

National Park Service
U.S. Department of the Interior

Glacier National Park
Waterton-Glacier International Peace Park
Montana



LOGAN PASS IMPROVEMENTS PLAN FINDING OF NO SIGNIFICANT IMPACT

In compliance with the National Environmental Policy Act, the National Park Service (NPS) prepared an environmental assessment to examine various alternatives and environmental impacts for proposed improvements at Logan Pass which included increasing restroom capacity and improving the existing restrooms, constructing a new shuttle stop and providing additional power at the site. While some of the actions were analyzed in the 2003 *Going-to-the-Sun Road Rehabilitation Plan/Final Environmental Impact Statement (GTSR FEIS)*, the location and scope of improvements changed from what was described and other actions such as providing additional power was added. These changes necessitated the need for a new environmental analysis.

Logan Pass is located at the crest of the Continental Divide along the Going-to-the-Sun Road (GTSR). As one of the more popular destinations in Glacier National Park, Logan Pass (elev. 6,646 ft.) offers visitors hiking opportunities, spectacular views, wildlife-viewing opportunities, a visitor center, and an experience that will last a lifetime.

The shuttle bus service, that was established to mitigate the impacts of the GTSR road rehabilitation project, began operation in July 2007. It includes three bus routes, two of which serve Logan Pass as an east-west transfer station from the St. Mary Visitor Center to the Apgar Transit Center. The shuttle bus service resulted in a 20% decrease in road traffic the first year and transported over 1000 visitors a day. In 2008, the service experienced about a 20% decrease in riders but buses operated fewer hours per day and fewer days (due to snow). Though not all shuttle riders stop at Logan Pass, the Visitor Center has experienced an increase in visitor use. Restroom capacity, condition and accessibility were issues prior to the shuttle system and have become more critical since the shuttle system began. The Visitor Center is powered by an outdated propane fueled thermo-generator system that is at risk of permanent failure. A replacement energy source as well as additional energy is required for a weather station, a new radio system, the shuttle bus communication system and interior electrical needs inside the visitor center.

The proposal increases the existing restroom capacity and provides more accessible restrooms that can also be used in the shoulder season. It relocates and improves the shuttle stop for visitors that choose to use the system and replaces the outdated thermo-generators with more energy efficient propane generators. The EA evaluated installation of a renewable energy system at Logan Pass and considered fuel cells, wind, solar and micro-hydro as renewable energy sources.

The EA evaluated a no action alternative and three action alternatives. Improvements to the existing restrooms, construction of a new restroom and new shuttle stop were considered as common to all energy alternatives.

The project will relocate and improve the shuttle stop at Logan Pass. It will address the existing shortfall in restroom capacity and accessibility at Logan Pass and provide an upgraded and improved experience for visitors using the restrooms. Some of the new restrooms will be open during the shoulder season, replacing portable toilets used previously during these times. The outdated and inefficient existing power system will be replaced by a more energy efficient system to accommodate additional energy needs associated with the shuttle bus system.

PREFERRED ALTERNATIVE

The EA identified Alternative B as the Preferred Alternative; however after considering public comment, the park has decided to change the Preferred Alternative to Alternative D photovoltaic (solar) power with a backup generator. Public comments urged the park to further explore alternative energy solutions for power, rather than propane.

Alternative D is the National Park Service's new preferred alternative because it best meets the purpose and need for the project as well as the project objectives to

- Provide improved, upgraded restrooms that would include: increased visitor capacity, shoulder season use and reduced water and energy use.
- Formalize and provide a less congested and confusing shuttle stop.
- Install a more energy efficient power system that would minimize the dependence on fossil fuels and support additional electrical power needs for shuttle and communication.
- Minimize impacts to natural and cultural resources.

Under alternative D, the existing restrooms will be remodeled. The men's restroom will have five urinals (one that will be accessible) and five toilets with stalls (two will be accessible). The women's restroom will have twelve stalls (two will be accessible). The toilets installed as part of the remodel will be low flush. Each restroom will be partitioned into two sections to allow half of the restroom to remain open while the other half is being cleaned. The family restroom will also be accessible and have low flush toilets. The existing sinks will be removed and replaced with hand sanitizer to further reduce water use. The sewer line will be repaired to prevent groundwater from leaking into the wastewater vault. Two drinking fountains will be installed outside the restrooms that will include a fixture to fill water bottles. The water supply system and chlorination system will remain as described in the no action alternative. Four to eight gallons per minute per day will continue to be withdrawn from Logan Creek for the restrooms and for drinking water.

A new four to six unit restroom building will be constructed adjacent to the parking lot. To reduce impacts to visitors from construction activities the building will be prefabricated off site, disassembled and transported to Logan Pass where it will be reassembled during low visitor use times and before scheduled road construction closes this section of the GTSR (in the fall). A peat-filter and fan will be installed to filter odor. A solar panel mounted on the southern-most aspect of the building will provide energy for the fan. The new restroom building will be constructed on top of the existing wastewater vault which will permit the waste from the new restrooms to go directly into the existing vault. The new building will be similar in style to the visitor center, in that materials and design will complement the surrounding landscape.

The shuttle bus stop will be located closer to the parking lot entrance, along the western curb of the existing west parking lot. Seating will be provided. Accessible ramps will be installed along

the sidewalk or the entire curb will be graded to parking lot level for optimal access. A portion of alpine vegetation that had been planted near the west entrance as part of a restoration project will be removed.

The park will replace the existing propane fueled thermo-generator system with photovoltaic (solar) modules and a more efficient propane fueled generator for backup. During further design of the solar system, the height, number and location of the solar collectors will be re-examined. They will be located, screened if necessary and sized to avoid visual impacts. Fencing that blends in with the surrounding area may be used to protect the panels from wildlife. The solar panel on the new restroom may be able to supply some power and or there may be room for an additional module at this location. In addition locations in the parking lot may be suitable for placement of the panels. The new more efficient propane generators for backup power will be connected to a bank of batteries. This will increase the power capacity at Logan Pass to accommodate a weather station, the new radio system, the shuttle bus communication system and interior electrical needs in the visitor center. At this time the park has only enough funds for the propane generator backup system which will operate until funds are located for the solar power system. The generators will only run when the batteries' energy supply drops below a certain level and they will remain on until the batteries are fully charged. The generators will be located on the exterior of the visitor center in a sound minimizing box.

Exterior lights are not installed at Logan Pass and will not be added due to night sky concerns. During the winter solar panels will be hung on the inside of the visitor center windows, after the building closes in the late fall, to power the radio system and weather station and to support the spring plowing operation.

MITIGATION MEASURES

The following mitigation measures as appropriate will be taken to protect natural and cultural resources:

Historic Structures and Cultural Landscapes

- Follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties* to ensure the project design is compatible with the historic architectural characteristics of the Going-to-the-Sun Road and the Logan Pass Visitor Center.
- Site solar panels to avoid visual impacts on Visitor Center.

Soils

- Salvage all excess soil during construction for use in restoration.
- Salvage vegetated mats prior to disturbance for use in restoration. These reestablish quickly and help prevent post-construction erosion.
- Aerate and replant any ground surface temporarily disturbed during construction.

Vegetation

- Implement Best Management Practices to prevent wind erosion.
 - Disturbance to vegetation and ground will be avoided as much as possible and be contained to as small of footprint as possible while meeting project objectives.
- Use natural design features to minimize visual impacts and to aid in creating suitable site conditions for revegetation.
- Use existing sod to revegetate any ground temporarily disturbed during the construction process or existing disturbed ground in need of recovery.
- All equipment will be cleaned and inspected by park personnel before it is brought into

the park.

- Complete a restoration analysis to decide if revegetation is necessary throughout the life of the project. If it is determined to be necessary the following mitigation measures will apply.
 - Apply soil amendments, mulches, organic matter and other measures as appropriate to facilitate revegetation.
 - Utilize native species from genetic stocks originating in the park for revegetation seeding and planting efforts. Plant species density, abundance, and diversity will be restored as nearly as possible to prior conditions for non-woody species.
- Monitor to evaluate vegetation cover and develop contingency and maintenance plans if vegetation cover is not similar to original ground cover.
- Prepare a vegetation management plan for the entire project.
- Conduct aggressive noxious weed control measures and control noxious weed populations in the vicinity of project area to minimize transport of noxious weeds to other locations along the GTSR.
- Inspect construction vehicles to prevent the import of noxious weeds from tires and mud on the vehicles and equipment.
- Use periodic inspections and spot controls to prevent noxious weed establishment. If noxious weeds invade an area, an integrated noxious weed management process to selectively combine management techniques to control the particular noxious weed species will be used.
- Due to the sensitive and relatively pristine nature of vegetation at this site, invasive non-noxious weeds such as dandelions will also be aggressively treated along with measures to prevent establishment.

Wildlife

- No food garbage or items that would be considered attractants to wildlife will be stored on site.
- Equipment will be inspected for hydraulic fluid, antifreeze and oil leaks prior to use at staging and stockpiling sites, and materials will be kept on site for cleanup of any motor vehicle or heavy equipment fluid spills that might occur (such fluid spills are potential unnatural attractants to wildlife species including mountain goats, bighorn sheep and mule deer).
- Contractors will be expected to read and comply with the recommendations in the provided handbook: "Bear Safety, Site Sanitation and Other Requirements while working in Glacier National Park: a handbook for construction contractors".

Threatened and Endangered Species and Species of Concern

- Implement measures to reduce potential for bear-human conflicts. Require construction personnel to adhere to park regulations concerning food storage and refuse management.
- Enforce regulations that prohibit feeding of wildlife and that require proper food storage.
- Provide adequate portable restrooms for construction workers to eliminate human waste as a wildlife attractant at construction sites.
- Follow conservation measures of the GTSR rehabilitation for construction workers/contract employees.

Visitor Experience

- Construction will occur during low visitor periods
- Prefabricate new restroom to reduce disruption from construction at Logan Pass

Visual Resources

- New construction will be designed to emulate existing structures and blend into the natural scenery and topography.

ALTERNATIVES CONSIDERED

Four alternatives were considered in the environmental assessment including the no action alternative (A) and three action alternatives (B, C, and D). Under alternative A, no action, no improvement would be made. Restroom improvements, construction of a new restroom, and shuttle stop improvements were considered common to all action alternatives. Alternative B, evaluated installation and use of more efficient generators for energy needs at Logan Pass. Alternative C evaluated the use of micro-hydroelectric power and the preferred, Alternative D, evaluated the use of solar panels to generate power at Logan Pass.

Environmentally Preferred Alternative

Alternative D is the environmentally preferred alternative. The environmentally preferred alternative is determined by applying six criteria suggested in §101 of the National Environmental Policy Act. According to these criteria, the environmentally preferred alternative should 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; 2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; 3) attain the widest range of beneficial uses of the environment without degradation, risk to health or 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 which 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; and 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The preferred alternative (Alternative D) will achieve all six criteria by improving the environment and preserving and protecting natural and cultural resources through design and using less non renewable, green house as generating resources such as propane. It will enhance the quality of renewable resources by preventing groundwater from seeping into the system and achieves a balance between population and resource use by accommodating increased visitation

and visitor needs, and using sustainable renewable energy without significantly affecting other resources.

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

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

Impacts that may be both beneficial and adverse.

Within the area of potential effect of the project are the Going-to-the-Sun Road Historic District (24GL0136 and 24FH0161) and the Logan Pass Visitor Center (24GL1151). Both will experience minor, long-term and adverse impacts from the proposed improvements in the preferred alternative. New impacts to soils will be minor to moderate, adverse, and long-term as a result of increased soil compaction and loss of normal soil function in a previously disturbed site. The sites for both the new restroom and new transit stop are already disturbed areas. By rehabilitating the existing restroom, the amount of disturbance has been further minimized. While much of the disturbances to vegetation in the Logan Pass area have been mitigated through revegetation and hand-pulling weeds and reducing water draw off the stream might benefit plants, there remains a permanent loss of vegetation over a small area, therefore minor, adverse, and long-term impacts are expected from proposed actions of the preferred alternative. The preferred alternative will impact less than ¼ acre of wildlife habitat. This area lies in the immediate vicinity of the Logan Pass parking area, an area that has already impacted wildlife resources; therefore, the park will expect negligible impact to occur from actions proposed in the preferred alternative. Proposed improvements at Logan Pass will have negligible to minor additional impacts to the grizzly bears, westslope cutthroat trout, wolverines, white-tailed ptarmigan or western toads beyond what is already occurring at Logan Pass. The removal of sinks and replacement of the existing toilets with low-flush toilets will reduce the amount of water being withdrawn from the stream system at Logan Pass; having minor, long-term adverse impacts to water quantity. Water will continue to be stored in a 10,000 gallon tank and wastewater will continue to be transported to a different basin from the original; having minor, short and long-term, adverse impacts to water quality. Visitor use and experience will experience minor to moderate, negative short-term impacts during construction but will experience long-term beneficial impacts from the proposed improvements at Logan Pass. The preferred alternative will have minor, long-term, site-specific and adverse impacts to visual resources primarily to the loss of alpine vegetation and the presence of newly constructed restroom and shuttle stop improvements. Solar panels will be sized and located so impacts are no greater than minor, long term, site specific and adverse. Visitors will experience short term minor to moderate impacts during construction, but long term benefits to their experience after it is completed.

Degree of effect on public health or safety

Public health and safety are core Service values. Glacier National Park is committed to addressing risk recognition and early prevention for a safe work and recreational environment. Visitor and employee health and safety will benefit from the improvements that will occur upon implementing the preferred alternative. The project design of improvements to the existing restroom will allow the park staff to clean the restrooms on a more frequent basis without inconveniencing the visitor. This will provide visitors with more sanitary restrooms and opportunity to use the restroom when needed. The project design will also provide more restrooms, including additional handicap accessible and a family restroom, which could also

benefit the visitors' and employees' health and safety. The new restroom (at the parking lot level) will provide an additional handicap accessible restroom and the restrooms will be available during the shoulder season.

The shuttle stop improvements will be expected to decrease the congestion in front of the visitor center thereby benefitting visitor safety by keeping visitors on the sidewalk and out of the parking lot area. Additionally, the park expects a more organized shuttle stop will benefit visitors' safety by providing an easier to understand system such that visitors will not board the wrong bus or miss their bus.

Additional energy, supplied by a more efficient system, will allow the park to install more safety and emergency response equipment to protect visitors and employees. The additional energy supply would also support the park's *Intelligent Transportation Systems Plan*, which is part of the mitigation effort for the *GTSR Rehabilitation Plan*. Beneficial, long-term, minor to moderate impacts to health and safety will result from improvements that will be made at Logan Pass under this 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

The preferred alternative will not impact unique characteristics of the area including park lands, wetlands, wild and scenic rivers, or ecologically critical areas will not be affected. There are no prime farmlands in the park.

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

No comments were received during scoping or during the EA review period that indicated this was a highly controversial project, although commenters expressed concern about using continuing to use fossil fuels at this location. Public comments were instrumental in changing the park's preferred alternative.

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

The actions proposed in the environmentally preferred alternative will not have effects on the quality of the human environment or involve unique or unknown risks.

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

The preferred alternative does not establish a precedent for future actions or represent a decision about a future consideration.

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

No major (significant) cumulative effects were identified in the EA.

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

The Montana Historic Preservation Officer (February 17, 2009) wrote stating their concurrence with the park's finding that the project will have no adverse effect on the Going-to-the Sun

Road and the Logan Pass Visitor Center. This concurrence applied to the new restroom, rehabilitation of the existing restrooms, construction of the Transit Stop, and installation of the new propane generators. However, after the Park reviewed all the public comments received, the preferred alternative was changed to Alternative D which includes all the above and installing solar collectors to provide the primary source of energy. The EA had originally determined that solar panels could result in an adverse effect on the Logan Pass Visitor Center. After further discussion with the SHPO, and the contractor who prepared the initial design documents, the Park believes it will be able to locate and site smaller, more efficient and less visible solar panels which would result in a no adverse effect determination. However, until construction documents are completed, the SHPO cannot concur and complete 106 for the solar panels. Therefore Section 106 for this part of the project will be completed when design and construction documents are available.

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

The NPS conducted formal consultation with the USFWS on the *Going-to-the Sun Road Rehabilitation Plan Final Environmental Impact Statement* which had determined an adverse effect on grizzly bears. The USFWS concurred with this determination and a number of mitigation actions were agreed to. The biological assessment (February 13, 2003) prepared for the 2003 *Going-to-the Sun Road Rehabilitation Plan*, FEIS covers this action. A Biological Opinion was issued by the US Fish and Wildlife Service on July 30, 2003 concurring with the park's determination. This EA and a mini-BA were sent to the US Fish and Wildlife Service for their review and concurrence (03/03/2009). Concurrence was received on 3/3/09 from the USFWS for the preferred alternative. The impact determinations were identical to the micro-hydro system so no further consultation is required.

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

This action violates no federal, state, or local environmental protection laws.

APPROPRIATE USE, UNACCEPTABLE IMPACTS, AND IMPAIRMENT

Sections 1.5 and 8.12 of NPS *Management Policies* underscore the fact that not all uses are allowable or appropriate in units of the National Park System. The proposed use was screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the Park Service; and whether the public interest will be served. The GTSR and the Logan Pass Visitor Center are national historic landmarks that the National Park Service is committed to preserving. The 1999 *General Management Plan* and the 2003 *Rehabilitation of the Going-to-the-Sun Road Final Environmental Impact Statement* evaluated and further committed the National Park Service to preserving these historic resources. The NPS Organic Act and 2006 NPS *Management Policies* also speak to preservation of cultural resources. These same plans, laws and policies also speak to conservation of natural resources. Therefore, the Park Service finds that the preferred alternative (D) is an appropriate use.

In analyzing impairments in the NEPA analysis for this project the NPS takes into account the fact that if impairment were likely to occur, such impacts would be considered to be major or significant under CEQ regulations. This is because the context and intensity of the impact

would be sufficient to render what would normally be a minor or moderate impact to be major or significant. Taking this into consideration, NPS guidance documents note that “Not all major or significant impacts under a NEPA analysis are impairments. However, all impairments to NPS resources and values would constitute a major or significant impact under NEPA. If an impact results in impairment, the action should be modified to lessen the impact level. If the impairment cannot be avoided by modifying the proposed action, that action cannot be selected for implementation.” “Interim Technical Guidance on Assessing Impacts and Impairment to Natural Resources” National Park Service, Natural Resource Program Center, July 2003. In addition to reviewing the definition of “significantly” under the NEPA regulations, the NPS has determined that implementation of the preferred alternative *will not* constitute an impairment to the integrity of Glacier National Park’s resources or values as described by NPS *Management Policies* (NPS 2006 § 1.4). This conclusion is based on the NPS’s analysis of the environmental impacts of the proposed action as described in the EA, the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in 2006 NPS *Management Policies*. The EA identified less than major adverse impacts on historic structures and cultural landscapes, soils, vegetation, wildlife species (including aquatic species, threatened species and endangered species, and species of concern), water resources, visitor use and experience, visual resources, and health and safety. This conclusion is further based on the Superintendent’s professional judgment, as guided and informed by the *General Management Plan* and the *Going-to-the-Sun Road Rehabilitation Plan/FEIS*. Although the project has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and restore other park resources and values. Overall, the plan results in benefits to the park’s resources and values, opportunities for their enjoyment, and does not result in impairment.

PUBLIC INVOLVEMENT

The environmental assessment was made available for public review and comment during a 30-day period ending March 05, 2009. The announcement was also posted on the National Park Service’s public comment website. Letters were sent to the park’s mailing list for EAs, which includes various federal, state, and local agencies, including the U.S. Fish and Wildlife Service (USFWS), the Montana State Historic Preservation Officer (MTSHPO), the Advisory Council for Historic Preservation (ACHP), the Blackfeet Tribal Business Council, and the Confederated Salish and Kootenai Tribe.

The MTSHPO (Pete Brown, February 17, 2009) concurred with the park’s finding that the Alternative B does not represent an adverse effect to the characteristics that qualify the GTSR for designation as a National Historic Landmark or the Logan Pass Visitor Center for inclusion in the National Register of Historic Places. Further discussion with the SHPO’s office, and the contractor who prepared the initial design documents occurred after the public comment period in regards to changing the preferred alternative to Alternative D which included use of solar as a power source. The Park believes it will be able to locate and site smaller, more efficient and less visible solar panels than what were originally described and analyzed in Alternative D. The SHPO has agreed that with these changes the installation of solar panels could likely result in a finding of no adverse effect. Section 106 review for the solar panel installation will be completed when design and construction drawings are available. The SHPO has concurred with the finding of no adverse effect for the restroom rehabilitation, construction of new restroom and construction of shuttle bus stop.

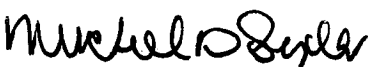
Nineteen comment letters were received on the Environmental Assessment. Overall the commenters were in favor of the existing restroom and shuttle stop improvements as well as the construction of a new restroom. Eight letters supported the project in general. Four letters urged the park to use this opportunity to install either a combination of renewable energy sources at Logan Pass or use solar or micro-hydro instead of a fossil fuel system. The letters discussed the opportunity for Logan Pass to be a demonstration project, the opportunity to reduce emissions, the fact that Logan Pass is off the grid, has a low load demand, high volume of public use and lies within a natural setting in a pristine alpine ecosystem that is within an environment that is a internationally known example of the impacts of climate change as reasons that the park should install an alternative power source, rather than continue reliance on fossil fuels. They also cited Glacier's status as a "Climate Friendly Park" and the popularity of Logan Pass and opportunity to educate visitors about climate change and renewable energy and being good stewards and conserving our resources. Commenters included the National Parks and Conservation Association, the Montana Raft and Glacier Guides and the Glacier Park Boat Company. These comments, as well as new information about solar power and smaller collectors, etc were instrumental in causing the park to change its preferred alternative to D, rather than B. Alternative D included a backup power supply from new propane generators as described under Alternative B.

CONCLUSION

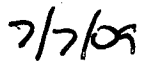
As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the soils, vegetation, wildlife, threatened species, endangered species, species of concern, historic structures, cultural landscapes, water resources, visitor use and experience, visual resources, and health and safety. Environmental impacts that could occur from implementing the preferred alternative are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. Mitigation measures will be take, as appropriate, to protect historic structures and cultural landscapes, soils, vegetation, wildlife, threatened species, endangered species, species of concern, visitor experience, and visual resources. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

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

Approved:



Michael D. Snyder
Regional Director, Intermountain Region



Date

ERRATA SHEETS

LOGAN PASS IMPROVEMENTS PLAN

ENVIRONMENTAL ASSESSMENT

GLACIER NATIONAL PARK

Substantive comments to the Logan Pass Improvements Plan Environmental Assessment mostly urged the park to reconsider using an alternative energy source at Logan Pass, rather than continuing to use fossil fuels. Other substantive comments were in the area of minor design changes to the shuttle bus stop, providing more services at Logan Pass, considering other power sources and or combining different power sources.

After considering these comments, the preferred alternative was changed from Alternative B to Alternative D (Photovoltaic (solar) with a backup generator). Other comments that resulted in minor changes to the text of the environmental assessment are addressed below. Text that is struck out shows deleted text from EA and text that is in **bold** indicates text that has been added.

TEXT CHANGES

Throughout the document change any reference to the Preferred Alternative as Alternative D instead of Alternative B.

Page 16, Alternative D – Photovoltaic (solar) with a backup generator

Under this alternative solar energy would be the main source to provide energy year round and the actions proposed for the restrooms and shuttle stop would remain as described in Alternative B. The existing propane fueled thermo-generator system would be replaced by an array of photovoltaic (solar) modules and a more efficient propane fueled generator backup.

The solar panels are constructed of crystalline silicon photocells, which would convert solar energy to electricity. When the panels are circuited together (called modules), they provide electrical voltage and current within a specified range. The modules would be mounted in an array **appropriately sited nearby the visitor center, but at a height, size and location to be determined during design that would acquire sunlight, but also not adversely affect the historic integrity of the Logan Pass Visitor Center.** ~~south of the visitor center and positioned to acquire sunlight~~ (see figure 4). The park considered several options: roof mount, ground mount, and pole mount. ~~A solar assessment determined the best location for the panels would be southeast of the visitor center (CTA 2007). Three modules each 11 feet by 16 feet in size would be required to provide the necessary power and would be mounted in an array a minimum of eight feet above the ground (see figure 5).~~

The backup generator would consist of an engine generator set with a propane fuel source. It would be equipped with appropriate sound attenuation enclosure to minimize noise pollution and would be located in an equipment room along with the balance of plant equipment for visitor center.

Page 19, Change title at top of page from Alternatives Considered and Dismissed to “Alternatives and Ideas Considered and Dismissed”.

Page 19, At the bottom of the page, add the following:

Provide shelter for shuttle users

A shelter would be built at the shuttle bus stop. This was considered but dismissed because it is believed that a shelter may adversely affect the historic integrity and viewshed of the Logan Pass Visitor Center and result in an adverse effect determination under Section 106 of the National Preservation Act. This idea was eliminated from further consideration at this location at this time.

Dedicate east entry for shuttle buses only.

This was considered early on, but eliminated from further consideration because of the number of vehicles coming and in and out of the parking lot. Requiring all private vehicles to use the west entry only would result in an unacceptable level of congestion. The shuttle bus stop will be designed to allow the buses to pull out of the lanes of traffic to avoid delaying private and other vehicles trying to gain entry into the parking lot.

Page 22, add to discussion of Alternatives and Ideas Considered and Dismissed:

Combine two or more alternative energy sources to meet power needs at Logan Pass

This alternative was considered but dismissed for the following reasons. Batteries, such as would be used to store the solar power, operate on DC power. Wind and micro-hydro operate on AC power. Therefore using alternative energy sources such as solar and wind or solar and micro-hydro would require equipment to convert AC to DC power. The equipment to make this conversion would add cost to the project and would result in power losses from the conversion because the equipment is not 100% efficient. Therefore given the available alternative technology, combining two sources was dismissed from further consideration.

Other Ideas:

Install underground power lines in the road up from the east or west to Logan Pass.

An alternative was considered of placing a power line in the road during the rehabilitation effort that would provide power to Logan Pass from either the east or west side. Placing that many miles of power line in the road is cost prohibitive, given the amount of power required at this location. This was considered but rejected.

Provide Drink and Snack Vending Machines at Logan Pass.

This was dismissed from further consideration because of the increased power needs, it doesn't meet the “necessary and appropriate” requirements as described in the 2004 *Commercial Services Plan/Final Environmental Impact Statement* and food service is available nearby.

Correction as noted:

Impact Topic	Alternative A No Action	Alternative B Preferred	Alternative C Micro-hydro	Alternative D Solar
Historic Structures and Cultural Landscapes	Negligible Section 106: No Adverse Effect	Minor, long-term and adverse Section 106: No Adverse Effect	Minor, long-term and adverse Section 106: No Adverse Effect	Minor, long-term and adverse for the GTSR Minor Moderate , long-term and adverse for the Logan Pass VC Section 106: No Adverse Effect for the GTSR Adverse Effect for the Logan Pass VC No Adverse Effect for the Logan Pass VC

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ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Council on Environmental Quality defines the environmentally preferred alternative as "...the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's §101." Section 101 of the National Environmental Policy Act states that "... it is the continuing responsibility of the Federal Government to ...

- 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- 2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- 3) attain the widest range of beneficial uses of the environment without degradation, risk to health or 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 which 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; and
- 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

The no action alternative (Alternative A) would meet criteria 1 – 4 evaluation but not criteria 5 and 6. Since the no action would retain the current state of the amenities at Logan Pass, it would meet criteria 1 but not to the fullest extent possible (as compared to the preferred alternative).

Continued use of the water supply at the current rate would not be sustainable as the population grows and therefore ~~it would not meet not meeting~~ criteria 5. Alternative C (micro-hydro) would meet criteria 1, 2, and 5 but not criteria 3, 4 or 6. Utilizing the available water source at Logan Pass to provide energy would seem to achieve criteria 6; however, in order to access the amount of water required to generate enough power for the visitor center and associate operations, the park would have to manipulate the natural infiltration system to create more flow. Additionally this would not meet criteria 4 and could eventually exhaust the water supply at Logan Pass which would not meet criteria 3. Global climate change could also affect the long term availability of water in this area. **Alternative B was misidentified as the environmentally preferred alternative in the environmental assessment, but after further consideration since it relies solely on continued use of fossil fuels it doesn't meet criteria 3, 5 and 6.** ~~Alternative D (solar) would meet all the criteria except criteria 4. Preservation of resources includes their visual integrity. The solar array would adversely affect the visual aspects of the historic Logan Pass VC and pristine mountain views at the pass and surrounding areas.~~

After reconsideration, The preferred alternative (Alternative B) (Alternative D) would achieve all six criteria by improving the environment and preserving and protecting natural and cultural resources through due to design details and use of fewer using less non renewable, green house as generating resources such as water and propane. It would enhance the quality of renewable resources by preventing groundwater from seeping into the system and achieves a balance between population and resource use by accommodating increased visitation and visitor needs, and using sustainable renewable energy without significantly affecting other resources.

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IMPACT ANALYSIS OF ALTERNATIVE D – SOLAR

Under this alternative, the impacts from existing restroom updates, the new restroom building, and the new shuttle stop would be the same as described in Alternative B (the preferred).

The photovoltaic system would require **up to** three solar panels (11 feet by 16 feet) to obtain the necessary power level required for operations at Logan Pass. **Additional design and improved technology could result in less or smaller panels.** ~~The panels would be mounted on 8-foot poles situated southeast of the visitor center. The panel arrays would be mounted close to the ground and protected with a fence or other enclosure that would blend in with the surrounding area. The panel arrays or their reflection would could potentially be visible from the Going-to-the-Sun Road when approaching the pass from the east side of the park and would be sited so they are not visible from the visitor center. highly from the visitor center.~~ This alternative would result in minor, long-term and adverse impacts to the Going-to-the-Sun Road and ~~minor moderate,~~ long-term and adverse impacts to the Logan Pass Visitor Center.

Section 106: Alternative D meets the criteria of adverse effect defined in 36 CFR Part 800. The alternative introduces visual elements within the setting of the Going-to-the-Sun Road **and the Logan Pass Visitor Center**, but they would not obscure important views or radically change the visitor center or the road's appearance. **It is anticipated that the finding of effect would not be adverse. However a final determination of effect under Section 106 would not be completed until the SHPO reviews construction drawings. However, the alternative introduces visual elements into views from the Logan Pass Visitor Center that would diminish the integrity of the building's significant historic features. The finding of effect would be adverse.**

Cumulative Impacts of Alternative D – Solar

Of the projects identified for consideration of cumulative impacts, several have had or would have detectable impacts on historic structures and cultural landscapes. The GTSR/FEIS identified the rehabilitation as having negligible to moderate short-term adverse and long-term beneficial impacts to cultural resources (NPS 2003). These impacts included changes in the historic setting caused by construction activities and rehabilitation work meeting the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 67). The EIS recognized the potential for adverse impacts resulting from the construction of modern visitor use improvements at several locations within the Road corridor if the projects did not meet the Secretary's Standards. Alternative D would not meet the Secretary's Standards.

Overall cumulative impacts, when Alternative D is considered, on historic structures and cultural landscapes, would be ~~minor moderate~~, long-term, and adverse.

Conclusion

Alternative D would result in ~~minor moderate~~, long-term, and adverse impacts due to the introduction of visual elements into the area around views from the Logan Pass Visitor Center. **However, panels would be placed in such a way that they would not ~~that~~ diminish the integrity of the building's significant historic features. Actions proposed in Alternative D combined with past, on-going and future actions would have ~~minor moderate~~, long-term, and adverse cumulative impact on historic structures. It is anticipated that the finding of effect would not be adverse. However a final determination of effect under Section 106 would not be completed until the SHPO reviews construction drawings.**

Alternative D would not have major adverse impacts on cultural resources whose conservation is 1) necessary to fulfill specific purposes identified in the park's enabling legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's *General Management Plan* (NPS 1999) or other relevant NPS planning documents, there would be no impairment of park historic and cultural resource values related to this alternative. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of *NPS Management Policies 2006* (NPS 2006).

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National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et. seq.)— Section 106 of the National Historic Preservation Act of 1966 (as amended) requires all federal agencies to consider effects from any federal action on cultural resources eligible for or listed on the National Register of Historic Places (NHRP), prior to initiating such actions. For Section 106 purposes, the park ~~finds-anticipates-that~~ the undertaking will have no adverse effect (no historic properties affect) upon historic properties. **However a final finding of effect will not be determined until after construction drawings are prepared and SHPO review concurs.**

RESPONSE TO COMMENTS ON THE EA

COMMENT/RESPONSE: Two letters urged the park to use micro-hydro as a power source: The water supply for a micro-hydro system would come from the infiltration gallery at the headwaters of Logan Creek. The infiltration gallery is replenished each year by snow and rainfall but most of the water is supplied from seasonal glacial and snow melt on Clements Mountain. Science-based modeling predicts the glaciers in GNP will likely be gone by 2030 (Fagre 2005). The existing perforated pipe used to capture water would have to be replaced in order to increase capacity. This would be done by excavating the old pipe and installing two new perforated pipes. This would generate an unknown amount of sediment and could disrupt the hydrological function of Logan Creek. This, combined with the likelihood of glacial decline, makes the micro-hydro not feasible at this time.

COMMENT/RESPONSE: One letter urged the park to put power lines underground. Running that many miles of electric line up the GTSR for the amount of power used at Logan Pass would not be economically feasible.

COMMENT/RESPONSE: One letter urged the park to put in vending machines for drinks and snacks at Logan Pass. This would require more power to operate these types of machines and a decision was made in the 1999 General Management Plan to not provide food or food service at Logan Pass.

COMMENT/RESPONSE: Another suggestion was received to put solar panels on the roof of the visitor center and the new restroom. This was considered and is discussed on Page 16 of the EA. The VC and restroom roofs are not facing the optimal direction, and damage from snow depths is of concern.

COMMENT/RESPONSE: Another suggestion was made to consider a combination of alternative energy sources such as wind, solar and micro-hydro. This is addressed under Considered But Rejected in the attached errata sheet.

COMMENT/RESPONSE: A suggestion was made to construct a handicapped accessible trail from the accessible parking spaces to the trail in front of the visitor center. A trail/route already exists from the accessible parking spaces at the north end of the lot to the sidewalk that runs in front of the VC.

COMMENT/RESPONSE: One comment letter was received from an individual on preserving the rustic appearance of the Logan Pass Visitor Center. The preferred alternative achieves this.

COMMENT/RESPONSE: Another commenter asked that a spigot be attached to the drinking faucets for water bottles. This was already addressed in the EA on page 14.

COMMENT/RESPONSE: Two commenters made suggestions for the transit stop. One commenter asked that shelter be included. Due to the historic significance of the Visitor Center, the intent was to minimize structures at this site and avoid a determination of adverse effect under Section 106 of the National Historic Preservation Act. This suggestion has been added to the attached Considered but Rejected errata sheet.

COMMENT/RESPONSE: Another commenter suggested the east entrance to the parking lot be dedicated for shuttle buses only. This was considered early on in the planning, but it was determined that vehicle numbers were too high to require all private vehicle users to use one entrance and exit and has been added to the attached Considered But Rejected errata sheet.

COMMENT/RESPONSE: Another commenter suggested we improve signs. New exhibits and transit signs are being planned for the Logan Pass area.