

Executive Summary

Looking Back - Moving Forward

Cades Cove

Opportunities Plan



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Prepared for:
Great Smoky Mountains National Park
National Park Service
U.S. Department of the Interior
Knoxville Regional Transportation Planning Organization



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demand by season, day of week, and time of day. Service levels also would vary by alternative. Based on current visitor patterns, these shuttles would operate only during the peak season.

Loop Road Service

Shuttle service also could be provided from the proposed visitor center at the head of the Cove and travel along the Loop Road. Interpretive and orientation materials, perhaps including a recorded interpretive program, could be made available to shuttle riders. This service would serve pedestrians/hikers who want to travel within the Cove and visitors who want to stop at historic and other sites in the Cove.

Approximately 17-18 stops would be made at key sites, trailheads, and scenic vistas along the Loop Road. The entire trip is expected to take about 1 hour and 40 minutes. During peak visitation periods, shuttles would arrive once every three to four minutes (in Alternative 5). This would enable visitors to spend as much or as little time as they like at any one location. When ready to move on, those visitors could board the next shuttle and continue to their next destination.

Bicycle/Pedestrian Elements

Bicycle and pedestrian strategies focused on access, the bicycle/pedestrian-only time periods on the Loop Road, and the development of a new bicycle/pedestrian pathway that would be separate from the Loop Road.

The addition of a separate bicycle/pedestrian pathway would provide cyclists and walkers with access to the Cove while greatly reducing concerns about conflicts

with motorized vehicles on the Loop Road. This pathway could follow some of the historic traces and farm roads within the valley floor of the Cove. Providing an alternative visitor experience of this nature could entice more visitors to the Cove without necessarily increasing automobile traffic on Cades Cove roads. However, if the paths prove to be popular, they may generate demand for additional parking spaces dedicated to bicycle/ pedestrian visitors.

Costs

Three types of costs have been quantified for the Opportunities Plan. The first are "Class C" estimates of the elements of the alternatives; the second are the operating costs related to the elements; and the third are the life-cycle costs.

Class C costs are rough estimates developed based on the average cost of similar facilities. Actual costs may be higher or lower depending on the final design, site conditions, and the contracting agency. Operating cost estimates were developed for the anticipated Park staffing levels required to administer resource, visitor and management activities for each of the alternatives.

Cost estimates will be refined as elements of the plan are developed in greater detail during future phases of the project. The preliminary figures are included in Chapter 5 of the final report.



Overview

Within Great Smoky Mountains National Park lies a treasured setting known as Cades Cove. This relatively flat valley, surrounded by the mountains and ridges of the Appalachians, has a long history and plays a unique role within the Park. Once a hunting ground for Native Americans, Euro-Americans from Tennessee, Virginia and North Carolina first came to Cades Cove in 1821. These settlers cleared land and built homes, churches, schools and gristmills.

The level valley and rich, fertile soils made the cultivation of corn a primary agricultural activity of Cove families. The fields, forests and streams provided food sources such as bear, venison, quail, rabbit and fish. The farmers quickly learned the advantages of taking their cattle to the "grassy balds" (peaks well below the timberline that are "bald" except for grass and shrubs) on the mountaintops overlooking the Cove, opening up land in the valley for further cultivation.

Many descendants of the Cove's early inhabitants return several times a year to visit their ancestral home sites and family cemeteries. The Cove also receives visitors from across the United States (mostly from the Midwest and Southeast) and overseas.

Touring the Loop Road in a private vehicle is the primary recreational activity of most visitors. Today, during peak periods, nearly 4,000 vehicles enter the Cove each day to travel the 11-mile Loop Road that follows the the Cove's mountain valley terrain.

The success of the Cove as a visitor destination carries a cost, however. Already high levels of visitation are expected to rise

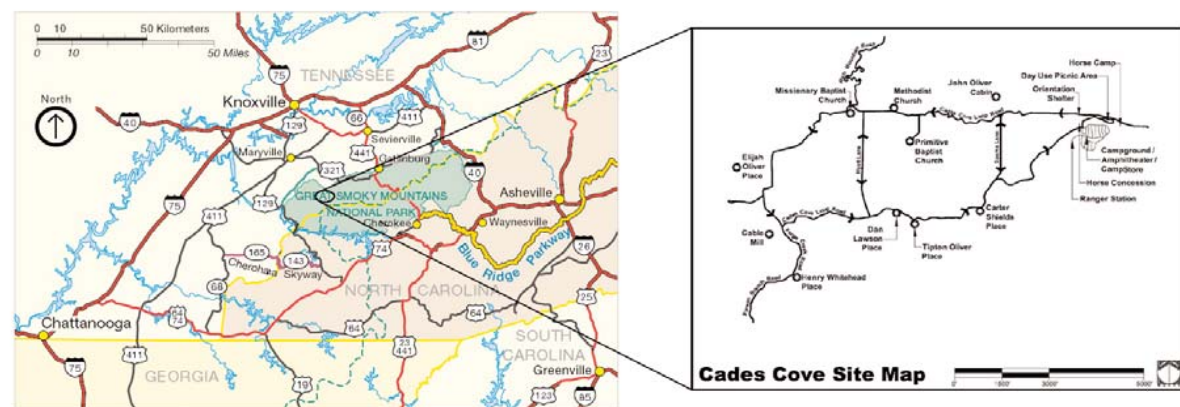
even higher in coming years, increasing the difficulty of providing visitors with a high quality experience. Maintaining and protecting natural and cultural resources with current staff and infrastructure while managing this level of visitation is a daunting challenge.

The Cades Cove Development Concept and Transportation Management Plan (referred to in the planning process as the "Cades Cove Opportunities Plan" and in this document as the "Opportunities Plan") was undertaken as a means to create a long-range management vision to protect the Cove's natural and cultural resources and ensure that visitors continue to have a quality experience.

This long-range vision will provide a program of management strategies to improve visitor experience, preserve and restore resources, provide adequate facilities and infrastructure capacity, and increase the level of information/education that visitors receive.

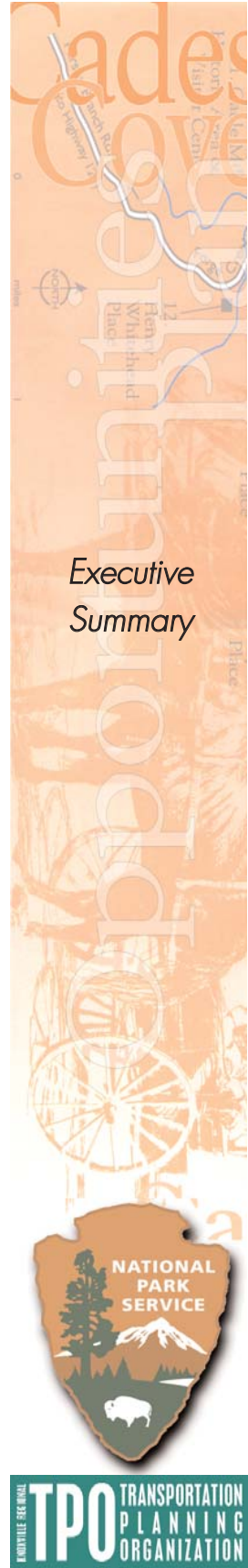
The Knoxville Regional Transportation Planning Organization (TPO) led the project team under contract to and in partnership with the Great Smoky Mountains National Park unit of the National Park Service (NPS). These agencies worked together in lead roles to complete the project. A consulting team provided expertise and guidance throughout the process and developed public meeting materials, presentations, maps and project resource assessment materials.

The Opportunities Plan was created in the context of the National Environmental Policy Act (NEPA). NEPA requires that all federal projects follow established environmental procedures (fully considering the environmental costs and benefits of proposed actions) and that interested and affected



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members of the public be involved in the process before decisions are made.

The Planning Process

Developing a long-range management vision required that issues affecting the Cove be examined in detail. This work was done in a series of summary reports that looked at visitation rates, visitor experience, natural resources, cultural resources and buildings and infrastructure, and other issues.

The process included six major tasks and five public scoping sessions. The six major tasks included:

- Internal and external scoping
- Issues and concerns
- Goals and objectives
- Problems and needs
- Development of alternatives
- Refined alternatives

Public involvement was important throughout the planning process. The project team recognized from the beginning that the local residents felt an “ownership” of the Cove. Many had relatives who lived or are buried in the Cove and their input was important. But Cades Cove is not merely a local resource. People throughout the nation and world visit the Cove. Therefore, the public involvement process needed to balance local and national input.

The first phase of the public involvement process focused on providing community

members and interested parties with the opportunity to identify issues and areas of concern for the project. In Phase II, the draft goals and objectives were presented to the public. The output from these meetings included public input on goals, objectives and measures, and preliminary ideas for concepts to be included in the sketch alternatives. Later, a public meeting on “problems, options and evaluation criteria” and a special listening session were held.

After receiving public input in Phases I and II, the project team developed a set of preliminary alternatives that were presented at public scoping meetings in the spring of 2003. After reviewing comments from these sessions, the project team developed a final set of alternatives and presented them at public scoping meetings in June 2003.

In all, 763 people attended these public meetings (see table below).

Website

A website (www.cadescoveopp.com) also was launched to gather public input. It featured a list of public meetings, as well as resource materials (including newsletters and comment forms), and a way to sign up for the mailing list.

The site received 992,000 “hits” and 90,050 “visits” between June 5, 2002 (the first day the website was active) until September 15, 2003. (A hit indicates that someone has viewed the homepage. A visit indicates that a visitor to the website navigated between

less-than-optimal system may be implemented to provide many (but not all) of the full system’s capabilities.

Variable Message Signs

Variable message signs could be of a type and style similar to the sign at the Sugarlands Visitor Center. The Sugarlands sign has a rustic appearance and features three message lines that provide 14 characters of text per line.

Website

Data collected at the traffic operations center could be uploaded to a page on the NPS’s GRSM website to provide users with traffic conditions and information on activities and rules for driving the Loop Road.

Telephone and Radio Communications

Visitors without internet access could obtain traffic and visitor information by calling a hotline or by tuning to a Highway Advisory Radio (HAR) frequency operated by the NPS.

Management and Law Enforcement

Traffic and visitation data would help the NPS better manage the Cove. This information could be used to develop public information programs, inform the public about road maintenance activities and special events and help to direct law enforcement resources. By monitoring the time it takes to travel between two loop detectors, the traffic operations center could inform rangers of areas where wildlife jams may be occurring.

Reservation System

A reservation system could be implemented for times when the Loop Road’s capacity is exceeded. Such a system would operate in a manner similar to the existing campsite reservation system. Visitors would make reservations via phone, the internet, at visitor centers or at designated hotels in the gateway communities. A small number of “walk-up” reservations would also be available.

Two potential reservation system operating models were identified. The first was a separate system that would be developed and operated by the NPS. The second would add the visitor reservation system to the

NPS’s campground reservation system, which is operated by a private vendor.

Under the second alternative, the Park would not have to budget for equipment and personnel and cost recovery would be related to operation costs (the recovery of personnel and overhead expenses).

Alternative Transportation System (ATS)

An alternative transportation system (ATS) in the form of motorized shuttles could operate during peak periods to reduce the number of vehicles in the Park on the Cove’s roads. Such a shuttle system would be designed to be efficient, friendly and easy for visitors to use.

Three service operations have been proposed. These include two general purpose gateway shuttle services operating from Townsend and Gatlinburg and a shuttle service operating around the Loop Road.

General Purpose Gateway Shuttle

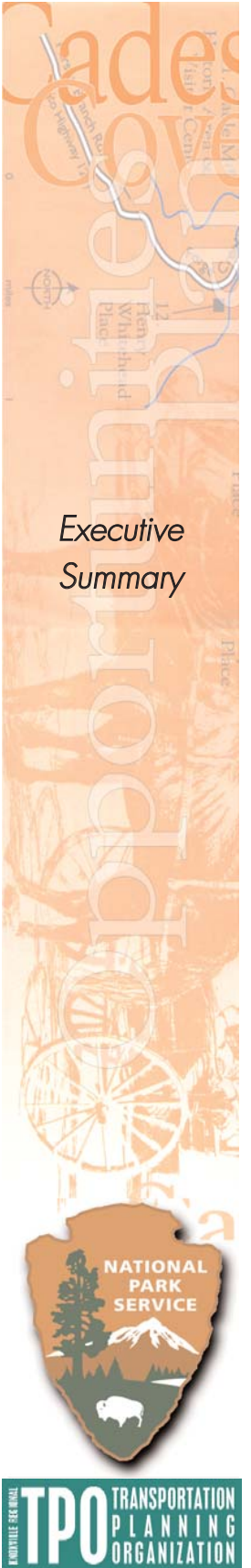
A general purpose shuttle could operate from a gateway community - either from Townsend or Gatlinburg - and travel to the head of the Cove. A Townsend shuttle would travel approximately 22 miles on a round trip that would take about 90 minutes and stop 14 times. The shuttle would stop at hotels and motels and serve the Townsend visitor center, which would also have some parking spaces reserved for shuttle users.

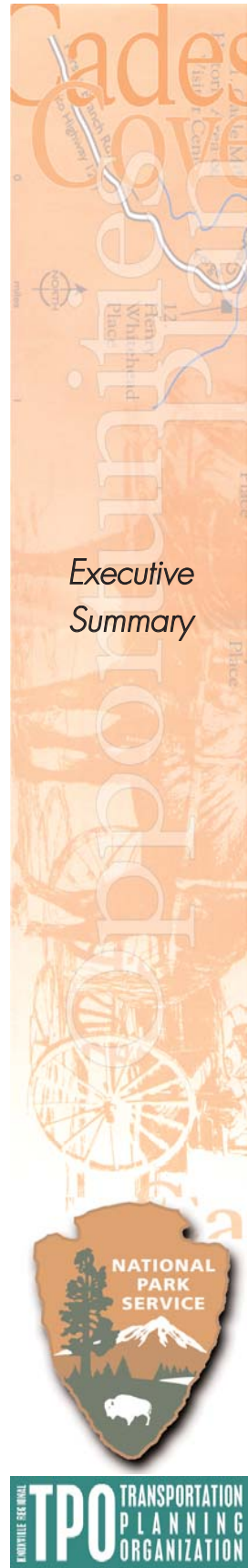
Some shuttle users could park in existing lots and facilities in Townsend. Others could park at new parking lots developed in conjunction with shuttle stops. The intent of this plan is to keep these parking facilities no larger than 75 to 80 spaces in size and to co-locate parking whenever possible.

A Gatlinburg shuttle would travel approximately 30 to 32 miles one way on a route between Gatlinburg and Cades Cove. This trip would take approximately 90 minutes, depending on the number of stops. The shuttle could stop at several locations in Gatlinburg and also could stop at Elkmont. Parking for the Gatlinburg service could be provided at the existing transit center, as well as at lodging facilities in the community.

Service levels would be tailored to the

Public Meetings				
Meeting Date	Meeting Location	Number of Attendees	Comments Received	
May 2002	Townsend	300 +	221 (May - June 2002)	
July 2002	Townsend	110		
	Knoxville	75	527 (July - August 2002)	
	Maryville	50		
September - October 2002	Knoxville	80	259 (September - October 2002)	
	Asheville	25		
	No Meetings			245 (November 2002 - March 2003)
Winter 2002 - 2003	Knoxville	55		
	March - April 2003	Maryville	65	145 (April - May 2003)
		Pigeon Forge	45	
		Cherokee	8	
June 2003	Knoxville	30	432 (June - August 2003)	
	Maryville	50		
	Sevierville	35		
	Cherokee	5		
Total	14 Meetings	763 Attendees	1,829 Comments Received	





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and are located on alignments that minimize potential environmental impacts. These roads tend to be narrow, winding, and hilly and function as scenic drives that attract sightseers.

Although park roads are different from other roads, they still must be designed, constructed, and maintained within the norms and standards for safety and structural sufficiency. Similarly, improvements to the Loop Road should be designed and built in a manner that perpetuates and protects natural and cultural resources as well as the aesthetic values of the area while permitting roadway and roadside maintenance.

Current data on parking turnover indicate that the number of existing spaces may not be sufficient during peak periods. However, expanding the parking supply could negatively affect the visitor experience and degrade natural and cultural resources. The situation at John Oliver Cabin is typical. An overflow parking lot has been established a quarter mile from the cabin's primary parking lot. Since the overflow lot opened, visitors have created a number of social paths that interweave their way through the field in front of the cabin. These social trails detract from the cultural landscape, compact soils, affect vegetation and pose tripping hazards.

Visitor Center

The development of visitor orientation facilities in the form of a visitor center – either in the Cove or in the gateway communities – would help to manage visitation by allowing visitors to obtain information about Park rules, the Cove's natural and cultural resources and other visitor opportunities.

The visitor center could take a number of forms, ranging from a small, simple building at the beginning of the Loop Road to a large center (comparable in size to Sugarlands) that is home to a museum, bookstore, ranger offices and visitor contact center. A visitor center would provide a focal point for visitor services and address several plan goals.

Communications Program

Understanding the Cove's resources and

programs is a key part of the visitor experience. Knowing about the activities and attractions available in the Cove can improve the visitor experience for first-time and repeat visitors alike. A communications program also can help address traffic problems; if visitors know the Loop Road is congested before they arrive, they can make alternate plans.

At the conceptual level, a communications program for Cades Cove includes the use of strategically placed variable message signs, a website, kiosks and signs at visitor centers and a telephone information service. The communication program would incorporate traffic monitoring technology with a combination of tools that would inform visitors of traffic conditions and/or special programs.

Signage and Wayfinding

The need for a signage and wayfinding master plan was identified during the planning process as important to the success of a communications program. A large number of signs in Cades Cove already inform or direct the visitor in some way. New signs have recently been installed during peak periods. However, the effectiveness of additional signage must be weighed against the impact of additional signage on the visual quality of Cades Cove. New signage should be coordinated with existing signage to improve wayfinding without detracting from the overall visitor experience.

Transportation and Parking Monitoring System

To create an effective transportation and parking monitoring system, data collection equipment is needed. This could include a series of vehicle "loop detectors" embedded in the pavement at strategic locations on the Laurel Creek entry road, Loop Road and key parking/pull-off areas. The loop detectors could be connected by a fiber optic cable to a new traffic operations center in the visitor center at the head of the Loop Road.

The proposed monitoring system is an "optimal" system but does not require full implementation to produce useful information. As the project progresses and additional information becomes available, a

pages spending time to view information on the website.)

A total of 373 comments were received through an e-mail application on the website from May 2002 to January 2003, while 399 messages were e-mailed directly to comments@cadescoveopp.com (for a total of 782 e-mail comments). This equates to an average of 65 comments per month, with the heaviest volumes occurring before and after the public meetings. Comments were received from throughout the United States, with the majority coming from 26 states, mostly in the Southeast and Midwest.

Issues, Problems, Goals and Objectives

From the first days of the process, participants voiced their concerns and identified issues that could affect the future of the Cove. To collect as many of these issues and concerns and to hear from as wide a range of people as possible, small group discussions were held as part of the public scoping meetings. Internal Park meetings also were held to gather information. Written comments were collected via regular mail and the project website.

This outreach yielded literally hundreds of issues and concerns. To make this information useful as alternatives were developed, the project team organized the information under four themes: **visitation, resources, resource education, and facilities and services.** The project team then identified a set of problem areas, compiled information and field data to inform the discussion of these problems, and, later in the process, developed potential solutions to these problems.

Identifying Problems

From the information collected on issues and concerns, the project team developed a set of problem statements. Key information from these statements is summarized below:

Traffic Congestion: Vehicle traffic in the Cove has generally increased over time. The number of vehicles entering the Cove rose more than 50 percent between 1986 and 2000 alone, from 454,000 to 698,000

annually. The 2000 figure actually represents a slight reduction from the 1999 peak of 713,000 vehicles, but the number of vehicles traveling through the Cove remains significant nonetheless.

A 1998 traffic study found that the number of vehicles involved in traffic back-ups at any one time increased dramatically when more than 800 vehicles were using the Loop Road. During these congested periods, 300 to 330 vehicles were entering the Cove via the Loop Road each hour. Calculating the ratio of total vehicles to entering vehicles per hour suggests that the typical trip along the length of the Loop Road, without delays, is about 2.5 hours.

To prevent queues from forming throughout the day, the daily volume would have to be maintained at approximately 3,000 to 3,500 vehicles, or 330 vehicles entering per hour. Therefore, the current volume of 4,100 to 4,450 vehicles per day entering the Cove during the peak season clearly exceeds the capacity of the Loop Road.

Motorized and Non-Motorized User Conflicts:

The Loop Road is too narrow to safely accommodate the multiple modes of transportation (pedestrians, bicycles, cars, motor homes and buses) that use it. When the road is closed to motorized vehicles, pedestrians and bicyclists can experience the Cove in a car-free environment. The rest of the time, pedestrians and bicyclists must share the Loop Road with private vehicles, which results in traffic congestion when vehicles must slow down to pass bicyclists and pedestrians.

Inadequate Visitor Orientation: Many first-time visitors do not understand the route options available to them as they travel around the Cove, and many are not aware of Park rules that apply to the Loop Road. Unfortunately, the orientation shelter at the entrance to the Cove is often unstaffed, has limited information available when it is staffed, and is easily missed by visitors. If visitors do not take note of the orientation shelter, the next location at which they can receive information is in the Cable Mill area, halfway around the Loop Road.

Parking Problems: Although most paved parking lots operate with excess capacity during peak periods, a 1998 survey found



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that demand exceeds supply at several parking lots, including the ones at Abrams Falls and Elijah Oliver Place, the campstore parking area and at John Oliver Place. When spaces are not available in these lots, motorists park alongside the road or in areas not designated for parking. This overflow contributes to traffic congestion by inhibiting traffic flow.

Resource Issues: The increase in visitation and vehicles in the Cove have contributed to natural and cultural resource damage. Informal road pull-offs have damaged roadside vegetation and created erosion problems. Visitors have created informal paths and social trails through many historic sites and through the fields and forests. These unplanned trails can affect not only sensitive vegetation but historic resources as well and contribute to erosion problems.

Damage to historic structures is another consequence of heavy visitor use. Natural wear-and-tear, coupled with visitor use, has contributed to the deterioration of these structures. Graffiti and vandalism also is a continuing problem.

As visitation has increased, the interaction of humans and wildlife has grown, and this has led to another set of problems. Visitors sometimes feed or harass wildlife. Animals that become accustomed to eating human food become food conditioned (panhandlers) and are generally less healthy than animals that are not food conditioned. Also, animals that lose their natural instinct to avoid people can pose a safety hazard to visitors and themselves.

Resource Education Issues: An array of interpretive services that inform visitors about the Cove's resources is lacking. Interpretive services are limited by the size and location of existing visitor facilities and current staffing levels.

Facilities and Services Issues: The response time to incidents (vehicle accidents, fires, etc.) is affected by roadway congestion, Park staffing levels and the volume of emergency calls.

One common issue affecting visitor experience is the insufficient number of restrooms. Restrooms are available at the campground, the campstore, the picnic grounds and the horse concession area,

but these locations are problematic. Restrooms are not available at the entrance to the Loop Road, and the only restrooms along the road itself are at the Cable Mill area.

Other facility needs or issues include inadequate space at the campstore and picnic facilities that are very crowded during peak periods. Although parking spaces, picnic sites and campsites have been designated as ADA accessible, these do not always meet current accessibility standards. Also, there are no ADA-accessible trails in the Cove and most attractions are not accessible.

The utility infrastructure is generally inadequate to serve visitor and NPS needs. Water, electric and telephone facilities are lacking in the Cable Mill area and other areas. No emergency communication or cellular phone coverage is available for visitor use. Sewage treatment facilities at all locations are at capacity and will not be adequate to accommodate increased visitor demand.

Goals and Objectives

To help the project team determine which of the many issues and concerns could be addressed through the planning process, goals and objectives were developed. Goals are broad statements that describe future desired conditions. Objectives are action statements related to each goal that help to shape the development of policy and implementation of policies.

Below are the goals for this project:



Congestion is common on the Loop Road.

with improved facilities.

Day-Use

- Day-use horse operations continue as existing.
- Provide delineated signed parking for trailers in developed area.
- Modify trailer access.
- Co-locate horse camp and day-use horse operations at Turkeypen gap with improved facilities.

Picnic Area Options

- Picnic facilities continue as existing (60 picnic sites and three comfort stations).
- Add group picnic facility (can occur only with relocation of amphitheater to new visitor center).

Utility Improvements

Developed Area

- Developed area utilities continue as existing.
- Expand electric services to campsites (underground).
- Improve water and sewer service to accommodate utility changes (at the Visitor Center, campground showers, etc.).

Cable Mill Area

- Cable Mill utilities continue as existing.
- Rehab and expand restrooms.
- Improve water and sewer service to accommodate restroom changes.
- Extend electric services (underground).
- Extend telephone service (underground).
- Add call boxes.
- Add beverage vending machines.

Additional Optional Elements

Alter Bicycle and Pedestrian Hours

- Continue bicycle and pedestrian hours as existing.
- Extend season for bike/ped closures.
- Add evening closure for bike/ped.
- Eliminate Saturday morning bike/ped closure.

Bike/Ped Shuttle

- Add concession-oriented shuttle from

Gateway community to visitor center for bicyclists and hikers.

- Add primitive restrooms at up to four locations along the Loop Road.

Separate Bike/Ped Path Inside the Cove Using Trace Farm Roads

- Short loop connecting to at least one historic structure.
- Medium loop connecting to multiple attractions.
- Long loop connecting to Cable Mill and attractions along route (could be combined with a shorter loop).

Cable Mill Area

- Remove non-historic cabin (only with relocation of bookstore).
- Rehab of non-historic cabin for different NPS use (only with relocation of bookstore).

Key Elements of the Alternatives

This section describes some of the key elements of the alternatives.

Parking and Pull-off Areas

Visitors have established hundreds of informal parking and pull-off areas along the Loop Road. This has occurred because the number of vehicles on the Loop Road (particularly during peak periods) exceeds the small number of formal parking areas and pull-offs that have been developed.

To improve the situation, a master plan for these areas is proposed. Such a master plan would examine the benefits and costs related to the consolidation and/or removal of these areas, the establishment of additional pull-offs along the Loop Road, the establishment of small parking areas near scenic vistas, and the protection of areas along the Loop Road from unauthorized parking would meet other plan goals.

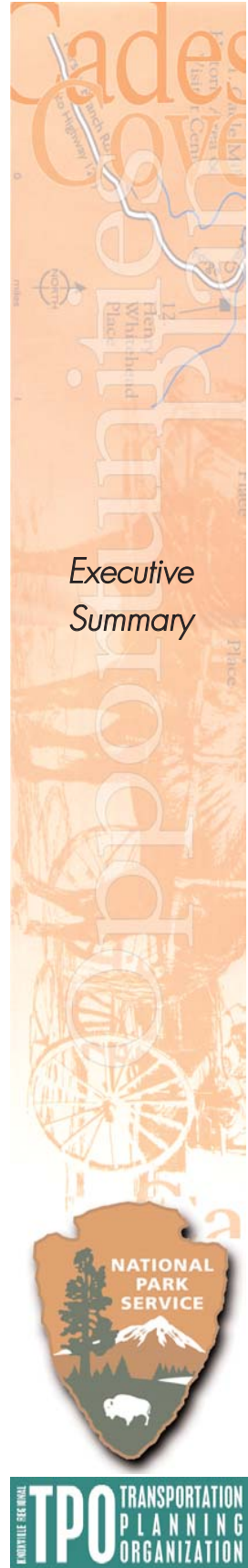
Roadway, Parking and Pull-off Improvements

Park roads are generally constructed only where necessary. Roads that cut through parks are often designed for sightseeing



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cemeteries, home sites, Cable Mill, and the Cades Cove valley floor.

- Develop and implement a long-range field management plan to guide yearly maintenance and manage valley floor in a manner consistent with the 1800-1920 National Register nomination of Cades Cove.
- Maintain the valley floor as open grasslands with small woodlots and fencerows allowing for wildlife viewing and preserving the scenic vistas.

Resource Education:

- Provide a Visitor Center at entrance to Loop Road for interpretive and educational opportunities.
- Provide educational opportunities and materials regarding safety, protection of the Cove's natural and cultural resources, wildlife, visitor activities (ranger-led activities, special events, and park programs).
- Provide interpretive signage that will convey important park values and provide an interpretive context to view Cades Cove resources.

Facilities and Services:

- Extend underground electric and telephone services to proposed Visitor Center.
- Expand/extend underground water and sewer services to the proposed Visitor Center.
- Provide an appropriate level of Park staff to support the alternative (law enforcement, interpretive, maintenance, and administrative).
- Ensure that the existing electrical and telecommunications lines along Park roads are capable of handling the proposed communications program.

- Telecommunications from Townsend and Sugarlands to handle variable message sign needs.

Optional Elements

Several optional elements were developed for potential inclusion in any of the alternatives. They are described below.

Campstore Options

- Campstore continues as existing (1,000 square feet, including vending area and restrooms).
- Small expansion of the campstore for storage and customer flow.
- Bike shop rehabilitation, including covered bike storage.
- Increase parking for campstore and bike shop.
- Rehab and expand restrooms.
- Relocate snack bar portion of campstore to new visitor center.
- Relocate campstore and bike shop to new visitor center.

Campground Options

- Campground continues as existing (four group camping stations, 163 campsites, six comfort stations without hot water or showers).
- Campground rehab to comply with ADA standards.
- Increase parking for campground guests.
- Concession-operated shower facilities.
- Electric hookup at campsites.

Horse Operations Options

Horse Concession

- Horse concession facilities continue as existing (at Loop Road entrance).
- Make horse concession trails separate from day-use trails.
- Relocate horse concession within developed area of the Cove.

Horse Camp

- Horse camp operations continue as existing.
- Rehab horse camp at existing location (including potable water and improved toilets).
- Co-locate horse camp and day-use horse operations at Turkeypen Gap

Resource Goal: Enhance the protection and preservation of the natural and cultural resources of Cades Cove.

Visitation Goal: Provide exceptional visitor experiences that respect the natural and cultural resources of Cades Cove.

Resource Education Goal: Educate the public about resources in order to foster greater enjoyment, understanding, appreciation and protection of natural and cultural resources within Cades Cove.

Facilities and Services Goal: Provide appropriate facilities and services that are safe, environmentally sensitive, accessible and sustainable in Cades Cove.

Developing Alternatives

The process of developing alternatives involved four steps:

- Developing concepts
- Screening the concepts against criteria
- Establishing design assumptions related to the concepts
- Packaging the concepts into draft alternatives

The planning process produced hundreds of concepts for Cades Cove. To manage these concepts, evaluation criteria were identified to "screen" them. Criteria are elements by which the alternatives (and discrete elements of alternatives known in this process as "concepts") could be evaluated for their reasonableness and feasibility, among other factors. Concepts that passed through the screening process were included in the draft alternatives.

Each concept was screened through a three-tiered evaluation process. The first level of screening evaluated concepts against existing NPS policies, mandates and goals. The questions included:

- What NPS or legislative mission/mandate or policy does the concept address or, conversely, violate?
- Does the agency have the authority to address the issue, and, if so, what is its authority?

The second level of screening evaluated concepts against the goals and objectives of the Opportunities Plan. This involved

asking such questions as:

- Does the option conform to or conflict with the project goals and objectives for resources?
- Does the option conform to or conflict with goals and objectives for visitation?

The third level of screening was entitled the "fatal flaw analysis." Here, concepts were screened against National Environmental Policy Act (NEPA)-related criteria of reasonableness and appropriateness. This step involved identifying positive and negative impacts on resources, the visitor experience and the gateway communities.

Analysis included consideration of the ability of existing Park infrastructure to support the concept and whether the options were economically viable. This evaluation was based on available data and decisions were made conservatively. The evaluation of concepts will continue through the EIS phase of the process.

Once these "base" alternatives were identified, concepts were added to create other alternatives in a manner that increased the level of visitor management in a "stairstep" fashion. Therefore, Alternative 3 includes a reservation system, Alternative 4 introduces voluntary alternative transportation and Alternative 5 introduces mandatory alternative transportation.

Summary of Alternatives

Each of the five alternatives includes management action elements related to the four management themes of the Opportunities Plan. The following text describes the alternatives as presented at the internal and public scoping sessions.

Alternative 1: No Action

Alternative 1 would continue existing NPS management policies and actions in Cades Cove. Private vehicle and bicycle/pedestrian access to the Loop Road would not be changed. Existing visitor orientation facilities (including the open air shelter at the start of the Loop Road and at Cable Mill) would remain unchanged. Existing field management procedures, maintenance and resource education



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operations, and ranger activities would remain at current levels.

Alternative 2: Roadway Improvements

Alternative 2 calls for a series of minor improvements to the Loop Road, Sparks Lane and Hyatt Lane, and calls for the development of a “Master Circulation Plan” for the Cove. This plan would identify appropriate locations for formal visitor pull-offs, roadside parking for scenic vistas and parking needs at cultural attractions. The plan would also coordinate the location and design of directional and informational signage.

Private vehicle access would continue as it is today. Alternative 2 would institute a communications program to include variable message signs, a telephone information service and a website. Through these services, visitors would be able to receive information about current traffic conditions and other information about Cades Cove.

This alternative would result in a low-level increase in the operations staff (rangers, etc.) for managing visitors and maintaining the Cove. A minor visitor center would be developed at the entrance to the Cove to serve as a primary visitor contact point. All other existing contact points would continue as they are today.

Alternative 3: Managing Demand through Peak Visitation Reservations

Alternative 3 would institute a reservation program for private vehicle access to the Loop Road during peak visitation periods. Access to the campground, picnic, and horse concession areas would continue as today. Provision for special events such as

Old Timers Day and for cemetery maintenance workdays by Park partners would be provided.

During off-peak periods, visitors would continue to have unrestricted private vehicle access to the Cove. This alternative includes the communications program described in Alternative 2 and would result in a low to moderate increase in the operations staff.

Alternative 3 includes a moderately-sized visitor facility in the Park, providing educational and interpretative resources. A small visitor contact facility outside the Park would provide visitors with an opportunity to make reservations and collect basic information about the Cove.

Alternative 4: Managing Demand through Peak Visitation Reservation and Voluntary Transit

Alternative 4 would add the reservation system described in Alternative 3 and combine it with a voluntary transit system during peak periods. Access to the picnic, campground and horse concession areas would not be restricted. Special events and cemetery maintenance would be handled in a manner similar to Alternative 3. The voluntary transit system would be based outside the Park. Visitors would ride transit vehicles into the Cove and arrive at a visitor center located at the beginning of the Loop Road.

Once inside the park, visitors would board tramstyle transit vehicles that travel the Loop Road. Different options for these vehicles include trolleys featuring interpretive programs and vehicles that simply provide Loop Road transportation or access to trailheads. This system would enable visitors to enjoy the Cove at their own pace.

Alternative 4 includes the communications program described in Alternative 2. This alternative would require a moderate to high increase in the level of the operations staff. Visitor orientation would be provided at a moderately-sized Visitor Center at the entry to Cades Cove. The visitor center would be the point where visitors would transfer between the gateway shuttle (or private vehicle) and the Loop Road shuttle.

The visitor center would include

interpretation space, bookstore, restrooms and staff workspace. A moderately-sized visitor facility would be located outside the Park. This facility would function as the primary access point for the voluntary transit system. It would also provide reservation and other information about Cades Cove.

Alternative 5: Visitor Management through Peak Visitation Transit Access

Alternative 5 reflects the greatest change in visitation. Under this alternative, access to the Cove would be limited to transit vehicles during peak periods. During off-peak periods, unrestricted private vehicle access would continue. There is an option to continue the transit service as voluntary during the non-peak periods.

The transit system would operate in the same manner as in Alternative 4. This alternative also includes the communications program described in Alternative 2 and would require a moderate to high increase in the level of operations staff.

Two visitor orientation facilities would be developed. The first would be at the entrance to the Loop Road and would serve as the transfer center for the transit system. It would also be home to visitor orientation kiosks, a museum, restrooms, and the relocated amphitheater, bike concession area, snack shop and bookstore.

The second visitor facility would be a moderately-sized visitor center outside the Park. This facility would serve as the main transit operation point to access the Cove, and would provide orientation material and visitor information.



Common Elements

The following elements are included in each of the action alternatives:

Visitation:

- Enhance visitor contact by providing Visitor Center at entrance to Cades Cove.
- Allow unrestricted private vehicle access to Loop Road during non-peak visitation periods.
- Allow unrestricted access to Picnic Area, Campground, and Horse Concessions.
- Provide for descendant access to family cemeteries located within the Cove.
- Provide for special activity days or events such as Decoration Day and Old Timers Day.
- Improve roadway circulation features (pull-offs/parking areas) around Loop Road.
- Implement a communications network (e.g., Variable Message Signs, FM radio, phone-in service and web connections) to provide real time information on Cove conditions (e.g., congestion level, driving time, camping/picnic availability, parking, weather conditions, road closures, etc.).

Resources:

- Maintain National Register historic structures and other historic features based upon the Secretary of the Interior Standards for Rehabilitation and the Secretary of the Interior Standards and Guidelines for Archeology and Historic Preservation in Cades Cove including churches,

