

## CHAPTER 2

### Alternatives

#### Introduction

This chapter describes five alternatives that address the Final Plan/EIS's purpose of and need for action. These alternatives were formulated to explore the range of reasonable actions and strategies for which potential effects could be compared. Alternatives were considered that if implemented, would meet project objectives while protecting the Park's natural resources. Resource concerns identified in the development of this proposal are listed in Chapter 1 and described in Chapter 3. In accordance with the requirements of NEPA (42 USC § 4321 et seq.), the alternatives and their effects are presented in a comparative format along with a description of required mitigation measures (40 Code of Federal Regulations [CFR] §1502.14d) and an analysis for selecting the preferred alternative.

A summary comparison of alternatives is provided in tabular form, as is a discussion of alternatives considered but later eliminated from further evaluation. Actions proposed under the alternatives were organized by the following categories: (1) roadways and parking, (2) transit service and facilities, (3) multi-use pathways and improved (i.e., widened) shoulders, (4) developed areas, and (5) traveler information. Several elements are proposed that are common to all alternatives. These elements, which are discussed in more detail throughout this section, are listed first followed by the description of actions specific to each alternative. Table 1 summarizes the specific elements of the proposed alternatives.

#### Elements Common to All Alternatives

Several actions would be implemented under any alternative selected, as described below. As part of routine operations, the NPS would maintain existing roads and does not plan to make changes to any roads or trails not specifically identified in this Final Plan/EIS.

#### Roadways and Parking

The Park's roadway infrastructure currently encompasses 140 miles (225 km) of paved and 70 miles (113 km) of unpaved roads. Under all alternatives, park roadways would continue to be realigned, widened, or otherwise improved on a case-by-case basis as warranted. Periodic maintenance, including repaving, would continue as needed. Other summertime roadway-management practices would remain as they currently are, except on the Moose-Wilson Road, where a variety of adaptive management strategies would be tested to address periodic congestion, wildlife, wetlands, and visitor experience issues. Between the Granite Canyon Trailhead and the LSR Preserve, the NPS may, over the next several years, test strategies such as direction of traffic flow or other techniques to manage vehicle use of the road.

Four broad challenges have been identified that are driving the analysis of transportation management strategies on the Moose-Wilson Road: traffic growth, connectivity and compatibility, sensitive environment, and access requirements. The Park contracted the Western Transportation Institute (WTI) at Montana State University to identify approaches for managing the Moose-Wilson Road that could be used to address these issues. The goal is to develop a transportation management approach that enhances connectivity and compatibility between users of different modes and preserves access to key road users (such as emergency responders and private landowners within the Park boundary), while keeping traffic volumes at current levels and maintaining the existing footprint of the roadway, in order to protect the existing character and sensitive environment through which the Moose-Wilson Road passes.





TABLE 1 SUMMARY OF ALTERNATIVES				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
No improvements would be made to roadways and parking except for improved signage for wildlife and visitor safety and construction of separate entrance lanes for park employees and other administrative traffic at park entrance stations. No improvements would be made to transit services and facilities. Multi-use pathways and/or improved road shoulders would not be created, other than those developed through normal park operations and maintenance or on a case-by-case basis. Limited improvements to developed areas would occur through normal park operations and maintenance and could include variable-messaging signs, bulletin boards, and other traveler information systems. An adaptive management plan, to test transportation management and operational strategies for vehicle use on the Moose-Wilson Road, would be implemented. A transit business plan, to examine the feasibility of transit in and around the Park, would be developed.	Changes to roadways and parking would be made by limiting motorized traffic on Signal Mountain Road to increase access to bicyclists and pedestrians, improving signage for wildlife and visitor safety, and construction of separate entrance lanes for park employees and other administrative traffic at park entrance stations. Multi-use pathways would not be created, other than those developed through normal park operations and maintenance or on a case-by-case basis. Improved road shoulders would be constructed on the Teton Park Road between Moose Junction and Signal Mountain Lodge (a distance of approximately 17.8 miles [28.6 km]). Limited improvements to developed areas would occur through normal park operations and maintenance and could include information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems. An adaptive management plan, to test transportation management and operational strategies for vehicle use on the Moose-Wilson Road, would be implemented. A transit business plan, to examine the feasibility of transit in and around the Park would be developed and the Park would be developed and could result in operation of a pilot transit system in the Park.	Improvements to roadways would include realigning the Moose-Wilson Road in two areas, improving signage for wildlife and visitor safety, and constructing separate entrance lanes for park employees and other administrative traffic at park entrance stations. Some parking and circulation would be minimally redesigned. Additional information on transit services and facilities and current travel conditions within the Park would be provided. A multi-use pathway would be constructed outside the road corridor <sup>1</sup> from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km]), from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km]), and from the Granite Canyon Entrance Station to the LSR Preserve (a distance of approximately 3.3 miles [5.3 km]). An improved road shoulder would be constructed between North Jenny Lake Junction and Colter Bay (a distance of approximately 15.5 miles [25.0 km]). Limited improvements to developed areas would occur through normal park operations and maintenance and could include improved social trails, signs, and way-finding, information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems. 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A multi-use pathway would be constructed outside the road corridor <sup>1</sup> from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km]), from Moose Junction to Colter Bay (approximately 26.1 miles [42.0 km]) – except for a section between Signal Mountain Lodge and Jackson Lake Dam where an improved road shoulder would be constructed – and from the Granite Canyon Entrance Station to Moose (a distance of approximately 7.1 miles [11.4 km]). Limited improvements to developed areas would occur through normal park operations and maintenance and could include improved social trails, signs, and way-finding, information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems. An adaptive management plan, to test

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<i>The term "road corridor" generally means the engineered corridor in which the road exists, including the cut and fill areas and clear zones. Multi-use pathways constructed outside the road corridor would generally be located within 50 ft of the road, but not greater than 150 ft from the road.</i>				

The NPS and WTI have developed the *Moose-Wilson Road Adaptive Management Plan* (AMP) to test transportation management and operational strategies for vehicle use on the Moose-Wilson Road. Over the next several years, the NPS may test a number of different strategies identified in the AMP for managing traffic, as well as pedestrian and bicycle use on the Moose-Wilson Road, that will ensure the existing character of the road is maintained. In addition, the NPS may consider minor widening in select areas to help accommodate safe travel without altering the character of the road.

Seven operational strategies were reviewed by park personnel as technically feasible in various segments and various combinations, as follows:

1. Reversible flow.
2. One-way northbound.
3. One-way southbound.
4. Gate restriction on through traffic.
5. Time of day restriction.
6. Limited vehicle access.
7. Separated pathway.

These strategies, if implemented, would be seasonal and/or temporary and would involve segments or portions of the Moose-Wilson Road to provide information to the NPS for developing a long-term solution in conjunction with future long-term planning efforts. Under all strategies, two-way traffic would be maintained from Moose to the LSR Preserve and from the Granite Canyon Entrance Station to the Granite Canyon Trailhead and considerations for emergency and inholder traffic would be developed.

Data collected during the 2006 season will be used to support planning and design of the most effective transportation management strategies on the Moose-Wilson Road over the next several years. The 2006 baseline data focus on traffic volume as well as other data needed to support the evaluation of transportation management approaches that may be implemented in the future. Counters have been installed to collect traffic flow data and to provide clarification of road capacity limits. The data will serve to (1) support selection of a strategy for potential implementation, and (2) assist with evaluation of transportation management strategies.

The selected transportation management strategy would be publicized to local stakeholders/park users well in advance of implementing any of these changes. Publicity would occur through local outreach and media and through the Park's web site (<http://www.nps.gov/grte>) to minimize visitor confusion or disruption of services. Strategies implemented in future years would depend on how well prior strategies met the critical performance measures.

A cultural resource investigation was completed along the Moose-Wilson Road from the Granite Canyon Entrance Station to Moose in July 2006 to evaluate the eligibility of the road for the NRHP. The Wyoming SHPO concurred with the finding of eligibility that was documented by the investigation. Therefore, any actions proposed on the Moose-Wilson Road under any of the alternatives that affect the road itself or its viewshed will require further consultation with the SHPO and the NPS to identify appropriate mitigation to ensure compliance with Section 106 of the NHPA.

The Park would also improve signs on roadways under all alternatives to enhance safety by advising visitors to be aware of areas frequented by wildlife, share the road with bicyclists, and watch for pedestrians.

Separate entrance lanes would be established for use by park employees and other administrative traffic in order to shorten lines at park entrance stations. Separate lanes at park entrance stations would allow for employee traffic, emergency vehicle traffic, delivery vehicles, and other recurring travel needs that do not require fee compliance and tabulation.

Reconfiguration of some parking areas in the Park could occur under all alternatives. Modifications could include simple parking lot redesign, reconfiguration of traffic flow, signage, re-striping, allocating sections to compact parking, re-distributing the proportion or number of car spaces to recreational vehicle (RV) spaces, and other engineering techniques that could easily improve the efficiency of parking areas and increase their capacity to some extent without increasing the impervious surface in that area. The NPS currently plans to reconfigure the Taggart, South Jenny Lake, and String Lake parking lots to utilize the existing footprint more efficiently. Other parking areas may also be modified.



## Transit Service and Facilities

Currently, there is no public transportation system operating within the Grand Teton National Park. Within the Park, there are specialized tour services, including the Alltrans/National Park Tours companies (affiliated with Gray Line Tours) and the Grand Teton Lodge Company. Other companies may provide chartered service through the Grand Teton National Park, as many people often link visits to the Grand Teton National Park and YNP.

Alternatives described in the Draft Plan/EIS proposed implementing varying levels of a pilot transit system in the Park. More information is needed before implementation of any of the suggested transit alternatives to ensure that transit within the Grand Teton National Park will be a success. The Park wants to ensure that the pilot transit system most likely to succeed is implemented such that transit services in the Park will have the greatest opportunity to succeed in the future.

Development of a public transit business plan (TBP) is included under all alternatives. The goal of the TBP is to provide a sufficient analysis of options to determine whether it is feasible to begin a transit system in and around the Grand Teton National Park and, if so, how to operate it effectively and efficiently such that it is a financially sustainable system that could be provided by either the private sector or another entity.

The TBP will provide an analysis of potential ridership; routes, stops, and schedules; capital and operating costs; infrastructure and rolling stock needs; funding sources and leveraging opportunities; and coordination and partnership opportunities. This TBP will follow on previous planning efforts within Grand Teton National Park, as well as the Town of Jackson and Teton County, Wyoming. The TBP will provide the Park with specific information necessary to support a decision on whether to institute a transit system in the Park and what the appropriate phasing would be. The TBP will address various operating models, including cooperative models with public and/or private providers, including the financing and operating information of the system. The TBP will focus on a financially sustainable system that could be provided by a private concession or other entity and will also seek to enhance opportunities to develop transportation partnerships with neighboring communities.

Within the Town of Jackson and Teton County, START provides public transit service. This service operates under the Federal Transit Administration (FTA) Section 5311 program. START provides service primarily in and around the Town of Jackson and between Jackson and Teton Village. START currently does not provide service to the Jackson Airport (located within the Grand Teton National Park) or to any other location in the Park. Coordination and partnering will be a major focus of the TBP. A hallmark of coordination is its ability to leverage funds from various sources. Federal initiatives, such as the “United We Ride” effort, also focus attention on how to leverage funds from various federal, state, and local sources. In addition, language in the 2005 surface transportation bill (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users [SAFETEA-LU]) strongly encourages coordination among various providers of specialized and public transportation. It is also important to note that SAFETEA-LU provides an increase in funding to rural general public transportation providers (FTA Section 5311). START, as one of these types of providers, may be able to obtain more federal money if it can find additional matching funds.

The results of the TBP would guide specific implementation details for a transit program, but potential routes could include transit between Jackson, Jackson Hole Airport, Moose, Jenny Lake, Signal Mountain, Jackson Lake Lodge, Colter Bay, the Town of Kelly, Teton Village, and along the Moose-Wilson Road. The TBP will work with existing and future planned parking lots (e.g., the new Moose Discovery and Visitor Center parking lot) in order to assess the potential effects of transit on parking within the Park. The TBP would also recommend a range of minor infrastructure requirements (e.g., small shelters, small pull outs, kiosks, and signs) to ensure adequate user services. The Park anticipates that construction at the infrastructure level would cause only minor environmental effects within the Park and therefore, would likely categorically exclude these minor projects from further environmental impact analysis.

## Multi-use Pathways

Alternatives 2, 3, 3a, and 4 propose improved (i.e., widened) road shoulders, multi-use pathways, or a combination of both. The multi-use pathways would be constructed either within the road corridor or outside the road corridor. The term “road corridor” generally means the engineered corridor in which the road exists, including the cut and fill areas and clear zones (Figure 2). Multi-use pathways constructed outside the road corridor would generally be located within 50 ft of the road, but not greater than 150 ft from the road, except in the vicinity of South Jenny Lake (Figure 3). Although precise pathway

locations would be determined during the design phase – and would take into consideration topography, terrain, vegetation, wildlife habitat, visitor use and enjoyment, and safety – they would be constructed as close as safely possible to existing roadways, and their placement would be guided by two principles: (1) if construction of a multi-use pathway would cause unacceptable impacts (e.g., actions that would significantly alter or impede wildlife movements), improved road shoulders would be constructed instead, and (2) the design would minimize resource impacts while providing a safe, quality pathway experience.

**FIGURE 2  
TYPICAL PARK ROAD SECTION**

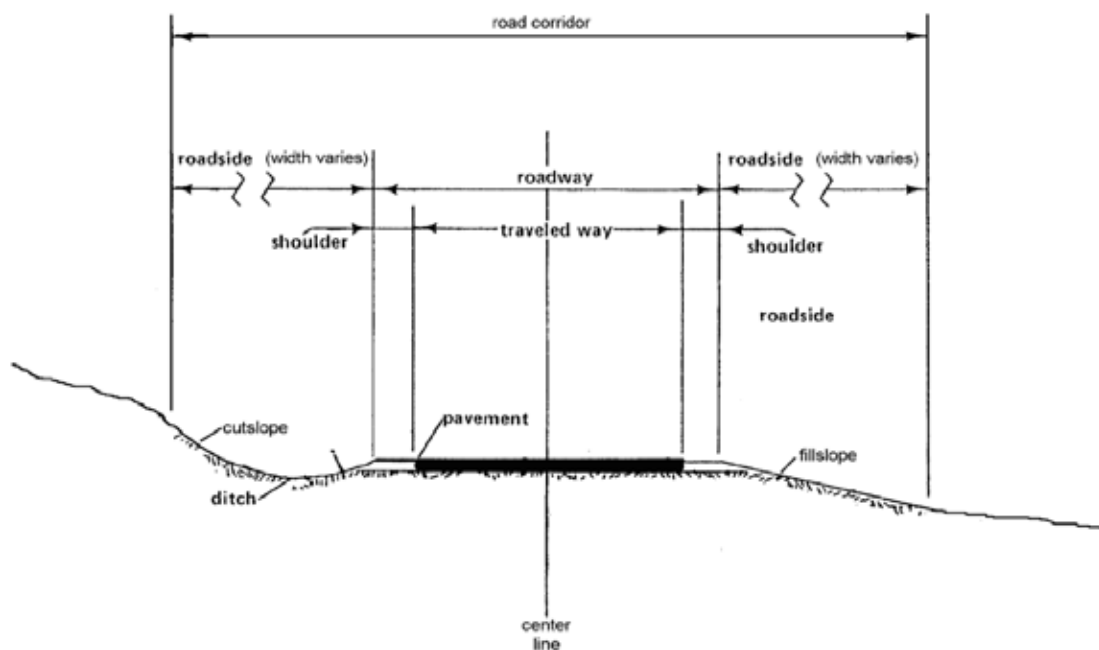
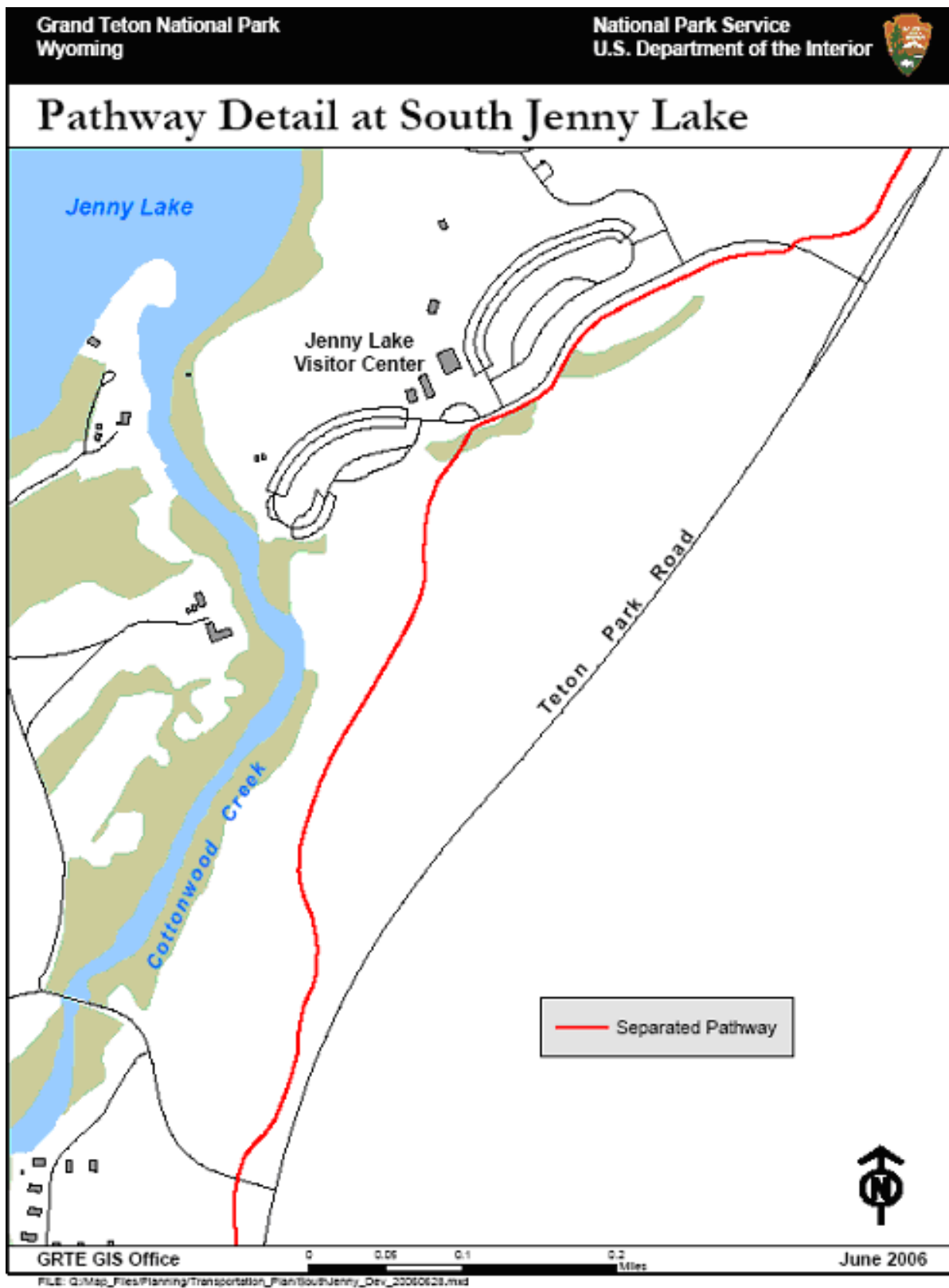


FIGURE 3  
PATHWAY DETAIL AT SOUTH JENNY LAKE





The Park's intent is to implement designs that lie lightly on the land while providing low life-cycle costs. The specific details would be determined through a design process that balances resource impacts and visitor safety with opportunities for visitor use and enjoyment. All proposed multi-use pathways would be designed to avoid impacts to wetlands and other resources, wherever possible. Stream crossings would be constructed where pathways intersect waterways. Stream crossings would consist of bridges and/or culverts, as applicable and would include provisions for movement of fish, amphibians, and small mammals through the corridor.

Three general areas within the Park are assessed for improved road shoulders and/or separated multi-use pathways under Alternatives 2, 3, 3a, or 4:

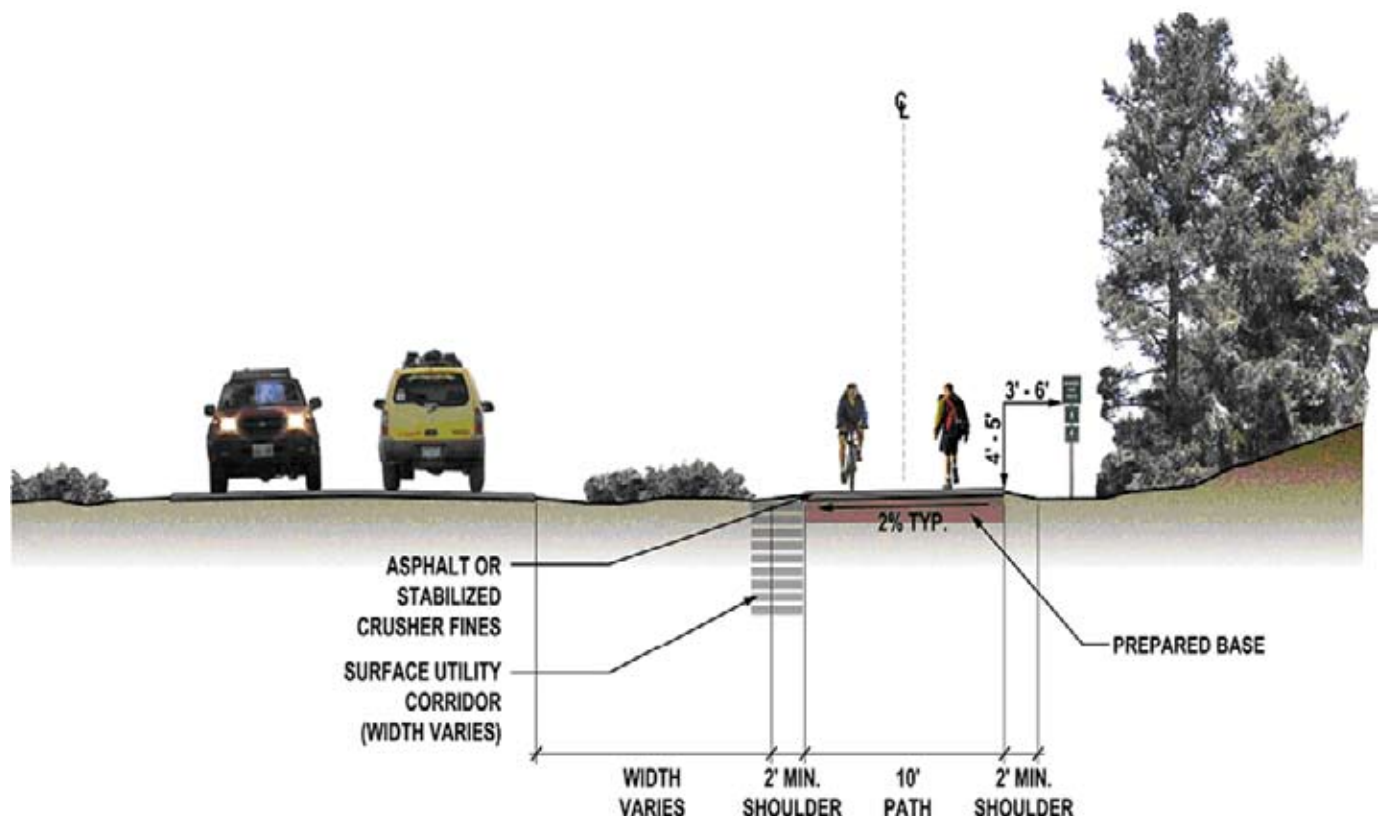
1. Along U.S. Highway 26/89/191 (Outer Highway) from the south boundary to Antelope Flats Road, and along the Teton Park Road from Moose Junction to North Jenny Lake Junction, including a segment to Dornan's Junction. This section includes the following primary road segments:
  - South boundary to Antelope Flats (9.4 miles [15.0 km])

- Moose to North Jenny Lake Junction (10.6 miles [17.0 km]).
- North Jenny Lake Junction to String Lake (1.5 miles [2.4 km]).
- Gros Ventre Junction to Sagebrush Drive (1.0 miles [1.6 km]).

2. Along the Teton Park Road from North Jenny Lake Junction to Colter Bay (a distance of approximately 15.5 miles [25.0 km]).
3. Along the Moose-Wilson Road from the Granite Canyon Entrance Station to Moose (a distance of approximately 7.1 miles [11.4 km]). This section includes two road segments: Granite Canyon Entrance Station to the LSR Preserve (3.3 miles [5.3 km]) and LSR Preserve to Moose (3.8 miles [6.1 km]).

Pathway width would generally be consistent with American Association of State Highway and Transportation Officials (AASHTO) design standards. Pathways would typically be constructed to a paved width of 10 ft (3 m), with 2-ft (0.6-m) wide soft shoulders on either side. An additional 1-ft (0.3-m) tree-clear zone would extend on either side, resulting in a total 16-ft (4.8-m) wide clear corridor (Figure 4).

**FIGURE 4**  
**SEPARATED 10-FOOT WIDE HARD SURFACE MULTI-USE PATHWAY**





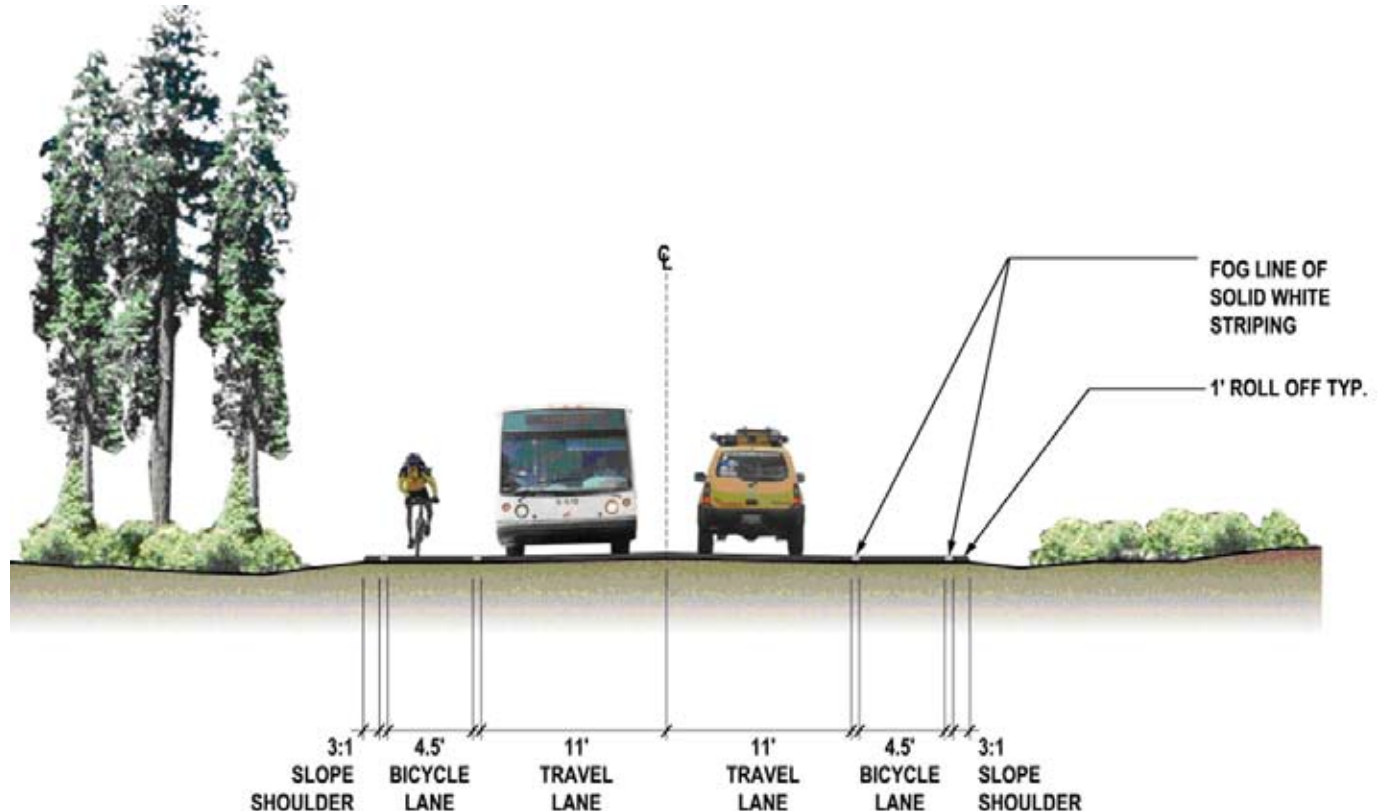
Road shoulders improvements would consist of widening the road to a 5-ft (1.5-m) width (4.5-ft travel lane, plus 3 inches on each side for striping) on both shoulders (Figure 5). Shoulder widening would be accomplished by notch widening, which consists of removal of existing paved shoulder, base, and subgrade material to an engineered depth. The subgrade would then be reconstructed to the new shoulder width, which would include ditches and any fill or cut slopes to accommodate the improved shoulders. Ground disturbance in areas with relatively flat terrain would be at a minimum 6.5 ft (2 m) beyond the existing edge of the pavement on each side.

## Developed Areas

The existing roadway, parking, and pedestrian circulation infrastructure in the Moose Headquarters area dates back to the early 1960s, a time when park visitation was one-third what it is today. Visitors use this circulation infrastructure beyond design capacity during the busy summer season. Further complications include contemporary developments such as the introduction of temporary modular office buildings for park staff, construction of the new Moose Discovery and Visitor

Center, establishment of a base of operations for the Western Center for Historic Preservation, and adaptive use of the Murie Ranch, a National Historic Landmark. The NPS anticipates that construction of a pathway through the Moose Complex could result in increased demand for vehicle parking and congestion, consequently impacting visitor satisfaction and safety. In addition, much of the parking area is in a state of disrepair, storm water management is lacking, social trails in riparian habitat are expanding, and emergency response can be impeded. The Park intends to improve circulation and infrastructure in the Moose Complex as other future funds allow. Additional compliance may be required. In 2006, the Park commissioned a conceptual design and study process intended to address all of the aforementioned issues in the Moose Complex. The Park is also working with FHWA to analyze impacts at the three existing intersections along the Teton Park Road from the Snake River Bridge to the Moose-Wilson Road. Alternative design concepts for the Moose Complex will address the level of service at these intersections, provide enjoyable and safe pedestrian circulation and road crossings, analyze vehicle parking needs, improve emergency response, improve snow and

**FIGURE 5  
MARKED 4.5-FOOT IMPROVED SHOULDER**



storm water management, consider potential locations for transit hubs (as may be recommended by the TBP), improve the overall experience for those accessing all the visitor use facilities in the Moose area, and mitigate the impact the Moose development has on natural and cultural resources. The relocation and redesign of the Moose Entrance Station (i.e., adding an administrative lane) was analyzed under a separate environmental document, but is also considered in this Final Plan/EIS and will address fee collection challenges with pedestrians and bicyclists at the entrance station. The study will also provide recommendations for crosswalks, signs, bicycle rack locations, and other minor amenities that will improve safety for all types of users.

## **Traveler Information**

Information would be provided to visitors to assist with trip planning and scheduling off-peak visits. The use of the Park's web page and various forms of verbal and written communication mechanisms (i.e., local newspapers, brochures) would be employed to facilitate trip planning and visits to areas throughout the Park. The Park would assess the feasibility of traveler information radio systems, such as those used in the Grand Canyon National Park, or having rangers or concessioners radio entrance gates with parking lot capacity status, as is done for campgrounds. The installation of variable-messaging signs is common to all alternatives.

## **Estimated Capital Costs**

The costs reflected under each of the alternatives considered represent construction prices in 2008, which is projected to be the initial phase of construction. Costs for implementation of any alternative would include initial construction and the long-term cost of ownership, including annually recurring expenditures for maintenance and operations. Project costs include construction and other direct costs (i.e., pre-design, design, construction supervision, construction contingency, and monitoring). Any project constructed beyond 2008 will need to factor 4 percent inflation, compounding per year. For example, one variable message sign that costs \$56,000 in 2008 would cost \$60,570 in 2010.

## **Alternative 1: No Action Alternative**

Consideration of a No Action Alternative (Figure 6) provides a baseline against which to compare the proposed action alternatives, as well as their environmental consequences. Under the No Action Alternative, the Park would continue its current transportation management actions. No improvements would be made to roadways, parking, or transit service and facilities, and no changes would occur related to development of multi-use pathways or improved road shoulders other than those that would be accomplished through normal and ongoing park operations and maintenance or on a case-by-case basis. Minor improvements to developed areas may occur and limited improvements would occur in the traveler information arena. Alternative 1 would include all of the actions described above under the "Elements Common to All Alternatives" section, as well as specific features described below.

### **Roadways and Parking**

No changes to roadways and parking are proposed under Alternative 1 other than periodic and routine maintenance, improved signage for wildlife and visitor safety, and construction of separate entrance lanes for park employees and other administrative traffic at park entrance stations, which are elements common to all alternatives.

### **Transit Service and Facilities**

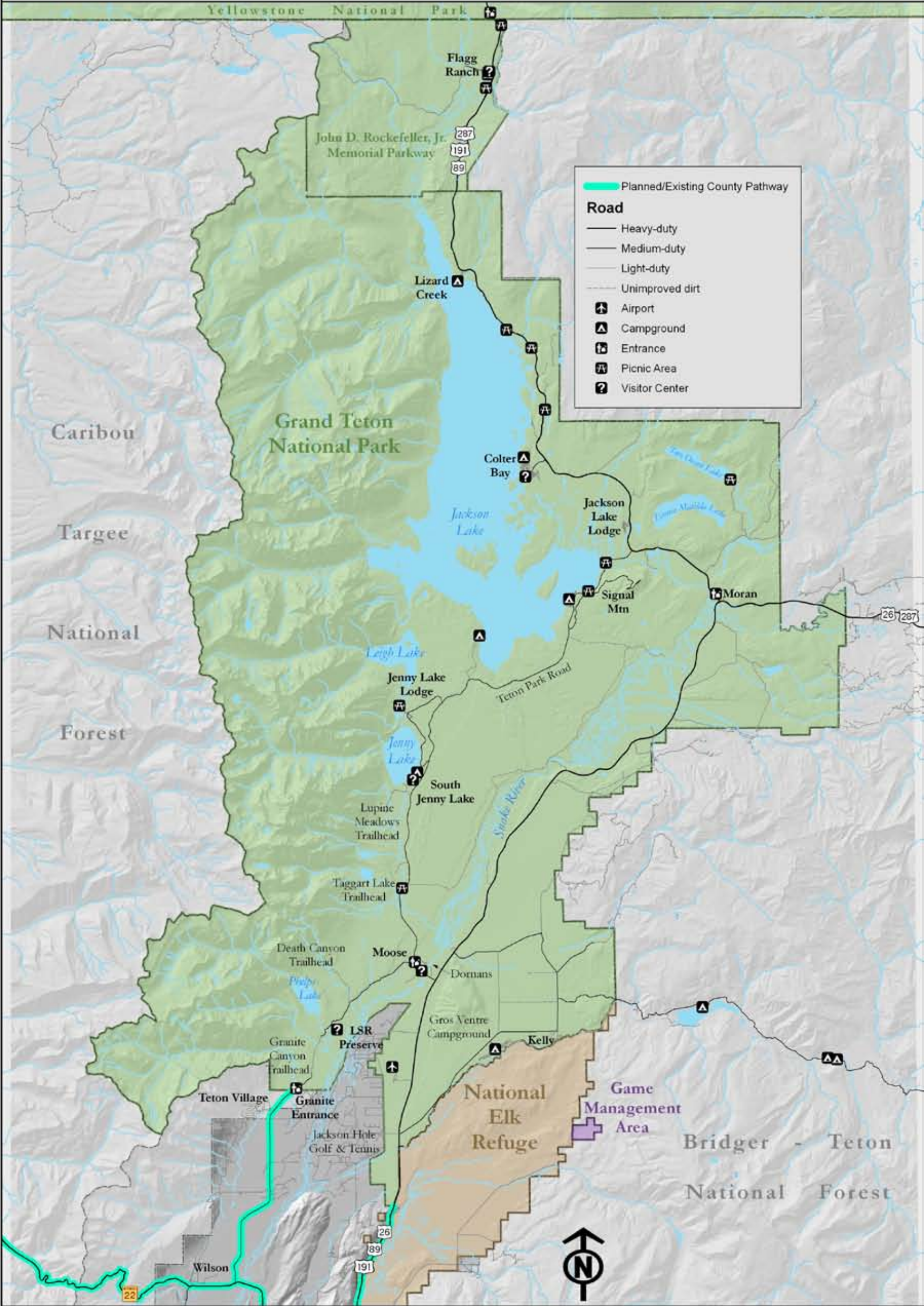
No changes to transit service and facilities are proposed under Alternative 1 other than development of the TBP, which is common to all alternatives.







# Alternative 1 - No Action



GRTE GIS Office

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September 2006

FIGURE 6  
ALTERNATIVE 1: NO ACTION



## Multi-use Pathways and Improved Shoulders

No multi-use pathways would be constructed; motorists and bicyclists would continue to share the road and existing shoulders (Figure 7). Shoulder width on park roads currently ranges from 0 to 5 ft (1.5 m) (Table 2). Shoulder improvements would not occur except as part of scheduled road reconstruction projects on a case-by-case basis.

## Developed Areas

Under this alternative, improvements to developed areas would occur only on a case-by-case basis to address specific issues and as funds become available. Improvements may include changes such as enhancement of pedestrian walkways, improved signs, and way-finding. Alternative 1 would make minor, if any, modifications in the following activity areas of the Park.

### Moose

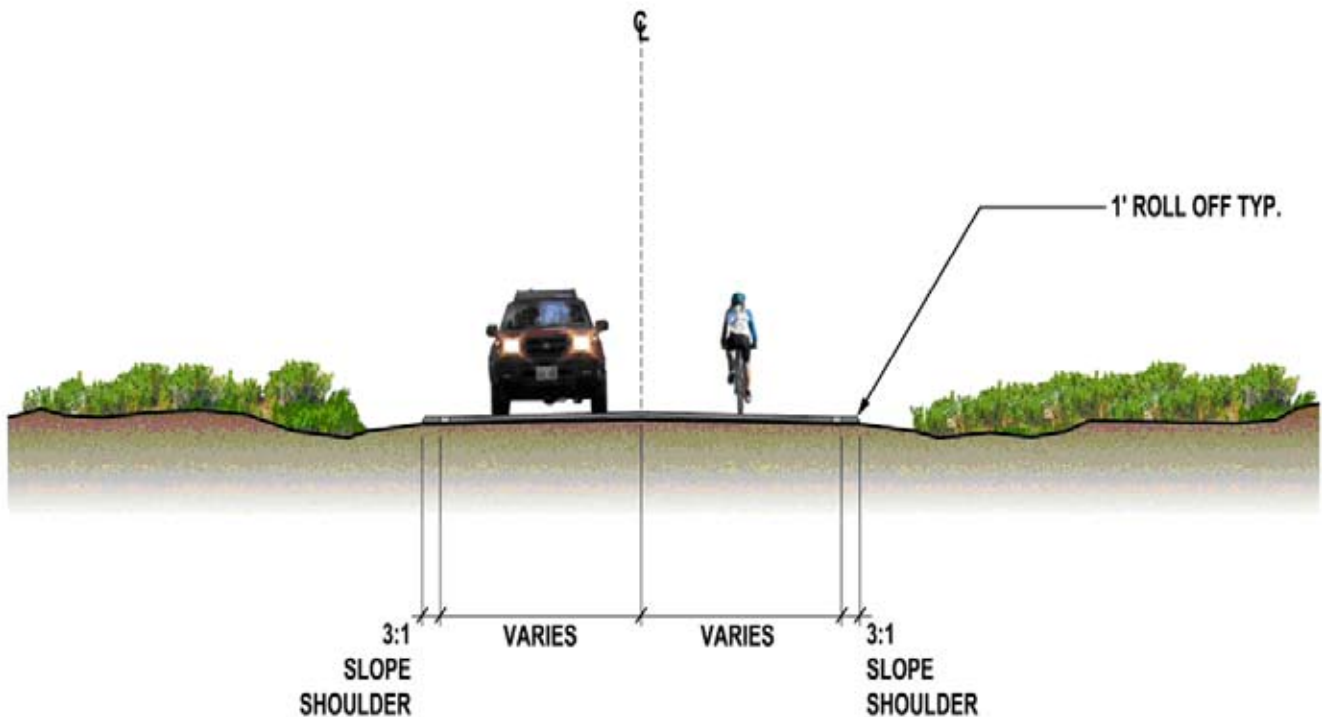
Moose currently houses a visitor center, the Park's administrative and maintenance facility, employee housing, a boat launch and associated float concession operations along the Snake River, and post office. Menor's Ferry and Maud Noble cabin are within one-half mile (0.8 km) of

the visitor center. The Chapel of the Transfiguration is a slightly longer distance, although many visitors opt to drive. In addition to its historic value, the chapel also provides a vantage point with especially good views of the Teton Range. The new Moose Discovery and Visitor Center will provide orientation for park visitors regardless of mode of travel. Routine maintenance to facilities at Moose would be made as warranted.

### South Jenny Lake

The existing activity area encompasses a ranger station and museum, visitor center, campground, and parking area. Concession facilities in the South Jenny Lake area include a general store and Exum Mountain Guide Service and School of Mountaineering. The Jenny Lake boating concession runs multiple shuttles across Jenny Lake on a daily basis. An NPS and concessioner seasonal housing area is located at the north end of Lupine Meadows. The NPS search and rescue operations are based out of a facility at nearby Lupine Meadows. Parking would continue to be available in the main visitor activity area.

**FIGURE 7**  
**ROADWAY SHARED BY CYCLISTS AND MOTOR VEHICLES**



**TABLE 2**  
**EXISTING SHOULDER CONDITIONS BY SEGMENT**

U.S. 26/89/191: South boundary to Moose Junction	5-ft attached shoulder
Sagebrush Drive: Gros Ventre Junction south to the Spring Gulch Road boundary	1-ft attached shoulder
U.S. 26/89/191: Moose Junction to east boundary	4-ft attached shoulder
Teton Park Road: Moose Junction to South Jenny Lake	4-ft attached shoulder
Dornan's Access Road	2-ft attached shoulder
Teton Park Road: South Jenny Lake to North Jenny Lake Junction	4-ft attached shoulder
North Jenny Lake Junction to the String Lake Access Road	4-ft attached shoulder, west bound lane
	3-ft attached shoulder, east bound lane
Jenny Lake Area (includes Jenny Lake activity area)	4-ft attached shoulder
Teton Park Road: North Jenny Lake Junction to Jackson Lake Junction (includes Signal Mountain activity area)	4-ft attached shoulder (North Jenny Lake Junction to Spalding Bay Junction)
	3-ft attached shoulder (Spalding Bay Junction to Jackson Lake Junction)
North Park Road: Moran Junction to Jackson Lake Junction	3-ft attached shoulder
North Park Road: Jackson Lake Junction to Colter Bay Junction (includes Jackson Lake Lodge)	3-ft attached shoulder
North Park Road: Colter Bay to YNP boundary (includes the Colter Bay activity area)	3-ft attached shoulder Colter Bay to Lizard Creek Campground).
	5-ft attached shoulder (Lizard Creek Campground to YNP boundary – will be in place following North Park Road reconstruction)
Moose-Wilson Road: Granite Canyon Entrance Station to Moose Junction	No shoulder
Antelope Flats/Gros Ventre	2-ft attached shoulder on Gros Ventre Road
River Road: Bar BC Ranch Road to the RKO Road Junction	Shared use unpaved road



A 50-site tent campground is part of the South Jenny Lake activity area. This campground was recently redesigned to improve functionality, increase separation between campsites, and mitigate resource degradation arising from activities spreading beyond designated campsite pads.

Numerous formal and social trails connect the activity area to the campground and to a concession-operated boat launch. Although multiple pathways exist, major routes to the campground or to Jenny Lake are not clearly marked or identified. Many visitors make short trips from the campground to the store via private vehicle because the trail is not obvious and they are unaware that the distance is less than one-quarter mile (0.4 km). In other cases, where multiple routes are visible from selected points on a trail that lacks clear orientation features, the likelihood increases that visitors will create social trails.

The facilities in the South Jenny Lake area are expected to remain without major upgrades or improvements beyond routine maintenance. No specific changes would occur under this alternative.

#### ***Signal Mountain Area***

Signal Mountain has been the site of a visitor facility on the shores of Jackson Lake since the late 1920s. Both the NPS and a concessioner operate facilities within the Signal Mountain developed area. The developed area includes an 87-site campground, amphitheater, boat launch, and parking area. The concessioner operates a facility containing lodging accommodations, a camp ground, two restaurants, two gift shops, a gas station and convenience store, and a marina with a fuel dock and boat rentals. The concessioner also provides housing for its employees. The area provides parking spaces for overnight lodge guests and the campground.

Few designated pathways are available for visitors and employees to travel between the campground, housing areas, and the lodge. Instead, the access roads serve as pedestrian ways, and some social trails have developed. No specific changes or improvements are proposed under this alternative.

#### ***Jackson Lake Lodge***

The center of this activity area is the historic Jackson Lake Lodge, which provides 385 rooms with capacity for approximately 1,500 guests. Lodging is also provided for an estimated 875 concession employees. The area provides parking spaces for lodge guests. No expansion or

reconfiguration of these parking areas is planned at this time, although this may occur in the future as conditions warrant.

#### ***Colter Bay***

Colter Bay Village is a product of the NPS Mission 66 program. The village was conceived in the late 1950s and completed in the early 1960s. At 340 acres (138 ha), this activity area is the largest developed area within the Park containing 350 campsites, 112 RV sites, 66 tent cabins, 166 camp cabins, two restaurants, a general store and gift shop, a laundry/shower, a marina with fuel dock, rental boats and store, two service stations (one with convenience store). Guest accommodations provide for peak occupancy of just over 2,200 persons.

In addition to concession services, this area also includes a visitor center, boat launch, amphitheater, and day use picnic area, as well as NPS and concessioner employee housing. Concessioner housing serves approximately 275 summer residents.

Colter Bay provides parking spaces for visitor lodging and day use visitors. Pathways between the visitor center, store, and restaurant are limited because so many visitors use the parking areas as pedestrian ways. No improvements are planned for the parking areas, though modifications may be made in the future as conditions warrant.

Several informal trails bisect the campground, and one main trail links the campgrounds to the store and laundry area. These pathways are not well marked, and many visitors will drive from their campsite to the store because they are either unaware of the trail location or unaware they are one-quarter to one-half mile (0.4 to 0.8 km) from these facilities. Social trails are prevalent, especially leading to the lake, picnic area, visitor center-amphitheater. No specific changes or improvements are proposed under this alternative.

#### **Traveler Information**

No changes to traveler information would occur under Alternative 1 other than what is proposed under the “Elements Common to All Alternatives” section.

## Estimated Capital Costs

Estimated capital costs and annual maintenance and operation costs for implementing Alternative 1 are as follows:

<b>ESTIMATED COSTS ALTERNATIVE 1</b>	
<b>Roadways and Parking</b>	
Improve signage for pedestrian and wildlife safety	\$9,000
Construct separate entrance lanes for employees	\$140,000
<b>Transit Services and Facilities</b>	
Develop a transit business plan (on-going)	\$100,000
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts &amp; Restoration</b>	
<b>South Boundary to North Jenny Lake Junction</b>	
No improvements proposed on this segment	\$0
<b>North Jenny Lake Junction to Colter Bay</b>	
No improvements proposed on this segment	\$0
<b>Moose-Wilson Road</b>	
No improvements proposed on this segment	\$0
<b>Developed Areas</b>	
No improvements proposed	\$0
<b>Traveler Information</b>	
Install variable messaging signs (\$56,000 per sign)	\$112,000
<b>Total Capital Cost</b>	<b>\$361,000</b>
<b>Annual Maintenance and Operations</b>	
Annual maintenance and operations - Pathways/Shoulders	\$0
<b>Total Annual Maintenance and Operation</b>	<b>\$0</b>
<i>Note: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008.</i>	

## Alternative 2: Improved Road Shoulders

Under Alternative 2, the primary objective is to improve the ability to proactively manage the traffic flow, parking, and visitor experience within the Park with little or no construction of new highway or parking facilities (Figure 8).

### Roadways and Parking

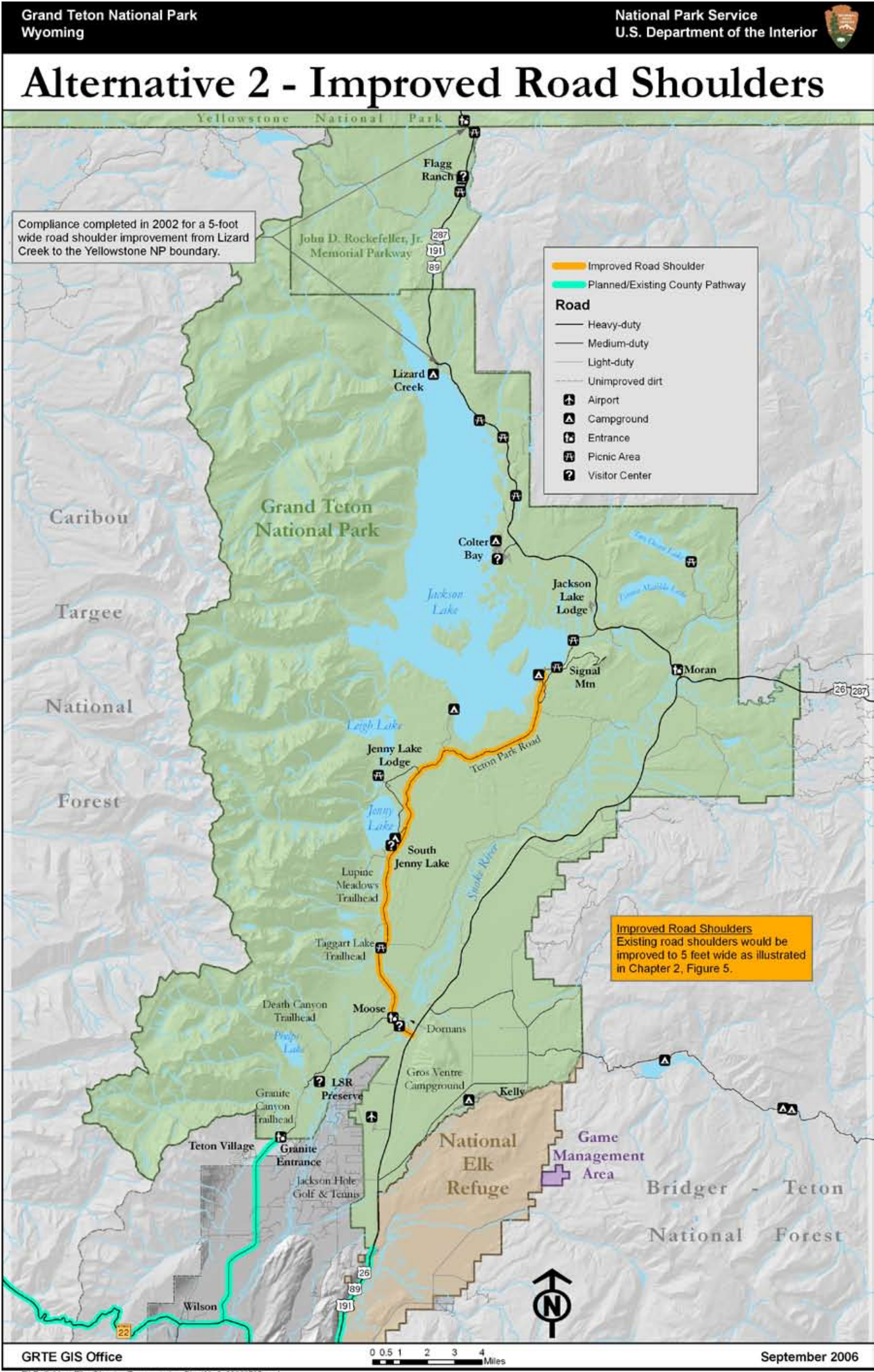
Changes to roadways and parking areas proposed under Alternative 2 — other than periodic and routine maintenance, improved signage for wildlife and visitor safety, and construction of separate entrance lanes for park employees and other administrative traffic at park entrance stations (which are common to all alternatives) — would consist of limited motorized traffic on Signal Mountain

Road at certain times in order to provide increased access to bicyclists and pedestrians, and improvements to the shoulders of certain segments in order to provide enhanced and safer roadway bicycling (see “Multi-use Pathways and Improved Shoulders” section below).

The intent of limiting vehicular traffic on Signal Mountain Road is to provide safer recreational opportunities for bicyclists and pedestrians in this area by eliminating conflicts with vehicular traffic without construction of new pathways or widening existing roadways.







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FIGURE 8  
ALTERNATIVE 2: IMPROVED ROAD SHOULDERS



Alternative 2 would improve the efficiency of parking by providing enhanced information to park visitors regarding the availability of parking. Entrance stations, visitor centers, self-service information kiosks, and variable messaging signs within the Park would provide information on lot capacity and filled lots.

### **Transit Services and Facilities**

Completion of the TBP could result in operation of a pilot transit system in the Park.

### **Multi-use Pathways and Improved Shoulders**

Under Alternative 2, improved shoulders would be constructed along the Teton Park Road from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km]), and from North Jenny Lake Junction to Signal Mountain Lodge (a distance of approximately 7.2 miles [11.6 km]), but would not extend farther north. Road shoulders would be improved to a 5-ft (1.5-m) width (4.5-ft travel lane, plus 3 inches on each side for striping) along each side of this stretch of road (see Figure 5). Multi-use pathways or improved shoulders would not be constructed along U.S. Highway 26/89/191 between the south boundary and Antelope Flats Road, since road shoulders along this stretch of road are currently 5-ft (1.5-m) wide; that width would be maintained. No multi-use pathways or improved shoulders would be created along the Moose-Wilson Road under this alternative.

### **Developed Areas**

Alternative 2 would incorporate limited modifications and additions to infrastructure through normal park operations and maintenance and could include information kiosks, bicycle racks, and improved signs in the following activity areas of the Park:

#### ***Moose***

Existing facilities would remain and would be modified as warranted, as described under the “Elements Common to All Alternatives” section.

#### ***South Jenny Lake***

Changes would include installation of a visitor information kiosk near the Jenny Lake store, bicycle racks, and improved signs.

#### ***Signal Mountain Area***

Modifications and additions to the existing infrastructure would include installation of a visitor information kiosk.

#### ***Jackson Lake Lodge***

Proposed improvements would include installation of a visitor information kiosk.

#### ***Colter Bay***

Proposed improvements would include installation of a visitor information kiosk.

### **Traveler Information**

Alternative 2 would include improvements to the amount and type of information available to park visitors and the local community regarding transportation related issues. The Park would employ various information transmission methods, depending on effectiveness and as funds become available, which could include traveler information systems (i.e., localized radio transmissions with information on current park conditions), additional variable messaging signs, bulletin boards, an improved website, and information kiosks with current information at key locations. Signboards would list congested areas, such as popular areas or trailheads, and alternative destinations to visit in the Park, thus allowing visitors to plan their visit and assist the Park in managing visitor access without the aid of park staff at trailhead sites. Wildlife hazard signs, particularly for grizzly bears and moose, and particularly in areas with low sight distance, could also be provided.

## Estimated Capital Costs

Estimated capital costs and annual maintenance and operation costs for implementing Alternative 2 are as follows:

<b>ESTIMATED COSTS ALTERNATIVE 2</b>	
<b>Roadways and Parking</b>	
Improve signage for pedestrian and wildlife safety	\$9,000
Construct separate entrance lanes for employees	\$140,000
<b>Transit Services and Facilities</b>	
Develop a transit business plan (on-going)	\$100,000
Capital costs for pilot transit within the Park	TBD
Capital costs for shuttle concession	TBD
Capital costs for infrastructure supporting transit	TBD
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts &amp; Restoration</b>	
Improve shoulders (4.5-ft travel lane with 6 inches for striping) to accommodate bicyclists from Moose Junction to Signal Mountain Lodge (a distance of approximately 17.8 miles [28.6 km])	\$12,235,000
<b>South Boundary to North Jenny Lake Junction</b>	
No other improvements proposed on this segment	\$0
<b>North Jenny Lake Junction to Colter Bay</b>	
No other improvements proposed on this segment	\$0
<b>Moose-Wilson Road</b>	
No improvements proposed on this segment	\$0
<b>Developed Areas</b>	
Install kiosks, bicycle racks, trash cans, way-finding signs, vault toilet(s)	\$138,000
<b>Traveler Information</b>	
Install variable messaging signs (\$56,000 per sign)	\$336,000
<b>Total Capital Cost</b>	<b>\$12,958,000</b>
<b>Annual Maintenance and Operations</b>	
Annual maintenance and operations - Pathways/Shoulders	\$63,000
<b>Total Annual Maintenance and Operation</b>	<b>\$63,000</b>
<i>Note: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008.</i>	



### **Alternative 3: Improved Shoulders / Multi-Use Pathways**

Under Alternative 3, the Moose-Wilson Road would be realigned in two areas to restore aspen and wetland habitat. Under this alternative, 23.3 miles (37.3 km) of multi-use pathways would be constructed outside existing road corridors, and 15.5 miles [25.0 km] of improved road shoulders would be constructed to provide enhanced and safer experiences for bicyclists and pedestrians (Figure 9).

#### **Roadways and Parking**

Under this alternative, improvements to park roadways and parking areas would occur during scheduled maintenance or on an as needed basis. A combination of improvements may be implemented and could include road signs to increase awareness of wildlife crossings, improved information on parking lot capacity and filled lots, self-service information kiosks, and variable messaging signs. A pedestrian-crossing signal would be constructed at the Jackson Lake Dam crossing to increase visitor safety. Improvements would also be made to the shoulders of certain segments in order to provide enhanced and safer roadway bicycling (see “Multi-use Pathways and Improved Shoulders” section below).

The Moose-Wilson Road would be realigned in two areas and the existing alignments would be abandoned and restored to natural conditions. Specifically, a section of the existing Moose-Wilson Road between Sawmill Ponds Overlook and a point approximately one-third mile (0.5 km) north of Death Canyon Road Junction would be abandoned and restored to natural conditions. Pavement would be removed and the roadbed would be regraded and revegetated to restore aspen and wetland habitat in this area. The road realignment between those two points would generally follow an old abandoned roadbed on the east side of the wetland and riparian areas. The other realignment, approximately one-half mile (0.8 km) east of Sawmill Ponds Overlook to a junction with the Teton Park Road near Moose, would intersect the Teton Park Road between the Moose Entrance Station and the access road to the Chapel of the Transfiguration.

Realignment would occur for the purpose of restoring aspen habitat to this area and avoiding important wetland and riparian areas. Realignment near the Moose Entrance Station also would protect and facilitate a wildlife migration corridor in the Snake River riparian area. The aspen, cottonwood, and mixed deciduous-coniferous forests and wetlands located along this section of the

Moose-Wilson Road provide important habitat for birds, wildlife, and distinct vegetative communities. The area to be restored differs notably from the surroundings, and the road passing through this area currently affects its wildlife habitat value. The Park may consider the addition of wildlife viewing areas as part of the realignment of the Moose-Wilson Road between Sawmill Ponds and Death Canyon Road. In other areas, the existing character of the road would be maintained and, thus, there are no plans for further development in the form of pull outs or formal viewing areas. User-created pull outs may be formalized or barricaded as necessary to ensure resource protection and enhance visitor safety. A secondary benefit to realigning the road would be improved vehicle and bicycle safety because of improved line of sight.

#### **Transit Services and Facilities**

This alternative would provide additional information concerning the transit services available to the public, including route maps and schedules at lodges within and outside the Park, visitor centers, and other locations where visitors may congregate. Completion of the TBP could result in operation of a pilot transit system in the Park.

#### **Multi-use Pathways and Improved Shoulders**

Under Alternative 3, multi-use pathways would be constructed outside the road corridor, but generally within 50 ft of the road, along U.S. Highway 26/89/191 (Outer Highway) from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km]), and along the Teton Park Road from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km]).

Alternative 3 would also include improved shoulders (widening to 5 ft [1.5 m]) along 15.5 miles (25.0 km) of the Teton Park Road from North Jenny Lake Junction to Colter Bay (Figure 9). Shoulder widening (instead of multi-use pathways) is proposed along this route to provide improved opportunities for bicycling or walking while minimizing the impacts on park resources in an area where there are considerable wildlife/habitat disturbance concerns. The total new shoulder width would be 5 ft (1.5 m) on each side of the road (see Figure 5). Shoulder widening would be accomplished by notch widening, which consists of removal of existing paved shoulder, base, and subgrade material to an engineered depth. The subgrade would then be reconstructed to the new shoulder width, including ditches and any fill or cut slopes to accommodate the improved shoulders. Ground disturbance in areas with

relatively flat terrain would be at a minimum 6.5 ft (2 m) beyond the existing edge of the pavement on each side.

Finally, under Alternative 3 a multi-use pathway also would be constructed outside the road corridor, but generally within 50 ft of the road, along the Moose-Wilson Road from the Granite Canyon Entrance Station to the LSR Preserve (a distance of approximately 3.3 miles [5.3 km]).

### **Developed Areas**

Alternative 3 would incorporate limited modifications and additions to infrastructure through normal park operations and maintenance and could include improved social trails, signs, and way-finding, information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems in the following activity areas of the Park:

#### ***Moose***

As described under the “Elements Common to All Alternatives” section, issues in the Moose Complex will be examined to address the increase in use of the area as a result of pathway construction.

#### ***South Jenny Lake***

Social trails, signs, and way-finding would be improved in this area in order to create well-marked pathways that would facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Social trails would likely be paved or graveled. Information kiosks would be added at South Jenny Lake.

#### ***Signal Mountain Area***

Social trails, signs, and way-finding would be improved in this area in order to facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Information kiosks would be added at Signal Mountain.

#### ***Jackson Lake Lodge***

Signs and way-finding would be improved in this area to facilitate pedestrian travel between key points. Information kiosks would be added at Jackson Lake Lodge.

#### ***Colter Bay***

Social trails, signs, and way-finding would be improved in this area in order to create well-marked pathways that would facilitate pedestrian travel between key points (i.e., the campground, store, visitor center, and picnic areas), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Social trails would

likely be paved or graveled. Information kiosks would be added at Colter Bay. Parking, boat trailer parking, and circulation would be minimally redesigned to improve function and safety. Information kiosks would be added at Colter Bay.

### **Traveler Information**

Alternative 3 would improve the amount and type of information available to park visitors and the local community regarding transportation related issues. The Park would employ various information transmission methods, depending on effectiveness and as funds become available, which could include traveler information systems (localized radio transmissions with information on current park conditions), additional variable messaging signs, bulletin boards, an improved website, and information kiosks with current information at key locations.

Signboards would list congested areas, such as popular areas or trailheads, and alternative destinations to visit in the Park, thus allowing visitors to plan their visit and assist the Park in managing visitor access without the aid of park staff at trailhead sites. Wildlife hazard signs, particularly for grizzly bears and moose, and particularly in areas with low sight distance could also be provided.





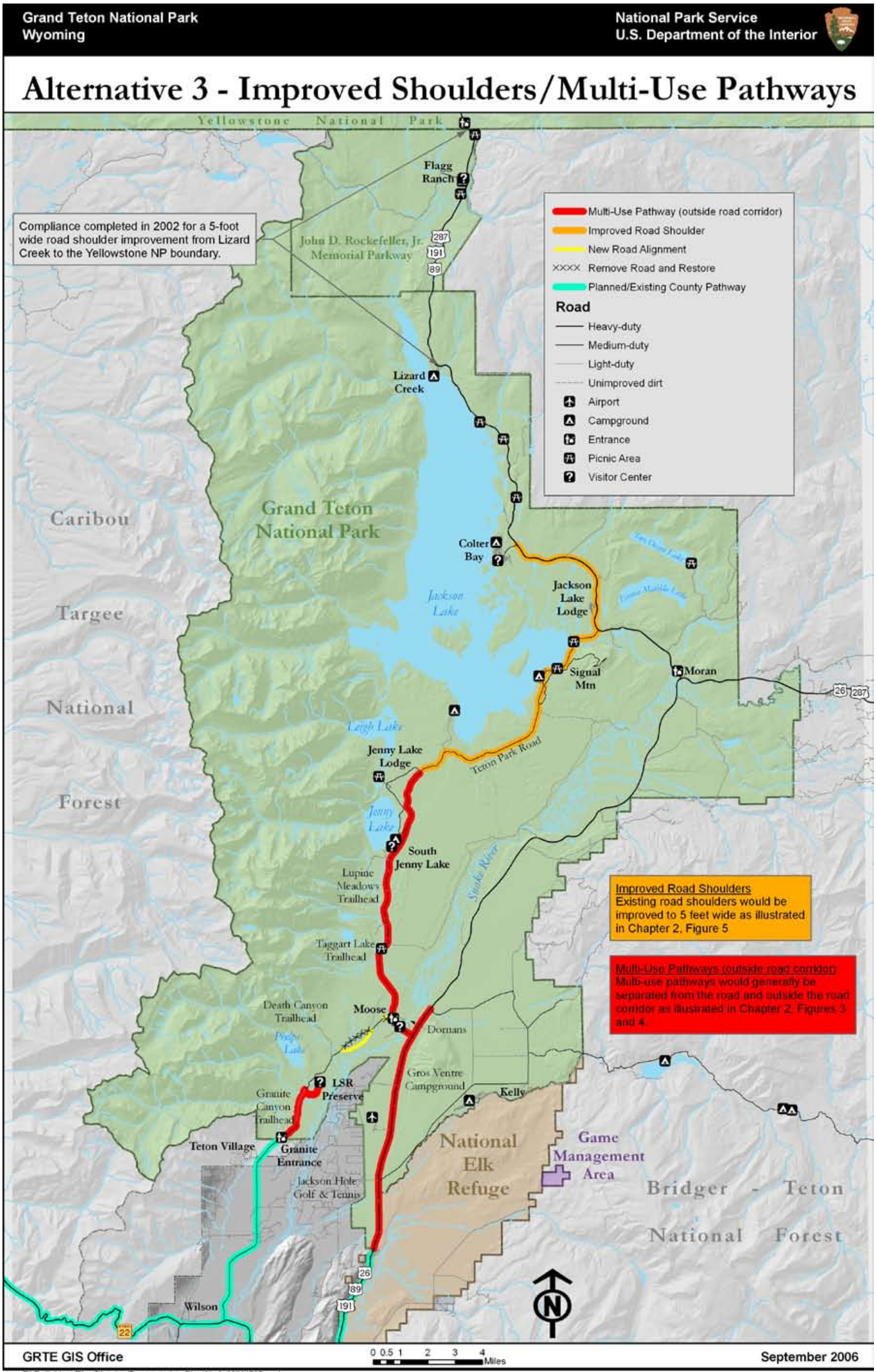


FIGURE 9  
ALTERNATIVE 3: IMPROVED SHOULDERS / MULTI-USE PATHWAYS



## Estimated Capital Costs

Estimated capital costs and annual maintenance and operation costs for implementing Alternative 3 are as follows:

<b>ESTIMATED COSTS ALTERNATIVE 3</b>	
<b>Roadways and Parking</b>	
Improve signage for pedestrian and wildlife safety	\$9,000
Construct separate entrance lanes for employees	\$140,000
Realign and restore the Moose-Wilson Road	\$2,285,000
<b>Transit Services and Facilities</b>	
Develop a transit business plan (on-going)	\$100,000
Capital costs for pilot transit within the Park	TBD
Capital costs for shuttle concession	TBD
Capital costs for infrastructure supporting transit	TBD
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts &amp; Restoration</b>	
Wildlife impacts monitoring for post Phase 1 multi-use pathway construction*	\$700,000
<b>South Boundary to North Jenny Lake Junction</b>	
Construct 10-ft wide separate multi-use pathways from the south boundary of the Park to Moose Junction (a distance of approximately 8.2 miles [13.1 km])	\$6,879,000
Construct 10-ft wide separate multi-use pathways from Moose Junction to the Antelope Flats Road, including segment to Dornan's Junction (a distance of approximately 1.2 miles [1.9 km])	\$941,000
Construct 10-ft wide separate multi-use pathways Dornan's Junction to South Jenny Lake Junction (a distance of approximately 7.7 miles [12.3 km])	\$5,697,000
Construct 10-ft wide separate multi-use pathways South Jenny Lake Junction to North Jenny Lake Junction (a distance of approximately 2.9 miles [4.6 km])	\$1,936,000
<b>North Jenny Lake Junction to Colter Bay</b>	
Improve shoulders (4.5-ft travel lane with 6 inches for striping) to accommodate bicyclists from North Jenny Lake to Colter Bay (a distance of approximately 15.5 miles [25.0 km])	\$10,654,000
Signal for Safety Crossing at Jackson Lake Dam/Bridge	\$56,000
<b>Moose-Wilson Road</b>	
Construct 10-ft wide separate multi-use pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the north end of unpaved section; then follow the levee access road to the new LSR Preserve (approximately 3.3 miles [5.3 km])	\$4,557,000
<b>Developed Areas</b>	
Install kiosks, bicycle racks, trash cans, way-finding signs, vault toilet(s)	\$252,000
<b>Traveler Information</b>	
Install variable messaging signs (\$56,000 per sign)	\$336,000
<b>Total Capital Cost</b>	<b>\$34,542,000</b>
<b>Annual Maintenance and Operations</b>	
Annual maintenance and operations - Pathways/Shoulders**	\$417,000
<b>Total Annual Maintenance and Operation</b>	<b>\$417,000</b>
<i>Notes: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008.            *Capital cost for post construction wildlife monitoring will be \$500,000-\$900,000; an average of \$700,000 was used for this estimate.            **Does not reflect future wildlife monitoring following the first 3 years of initial monitoring; on average, an estimation of \$100,000/yr is predicted.</i>	



## Alternative 3a: Preferred Alternative

Based on comments received during public review of the Draft Plan/EIS, the NPS developed a new preferred alternative that combines elements of Alternatives 3 and 4, and additionally includes some new elements that were not included in the Draft Plan/EIS. Under Alternative 3a, a combination of multi-use pathways within and outside road corridors would be constructed, which would provide a wide range of transportation opportunities for bicyclists and pedestrians (Figure 10). Under this alternative, the Moose-Wilson Road would be realigned in two areas to restore aspen and wetland habitat; 22.5 miles (36.0 km) of multi-use pathways would be constructed outside existing road corridors; and 18.8 miles (30.3 km) of multi-use pathways would be constructed inside existing road corridors.

### Roadways and Parking

Under Alternative 3a, improvements to park roadways and parking areas would occur during scheduled maintenance or on an as needed basis. A combination of improvements may be implemented and could include road signs to increase awareness of wildlife crossings; improved information on parking lot capacity and filled lots; self-service information kiosks; and variable messaging signs. A pedestrian-crossing signal would be constructed at the Jackson Lake Dam crossing to increase visitor safety.

The Moose-Wilson Road would be realigned in two areas under Alternative 3a, and the existing alignments would be abandoned and restored to natural conditions. Specifically, a section of the existing Moose-Wilson Road between Sawmill Ponds Overlook and a point approximately one-third mile (0.5 km) north of Death Canyon Road Junction would be abandoned and restored to natural conditions. Pavement would be removed and the roadbed would be regraded and revegetated to restore aspen and wetland habitat in this area. The road realignment between those two points would generally follow an old abandoned roadbed on the east side of the wetland and riparian areas. The other realignment, approximately one-half mile (0.8 km) east of Sawmill Ponds Overlook to a junction with the Teton Park Road near Moose, would intersect the Teton Park Road between the Moose Entrance Station and the access road to the Chapel of the Transfiguration.

Realignment near the Moose Entrance Station also would protect and facilitate a wildlife migration corridor in the Snake River riparian area. The aspen, cottonwood, and mixed deciduous-coniferous forests and wetlands located

along this section of the Moose-Wilson Road provide important habitat for wildlife and distinct vegetative communities. The area to be restored differs notably from the surroundings, and the road passing through this area currently affects its wildlife habitat value. The Park may consider the addition of wildlife viewing areas as part of the realignment of the Moose-Wilson Road between Sawmill Ponds and Death Canyon Road. In other areas, the existing character of the road would be maintained and thus, there are no plans for further development in the form of pull offs or formal viewing areas. User-created pull offs may be formalized or barricaded as necessary to ensure resource protection and enhance visitor enjoyment and safety. A secondary benefit to realigning the road would be improved vehicle and bicycle safety because of improved line of sight.

### Transit Service and Facilities

This alternative would provide additional information concerning the transit services available to the public, including route maps and schedules at lodges within and outside the Park, visitor centers, and other locations where visitors may congregate. Completion of the TBP could result in operation of a pilot transit system in the Park.

### Multi-use Pathways and Improved Shoulders

Under Alternative 3a, a distinction is made between pathways constructed within the road corridor as opposed to those constructed outside of the corridor. For the purposes of this plan, the term “road corridor” generally means the engineered corridor in which the road exists, including the cut and fill areas and clear zones (see Figure 2 on page 24). Under this alternative, multi-use pathways would be constructed outside the road corridor along U.S. Highway 26/89/191 (Outer Highway) from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km]); along the Teton Park Road from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km]); from North Jenny Lake Junction west to String Lake (a distance of approximately 1.5 miles [2.4 km]); and from Gros Ventre Junction to an existing pathway at Jackson Hole Golf and Tennis via Sagebrush Drive and Spring Gulch Road (a distance of approximately 1.0 miles [1.6 km]). A total of 22.5 miles (36.0 km) of multi-use pathways would be constructed outside existing road corridors. In general, pathways constructed outside of the road corridor would still be located within approximately 50 ft of the road.





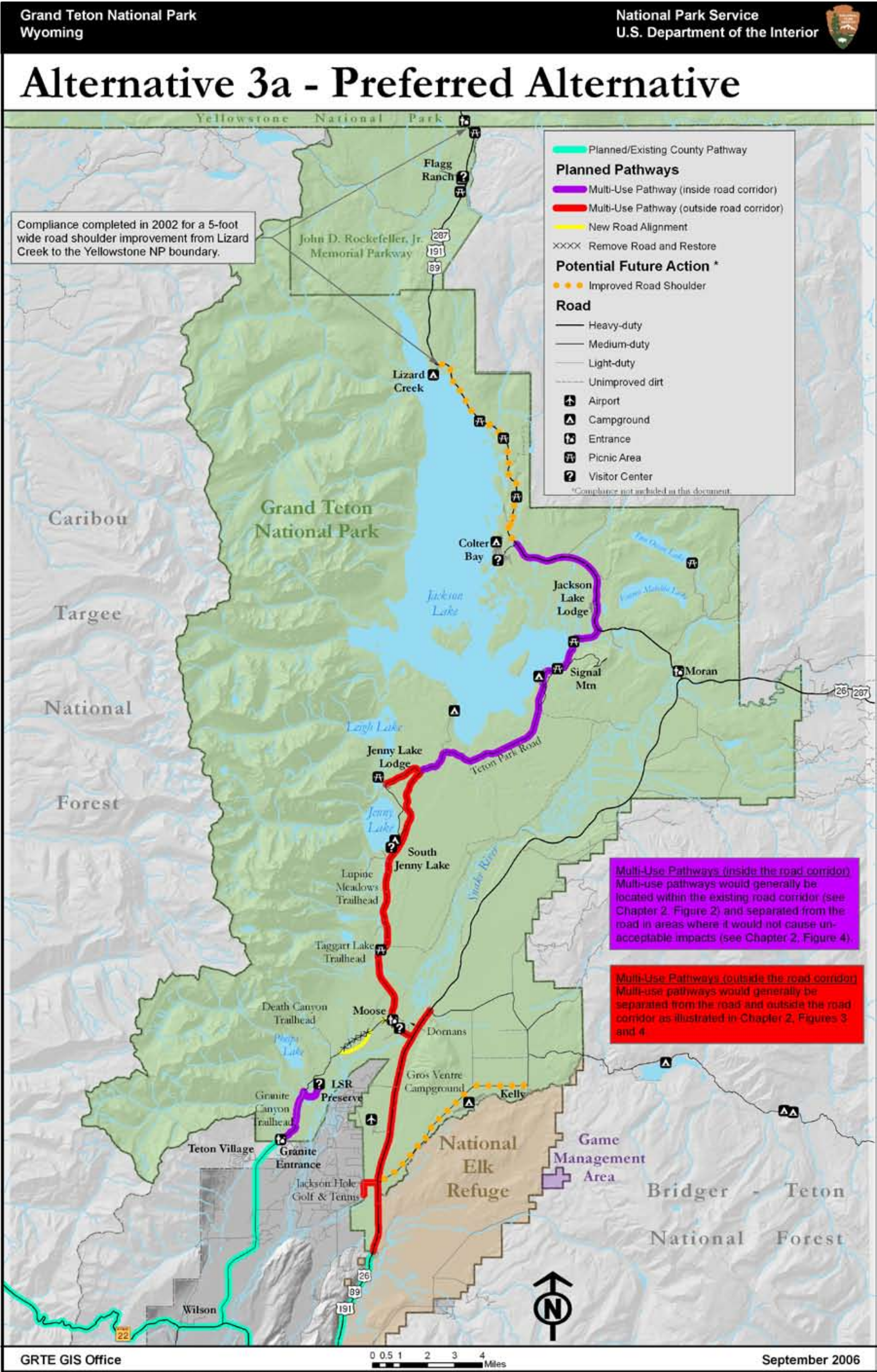


FIGURE 10  
ALTERNATIVE 3A: PREFERRED ALTERNATIVE



Alternative 3a also includes construction of multi-use pathways inside the road corridor along the Teton Park Road from North Jenny Lake Junction to Colter Bay (approximately 15.5 miles [25.0 km]), except for a section between Signal Mountain Lodge and Jackson Lake Dam, where an improved shoulder would be constructed. In addition, improved shoulders would be used in other areas where constructability issues or unacceptable impacts to resources could occur.

Multi-use pathways would also be constructed inside the road corridor along the Moose-Wilson Road from the Granite Canyon Entrance Station to the LSR Preserve (a distance of approximately 3.3 miles [5.3 km]). The Moose-Wilson pathway would begin at the Granite Canyon Entrance Station and extend to the north end of the unpaved section of road. At that point, the pathway would divert eastward and follow the long-established alignment of the unpaved levee access road to the new LSR Preserve (opening planned for 2007).

### **Developed Areas**

Alternative 3a would incorporate limited modifications and additions to infrastructure through normal park operations and maintenance and could include improved social trails, signs, and way-finding, information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems in the following activity areas of the Park:

#### ***Moose***

As described under the “Elements Common to All Alternatives” section, issues in the Moose Complex will be examined to address the increase in use of the area as a result of pathway construction.

#### ***South Jenny Lake***

Social trails, signs, and way-finding would be improved in this area in order to create well-marked pedestrian pathways that would facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Social trails would likely be paved or graveled. Information kiosks would be added at South Jenny Lake.

#### ***Signal Mountain Area***

Social trails, signs, and way-finding would be improved in this area in order to facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short

distances and reducing congestion. Information kiosks would be added at Signal Mountain.

#### ***Jackson Lake Lodge***

Signs and way-finding would be improved in this area in order to facilitate pedestrian travel between key points. Information kiosks would be added at Jackson Lake Lodge.

#### ***Colter Bay***

Parking, boat trailer parking, and circulation would be minimally redesigned to improve function and safety. Information kiosks would be added at Colter Bay.

### **Traveler Information**

Alternative 3a would improve the amount and type of information available to park visitors and the local community regarding transportation related issues. The Park would employ various information transmission methods, depending on effectiveness and as funds become available, which could include traveler information systems (localized radio transmissions with information on current park conditions), additional variable messaging signs, bulletin boards, an improved website, and information kiosks with current information at key locations. Signboards would list congested areas, such as popular areas or trailheads, and alternative destinations to visit in the Park, thus allowing visitors to plan their visit and assist the Park in managing visitor access without the aid of park staff at trailhead sites. Wildlife hazard signs, particularly for grizzly bears and moose, and in areas with low sight distance, could also be provided.

## Estimated Capital Costs

Estimated capital costs and annual maintenance and operation costs for implementing Alternative 3a are as follows:

<b>ESTIMATED COSTS ALTERNATIVE 3A</b>	
<b>Roadways and Parking</b>	
Improve signage for pedestrian and wildlife safety	\$9,000
Construct separate entrance lanes for employees	\$140,000
Realignment and restoration of the Moose-Wilson Road	\$2,285,000
<b>Transit Services and Facilities</b>	
Development of a transit business plan (on-going)	\$100,000
Capital costs for pilot transit within the Park	TBD
Capital costs for shuttle concession	TBD
Capital costs for infrastructure supporting transit	TBD
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts &amp; Restoration</b>	
Wildlife impacts monitoring for post phase 1 multi-use pathway construction*	\$700,000
South Boundary to North Jenny Lake Junction	
Construct 10-ft wide separate multi-use pathways from the south boundary of the Park to Moose Junction (a distance of approximately 8.2 miles [13.1 km])	\$6,879,000
Construct 10-ft wide separate multi-use pathways from Gros Ventre Junction south to the Spring Gulch Road boundary (a distance of approximately 1.0 miles [1.6 km])	\$634,000
Construct 10-ft wide separate multi-use pathways from Moose Junction to the Antelope Flats Road, including segment to Dornan's Junction (a distance of approximately 1.2 miles [1.9 km])	\$941,000
Construct 10-ft wide separate multi-use pathways Dornan's Junction to South Jenny Lake Junction (a distance of approximately 7.7 miles [12.3 km])	\$5,697,000
Construct 10-ft wide separate multi-use pathways South Jenny Lake Junction to North Jenny Lake Junction (a distance of approximately 2.9 miles [4.6 km])	\$1,936,000
Construct 10-ft wide separate multi-use pathways North Jenny Lake Junction to String Lake (a distance of approximately 1.5 miles [2.4 km])	\$968,000
North Jenny Lake Junction to Colter Bay	
Construct 10-ft wide separate multi-use pathways within corridor North Jenny Lake to Colter Bay (a distance of approximately 15.5 miles [25.0 km])	\$19,529,000
Signal for Safety Crossing at Jackson Lake Dam/Bridge	\$56,000
Moose-Wilson Road	
Construct 10-ft wide separate multi-use pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the north end of unpaved section; then follow the levee access road to the new LSR Preserve (approximately 3.3 miles [5.3 km])	\$4,557,000
<b>Developed Areas</b>	
Install kiosks, bicycle racks, trash cans, way-finding signs, vault toilet(s)	\$252,000
<b>Traveler Information</b>	
Install variable messaging signs (\$56,000 per sign)	\$336,000
<b>Total Capital Cost</b>	<b>\$45,019,000</b>
<b>Annual Maintenance and Operations**</b>	
Annual maintenance and operations - Pathways/Shoulders	\$558,000
<b>Total Annual Maintenance and Operation</b>	<b>\$558,000</b>
<i>Notes: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008.            *Capital cost for post construction wildlife monitoring will be \$500,000-\$900,000; an average of \$700,000 was used for this estimate.            **Does not reflect future wildlife monitoring following the first 3 years of initial monitoring; on average, an estimation of \$100,000/yr is predicted.</i>	



## **Alternative 4: Multi-Use Pathways**

Under Alternative 4, the Moose-Wilson Road would be realigned in two areas to restore aspen and wetland habitat, and an extensive system (a total of 42.6 miles [68.4 km]) of multi-use pathways would be constructed outside the road corridor to provide a wide range of transportation opportunities for bicyclists and pedestrians (Figure 11).

### **Roadways and Parking**

Under Alternative 4, improvements to park roadways and parking areas would occur during scheduled maintenance or on an as needed basis. A combination of improvements may be implemented and could include road signs to increase awareness of wildlife crossings; improved information on parking lot capacity and filled lots; self-service information kiosks; and variable messaging signs. A pedestrian-crossing signal would be constructed at the Jackson Lake Dam Crossing to increase visitor safety.

The Moose-Wilson Road would be realigned in two areas under Alternative 4 and the existing alignments would be abandoned and restored to natural conditions. Specifically, a section of the existing Moose-Wilson Road between Sawmill Ponds Overlook and a point approximately one-third mile (0.5 km) north of Death Canyon Road Junction would be abandoned and restored to natural conditions. Pavement would be removed and the roadbed would be regraded and revegetated to restore aspen and wetland habitat in this area. The road realignment between those two points would generally follow an old abandoned roadbed on the east side of the wetland and riparian areas. The other realignment, approximately one-half mile (0.8 km) east of Sawmill Ponds Overlook to a junction with the Teton Park Road near Moose, would intersect the Teton Park Road between the Moose Entrance Station and the access road to the Chapel of the Transfiguration.

Realignment would occur for the purpose of restoring aspen habitat to this area and avoiding important wetland and riparian areas. Realignment near the Moose Entrance Station also would protect and facilitate a wildlife migration corridor in the Snake River riparian area. The aspen, cottonwood, and mixed deciduous-coniferous forests and wetlands located along this section of the Moose-Wilson Road provide unique habitat for wildlife and distinct vegetative communities. The area to be restored differs notably from the surroundings, and the road passing through this area currently affects its wildlife habitat value. The Park may consider the addition of wildlife viewing areas as part of the realignment of the Moose-Wilson Road between Sawmill Ponds and Death

Canyon Road. In other areas, the existing character of the road would be maintained and thus, there are no plans for further development in the form of pull offs or formal viewing areas. User-created pull offs may be formalized or barricaded as necessary to ensure resource protection and enhance visitor safety. A secondary benefit to realigning the road would be improved vehicle and bicycle safety because of improved line of sight.

### **Transit Service and Facilities**

This alternative would provide additional information concerning the transit services available to the public, including route maps and schedules at lodges within and outside the Park, visitor centers, and other locations where visitors may congregate. Completion of the TBP could result in operation of a pilot transit system in the Park.

### **Multi-use Pathways and Improved Shoulders**

Under this alternative, approximately 42.6 miles (68.4 km) of multi-use pathways outside the road corridor would be constructed. Although outside of the engineered road corridor, pathways would generally be located within 50 ft of the road. Multi-use pathways would be constructed outside the road corridor from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km]), from Moose Junction to Colter Bay (approximately 26.1 miles [42.0 km]), except for a section between Signal Mountain Lodge and Jackson Lake Dam, where an improved shoulder would be constructed. In addition, improved shoulders would be used in other areas where constructability issues or unacceptable impacts to resources could occur. Multi-use pathways also would be constructed outside the road corridor along the Moose-Wilson Road from the Granite Canyon Entrance Station to Moose (a distance of approximately 7.1 miles [11.4 km]).

### **Developed Areas**

Alternative 4 would incorporate limited modifications and additions to infrastructure through normal park operations and maintenance and could include improved social trails, signs, and way-finding, information kiosks, bicycle racks, variable-messaging signs, bulletin boards, and other traveler information systems in the following activity areas of the Park:

#### **Moose**

As described under the “Elements Common to All Alternatives” section, issues in the Moose Complex will be examined to address the increase in use of the area as a result of pathway construction.

### *South Jenny Lake*

Social trails, signs, and way-finding would be improved in this area in order to create well-marked pedestrian pathways that would facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Social trails would likely be paved or graveled. Information kiosks would be added at South Jenny Lake.

### *Signal Mountain Area*

Social trails, signs, and way-finding would be improved in this area in order to facilitate pedestrian travel between key points (i.e., the campground and the store), thereby lessening the use of private vehicles to travel short distances and reducing congestion. Information kiosks would be added at Signal Mountain.

### *Jackson Lake Lodge*

Signs and way-finding would be improved in this area in order to facilitate pedestrian travel between key points. Information kiosks would be added at Jackson Lake Lodge.

### *Colter Bay*

Parking, boat trailer parking, and circulation would be minimally redesigned to improve function and safety. Information kiosks would be added at Colter Bay.

## **Traveler Information**

Alternative 4 would improve the amount and type of information available to park visitors and the local community regarding transportation related issues. The Park would employ various information transmission methods, depending on effectiveness and as funds become available, which could include traveler information systems (localized radio transmissions with information on current park conditions), additional variable messaging signs, bulletin boards, an improved website, and information kiosks with current information at key locations.

Signboards would list congested areas, such as popular areas or trailheads, and alternative destinations to visit in the Park, thus allowing visitors to plan their visit and assist the Park in managing visitor access without the aid of park staff at trailhead sites. Wildlife hazard signs, particularly for grizzly bears and moose, and in areas with low sight distance, could also be provided.



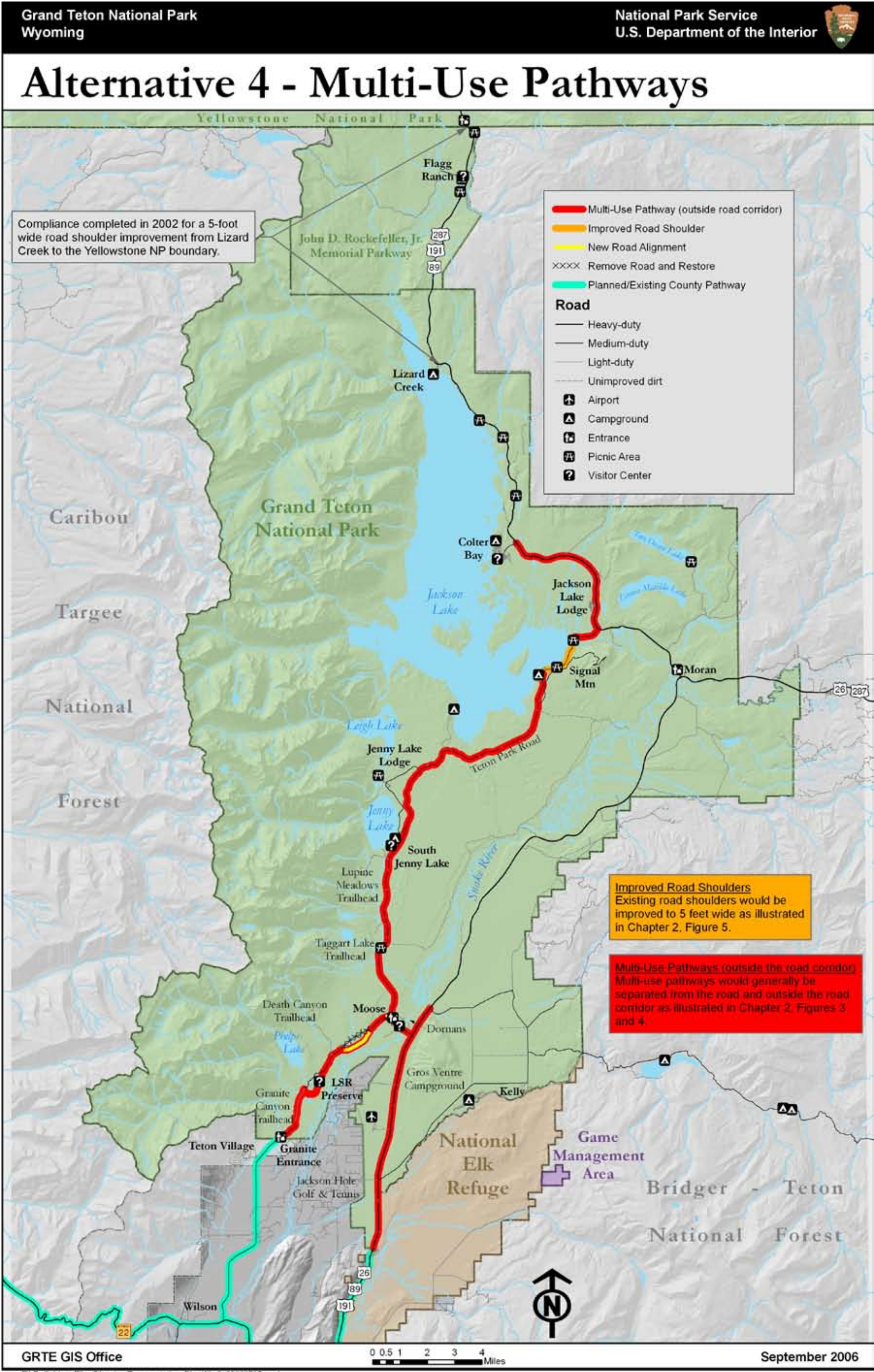


FIGURE 11  
ALTERNATIVE 4: MULTI-USE PATHWAYS



## Estimated Capital Costs

Estimated capital costs and annual maintenance and operation costs for implementing Alternative 4 are as follows:

<b>ESTIMATED COSTS ALTERNATIVE 4</b>	
<b>Roadways and Parking</b>	
Improve signage for pedestrian and wildlife safety	\$9,000
Construct separate entrance lanes for employees	\$140,000
Realign and restore the Moose-Wilson Road	\$2,285,000
<b>Transit Services and Facilities</b>	
Develop a transit business plan (on-going)	\$100,000
Capital costs for pilot transit within the Park	TBD
Capital costs for shuttle concession	TBD
Capital costs for infrastructure supporting transit	TBD
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts &amp; Restoration</b>	
Wildlife impacts monitoring for post Phase 1 multi-use pathway construction*	\$700,000
<b>South Boundary to North Jenny Lake Junction</b>	
Construct 10-ft wide separate multi-use pathways from the south boundary of the Park to Moose Junction (a distance of approximately 8.2 miles [13.1 km])	\$6,879,000
Construct 10-ft wide separate multi-use pathways from Moose Junction to the Antelope Flats Road, including segment to Dornan's Junction (a distance of approximately 1.2 miles [1.9 km])	\$941,000
Construct 10-ft wide separate multi-use pathways Dornan's Junction to South Jenny Lake Junction (a distance of approximately 7.7 miles [12.3 km])	\$5,697,000
Construct 10-ft wide separate multi-use pathways South Jenny Lake Junction to North Jenny Lake Junction (a distance of approximately 2.9 miles [4.6 km])	\$1,936,000
<b>North Jenny Lake Junction to Colter Bay</b>	
Construct 10-ft wide separate multi-use pathways North Jenny Lake to Colter Bay (a distance of approximately 15.5 miles [25.0 km])	\$19,529,000
Signal for Safety Crossing at Jackson Lake Dam/Bridge	\$56,000
<b>Moose-Wilson Road</b>	
Construct 10-ft wide separate multi-use pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the Teton Park Road (a distance of approximately 7.1 miles [11.4 km])	\$8,928,000
<b>Developed Area</b>	
Install kiosks, bicycle racks, trash cans, way-finding signs, vault toilet(s)	\$252,000
<b>Traveler Information</b>	
Install variable messaging signs (\$56,000 per sign)	\$336,000
<b>Total Capital Cost</b>	<b>\$47,788,000</b>
<b>Annual Maintenance and Operations</b>	
Annual maintenance and operations - Pathways/Shoulders**	\$558,000
<b>Total Annual Maintenance and Operation</b>	<b>\$558,000</b>
<i>Notes: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008.            *Capital cost for post construction wildlife monitoring will be \$500,000-\$900,000; an average of \$700,000 was used for this estimate.            **Does not reflect future wildlife monitoring following the first 3 years of initial monitoring; on average, an estimation of \$100,000/yr is predicted.</i>	

## Implementation Schedule for All Action Alternatives

Development of the pathway system and improved shoulders would occur in phases. These phases would be based on the results of monitoring and analysis of environmental impacts, visitor use patterns, and other factors relevant to construction and use of the system. Following the construction of the first phase of pathways, the NPS would evaluate visitor use and any environmental impacts resulting from the use of pathways and use the data to help inform the planning and design of future segments and phases.

The Park intends to design pathway construction in segments that will provide adequate parking opportunities or pathway connectivity at both ends as much as possible. Alternative 1 would require only one phase to implement.

Alternative 2 includes implementation of a management strategy on the Moose-Wilson Road using an AMP, construction of a separate entrance lane for the Moose Entrance Station, development of a TBP, improving road shoulders between Moose and Signal Mountain Lodge, and associated signage. The total cost for this alternative would be \$12,958,000. This work would be split into two phases with the section from Moose Junction to North Jenny Lake Junction being completed in the first phase, then the remaining distance and entrance station work being completed in the second phase.

Implementation of a management strategy on the Moose-Wilson Road using the AMP, and construction of multi-use pathways and improved shoulders proposed in Alternatives 3, 3a, and 4, could occur in multiple phases. Potential phasing could occur as follows:

### Phase 1 for Alternatives 3, 3a, and 4

- Development of the TBP that would identify alternatives for a technically and financially feasible transit system within the Park.
- Construction of a separated pathway along the Teton Park Road from Dornan's to South Jenny Lake Junction.
- Installation of signage and other elements associated with pathway construction.

### Phase 2 for Alternatives 3, 3a, and 4

- Implementation of a pilot transit system as recommended by the TBP.

- Construction of a separated pathway along the Teton Park Road from South Jenny Lake Junction to String Lake as prescribed in Alternative 3a.
- Construction of a separated pathway along the Teton Park Road from South Jenny Lake Junction to North Jenny Lake Junction as prescribed in Alternatives 3 and 4.
- Installation of signage and other elements that go along with pathway construction.
- Restoration of wetlands area and realignment of the Moose-Wilson Road.
- Relocation of the Moose Entrance Station and the construction of a separate administrative entrance lane.
- Installation of signage and other elements associated with the Moose-Wilson road realignment and entrance station relocation.
- Enhancement of existing traveler information systems at visitor centers, on variable message signs, at lodges, and other appropriate locations.

### Phase 3 for Alternatives 3, 3a, and 4

- Construction of a separated pathway along Highway 26/89/191 from the south boundary to Antelope Flats Road and along the Teton Park Road from Moose Junction to Dornan's Junction, as prescribed in Alternatives 3, 3a, and 4.
- Construction of a separated pathway along the Sagebrush Drive and Spring Gulch Road segments, as prescribed in Alternative 3a only.
- Installation of signage and other elements associated with pathway construction.

### Phase 4 for Alternatives 3, 3a, and 4

- Construction of improved road shoulders or separated pathways along the Teton Park Road from North Jenny Lake Junction to Colter Bay, as prescribed in each alternative.
- Pedestrian trails, signage, and way finding improvements between key points at South Jenny Lake and Signal Mountain.
- Installation of signage and other elements associated with improved shoulders or pathways.
- Installation of information kiosks at Moose, South and North Jenny Lake, Signal Mountain, Jackson Lake Lodge, and Colter Bay.



- Enhancement of existing traveler information systems at visitor centers, on variable message signs, at lodges, and other appropriate locations.

#### **Phase 5 for Alternatives 3, 3a, and 4**

- Construction of a separated pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the LSR Preserve as prescribed in Alternatives 3 and 3a.
- Construction of a separated pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to Moose as prescribed in Alternative 4.

The NPS considered several factors in developing the proposed implementation schedule (e.g., construction schedules, remote location, and projects by other entities). For example, the Park would strive to plan Phase 3 so that it coincides with the Town and County Plan for construction of their pathway up to the southern boundary of the Park. Another consideration is federal highway project planning, which occurs in 5-year increments. The current planning cycle runs from 2005 to 2009; the subsequent cycle runs from 2010 to 2014.

The primary intent of the proposed actions in Phase 1 is to develop a TBP to inform the Park on future transit service opportunities, and construct a separated pathway along one of the most-visited sections of the Park which connects two major developed visitor use areas. This corridor is a relatively easy area to monitor the effects of pathway users on wildlife and collect visitor use and experience data on pathways use. The information collected on this pathway segment would be used to inform planning and design of future pathway construction in more resource-sensitive, conflict-prone, and challenging design areas of the Park. Phase 2 focuses on connecting the Phase 1 pathway system to String Lake (Alternative 3a), another popular visitor use area with parking opportunities, or to the North Jenny Lake Junction (Alternatives 3 and 4). It also includes the realignment and restoration of approximately two miles of the northern section of the Moose-Wilson Road connecting the Moose Discovery and Visitor Center and the LSR Preserve. This realignment would support additional vehicular and non-motorized traffic anticipated between these two new destinations and restore a sensitive wetlands area. Phase 3 focuses on connecting the Park's new pathway system with pathways proposed by the Town and County. Phases 4 and 5 focus on extending the existing pathway system in the Park and addressing circulation in the Park's developed areas.

The implementation phases generally indicate the sequence in which actions would occur. It should be noted, however, that some actions that are shown within a particular phase could actually occur earlier or later. This is due to the fact that funding for the various actions would likely be provided through a number of different sources and may be available earlier or later than anticipated. However, actions that are dependent upon data collected in earlier phases would not generally be taken out of sequence unless there was a high degree of confidence that any resource impacts would be within acceptable levels.

### **Mitigation Measures Common to All Action Alternatives**

To ensure implementation of the action alternatives protects natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions that result from this Final Plan/EIS, assuming that the individual measures are appropriate for specific types of action. The NPS has prepared appropriate environmental analysis and documentation, as required by NEPA, ESA, NHPA, and other relevant legislation for the proposed actions. Specific mitigation measures that are relevant and appropriate for each element of the project would be identified during the planning phase. As part of the environmental review, the NPS would avoid, minimize, and mitigate adverse impacts whenever practicable.

The NPS would employ a comprehensive monitoring program as part of implementation of any alternative involving pathways. This program would include collection of information on pathway users (i.e., number, type, etc.) and impacts of use, as well as impacts of pathways on wildlife, vegetation, etc. Information obtained from the monitoring program would inform planning and design of future phases. The Park would request additional funding to address additional staff responsibilities resulting from implementation of the Final Plan/EIS.

### **Management Considerations**

Adaptive management principles, balanced with consideration for visitor access and safety and resource impacts, would guide the development of strategies and regulations for management and operation of the actions proposed in this Final Plan/EIS. Development of specific features and characteristics would take place during the design phase of the project. Appropriate safety signs would comply with the Manual on Uniform Traffic Control Devices (MUTCD) and the AASHTO Guide for the Development of Bicycle Facilities.

Subject to weather conditions, improved road shoulders and multi-use pathways would be swept in the spring. If it is determined that sweeping is required more than once per year, it would take place based on availability of park service personnel and funding. Pathways would not be groomed in winter.

Pathways would be closed from dusk to dawn for all sections of the pathway system for public safety and to protect park resources. Pathway use during non-daylight hours poses a safety risk to visitors by increasing the probability of wildlife encounters in an area away from the roadway with limited visibility. The Park would retain flexibility to implement pathway closures as needed, such as wintering wildlife and high bear use areas, but would strive to place pathways such that impacts to wildlife and dangerous wildlife-human encounters would be minimized.

Park regulations currently require dogs, cats, and other pets to be leashed, crated, or otherwise under physical restraint, and allow them only on roads and roadways open to vehicle traffic, launch ramps, or parking areas open to public use. Pets are prohibited in the backcountry and on trails. Because some pathway sections may traverse sensitive wildlife areas, regulations would prohibit pets on pathways. However, guide dogs, used for the sole purpose of aiding a disabled person, would be allowed.

Per 36 CFR 4 §4.10(a), motor vehicles would not be allowed on the pathway system. The compendium, which contains local park rules, states that the Park and parkway are closed to roller skis, rollerblades, skateboards, roller skates, scooters, coasting apparatus, etc. (except in areas such as residential areas and campgrounds), and would be modified to clarify that these devices would also be permitted on the multi-use pathway system as long as they are not motorized. Electric and battery-operated vehicles for the sole purpose of aiding persons with disabilities would be permitted.

The Moose-Wilson Road is currently open to small personal vehicles (automobiles, pickup trucks, motorcycles, etc.). Commercial trucks, RVs, vehicles with trailers (except for horse trailers) and large tour buses are prohibited. The NPS would continue to prohibit trailers and large RVs on Moose-Wilson Road and does not plan to groom cross-country ski trails between Moose and Teton Village. Seasonal winter road closure would continue.

The NPS would ensure compliance with the intent of the Architectural Barriers Act and the Rehabilitation Act and Section 507 of the Americans with Disabilities Act (ADA) for any improvements or construction proposed

in this Final Plan/EIS. The NPS intends to make every reasonable effort to ensure that any new construction or improvements are accessible to and usable by all people, including those with disabilities. All parking areas would be equipped with ADA parking spaces with easy access to other pedestrian facilities.

## **Best Management Practices During Construction**

Appropriate BMPs would be implemented (as appropriate) before, during, and/or after construction of proposed improvements to provide long-term protection of park resources. BMPs specific to the design cannot be proposed until the full design is complete and specifics of the proposed construction are known. A partial list of BMPs is included in Appendix A.

## **Data Collection and Monitoring Plan**

The Park is currently working on a data collection and monitoring plan (anticipated to be complete in early 2007) to address management strategies proposed along the Moose-Wilson Road and the effects on wildlife, visitor use and experience, and park operations for the first phase of pathways proposed for construction within the Park. The results of this data collection and monitoring will help park managers understand the effects of the new pathway system based on actual use and facilitate planning and design of additional pathway segments or different management strategies for the Moose-Wilson Road in the future.

Post-pathway construction monitoring would collect data on pathway distributions, volume, user types, behaviors, satisfaction, and conflicts to determine the pathways' effects on visitor use and experience. Visitor surveys would be conducted to assess opinions on improved safety, level of enjoyment and accessibility.

## **Pathways Visitor Use and Experience Monitoring**

Following completion of the first phase of pathway construction, the NPS would monitor the types and levels of visitor use occurring on the pathways. The information on the number of users, patterns of use, and different types of users (i.e., bicyclists, pedestrians, etc.) would be used to complement the wildlife monitoring and data collection program, and to inform future planning and design of later phases of the pathway system. In addition, the NPS may also conduct surveys of pathway users, either in conjunction with other surveys of park visitors



in general, or as a stand-alone project. Surveys would provide additional information on user demographics, visitor satisfaction levels, and other information useful in managing the pathway system.

### **Moose-Wilson Road Data Collection and Monitoring**

Because of the unique nature of the Moose-Wilson Road and the limited options for developing new pathways on this narrow and NRHP-eligible road, baseline data was collected in the summer of 2006 in order to provide a basis for comparison of effects for future management actions affecting this busy road corridor. After collection of baseline data, other data collection and monitoring activities will ensue based on the selected management strategy for the road. Baseline data collected on the Moose-Wilson Road in 2006 includes:

- Vehicle traffic volume, speed, and direction.
- Bicycle traffic volume and direction on peak and off-peak times.
- Visitor surveys to determine destination, satisfaction and purpose for visiting the Moose-Wilson Road.
- Travel mode usage observations.
- Directional traffic observations.
- Incident data analysis to assess historical conflicts and safety concerns.

### **Wildlife Monitoring and Research**

In order to understand more precisely wildlife associated pathway impacts, the Park would implement a research and monitoring program designed to evaluate a variety of pathway effects, beginning with the Phase 1 construction. Phase 1 includes the construction of approximately 7.7 miles [12.3 km] of multi-use pathway between Dornan's and South Jenny Lake Junction. The NPS anticipates that this segment would be one of the easier sections on which to site pathways close to the existing road and would connect two popular park destinations – Moose and South Jenny Lake; as a result, it may be the most popular segment of all the pathways proposed within the Park for visitors.

Participants at a June 2006 workshop, composed of biologists from the NPS and academic and private research and transportation planning organizations, drafted several potential topics and initial strategies for a research and monitoring program. Each included the possibility of measuring attributes before, during, and after pathway construction. Topical areas included assessing average distance of selected species of wildlife from the

road/pathway corridor, behavior of wildlife in view of the corridor, movements and spatial distribution (including corridor crossings) of selected species using road/pathway corridors, and potentially measurements of productivity at graduated distances from the corridor. Other potential topics may be added as the program is further developed; implementation of these topics would be dependent on available funding.

The program's primary objective would be to quantify the effects of pathway construction and use, and employ this information during future design and development of additional phases of construction, pathway placement, and necessary mitigation. The initial phase of monitoring and research proposed for the constructed Phase 1 pathway would range from \$500,000 to \$900,000 for the first 3 years. Wildlife monitoring would occur within the Park along the Moose-Wilson Road, from the south boundary to Moose, and from Moose to North Jenny Lake Junction. Additional monitoring needs would depend on the results of the initial monitoring and the subsequent decisions based on this monitoring and could cost up to \$100,000 per year for the next 3 to 5-year period.

As pathway routes are designed, it may become apparent that additional mitigation is needed to compensate for wetland and/or habitat loss for park plants and animals. Such mitigation may be in the form of restoration or modification of access in other high quality habitats such as riparian zones, ungulate calving areas, and areas increasingly frequented by bears. Management options would range from seasonal use restrictions to pathway closures and may include site rehabilitation to restore native vegetation. As outlined in the Grizzly Bear Conservation Strategy approved in 2005, the Park intends to meet "no net habitat loss" objectives within the grizzly bear Primary Conservation Area and as needed in other areas where prevention of human-wildlife conflicts is a primary concern.

### **The Environmentally Preferred Alternative**

NEPA requires the NPS to identify the "Environmentally Preferred Alternative" in the planning process. The environmentally preferred alternative is determined by applying the six goals listed in NEPA (Section 101(b)), and shown below (NEPA, 42 U.S.C. § 4321-4347):

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

2. Assure safe, healthful, productive, and aesthetically and culturally pleasing surroundings for all Americans.
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain (wherever possible) an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use, which will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Identifying the environmentally preferred alternative comprised a qualitative assessment of how well each alternative would meet each specific goal. All of the alternatives would essentially meet Goal 1 (as listed above) and fulfill the responsibilities of each generation as trustee of the environment for succeeding generations. All alternatives would provide for a TBP that could result in implementation of a transit program under Alternatives 2, 3, 3a, and 4 that would reduce emissions and dependency on cars and fossil fuels as the program is expanded and used, thereby preserving more resources for future generations. In addition, all alternatives include testing of adaptive management strategies on the Moose-Wilson Road to preserve the character of that road for future generations. Alternatives 3, 3a, and 4 would provide for multi-use pathways and/or road shoulder improvements, which would help limit off-road impacts to resources and promote use of non-motorized vehicles. Alternative 2 would also accomplish some of this through road shoulder improvements, although no pathways would be constructed.

All alternatives would also essentially meet Goal 2, but the additional safety provided by the multi-use pathways in Alternatives 3, 3a, and 4 would meet the goal more than the actions proposed in the other alternatives. Under Alternative 1, the potential for conflicts between vehicles and bicyclists sharing high volume park roadways would continue. In addition, opportunities for a wider range of "productive" uses of the Park and visitor enjoyment of park resources would not be achieved under this alternative. Alternative 2 would provide a small measure of

safety for bicyclists by adding wider shoulders to a heavily traveled corridor within the Park to allow for a striped bicycle lane. In other areas, real or perceived safety risks for bicyclists would remain. Alternative 3 would provide multi-use pathways outside the road corridor and improved shoulders and Alternatives 3a and 4 would provide multi-use pathways within and outside the road corridor in heavily traveled areas or areas where public safety issues for bicyclists are a concern. The pathways and shoulder improvements would begin to promote a wider range of "productive" uses of the Park.

Regarding Goal 3, Alternative 1 would not attain the widest range of beneficial uses of the environment. Alternative 1 does not provide for any multi-use pathways or improved shoulder areas; therefore, both real and perceived safety hazards would continue to discourage bicycling within the Park. Alternative 2 would provide some additional opportunities because the traveler information and improved shoulders would provide minor enhancements to the range of visitor experiences within the Park, but these would be limited in geographic scope. Alternative 3 would attain "... the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences" compared to the other alternatives. The traveler information, pathways, and improved shoulders system would provide enhancements to the range of visitor experiences within the Park but not at the same spatial scope as Alternatives 3a and 4. Alternatives 3a and 4 would attain a wide range of beneficial uses of the environment because they provide the largest amount of multi-use pathways; however, it would also involve the greatest number of acres of new permanent disturbance of all the alternatives and the greatest change in the natural character of the Moose-Wilson Road corridor.

Alternative 3 would best meet Goal 4 due to its enhancement of individual choice while preserving important natural aspects of the Park. Alternative 3 would provide diversity and variety of individual choice with its provision of multi-use pathways and improved shoulders and enhanced communication regarding the variety of recreational options in the Park. Alternatives 3a and 4 would also enhance individual choice but would cause more disturbances to natural and visual aspects of the Park due to the increase in construction, paving, and vegetation clearing along the Moose-Wilson Road corridor and the multi-use pathways north of Jenny Lake. Construction of pathways along these environmentally sensitive corridors under Alternatives 3a and 4 poses a



risk to vegetation and wildlife and may deter from the current experience. Alternative 1 would preserve important aspects of our national heritage, but the diversity and variety of recreation and transportation choices would remain unchanged for both visitors and employees and heavily dependent on use of a private vehicle pending the results of the TBP, which may provide future transit options under the other alternatives. Alternative 2 would generally “...maintain, wherever possible, an environment which supports diversity and variety of individual choice.” Visitors seeking to drive, bicycle, or hike within the Park would find opportunities to do so. Road restrictions would be applied only to Signal Mountain (time-limited closures for recreational purposes). These restrictions would inconvenience a small number of people for limited times during the peak summer season.

All alternatives would meet Goal 5 to a large degree. However, Alternative 1 would not balance population and resource use as well, since areas that are presently heavily used may be expected to become more so as visitation increases. Alternative 2 would provide information to allow visitors to make informed decisions about what they see and do in the Park so that they can become “self-managing,” dispersing to less crowded areas. To the extent that this premise is accurate, such a balance between visitation and resource use may result. Alternatives 3, 3a, and 4 would also supply this benefit and would further balance population and resource use by their promotion of multiple means of touring the Park.

Regarding Goal 6, all alternatives would potentially enhance the quality of renewable resources through the findings of the TBP, which could result in pilot transit within the Park under Alternatives 2, 3, 3a, and 4. Under Alternative 1, transportation within the Park would still be oriented toward the private vehicle rather than a mix of modes, including bicycles. Alternative 2 would better attain this goal, but transportation within the Park would still be oriented toward the private vehicle. Alternatives 3, 3a, and 4 would help to enhance the quality of renewable resources by providing greater opportunities for using mixed travel modes.

The NPS has identified Alternative 3 as the “Environmentally Preferred Alternative.” Aspects of this determination include the fact that Alternative 3 would not include multi-use pathways from North Jenny Lake to Colter Bay. These differences make Alternative 3 more environmentally preferable than Alternatives 3a and 4 because it supports balanced use while posing fewer impacts to the environment.

Alternative 3 would minimize the anticipated adverse effects to visitor safety due to wildlife encounters, relative to Alternatives 3a and 4. Compared to Alternatives 3a and 4, it would cause fewer impacts to vegetation and habitat fragmentation because it would avoid forcing pathways into areas where construction could be technically challenging. Trying to construct pathways near roads with steep inclines and drop-offs or through wetlands with dense, large trees and large infrastructure (dams and bridges) is more difficult, costly, and adverse to the environment. In addition to vegetation removal, erosion, and habitat destruction, there is a greater long-term risk to users.

The alternatives described in the Draft Plan/EIS were formulated to explore the range of reasonable actions and strategies for which potential effects could be compared. During the alternative development process, the NPS considered alternatives that, if implemented, would meet project objectives while protecting the Park’s natural resources.

As discussed throughout this chapter, actions proposed under the alternatives comprised the following categories:

1. Roadways and Parking.
2. Transit Service and Facilities.
3. Multi-use Pathways and Improved Shoulders.
4. Developed Areas.
5. Traveler Information.

Of these elements, “Multi-use Pathways and Improved Shoulders” was the element that differentiated the alternatives the most in terms of potential impacts, and it was also the topic of greatest public concern and engagement. The greatest change in the preferred alternative is the addition of more pathways, but in a modified manner for some segments. The pathways from North Jenny Lake Junction to Colter Bay would be constructed inside the road corridor under Alternative 3a rather than as a widened shoulder under Alternative 3 (the Preferred Alternative in the Draft Plan/EIS) or outside the road corridor under Alternative 4. Multi-use pathways would be constructed inside the road corridor under Alternative 3a between the Granite Canyon Entrance Station and the LSR Preserve (3.3 miles [5.3 km]), but outside the road corridor under Alternative 3. Under Alternative 4, multi-use pathways would be built outside the road corridor for the entire segment of the Moose-Wilson Road from the Granite Canyon Entrance Station to Moose (a distance of approximately 7.1 miles [11.4 km]).



In order to address public comment on the Draft Plan/EIS, the NPS decided to undertake several additional studies. These studies focused on clarifying the technical and financial feasibility of several proposed actions, as well as the potential safety and wildlife impacts that could result from construction of new multi-use pathways and improved shoulder segments adjacent to the major roadway systems in the Park. The NPS recognizes that the Moose-Wilson Road requires a management strategy different from other road segments in the Park because of its rustic nature, wildlife habitat, wetlands, and eligibility for listing on the NRHP, and contracted with the WTI to provide professional services and consultation for adaptive management strategies for the Moose-Wilson Road, as described earlier. Elements of their consultation included a data collection and monitoring plan, refinement of desired future conditions, and development of performance measures, vehicle-traffic data collection processes, visitor use surveys, and a TBP. The Park also conducted a workshop with biologists from the NPS, academic, private research, and transportation planning organizations. The group drafted several potential topics and initial strategies for a wildlife research and monitoring program, each of which included the possibility of measuring attributes before, during, and after pathway construction.

The NPS, in consultation with FHWA, recognized that the development of multi-use pathways would be problematic in certain areas. In certain locations, pathways could pose potentially unacceptable impacts to wildlife, present unnecessary safety impacts to pathway users, and would be technically and financially infeasible to construct due to topography, vegetation, wildlife, and site conditions. These factors combine to make it very difficult to determine cost, risk to safety, or impacts to resources without first completing a 100-percent design.

In order to address these concerns (as well as public comment), the NPS decided to consider to multi-use pathways within the road corridor in areas like the Moose-Wilson Road, where one or more of these factors (i.e., topography, vegetation, wildlife, or site conditions) posed a challenge. The process of designing these segments would eventually produce a combination of pathways and/or improved shoulder sections with separation of motor vehicles and pathways within the road corridor, with the exact location subject to specific design and site analyses and a determination that there would not be unacceptable impacts. In some areas, pathways could diverge from the road corridor for small distances to accommodate grade, increase safety, or reduce resource impacts.

Small pathway spurs (i.e., Sagebrush Drive, Spring Gulch Road, and String Lake) were added to Alternative 3a to maximize the pathway system connectivity with the community in the future and make the best use of existing use areas and facilities. Under a separate environmental assessment, environmental compliance was completed in 2002 for widening (5-ft [1.5 m]) road shoulders along U.S. Highway 89/191/287 from Lizard Creek campground, north to the boundary of YNP. This action would occur as part of future road improvements regardless of the action alternative selected under this Final Plan/EIS. The Park is also retaining the option of adding improved shoulders in two other locations: (1) from Colter Bay north along U.S. Highway 89/191/287 to Lizard Creek campground, and (2) from the intersection of U.S. Highway 26/89/191 east along Gros Ventre Road to the Town of Kelly. These actions would occur as part of future planning and the NPS would need to complete additional NEPA documentation for these segments.

In the Draft Plan/EIS, the NPS also identified the environmentally preferred alternative, Alternative 3, as the preferred alternative for implementation. In this Final Plan/EIS, the NPS has identified Alternative 3a as the preferred alternative for implementation, while Alternative 3 remains the environmentally preferred alternative.

The NPS has identified Alternative 3a as the preferred alternative for implementation rather than the environmentally preferred alternative because it better fulfills the purpose and need for the Final Plan/EIS. Specifically, Alternative 3a includes a more extensive system of multi-use pathways to improve opportunities for non-motorized users to safely travel between the Park's major activity areas and connect to important destinations outside of the Park. Both alternatives provide for a phased approach to constructing the pathways, with monitoring, data collection, and additional assessment of conditions occurring with each phase. The additional information gained by these activities would be used to inform the planning and design of subsequent phases, thus providing safeguards that unacceptable impacts would not be allowed to occur.

During the transition from the Draft Plan/EIS to the Final Plan/EIS, the NPS incorporated the phasing approach and safeguards into Alternative 3a that would ensure that decisions regarding details of implementation continue to be informed by pertinent new information as the pathway system develops. By providing for a more extensive system of pathways, while building in safeguards to ensure that



any environmental impacts are acceptable, Alternative 3a best meets the objectives of taking action as described in Chapter 1, such as providing additional travel/recreational options, both motorized and non-motorized. Alternative 3a allows for the development of an extensive system of pathways while building in appropriate safeguards to ensure that no unacceptable impacts are allowed to occur, and eliminates the need to engage in an entirely new planning and environmental compliance process to construct the segments that are not included in the other alternatives.

## **Alternatives Eliminated From Analysis**

During the initial scoping phases of this planning effort, a number of individual actions were proposed for incorporation into Final Plan/EIS alternatives. Many of these actions were dismissed from subsequent consideration or inclusion as alternatives. These actions and their rationale for dismissal are listed below.

### **Roadways and Parking**

#### *Close Roadways to Vehicles with No Transit (Open to Bicyclists)*

Permanent or seasonal closure on higher volume park access roads without compensation with transit would severely limit access for those unable or unwilling to ride a bicycle and could be viewed as potentially discriminatory toward certain population subgroups (e.g., the elderly, persons with disabilities). However, road restrictions limiting transit to non-motorized vehicles only are proposed for Signal Mountain Road under Alternative 2.

#### *Close Antelope Flats Road between Mormon Row and Shadow Mountain Junction*

Safety concerns and use conflicts are not sufficient to warrant restricting vehicular traffic. Closure would deprive visitors of an experience within the Park that currently has relatively low use.

#### *Close the Teton Park Road South of South Jenny Lake*

A considerable amount of NPS employee housing is located along this section of roadway, and closure would pose a burden to employees commuting to work. Providing these employees with access passes would limit the reduction in vehicular traffic, reducing the benefits of this alternative to cyclists.

Access to the Jenny Lake Campground and Lodge make closure south of the lake impractical; the campground is designed for access by private vehicle. The area requires

frequent access for park and concessions operations and management and closure would pose a burden for these employees. Providing these employees with access passes would limit the reduction in vehicular traffic, reducing the benefits of this alternative to cyclists.

#### *Provide a Cap on the Number of Cars in the Park*

Providing a cap on the number of cars in the Park is not necessary park-wide based on the Park's anticipated traffic volume through the life of the Final Plan/EIS.

#### *Charge a Fee for Each Mode of Transportation*

Fee structure proposals are not a part of this Final Plan/EIS's scope of work.

#### *Charge Higher Fees for RVs, Cars, and Low Occupancy Cars*

Fee structure proposals are not a part of this Final Plan/EIS's scope of work.

### **Transit**

#### *Construct Monorail or Other Fixed Guideway System*

Potentially extreme visual impacts resulting from monorail or other similar systems could impair views of the Teton Range that contribute to the Park's purpose and significance. In addition, such systems offer capacities above the demand generated by park visitation. This alternative is not likely to enhance travel and/or recreational experience for visitors and employees due to the inflexibility to provide service to stations at all areas in the Park that are desired or needed. Because this alternative would be environmentally and economically excessive relative to the need for alternative transportation, it was dismissed from further analysis.

### **Multi-use Pathways and Facilities**

#### *Provide Attached Pathway Separated by Barrier (e.g., Guard Rail)*

This alternative could create access and safety issues for pathway users and motorists, and pose excessive visual impacts when used over relatively long distances. Continuous sections of barriers such as guard rails and posts would pose unacceptable impacts to wildlife movement. However, barriers may be used in short segments in certain areas where it would not significantly impact wildlife movement or pose unacceptable safety or access issues to users.

#### *Create Pathway from South Jenny Lake to River/ RKO Road Midpoint along Abandoned Two-Track*

This alternative would introduce a non-conforming use

(i.e., pathway) into the Park's backcountry. It could also introduce additional/new use into areas in which wildlife are not accustomed to off-trail/road travel.

***Create Pathway from River/RKO Road at Cow Lake to Cattleman's Bridge***

Creating this pathway would introduce a non-conforming use (i.e., pathway) into a proposed wilderness addition (Grand Teton National Park 1984).

***Create Pathway from Gros Ventre Junction to Moose via Solitude and Airport***

This pathway travels through private property outside of the Park boundary. The proximity of the pathway to the runway and the runway protection zone would pose safety and security concerns.

***Create Pathway from Jackson to Kelly via Elk Refuge Old Road***

The National Elk Refuge is not within park jurisdiction.

***Create New Pathway along Southern Portion of the Moose-Wilson Road, along the Snake River Levee***

Early in the alternative development phase of this Final Plan/EIS, the Park considered alternative alignments for a separated multi-use pathway through the southern portion of the Moose-Wilson Road corridor. One such alignment followed the Snake River levee and levee access roads along the west back of the Snake River between the Park's south boundary and the LSR Preserve fish pond access road. This alternative would have required paving and use of dirt and gravel roads currently open to pedestrian, horse, and emergency vehicle travel only, and a new connecting pathway through undisturbed vegetation between the Park's Granite Canyon Entrance Station and the Snake River levee.

This area of the Park currently supports a diverse array of coniferous forest, cottonwood, aspen, sagebrush, and riparian wetlands, which support an equally diverse and abundant wildlife resource. Elk, deer, moose, bear, coyote, pine marten, river otter, great blue herons, bald eagles, and many species of smaller mammals, raptors, owls, waterfowl, and passerine birds use this area for foraging, breeding, denning, and nesting. Grizzly bears, wolves, and Canada lynx are likely to use the area occasionally as a travel corridor as well. Because this area is currently undeveloped and receives low levels of human use, it provides an important block of contiguous, high quality, and relatively secure habitat. It has added importance to wildlife as an interface and travel corridor between the Snake River

riparian corridor and floodplain forest with adjacent upland habitats, and as a riparian travel corridor parallel to the Snake River. This side of the Snake River corridor has added importance to wildlife because the opposite side, which is outside the Park, has a large number of residential units.

An analysis of predicted impacts of this action revealed substantial levels of direct and indirect habitat loss, habitat fragmentation, and loss of habitat security. Direct habitat loss from construction of the pathway from the Granite Canyon Entrance Station to the levee emergency access road would total 1.7 acres (0.7 ha). Along the entire route, indirect habitat loss from the pathway's zone of influence for smaller, less sensitive species (75 m [246 ft] buffer) would total about 200 acres (81 ha), while indirect habitat loss in the larger 400 m (1312 ft) buffer would total about 800 acres. Additional off-trail use expected from pathway access use would increase these totals, perhaps significantly. Over the long-term, these changes would adversely impact many wildlife species, including all four ESA-listed species that occur in the Park (bald eagle, grizzly bear, Canada lynx, and gray wolf), severely fragmenting a high quality and relatively secure block of habitat in the Park.

The Organic Act, NPS Management Policies, National Parks Omnibus Management Act, ESA, Migratory Bird Protection Act, NPS Director's Orders, and other federal policy guidance provide strong and clear direction for preserving and protecting natural resources in national parks. Based on the above considerations, the level of impacts associated with this alternative was determined to be unacceptable; hence, this alternative was dropped from further consideration.

***Create New Pathway along Old Wagon Road between Jackson Lake Lodge and Colter Bay***

Similarly, early on in the planning process the use of the Old Wagon Road between Jackson Lake Lodge and Colter Bay was considered as a possible alignment for a pathway. Like the Moose-Wilson corridor, this area includes a mix of coniferous and deciduous forest and large areas of riparian wetlands. Its value as wildlife habitat is very high and grizzly bears, as well as moose, deer, elk, and cougars, increasingly use it. Although it receives a limited amount of human use through concessioner operated wagon and horseback rides, the NPS does not consider it appropriate to encourage additional use of the area, which would result in similar direct and indirect loss of habitat, habitat fragmentation, and loss of habitat security, as described for the Moose-Wilson corridor. In addition, although bear



attacks of humans on horseback are exceedingly rare, human safety issues associated with the use of bicycles in grizzly bear occupied habitat are a concern, as described in Chapter 4.

#### *Other*

Some alternatives that were developed and initially considered were also eliminated from the final alternatives evaluated in this Final Plan/EIS. These included a comprehensive system of transit, certain pathway segments, intelligent transportation systems, and other transportation-related infrastructure. As the planning effort progressed, it became apparent that these original alternatives would be operationally and financially infeasible to implement and would result in unacceptable impacts to park resources. In addition, the scope of the initial alternatives was disproportionate to the types of transportation-related issues that exist in the Park and were of a magnitude that would be inappropriate to address outside of a future long-term planning effort. While retaining some of the elements of the initial alternatives, the alternatives in this document reflect focused and achievable actions that could be accomplished over the next 5 to 10 years.

### **Comparison of Alternatives**

The following three tables provide a side-by-side summary comparison of the five alternatives. Table 3 provides a matrix that compares the alternatives element by element. Table 4 contains a cost comparison of the alternatives. Table 5 provides a summary of how well each alternative meets the objectives described in Chapter 1. Table 6 provides a comparative summary of impacts analyzed in Chapter 4.





TABLE 3 COMPARISON OF ELEMENTS PROPOSED FOR EACH ALTERNATIVE				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
<b>Roadways and Parking</b>				
Improve signage for pedestrian and wildlife safety	Improve signage for pedestrian and wildlife safety	Improve signage for pedestrian and wildlife safety	Improve signage for pedestrian and wildlife safety	Improve signage for pedestrian and wildlife safety
Construct separate entrance lanes for employees	Construct separate entrance lanes for employees	Construct separate entrance lanes for employees	Construct separate entrance lanes for employees	Construct separate entrance lanes for employees
Implementation of an AMP on the Moose-Wilson Road	Implementation of an AMP on the Moose-Wilson Road	Implementation of an AMP on the Moose-Wilson Road	Implementation of an AMP on the Moose-Wilson Road	Implementation of an AMP on the Moose-Wilson Road
Parking lot reconfiguration	Parking lot reconfiguration	Parking lot reconfiguration	Parking lot reconfiguration	Parking lot reconfiguration
—	Limit traffic on Signal Mountain Road to increase bicycle and pedestrian access	—	—	—
—	Provide enhanced information about parking, safety, etc.	Provide enhanced information about parking, safety, etc.	Provide enhanced information about parking, safety, etc.	Provide enhanced information about parking, safety, etc.
—	—	Install safety signal at Jackson Lake Dam.	Install safety signal at Jackson Lake Dam.	Install safety signal at Jackson Lake Dam.
—	—	Realignment of the Moose-Wilson Road	Realignment of the Moose-Wilson Road	Realignment of the Moose-Wilson Road
<b>Transit Services and Facilities</b>				
Development of a TBP	Development of a TBP and possible pilot transit implementation	Development of a TBP and possible pilot transit implementation	Development of a TBP and possible pilot transit implementation	Development of a TBP and possible pilot transit implementation
—	Provide additional information to visitors about existing transit services	Provide additional information to visitors about existing transit services	Provide additional information to visitors about existing transit services	Provide additional information to visitors about existing transit services
<b>Multi-use Pathways and Improved Shoulders, Bridges, Culverts and Restoration</b>				
—	Construct improved road shoulders on the Teton Park Road between Moose Junction and Signal Mountain Lodge (a distance of approximately 17.8 miles [28.6 km])	—	—	—

<div>TABLE 3</div> <div>COMPARISON OF ELEMENTS PROPOSED FOR EACH ALTERNATIVE</div>				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
—	—	Construct 10-ft wide multi-use pathways outside the road corridor from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km])	Construct 10-ft wide multi-use pathways outside the road corridor from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km])	Construct 10-ft wide multi-use pathways outside the road corridor from the south boundary to Antelope Flats Road (a distance of approximately 9.4 miles [15.0 km])
—	—	Construct 10-ft wide multi-use pathways outside the road corridor from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km])	Construct 10-ft wide multi-use pathways outside the road corridor from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km])	Construct 10-ft wide multi-use pathways outside the road corridor from Moose Junction to North Jenny Lake Junction (a distance of approximately 10.6 miles [17.0 km])
—	—	—	Construct 10-ft wide multi-use pathways outside the road corridor from North Jenny Lake Junction west to String Lake (a distance of approximately 1.5 miles [2.4 km]), and from the intersection of the Golf Course Road (Sagebrush Drive) and Gros Ventre Junction west to the Spring Gulch Road and then south to the Park boundary (a distance of approximately 1.0 miles [1.6 km])	—
—	—	Improve road shoulders between North Jenny Lake Junction and Colter Bay (a distance of approximately 15.5 miles [25.0 km])	Construct 10-ft wide multi-use pathways inside the road corridor from North Jenny Lake Junction to Colter Bay (approximately 15.5 miles [25.0 km]). This includes a section between Signal Mountain Lodge and Jackson Lake Dam where an improved road shoulder would be constructed	Construct 10-ft wide multi-use pathways outside the road corridor from North Jenny Lake to Colter Bay (approximately 15.5 miles [25.0 km]), except for a section between Signal Mountain Lodge and Jackson Lake Dam where an improved road shoulder would be constructed



TABLE 3 COMPARISON OF ELEMENTS PROPOSED FOR EACH ALTERNATIVE				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
—	—	Construct 10-ft wide multi-use pathways outside the road corridor from the Granite Canyon Entrance Station to the LSR Preserve (a distance of approximately 3.3 miles [5.3 km])	Construct 10-ft wide multi-use pathways inside the road corridor from the Granite Canyon Entrance Station to the LSR Preserve (a distance of approximately 3.3 miles [5.3 km])	Construct 10-ft wide multi-use pathways outside the road corridor from the Granite Canyon Entrance Station to Moose (a distance of approximately 7.1 miles [11.4 km])
<b>Developed Areas</b>				
—	Install kiosks, bicycle racks, trash cans, way-finding signs, and vault toilet. Kiosks would be added at South Jenny Lake, Signal Mountain, Jackson Lake Lodge, and Colter Bay	Install kiosks, bicycle racks, trash cans, way-finding signs, and vault toilet. Kiosks would be added at South Jenny Lake, Signal Mountain, Jackson Lake Lodge, and Colter Bay. Additional work to social trails and way finding	Install kiosks, bicycle racks, trash cans, way-finding signs, and vault toilet. Kiosks would be added at South Jenny Lake, Signal Mountain, Jackson Lake Lodge, and Colter Bay. Additional work to social trails and way finding	Install kiosks, bicycle racks, trash cans, way-finding signs, and vault toilet. Kiosks would be added at South Jenny Lake, Signal Mountain, Jackson Lake Lodge, and Colter Bay. Additional work to social trails and way finding
<b>Traveler Information</b>				
Install two variable messaging signs	Install six variable messaging signs, along with providing additional types of information	Install six variable messaging signs, along with providing additional types of information	Install six variable messaging signs, along with providing additional types of information	Install six variable messaging signs, along with providing additional types of information

TABLE 4 COMPARISON OF COSTS ASSOCIATED WITH EACH ALTERNATIVE					
Alternative Components	Alternative 1	Alternative 2	Alternative 3	Alternative 3a	Alternative 4
Roadways and Parking					
Improve signage for pedestrian and wildlife safety	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Construct separate entrance lanes for employees	\$140,000	\$140,000	\$140,000	\$140,000	\$140,000
Realignment and restoration of the Moose-Wilson Road	—	—	\$2,285,000	\$2,285,000	\$2,285,000
Transit Services and Facilities					
Development of a transit business plan (on-going)	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Capital costs for pilot transit within the Park	—	TBD	TBD	TBD	TBD
Capital costs for shuttle concession	—	TBD	TBD	TBD	TBD
Capital costs for infrastructure supporting transit	—	TBD	TBD	TBD	TBD
Multi-use Pathways and Improved Shoulders, Bridges, Culverts & Restoration					
Wildlife impacts monitoring for post phase 1 multi-use pathway construction *	—	—	\$700,000	\$700,000	\$700,000
Improve shoulders (4.5-ft travel lane with 6 inches for striping) to accommodate bicyclists from Moose Junction to Signal Mountain Lodge	—	\$12,235,000	—	—	—
South Boundary to North Jenny Lake Junction					
Construct 10-ft wide separate multi-use pathways from the south boundary of the Park to Moose Junction	—	—	\$6,879,000	\$6,879,000	\$6,879,000
Construct 10-ft wide separate multi-use pathways from Gros Ventre Junction west to Spring Gulch Road and then south to the Park boundary	—	—		\$634,000	
Construct 10-ft wide separate multi-use pathways from Moose Junction to Antelope Flats Road, including segment to Dorman's	—	—	\$941,000	\$941,000	\$941,000





**TABLE 4**  
**COMPARISON OF COSTS ASSOCIATED WITH EACH ALTERNATIVE**

Alternative Components	Alternative 1	Alternative 2	Alternative 3	Alternative 3a	Alternative 4
Construct 10-ft wide separate multi-use pathways from Dornan's Junction to South Jenny Lake Junction	—	—	\$5,697,000	\$5,697,000	\$5,697,000
Construct 10-ft wide separate multi-use pathways from South Jenny Lake Junction to North Jenny Lake Junction	—	—	\$1,936,000	\$1,936,000	\$1,936,000
Construct 10-ft wide separate multi-use pathways from North Jenny Lake Junction to String Lake	—	—	—	\$968,000	—
<b>North Jenny Lake Junction to Colter Bay</b>					
Improve shoulders (4.5-ft travel lane with 6 inches for striping) to accommodate bicyclists from North Jenny Lake to Colter Bay	—	—	\$10,654,000	—	—
Construct 10-ft wide separate multi-use pathways North Jenny Lake to Colter Bay	—	—	—	—	\$19,529,000
Construct 10-ft wide separate multi-use pathways within corridor North Jenny Lake to Colter Bay	—	—	—	\$19,529,000	—
Signal for safety crossing at Jackson Lake Dam/Bridge			\$56,000	\$56,000	\$56,000
<b>Moose-Wilson Road</b>					
Construct 10-ft wide separate multi-use pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the north end of unpaved section; then follow the levee access road to the new LSR Preserve	—	—	\$4,557,000	\$4,557,000	—
Construct 10-ft wide separate multi-use pathway along the Moose-Wilson Road from the Granite Canyon Entrance Station to the Teton Park Road	—	—	—	—	\$8,928,000
<b>Developed Areas</b>					
Install kiosks, bicycle racks, trash cans, way-finding signs, vault toilet(s)		\$138,000	\$252,000	\$252,000	\$252,000

TABLE 4 COMPARISON OF COSTS ASSOCIATED WITH EACH ALTERNATIVE					
Alternative Components	Alternative 1	Alternative 2	Alternative 3	Alternative 3a	Alternative 4
Traveler Information					
Install variable messaging signs (\$56,000 per sign)	\$ 112,000	\$336,000	\$ 336,000	\$336,000	\$336,000
<b>Total Capital Cost</b>	<b>\$361,000</b>	<b>\$12,958,000</b>	<b>\$34,542,000</b>	<b>\$45,019,000</b>	<b>\$47,788,000</b>
Annual Maintenance and Operations					
Annual maintenance and operations - Pathways/Shoulders**	\$0	\$63,000	\$417,000	\$558,000	\$558,000
<b>Total Annual Maintenance and Operation</b>	<b>\$0</b>	<b>\$63,000</b>	<b>\$417,000</b>	<b>\$558,000</b>	<b>\$558,000</b>
Notes: Draft EIS cost estimates were based on 2005 prices. Final EIS costs reflect 2008 prices. Add 4% inflation each year beyond 2008. *Capital cost for post construction wildlife monitoring will be \$500,000-\$900,000; an average of \$700,000 was used for purposes of this estimate. **Does not reflect future wildlife monitoring following the first 3 years of initial monitoring; on average, an estimation of \$100,000/yr is predicted.					



<b>TABLE 5</b> <b>EXTENT THAT EACH ALTERNATIVE MEETS IDENTIFIED OBJECTIVES</b>					
<b>OBJECTIVE</b>	<b>Does Alternative 1, No Action, meet objective?</b>	<b>Does Alternative 2, Improved Road Shoulders, meet objective?</b>	<b>Does Alternative 3, Improved Shoulders / Multi-Use Pathways, meet objective?</b>	<b>Does Alternative 3a, Preferred Alternative, meet objective?</b>	<b>Does Alternative 4, Multi-Use Pathways, meet objective?</b>
Provide improved opportunities for visitors to safely enjoy the Park by providing additional travel/recreational options, both motorized and non motorized.	Partially meets; 1) Includes AMP on the Moose-Wilson Road and TBP, which may present future opportunities to visitors.	Partially meets; 1) Includes AMP on the Moose-Wilson Road and TBP, which may present future opportunities to visitors. 2) Provides improved road shoulders to support bicycle use. 3) Provides for periodic non-motorized use on Signal Mountain Road. 4) Provides additional information to inform visitors of travel options.	Meets objective to a large degree; 1) Includes AMP on the Moose-Wilson Road and TBP. 2) Provides multi-use pathways and improved shoulders that support additional travel/recreational options. 3) Provides additional information to inform visitors of travel options.	Meets objective to a large degree; 1) Includes AMP on the Moose-Wilson Road and TBP. 2) Provides more multi-use pathways and improved shoulders than Alternative 3 to support additional travel/recreational options. 3) Provides additional information to inform visitors of travel options.	Meets objective to the greatest extent of any alternative. 1) Includes AMP on the Moose-Wilson Road and TBP. 2) Provides more pathways than Alternatives 3 or 3a. 3) Provides additional information to inform visitors of travel options.
Reduce and manage the level of traffic and parking congestion at key locations.	Partially meets; 1) Several of the elements common to all alternatives address this objective (e.g., parking lot reconfiguration, separate entrance lanes, additional trip planning information to reduce congestion in key areas, and two variable-messaging signs), including the AMP on the Moose-Wilson Road and TBP, which will help manage the level of traffic and parking congestion in key areas in the future.	Partially meets; 1) Several of the elements common to all alternatives described for Alternative 1 would help meet this objective. 2) Additional information would be provided to visitors on parking and existing transit services, including four additional variable messaging signs (six total).	Meets objective to a greater degree than Alternative 2; 1) The components described for Alternative 2 apply to this alternative as well and would help meet this objective. 2) Additional improvements would be made to way finding aids and social trails to help alleviate periodic congestion in popular areas. 3) Multi-use pathways and improved road shoulders would promote more non-motorized traffic, although this would not substantially reduce road congestion and parking needs.	Meets objective to a same degree as Alternative 3; 1) The components described for Alternative 3 apply to this alternative as well and would help meet this objective. 2) More miles of pathways are proposed in this alternative than in Alternative 3, although this would not substantially reduce road congestion and parking needs.	Meets objective to same degree as Alternative 3. 1) Components described for Alternative 3 apply to this alternative as well and would help meet this objective. 2) Provides more pathways than Alternatives 3 and 3a, although this would not substantially reduce road congestion and parking needs.

TABLE 5

## EXTENT THAT EACH ALTERNATIVE MEETS IDENTIFIED OBJECTIVES

OBJECTIVE	Does Alternative 1, No Action, meet objective?	Does Alternative 2, Improved Road Shoulders, meet objective?	Does Alternative 3, Improved Shoulders / Multi-Use Pathways, meet objective?	Does Alternative 3a, Preferred Alternative, meet objective?	Does Alternative 4, Multi-Use Pathways, meet objective?
Reduce and minimize adverse impacts to park resources attributable to human use.	Partially meets; 1) Some of the elements common to all alternatives address this objective, including parking lot reconfiguration and the AMP on the Moose-Wilson Road and TBP, which will help minimize impacts to park resources attributable to human use in the future.	Partially meets; 1) Specific components of the elements common to all alternatives that are described for Alternative 1 would help meet this objective. 2) Some improvements would be made to way-finding that would help reduce social trails and unnecessary vehicle trips.	Meets objective; 1) Specific components of the elements common to all alternatives that are described for Alternative 1 would help meet this objective. 2) Some improvements would be made to way-finding that would help reduce social trails and unnecessary vehicle trips. 3) Improvements in information systems may reduce resource impacts.	Partially meets objective; 1) The improvements described for Alternative 3 would help meet this objective. 2) Construction of pathways (rather than improved shoulders) from North Jenny Lake Junction to Colter Bay would create more adverse impacts to sensitive park resources.	Partially meets objective; 1) The improvements described for Alternative 3 would help meet this objective. 2) Construction of pathways along the Moose-Wilson Road and North Jenny Lake Junction to Colter Bay would create more adverse impacts to sensitive park resources.
Enhance cooperation between park and gateway communities to achieve complementary transportation goals.	Does not meet; 1) The TBP would be developed under this alternative but no action on transit would be taken; 2) There are no specific plans for additional bicycle pathways or improved shoulders to connect with those outside the Park.	Partially meets; 1) The TBP would be developed and could result in implementation of a pilot transit program in the future; 2) Limited improved shoulders would enhance the opportunity for bicyclists to continue biking in the Park, but there are no specific plans for additional bicycle pathways.	Meets objective; 1) The TBP would be developed and could result in implementation of a pilot transit program in the future; 2) Multi-use pathways and improved shoulders would enhance the opportunity for bicyclists to continue biking in the Park by providing connectivity with pathways outside the Park.	Meets objective; 1) The TBP would be developed and could result in implementation of a pilot transit program in the future; 2) Multi-use pathways inside and outside the road corridor would enhance the opportunity for bicyclists to continue biking in the Park by providing connectivity with pathways outside the Park.	Meets objective; 1) The TBP would be developed and could result in implementation of a pilot transit program in the future; 2) Multi-use pathways outside the road corridor would enhance the opportunity for bicyclists to continue biking in the Park by providing connectivity with pathways outside the Park.





<b>TABLE 6</b> <b>COMPARATIVE SUMMARY OF IMPACTS</b>				
<b>Alternative 1: No Action</b>	<b>Alternative 2: Improved Road Shoulders</b>	<b>Alternative 3: Improved Shoulders / Multi-Use Pathways</b>	<b>Alternative 3a: Preferred Alternative</b>	<b>Alternative 4: Multi-Use Pathways</b>
<b>Visual and Scenic Quality</b>				
Alternative 1 would result in long-term, localized, negligible to minor, adverse impacts on visual quality.  Cumulative impacts would generally be long-term, negligible to minor, and adverse, with short-term, moderate, adverse impacts during routine maintenance and construction.	Alternative 2 would result in long-term, localized, negligible to minor, adverse impacts on visual quality, with short-term, localized, moderate, adverse impacts during construction of improved shoulders.  Cumulative impacts would generally be long-term, negligible to minor, and adverse, with short-term, moderate, adverse impacts occurring during periods of construction.	Alternative 3 would result in long-term, localized, minor to moderate, adverse impacts on visual quality, primarily because of the introduction of multi-use pathways into the foreground views, as seen from the affected road corridors. Short-term, localized, moderate, adverse impacts would result during realignment and construction of improved shoulders and pathways.  Cumulative impacts would be long term, minor to moderate, and adverse, with short-term, moderate, adverse impacts during periods of construction.	Alternative 3a would result in long-term, localized, moderate, adverse impacts on visual quality, largely because of the introduction of multi-use pathways into the foreground views, as seen from the affected road corridors. Short-term, localized, moderate, adverse impacts would result during construction.  Cumulative impacts would be long term, minor to moderate, and adverse, with short-term, moderate adverse impacts from construction activities.	Alternative 4 would result in long-term, localized, moderate, adverse impacts on visual quality, largely because of the introduction of multi-use pathways into the foreground views, as seen from the affected road corridors. Short-term, localized, moderate, adverse impacts would result during construction.  Cumulative impacts would be long term, minor to moderate, and adverse, with short-term, moderate, adverse impacts from construction activities.
<b>Soils</b>				
Alternative 1 would result in short- and long-term, localized, negligible to minor, adverse impacts from entrance lane construction, sign installation and routine maintenance and construction and from the continued use of social trails.  Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 2 would result in short- and long-term, localized, minor, adverse impacts from entrance lane construction, sign installation, and construction of shoulders along a portion of the Teton Park Road and from continued use of social trails.  Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 3 would result in short- and long-term, localized, minor to moderate, adverse impacts to soils, as well as long-term, localized, negligible, beneficial impacts to soils, primarily because of the construction and eventual use of a multi-use pathway system and improved road shoulders, plus the improvements and delineation of social trails. Short-term, localized, minor, adverse impacts would occur at locations of construction projects.  Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative 3a would result in short- and long-term, localized, moderate, adverse impacts to soils, as well as long-term, localized, negligible, beneficial impacts to soils, primarily because of the construction and eventual use of a multi-use pathway system, plus the improvements to and delineation of social trails. Short-term, localized, minor, adverse impacts would occur at locations of construction projects.  Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative 4 would result in long-term, localized, moderate, adverse impacts to soils, as well as long-term, localized, negligible, beneficial impacts to soils, primarily because of the construction and eventual use of a multi-use pathways system, plus the improvements to and delineation of social trails. Short-term, localized, minor, adverse impacts would occur at locations of construction projects.  Cumulative impacts would be long term, minor to moderate, and adverse.

TABLE 6 COMPARATIVE SUMMARY OF IMPACTS				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
<b>Vegetation</b>				
Alternative 1 would result in long-term, localized, negligible to minor, adverse impacts from the degradation of native vegetation in and near areas with concentrated human use and areas of social trails. No (or negligible) effects to plant species of special concern are expected to result from implementation of Alternative 1. Cumulative impacts to vegetation would be long-term, minor, and adverse.	Alternative 2 would result in the permanent removal of approximately 13.3 acres (5.4 ha) of vegetation. Actions under Alternative 2 would result in long-term, localized, negligible to minor, adverse impacts to vegetation due to continued use of social trails and direct impacts from construction of shoulders along a portion of the Teton Park Road, with short- and long-term, localized, minor, adverse impacts associated with construction. No (or negligible) effects to plant species of special concern are expected to result from implementation of Alternative 2. Cumulative impacts to vegetation would be long-term, minor, and adverse.	Alternative 3 would result in the permanent removal of approximately 63.8 acres (25.8 ha) of vegetation including between 5,200 and 7,100 trees. This Alternative would result in long-term, localized, moderate, adverse impacts on vegetation and long-term, localized, negligible, beneficial impacts to vegetation. In the short-term, localized, moderate, adverse impacts would occur where construction disturbs vegetation, including the realignment of two sections of the Moose-Wilson Road. With proper and successful regeneration, the long-term, adverse impacts in construction areas would be negligible to minor. No (or negligible) effects to plant species of special concern are expected to result from implementation of Alternative 3. Cumulative impacts would be long-term, minor to moderate, and adverse.	Alternative 3a would result in the permanent removal of approximately 82.9 acres (33.5 ha) of vegetation including between 17,900 and 23,075 trees. This alternative would result in long-term, localized, moderate, adverse impacts on vegetation and long-term, localized, negligible, beneficial impacts to vegetation. In the short-term, localized, moderate, adverse impacts would occur where construction disturbs vegetation, including the realignment of two sections of the Moose-Wilson Road. With proper and successful regeneration, the long-term, adverse impacts in construction areas would be negligible to minor. No (or negligible) effects to plant species of special concern are expected to result from implementation of Alternative 4. Cumulative impacts would be long-term, minor to moderate, and adverse.	Alternative 4 would result in the permanent removal of approximately 85.1 acres (34.4 ha) of vegetation including between 29,950 and 33,775 trees. This alternative would result in long-term, localized, moderate, adverse impacts on vegetation and long-term, localized, negligible, beneficial impacts to vegetation. In the short-term, localized, moderate, adverse impacts would occur where construction disturbs vegetation, including the realignment of two sections of the Moose-Wilson Road. With proper and successful regeneration, the long-term, adverse impacts in construction areas would be negligible to minor. No (or negligible) effects to plant species of special concern are expected to result from implementation of Alternative 4. Cumulative impacts would be long-term, minor to moderate, and adverse.
<b>Hydrology and Water Quality</b>				
Alternative 1 would result in long-term, localized, negligible, adverse impacts on water quality and hydrology, resulting from continued road maintenance activities and construction of separate entrance lanes. Cumulative impacts would be long-term, negligible, and adverse.	Alternative 2 would result in long-term, localized, negligible, adverse impacts on water quality. Impacts associated with construction activities would be short-term, localized, negligible to minor, and adverse, with appropriate mitigation.	Alternative 3 would result in long-term, localized, minor, adverse impacts on water quality. Long-term, localized, minor, beneficial impacts would result from the paving and stabilization of social trails. Impacts associated	Alternative 3a would result in long-term, localized, minor, adverse impacts on water quality. Long-term, localized, minor, beneficial impacts would result from the paving and stabilization of social trails. Impacts associated	Alternative 4 would result in long-term, localized, minor to moderate, adverse impacts on water quality. Long-term, localized, minor, beneficial impacts would result from the paving and stabilization of social trails. Impacts associated with construction activities would



**TABLE 6**  
**COMPARATIVE SUMMARY OF IMPACTS**

<b>Alternative 1: No Action</b>	<b>Alternative 2: Improved Road Shoulders</b>	<b>Alternative 3: Improved Shoulders / Multi-Use Pathways</b>	<b>Alternative 3a: Preferred Alternative</b>	<b>Alternative 4: Multi-Use Pathways</b>
	Cumulative impacts would be long-term, negligible, and adverse.	with construction activities would be short term, localized, minor, and adverse, with appropriate mitigation.  Cumulative impacts would be long-term, negligible, and adverse.	with construction activities would be short term, localized, minor, and adverse, with appropriate mitigation.  Cumulative impacts would be long term, negligible, and adverse	be short term, localized, minor, and adverse, with appropriate mitigation.  Cumulative impacts would be long term, negligible, and adverse.
<b>Wetlands</b>				
Alternative 1 would result in long-term, localized, negligible, adverse impacts to wetlands in the Park, with no new or measurable net wetland losses. Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 2 would potentially result in long-term, localized, negligible to minor, adverse impacts to wetlands in the Park. Approximately 0.02 acre (0.008 ha) of wetlands would be impacted under this alternative. Cumulative impacts to wetlands would be long-term, negligible to minor, and adverse.	Alternative 3 would potentially result in long-term, localized, minor, adverse impacts on wetlands in the Park, mainly in the vicinity of Cottonwood Creek and Willow Flats, with long-term, localized, negligible, beneficial impacts due to improving social trails and long term, localized, minor to moderate, beneficial impacts from realignment of the Moose-Wilson Road. Approximately 1.40 acres (0.57 ha) of wetlands would be impacted under this alternative.  Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 3a would potentially result in long-term, localized, minor to moderate, adverse impacts on wetlands in the Park, mainly in the vicinity of Cottonwood Creek and Willow Flats, with long-term, localized, negligible, beneficial impacts due to improving social trails and long-term, localized, minor to moderate, beneficial impacts from realignment of the Moose-Wilson Road. Approximately 3.85 acres (1.56 ha) of wetlands would be impacted under this alternative.  Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 4 would potentially result in long-term, localized, minor to moderate, adverse impacts to wetlands in the Park, mainly in the vicinity of Cottonwood Creek and the area from Jackson Lake Dam to Jackson Lake Junction, with long-term, localized, negligible, beneficial impacts due to improving social trails and long-term, localized, minor to moderate, beneficial impacts from realignment of the Moose-Wilson Road. Approximately 4.26 acres (1.72 ha) of wetlands would be impacted under this alternative.  Cumulative impacts would be long-term, negligible to minor, and adverse.
<b>Threatened, Endangered, and Species of Special Concern</b>				
Alternative 1 would have long-term, localized, minor impacts to the bald eagle, Canada lynx, or yellow-billed cuckoo resulting in a formal determination of "May affect, is not likely to adversely affect." Alternative 1 would also have long-term, localized moderate impacts to grizzly bears and gray wolf, resulting in a formal determination of "likely	Alternative 2 would have long-term, localized, minor impacts to the bald eagle, Canada lynx, or yellow-billed cuckoo resulting in a formal determination of "May affect, is not likely to adversely affect." Alternative 2 would also have long-term, localized moderate impacts to grizzly bears and gray wolf, resulting in a formal determination of "likely	Alternative 3 would have long-term, localized, minor impacts to the bald eagle, Canada lynx, or yellow-billed cuckoo resulting in a formal determination of "May affect, is not likely to adversely affect." Alternative 3 would also have long-term, localized moderate impacts to grizzly bears and gray wolf, resulting in a formal determination of "likely	Alternative 3a would have long-term, localized, minor impacts to the bald eagle, Canada lynx, or yellow-billed cuckoo resulting in a formal determination of "May affect, is not likely to adversely affect." Alternative 3a would also have long-term, localized moderate impacts to grizzly bears and gray wolf, resulting in a formal determination of "likely	Alternative 4 would have long-term, localized, minor impacts to the bald eagle, Canada lynx, or yellow-billed cuckoo resulting in a formal determination of "May affect, is not likely to adversely affect." Alternative 4 would also have long-term, localized moderate impacts to grizzly bears and gray wolf, resulting in a formal determination of "likely to

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<p>"likely to adversely affect" because vehicle collisions could occur that would adversely affect one or more individuals; however, the alternative would not threaten the survival of either species. Impacts to bird species of special concern and/or neotropical migratory birds from Alternative 1 would be long-term, localized, negligible, and adverse.</p> <p>Cumulative impacts would be long term, negligible, and adverse.</p>	<p>to adversely affect" because vehicle collisions could occur that would adversely affect one or more individuals; however, the alternative would not threaten the survival of either species. Impacts to bird species of special concern and/or neotropical migratory birds from Alternative 2 would be long-term, localized, negligible to minor, and adverse.</p> <p>Cumulative impacts would be long term, negligible, and adverse.</p>	<p>to adversely affect" because vehicle collisions could occur that would adversely affect one or more individuals; however, the alternative would not threaten the survival of either species. Impacts to bird species of special concern and/or neotropical migratory birds from Alternative 3 would be long-term, localized, minor, and adverse.</p> <p>Cumulative impacts would be long term, minor, and adverse.</p>	<p>to adversely affect" because vehicle collisions could occur that would adversely affect one or more individuals; however, the alternative would not threaten the survival of either species. Impacts to bird species of special concern and/or neotropical migratory birds from Alternative 3a would be long-term, localized, minor, and adverse.</p> <p>Cumulative impacts would be long term, minor, and adverse.</p>	<p>adversely affect" because vehicle collisions could occur that would adversely affect one or more individuals; however, the alternative would not threaten the survival of either species. Impacts to bird species of special concern and/or neotropical migratory birds, from Alternative 4 would be long-term, localized, minor, and adverse.</p> <p>Cumulative impacts would be long term, minor, and adverse.</p>
General Wildlife				
<p>Alternative 1 would result in long-term, localized, negligible to minor, adverse impacts to mammals, reptiles, and amphibians from continued use of park roads and trails due to displacement from and/or avoidance of habitats adjacent to existing roads. Direct mortality levels are not expected to increase under this alternative, but it is likely that vehicles using park roads would continue to strike and kill individual mammals.</p> <p>Cumulative impacts would be long term, minor to moderate, and adverse, with Alternative 1 adding a negligible amount to overall cumulative impacts.</p>	<p>Alternative 2 would result in long-term, localized, negligible to minor, adverse impacts to mammals, reptiles, and amphibians from continued use of park roads and construction of shoulder widening. Direct mortality levels are not expected to increase under this alternative, but it is likely that vehicles using park roads would continue to strike and kill individual mammals. Effects to local species distributions and habitat use patterns are likely, but to a lesser degree than in Alternatives 3, 3a, or 4.</p> <p>Cumulative impacts would be long term, minor to moderate, and adverse, with Alternative 2 adding little to overall cumulative impacts.</p>	<p>Alternative 3 would have an intermediate level of adverse impacts on wildlife among the action alternatives considered. Although Alternative 3 is not expected to have adverse population level impacts on mammals, reptiles, and amphibians, there would be long-term, localized, negligible to minor, adverse effects. Direct mortality levels are not expected to increase under this alternative; however, it is likely that vehicles using park roads would continue to strike and kill individual mammals. Effects to local species distributions and habitat use patterns are likely and would be long term, localized, negligible to moderate, and adverse.</p> <p>Cumulative impacts to general wildlife under this alternative would be long term, minor to moderate, and adverse.</p>	<p>Alternative 3a would have a higher level of adverse impacts on wildlife than Alternatives 1, 2, and 3. Although direct impacts to habitat for mammals, reptiles, and amphibians would be relatively small, the increased disturbance (both spatially and in terms of recreation use levels) would further fragment habitats and erode habitat effectiveness. Direct mortality levels are not expected to increase under this alternative; however, it is likely that vehicles using park roads would continue to strike and kill individual mammals. Effects to local species distributions and habitat use patterns are likely and would be long term, localized, negligible to moderate, and adverse.</p> <p>Cumulative impacts to wildlife under this alternative would be long term, minor to moderate, and adverse.</p>	<p>Alternative 4 would have the highest level of adverse impacts on wildlife of the alternatives considered. Although direct habitat impacts on mammals, reptiles, and amphibians would be relatively small, the increased disturbance (both spatially and in terms of recreation use levels) would further fragment habitats and erode habitat effectiveness. Direct mortality levels are not expected to increase under this alternative; however, it is likely that vehicles using park roads would continue to strike and kill individual mammals. Effects to local species distributions and habitat use patterns are likely and would be long term, localized, negligible to moderate, and adverse.</p> <p>Cumulative impacts to wildlife under this alternative would be long term, minor to moderate, and adverse.</p>





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<b>Archeological Resources</b>				
Alternative 1 would result in potentially long-term, localized, negligible to minor, adverse impacts on known archeological sites. Because many areas have either not been surveyed or have not been surveyed in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, fieldwork, and consultation with the SHPO and Native American tribal governments will be needed to determine whether sites are eligible for listing in the NRHP. Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 2 would result in potentially long-term, localized, negligible to minor, adverse impacts on known archeological sites. Because many areas have either not been surveyed or have not been surveyed in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, fieldwork, and consultation with the SHPO and Native American tribal governments will be needed to determine whether sites are eligible for listing in the NRHP. Cumulative impacts would be long-term, negligible to minor, and adverse.	Alternative 3 would result in potentially long-term, localized, negligible to minor, adverse impacts on known archeological sites. Because many areas where resources are known to exist have either not been surveyed or have not been surveyed in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, fieldwork and consultation with the SHPO and Native American tribal governments would be needed to determine whether these sites are eligible for listing in the NRHP. Cumulative impacts would be long term, negligible to minor, and adverse.	Alternative 3a would result in potentially long-term, localized, negligible to minor, adverse impacts on known archeological sites. Because many areas where resources are known to exist have either not been surveyed or have not been surveyed in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, fieldwork and consultation with the SHPO and Native American tribal governments would be needed to determine whether these sites are eligible for listing in the NRHP. Cumulative impacts would be long term, negligible to minor, and adverse.	Alternative 4 would result in potentially long-term, localized, negligible to minor, adverse impacts on known archeological sites. Because many areas where resources are known to exist have either not been surveyed or have not been surveyed in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, additional research, fieldwork and consultation with the SHPO and Native American tribal governments would be needed to determine whether these sites are eligible for listing in the NRHP. Cumulative impacts would be long term, negligible to minor, and adverse.
<b>Transportation System and Traffic</b>				
Alternative 1 would result in long-term, localized, negligible to minor, adverse impacts on roadways within the Park. On the Moose-Wilson Road, impacts would be long-term, localized, minor to moderate, and beneficial. Long-term, localized, minor, adverse impacts would be expected at parking areas throughout the Park. Cumulative impacts would be long term, minor, and adverse.	Alternative 2 would result in long-term, localized, negligible to minor, adverse impacts on roadways within the Park, with short-term, localized, negligible to minor, adverse impacts resulting from construction of improved shoulders on the Teton Park Road. Improvements in the dissemination of information to Park visitors would result in long-term, localized, minor, beneficial impacts. Long-term, regional, minor, beneficial impacts would	Alternative 3 would result in both beneficial and adverse impacts to the transportation system and traffic. If implemented, the transit system would have, long-term, regional, negligible to minor, and beneficial impacts on park roadways and management strategies employed on the Moose-Wilson Road would result in long-term, localized, moderate, beneficial impacts. Long-term, localized, minor,	Alternative 3a would result in both beneficial and adverse impacts to the transportation system and traffic. If implemented, the transit system would have long-term, regional, negligible to minor, and beneficial impacts on traffic and park roadways and the management strategies employed on the Moose-Wilson Road would result in long-term, localized, moderate, beneficial impacts. Long-term, localized, minor, adverse impacts would	Alternative 4 would result in both beneficial and adverse impacts to the transportation system and traffic. If implemented, the transit system would have long-term, regional, negligible to minor, and beneficial impacts on traffic and park roadways and the management strategies employed on the Moose-Wilson Road would result in long-term, localized, moderate, beneficial impacts. Long-term, localized, minor, adverse impacts would continue to affect some parking areas and

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Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
	also be expected from the connection to trails outside of the Park provided by improved shoulders, and the potential for implementation of transit.  Cumulative impacts would be long term, minor, and both beneficial and adverse.	adverse impacts would continue to affect some parking areas and selected parking areas would experience long-term, localized, minor to moderate, adverse impacts. Short-term, localized, negligible to minor, adverse impacts would result from construction activities.  Cumulative impacts are expected to be long term, minor, and beneficial.	continue to affect some parking areas and selected parking areas would experience long-term, localized, minor to moderate, adverse impacts. Short-term, localized, negligible to minor, adverse impacts would result from construction activities.  Cumulative impacts are expected to be long term, minor, and beneficial.	selected parking areas would experience long-term, localized, minor to moderate, adverse impacts. Short-term, localized, negligible to minor, adverse impacts would result from construction activities.  Cumulative impacts are expected to be long term, minor, and beneficial.
Visitor and Employee Use and Experience				
Alternative 1 would result in short- and long-term, localized and regional, minor to moderate, beneficial and adverse impacts on visitor and employee use and experience.  Cumulative impacts would include long-term, negligible to minor, adverse cumulative impacts to employee commuting time; long-term, negligible, beneficial cumulative impacts on employee mobility choices; and long term, moderate, beneficial cumulative impacts on visitor use and experience.	Alternative 2 would result in long-term, localized and regional, minor to moderate, beneficial impacts, and short-term, localized, negligible to moderate, adverse impacts on visitor and employee use and experience.  Cumulative impacts would include long-term, negligible to minor, adverse cumulative impacts to employee commuting time; long-term, negligible, beneficial cumulative impacts on employee mobility choices; and long term, moderate, beneficial cumulative impacts on visitor use and experience.	Alternative 3 would result in long-term, localized and regional, minor to major, beneficial impacts associated with the additional pathways and transit, and short- and long-term, localized, negligible to moderate, adverse impacts on visitor and employee use and experience.  Cumulative impacts would include long-term, negligible to minor, adverse impacts to employee commuting time; long-term, negligible, beneficial impacts on employee mobility choices; and long-term, moderate, beneficial impacts on visitor use and experience.	Alternative 3a would result in long-term, localized and regional, minor to major, beneficial impacts associated with the additional pathways and transit, and short- and long-term, localized, minor to moderate, adverse impacts on visitor and employee use and experience.  Cumulative impacts would include long-term, negligible to minor, adverse impacts to employee commuting time; long-term, negligible, beneficial impacts on employee mobility choices; and long-term, moderate, beneficial impacts on visitor use and experience.	Alternative 4 would result in long-term, localized and regional, minor to major, beneficial impacts associated with the additional pathways and transit, and short- and long-term, localized, minor to moderate, adverse impacts on visitor and employee use and experience.  Cumulative impacts would include long-term, negligible to minor, adverse impacts to employee commuting time; long-term, negligible, beneficial impacts on employee mobility choices; and long-term, moderate, beneficial impacts on visitor use and experience.
Social and Economic Environment				
Alternative 1 would have a total capital cost of \$361,000 and would result in long-term, regional, negligible, beneficial impacts.	Alternative 2 would have a total capital cost of \$12,958,000 and would result in short- and long-term, regional, negligible to minor, beneficial impacts.	Alternative 3 would have a capital cost of \$34,542,000 and would result in short- and long-term, regional, minor, beneficial impacts.	Alternative 3a would have a capital cost of \$45,019,000 and would result in short- and long-term, regional, minor, beneficial and adverse impacts.	Alternative 4 would have a capital cost of \$47,788,000 and would result in short- and long-term, regional, minor, beneficial and adverse impacts.



TABLE 6 COMPARATIVE SUMMARY OF IMPACTS				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
Cumulative impacts would be long-term, major, and both beneficial and adverse, with the increment associated with this alternative considered negligible.	Cumulative impacts would be long-term, major, and both beneficial and adverse, with the increment associated with this alternative considered negligible.	Cumulative impacts would be long term, major, and both beneficial and adverse, with the increment associated with this alternative considered negligible.	Cumulative impacts would be long term, major, and both beneficial and adverse, with the increment associated with this alternative considered negligible.	Cumulative impacts would be long term, major, and both beneficial and adverse, with the increment associated with this alternative considered negligible.
<b>Local Communities</b>				
Alternative 1 would result in a long-term, regional, negligible to minor, beneficial impact on collaboration between the Park and its gateway communities. Collaboration would continue at a modest and project specific level.  Cumulative impacts on local communities would be long term, negligible to minor, and beneficial.	Alternative 2 would result in long-term, regional, negligible to minor, beneficial impacts on inter-jurisdictional collaboration if a transit system is implemented and short- and long-term, regional, negligible, adverse and beneficial impacts as a result of roadway management on the Signal Mountain and Moose-Wilson Roads.  Cumulative impacts would be long term, negligible to minor, and adverse and beneficial.	Alternative 3 would result in long-term, regional, moderate, beneficial impacts on inter-jurisdictional collaboration if a transit system is implemented, and long-term, regional, minor to moderate, beneficial impacts as a result of the pathway system.  Cumulative impacts would be long-term, minor to moderate, and beneficial.	Alternative 3a would result in long-term, regional, moderate, beneficial impacts on inter-jurisdictional collaboration if a transit system is implemented, and long-term, regional, minor to moderate, beneficial impacts as a result of the pathway system.  Cumulative impacts would be long-term, minor to moderate, and beneficial.	Alternative 4 would result in long-term, regional, moderate, beneficial, impacts on inter-jurisdictional collaboration if a transit system is implemented, and long-term, regional, minor to moderate, beneficial impacts as a result of the pathway system.  Cumulative impacts would be long-term, minor to moderate, and beneficial.
<b>Park Operations</b>				
Alternative 1 would result in long-term, localized, negligible to minor, adverse impacts on park operations, if staffing levels do not keep pace with workloads in the future.  Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative 2 would result in long term, localized, minor, adverse impacts on park operations, if staffing levels do not keep pace with workloads in the future.  Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative 3 would result in long-term, localized, moderate, adverse impacts on park operations due to the increased workload necessary to implement and manage new programs such as multi-use pathways, a transit system (if implemented), and management strategies for the Moose-Wilson Road. Short-term impacts on park operations would also be localized, moderate, and adverse due to the workload involved in planning, design, and construction.	Alternative 3a would result in long-term, localized, moderate, adverse impacts on park operations due to the increased workload necessary to implement and manage new programs such as multi-use pathways, a transit system (if implemented), and management strategies for the Moose-Wilson Road. Short-term impacts on park operations would also be localized, moderate, and adverse due to the workload involved in planning, design, and construction.	Alternative 4 would result in long-term, localized, moderate, adverse impacts on park operations due to the increased workload necessary to implement and manage new programs such as multi-use pathways, a transit system (if implemented), and management strategies for the Moose-Wilson Road. Short-term impacts on park operations would also be localized, moderate, and adverse due to the workload involved in planning, design, and construction.

TABLE 6 COMPARATIVE SUMMARY OF IMPACTS				
Alternative 1: No Action	Alternative 2: Improved Road Shoulders	Alternative 3: Improved Shoulders / Multi-Use Pathways	Alternative 3a: Preferred Alternative	Alternative 4: Multi-Use Pathways
		Cumulative impacts would be long term, moderate, and adverse	Cumulative impacts would be long term, moderate to major, and adverse.	Cumulative impacts would be long term, moderate to major, and adverse.



