will be required beginning in 2000 to prevent trail deterioration and to protect the government's financial investment; and

Whereas, FOA has agreed to seek funds to establish a private endowment for maintaining the Acadia National Park trail system

annually in perpetuity, and additional private funds to support the trails restoration and trails programs; and

WHEREAS, FOA and the NPS currently have Memorandums of Agreement for the carriage road system and the wheelchair accessible carriages.

NOW, THEREFORE, pursuant to 16 USC 6, 16 USC 18f(b), 16 USC 407m-1 and 16 USC 343, the National Park Service, hereinafter known as the NPS, and Friends of Acadia, hereinafter known as FOA, agree to the following:

ARTICLE II. STATEMENT OF WORK

A. The National Park Service agrees to:

1. Recognize FOA as a partner organization suited to provide financial and voluntary assistance for the benefit of the park's trail system.
2. Prepare and submit to the FOA Board of Directors by the end of January each year, an accounting of how the previous year's funds contributed by FOA under terms of this agreement were expended and an annual trail rehabilitation and maintenance plan describing the general and specific activities to be performed during the current calendar year (January 1 through December 31).
3. Prepare and submit to the FOA Board of Directors, as part of the annual trail maintenance plan, a detailed estimate of expenses for personnel, supplies, materials, and equipment required for annual construction and maintenance.
4. Place funds donated to the NPS by FOA in a special donation account to be used solely on behalf of and for the benefit of projects and activities set forth in this maintenance agreement and described by the annual trail maintenance plan,
5. Make available to FOA such information and data as may reasonably be required and is generally available to inform partners and potential donors about the status of plans for the project, maintenance activities and expenditures.
6. Depending on Park workloads and staff availability, arrange for and conduct tours, interpretive events, and inspections for individuals and groups at the request of FOA provided that such activities shall not, in the judgment of the NPS, adversely affect park resources or unduly infringe upon or detract from normal visitor activities and services of the park. The Superintendent shall have final decision-making responsibility as to such arrangements.

B. Friends of Acadia agrees to:

1. Conduct a fundraising campaign called ACADIA TRAILS FOREVER, to raise at least $8 million in private funds to match 2-to-1 the $4-million commitment of federal funds for

the park's trails. Additional funds from other sources may be added.

2. Create, hold and manage a trails endowment of not less than $5 million as part of ACADIA TRAILS FOREVER.
3. Contribute at least $2.5 million in non-endowment funds as grants to the park for capital restoration of trails and for trails programs, on a schedule and in amounts determined mutually by FOA and Acadia National Park, as part of ACADIA TRAILS FOREVER.
4. Participate in the development of the Park's system-wide trails maintenance plan. Thereafter an annual trail maintenance plan will outline the work to be accomplished each season. Upon mutual determinations that such plans are consistent with the overall plan, donate funds, materials, supplies or equipment requested to the maximum extent possible without depleting the ability of the endowment to provide adequate funding for maintenance in future years. To ensure that the FOA trails endowment does not become depleted, FOA will limit annual contributions to the park of up to 5% of the average of the most recent twelve quarter-end balances of the trail endowment investments. In the event of significant changes in financial markets, FOA, as sole fiduciary, reserves the right to adjust annual contributions to preserve the asset base. Any negative adjustments other than very minor ones will be discussed with the superintendent in advance so that Park fiscal plans can be adjusted to account for adverse impact to personnel services funding of permanent employees.
5. Request such tours, inspections, interpretive events, etc., agreed to by the park in paragraph 6 above, through the Park Superintendent in advance.
6. Solicit donations and engage in fundraising activities by methods to be approved annually in a plan to be submitted to the NPS for its review and approval prior to undertaking such activities. All costs of fundraising shall be borne by FOA.
7. Be fully qualified under State and Federal law to engage in non-profit philanthropic activities for the purposes enumerated herein.
8. Account for trails funds received and expended by FOA from whatever source and for whatever purposes under a system of accounts and financial controls meeting accepted professional standards for non-profit charitable organizations.
9. Engage in an annual audit by a qualified accounting firm, and provide the superintendent with copies of such annual audit certified by said accounting firm, as soon as possible but not more than 180 days from the end of the FOA fiscal year and publish an annual report of its activities and finances.
10. Develop a fundraising plan which addresses (at a minimum) roles and responsibilities, including the use of paid fundraisers or consultants; goals; timetable; scope;

potential donors; fundraising strategies and techniques to be used; promotional or marketing strategies; donor recognition, and fundraising experience of personnel assigned to carry out the plan and submit the same to the NPS for approval. [Refer to guidelines for more detail.]

11. Develop, no later than 90 days after the date this Agreement becomes effective, and with assistance as needed from the Park, a financial management plan identifying administrative and support structures; administrative and project costs, and how those costs will be paid; guidelines for controlling administrative expenses; management strategies and use of donated funds. The financial plan shall become part of the fundraising plan.
12. Donate to the NPS all funds acquired pursuant to the fundraising campaign, less expenses incurred by the FOA except as provided per the terms of this Agreement.
13. Submit all third-party agreements of a material nature to the Park Superintendent for review and approval prior to execution.
14. Obtain prior approval from the Superintendent, and any necessary permits, for any ceremonies or other events to be held on Park property. Commercial activities will not be permitted within the Park. Other activities which require sponsorship, advertising, or the charging of fees will be permitted on Park property only in accordance with applicable National Park Service policies and procedures.
15. Upon completion of the fundraising campaign, or upon expiration or termination of this Agreement, relinquish any and all rights to, or oversight of, the funds raised, except as provided per the terms of this agreement. The remaining funds shall be donated to the NPS for deposit in a special account for the benefit of Acadia National Park Trails Project. In the event that funds raised are insufficient to complete the project described in Article II, section B. 2., the NPS will use the funds to preserve and maintain Acadia National Park's most important trails.

ARTICLE III. TERM OF AGREEMENT

This agreement shall remain in effect for a period five (5) years from the date of execution hereof and will expire at the end of that period unless reaffirmed in writing by both parties.

ARTICLE IV. KEY OFFICIALS

National Park Service:
Superintendent
Acadia National Park
PO Box 177
Bar Harbor, ME 04609

Friends of Acadia:
President
Friends of Acadia
PO Box 725
Bar Harbor, ME 04609

ARTICLE V. PROPERTY UTILIZATION

Not Applicable.

ARTICLE VI. MODIFICATION, ASSIGNMENT, TERMINATION

This Agreement may only be modified in writing. Such modifications shall include signatures of FOA and NPS which shall signify their mutual consent. Requests for modifications will be forward in writing by one party to the other, enclosing the proposed form of modification, at least sixty (60) days prior to the proposed effective date of said modification(s).

Assignment

This Agreement may not be assigned in whole or in part by FOA without the prior written approval of the Superintendent.

VI. PRIOR APPROVALS

Not Applicable.

VII. LIABILITY

FOA shall be fully responsible for the acts and omissions of its representatives, employees, contractors and subcontractors, connected with the performance of this Agreement. FOA, in furtherance of this Agreement, shall:

(a) Procure public and employee liability insurance from a responsible company or companies with a minimum limitation of one million dollars ($1,000,000) per person for any one claim, and an aggregate limitation of three million dollars ($3,000,000) for any number of claims arising from any one incident. The policies shall name the United States as an additional insured, shall specify that the insured shall have no right of subrogation against the United States for payments of any premiums or deductibles due thereunder, and shall specify that the insurance shall be assumed by, be for the account of, and be at the insured's sole risk. Prior to beginning the work authorized herein, FOA shall provide the Service with confirmation of such insurance coverage; and

(b) Pay the United States the full value for all damages to the lands or other properties, or employees, and

(c) Indemnify, defend, save and hold harmless, the United States of America against all liabilities, claims for damages, suits, losses, judgments, and expenses by reason of any injury to any person, including death, or property

damage of any kind whatsoever, and however occurring, arising out of, or in any way connected with, any act or omission of FOA , its agents and/or employees, from any cause whatsoever arising from any activities conducted pursuant to the terms of this agreement or in any way connected thereto.

VIII. Termination

While it is the intent of the NPS and FOA parties that the activities described in this General Agreement continue uninterrupted throughout the term of this instrument, it may be terminated by either party at any time for any reason. Upon termination, any endowment funds collected from third parties shall immediately be placed into a trust for their originally intended purpose, and a trustee appointed who, in the collective judgment of the Superintendent, and Friends of Acadia, can best carry out the purpose of the trust.

ARTICLE IX. REQUIRED CLAUSES

1. Nothing contained herein shall be construed as binding the National Park Service to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this general agreement for the fiscal year, or to involve the National Park Service in any contract or other obligation for the further expenditure of money in excess of such appropriations or allocations.

2. All operations conducted pursuant to this agreement shall be subject to the laws governing the area involved in this agreement and the rules and regulations promulgated thereunder, where now in force or hereafter enacted.

3. Friends of Acadia shall not publicize, or otherwise circulate, promotional material (such as advertisements, sales brochures, press releases, speeches, still and motion pictures, articles, manuscripts or other publications) which states or implies Governmental, Departmental, Bureau, or Government employee endorsement of a product, service, or position which the Friends of Acadia represents. No release of information relating to this agreement may state or imply that the Government approves of the Friends of Acadia's work product, or considers the Friends of Acadia's work product to be superior to other products or services.

4. Friends of Acadia must obtain prior government approval from the National Park Service for any public information releases which refer to the Department of the Interior, any bureau, park unit or employee (by name or title), or this agreement. The specific text, layout, photographs, etc., of the proposed release must be submitted with the request for approval.

5. All fundraising campaigns will be conducted in accordance with the highest standards of professional philanthropy. Fundraising campaigns may be directed only at projects or programs that are consistent with pertinent NPS management plans, other planning documents, and NPS Management Policies.

6. NON-DISCRIMINATION: All activities pursuant to this Agreement and the provisions of Exec. Order No. 11246, 3 CFR 339 (1964-65) shall be in compliance with the requirements of Title VI of the Civil Rights Act of 1964 (78 Stat. 252: 42 U.S.C. § 2000d et seq.); Title V, Section 504 of the Rehabilitation Act of 1973 (87 Stat. 394; 29 U.S.C. § 794); the Age Discrimination Act of 1975 (89 Stat. 728; U.S.C. §§ 6101 et seq.); and with all other Federal laws and regulations prohibiting discrimination on grounds of race, color, national origin, handicap, religion or sex in providing for facilities and service to the public.

7. PUBLIC LAWS: Nothing herein contained shall be deemed to be inconsistent with or contrary to the purpose of or intent of any Act of Congress or the laws of the District establishing, affecting, or relating to the Agreement.

8. DIRECT BENEFIT CLAUSE: No Member of, Delegate to, or Resident Commissioner in, Congress shall be admitted to any share or part of this Agreement or to any benefit to arise therefrom, unless the share or benefit is for the general benefit of a corporation or company.

9. LOBBYING WITH APPROPRIATED MONEYS (18 U.S.C. § 1913): No part of the money appropriated by any enactment of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device, intended or designed to influence in any manner a Member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress, whether before or after (what??) to Members of Congress on the request of any Member or to Congress, through the proper official channels, requests for legislation or appropriations which they deem necessary for the efficient conduct of the public business. PENALTY: Whoever, being an officer or employee of the United States or of any department or agency thereof, violates or attempts to violate this section, shall be fined not more than $500 or imprisoned not more than one year, or both; and after notice and hearing by the superior officer vested with the power of removing him, shall be removed from office or employment.

10. PRIOR APPROVAL: FOA must obtain prior approval from the Park before:

a. Commencing the fundraising campaign.
b. Holding special events on park lands.
c. Entering into third-party agreements of a material nature.

d. Assigning this Agreement or any part thereof.
e. Constructing any improvements on park lands.
f. Releasing any public information which refers to the Department of the Interior, any bureau or employee (by name or title), or to this Agreement. The specific text, layout, photographs, etc., of the proposed release must be submitted to the Park along with the request for approval.

11. ACCOUNTING RECORDS: FOA shall:

a. Maintain accounting books and records in accord with recognized accounting principles and shall make those records available for audit by the Service, its designee, or the Comptroller General of the United States.

b. Annually furnish to the Service a financial report of FOA activities under this agreement in a form acceptable to the Service. The report shall be prepared by an independent licensed or certified public accountant and shall be in such detail that all gross receipts realized and expenses incurred by, or accruing to, FOA in connection with activities under this Agreement will be included.

c. Permit the Service, or its designee, to verify and audit the financial report from the books, correspondence, memoranda and other records of FOA , during the period of this Agreement, and for such time thereafter as may be necessary to accomplish such verification.

ARTICLE X SIGNATURES

In Witness Whereof, the parties to this agreement have caused the same to be executed by their respective duly authorized officers the day and year below written.

For the National Park Service:

Director, National Park Service — Date: 7/25/00

Regional Director, Northeast Region — Date: 4/2/00

Superintendent, Acadia National Park — Date: 3/23/00

For the Friends of Acadia:

President — Date: 3/23/00

8

REAFFIRMATION OF

THE MEMORANDUM OF AGREEMENT

BETWEEN THE

NATIONAL PARK SERVICE

AND

FRIENDS OF ACADIA

FRIENDS OF ACADIA, a nonprofit corporation organized and doing business under the laws of the State of Maine, **FOA**, and the **NATIONAL PARK SERVICE**, U.S. Department of the Interior, **NPS**, acting through the Superintendent, Acadia National Park, hereby reaffirm the agreement regarding the maintenance of Acadia's trails numbered 1443GA1700-00-002, and dated July 25, 2000.

The terms of the above referenced agreement and amendment shall remain in effect for a period of five (5) years from the date of execution hereof and will expire at the end of that period unless reaffirmed once again in writing by both parties.

In Witness Whereof, the parties to this above-referenced agreement have caused the same to be executed by their respective duly authorized officers the day and year below written.

For the National Park Service:	For the Friends of Acadia:
Superintendent, Acadia National Park	President, Friends of Acadia
4/5/05	4/4/05
Date	Date

APPENDIX E: ADDITIONAL COST ESTIMATES

COST ESTIMATES FROM CAPE COD, TABLE 4 (10)

Accommodation	Requirements	Unit	Cost
On-road bikeway	Signing & striping	LF	$ 2.00
On-road bikeway	Widen existing roadway to provide shoulder/bike lane	LF	$ 95.00
Off-road bikeway	Construct shared use path adjacent to existing roadway, including utility pole relocation	LF	$ 145.00
Off-road bikeway	Construct rail to trail path using abandoned railroad bed, minimal grading required	LF	$ 125.00
Off-road bikeway	Construct shared use path on new alignment	LF	$ 165.00
Off-road bikeway	Construct shared use existing corridor, minor grading and clearing required	LF	$ 150.00
Roadway Crossing, Residential	Pavement markings and curb cuts/ADA ramps	EA	$ 70,000.00
5' Sidewalk, Bituminous	Sidewalks located on both sides of streets	LF	$ 120.00
5' Sidewalk, Concrete	Sidewalks located on both sides of streets	LF	$ 140.00
Bicycle/pedestrian bridge	Total lump sum construction	LS	$1,200,000.00
Wayfinding Signage	Complete signage for wayfinding including directional and distance signs, route signs, destination signs, etc.	LM	$ 18,400.00
Bicycle rack (parking)	Installation on existing slab, drill & grout bolts	EA	$ 1500.00
Parking lot, trailhead	n/a	EA	$ 50,000.00

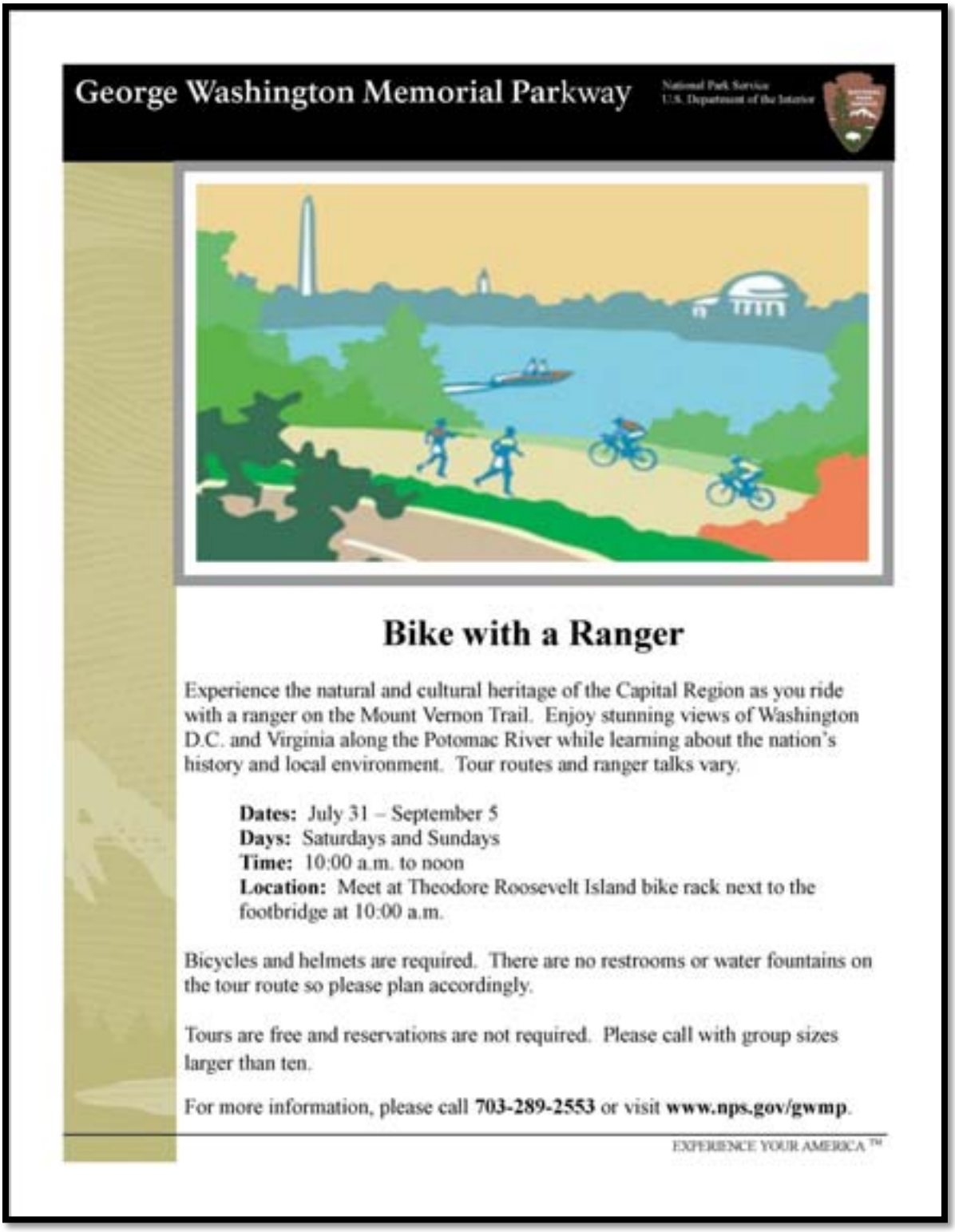
*LF = Linear Foot; EA = Each; LS = Lump Sum; LM = Linear Mile

COST ESTIMATES FROM PORTLAND, APPENDIX A (29)

Bikeway Facility Type	Construction Cost/Mile Assumption
Trail	$1,000,000
Bike Boulevard	$250,000
Advisory Bike Lane	$250,000
Separated In-Roadway	$1,000,000
Advisory Bike Lane or Bike Boulevard	$250,000
Enhanced Shared Roadway	$15,000
Enhanced Shared Roadway or Bike Boulevard	$250,000
Separated In-Roadway or Advisory Bike Lane	$1,000,000
Separated In-Roadway or Enhanced Shared Roadway	$1,000,000

APPENDIX F: ENCOURAGEMENT/EDUCATION MATERIALS

GEORGE WASHINGTON MEMORIAL PARKWAY BICYCLE TOUR FLYER



George Washington Memorial Parkway

National Park Service
U.S. Department of the Interior

Bike with a Ranger

Experience the natural and cultural heritage of the Capital Region as you ride with a ranger on the Mount Vernon Trail. Enjoy stunning views of Washington D.C. and Virginia along the Potomac River while learning about the nation's history and local environment. Tour routes and ranger talks vary.

Dates: July 31 – September 5
Days: Saturdays and Sundays
Time: 10:00 a.m. to noon
Location: Meet at Theodore Roosevelt Island bike rack next to the footbridge at 10:00 a.m.

Bicycles and helmets are required. There are no restrooms or water fountains on the tour route so please plan accordingly.

Tours are free and reservations are not required. Please call with group sizes larger than ten.

For more information, please call **703-289-2553** or visit **www.nps.gov/gwmp**.

EXPERIENCE YOUR AMERICA™

National Park Service
U.S. Department of the Interior
Mississippi National River and Recreation Area

BIKE WITH A RANGER ALONG THE RIVER!

Departs from Harriet Island Regional Park; 10:00am- 1:00pm.

Thank you for signing up to Bike with a Ranger along the Mississippi River! St. Paul, Minneapolis, and the surrounding communities were built and settled because of the local features of the Mississippi River. This trip starts at Harriet Island in downtown St. Paul and travels upriver to explore the history, geology, watersheds, and parks that connect us all to the Mississippi River. The ride utilizes the many paved paths along the river and bikeways on two St. Paul bridges.

Where and when to meet:
We will meet at the Harriet Island pavilion plaza facing the Mississippi River. Detailed directions can be found by searching for the following address at: http://maps.google.com
Dr Justus Ohage Blvd, St. Paul 55107

Please plan to arrive around 9:50am to help ensure we leave on time. This allows time to unload your bikes and be prepared to ride. We should arrive back at our starting point by 1:00pm.

Parking:
Plan to park in the West Parking Lot of Harriet Island closest to the paddleboats.

Safety and Security:
1. Read and follow attached pre-ride safety checklist
2. All participants must wear a helmet.
3. This is a guided ride with four to five stops. Please stay with the group! There will be a team of Park Rangers and volunteers. One will take the lead, one will float through the middle of the group and one will ride 'sweep' and take up the rear.
4. Lock your car. If you bring anything of value, store it in trunk **BEFORE** arriving at parking area.

Suggested Gear:
Water bottle and a helmet! Also bring sun block, sunglasses, snacks, or other items you may want.

Water and bathrooms en route:
Water and a port-a-potty midway through the route should be turned on and available, but cannot be guaranteed as these facilities are not maintained by the National Park Service.

Weather Contingencies:
Trips will take place in mist or a lone shower but not in a steady rain. The lead Park Ranger will be available after 9:00am at **952-303-2706** if the weather looks suspicious or you have questions.

Cancellations:
The Bike with a Ranger rides have proven to be very popular. If you are unable to attend the trip, please contact the Mississippi River Visitor Center as soon as possible at 651-293-0200 so we may contact those from the waiting list. Leave your name and the day of your trip. Thank you!

Pre-Ride Safety Checklist for Participants

ABC Quick Check

The ABC Quick Check of your bike's fitness should be followed each time you ride. Timely bicycle maintenance can prevent a serious injury.

1. **A is for AIR –Check tire pressure to prevent flats!**
   - Inflate tires to pressure listed on the sidewall of the tire.
   - Use a pressure gauge to ensure proper tire pressure.
   - Check for damage to tire tread and sidewall; replace if showing damage.
   - Check the spokes- they should be straight, in place, and make a high pitched noise when plucked.
2. **B is for BRAKES –Check the brakes for safety**
   - Check brake cable and cable housing; cable should move smoothly and should not be frayed.
   - Inspect brake pads for wear; replace if there is less than ¼" of pad left.
   - Ensure brake pads are parallel to and aligned with the side of the tire rim when applied.
   - Apply brakes- brake lever should not touch handlebar when applied.
3. **C is for CHAIN –Check the chain, cranks, and gears**
   - Check your chain for wear and tautness.
   - Make sure that your crank bolts are tight; lube the threads only.
   - If your chain skips on your gears, you might need a new one or just an adjustment to the derailleur.
4. **Quick is for QUICK releases**
   - Wheels should be tight in the frame; quick releases should engage at a 90° angle.
   - Quick releases should not be pointed forward when engaged.
   - Inspect brake quick releases to ensure that they have been fastened.
5. **Check is for CHECK it over**
   - Take a quick ride to check if gears and brakes are working properly.
   - Inspect the bike for loose or broken parts.

Many items of the **ABC Quick Check** can be done visually; others require a brief minute to physically check. If you determine the necessary adjustments are beyond your ability, enlist the help of a mechanic at your local bike shop. Also, it is recommended that you lube your chain after each ride.

Grand Teton National Park
Volunteer in Parks - Pathway Ambassador
Position Description

Volunteers-in-Parks (VIP) Pathway Ambassadors will assist Grand Teton National Park by providing general park related information, pathway specific safety information, resource protection information, and other services as outlined in the following volunteer position description.

Specific VIP-PA Bike and/or walking patrol duties and responsibilities may include, but are not limited to the following:

Patrol Activities:

- Contact park visitors at pathway trailheads and along the pathway to increase awareness of pathway rules and etiquette. The primary goals of these contacts will be to prevent cycling accidents and injuries, limit resource violations and damage (e.g. no pets on the pathway, off-pathway travel), and reduce the number of negative human/wildlife encounters.
- Provide emergency assistance to visitors in distress along pathway including basic bike repair (e.g. flat tire) and basic first aid. Contact park dispatch for additional assistance at 739-3301.
- Provide visitor contact statistics (as developed by NPS) to NPS Liaison or NPS Volunteer Program Coordinator for data tracking.

Resource Management Activities:

- Provide visitors with a proactive, positive "*No Pets on the Pathways*" message at trailheads and on the pathway, utilizing informational/educational "*No Pets on Pathways*" pocket cards, explaining the resource basis for the regulations as well as providing alternative locations to take pets.
- Pick up trash along pathway to maintain and protect the visual esthetic of the pathway and park, to limit unintended wildlife attractants to the pathway, and to increase pathway user safety.
- Report serious tire tracks, footpath or other resource degradation incursions off pathways to NPS liaison.
- Report all bear sightings and wildlife encounters to park dispatch immediately for assistance, and to NPS liaison.
- Secure any unattended food or related animal attractant items to a safe location, visitor center, or call park dispatch for support.

Visitor Services Activities:

- Provide general public information related to Grand Teton National Park including park information on camping, hiking, wildlife, safety and other topics.
- Carry park maps, the Naturalists' "Ranger Pocket Reference" guide, and "No Pets on Pathways" cards to assist visitors.
- Refer visitors to visitor centers for additional information.

Safety Related Activities:

- Perform all required and necessary routine maintenance on personal bike ensuring safe travel.
- Carry out all tasks and assignments with a "safety-first" attitude.
- Wear a bike helmet all times while operating a bicycle in the performance of a patrol.
- Set and maintain a positive example of pathway behavior by obeying all rules and regulations of the pathway and park.

VIP - Pathway Ambassador Requirements:

- PA's will commit to the days and hours of patrol agreed to with their NPS liaison/volunteer coordinator. The patrol season will be approximately May to October when the pathway is snow-free.
- PA's will attend an annual NPS coordinated PA training session that covers required topics such as safety, resource management, park information, ambassadorship, emergencies and other essential information. PA's will participate in any follow-up training as required.
- PA's will assist pathway users and others by initiating first aid, minor bike or equipment repair and communicate assistance needs to dispatch via cell phone as appropriate.
- PA's will carry, at a minimum, a first aid kit, basic bike repair kit, bear spray and cell phone.
- PA's will wear NPS issued and approved jersey, vest or other recognizable authorized clothing while in volunteer status and/or contacting pathway users. Identification vest will never be worn except while on official PA patrols on the park's pathway.

CHECKLIST

____NPS VIP form signed and delivered to Park liaison/coordinator
____Mandatory Training Received
____Confirmed Safety Equipment (e.g. helmet) and Identifying PA Jersey/vest
____Visitor Information Material: Teewinots, park maps and Naturalist Notebook

TRAINING PLAN FOR
Volunteer in Park – Pathway Ambassador
Grand Teton National Park 2009

Visitor Services: General information: camping, hiking, wildlife, other bicycle opportunities, etc.

- Information: Be familiar with *Teewinot*, Park Map, Pocket Reference, "Pets on Pathways" cards, and:
  --Locations of park facilities, such as campgrounds, trailheads, VCs, and picnic areas
  --Locations of concessions, such as lodging, restaurants, stores, post offices, Jenny Lake Boating
  --"Pets on Pathways" card to explain rules and gain an understanding of the logic behind restrictions
  --If you don't know the answer, refer visitors to Visitor Centers (Moose, Jenny Lake, Colter Bay)

- Wildlife viewing
  --Know basic wildlife information, including habitats and locations – available in Pocket Guide.
  --View large animals from more than a 300 ft. distance. Do not feed, approach or disturb.
  --During wildlife jams, assist with assuring cars are pulled safely off the road behind the fog line.

- Know other bicycle opportunities OUTSIDE THE PARK and where PETS can go:
  --Town and county pathways
  --Cache Creek, Game Creek, Snow King trails
  --Moose-Wilson Road – be especially careful due to narrow lanes.
  --Bridger-Teton National Forest trails—Shadow Mountain, Gros Ventre River, Snow King, Cache Creek, Phillips Canyon, Teton Pass.
  --Snake River dike, at the intersection of highways WY 22 & 390 in Wilson.

- Know where can pets go INSIDE THE PARK
  --In general, leashed pets may go anywhere a car may go—within 6' of roads and road shoulders, campgrounds, picnic areas, and parking lots—but never on a trail or the pathway.
  --Pets must be in control and restrained on a leash no longer than six feet in length at all times.
  --Picking up after pets by the pet owner is required, with disposal of waste in trash cans.

Visitor Contacts:

1. Make a positive difference

- Basic interpretive techniques
  --Each contact may be the first experience for the visitor, so always stay positive.
  --Approach visitors; do not wait for them to approach you.
  --Introduce yourself, ask if they have questions or need assistance.

--Make a difference! Treat each visitor as a special person.
--Smile! Be approachable, be non-confrontational,
--Educate: suggest alternative actions and explain why they are better.
--Good techniques do not include lecturing, demanding, or confrontational tones.
--Use a positive, helpful attitude to gain understanding of the rules.
--Listen to needs of visitors. Do not overwhelm them with information.

- Visitor's Bill of Rights. When visiting a park, visitors have a right to:
  --Have their privacy and independence respected.
  --Retain and express their own values.
  --Be treated with courtesy and consideration.
  --Receive accurate and balanced information.

- Pathway Ambassadors are not law enforcement. Your job is education.
  --Never become confrontational. Call Dispatch on those rare occasions when Law Enforcement Rangers must respond. This should be rarely necessary.
  --Critical: You are volunteering to help visitors gain an understanding and thus acceptance of the pathway rules. Your job is not to force compliance, but to educate visitors so that they understand why the rules exist and become willing to comply with regulations.

2. Know Pathway Rules and Regulations for Resource Protection and Visitor Safety

- General Pathway Rules
  --Pathway is CLOSED dusk to dawn for wildlife and public safety.
  --Ride single file on the right-side lane; share the pathway.
  --Notify other pathway users before you pass. Be aware of others passing.
  --Pathway can be used by walkers, bicyclists, and other non-motorized users
  One exception: Persons with physical disabilities may use electric/battery operated transportation.
  --Use portable audio devices with caution.
  --Obey all traffic signs. Yield to all vehicles.
  --Yield to slower pathway users.
  --Wear a helmet – recommended for visitors; required for pathway volunteers.
  --Stay on paved pathway; no shortcutting off the pathway or on vegetation.
  --NO pets. Only exception is for persons with physical disabilities (no emotional disabilities pets).

- No Pets on Pathways: Way are pets not allowed?
  --A national park is a unique and special place with legal mandates to protect park resources.
  --Wildlife such as bears, wolves or coyotes may be drawn to pets and their owners.
  --A surprise encounter with wildlife may result in death or injury to pets, wildlife or visitors.
  --Pets may escape and quickly become prey.
  --Dogs cause the same physiological + behavioral changes in prey species as a predator (i.e. wolf).
  --Transmittable diseases, such as parvovirus, from infected feces may live in the soil for months, passing on to wildlife.

3. Visitor contact statistics
   - Daily keep track of number of visitors you had a "meaningful" conversation with, not just "Hi."
   - Bear sightings – keep track of incidents and fill out a bear sighting form.
   - Record wildlife jams and the time you spent assisting at a jam.

- Record repairs performed on pathway (type, time, location). Also record bike/mobility problems that people could not walk back to their vehicle on their own and needed further assistance.
- Record first aid administered on pathway (type, time, location).
- Turn in all visitor statistics to the NPS liaison/volunteer coordinator at the end of each patrol period.

Resource Management:

- Educate visitors about approaching large wildlife closer than 300 ft – both for wildlife/visitor safety and because it disturbs the animals.
- If you come across a wildlife jam, stop and help. Report serious traffic congestion to Dispatch. Be aware of your own personal safety. Direct visitors to pull completely off the road beyond white "fog-line". Educate visitors to use safe wildlife viewing practices.
- Do not leave food unattended!
- Watch for wildlife. Control your speed. Do not surprise animals.
- Know about the Be Bear Aware campaign.
- Watch for compliance: proper speed, riding single-file, stopping at intersections, obeying all signs, staying on pathway, no pets on paths, do not approach wildlife, unattended food or pack, etc.
- Bear sightings: keep track of incidents for statistics. If you see a bear, fill out a bear sighting form.

Safety and Accident Prevention

- Control your speed. Set a positive example. Maintain proper speed, use voice commands and hand signals to indicate intentions and obey all signs.
- Wear helmet, gloves, bike shoes and appropriate clothing, setting a good example.
- No personal audio devices while on patrol.
- If stopping, get just off the side of the pathway safely out of the way of other pathway users.
- On the road, ask visitors to not impede traffic – ride single lane.
- Provide emergency assistance (repair, first aid, bears) to your skill level.
  --Carry tools, pump and patches to provide to visitors so they can fix a flat or make very simple adjustments. Recommend visitors go to a bike shop for more substantial repairs or adjustments.
  --Carry basic first aid kit, including antiseptic wipes, antibiotic cream, gauze pad, tape and band-aids.
  --Call Dispatch for medical emergencies.
- Carry bear spray in an easily accessible place and know how to use it.
- Bike maintenance – Keep personal bike in proper working order.

Grand Teton National Park

Volunteer Pathways Ambassador Patrol Program

Standard Operating Procedures

Mission Goal

Grand Teton National Parks' Volunteers-in-Park (VIP) Pathway Ambassador (PA) Patrol Program will provide quality visitor information and services, promote the highest level of pathway safety and etiquette, and preserve and protect park resources. In order to achieve these goals, the volunteers will patrol the Multi-use Pathway (pathway) providing park information and educating visitors about park resources. Volunteers participating in this program will serve as ambassadors for the park, and through their example, foster stewardship in both the pathways system and Grand Teton National Park.

Requirements and Training

Each volunteer must successfully complete the NPS authorized and provided requirements to become a volunteer member of the Pathway Ambassador (PA's) patrol program. They include, but are not limited to successfully fulfilling the following requirements and training:

1. Complete the PA safety course authorized by park staff that may include both classroom and outdoor practical components.
2. Demonstrate proper bicycle skills, safety awareness, and knowledge of appropriate bike and pathway etiquette.
3. PA's will carry a basic first aid kit provided by NPS to assist pathway users as needed, such as providing moleskin. The volunteer should be able to recognize the need for advanced medical care and know how to initiate an emergency medical call. If skills allow, PA's can provide basic first aid in an emergency.
4. If skills allow, use basic bicycle repair skills to assist pathway users that may include fixing/changing a flat tire and other minor adjustments. The volunteer should only call for assistance if there is a need for more in-depth repair(s), otherwise, visitors should be encouraged to walk their bicycles back to their vehicles. PA's will use common sense to make the best decision he/she can in every-changing situations.
5. Assure visitor and personal safety in all circumstances, such as assuring a safe location during bicycle repairs, etc.
6. Complete a GTNP provided, authorized curriculum that will include park resource training and interpretation sessions. This will provide basic park information to answer a typical range of questions and knowledge on where to send visitors for additional information. PA candidates will also practice public contact skills on how to approach and educate visitors during resource appreciation and education contacts.
7. Commit to the number of volunteer hours of service per season (May to October) established by GTNP Volunteer Coordinator.
8. Adhere to the established guidelines for signing in and out with the NPS Liaison when reporting for duty.
9. Carry a safety pack including first aid supplies and tool kit on their person or bicycle and a functional cell phone while on PA patrol.
10. Wear approved uniform as follows:

- Helmet.
- NPS issued Pathway Ambassador patrol or jersey.
- Conservative cycling clothes, clean and in good repair without team logos or advertisements.
- Appropriate cycling shoes.

Daily Operations

The daily operations of the PA's as established by the NPS Liaison include but are not limited to:

- Check in with NPS Liaison or through established check-in procedure before initiating patrol.
- Ensure that all required safety equipment and other equipment is ready, including bear pepper spray. Check/Inspect bicycle before patrol for mechanical issues such as tire pressure, brake function, loose cables, etc.
- Provide visitor services while patrolling. Use every opportunity to provide resource education when needed. As skills allow, provide first aid and basic bike repair assistance. Initiate emergency medical services in those situations that require it.
- Gain visitor compliance – use positive methods to remind visitors of park rules regarding pathway use.
- When a wildlife jam is encountered, as training allows, assist with the wildlife jam to assure wildlife and visitor safety. Assistance will include asking visitors to pull their cars off the road's fog line to assure safe, continued passage of vehicles on the road. Safe wildlife viewing information will be disseminated by PA's to those watching the wildlife.
- Report illegal or suspicious activity to park dispatch.
- At the end of the day, check out with NPS Liaison or use established procedure, and document patrol activities, including hours of patrol, contact information/statistics collected for the park, visitor assists, etc. as established for NPS documentation requirements, that may include:
    1. Visitor Contacts/Assists (general questions/directions)
    2. Resource Incidents (e.g. wildlife encounters, food storage violations, pets)
- Record additional notes or comments in the PA Daily Log Book

Boundaries

PA volunteers will patrol the pathway from Dornan's to South Jenny Lake and trailhead areas such as Moose, Taggart Lake, and South Jenny Lake. While on duty, patrols and contacts should focus on the pathway, unless requested to assist at another location.

National Park Service Policy and Federal law regarding bicycling

USC TITLE 36--PARKS, FORESTS, AND PUBLIC PROPERTY
CHAPTER I--NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR
PART 4_VEHICLES AND TRAFFIC SAFETY

Sec. 4.30 Bicycles.
(a) The use of a bicycle is prohibited except on park roads, in parking areas and on routes designated for bicycle use; provided, however, the superintendent may close any park road or parking area to bicycle use pursuant to the criteria and procedures of §§ 1.5 and 1.7 of this chapter. Routes may only be designated for bicycle use based on a written determination that such use is consistent with the protection of a park

area's natural, scenic and aesthetic values, safety considerations and management objectives and will not disturb wildlife or park resources.
(b) Except for routes designated in developed areas and special use zones, routes designated for bicycle use shall be promulgated as special regulations.
(c) A person operating a bicycle is subject to all sections of this part that apply to an operator of a motor vehicle, except §§ 4.4, 4.10, 4.11 and 4.14.
(d) The following are prohibited:

(1) Possessing a bicycle in a wilderness area established by Federal statute.
(2) Operating a bicycle during periods of low visibility, or while traveling through a tunnel, or between sunset and sunrise, without exhibiting on the operator or bicycle a white light or reflector that is visible from a distance of at least 500 feet to the front and with a red light or reflector visible from at least 200 feet to the rear.
(3) Operating a bicycle abreast of another bicycle except where authorized by the superintendent.
(4) Operating a bicycle while consuming an alcoholic beverage or carrying in hand an open container of an alcoholic beverage.

Grand Teton Nation Park policies regarding bicycling

Bicycles are allowed on park roads, paved or unpaved, where and when those roads are open for automobile traffic, and the pathway, unless otherwise posted. Bicycles are not allowed on trails or in backcountry areas. Bicyclists on the park roads must obey the same rules and regulations that apply to motorized vehicles. On the pathway:

1. Ride single file on the right-hand side; share the pathway
2. Notify others before passing and overtake slower users on the left
3. Yield to slower riders.
4. Wear a helmet.
5. Obey all traffic signs.
6. Yield to vehicles.
7. Riders are responsible for their own equipment.
8. Do not approach wildlife.
9. Do not short cut pathway and stay on pavement.

Accountability

All PA's on bike patrol are responsible for their actions, both on and off the bike. *Failure to comply with these Standard Operating Procedures will be dealt with by the NPS Liaison, such behavior may result in the VIP being removed from the Pathways Patrol Program.* Infractions include but are not limited to failure to abide by the following:

- Remain within the pathway corridor described above in **Boundaries**.
- Ride in a safe and responsible manner, maintaining proper etiquette. Reckless or unprofessional riding will not be tolerated.
- Show up for duty as scheduled, unless given prior approval.
- Treat visitors with courtesy and tact, use positive communications and education techniques. Remember, you are not acting as law enforcement. If the need arises, leave confrontation situations, and use your common sense as to whether to call dispatch for park staff assistance or not.

- Not using personal audio devices (i.e. iPods) while on patrol.
- Check in and out with the NPS Liaison in accordance with this SOP.

Equipment

All riders will also have the following equipment with them while on duty:

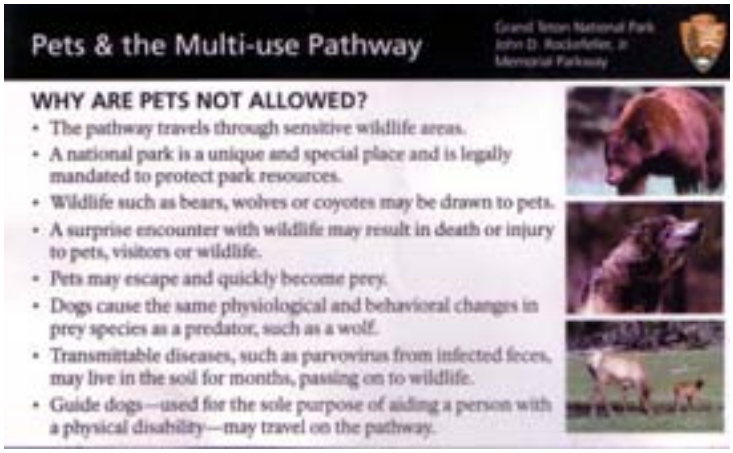
- Basic First Aid kit: band-aids, antiseptic wipes antiseptic ointment, etc.
- Park Maps, No Pets on the Pathways cards, Naturalists Ranger Pocket Reference, etc.
- Bear pepper spray
- Cell phone
- Helmet
- Basic Bike Repair kit: spare tube, patches, tire levers, pump, multi-tool, etc.
- Water bottles or hydration pack
- Notebook and pencil
- Appropriate clothing and Pathway Ambassador uniform if available

Riding Season and Inclement Weather

The PA patrol season is weather dependent, typically running from May to October. All activities will be coordinated through the efforts of the NPS Liaison.

During periods of inclement weather, use common sense and with the FOP Liaison determine if the presence or threat of adverse weather prevents a PA patrol. Be responsible for your personal safety. If you feel it is unsafe to ride, DO NOT RIDE, report to the NPS Liaison. Examples of possible weather related issues a snowstorm results in a layer of snow/ice too dangerous to ride on and thunderstorms. If adverse weather is imminent or pending, the PA patroller should seek shelter at the nearest visitor center or other structure until the storm passes.

FRONT SIDE



BACK SIDE

GEORGE WASHINGTON MEMORIAL PARKWAY EDUCATIONAL HANDOUT

GEORGE WASHINGTON MEMORIAL PARKWAY EDUCATIONAL HANDOUT

APPENDIX G: RED HILL COUNCIL SURVEY

Exhibit - C
Survey Instrument

This questionnaire is voluntary. Your responses will help the project Steering Committee and BLM identify recreational uses and activities on these public lands. The information will also be used to identify problems you encounter and develop solutions to those problems.

What Time of Year do you use the Red Hill Area (circle all that apply)?

a) Spring b) Summer c) Fall d) Winter

How often do you use Red Hill?

a) First Time b) 1 time / month c) 2 to 5 times a month d) 6 or more times / month

How far do you travel to use Red Hill?

a) 0 to 5 miles b) 6 to 11 miles c) 11 to 20 miles d) over 20 miles

How do you get to Red Hill?

a) Drive b) Bike c) Foot d) Horse e) Other: _____

What activity do you participate in when using the area?

a) Walking or hiking b) biking c) hunting d) motorcycle or ATV use e) horse f) camping g) other _____

How Many years have you been using Red Hill?

a) first year b) 1 to 2 years c) 3 to 4 years d) 5 to 7 years e) more than 7 years

Where do you live?

a) Carbondale b) Glenwood Springs c) Basalt d) Old Snowmass e) Snowmass Village f) Aspen g) Other_____

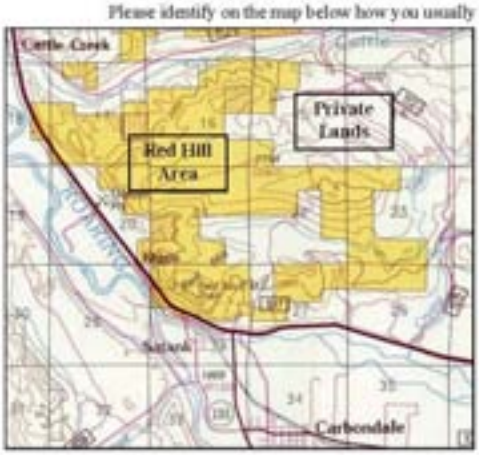
Is your use of the area

a) decreasing b) increasing c) the same

When you use the area how many people usually accompany you?

a) none b) 1 to 2 c) 3 to 4 d) more than 4

Please identify on the map below how you usually access the area?



Optional But Important

If you would like to be included on our mailing list to receive information about the Red Hill Project through periodic mailings, please include your name and address below:

Name:_____

Address:_____

City: _____ St.:_____ Zip: _____

Please include any comments or suggestions about the Red Hill Area: _____

_____

_____

_____

Where **4 is most important** and **1 is least important**, rate each of the following **ATTRACTIONS** you feel are important to you about the area. (you may rank more than one value the same).

Close proximity to where you live	
Good opportunity for non-motorized activities	
Good opportunity for motorized use	
Provides escape from the pressures of life	
Opportunity for physical activity	
Getting away from other people	
Opportunity to be in the woods	
Viewing wildlife	
Viewing the valley from the top of the hill	
Getting away from motorized vehicles	
Opportunity to be alone	
Opportunity to be with friends	
Other:	

Where **4 is most important** and **1 is least important**, rate each of the following **NEEDS** you feel are important to you about the area. (you may rank more than one value the same).

Need more public access points to the area	
Expanded trails system	
Better identification of public lands boundaries	
Need fewer public access points	
Easier (less steep) access to the area	
Better trail maintenance	
More information available about Red Hill Area	
Restricted public access and or use	
Designation of specific trails for specific uses e.g. foot use only, bike only, horse only	
Restriction of motorized use	
Better management of the area	
More parking	

Where **4 is most important** and **1 is least important**, rate each of the following **ISSUES** you feel **should be addressed** about the area. (you may rank more than one value the same).

Use conflicts on the trails e.g. foot vs/ bike, horse vs/ foot	
Trash along roads or trails	
Trail erosion	
Private property conflicts	
Damage to trails when soils are muddy	
Too many people using the area	
Lack of identification of the public boundaries	
Damage to vegetation by users	
Adverse impacts to wildlife	
Trespass on private lands	
Not enough directional or informational signs or maps	
Poor access to Red Hill	
Not enough BLM enforcement presence	
Too many people finding out about the area	
Poor trail maintenance	
Use of camp fires	
Lack of care for the area	

Where **4 is most important** and **1 is least important**, rate each of the following **RECREATIONAL EXPERIENCES OR ACTIVITIES** you feel are important to you about the area. (you may rank more than one value the same).

Being part of the natural environment	
Taking risks	
Experiencing new challenges	
Using primitive outdoor skills	
Using motorized vehicles & equipment	
Interacting with other people	
Getting away from other people	
Getting away from the demands of everyday life	
To keep physically in shape	
Testing skills and abilities	
Improving skills	
Releasing tension and anxiety	
Collecting artifacts	
Enjoying the scenery	
Getting meat for the table	

Identify the number of days in the past year that you spent participating in the following activities in the Red Hill Area. Leave the box blank if you did not participate in the activity.

Walking	
Running	
Photographing the area	
Viewing wildlife	
Motorcycle riding	
ATV riding	
Mountain biking	
Camping	
Picnicking	
Horseback riding	
Snowmobiling	
Cross country skiing	
Camping	
Hunting	
Partying	
Walking your dog	
Rock climbing	
Backpacking	

Additional Comments:_____

Thank You For Your Time And Input

Where to Return Surveys:
Drop-off Location: Ajax Bike & Sport - 419 Main St. Carbondale
Mail-in address: Western Slope Consulting 0165 Basalt Mt. Dr. Carbondale, CO. 81623
Please Turn Over and Complete The Other Side