

**National Park Service
U.S. Department of the Interior**



**Zion National Park
Utah**

**KOLOB TERRACE ROAD REHABILITATION
FINDING OF NO SIGNIFICANT IMPACT**

Zion National Park (Zion or park) proposes to rehabilitate, restore, and resurface about 9.8 miles of Kolob Terrace Road (road). Rehabilitation is needed because of the deteriorating condition of the road and safety concerns. The proposed rehabilitation will improve the efficiency of park operations by correcting structural deficiencies, selective widening of narrow sections, and reducing maintenance requirements. Road rehabilitation will improve public and visitor enjoyment and safety when traveling the road, while protecting park scenic, natural, and cultural resources.

This finding of no significant impact (FONSI) and the environmental assessment (EA) constitute the record of the environmental impact analysis and decision-making process for the rehabilitation of Kolob Terrace Road. The National Park Service (NPS) will implement the preferred alternative, which includes the site-specific repairs needed to address the identified deficiencies and the associated improvements to rehabilitate the road. The preferred alternative includes measures for protection of park resources, safety improvements, and a sustainable road for visitor travel; and provides long-term conditions necessary to sustain scenic, natural, and cultural resources. Road rehabilitation will improve traffic safety, facilitate maintenance, and provide a pleasant driving experience. Incorporated into the project design are measures for protection of park natural and cultural resources. The preferred alternative was selected after careful review of resource and visitor impacts and public comment.

This document records (1) a FONSI as required by the National Environmental Policy Act of 1969 (NEPA) and (2) a determination of no impairment as required by the NPS Organic Act of 1916 (see Appendix).

SELECTION OF THE PREFERRED ALTERNATIVE

Two alternatives were evaluated in the EA including a no action alternative and one action alternative to rehabilitate Kolob Terrace Road. Under the no action alternative, the road would not be rehabilitated. The preferred alternative selected by the Park Service is the rehabilitation of Kolob Terrace Road because it best meets the purpose and need for the project, as well as project objectives to: 1) improve the efficiency of park operations, 2) provide for visitor safety and enjoyment, and 3) protect park resources.

The preferred alternative includes resurfacing, restoration, rehabilitation, and associated improvements needed to address the identified deficiencies along 9.8 miles of Kolob Terrace Road. Road improvements include increasing the road width to a consistent 22-foot pavement width with no grade change for the south section of the road. Because of the narrow road bench from the base of Maloney Hill through the Black Canyon to the northern end of the project area, the park will maintain a 20-foot pavement width for this section. In addition, a number of site-specific repairs are proposed to address subgrade failure, drainage improvements, poor sight distance, and closure or improvement of several informal pullouts. Curve widening and other improvements are proposed for the Smith Mesa overlook, Maloney Hill switchback, and Wildcat Canyon trailhead switchback.

RESOURCE PROTECTION MEASURES

To prevent and minimize potential adverse impacts associated with the preferred alternative, best management practices (BMPs) and resource protection measures will be implemented during construction and post-construction phases of the project (Table 1).

Table 1. Resource Protection Measures

Resource Area	Mitigation
General Considerations	<p>All resource protection measures will be clearly stated in the construction specifications and workers will be instructed to avoid conducting activities beyond the construction zone identified by the Federal Highway Administration (FHWA) and park. Disturbances will be limited to roadsides, culvert areas, and other areas inside the designated construction limits. No machinery or equipment will access areas outside the construction limits.</p> <p>Construction equipment staging will occur in the road for active work areas or at designated pullouts. Off-site equipment and vehicle parking will be limited to designated staging areas.</p> <p>Contractors will be required to properly maintain construction equipment (i.e., mufflers and brakes) to minimize noise. Construction vehicle engines will not be allowed to idle for extended periods.</p> <p>Material and equipment hauling will comply with all legal load restrictions. Load restrictions on park roads are identical to state load restrictions with such additional regulations as may be imposed by the park superintendent.</p> <p>Water sprinkling will be used as needed to reduce fugitive dust in work zones.</p> <p>All tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project work limits upon project completion.</p>
Vegetation	<p>All disturbed ground will be reclaimed using appropriate BMPs that include reseedling with native plant species. Erosion-control measures will be left in place at the completion of construction, after which time the park will be responsible for maintenance and removal once vegetation is established.</p> <p>Temporary barriers will be provided to protect existing trees, plants, and root zones. Trees or other plants will not be removed, injured, or destroyed without prior approval.</p> <p>To prevent the introduction of, and minimize the spread of, nonnative vegetation and noxious weeds, the following measures will be implemented during construction:</p> <ul style="list-style-type: none"> • Soil disturbance will be minimized. • All construction equipment will be pressure washed and/or steam cleaned before entering the park to ensure that all equipment, machinery, rocks, gravel, and other materials are cleaned and weed free. • All haul trucks bringing fill materials from outside the park will be covered to prevent seed transport. • Vehicle and equipment parking will be limited to within construction limits or approved staging areas. • Staging areas outside the park will be surveyed for noxious weeds and treated appropriately prior to use. • All fill, rock, and additional topsoil will be obtained from stockpiles from previous projects or excess material from this project, if possible; and if not possible, then weed-free fill, rock, or additional topsoil will be obtained from sources outside the park. NPS personnel will certify that the source is weed free. • Monitoring and follow-up treatment of exotic vegetation will occur after project activities are completed.

Resource Area	Mitigation
Water Quality and Soils	<p>Erosion-control BMPs for drainage and sediment control, as identified and used by the FHWA and Park Service, will be implemented to prevent or reduce nonpoint source pollution and minimize soil loss and sedimentation in drainage areas. These practices may include, but are not limited to, silt fencing, filter fabric, temporary sediment ponds, check dams of pea gravel-filled burlap bags or other material, and/or immediate mulching of exposed areas to minimize sedimentation and turbidity impacts as a result of construction activities. The placement and specific measures used will be dictated to a large degree by the steep topography immediately adjacent to the road in some portions of the project. Silt fencing fabric will be inspected daily during project work and weekly after project completion, until removed. Accumulated sediments will be removed when the fabric is estimated to be approximately 75% full. Silt removal will be accomplished in such a way as to avoid introduction into any flowing water bodies.</p> <p>Regular site inspections will be conducted to ensure that erosion-control measures are properly installed and functioning effectively. Erosion-control measures will be left in place at the completion of construction, after which time the park will be responsible for maintenance and removal once vegetation is established.</p> <p>The operation of ground-disturbing equipment will be temporarily suspended during large precipitation events to reduce the production of sediment that may be transported to streams.</p> <p>A stormwater pollution prevention plan will be developed and approved by the park and submitted to the Utah Division of Water Quality prior to commencing any near-water activities.</p> <p>All equipment will be maintained in a clean and well-functioning state to avoid or minimize contamination from fluids and fuels. Prior to starting work each day, all machinery will be inspected for leaks (e.g., fuel, oil, and hydraulic fluid) and all necessary repairs will be made before the commencement of work.</p> <p>A hazardous spill plan will be required from the contractor prior to the start of construction stating what actions will be taken in the case of a spill and preventive measures to be implemented. Hazardous spill clean-up materials will be on-site at all times. This measure is designed to avoid/minimize the introduction of chemical contaminants associated with machinery (e.g., fuel, oil, and hydraulic fluid) used in project implementation.</p>
Wildlife	<p>No construction activities will occur at night or during the dawn to dusk periods to minimize impacts to wildlife that are most active during these times. The specific hours designated for roadwork will be adjusted by the park biologist seasonally for varying day lengths, but will typically be between 7 a.m. and 7 p.m.</p> <p>The construction contractor will be required to keep all garbage and food waste contained and removed daily from the work site to avoid attracting wildlife into the construction zone. Construction workers will be instructed to remove food scraps and to not feed or approach wildlife.</p>
Visitor Experience, Public Health, Safety, and Park Operations	<p>Visitors will be informed in advance of construction activities via a number of outlets including the park website, newspaper, radio, at entrance stations, variable message signs, visitor centers, kiosks, shuttle drivers, and at other nearby national parks. In addition, information on construction will be publicized in news releases, local newspapers, media outlets, postings in local businesses, visitor bureaus, chambers of commerce, and travel- and tourism-related businesses.</p> <p>Roadwork will generally be limited to Monday to Thursday to minimize impacts to visitors and local residents that travel the road on the weekends. Work could occur on Friday mornings. No construction will occur between 7 p.m. and 7 a.m. Traffic delays during construction will be kept to a minimum, but travel will be subject to alternating one-way traffic with delays up to 30 minutes between 7 a.m. and 7 p.m., and road closures for up to 3 hours between 9 a.m. and 4 p.m.</p> <p>To facilitate visitor planning, the status of roadwork and traffic delays will be posted two weeks in advance and will be updated daily.</p> <p>The Zion public information officer will coordinate with the contractor on the construction schedule and update visitors and information sources periodically on construction work to inform visitors of project status and access.</p> <p>Provisions for emergency vehicle access through construction zones will be developed.</p>

Resource Area	Mitigation
Cultural Resources	<p>Archeological resources in the vicinity of the project area will be identified and delineated for avoidance prior to project work.</p> <p>The park will continue to coordinate with the state historic preservation office (SHPO) throughout the course of the project to protect and mitigate cultural resources affected by the preferred alternative.</p> <p>Should any archeological resources be uncovered during construction, work will be halted in the area and the park archeologist, SHPO, and appropriate Native American Tribes will be contacted for further consultation.</p> <p>Park cultural resources staff will be available during construction to advise or take appropriate actions should any archeological resources be uncovered during construction. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.</p> <p>The Park Service will ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors also will be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction.</p> <p>Equipment and material staging areas will avoid known archeological resources.</p>

ALTERNATIVES CONSIDERED

A no action alternative also was evaluated in the EA. Under the no action alternative, Kolob Terrace Road would not be rehabilitated. Zion staff would continue routine road maintenance and minor repairs as it has in the past. The road pavement and structural integrity would continue to deteriorate and safety concerns would persist. The no action alternative would not correct identified structural problems or visitor safety issues associated with the width of the road and pavement conditions. No highway funds would be expended for rehabilitation; however, road maintenance costs would likely increase to address deteriorating road conditions.

The Park Service also considered, but rejected from analysis in the EA, several additional alternatives. Resurfacing the road with minor improvements to the surface of the road, such as milling and overlay or chip and seal, was considered, but this would not address the underlying structural, geotechnical, and drainage issues contributing to the deteriorating condition of the road. Maintenance costs would increase in the long term if structural and drainage deficiencies were not corrected. Resurfacing would not address the need to widen sections of the road to improve safety. Resurfacing options were eliminated because they would not meet the project purpose and need.

Widening Kolob Terrace Road North to a 22-foot pavement width through the Maloney Hill and Black Canyon areas was considered. Retaining walls, horizontal alignment shifts, and cut/fill slope adjustments would be needed to create a bench suitable for a wider road through this narrow section of road. Implementing these measures would require substantial earthwork, disturbance to environmental resources, and visual quality impacts. Additional widening beyond 22 feet was not considered elsewhere on the road because of the potential for resource impacts and changes to the character of the road. This alternative was excluded from further consideration because of the adverse impact to natural and scenic resources.

The addition of a bike lane to the road was considered, but there is insufficient space within the existing road bench to widen the road to accommodate a bike lane. Substantial earthwork, retaining walls, and adverse impacts to natural and cultural resources would be required to construct a bike lane. For these reasons, this alternative was excluded from further consideration in the EA.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

According to Council on Environmental Quality (CEQ) regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

The preferred alternative, rehabilitation of Kolob Terrace Road, is the environmentally preferable alternative for several reasons: 1) it will best preserve the natural and cultural features along the road because it implements structural improvements that will provide long-term protection of environmental and cultural resources adjacent to the road; 2) drainage improvements will reduce the potential for erosion and impacts to water quality and cultural resources; 3) it supports sustainable design concepts and energy efficiency by providing for the reuse of existing asphalt. For these reasons, the preferred alternative causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources, thereby making it the environmentally preferable alternative.

By contrast, the no action alternative is not the environmentally preferable alternative because although there would be no construction or ground-disturbing activities that would damage previously undisturbed elements of the biological and physical environment: 1) it would not protect park natural and cultural resources, as the road would continue to deteriorate without rehabilitation; 2) inadequate drainage could lead to erosion and impacts to water quality, natural resources, and cultural resources; and 3) continued high maintenance requirements would not be energy efficient.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR § 1508.27, significance is determined by examining the following criteria.

Impacts that may be both beneficial and adverse: A significant effect may exist even if the agency believes that on balance the effect will be beneficial

Implementation of the preferred alternative will result in some adverse impacts; however, the overall benefit of the project outweighs the negative effects. Visitor enjoyment and safety will benefit from measures to improve the condition of the road surface and widen narrow sections. Road upgrades will make travel by vehicles easier and safer for park visitors and private property owners located outside the park. The efficiency and cost of park operations will improve from better road conditions and reduced maintenance requirements. Construction activities will have short-term minor adverse impacts to vegetation, soils, hydrology, and water quality from ground disturbances. Ambient noise levels will be moderately impacted from elevated noise during construction from equipment and vehicles. Traffic delays and suspensions will inconvenience visitors traveling along the road during construction. Wild and scenic river outstanding scenic values for Grapevine Wash will be maintained with only negligible adverse impacts during construction. Archeological resources will be avoided with negligible effects from road rehabilitation. Resource protection measures, as listed in Table 1 above, will reduce adverse effects. A summary of resource effects is found in Table 4 of the EA.

Degree of effect on public health or safety

The proposed rehabilitation and improvements will address safety concerns associated with deteriorating road conditions. Rehabilitating areas of subgrade failure, removing existing pavement, and repaving the entire road will have a moderate beneficial effect on safety and driving conditions. Road widening in select locations, including the Black Canyon section, will improve safety by reducing the potential for traffic accidents. Road realignments and widening at Smith Mesa curve, the Maloney Hill switchback, and Wildcat Canyon switchback also will improve safety. The existing pullout at the base of Maloney Hill and the beginning of Black Canyon will be paved to facilitate a turnaround by vehicles pulling snowmobile trailers and improve safety for winter travel. Traffic-control measures will be implemented to protect visitors during construction.

Degree to which effects on the quality of the human environment are likely to be highly controversial

Zion began public scoping with a notice released on June 13, 2011 describing the preferred alternative and soliciting comments or concerns with the proposal to rehabilitate Kolob Terrace Road. Based on the input received during public scoping, there was no evidence that the effects will be highly controversial. The public also was given an opportunity to comment on the completed EA. At the conclusion of the 30-day public review and comment period, which ended on October 19, 2011, the park had received eight comments from the public and responses from two Native American Tribes and two agencies. Given the substance of these comments, there is no evidence that the effect to the quality of the human environment will be highly controversial.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks

Road rehabilitation meets project objectives through implementation of structural improvements that correct damaged and deteriorating road conditions, address public safety, provide for visitor enjoyment, and protect park natural and cultural resources. The anticipated effects on the human environment, as analyzed in the EA, are not highly uncertain or unique, nor were any unknown risks identified.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

Rehabilitation of Kolob Terrace Road will not result in significant adverse effects to the natural environment, cultural resources, or visitor experience because the project was designed to minimize resource and visitor impacts and resource protection measures were incorporated into the project to further reduce identified adverse effects. In addition, the preferred alternative will provide for the long-term protection of resources and will not set a precedent for future actions that could have significant effects.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts

The EA concluded that past, present, and future activities, when coupled with the rehabilitation of Kolob Terrace Road, will have local long-term minor adverse cumulative impacts on soils, vegetation, hydrology and water quality, and wild and scenic rivers. Cumulative impacts to visitor use and recreation

experience; public health, safety, and park operations; and socioeconomics will be long-term and beneficial. There will be a short-term moderate adverse contribution to natural soundscape cumulative impacts during construction. The contribution to archeological resource cumulative impacts from road rehabilitation will be negligible. Overall, the preferred alternative will have no significant cumulative effects.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources

After applying Advisory Council on Historic Preservation criteria of adverse effects (36 CFR Part 800.5, Assessment of Adverse Effects), the Park Service concludes that implementation of the preferred alternative will have no adverse effect on historic structures, archeological sites, cultural landscapes, ethnographic resources, or museum collections. The SHPO, in a letter dated October 24, 2011, concurred that the preferred alternative will have no adverse effect on historic properties.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat

The U.S. Fish and Wildlife Service concurred with the determination of no effect and not likely to adversely affect, depending on the threatened or endangered species as identified in their response dated September 29, 2011. The Utah Division of Wildlife Resources was contacted during scoping for information regarding state species of concern. No adverse effects to state species of concern were identified for the preferred alternative.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

As described in the EA, no adverse effects to cultural resources were identified for the preferred alternative. No prime farmlands, wetlands, or ecologically critical areas will be affected. The proposed road rehabilitation and improvements to Kolob Terrace Road South will occur within portions of the 0.25-mile boundary area for Grapevine Wash, a designated scenic river. Approximately 2 miles of the proposed road improvements will occur within the scenic river boundary. Roadwork will be limited to the existing road bench and there will be no direct impact to the river channel. Construction-related disturbances have the potential for generating erosion from ground disturbance, some of which could reach Grapevine Wash. However, use of erosion-control BMPs and the existing vegetated lands between the road and the wash will minimize the likelihood of sediment reaching the channel. The preferred alternative will have a local short-term negligible adverse effect on the outstanding remarkable values, free-flowing condition, and water quality for Grapevine Wash from the possible introduction of sediment during construction.

Whether the action threatens a violation of federal, state, or local environmental protection law

The preferred alternative does not violate any federal, state, or local environmental protection laws.

PUBLIC INVOLVEMENT AND NATIVE AMERICAN CONSULTATION

The EA was made available for public review and comment during a 30-day period ending October 19, 2011. To notify the public of this review period, a letter was mailed to stakeholders, interested parties, and newspapers. The park received 12 comments during the public review period of the EA—eight from individuals, two from agencies, and two from Native American Tribes. Comments were generally supportive of the proposed action. The Navajo Nation and the Hopi Tribe indicated the proposed project will not impact traditional cultural resources. Several public comments provided suggestions for improvements for access to snowmobile areas and one comment requested consideration for adding a bike path. Each comment was considered and reviewed by park staff. Responses to substantive comments are attached at the end of this document. The park appreciates feedback from the commenters; however, none of the comments provided additional, new, or substantive information that will change the determination of effects in the EA. The FONSI will be available on the NPS Planning, Environment and Public Comment (PEPC) website at <http://parkplanning.nps.gov/zion>.

CONCLUSION

As described above, the preferred alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the national register, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the preferred alternative will not violate any federal, state, or local environmental protection laws.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Approved:


John Wessels, Director, Intermountain Region

1/17/12
Date

Response to Environmental Assessment Comments

Kolob Terrace Road Rehabilitation Zion National Park

The following contains responses to substantive comments received on the EA.

Comment: Consider eliminating the first snow gate (closed in winter) at the bottom of Maloney Hill to the second gate location at the entrance to Black Canyon. This would require additional snowplowing up to Black Canyon, but would save snowmobilers from riding on pavement when there is little snow, which would improve safety and reduce damage to snowmobiles and the road.

Response: Washington County is responsible for snowplowing Kolob Terrace Road. The road is typically plowed to the parking area just before Black Canyon early in the winter season, but as the snowpack increases, the county ends plowing at the base of Maloney Hill. This is an operational decision by Washington County that is unrelated to road rehabilitation work.

Comment: The EA failed to address the need for a parallel bike path. The park should consider either a paved shoulder to accommodate a bike lane or a separate bike path adjacent to the road. A bike path would improve safety for bike riders, would benefit the visitor and recreation experience, natural soundscape, and is consistent with NPS Management Policies for alternative transportation.

Response: The park and the Federal Highway Administration did consider the potential for widening Kolob Terrace Road to accommodate a bike path. However, to provide sufficient width for a bike path would require extensive earthwork for cut and fill slopes, which would have substantial adverse impacts to natural and cultural resources adjacent to the road. Proposed road improvements and widening of the southern section of Kolob Terrace Road to a consistent width of 22 feet and other roadwork will improve bicycling conditions. Because much of the existing pavement on the edge of the road is unraveling, new road pavement will improve safety for bike travel. Construction of a separate bike path paralleling the road is beyond the scope and funding available for this project, for which the primary objective is to improve the condition of the deteriorating road.

Comment: An adequate turn-around for snowmobile trailers should be constructed in place of the current turn-around that accommodates a larger turning radius for vehicles pulling trailers. A parking lot or lane should be constructed to the southwest so that vehicles with trailers do not have to back all the way to the first turn around when it is time to unload.

Response: The existing pullout at the base of Maloney Hill will be paved to facilitate a turnaround by vehicles pulling trailers. The existing large pullout near the gate into Lee Valley will also be paved to provide adequate space to turn a trailer around.

Errata Sheet

Kolob Terrace Road Rehabilitation Environmental Assessment Zion National Park

This errata sheet documents changes to the text of the Kolob Terrace Road Rehabilitation Environmental Assessment (EA) made following public release of the EA in September 2011.

Environmental Assessment Text Changes

The Park made minor adjustments in the work schedule and traffic control during construction from the periods originally proposed in the EA. The days for construction work were extended to include Friday morning to facilitate a more rapid completion of road rehabilitation. In addition, the period for 3-hour construction delays was shifted slightly to better match commuter traffic patterns for residents living on Kolob Terrace. These changes were made to the Traffic Control and Scheduling section and Table 1—Resource Protection Measures of the EA as noted below. These minor changes would not appreciably change the effects of road rehabilitation as described in the EA.

Traffic Control and Scheduling

Replace the last paragraph beginning on page 26 and ending on page 27 with the following:

Roadwork would be conducted during daylight hours on Mondays through Thursdays. Work would occur on Friday mornings. No construction activity would occur at night or in the dawn and dusk periods to avoid impacts to wildlife that are most active during those times of day. Thus, construction would typically occur between 7 a.m. and 7 p.m., although times would be adjusted seasonally according to day length by the park biologist. Work would require closure of at least one lane, and at times, both lanes would need to be temporarily closed. Traffic control requirements would be dictated by the type of repairs being conducted and would vary with each of the specific work elements from milling, pulverization, subgrade replacement, drainage improvements, paving, and other actions. Single-lane alternating one-way travel with traffic delays of up to 30 minutes could occur anytime between 7 a.m. and 7 p.m. and road closures up to 3 hours could occur between 9 a.m. and 4 p.m. to facilitate construction. Flagmen, pilot cars, or signal lights would be used to control traffic through the one-lane section. For narrow sections of the road, two-lane closure would be required.

Table 1. Resource Protection Measures

Replace the second paragraph on page 29, under Visitor Experience, Public Health, Safety, and Park Operations with the following:

Roadwork would generally be limited to Monday to Thursday to minimize impacts to visitors and local residents who travel the road on the weekends. Work would occur on Friday mornings. No construction would occur between 7 p.m. and 7 a.m. Traffic delays during construction would be kept to a minimum, but travel would be subject to alternating one-way traffic with delays up to 30 minutes between 7 a.m. and 7 p.m. and road closures for up to 3 hours between 9 a.m. and 4 p.m.

Appendix – Non-Impairment Finding

The National Park Service (NPS) *Management Policies 2006* require analysis of potential effects to determine whether actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts to park resources and values.

However, the laws do give the Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the Park Service the management discretion to allow certain impacts within the park, that discretion is limited by the statutory requirement that the Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and

- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.

Impairment findings are not necessary for visitor use and experience, socioeconomic, public health and safety, environmental justice, land use, and park operations because impairment findings relate back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values. After dismissing the above topics, the topics remaining to be evaluated for impairment include water resources and floodplains.

Soils

Road rehabilitation activities such as excavating, road widening, grading, paving, and drainage work will occur primarily within areas of existing disturbance, although about 5.5 acres of soil disturbance will occur outside of existing road pavement. This will include 2.3 acres of new pavement for road widening and paving four pullouts and 3.2 acres that will be temporarily disturbed and reclaimed following construction. Soil material exposed during construction will be subject to erosion until stabilized or revegetated. Impacts to soils during construction will be local, short-term, minor, and adverse. The proposed drainage improvements and correction of deteriorating road pavement will reduce the potential for long-term erosion and soil loss. Repairing existing road conditions that currently generate erosion will result in a local long-term minor beneficial effect on soil resources. Closing and revegetating approximately 16 pullouts along the road will reduce the potential for future erosion and restore soil productivity. The planned use of temporary and permanent erosion-control best management practices (BMPs) and revegetation of temporarily disturbed areas will reduce the potential for erosion and soil loss. The preferred alternative will not result in an impairment of soil resources because construction-related adverse effects will be short-term, minor, and mitigated with BMPs. The proposed road repairs, drainage improvements, and pullout closures will have a local long-term minor beneficial effect on soil resources.

Vegetation

Road rehabilitation will occur primarily within the existing disturbed road bench, but incidental effects on vegetation adjacent to road cut and fill slopes will occur from road widening, installing culverts and drainage improvements, and grading at existing culverts. Temporary impacts to vegetation outside the existing road bench will be revegetated following rehabilitation work. All areas of temporary vegetation disturbance will be reseeded with native vegetation following construction. Approximately 16 of the 61 existing gravel pullouts will be removed, revegetated, and blocked off. Implementation of weed-control BMPs will minimize the potential for weed establishment and long-term impacts. Revegetation of disturbed areas is expected to take more than one year because of the low soil fertility and water-holding capacity of the soils. However, the preferred alternative will not result in an impairment of vegetation resources because construction-related adverse effects will be local and minor, and all temporary disturbances will be revegetated following construction.

Hydrology and Water Quality

The proposed road rehabilitation involving excavating, grading, and exposing soil material will increase the potential for erosion until vegetation is established, paving is completed, drainage work is installed, and other stabilization work is finished. The transport of sediment to Grapevine Wash, Wolf Springs Wash, Pine Spring Wash, Little Creek, or other ephemeral drainages is possible during construction, although soil- and erosion-control BMPs will be used to contain and control erosion. No measurable effects on water quality will occur because of the use of BMPs and because any sediment contributions to these mostly ephemeral streams will be very minor in relation to the supply of sediment and erosion naturally occurring in this watershed. There will be a negligible increase in impervious area from widening the road by 2 to 4 feet in select locations and paving four pullouts. Removing and revegetating approximately 16 gravel pullouts will result in a slight decrease in impervious area. The proposed drainage improvements will better collect and dissipate runoff and reduce the potential for erosion and stream sedimentation. The preferred alternative will not result in an impairment of water resources because any construction-related adverse effects will be short-term, minor, and mitigated with BMPs; and drainage improvements will improve water quality by providing long-term treatment of surface discharges from the site.

Archeological Resources

All known archeological sites will be avoided during construction activities. No activity that will have the potential to impact archeological sites will take place outside of the previously disturbed road corridor. The preferred alternative will not result in an impairment of archeological resources because known archeological resource sites will be avoided.

Natural Soundscape

Construction work during road rehabilitation will result in temporarily elevated noise levels along the road. While most of the noise will occur within the road corridor, truck traffic delivering supplies and asphalt and removing excavated material will increase traffic-related noise along roads leading to the construction area. The increased noise will include additional traffic between Kolob Terrace Road North and South, and between the Kolob Terrace entrance to the park and the town of Virgin. In addition, haul trucks will periodically travel to staging areas and the emulsion plant. Impacts to the natural soundscape will be minimized by limiting construction traffic to daylight hours from Monday to Thursday (generally between 7 a.m. and 7 p.m., adjusted seasonally for day length) and no construction will occur at night. Noise levels during construction will temporarily exceed the thresholds established for the frontcountry zone in the park's Sound Management Plan, although the effects will be local, short-term, moderate, and adverse. Over the long term, a slight reduction in noise levels is possible along the road from a smoother pavement surface and reducing the posted speed limit from 35 mph to 30 mph in Black Canyon. The preferred alternative will not result in an impairment to the natural soundscape because there will be no long-term adverse effects on the soundscape following construction activities and because none of the road improvements will increase traffic capacity.

Wild and Scenic Rivers

The proposed road rehabilitation and improvements to Kolob Terrace Road South will occur within portions of the 0.25-mile boundary area for the Grapevine Wash scenic river. Approximately 2 miles of the proposed road improvements will occur within the scenic river boundary area. Roadwork will

be limited to the existing road bench and there will be no direct impact to the river channel. Construction-related disturbance has the potential for a local short-term negligible effect from erosion during ground disturbance, which could reach Grapevine Wash; however, use of erosion-control BMPs and the existing vegetated lands between the road and the stream will minimize the likelihood of sediment reaching the channel. The preferred alternative will not impair the wild and scenic river status of Grapevine Wash because the proposed roadwork will not diminish the river's outstanding remarkable values, free-flowing condition, and water quality.