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**APPENDIXES /  
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# APPENDIX A: GENERAL MANAGEMENT PLAN DIRECTION

## **SOUTH RIM VISION STATEMENTS**

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The South Rim presents opportunities for visitors that are different from those available in other park areas. Of utmost importance is direct access to the rim, where panoramas of the canyon provide the park's aesthetic, inspirational, and emotional appeal — some of the main reasons people visit the park. The South Rim should remain the focus for most park visitors, with diverse opportunities to view the canyon. It should also provide access to areas that allow people to have solitary experiences.

The South Rim should accommodate large numbers of visitors, but dense crowds and related conflicts and resource impacts should be minimized. Visitors should be able to experience solitude in natural settings as well as social exchange in developed areas. For access to such areas, the West Rim and East Rim Drives should be meandering, rural roads that lead to overlooks where visitors can get away from the more urbanized areas of the Grand Canyon Village.

The South Rim should provide parkwide orientation and introduce visitors to all the park's educational themes. This area's historical and archeological resources are so extensive, and the American Indian cultural heritage so rich, that interpretation of these aspects of the park should be a strong component of South Rim programs. In addition, historic resources should be appropriately used and their integrity maintained.

The South Rim should be a model of excellence in planning and management. Alternative means of transportation — walking, biking, or using convenient public transit — should be encouraged. To minimize new disturbance, necessary services and facilities should be provided in existing disturbed areas wherever possible, or outside the park. Any

new development should be cost-effective, water-conserving, and energy-efficient, thus reflecting sustainable design concepts.

The park should work cooperatively with the community of Tusayan, Kaibab National Forest, and all other affected entities near the park to encourage compatible, aesthetic, and well-planned development and recreational opportunities and to provide high-quality visitor information and services.

## **SOUTH RIM MANAGEMENT OBJECTIVES**

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The South Rim is bounded on the west by Hermits Rest, on the east by Desert View, on the north by the canyon rim, and on the south by the park boundary.

### **Visitor Experience**

- Identify and develop an appropriate range of visitor experiences, opportunities, and access that would accommodate a variety of visitor expectations, abilities, and commitment levels.
- Provide viewing opportunities of the canyon, access to views and trails, and interpretation and information, recognizing that these are the most important elements of the visitor experience on the South Rim.
- Maintain the South Rim from Hermits Rest to Desert View as the focus for the majority of visitor use in the park, including major visitor facilities and accommodations.

### **Cultural Resources**

- Utilize the extensive cultural resources of the South Rim as a strong component of the interpretive program, including the interpretation of American Indian cultures.

## Development

- Develop and promote the use of foot trails, bicycle paths, and public transportation to provide convenient and efficient movement of visitors, employees, and residents within Grand Canyon Village and between major points of interest.
- Maintain and enhance the meandering, rural character of West Rim and East Rim Drives, including the feeling that one is removed from the developments of Grand Canyon Village and Desert View. Maintain the existing large undisturbed areas along West Rim Drive.

## GMP RECOMMENDATIONS SPECIFIC TO THE SOUTH RIM

### Regional Access

North of Tusayan, at a site to be determined in cooperation with the U.S. Forest Service, a large parking facility will be constructed. It will be closely associated with the gateway information center (see below) and will be the starting point for various alternatives to automobile travel into the park, as described below:

- A bicycle/pedestrian trail will connect this facility with Mather Point and a network of similar trails along the South Rim.
- A shuttle bus service to the Mather Point orientation center will be provided for day visitors who do not use the trail or the train. This shuttle could use either rubber-tired buses on the existing road or a fixed guideway system (e.g., rail, light rail, monorail); such a system would likely be privately financed and operated if economically feasible and costs or riders disturbances, and visitors must be well served by the routing. Existing disturbed corridors will be evaluated, including the original entrance road alignment

(just west of the existing south entrance road) and the utility where reasonable.

### Roads, Parking, and Transit

Transit service, biking, and hiking would be the primary means for park visitors and residents to travel year-round along the South Rim. A convenient, attractive, and energy-efficient transit system would serve the developed areas from Hermits Rest to Yaki Point and from Desert View to the Tusayan Museum.

### Grand Canyon Village Area

The Mather Point orientation/transit center would be the central transit center for the South Rim. This would be the primary point for visitors to make direct transit connections to the village and West Rim Drive, the Yaki Point trailhead, or the gateway information center in Tusayan. This center would include a transit pick-up/drop-off area, covered shelter and seating, information and display panels, and restrooms. Transit routes along the South Rim, with different bus sizes and schedules, would provide convenient visitor access to South Rim areas. A well-screened, heavily landscaped parking area for up to 1,225 private vehicles (including RVs) and 60 tour buses would be constructed back from the rim at Mather Point. Visitors would have to walk a short distance (up to 1,000 feet) from the parking lot, past the orientation/transit center, to get to the rim, or they would be able to board transit or tour buses at this location to all South Rim destinations. Walking trails and bike paths (and bike rentals) would also be available.

Day tour buses would be allowed to drive directly to the Mather Point orientation center, where they can park. The parking area at the Maswik Transportation Center would provide both day and overnight bus parking.

### Trails

The Arizona Trail would be completed as an unpaved trail from Grand Canyon Village to USFS lands to the southeast. It would be used

for hiking, biking, and horseback riding, consistent with the park's Backcountry Management Plan.

### **Visitor Experience**

#### ***Orientation and Interpretation***

A gateway information center would be provided north of Tusayan, which is the

preferred site in order to reduce the length of the transit route and to enhance the sense of arrival for visitors. The center would provide regional trip-planning information, as well as restrooms, telephones, an outside information kiosk, day parking, and transit service to the park.

## APPENDIX B: PUBLIC COMMENTS

### PUBLIC SCOPING COMMENTS SUMMARY — AUGUST 14, 2006

As part of the NEPA process for the Grand Canyon South Rim Visitor Transportation Plan Environmental Assessment / Assessment of Effect, the National Park Service conducted public scoping from March through April 2006. The public scoping process included four public open house meetings in Las Vegas, Nevada, and in Phoenix, Flagstaff and Tusayan, Arizona. The National Park Service received nearly 300 comments from the public, agencies and other interested parties, who provided input on issues and ideas for transportation solutions. Following is a summary of those comments with corresponding National Park Service responses. The comments are sorted by category without order of importance.

Concerns/Comments	National Park Service Response
<b>Agency and Other Comments</b>	
The Arizona Department of Transportation (ADOT) is working with the Tusayan Community to improve the highway within Tusayan - coordinate this planning effort with the Arizona Department of Transportation and Tusayan to ensure a proper entrance to Grand Canyon National Park.	The National Park Service is coordinating with the Arizona Department of Transportation on Tusayan developments and is consulting with the Arizona Department of Transportation throughout the planning process.
Ensure consultation occurs with area tribes.	National Park Service consultation with Native American Tribes for this environmental assessment has been initiated and will continue throughout the planning process.
<b>Elements Common to All Alternatives</b>	
Transit vehicles should have low emissions and/or use alternative fuels; simplify fuel types used within the park.	The Environmental Assessment (EA/AOE) will include recommendations for alternatively fuelled vehicles. Currently Grand Canyon National Park has a natural gas fuelling facility, located on the South Rim. Recommendations for future transit vehicles will consider use of natural gas fuel to simplify fuel types used for transit vehicles.
Minimize new disturbance where possible; any new development should be cost-effective, water conserving and energy efficient, thus reflecting sustainable design concepts.	Alternatives under consideration include minimizing impacts on resources and new disturbance, where possible. Refinement of alternatives will incorporate best management practices, such as storm water management, and sustainable design principles.
New systems should be flexible and adaptable to future visitor needs.	Refinement of alternatives will consider details for adaptive management strategies, so that proposed transportation systems can be flexible with fluctuations in visitation. Recommendations will also be made for phasing and no alternative shall preclude future transportation systems from being implemented.
<b>Alternatives: New Alternatives or Elements</b>	
Provide slow, guide vehicles along the rim from CVIP to the Village; vehicles should have all seating face the rim and should move slowly so that visitors can hop on and off.	This suggestion does not appear to meet and conflicts with the purpose and need for action for the project, which focuses on enhancing traffic flow and providing adequate parking. Consequently, in its present form, this alternative is likely to be dismissed from further consideration.
Encourage visitors to leave their cars in Williams and take the train to the park.	Grand Canyon National Park currently provides website information about Grand Canyon Railway as a means for accessing the South Rim. Through the planning process, the National Park Service will also consider other means for disseminating information to better inform visitors about

Concerns/Comments	National Park Service Response
Keep transportation to existing corridors.	transportation opportunities. The range of alternatives may include improving conditions for transportation facilities within existing corridors, but will also include evaluation of new or expanded corridors within the park and the Kaibab National Forest.
Provide a means for through traffic to access the Village (don't require everyone to go to CVIP).	All preliminary alternatives currently provide through traffic adjacent to CVIP; visitors will not be required to access CVIP. Access along Center Road would continue to be open to visitor traffic.
<b>Parking Inside Park Boundaries</b>	
Make parking areas look different from grocery parking lots; use sustainable practices; make them natural looking. Build several parking "pods" that are separated by trees and greenways so that a large lot doesn't visually appear as large as it might be. Phase construction and build additional "pods" only when needed.	Refinements to alternatives will consider design of sub-lots within a large parking area. Sub-lots would be separated by vegetated islands to create visual screens, facilitate management of storm water and to facilitate seasonal use and maintenance. Phasing will be considered as part of the plan.
Provide all of the new parking in the park, at CVIP, consistent with the GMP. Building all parking at one location will result in substantial savings over Option A. Consider a double deck lot.	The <i>Park-centered</i> Alternative considers building all of the parking within the park. A double deck is not being considered due to potential impacts on viewsheds, and feasibility of construction.
We support removing the parking at Mather Point and building a new parking area at CVIP, however, the proposed 450-vehicle lot at CVIP appears to be undersized and could merely do little more than transfer existing Mather Point parking issues to this new location. Develop parking lots that area adequately sized for the anticipated demand.	Traffic data has been collected and will be analyzed to refine parking capacity proposed for the alternatives.
Consider parking between CVIP and the rim to address the problem of long walks from CVIP and needs for people with disabilities.	The North Parking Option for the <i>Park-centered Alternative</i> includes parking between CVIP facilities and the rim.
Expand tour bus parking at CVIP.	The <i>Park-centered Alternative</i> includes expanded tour bus parking at CVIP.
Expand parking near the train depot; build 2 or 3 additional lots in the Village.	Only one of the alternatives, the <i>Mixed Alternative</i> , includes a minor expansion at Lot D. Because the Village Area is congested and is also a Historic District, considerations for additional parking have been in locations that would minimize impacts on the historic district and help reduce congestion within the Village.
Provide shuttle bus parking at 'South Gate'	At this time, the South Gate site does not appear to meet the purpose and need for the project and the related objectives for the following reasons: The site is located in fairly close proximity to CVIP/Mather Point, which is a preferred visitor destination. Parking at this location would likely require the addition of restrooms, shuttle bus stops and information, at a minimum, which are facilities already present at CVIP. Displacement of the maintenance yard would require that equipment to be stored elsewhere within the South Rim area, likely resulting in additional resource impacts.
Keep all parking away from the Rim (min. 200 – 500 ft.); access to overlooks should be by shuttle bus only.	The range of alternatives includes provisions for removing parking at Mather Point. Although tour bus parking is proposed near CVIP and Mather Point, it would be located at least 200' from the rim.
Construct adequate parking at Kaibab trailhead.	Providing additional parking at Kaibab trailhead was considered, however, providing parking at CVIP with additional transit service to Kaibab trailhead meets the need to provide better access, but without building more infrastructure.

Concerns/Comments	National Park Service Response
<b>Parking Outside Park Boundaries</b>	
Utilize the former Moqui Lodge site as a parking lot; provide a dedicated bus lane from the parking lot into the park.	At this time, the Moqui Lodge site does not appear to meet the purpose and need for the project and the related objectives for the following reasons: The site is in an isolated location that is not adjacent to commercial facilities such as hotels or other visitor-based services that would allow easy access by parking or local transit service. Noise and light impacts from the transit facility and parking lots would negatively impact residents of the adjacent USFS housing area. The site has recently been restored to its natural condition in accordance with USFS policies, and is no longer programmed for intensive uses.
A parking facility and shuttle bus stop at the former Moqui Lodge site would create noise pollution at our home.	Please refer to the response to the previous comment.
If a parking lot is proposed outside of the park, it should be located adjacent to the IMAX or business community; a parking facility at Long Jim Canyon is too far from the community and would discourage foot traffic to and from the community; parking should also be visible and have direct access from Hwy 64.	The <i>Mixed Alternative</i> proposes a parking facility on USFS land adjacent to the IMAX facility.
Parking south of the entrance station would not be convenient for visitors traveling through to Desert View.	Parking south of the entrance station in all preliminary alternatives where it is proposed, would be voluntary. Use of other parking areas to remain in Grand Canyon Village may be a more appropriate option for visitors traveling from Desert View.
Provide parking near the Grand Canyon National Park Airport for greater accessibility and environmental preservation.	An option for the <i>Mixed Alternative</i> is to utilize existing parking areas in Tusayan and at the Airport as staging for visitors taking the shuttle bus.
Utilize existing parking areas at Tusayan Hotels to supplement a new parking area adjacent to town; the new parking area could potentially be smaller, as there are not parking shortages within the hotels in this area.	Utilizing existing parking areas at Tusayan Hotels is an option under the <i>Mixed Alternative</i> .
Instead of building a parking lot in the park, build it far outside, like at Cameron and subcontract it to the Navajos to run.	Parking locations outside of the park will be evaluated in the range of potential alternatives; however, parking served by the park's transit system needs to be relatively close to be feasible. This plan would not preclude private entities from establishing transit operations into the park from other more remote locations, like Cameron.
<b>Other Transit Modes: Tour Bus, Train, Bikes</b>	
Provide rental equipment so that visitors don't need POVs to transport things.	Because transit systems will not be mandatory, visitors who have items that need to be transported will continue to have the opportunity to utilize their vehicles and park where ever parking is available, if they choose. This plan will not preclude equipment rental operations from occurring within or outside of the park.
Accommodate bicycles and pedestrians/encourage more non-motorized means of getting around. Add more bike paths throughout the Village. Provide bicycle rental concessions or "pink bikes" for free use throughout.	This plan will be coordinated with Greenway planning efforts currently underway at Grand Canyon. Amenities like bike racks and information about bike routes will be included in detailed design for shuttle bus stops and staging areas, as part of future plan implementation. This plan will not preclude bike rental operations from occurring within or outside of the park.
Re-consider light rail in lieu of increasing bus transit. Work on future plans to accommodate light rail from Flagstaff and Williams. Leave all options open for future light rail solutions.	Light rail to and from the South Rim was considered in a 1997 EA/FONSI for a light rail system from Tusayan to CVIP. The 2004 Report to Congress evaluated combinations of bus and light rail transit systems. The light

Concerns/Comments	National Park Service Response
	rail option was found to be cost prohibitive, and one of the objectives for this transportation plan is to implement a transportation system that can be paid for out of recreation fees collected at the entrance stations. Visitation has remained relatively flat for more than 10 years and is not anticipated to grow substantially over the life of this transportation plan. The need for implementing a light rail system cannot be justified at this time. However, the alternatives currently proposed will not preclude other types of transit systems, such as light rail, from being implemented in the future.
Consider bus transit from Flagstaff and Williams with coordinating marketing.	This plan will be coordinated with any future plans for bus transit that may be proposed by Northern Arizona Intermodal Public Transportation Authority or other private transit providers.
Consider bike racks on the buses and improved bike amenities (better trail maps, signs, connecting trails, bike racks, etc.).	Amenities like bike racks and information about bike routes will be included in detailed design for shuttle bus stops and staging areas, as part of future plan implementation. Many of the park's existing shuttle buses have bike racks; it is anticipated that new buses would also have bike racks.
Reconsider opening Yavapai Observation Station to tour buses; provide better accommodation/parking for tour buses.	The proposed alternatives have opportunities for better accommodation and parking for tour buses. The capacity of the Yavapai Observation Station will not accommodate pulses associated with several tour buses arriving at once. The <i>Tusayan-centered Alternative</i> proposes a new shuttle bus route that extends from CVIP to Yavapai Observation Station and back. Tour bus operators may find this short route a reasonable option to parking at Yavapai Observation Station.
Require that all tour bus passengers be transferred to park shuttle buses, like at Denali NP.	The range of alternatives considers voluntary transit use; mandatory use is not required at this time, except during peak visitation months along Hermits Rest and Kaibab Trail routes, where shuttle use is currently mandatory during these time periods.
Do not make tour bus passengers unload/load onto park shuttle buses - visitors will get lost, baggage will get lost - it would be a nightmare for tour operators.	Transferring from tour buses to shuttle buses will remain optional.
<b>Comments on Preliminary Alternative — Option A</b>	
Would a parking lot of 450 spaces in Tusayan be large enough and will there be enough buses in operation to serve the demand?	Parking and transit capacity will be evaluated and facilities/transit will be sized to accommodate anticipated demand.
We support the basic concepts of the Option A Alternative. While we understand that Option A is not an attempt to fully develop General Management Plan recommendations, we support the incremental progress outlined in Option A, which in time should lead to a more comprehensive and permanent park transportation system once adequate funding and visitation numbers allow.	Comment noted. The <i>Mixed Alternative</i> has many of the same components as the original Option A alternative included in the <i>2004 Report to Congress on Transit Alternatives</i> .
<b>South Entrance Station</b>	
Rework the South Entrance Station to substantially improve traffic flow and visitor servicing. Add more traffic lanes from Tusayan to the Entrance Station and provide automated (bypass) lanes for locals, tour buses, vendors and shuttle buses. Add capacity at the entrance station through the addition of stacked kiosks and/or additional lanes with kiosks.	Each of the draft alternatives addresses traffic management strategies for the South Entrance Station including the addition of lanes and development of access strategies. As a separate action, Grand Canyon National Park intends to implement some short-term measures, such as stacked lanes or an additional lane, to reduce wait times at the entrance station within the next year. We will continue to evaluate these actions to determine if they should be

Concerns/Comments	National Park Service Response
	retained as part of the longer term solutions.
Provide a bypass (northbound) lane on the east side of Hwy 64.	The <i>Park-centered Alternative</i> considers a bypass lane east of Hwy 64.
Increase remote sales of park passes. Encourage all gateway community businesses to sell park passes. Provide a means for visitors to purchase park passes online.	Increasing remote sales will be considered within the alternatives. Sales of passes via the internet will be considered; this may be dependent on National Park Service national policies for pass sales.
Reduce park pass fees for those who take shuttle buses into the park, or for those who enter through Desert View.	During the refinement stage of alternatives development, use of incentives will be considered. Use of financial incentives would require legislation, and although not impossible to do, this approach has not been very successful at other national parks. Use of non-financial incentives will also be considered.
Move entrance station north near Center Road or to Canyon View Information Plaza.	The National Park Service assumes this suggestion was made as a means to alleviate visitor queuing extending south into Tusayan during peak times. The preliminary alternatives propose solutions to alleviate queuing without having to build a new fee collection station. However, the advantages and disadvantages of moving the entrance station will be considered as another possible approach during the alternatives refinement stage.
<b>Shuttle Bus Transit</b>	
Improve the park's current shuttle bus system: consider express routes, like to Hermits Rest; increase frequency; provide on-bus information/interpretation; reduce confusion (colors on maps don't correspond with bus colors).	These and other options for improvements to the existing transit system are being considered in the current range of alternatives.
Consider changes to respond to seasonal visitation, such as limited or no bus service during winter.	The range of alternatives will include an operations analysis of the existing transit system and recommendations will be made for improvements. Currently, the existing system provides less service during winter months than summer months.
<b>Transportation Management — Information, Traffic Management, and Operations</b>	
Provide better accommodation for smaller (15 passenger) commercial vehicles; allow parking in areas other than those restricted to 50-passenger tour buses.	15 passenger vans are currently allowed to park in a few areas other than those strictly designated for large tour buses — Mather Point, Yavapai Observation Station, and drop-off at El Tovar. However, other options to accommodate smaller tour vehicles will be considered as alternatives are refined.
Spread demand geographically and by mode - increase train, increase tour buses, increase entrance through Desert View. Disperse demand by time; educate individuals coming to the park that the Village is overflowing from 12 noon to 3:30 when the train is there.	While refining the alternatives the National Park Service will develop traffic management strategies, including strategies for visitor/traffic dispersal.
Improve signage and wayfinding; consider the need for the signal at Center Road - it just causes more confusion. Call CVIP the 'Visitor Center'.	The South Rim Visitor Transportation Plan EA/AOE will be coordinated with a current draft <i>Wayfinding Plan</i> that has been prepared for the South Rim. One of the transportation plan objectives is to provide easy access to information and wayfinding so that visitors have a timely understanding of where to go upon arrival and throughout their visit. Details will be considered during alternatives refinement.
Expand tour bus parking at Bright Angel Lodge.	The National Park Service considered expanding tour bus parking at the Bright Angel Lodge, however, due to the physical constraints at this location and a high concentration of pedestrians, the draft alternatives propose additional capacity for drop-offs only at Bright Angel Lodge, with increased tour bus parking capacity at

Concerns/Comments	National Park Service Response
Eliminate day-use traffic from the village. Limit the number of vehicles allowed in the park per day.	lots D and E. The park's 1995 GMP recommendation to remove day use vehicles from the South Rim was predicated on accommodating visitation levels that far exceed current visitation levels. Because park visitation has been largely flat since 1995, the need to remove personal vehicles in the park is not as pressing today as it was assumed to be when the GMP was developed. The National Park Service intends to manage parking and vehicle traffic levels anticipated through the year 2020; a range of alternatives will meet those needs. The intent of the GMP will still be realized and any alternatives proposed will not preclude future transportation systems from being implemented, including those that may be required for substantial increases in visitation, and/or limiting where vehicles may be allowed.
Make shuttle bus use mandatory when parking areas are full. Make shuttle bus use mandatory in June, July and August.	Traffic management strategies will include recommendations for informing visitors about traffic conditions within the park (i.e., where parking is full and where parking is available) and provide choices for taking a voluntary shuttle bus system. Except for the routes which are currently mandatory, the National Park Service does not feel that a mandatory shuttle bus system is needed on the South Rim at this time.
Simplify road network in the Village area between the Xanterra offices and Hermit Road interchange.	Because the road network with the Grand Canyon Village is part of a Historic District, changes to the network would likely result in an adverse affect. However, this plan will address traffic management strategies within the Village area, including how to best move traffic through the area; improvements to wayfinding will also help alleviate confusion within this area.
<b>Cultural Resources</b>	
Avoid or minimize impacts on archeological and historic resources when suggesting locations for parking, roads or trails. Any re-routing of roads or changes in parking should focus on areas that are already impacted or disturbed.	Resource protection is a key objective of the transportation plan. Archeological resources have been surveyed in areas of potential development. Potential impacts on cultural resources will be evaluated for all alternatives; mitigation measures, such as avoidance will be considered, where feasible.
<b>Data Gaps</b>	
Determine how much traffic (percent) is local through the entrance station (i.e., residents, vendors, employees).	Data regarding the types of users and visitors has been and will continue to be collected and analyzed to refine alternatives for this plan.
Has an analysis been completed to understand if pollution is increased by routing heavy vehicles past Mather Point versus routing along Center Road to get to parking lot E?	The alternatives evaluation process will include evaluation of impacts on air quality.
How will you know what visitors will do, and whether proposed solutions will work?	Transportation data collected during the summer of 2006 will help the National Park Service to understand how visitors are traveling through the South Rim. These studies combined with visitor use surveys conducted in the past will be utilized to analyze how visitors typically use the South Rim and to make recommendations for improvements. Proposed solutions come from experience of transportation planners used for this project and also through analysis of other National Park Service transportation systems.
<b>Gateway Communities</b>	
Consider how Cameron can be a part of the solution.	The plan will consider options to encourage visitors to access the park through Desert View (via Cameron). There could

Concerns/Comments	National Park Service Response
	also be some options to make pre-paid passes available for purchase from Cameron businesses.
Integrate other public and private sector multimodal transportation providers as much as possible, particularly those that provide a uniquely Arizona Experience. Tusayan could create a tax district to facilitate operations of a transit system into the park.	Comment noted. Throughout the planning process, the National Park Service is seeking input from both public and private sector multimodal transportation providers, and it has contacted many stakeholders individually. We continue to look for opportunities to supplement the National Park Service transportation system with other providers.
<b>Natural Resources</b>	
Air pollution impacts on Tusayan (low lying valley) must be considered as well as other environmental impacts on the Kaibab National Forest.	Air quality impacts will be evaluated for the range of alternatives and mitigation measures proposed for each of the alternatives.
Avoid or minimize negative impacts on vegetation, wildlife, watershed, air quality and other park resources. Any re-routing of roads or changes in parking should focus on areas that are already impacted.	Impacts on any resources will be evaluated for the range of alternatives. Mitigation measures will include avoidance, where possible, use of best management practices and incorporation of sustainable design concepts. Where possible, areas already impacted will be considered for new development.
<b>Plan Coordination: Issue Consistent or Addressed with Other Plans</b>	
Provide long-term, progressive solutions and be consistent with the 1995 GMP, particularly its focus on severely reducing or eliminating personal vehicles from the South Rim (in addition to short-term alternatives). Aim for a 75-90 % reduction of vehicular traffic by 2020, rather than 15-25%. Include Options 1-5 from the Report to Congress and light rail in the analysis, despite the current lack of support in the U.S. Congress; Funding should not be the cause for dismissing otherwise valid alternatives.	The GMP's recommendation to remove day use vehicles from the South Rim was predicated on accommodating visitation levels that far exceed current visitation levels. Because park visitation has been largely flat since 1995, the need to remove personal vehicles in the park is not as pressing today as it was assumed to be when the GMP was developed. The National Park Service intends to manage parking and vehicle traffic levels anticipated through the year 2020; a range of alternatives will meet those needs. Although funding is an important aspect of realizing implementation of any alternative, it is not the only cause for dismissing alternatives. The intent of the GMP will still be realized and any alternatives proposed will not preclude future transportation systems from being implemented, including those that may be required for substantial increases in visitation, and/or limiting where vehicles may be allowed.
Per the GMP, add a new road from near Maswik Lodge to Center Road, to avoid residential areas.	Through this planning effort, the National Park Service will analyze traffic management strategies within the Village area, including directing traffic away from residential areas. However, this action will not preclude road additions, such as those described in the GMP, from occurring at in the future.
Consider trail system linkages, such as plans for the Greenway to Tusayan.	The transportation plan will be coordinated with trail linkages proposed for all Greenway planning at the South Rim.
Coordinate planning with the Arizona Department of Transportation and their improvements in Tusayan.	The National Park Service is coordinating with the Arizona Department of Transportation on Tusayan developments and is consulting with the Arizona Department of Transportation throughout the planning process.
<b>Purpose and Need: Scope of the Analysis</b>	
Consider eliminating the entrance fee to provide a better experience.	Grand Canyon NP is mandated to collect fees for entrance into the park. Entrance fees are needed to run the existing shuttle bus system and will be needed to implement and operate future systems
Provide accommodations for tour bus drivers: restrooms, waiting areas, etc.	Accommodations for tour bus drivers may be considered at the alternatives refinement stage.
Add information/interpretive center at parking lot or outside of the park.	Rather than building new facilities, the National Park Service is looking for opportunities to better use facilities that are

Concerns/Comments	National Park Service Response
	already in place. Parking at CVIP in all alternatives will give visitors access to information and orientation. For parking outside of the park, the National Park Service will look for opportunities to share facilities with other providers, such as the National Geographic Visitors Center.
Plan should consider transportation needs for employees and residents.	The primary intent of this plan is to improve the park's transportation system for visitors to the South Rim. Funding for improvements is to come from recreation fee revenues, which are subject to the policies established under the Federal Lands Recreation Enhancement Act (FLREA). Expenditures under FLREA require a direct benefit to visitors. However, proposals for parking management and improvements at the South Entrance Station may indirectly benefit employees and residents, while improving conditions for visitors.
More service will require more employees - make sure housing needs are addressed.	Comment noted. The transportation plan will analyze additional staff and housing needs for any proposed improvements or changes to the transportation system.
With more use at CVIP, provide park film/theater and food/beverage services.	As a separate action, the National Park Service is currently considering expansions at CVIP to include a film/theater and other services. If the expansion continues to be a legitimate reasonably foreseeable future action, it will be analyzed in the cumulative impacts analysis of this EA/AOE.
<b>Purpose and Need: Objectives in Taking Action</b>	
Once the Hualapai Nation's West Grand Canyon project is implemented, the bulk of visitation originating in Las Vegas will be diverted to the new attraction; this will substantially decrease traffic to the South Rim, therefore no action is required.	The West Grand Canyon project and its implications on South Rim visitation are being considered in the development of the transportation plan alternatives.
Improve opportunities for scenic views/photo taking for tour bus users.	All alternatives include improved tour bus parking at CVIP. That combined with potential direct shuttle bus service to Yavapai Observation Station will provide improved opportunities for tour bus users.
<b>Socioeconomics: Impact of Proposal and Alternatives</b>	
Consider access to Apache Stables and other businesses when developing alternatives.	As the alternatives are refined, consideration will be given for access to area businesses.
Consider staging areas in close proximity to Tusayan that will enhance the economic vitality of the community.	The Tusayan-centered and Mixed alternatives consider staging areas in close proximity to Tusayan.
<b>Visitor Experience: Impact of Proposal and Alternatives</b>	
"People Movers" should have open sides so that visitors feel like they're in a park, not on a bus.	Operable windows on shuttle buses will be considered, however, due to a variety of weather conditions and vehicle speeds, windows on the shuttle buses will be required for visitor safety and comfort.
Opportunities for solitude are diminished at Mather Point, due to vehicles and noise; noise from buses should not be noticeable while at overlooks or on trails.	All preliminary action alternatives consider removal of parking adjacent to Mather Point. Proposed parking would be 200' or farther from the rim. Impacts of noise will be evaluated for each alternative.
Non-typical transportation experience will help visitors to remember their Grand Canyon National Park experience as something different/special.	Comment noted.
If you close the park to vehicles, consider the impact to hikers trying to get an early start.	None of the preliminary alternatives involve closure of the park to vehicles.
Incorporate learning opportunities into all aspects of the transportation system.	Options for interpretation and orientation will be considered during refinement of the alternatives.

## NEWSLETTER COMMENTS SUMMARY — AUGUST 28, 2007

As part of the NEPA process for the Grand Canyon South Rim Visitor Transportation Plan Environmental Assessment / Assessment of Effect, the National Park Service sent out a newsletter with preliminary alternatives to the public for review in August 2006. Approximately 55 comments were received. Following is a summary of those comments with corresponding National Park Service responses. The comments are sorted by category without order of importance.

Concerns/Comments	National Park Service Response
<b>Elements Common to All Alternatives</b>	
<p>Reopen the S Kaibab trailhead parking lot to private vehicles, at least to those with overnight hiking permits. Address frustrations with inadequate shuttle bus service/access to the Kaibab Trailhead.</p>	<p>Per a visitor use study, approximately 300-500 (Backlund et al. 2006) day-hikers utilize the S. Kaibab trailhead per day. Overnight backcountry permit holders add to that amount. Allowing parking only for approximately 37 permit holders (the existing capacity of the lot is 37 spaces) doesn't resolve the need for the majority of the trail users. Providing adequate parking at CVIP with enhanced shuttle bus service to the South Kaibab Trailhead is expected to resolve this issue and is an action common to all alternatives. The proposed alternatives also include designation of a temporary dirt/gravel parking area at CVIP, as early as the summer of 2008 for visitors who want to get to the South Kaibab Trailhead. This would be in use until the permanent parking improvements are constructed.</p>
<p>Facilitate the reduction of vehicle use in the village specifically by So. Rim concessioner and park employees (i.e., mail delivery instead of PO Boxes)</p>	<p>The scope of the plan is limited to visitor transportation. How employees and residents utilize existing travelways and parking areas is outside the scope of the EA/Plan. However, National Park Service acknowledges that how employees use the transportation system is important and intends to take a closer look at the potential for improvements through other means, separate from this project.</p>
<p>Were other "non-infrastructure" management alternatives considered (i.e.- redirecting traffic in/around the village to available parking at overflow periods for Mather and/or Tusayan; reservations/permits)? Maximize the use of existing infrastructure through management systems/approaches before adding more. These alternatives each have impacts to resources and capital investment, they each also have a lifetime cost of ownership in operations and maintenance.</p>	<p>Non-infrastructure and transportation management strategies are being incorporated into all of the action alternatives, such as managing use of existing, underutilized lots in Grand Canyon village, during peak visitation periods. Reservations and Permits are not being considered for this plan, as the need to limit visitation is not anticipated through the year 2020, based on visitation forecasts. Through adaptive management, the park would also pursue opportunities to partner with other entities, especially for operations and management of facilities outside of the park.</p>
<p>Keep parking at Mather Point and use during the winter when traffic is minimal, or for visitors with disabilities. Removing this parking to place it elsewhere is a waste of money.</p>	<p>One proposed alternative in the EA includes retention of vehicular access to Mather Point for visitors with disabilities and this is evaluated in detail in Chapter 3.</p>
<p>Make certain there is accessible parking near both CVIP and Mather Point.</p>	<p>Two of the action alternatives include accessible parking near Mather Point and all include accessible parking near CVIP and near the CVIP shuttle bus stop. Accessible shuttle buses would also provide regular service to Mather Point.</p>
<p>Make certain that parking solutions leave room for future building/facility improvements.</p>	<p>Plans include room for a theater, bike rental facility and food items at CVIP, along with other potential future facilities.</p>
<b>Alternatives: New Alternatives or Elements</b>	
<p>The alternatives cannot be expected to stand on their</p>	<p>Grand Canyon National Park currently provides website</p>

Concerns/Comments	National Park Service Response
<p>own without also incorporating existing infrastructure as part of the solution. A simple, existing solution is to encourage visitors to leave their vehicles outside Grand Canyon National Park and use public transportation already available - Grand Canyon Railway and Open Road Tours. Reinstate tracks 5, 6 and 7 at Grand Canyon Yard to increase capacity via Grand Canyon Railway. More visitors traveling via train will not only reduce congestion in the park, but also along Hwy 64, and at the South Entrance Station. Since there are no additional restaurants or food services planned, encouraging boxed lunches or self-prepared lunches should be encouraged. National Park Service should build an outdoor picnic pavilion to facilitate this use.</p>	<p>information about Grand Canyon Railway and Open Road Tours. Some additional website improvements are already underway, and additional improvements are being considered as part of this EA/Plan to better inform visitors about transportation opportunities. Proposed alternatives would not preclude the reinstatement of additional tracks at the Grand Canyon Yard, if deemed necessary at some point in the future. The development of an outdoor picnic pavilion is outside the scope of this plan, but this comment has been shared with park management.</p>
<p>Leave the road at Mather Point in place and build a pedestrian bridge for traffic free access from CVIP to Mather Point.</p>	<p>Realigning the road away from the rim will help to achieve the GMP goal of providing more visitors the opportunity for an auto-free experience at the rim. Also, according to the Federal Highway Administration, studies have shown that many pedestrians will not use an overpass (bridge) if they can cross at street level in about the same amount of time. Overpasses work best when the topography allows for a structure without ramps (e.g., over a sunken freeway). In order to make an overpass accessible, ramps would need to be very long; many visitors might chose to go around the structure and cross at street level.</p>
<p>The numbers presented for commercial/tour bus parking is insufficient. We would recommend at least 50 bus parking spaces at CVIP and 25-35 at Bright Angel Lodge in Lot D. The Lot E, at the Back Country Office is already full during the peak season and does not make sense for BA usage.</p>	<p>The numbers of spaces included in the alternatives is based on current tour bus use, plus anticipated increases based on visitation forecasts. Current bus use was estimated from recorded tour bus entries at the South and Desert View entrances. The number of tour bus spaces provided would allow one half of the daily tour bus entries to be parked at any given time. Also, additional capacity for tour buses would be provided at Yaki Point (7 spots) and in Lot D for overnight use. With better accommodation for RVs, tour buses and autos at CVIP, the National Park Service anticipates being able to manage parking at Lot E more effectively.</p>
<p>Would we be better off creating more traffic if it is the traffic we are trying to avoid? Only a forward-looking, light-rail system should be built. Rather than undermine the integrity of the Grand Canyon South Rim.</p>	<p>Light rail to and from the South Rim was considered in a 1997 EA/FONSI for a light rail system from Tusayan to CVIP. The 2004 Report to Congress evaluated combinations of bus and light rail transit systems. The light rail option was found to be cost prohibitive, and one of the objectives for this transportation plan is to implement a transportation system that can be paid for out of recreation fees collected at the entrance stations. Since visitation has not grown at rates previously anticipated, the need for implementing a light rail system cannot be justified at this time. However, the alternatives currently proposed will not preclude other types of transit systems, such as light rail, from being implemented in the future.</p>
<p>Encourage visitors to go to Desert View and the North Rim and keep Grand Canyon Village as it is; preserve the historic resources</p>	<p>National Park Service agrees with encouraging use through the park's east entrance at Desert View. Through a variety of means (websites, regional signing, etc.), visitors would be encouraged to access the South Rim via the East Entrance at Desert View. Except for at CVIP, very few changes are proposed for Grand Canyon Village.</p>
<p>Recommend no appropriation of Forest Service or Parklands for development of parking facilities. If</p>	<p>All new developments proposed are consolidated with other existing developed areas (parking adjacent to the</p>

Concerns/Comments	National Park Service Response
parking on any federal land is contemplated, an equal area in the Park must be closed. Utilize private land outside park and forest. Personal vehicle use in the Park should be phased out ASAP.	town of Tusayan, new improvements adjacent to existing facilities at CVIP and the greater Grand Canyon Village) to minimize the amount of disturbance to new areas. Although all alternatives propose use of either USFS or National Park Service lands for development of parking facilities, the National Park Service intends to phase in facilities and pursue opportunities for use of private lands.
<b>Parking Inside the Park</b>	
Utilize the area at the end of Center Road (South Gate) for additional parking, verses making visitors park in Tusayan.	The South Gate site was preliminarily considered but was determined not to meet the purpose and need for the project and the related objectives for a number of reasons that are described in Chapter 2 in the Alternatives Considered but Dismissed section.
Expanded parking at CVIP should include more educational displays, more interpretive programs including perhaps a park film / theater as well as concession opportunities. Provide visitors with beverages, snacks and sundries that are currently not available.	The plan includes the addition of a park theater, limited food items and a bike rental facility. Related to these improvements, the Grand Canyon National Park may also be implementing some additional interpretive exhibits at CVIP.
We are concerned that the proposed parking lots at CVIP are still undersized to meet current, let alone future demands.	The size of the proposed parking lot improvements were determined through application of a variety of factors, all of which were derived through data collection and the best available information. The National Park Service believes that the proposed parking lot sizes will accommodate current and anticipated growth at least through the year 2020.
The option of a staging area within the park exacerbates congestion within the park, negatively impacts air and natural quiet nearest to the rim, increases pressure on law enforcement human and financial resources and strains an already convoluted vehicular circulation system.	The potential impacts to park resources of new developments (staging areas) within the park are fully evaluated in the EA in Chapter 3.
<b>Parking outside the Park (Mixed and Tusayan Centered)</b>	
Analyze what process/procedure/incentive would be needed to encourage and increase the amount of visitors utilizing the Tusayan parking and shuttle, and, at the same time, decrease the amount continuing into the park by private vehicle. Getting visitors to park in Tusayan will be difficult to do unless through mandatory enforcement. The vast majority of visitors would rather pay more and wait longer, just to be able to drive their own cars into the park. Signing required to encourage visitors would be unsightly and perhaps ignored by visitors focused on getting to the Rim.	Prior to building any improvements, Grand Canyon National Park intends to run a pilot shuttle bus program between CVIP and Tusayan to determine what kind of interest there is and how best to meet the need. For the alternatives in this EA that propose parking in Tusayan, visitors would still have the choice to either drive into the park or take transit from Tusayan. Through real time monitoring, visitors approaching Tusayan could be notified if parking inside the park is reaching capacity (a combination of signing, flaggers, or other means could be utilized). The incentive could be having a place to park without having to drive round and round; leaving the driving to someone else, where roadway and circulation may be confusing to some. National Park Service believes that many visitors are interested in pursuing car-free travel, and would like the option of taking transit from Tusayan. The National Park Service is committed to adaptively managing the transportation system through phasing, monitoring and evaluation to maximize use of the system, with adjustments as needed.
Please explain further why utilizing incentives to ride shuttles has not proven effective at other parks. If people are not using the shuttles at the desired level in other parks even with financial incentives, why is the Park unwilling to analyze making shuttle use mandatory during peak times at least?	Grand Canyon National Park is not considering fee reductions as incentives at this time, as park entrance fees are needed to operate a free shuttle bus service from Tusayan to CVIP. Based on anticipated levels of visitation through the year 2020, a mandatory shuttle bus system is not warranted, and would require significantly more infra-

Concerns/Comments	National Park Service Response
	structure and parking than is currently proposed. Please see comment response above regarding proposed use of non-financial incentives for parking in Tusayan.
Consider park pass pricing for individuals at \$8 per person; this could be an incentive for some (especially smaller groups) which would make it more likely for the visitor to use a park & ride system in Tusayan.	Prior to constructing parking in Tusayan, the National Park Service will need to determine the best way to collect fees and to determine a fee structure for both individuals and groups. Pricing incentives have been dismissed from detailed analysis; the rationale for this dismissal is included in Chapter 2.
Plan for phasing the expansion of the Tusayan lots as future demand increases.	All alternatives include phasing proposals.
Of the north and south parking options, I believe the north is the most efficient use of space and least confusing to visitors. It also disrupts a lesser amount of natural area on the rim.	One of the options considers some parking north of CVIP.
I would question the cost of Tusayan Centered based on impacts as follows: environmental loss, environmental effects on residents and visitors from pollution, traffic, noise, vandalism, lights, water runoff, sanitation effluent, law enforcement, fire protection, medical, snow removal, etc. And where will water come from? A buffer zone between Tusayan and the National Park is much desirable!	How the Tusayan-Centered alternative would affect park resources, park operations and other impact topics is described in detail in Chapter 3 of the EA.
For Tusayan Centered, placing the parking facility north of Tusayan (near Long Jim Canyon) places the facility in the middle of no-where - it should be closer to Tusayan.	The National Park Service agrees with this statement and has subsequently dismissed this location from further detailed analysis, as described in that section of Chapter 2.
<b>Other Transportation Modes (bicycles, tour buses, pedestrians)</b>	
We would like the draft EA to include specific plans for increasing pedestrian and bicycle use in addition to the increased shuttle bus service described in the preliminary alternatives.	The National Park Service agrees in encouraging non-motorized travel throughout Grand Canyon Village and other park areas and that this is a stated goal of the GMP. Through separate ongoing projects, the Park Service is pursuing additional greenway trail connections (such as Greenway phase V which would connect the rim trail with the South Kaibab trailhead). The intent of this EA/Plan is to ensure all proposed actions are consistent with these other actions and complements them. In addition, this EA is addressing that portion of the Greenway III south of the park boundary since some modifications may be necessary to ensure its compatibility with proposed actions in Tusayan and at the South Entrance Station. Visitors would be informed about this greenway as an alternative way to enter into the park. All proposed alternatives also include pedestrian connections from CVIP to Mather Point, along with access in either direction from Mather Point to rim views and shuttle bus stops (for one way hikes).
Continued use commercial tours can help to alleviate traffic problems at the Grand Canyon; encourage more use by making them convenient and a favorable transportation option. Please consider a way for commercial tour buses to prepay, perhaps using an online system, and to be able to use an automated entry system along with prepaid passes and employees. Provide as much tour bus parking as close to the rim as possible. Spreading buses out is better than concentrating them all in one or few places. Consider reopening Yavapai Point and Hermit Road to commercial buses.	Presently commercial tours can prepay at the National Geographic Visitors Center in Tusayan. Additional venues or on-line systems may become available in the near future, but are outside the scope of this plan and are being looked at through the commercial use authorization program at the park. Although the bypass lane would be utilized for administrative use only, this use will result in up to 20% less traffic at the South Entrance Station, further reducing wait times for all other users. Alternative B provides loading and unloading for tour bus passengers close to the rim; This EA/Plan also proposes accommodation of tour buses at Yaki Point and limited access (Nov. - Feb.) at Yavapai Point. With the addition of new shuttle bus stops

Concerns/Comments	National Park Service Response
	along Hermit Road (through a separate project), space would be limited along Hermit Road for any additional tour buses. National Park Service does not intend to increase tour bus use along Hermit Road.
<b>South Entrance Station</b>	
The Park-Centered Alt. (and other alternatives) should have more lanes at the South Entrance Station, plus a tour bus by-pass lane. Consider making the express lane automated in the future.	The number of entry lanes has been increased for all alternatives. At this time, tour buses would not be allowed on the by-pass lane, which is intended for administrative use only (see comment above re; admin use), however that use could change over time to allow additional use.
<b>Shuttle Bus Transit</b>	
Make certain shuttle buses are accessible.	Grand Canyon National Park is currently purchasing 20 new shuttle buses, all of which are accessible. Any future buses purchased would be fully accessible.
Provide alternatively fuelled buses.	All 20 of the new buses currently being purchased run on compressed natural gas and any future purchases would always ensure alternatively fueled vehicles are considered.
Increase the frequency and shorten the intervals and wait time for shuttle service.	Proposed improvements to the shuttle bus system include efficiencies in routing and increases in frequency to shorten wait times for visitors.
With hundreds of visitors waiting for pick up on the Hermits Rest Route in the busy season, how will you handle the projected increase in shuttle service usage?	For all action alternatives, during peak season, frequency between shuttle buses on Hermit Road would be increased to every 6 minutes.
Suggest a single route from Yaki Point to Hermits Rest with supplemental runs from what is now the transfer point to Hermits Rest.	A single rim route was considered but dismissed from detailed study (see Chapter 2); however, routing was refined to incorporate a more efficient rim route from CVIP to the Hermit's Rest interchange, as a component common to all action alternatives.
Adding more east-bound stops to the Hermit route would also be worth considering, . If adding more stops is not possible, please consider relocating the two a bit further apart.	Through a separate project, Hermit Road Rehabilitation, one more east bound shuttle bus stop will be added at Pima Point, and the existing two will be relocated to be a bit further apart, at Mohave and Powell Point.
<b>Transportation Management — Information, Traffic Management, and Operations</b>	
Raise general awareness of GCNP's solution to traffic congestion at the South Rim with Web site modifications, including: letting visitors know when to generally expect parking and congestion problems; suggesting environmentally friendly transportation alternatives for accessing the park (such as leaving their cars outside of the park and utilizing Grand Canyon Railway or Open Road Tours); modify the web site so that this information is readily available and easy to find. These modifications could also expand to additional promotional vehicles, such as the Grand Canyon visitor's guide.	These suggestions are good examples of transportation operation strategies that are critical to the overall success of the transportation system. The park plans to incorporate these ideas into modifications to the park's website and other visitor outreach materials, as outlined in Chapter 2 and are common to all action alternatives.
To enhance wayfinding, remove the stoplight at Center Road (which leads to more confusion than caution) and again direct visitors in the historic village area to exit the park on center road rather than having to return to Market Plaza to do so. Using the easier and historical exit route up Center Road would eliminate several miles of driving and the congested and confusing route visitors must now take to exit the park from the historic village area.	As part of any improvements to CVIP, wayfinding along the South Entrance Road would be revised to provide better direction to visitors at and prior to the Center Road intersection. The stoplight at Center Road has recently been removed. Repeat visitors and tour buses often utilize Center Road as an exit from the Historic Village Area. The National Park Service has concerns about directing all traffic along Center Road, due in part to the presence of school crossings and residential areas. Additionally, directing visitors who are unfamiliar with the area to Zuni Way and Market Plaza Road helps to disperse traffic throughout this area and minimizes congestion.
Design signage to allow drivers early decision making in their destination choices.	This would be coordinated through the "Sign Plan for the South Rim of Grand Canyon National Park" which is

Concerns/Comments	National Park Service Response
Sell park passes through hotel reservations.	compatible with the transportation plan. National Park Service agrees that additional offsite park pass sales is desirable. Some hotels in Tusayan currently sell park passes and additional sites for park pass sales is a component of the operations strategies described in Chapter 2.
<b>Cultural Resources and Natural Resources</b>	
Roads, trails, and/or parking should, of course, not create negative impacts to archeological sites, vegetation, watersheds, clean air, views, or less tangible resources such as opportunities for solitude, quiet, and contemplative experience. Any re-routing of roads or changes in parking should focus on areas that are already impacted.	Chapter 3 of the EA/Plan fully describes how park resources would be potentially affected by all proposed actions under all alternatives. Disturbed areas would be utilized to the extent possible and where impacts cannot be avoided mitigation measures are included to reduce the level of impact.
<b>Plan Coordination: Issue Consistent or Addressed with Other Plans</b>	
None of the alternatives does justice to the vision of the 1995 General Management Plan (GMP) which was to restore the South Rim's historic and natural significance through sophisticated transportation management of the visitor and the vehicles they arrived in. This plan proposes short-term solutions for long-term problems, franchising the motor vehicle to increased usage rather than a limited role and adding more acres of concrete and asphalt.	National Park Service believes that the proposed actions described in this EA/Plan are consistent with the vision of the GMP, while also recognizing the most urgent needs within available funds. How this plan relates to the GMP is specifically described in Chapter 1.
Mass transit is commonly subsidized by government across our nation as a common public good — yet somehow it does not meet those criteria at one of the world's greatest icons — Grand Canyon National Park. The government has as much a responsibility to engage and pay for mass transit solutions at a clogged up national park as it does in San Francisco, Baltimore, Washington D.C. and a host of other cities that enjoy subways and light rail because of federal investment and subsidy.	Per Congressional direction the National Park Service is proposing alternatives that are supportable by park funds (within the fee structure and revenue) and assume no additional subsidies are needed.
To meet NEPA requirements to analyze a full range of alternatives, and reflect the GMP's intent, the EA should include at least one alternative that includes a phase-out of most personal vehicles. We urge the National Park Service to plan ahead and include an assessment of what conditions will necessitate additional measures such as making shuttle use mandatory, limiting the number of personal vehicles allowed in the Park, etc. National Park Service cannot rely on continually expanding parking and roads within the Park to meet long-term capacity needs and should consider targets for reducing pollution and by progressively replacing personal vehicle use with alternatives such as transit, bikes, and walking.	The purpose of the South Rim Visitor Transportation Plan is to provide a transportation system that addresses the park's most pressing needs through the year 2020; as such, the National Park Service believes the range of alternatives addresses the purpose and need for action stated in this EA. The plan and the alternatives reflect the intent of the GMP and complete the plan's vision to provide an orientation center with parking near Mather Point. Although the South Rim Visitor Transportation Plan/EA includes removal of some parking from the historic village, it does not include eliminating day-use traffic from this area; however, it does not increase the parking capacity within the historic village, nor does it preclude these actions from occurring in the future. Because we cannot predict how visitation will change in the long-term, nor what technologies will be available in the long-term, the National Park Service has chosen to plan for changes that it can reasonably accommodate in the near-term, without precluding other solutions from being implemented in the future.
The alternatives are unresponsive to the 1995 GMP in not more carefully examining the full context of the proposed inter-modal transportation system and does not include evaluation of overnight guests, the Greenway Trail System and alternative forms of in-	The Environmental Assessment will have more details about greenways and their part in the overall transportation system, along with wayfinding, shuttle bus use, etc. Through detailed design, wayfinding, information, orientation and interpretation, including trip planning and op-

<b>Concerns/Comments</b>	<b>National Park Service Response</b>
<p>park transportation such as bicycles. While you mention the need to look at some of these elements as "later refinements" I would argue just the opposite. This Transportation Plan must examine the full context of transportation demands and solutions.</p>	<p>tions for visitors to get around the South Rim will be refined. Planning for the infrastructure (additional greenway segments and shuttle bus routing changes) is underway and the National Park Service needs to inform visitors of their options. Existing parking at overnight facilities is sufficient to meet overnight guest parking needs, as overnight visitors represent only about 16% of visitor traffic in Grand Canyon Village. The major source of the problems this plan is intended to address is traffic from day-use visitors. The transportation plan includes a comprehensive set of integrated transportation solutions that include private vehicle travel, parking, tour bus parking and management, bicycle and pedestrian facilities and transportation management.</p>
<b>Purpose and Need: Scope of the Analysis</b>	
<p>Visitation to Grand Canyon National Park will only stay flat if travel to the Grand Canyon becomes so difficult that it creates a visit disincentive. One can effectively argue that the flat visitation trend of the last decade is due to park congestion problems, not something else.</p>	<p>Based on trends evident at the time, the 1995 GMP forecast that parkwide visitation would reach 6.85 million people per year by 2010. Subsequently, a variety of events and factors have caused visitation to stop growing. The patterns in visitation at Grand Canyon National Park from the mid 1990's through today are similar to those experienced at other western units of the national park system. Many factors, including weather patterns, wildland fires, economic conditions, and competition from other domestic and overseas recreational destinations could be responsible for changes in visitation, in addition to perceptions that the park is congested.</p>
<b>Purpose and Need: Objectives in Taking Action</b>	
<p>There needs to be documentation in the EA of how all alternatives will meet the objective of reducing traffic in the Grand Canyon Village by 15-25%. A 15% decrease in traffic as currently proposed is pathetically low and will have little positive effect for the park. The EA should include more aggressive targets for reducing fossil fuel consuming vehicles between the South Rim entrance and the Rim. I would hope for a target of a 75 percent reduction by 2020.</p>	<p>Depending on the alternative, the percentages of reduced traffic in the Grand Canyon Village range from 29-31% compared to the No-Action alternative, in 2020. The primary congestion that exists in the park today is that associated with parking (at Mather Point) and at the South Entrance Station. Once parking congestion is resolved, an additional reduction of traffic throughout Grand Canyon Village, even at 15%, will be helpful. In order to achieve a target of 75% reduction, all day-use parking would need to occur outside of the park. The National Park Service doesn't believe that removing personal vehicles from the park is necessary at this time and intends to manage parking and vehicle traffic levels anticipated through 2020.</p>
<b>Visitor Experience: Impact of Proposal and Alternatives</b>	
<p>Provide suggestions to visitors, perhaps in the Guide, for some specific visitation patterns using the shuttles.</p>	<p>These kinds of suggestions would be incorporated into the Guide and other information sources once changes to the shuttle bus system routing have been implemented.</p>

## APPENDIX C: COMPLIANCE SUMMARY

The following laws and associated regulations provided direction for the design of project alternatives, the analysis of impacts and the formulation of mitigation/avoidance measures.

National Environmental Policy Act of 1969 (NEPA) (Title 42 U.S. Code Sections 4321 to 4370 [42 USC 4321-4370]). The purposes of NEPA encourage “harmony between [humans] and their environment and promote efforts which will prevent or eliminate damage to the environment. . .and stimulate the health and welfare of [humanity].” The purposes of NEPA are accomplished by evaluating the effects of federal actions. The results of these evaluations are presented to the public, federal agencies and public officials in document format (e.g., environmental assessments and environmental impact statements) for consideration prior to taking official action or making official decisions. Implementing regulations for NEPA are contained in Part 1500 to 1515 of Title 40 of the U.S. Code of Federal Regulations (40 CFR 1500-1515).

Clean Water Act of 1972, as amended (CWA) (33 USC 1251-1387). The purposes of CWA are to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the U.S. and issuing permits for actions consistent with CWA. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the U.S. Implementing regulations describing the U.S. Army Corps of Engineers CWA program are contained in 33 CFR 320-330.

Clean Air Act (PL Chapter 360, 69 Stat 322, 42 USC 7401 et seq.). The main purpose of this Act is to protect and enhance the nation’s air

quality to promote public health and welfare. The Act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. The U.S. Environmental Protection Agency is charged with implementing this Act.

Endangered Species Act of 1973, as amended (ESA) (16 USC 1531-1544). The purposes of the ESA include providing “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” According to the ESA, “all federal departments and agencies shall seek to conserve endangered species and threatened species,” and “[e]ach federal agency shall. . . insure that any action authorized, funded, or carried out by such agency. . .is not likely to jeopardize the continued existence of any endangered species or threatened species.” The U.S. Fish and Wildlife Service (non-marine species) and the National Marine Fisheries Service (marine species, including anadromous fish and marine mammals) administer the ESA. The effects of any agency action that may affect endangered, threatened, or proposed species must be evaluated in consultation with either the U.S. Fish and Wildlife Service or National Marine Fisheries Service, as appropriate. Implementing regulations which describe procedures for interagency cooperation to determine the effects of actions on endangered, threatened, or proposed species are contained in 50 CFR 402.

National Historic Preservation Act of 1966, as amended (NHPA) (16 USC 470 et seq.). Congressional policy set forth in NHPA includes preserving “the historical and cultural foundations of the Nation” and preserving irreplaceable examples important to our national heritage to maintain “cultural, educational, aesthetic, inspirational, economic, and energy benefits.” NHPA also established the National Register of Historic

Places composed of “districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture.” NHPA requires that federal agencies take into account the effects of their actions on properties eligible for or included in the National Register of Historic Places and coordinate such actions with State Historic Preservation Offices. NHPA also requires federal agencies, in consultation with the State Historic Preservation Office, to locate,

inventory, and nominate all properties that appear to qualify for the National Register of Historic Places, including National Historic Landmarks. Further, it requires federal agencies to document those properties in the case of an adverse effect and propose alternatives to those actions, in accordance with the NEPA.

Additional laws, regulations and policies consulted include those in the following table.

### Relevant Laws, Policies, and Regulations

Law, Policy, or Regulation (by date)	Acronym	Record
Yosemite Act of 1864		13 Stat. 325
General Grant National Park and a portion of Sequoia National Park Act of 1890		26 Stat. 650
Yosemite Act of 1906		34 Stat. 831
Clean Water Act of 1948	CWA	33 USC 1251 et seq.
Clean Air Act of 1955, as amended 1963	CAA	42 USC 7401 et seq.
The Wilderness Act of 1964	WA	Public Law 88-577
National Historic Preservation Act of 1966 and regulations implementing NHPA	NHPA	16 USC 470 et seq. 36 CFR Part 800 as amended
National Environmental Policy Act of 1969	NEPA	42 USC 4321 et seq.
Endangered Species Act of 1973	ESA	16 USC 1531 et seq.
National Environmental Policy Act of 1969	NEPA	
Archaeological Resources Protection Act of 1979	ARPA	18 USC 1312
Farmland Protection Policy Act of 1981	FPPA	Public Law 97-98
Aircraft Overflights in National Parks Act of 1987		Public Law 100-91
Native American Graves Protection and Repatriation Act of 1990	NAGPRA	25 USC 3001
Americans with Disabilities Act of 1990	ADA	Public Law 101-336
Migratory Bird Treaty Act of 2001 (Migratory Bird Guidance)		16 USC 703-711
<b>Executive Orders</b>		
Floodplain Management Act of 1977		Executive Order 11988
Protection of Wetlands Act of 1977		Executive Order 11990
Environmental Justice Act of 1994		Executive Order 12898
Indian Sacred Sites Act of 1996		Executive Order 13007
Invasive Species Act of 1999		Executive Order 13112
Consultation and Coordination with Indian Tribal Governments Act of 2000		Executive Order 13175
Migratory Birds		Executive Order 13186
<b>Director's Orders (National Park Service)</b>		
Park Planning	DO-2	Director's Order #2
Conservation Planning, Environmental Impact Analysis and Decision Making	DO-12	Director's Order #12
Environmental Management Systems	DO-13	Director's Order #13
Cultural Resources Management	DO-28	Director's Order #28
Wilderness Preservation and Management	DO-41	Director's Order #41
Implementation of the NPS Organic Act	DO-55	Director's Order #55
Explosives Use and Blasting Safety	DO-65	Director's Order #65
Natural Resources Protection	DO-77	Director's Order #77
Wetland Protection	DO-77-1	Director's Order #77-1

**Other**

2006, *NPS Management Policies 2006*

1988, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices. Office of Water, EPA 832-R 92-005. Washington, DC.

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# APPENDIX D: RECENTLY COMPLETED, IN-PROGRESS, AND FORESEEABLE ACTIONS

## RECENTLY COMPLETED OR IN-PROGRESS PROJECTS

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### National Park Service

#### *South Rim Viewpoint Rehabilitation*

This project is addressing the need for maintenance and rehabilitation of approximately 14 viewpoints along Hermit Road and five viewpoints along Desert View Drive. Lack of consistent maintenance combined with heavy visitor use has resulted in deterioration of masonry structures, surface tread and fencing at these viewpoints. This project would repair and repoint historic walls; reset loose railing stanchions and footings; tighten or replace screws and brackets on railing stanchions; repair, replace or remove chain link fencing; stabilize historic and modern rock retaining walls and trail liners; remove vegetation affecting historic features and visitor safety; repair asphalt; rehabilitate and alter walkway at Maricopa Point and remove graffiti. Implementation has begun and is expected to continue through 2008.

#### *Market Plaza Shuttle Bus Stop*

With the opening of Canyon View Information Plaza and the expansion of shuttle bus operations, the bus stop at Market Plaza had become ineffective. Visitors were confused by the fact that buses were traveling in two directions, but using the same stop. Westbound buses must circle through the entire parking lot in order to enter the bus stop in the proper direction. There were pedestrian / vehicle conflicts causing safety concerns in this congested area. Proposed improvements included repairing curbs, replacing asphalt, installing new benches and replacing the existing shelter. The park also created a new bus stop across from the CVIP access road and across from Yavapai Lodge. This new stop serves westbound bus traffic while the

rehabilitated existing stop serves only eastbound bus traffic. Construction is complete and disturbance occurred on approximately 0.5 acres.

#### *Fire Management Plan Activities*

Under the ongoing planning process for the revision of the park's *Fire Management Plan*, several other areas surrounding Grand Canyon Village are proposed for fuel reduction treatments. These will occur over the course of multiple years in the Wildland Urban Interface surrounding the village. Specific treatment areas and acreages are not known at this time and will not be until this planning process is complete, but it can reasonably be expected that some fuel reduction treatments (either manual and/or mechanical treatments) would occur.

The Topeka prescribed burn unit was burned in fall 2004 and encompassed approximately 3,920 acres. Some of this acreage occurs on the Kaibab National Forest. This burn focused on reducing fuel accumulations in this area south of Grand Canyon Village, creating defensible space near the Wildland Urban Interface around the village. This burn unit is on a 5-year rotation and therefore is likely to be treated with fire again in 2011. Because prescribed burns are designed to improve forest conditions and do not result in a net loss of habitat, the treatment acreages are not considered ground disturbance and are not factored into the total amount of disturbance.

The Long Jim III prescribed burn occurred in spring 2004. However, a portion of the burn went out of prescription and was then managed as a wildfire and suppressed. The area where suppression actions were taken was approximately 230 acres.

The Tusayan prescribed burn unit is scheduled to burn prior to October 2007. This

unit is 584 acres and on a 7 to 8 year burn cycle. The entire burn area is located on national park system land. This burn will focus on reducing fuel accumulations in this area south of Grand Canyon Village, creating defensible space near the Wildland Urban Interface around the village. Because prescribed burns are designed to improve forest conditions and do not result in a net loss of habitat, the treatment acreages are not considered ground disturbance and are not factored into the total amount of disturbance estimated for the project area.

The 744-acre Moqui prescribed burn unit is also on a 7 to 8 year cycle burn and is likely to be treated with fire again in 2009. It is located adjacent to the South Entrance Station and reaches from the landfill road south to the park boundary on the east side of the highway. As with the Tusayan burn unit, treatment acreages are not factored into the total amount of disturbance estimated for the project area.

#### ***Historic Railroad Depot Rehabilitation***

A historic structures report is currently underway and will provide specific treatment recommendations for rehabilitation of this structure. Major interior and exterior building improvements are anticipated to occur in 2009–10, including repairs to non-functioning restrooms and upgrades to make them accessible. Due to drainage problems on the north side of the building, considerations are being made to remove the paved lane adjacent to the building to regrade and facilitate drainage away from the building, however, this should not disrupt traffic flow in the area. Approximately 0.5 acres would be disturbed.

#### ***Desert View Improvements and Road Rehabilitation***

Activities included realignment of Desert View Drive to move traffic away from the rim; construction of a new parking lot and shuttle bus transit facility; installation of additional visitor orientation services facility; construction of trails, utilities, picnic, and other visitor

facilities; and rehabilitation of the south entrance road and portions of Desert View Drive. As part of this project, a new entrance station will be constructed approximately 0.25 mile south of the existing entrance station. The relocation of the entrance station included the demolition of the existing entrance station booths and the associated road between the new bypass road and the road to the maintenance area. This area was revegetated and recontoured to follow the natural slope. The new entrance station will have two entry lanes, one exit lane, two parking spaces for employees, two booths serving the entry lanes, and a building providing restrooms and storage space. The building is approximately 500 square feet. Approximately 1.5 acres needed to be cleared of vegetation to provide for the footprint of the new entrance station.

#### ***Yavapai Observation Station Rehabilitation***

Phase I of this project was completed in 2007 and included the rehabilitation of both the interior and exterior of the historic Yavapai Observation Station, which is a museum/interpretive facility listed on the National Register of Historic Places. Rehabilitation of the facility included updating interpretive exhibits; retrofitting to meet accessibility guidelines and to comply with modern building codes; and, repairs/rehabilitation of historic features and character-defining spaces, while improving the functionality and safety of the building for current uses. Phase II includes the eventual removal of the observation deck windows, to restore the original open-air terrace, and installation of a fixed glazed wall at the south column line with an operable pair of doors. The implementation of Phase II will not occur right away and is contingent upon the following parameter being met: Visitation levels to Yavapai Observation Station drop to approximately 2,500 people daily when a mass transit system is in place, tour buses no longer have direct access, and/or the planned interpretive facility in the historic powerhouse area of Grand Canyon Village is functioning. This phased approach is proposed due to

concerns that immediate implementation of the second phase will likely result in circulation problems for visitors during current peak seasons by significantly reducing the interior space in the building. This second phase will be feasible, however, and desirable, when peak visitation levels drop significantly, which is anticipated following mass transit implementation.

### ***Parkwide Restroom Improvements***

Since 2005, the park has been implementing a project to repair, replace and provide new restrooms throughout the park. Restroom projects within the project area include:

#### ***Yavapai Point Restroom Rehabilitation***

The existing restroom building near the Yavapai Observation Station was constructed in the 1950s, was in a state of disrepair, and did not meet ADA guides for accessibility. All but a portion of the foundation was replaced. The new building was constructed in 2005-2006 and includes six toilet fixtures each for men and women. The building has accessible toilets and also included an accessible walk from the existing parking lot to the rehabilitated building. Approximately 0.5 acres around the building were disturbed.

#### ***Yaki Point Vault Toilet Installation***

Yaki point is presently a shuttle bus stop and a stop for Xanterra tour buses. Previously, only a portable toilet was present for shuttle and tour bus passengers, which had to be pumped frequently. A single vault, prefabricated toilet was installed in 2006 to meet current and future demand. An accessible walk was also extended from the parking area to the vault toilet. Disturbance is estimated at less than 0.5 acres.

### ***South Entrance Road Improvements***

Grand Canyon National Park is proposing improvements to the South Entrance Road (Highway 64) between the community of Tusayan and the entrance station. The park is working collaboratively with the Arizona

Department of Transportation (ADOT) to address the proposed work in the ADOT right-of-way south of the park boundary. The purpose of these improvements is to provide an effective system that would address the crowding and safety issues that can occur during the high visitor use season at the south entrance to the park. The project proposal includes the construction of up to two additional northbound lanes and an independent bypass lane that will be available to transit vehicles, employees and residents, and other users as determined by the National Park Service. The bypass lane would diverge from SR 64 between the park boundary and the park sign and would merge back into the highway approximately 750 feet north of the entrance station. If needed, an additional northbound lane would be added as a feeder lane for the bypass lane. This lane would extend from just north of the Tusayan Ranger District access road to the south end of the bypass lane.

### **U.S. Forest Service — Kaibab National Forest**

#### ***Tusayan Sewer Line Construction***

The USFS constructed a gravity flow sewage line, approximately 6,585 feet in length, from the Tusayan Ranger District Residential Compound to the South Grand Canyon Sanitary District treatment plant. The new route required the development of approximately 1,300 feet of new right-of-way (ROW) and the development of 5,285 feet of line in existing ROW, including approximately 800 feet in the US Highway 180/Route 64 ROW, 1,500 feet in the mountain bike trail ROW, 2,950 feet in the Forest Road 60 (Long Jim Loop) ROW, and 35 feet within the Reclaim Lane ROW. The ROW is generally less than 20 feet in width and required the removal of scattered trees. Approximately 3 acres of land were encumbered for the project.

#### ***Moqui Lodge Special Use Permit/Demolition***

Moqui Lodge was originally built in the 1920s. The A-frame portions of it were from the

1960s. Xanterra, the most recent permit holder, demolished the facility in June 2006. Both aboveground buildings/infrastructure and below-ground infrastructure were removed. This included the A-frame lodge (restaurant, cocktail lounge, guest check-in, and gift shop), lodge sign, hotel buildings (approximately 135 units), trailer pad sites, employee apartment housing building, gas station/store building, parking/road asphalt paving, underground concrete sewer line, sewage lagoons, Apache Stables barn, and outbuildings. The site has since been reseeded with native grass species and a buck and pole fence is being erected to prevent off-road vehicles from entering the area.

#### ***Tusayan District Travel Analysis Process***

The USFS began its travel analysis and travel management planning in 2005 for the Tusayan District. The district is identifying roads, trails, and motorized and non-motorized travel routes. The preferred alternative would close the district to cross-country off-road travel, restrict areas for dispersed camping, and close a number of unnecessary roads. A modified alternative would present a minimal road system. The notice of availability and comment period for the plan should occur in October 2007, and the USDA Forest Service anticipates releasing the final EA in early 2008.

#### ***Tusayan Bike Trail***

The USFS is constructing a bike trail system on old logging roads made up of several loops that will return the visitor to the trailhead at Tusayan. The total trail system length is 36 miles. The trail loops can be used to access the Arizona Trail and the USFS Grandview Lookout Tower.

### **Tusayan**

#### ***Grand Canyon National Park Airport Expansion; New FAA Tower/Security Area***

Constructed during 2000-2002 and commissioned in March 2003, the ATCT is 121 feet tall and the base of the building is approxi-

mately 5,000 square feet. The facility includes a paved parking lot for 30 automobiles. It's located about 0.5 miles south of the terminal, on the east side of the runway.

#### ***Tusayan Community Wildfire Protection Plan, February 2005 (USFS)***

This plan was developed in response to the Healthy Forests Restoration Act of 2003, which established unprecedented incentives for "at risk" communities to develop a comprehensive wildfire protection plan in a collaborative inclusive process. The plan was collaboratively developed through consultation between the Tusayan Community and the Kaibab National Forest. The plan identifies strategies and priorities for reducing fuels on wildlands while improving forest health, supporting local economies, and improving firefighting response capabilities.

Recommended measures for creating a more wildfire defensible community include: provide incentives for private landowners to address defensible space and fuels management on their properties and implement fire sensitive land use planning; enhance regulatory and control policies (open burning, campfires, smoking restrictions, etc.) by Kaibab National Forest, in cooperation with local law enforcement; promote community involvement through education, information and outreach; and leverage the performance of fire response crews' through combined responses by Tusayan Fire District, Grand Canyon National Park, and Kaibab National Forest.

## **FORESEEABLE ACTIONS**

### **National Park Service**

#### ***Greenway Trail — Phase III***

This approximately 7-mile segment of the Greenway Trail will provide a pedestrian / bicycle / equestrian trail from the north end of Tusayan to Canyon View Information Plaza within Grand Canyon National Park. The portion of the trail outside of the park from Tusayan to the park boundary is evaluated in

this EA as part of the alternatives. The proposed trail from the park boundary to Canyon View Information Plaza is evaluated in this EA as a cumulative action.

This trail will provide an alternative means for non-motorized access into the park. It will also provide a separated experience from the existing road and vehicles entering the park. The trail will be 10-foot wide with a hardened surface and a stabilized shoulder made from a mix of aggregate and topsoil. An area 12 to 14 feet in width will be temporarily disturbed during construction. Design and construction will promote sustainability where possible and would strive to minimize impacts on the land. The trail will provide a possible extension of the Arizona Trail into the park for hikers, cyclists, and equestrian users. The trail will become part of the park's overall trail system and will be included in routine patrols by park rangers. Construction on portions of this trail has begun.

#### **Shuttle Bus Maintenance Facility**

The National Park Service prepared an *Environmental Assessment for the South Rim Maintenance, Warehouse, and Transportation Facilities* (NPS 1999b) and a subsequent "Finding of No Significant Impact." As a result, a new National Park Service facility was built in 2003 south of the existing shuttle bus maintenance site to serve general park maintenance functions, material storage, and to accommodate related offices. A new transportation maintenance facility to serve both the South Rim shuttle bus operation and the Tusayan/National Park Service light rail operation was identified for this same area in the 1999 *Environmental Assessment* but was never built. The bus maintenance facility is proposed for the same area identified in the 1999 document, but due to the substantially smaller size of the current proposed facility, it would require a reduced area of disturbance.

#### **Bright Angel Trailhead Area Design Plan**

The National Park Service proposes to develop and implement a design plan for the

Bright Angel Trailhead area, located within Grand Canyon Village on the South Rim. Proposed actions include development of a plaza area near the primary trailhead; enhancing trail connections and wayfinding; construction of a new restroom near the proposed plaza and existing mule corral; and differentiating vehicle circulation within the parking area from pedestrian zones in the project area. Future phases of the project, if funded, would include hardening the parking area surface and delineating parking spaces for approximately 79 vehicles, additional revegetation and landscaping, enhanced wayfinding, and interpretive signage and creation of an interpretive node at Kolb Garage.

#### **Bright Angel Lodge and Cabin Renovations / Rehabilitation**

Future improvements would be primarily confined to the lodge building itself. Minor site improvements may occur to improve accessibility from the northern most sidewalk (adjacent to tour bus loading/unloading locations) into the building, including partial removal of a stone planter wall. Site disturbance would be less than 0.25 acre.

#### **Village Interpretive Center (formerly called Heritage Education Campus)**

The Heritage Education Campus was envisioned in the 1995 General Management Plan as the park's primary visitor center and interpretive facility. A 2003 concept plan detailed solutions for adaptive reuse of the following historic structures, located just south of the railroad tracks in Grand Canyon Village: Mule Barn, Powerhouse, Laundry and Maintenance Building. The Livery Stable would be retained as a working facility. The site around these buildings would be rehabilitated to include pedestrian activity areas; most parking and vehicular traffic would be removed. To that end, the following projects are pending:

- *Power Substation Relocation* — As a first step to improving this interpretive

center, the power substation would be relocated to a location south of Center Road, near the Pines Housing District. This project may occur within the next 3-5 years. The area where the substation is currently located would be left as a gravel flat area (0.25 acre) with a retaining wall. The new location for the substation is south of Grand Canyon Village, outside of the areas considered for cumulative impacts.

- *Historic Powerhouse Stabilization* — This project is set to occur in 2013 and includes building stabilization and hazardous materials removal. This project would not disturb, nor restore any areas outside of the building; therefore it would not affect the total amount of disturbance estimated for the project area.
- *Repair/Rehabilitation of the Historic Powerhouse* — This project would be the second step required to change its use into an interpretive facility. This project is not anticipated to occur until sometime after 2013. Minor improvements would occur to the exterior site around the building as part of this project; however, areas of rehabilitation have not been included in the total amount of disturbance for the project area, since the timing of this project is unknown.
- *Relocation of Concessioner operations from the Historic Powerhouse building to New Warehouse* — Concessions operations will be removed from this facility by fall 2007. Concessioner employee parking will no longer be needed south of the Historic Powerhouse building.

### **Greenway V Trail Segment**

The National Park Service proposes to construct an approximately 1-mile long paved trail from Pipe Creek Vista, an overlook along Desert View Drive, to the South Kaibab Trailhead. Completion of this trail segment would connect the paved rim trail from

Mather Point to the South Kaibab Trailhead. The majority of the trail alignment would utilize existing disturbed corridors to minimize new ground disturbance. Pipe Creek Vista and the South Kaibab Trailhead are both accessible by shuttle bus and Pipe Creek Vista also provides some vehicular parking. The scope of the project includes reconfiguring the parking at the Overlook for enhanced safety and to provide adequate room for the trail to cross the overlook area; creation of an accessible path from the South Kaibab Trailhead parking area up to the trailhead itself with improved site amenities; and identification of a “connector” trail between the South Entrance Road and the project area for Arizona Trail users, bicyclists and equestrians.

### **Trail of Time**

This project will provide trail markers and approximately 10 wayside exhibits along the Rim Trail from Yavapai Observation Station west to Verkamps. Trail markers will designate the age of canyon formations. Ground disturbance due to installation of markers and wayside exhibits is minimal. Project installation will occur in phases beginning in fall 2007 to 2009.

### **Backcountry Management Plan**

The National Park Service is initiating the process to revise the 1988 *Backcountry Management Plan*. The 1988 plan needs to be updated to comply with the 1995 *General Management Plan* and the NPS *Management Policies 2006*. The scope of the plan is still being considered, but is expected to include visitor use and access into the backcountry, natural and cultural resource stewardship and recommended wilderness. The plan will complement other recently completed or in-progress plans such as the *Colorado River Management Plan* and the *Fire Management Plan*. It is expected that corridor trails (Bright Angel, South Kaibab and North Kaibab) will be included as part of the plan.

### **Employee Housing**

The National Park Service currently has a shortage of housing for park employees; many have to share quarters that are too small or are in disrepair. Through this project, approximately 64 housing units will be constructed in eight 8-plex apartment buildings. The buildings along with parking, access and utilities will be placed south of Albright Training Center in a previously disturbed area, where trailer housing units are currently located. This project is anticipated to begin in 2009 and go through 2010. Total estimated disturbance is 5 to 10 acres.

To help further meet housing needs, the National Park Service is planning to construct up to 40 trailer pad sites and utilities: 20 sites for park employees and up to 20 sites for shuttle bus transit operators. The 20 pad sites for shuttle bus operators would include five sites to meet immediate needs and 10 for the new bus operation (part of the no-action alternative). An additional five sites could be constructed in the near term for additional staff.

### **Hermit Road Rehabilitation**

The National Park Service plans to rehabilitate the 7-mile-long Hermit Road beginning in March 2008. Hermit Road is located on the South Rim between Grand Canyon Village and Hermits Rest. Actions including widening and resurfacing the road, improving existing trails, overlooks and parking areas, and constructing a multi-modal greenway trail. The National Park Service also intends to implement a temporal closure of a portion of Hermit Road to vehicles, for a trial period, some time following road construction. The trial closure period will be the same as the 9-month shuttle bus operation, March 1 to November 30, and may be implemented up to seven days a week and up to 3 hours a day, from 7 a.m. to 10 a.m. The scope of the project also includes some changes to the shuttle bus interchange at the junction of Hermit Road and Village Loop Drive, to include a relocated

shuttle bus shelter and improved pedestrian queuing.

### **U.S. Forest Service — Kaibab National Forest**

#### ***Kaibab National Forest Land and Resource Management Plan Revision***

The National Forest Management Act requires every national forest to have a land and resource management plan, commonly called a Forest Plan, which describes how the National Forest will be managed over the next 10 to 15 years. These plans are programmatic in nature and their management direction is broad in scope and provides for integrated multiple use and sustained yield of goods and services from the Forest in a way that maximizes net public benefits in an environmentally sound manner. The current *Kaibab National Forest Land and Resource Management Plan* was implemented in 1987 under the 1982 “planning rule,” which outlined the process of developing and amending forest plans nationwide. In 2005, however, that planning rule was updated and mandated that all forest plans must undergo a comprehensive evaluation every 3 to 5 years, making them much more adaptable to changing conditions and new information. The revised Kaibab Plan will maintain those portions of the existing plan that are effective, incorporate new information, and add new elements to areas in need of improvements. The plan revision process is scheduled to take approximately three years, with a final plan being ratified in 2009.

#### ***Land Conveyance for the Grand Canyon Unified School District***

Kaibab National Forest is providing land by means of a quit claim to the Grand Canyon Unified School District for a 79.93-acre school site that will be developed in three phases over an estimated 5 to 10 year time period. The site is just south of the South Grand Canyon Sanitary District sewage treatment plant and lagoons and adjacent to the Grand Canyon National Park Airport. Access to the proposed

school site is by paved road known as the South Long Jim Canyon Loop Drive, which intersects with SR 64 at the south end of Tusayan. This road crosses a short section of national forest system land, and then crosses Grand Canyon National Park Airport property and the proposed school site to the non-federal land at Tusayan.

- *Phase 1* — Installation of fields, courts, and infrastructure for school facilities (projected completion – 5 years from date of conveyance).
- *Phase 2* — Construction of school district office and related facilities; BIA dormitory for American Indian students; and Coconino joint use facility (projected completion – 5 years from date of conveyance).
- *Phase 3* — Building high school and alternative school facilities (projected completion 7–10 years from date of conveyance).

The utility lines for potable and reclaimed water, utilities, and sewer are currently located adjacent to the proposed school site, and can be readily extended to proposed facilities.

### ***Canyon Uranium Mine Final Environmental Impact Statement***

The 17-acre Canyon Uranium Mine site is on national forest system lands approximately 6 miles south of Tusayan. The site was developed by Energy Fuels Nuclear but never operated due to falling uranium prices in the late 1980s. Onsite development included site clearing; drilling of a monitoring well for water quality; storage of topsoil in large berms; a security fence around the perimeter; construction/upgrade of the access road; powerline construction to the site; placement of administrative buildings; and placement of the head frame over the shaft site, which was never excavated. If the current owner of the mine approaches the U.S. Forest Service with the intent to open the mine, a NEPA review would occur first, or at least every three to five

years to determine if the environmental analysis and documentation should be corrected, supplemented, or revised.

## **Tusayan**

### ***Grand Canyon National Park Airport Master Plan Update***

The *Grand Canyon National Park Airport Master Plan* provides recommendations for short- and long-term operation and capital improvements that are intended to maintain a safe and cost-effective facility, while accommodating the current and projected aviation demand through a 20-year planning period. Capital improvements include the following:

- *Capital Improvements (2007–2011)* — A new 60,000-square-foot passenger terminal building and an expanded auto parking area (of up to 400 spaces and approximately 138,000 square feet) will be constructed in three phases beginning in 2007. Other projects to be completed prior to 2011 include construction of an airport perimeter road; an 8,400-square-yard paved aircraft apron; relocation of snow removal and maintenance equipment, maintenance and operations services; generator replacement; and installation of security lighting.
- *Long Range Capital Improvements (beyond 2011)* — Runway 3-21 is programmed to be extended by approximately 1,000 feet to the southwest. Total dimensions will be 10,000' x 150'. An environmental assessment for this project will begin in 2009. An additional parallel runway and all associated lighting is planned that will measure 5,600' x 75' and will serve primarily local and transient general aviation aircraft. It will be located approximately 700' west of the existing runway. Ultimately a parallel taxiway between the new and existing runways would be constructed and would measure approximately 5,600' x 50'. In addition to the runway expansions the

residential area located to the east-southeast of the terminal area is expected to be relocated to the south of the current location to land currently owned by the USFS. This relocation will allow for additional residences to accommodate state and federal employees. Both the runway expansion and residential improvements will require acquisition of approximately 60 acres of Kaibab National Forest.

### ***Tusayan Incorporation Study***

The community of Tusayan is considering the possibility of incorporation and is having a series of public meetings to discuss the pros, cons and next steps. The plan addresses the fiscal feasibility of incorporating including the types and levels of services that could be provided by the town, level of budget required to support those facilities and sources of revenue to support the budget. By law, incorporated towns and cities have to provide police protection, street maintenance and administration. Other services are optional, but could include items such as planning and zoning, parks and recreation, libraries, magistrate court, capital projects, etc. Although some revenues could be expected from state revenue sharing, federal and state grants, business licensing taxes, utility taxes and fines and forfeitures, the primary source for revenues would be generated from sales

taxes. Preliminary annual revenues are estimated at \$2.45 million, depending on taxes and rates. Depending on the services provided, total annual expenditures are estimated at \$1.9 million in 2007-2008. This plan proposes that the town offer a limited range of services in the early years of incorporation, while retaining special districts for wastewater, trash, lighting, and fire protection, until it has adjusted to incorporation. Incorporation would allow Tusayan to pursue special revenue funds, such as state revenue sharing for transportation. At the time of this writing, it's not known if or when Tusayan would become incorporated.

### ***Tusayan Multi-Use Path Enhancement***

This Arizona Department of Transportation project would install new and improve existing paths adjacent to Highway 64 in the community of Tusayan. The 2-mile path, along either side of the road, would be meandering and multi-use and could include design for associated shuttle bus stops.

### ***Tusayan Road Improvements***

The Arizona Department of Transportation is working with the community of Tusayan to develop road improvements for increased safety and movement along SR 64. Actions may include the installation of roundabouts, construction of a median and installation of crosswalks.

## GLOSSARY

**Adaptive management** — Adaptive management is a decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. It is not a ‘trial and error’ process but rather emphasizes learning while doing. Adaptive management does not represent an end in itself but rather a means to more effective decisions and enhanced benefits. (Williams, B. K., R. C. Szaro, and C. D. Shapiro. 2007. *Adaptive Management: The U.S. Department of the Interior Technical Guide, Adaptive Management Working Group*, U.S. Department of the Interior, Washington, DC.)

**Adverse impact** — Impacts would be detectable but would not diminish the overall integrity of the resource.

**Affected environment** — The existing environment to be affected by a proposed action and alternatives.

**Ambient air** — Any unconfined portion of the atmosphere: open air, surrounding air.

**Capital expenditures** — Capital expenditures typically include expenditures on acquire or improve property, plant, and equipment. Examples typically included expenditures on structures, machinery/equipment, land, and construction in progress (including materials).

**Clean Air Act (CAA) (42 USC 7401-7671g)** — The comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the U.S. Environmental Protection Agency to establish National Ambient Air Quality Standards to protect public health and the environment.

**Commercial use authorization (CUA)** — A permit that authorizes suitable commercial services to park area visitors in limited circumstances. Issued only to authorize services that (1) are determined to be an appropriate use of the park; (2) will have minimal impact on park

resources and values; and (3) are consistent with the purpose for which the unit was established, as well as all applicable management plans and park policies and regulations.

**Cumulative impacts** — Under NEPA regulations, the incremental environmental impact or effect of an action together with the effects of past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions (40 CFR 1508.7).

**Day visitors** — Visitors who arrive at and depart from the park on the same day; they do not stay overnight in the park.

**dB** — A unit used to express power level in decibels relative to one milliwatt.

**Decibel A-weighted (dBA)** — A-weighting deemphasizes the high (6.3 KHz and above) and low (below 1 KHz) frequencies, and emphasizes the frequencies between 1 KHz and 6.3 KHz, in an effort to simulate the relative response of human hearing.

**Design day** — The 10th highest visitation day in the park, which was assumed in determining the requirements for facilities in the plan. Approximately 90% of the park’s visitors come on days with visitation equal to or less than the design day.

**Direct impacts** — Changes in sales, income, and jobs in those businesses or industries that directly receive the visitor and employee spending. Indirect effects are changes in sales, income, and jobs from industries that supply goods and services to the businesses, which sell directly to the visitors and employees.

**Diurnal** — Occurring or active during the daytime, rather than at night.

**Enabling legislation** — National Park Service legislation setting forth the legal parameters by which each park may operate.

**Endangered Species** — “Any species (including subspecies or qualifying distinct population segment) that is in danger of extinction

throughout all or a significant portion of its range” (ESA sec. 3(6)). The lead federal agency for the listing of a species as endangered is responsible for reviewing the status of the species on a five-year basis.

**Endangered Species Act (ESA) (16 USC 1531 et seq.)** — An act to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and to provide a program for the conservation of such endangered species and threatened species.

**Environmental assessment** — An environmental analysis prepared pursuant to the National Environmental Policy Act to determine whether a Federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

**Environmental impact statement** — An environmental analysis prepared pursuant to the National Environmental Policy Act whenever an agency proposes or approves an action whose impacts on the human environment may be significant.

**Executive order** — Official proclamation issued by the President that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

**Fauna** — Animals, especially the animals of a particular region or period, considered as a group.

**Finding of no significant impact (FONSI)** — A document prepared by a federal agency showing why a proposed action would not have a significant impact on the environment and thus would not require preparation of an Environmental Impact Statement. A FONSI is based on the results of an Environmental Assessment.

**Flora** — Plants considered as a group, especially the plants of a particular country, region, or time.

**Grand Canyon Village National Historic Landmark District (Village Historic District)** — Part of Grand Canyon Village and referring to

the area including the canyon rim between Verkamps Curio Shop on the east and the beginning of Hermit Road on the west, the train depot, and other park and concessioner facilities near the railroad tracks. Maswik Lodge, the Backcountry Office, and parking lot E are major visitor destinations adjacent to, but technically not within the Village Historic District. (Also see Village Historic District area.)

**Habitat fragmentation** — The alteration of a large habitat patch to create isolated or tenuously connected patches of the original habitat that are interspersed with an extensive mosaic of other habitat types.

**Modes of access** — The methods of transportation used to arrive at and/or move around the South Rim of the Grand Canyon.

**Hard site** — The ground surface is covered with concrete, asphalt, packed dirt, gravel, or similar reflective material for more than one-half the distance between the listener and the vehicle.

**Induced effects** — Changes in economic activity in the region, which are generated from household spending of income earned through the direct or indirect effects of the visitor and employee spending.

**Intelligent transportation systems (ITS)** — Advanced information and communication technologies, including traffic detectors, weather sensors, computer databases, and variable message signs, to improve transportation safety and efficiency.

**National Environmental Policy Act (NEPA)** — The act articulates the federal law that mandates protecting the quality of the human environment. It requires federal agencies to systematically assess the environmental impacts of their proposed activities, programs, and projects including the “no-action” alternative of not pursuing the proposed action. NEPA requires agencies to consider alternative ways of accomplishing their missions in ways which are less damaging to the environment.

**National Park Service Organic Act** — Enacted in 1916, this act mandates the National Park Service to make informed decisions that perpetuate the conservation and protection of

park resources unimpaired for the benefit and enjoyment of future generations.

**Peak season** — The time period when the park has the most visitors, Memorial Day through Labor Day.

**Record of decision** — When an EIS has been prepared, the ultimate choice of an alternative, mitigation measures, and the decision rationale are documented in a document called a ROD.

**Scoping** — Scoping is required by the National Environmental Policy Act, which requires examining a proposed action and its possible effects; establishing the depth of environmental analysis needed; and determining analysis procedures, data needed, and task assignments. The public is encouraged to participate and submit comments on proposed projects during the scoping period.

**Service miles** — The total length of the shuttle bus routes in each alternative times the number of trips buses would make along the route during the day.

**Soft site** — The ground surface is covered with grass, other ground cover, or similar absorptive material for one-half or more of the distance between the listener and the vehicle.

**Special park use** — A short-term activity that takes place in a park area and (1) provides a benefit to an individual, group or organization, rather than the public at large; (2) requires written authorization and some degree of management control from the National Park Service in order to protect park resources and the public interest; (3) is not prohibited by law or regulation; and (4) is neither initiated, sponsored, nor conducted by the National Park Service.

**Topography** — The physical features of a surface area including relative elevations and the position of natural and man-made (anthropogenic) features.

**Total effects** — The sum of the direct, indirect, and induced effects and represent the total or combined impact to the economy.

**Viewshed** — A physiographic area composed of land, water, biotic, and cultural elements which may be viewed and mapped from one or more viewpoints and which has inherent scenic qualities and/or aesthetic values as determined by those who view it.

**Village Historic District area** — The combined major visitor destinations on and near the canyon rim between Verkamps Curio Shop and Maswik Lodge, including Bright Angel Lodge, Thunderbird Lodge, Kachina Lodge, El Tovar Hotel, and various parking lots and other visitor facilities served by Village Loop Drive. (Also see Grand Canyon Village National Historic Landmark District.)

**Wayfinding** — Encompasses all of the ways that people orient themselves in physical space and navigate from place to place. Wayfinding is used to refer to the experience of orientation and choosing a path within the built environment; it encompasses the design of information logic and visual elements of signs and maps that guide people around a place or facility.

**Wetlands** — The U.S. Army Corps of Engineers (Federal Register 1982) and the Environmental Protection Agency (Federal Register 1980) jointly define wetlands as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**Xeric** – Relating to or living in an extremely dry habitat.

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DEA	David Evans and Associates
NAU	Northern Arizona University
NPS	National Park Service
NYSDEC	New York State Department of Environmental Conservation[
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environment and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

